

A PHYSICAL HISTORY OF THE PLANT OF THE
U. S. ARMORY AT HARPERS FERRY, VIRGINIA
1794-1885. ITS EVOLUTION, DEVELOPMENT
DESTRUCTION, AND DISPOSAL.

VOLUME II

RECONSTRUCTION OF THE ARMORY, 1842-1851
HARPERS FERRY NATIONAL HISTORICAL PARK,
WEST VIRGINIA

COMPILED BY
CHARLES W. SNELL

APRIL, 1981

HER-227

HF-227

Final draft

A PHYSICAL HISTORY OF THE PLANT OF
THE UNITED STATES ARMORY AT HARPER'S FERRY,
VIRGINIA, 1794 to 1835

Its EVOLUTION, DEVELOPMENT, DESTRUCTION, AND
DISPOSAL

VOLUME II

Reconstruction of the Armory, 1842 -1851
Harpers Ferry National Historical Park, West Virginia

By

Charles W. Snell

Denver Service Center
National Capital Team
National Park Service
United States Department of the Interior
Denver, Colorado

April 1981

4 Vol.

TABLE OF CONTENTS

Volume II - 1842 - 1851:

	<u>Page</u>
PREFACE.....	
Introduction.....	1
 <u>PART I - THE MILITARY SUPERINTENDENTS, 1841- 1854</u>	
<u>Chapter I - Major Henry K. Craig, 1841- 1844.....</u>	11
<u>A. Construction and Repair at the U.S. Musket Factory.....</u>	14
1. New Warehouse for Iron, Steel, Etc., Bldg. No. 12, 1841-43..	14
2. New Boring Mill, Bldg. No. 5, 1843-44.....	20
3. New Proof House, Bldg. No. 15, 1843-44.....	27
4. Engine House, 1843-44.....	30
5. Lime House, 1843-44.....	30
6. Repairs to Old Musket Factory Shops.....	30
7. Potomac River Wall, 1842.....	33
8. Main Gate and Entrance Walls, 1843.....	33
9. Wells, Reservoirs, and Pipes, 1843-44.....	34
<u>B. Arsenal Square, Block A, Shenandoah Street, 1842-44.....</u>	36
<u>C. Repair and Improvements at the U.S. Rifle Factory.....</u>	41
1. New Filers Shop, Bldg. No. 1, 1843-44.....	41
2. Repairs to Old Shops, 1842-44.....	45
<u>E. Armory Wood or Lumber Yard, 1842-44.....</u>	48
<u>D. U.S. Canals, 1842-44.....</u>	49
1. U.S. Musket Factory Canal.....	49
2. U.S. Rifle Factory Shenandoah Canal.....	50
<u>E. U.S. Dams, 1842-44:.....</u>	51
1. U.S. Dam on the Potomac River.....	51
2. U.S. Dam on the Shenandoah River.....	51
<u>F. Armory Dwelling Houses, 1842-44.....</u>	52
1. Rents Collected..... <i>Copies Collected - Not Name of Parties</i>	52

TABLE OF CONTENTS

Volume II, 1842- 1851:

Page

F. Armory Dwelling Houses(Continued):

2. Repairs to Armory Dwelling Houses, 1842-44.....	53
3. Settlement of Workmen's Claims for Repairs and Improvements made to Government Dwelling Houses.....	56
4. Acquiring Title to Privately Built Commerical Structures located on Armory Land.....	57
G. <u>Roads, 1842-44.....</u>	58
H. <u>Surveying the Public Lands, 1843.....</u>	58
I. <u>The U.S. Shenandoah Ferry and the Shenandoah Bridge Company, 1842-44.....</u>	62

Chapter II

<u>Data on the Builders who Rebuilt the U.S. Musket and Rifle Factories, 1842- 1851.....</u>	65
A. Carpenters.....	65
B. Tinsmiths.....	66
C. Painters and Glaziers.....	66
D. Plasterers.....	67
E. Roofers, Sheet Iron work.....	67
F. Slaters.....	67
G. Stone Cutters.....	67
H. Brick makers.....	68
I. Brick masons and layers.....	68
J. Stone Masons.....	68
K. Expenditures for Labor and Materials, 1845-51.....	71

Chapter III

<u>MAJOR JOHN SYMINGTON, 1844 - 1851.....</u>	72
A. General, Plans for Rebuildings and Improvements.....	72
B. Symington as an Architect and Builder.....	77

TABLE OF CONTENTS

<u>Volume II ,1842- 1851</u>	<u>Page</u>
<u>C. Construction and Repair at the U.S. Musket Factory,1845-51...</u>	87
1. New Charcoal House, Bldg. No. 16, 1845-46.....	87
2. Store House for Stocks, Bldg. No. 7, 1846-47.....	90
3. Smiths or Forging Shop, Bldg. No. 13, 1845-58.....	96
4. Coal Bins under the B.& O. Railroad Tracks,1845-51....	107
5. Remodelling a Residence for an Office,Bldg. 2,1847-48...	111
6. New Engine and Guard House,Bldg. No.1, 1847-48.....	114
7. Stocking House and Machine Shop,Bldg. 6, 1847-50.....	117
8. Lumber House and Coal Bins, Bldg. No. 10, 1848-49.....	128
9. Tilt Hammer Shop for Barrel Welding,Bldg. 9,1849-51...	133
10. New Polishing Shop, Bldg. No. 4 , 1849-50.....	142
11. New Grinding, Saw and Planing Mill,Bldg. 8,1850-51...	145
12. New Annealing Shop and Brass Foundry,1851-52.....	152
13. Alterations to the Old Bell or Finishing Shop, Bldg. No. 3, 1845-51.....	156
14. A New Coal Scale and Shed, 1849.....	159
15. Repairs and Alterations to Boring Mill,Bldg. 5.....	160
16. New Horse and Carriage Shed, 1851.....	161
17. Repairs and Alterations to Proof House, Bldg. 15....	162
18. Repairs and Alterations to Warehouse, Bldg. 12,.....	163
19. Repair of Old Workshops, 1845-51.....	165
20. Repair of Old Grinding Mill(1831) and Old Tilt Hammer Shop(1834-38),	166
21. Musket Yard Privies, 1849-51.....	169
22. Coloring the Exterior Brick Walls of Shops,1849-52...	170
23. Heating Facilities for the Workshops, 1851.....	171
24. Lightning Rods for the Public Buildings,1851.....	172

Table of Contents

Volume II 1842- 1851

<u>Chapter III- Major John Symington (Continued)</u>	<u>Page</u>
<u>C. Repair and Improvements, Musket Factory, 1845-51:</u>	
25. Purchase of Land for Musket Factory, 1847-49.....	173
A. Wager Lot Acquisitions, 1847-49.....	176
B. The Byrnes Island Purchase, 1848.....	178
C. The Creation of North Cliff(or Potomac)Street, 1848...	180
26. Armory Entrance Gates and Fence, 1846, 1849.....	181
27. Potomac River Wall, 1847-48.....	185
28. Grading the Grounds.....	185
29. Wells, Springs, Pumps, and Pipes.....	187
<u>D. Repairs and Improvements at Arsenal Square, 1845-51.....</u>	194
<u>E. Repair and Improvements at the U.S. Rifle Factory, 1845-51...</u>	198
1. New Proof House, 1845, Bldg. No. 2.....	198
2. New Finishing and Machine Shop, Bldg. No. 3, 1847-48.....	200
3. New Tilt Hammer and Smiths(or Forging)Shop, Bldg.No. 4, 1849-51.....	207
4. New Annealing Furnace and Proof House, Bldg. 5, 1851-52..	217
5. Plans for the new Machine Shop, Bldg. 6, 1852-53.....	222
6. Repair of Old Rifle Factory Shops, 1845-51.....	224
7. Grading Grounds, 1845-51.....	226
8. Fencing at the Rifle Factory.....	227
9. Demolition of Old Rifle Factory shops, 1847-51.....	228
10. Description of the line of New Workshops, 1852.....	228
<u>F. The new Armory Stable, 1847-48, Shenandoah Street.....</u>	234
<u>G. The Armory Lumber Yard, Shenandoah Street.....</u>	236
<u>H. A New Market House for Town Use, 1846-47.....</u>	238

TABLE OF CONTENTS

Volume II, 1842 - 1851

Chapter III- Major John Symington(Continued)

Page

I. <u>The U.S. Canals, 1845 - 1851</u>	241
1. U.S. Musket Factory Canal on the Potomac.....	241
2. U.S. Rifle Factory Canal on the Shenandoah.....	249
J. <u>U.S. Armory Dams, 1845- 51</u>	252
1. U. S. Musket Factory Dam.....	252
2. U.S. Rifle Factory Dam.....	254
K. <u>Armory Dwelling Houses, 1845-51</u>	256
1. Rents collected.....	256
2. Repairs and Improvements to Dwellings.....	258
3. Additional Dwelling Houses Purchased, 1847-48.....	265
4. Demolition of Old Armory Dwelling Houses, 1845-51.....	267
Types of Dwelling Houses Demolished and Standing.....	272
5. Public Auctions of Materials from Workshops and old Dwelling Houses, 1849-51.....	275
6. New Quarters for the Chief Officers, 1845-51.....	276
a. New Quarters for the Commanding Officer, Camp Hill, Armory Dwelling House No. 25(Park Bldg. 59), 1846-48,..	276
b. New Quarters for the Paymaster, Camp Hill, Armory Dwelling House 32(Park Bldg. No. 56).....	290
c. Repairs to the Master Armorer's Quarters, Armory Dwelling House No. 2(Park Bldg. 34-35), Shenandoah St...	298
7. Rain Water Cisterns for Camp Hill Houses.....	303
8. Fencing for Armory Dwelling Houses.....	307
9. Settlement of Workmen's Claims for Repairs and Improve- ments made to Armory Dwelling Houses, 1845-51.....	309
L. <u>The Armory and the Churches of Harpers Ferry, 1818-1869</u>	316
M. <u>The Methodist Episcopal Parsonage Lease, 1838-51</u>	317
N. <u>A Town Government Established for Harpers Ferry, 1851</u>	317

TABLE OF CONTENTS

Volume II, 1842 -51

<u>Chapter III-John Symington (Continued)</u>	Page
O. Cholera at Harpers Ferry, 1851.....	318
P. Solving the Housing and Land Problems at Harpers Ferry Armory, 1846-51.....	319
Q. U.S. Timber Right and Wood Rangers,Loudoun Heights.....	325
R. Shift from Wood to Coal for Heating,1845=56.....	326
S. Hillsborough and Harpers Ferry Turnpike Company and Loudoun Heights land, 1849-51.....	327

Appendixes

1. Schedules A and B, prepared by Major John Symington, of lots and improvements thereon, owned by private individuals, adjoining the public buildings at the Harper's Ferry armory, with the description of the improvements on each lot, and the price for which the whole can be purchased,December 12,1844...	339
3. Extracts from "Statement of expenditures at the United States armory at Harper's Ferry,Virginia, and of the arms and appendages made therein, from its establishment(1796) to the 31st of March 1848.....	344
2. Rents collected from Harpers Ferry Armory Dwelling Houses, 1842 to 1851.....	342

TABLE OF CONTENTS
L
VOUME II, 1842-1851

Page

ILLUSTRATIONS

1. Harpers' Ferry Armory from Magazine Hill, 1856-57.....	193
2. Sketch of U.S. Rifle Works at Harper's Ferry, Virginia, 1853..	232
3. View of the Island Virginius (and the U.S. Rifle Factory), in the Shenandoah, at Harper's Ferry, Virginia, 1856-57.....	233
4. Elevation of a house designed by architect Asher Benjamin, prior to 1845, showing use of round arches, capped pilasters, and recessed panels, that may have been used as a model by Major John Symington, 1845-51.....	338

Maps

1. Map of the Relative Position of the Reserved Land and Public Works at Harpers Ferry-Va., -1844- <u>Musket Factory Section of Map</u>	330
2. Map of Harpers Ferry, Approved Jan. 27, 1835- <u>Arsenal Square Section of Map</u>	331
3. <u>1844 Map of Harpers Ferry, Arsenal Square Section of Map</u> ...	332
4. <u>1844 Map of Harpers Ferry, Wager Six Acre Reservation and and Wager Ferry Lot Sections of map</u>	333
5. Map of Harper's Ferry, 1848, by S. Howell Brown, <u>Musket Factory Buildings</u>	334
6. Map of Harpers Ferry, 1848, by S. Howell Brown, <u>Rifle Factory Buildings on Hall Islands</u>	335
7. 1835 Map of Harper's Ferry, Armory Lumber Yards and Tables sections of Map on Shenandoah Street.....	336
8. 1848 Map of Harpers Ferry, by S. Howell Brown, Arsenal Square, Armory Lumber Yard and stables section of map.....	337
9. 1848 map and plan of Commanding Officer's Quarters, stable, and grounds on Camp Hill. Armory Dwelling No. 25....	289
10. 1848 map and plan of Paymaster's Quarters, brick storehouse, stone stable, and grounds on Camp Hill, Armory Dwelling No. 32..	297
11. 1848 map and plan of Master Armorer's Old Quarters, Armory Dwelling No. 2, Yard, and Market House, Shenandoah St...	302

Introduction:

In Part I of this study, covering the years 1796 to 1841, we have seen how a total of approximately \$ 830,393.31 had been spent from 1798 to 1841 for the construction and repair of some 260 buildings, and for canals, dams, bridges and roads at the U.S. Armory at Harper's Ferry, Virginia. With ^{an additional} \$ 45,477.28 expended to purchase 1,890 acres of land included, the grand total cost of improvements at the Harper's Ferry Armory from 1796 to 1841 came to about \$ 875,870.59.

By 1842, however, despite the expenditures of large sums of money for repair and construction, many of the large workshops and storage buildings of the U.S. Armory and Arsenal at Harper's Ferry were no longer adequate. Most of them, dating from 1810 or earlier, were at least 30 years old and in poor condition. On November 16, 1838, in the "Special Estimates for Additional Appropriations for the Service of the Ordnance Department for the Year 1839," Col. George Bomford, Chief of Ordnance, warned Congress, "The strongest necessity exists for the improvement of the public buildings at Harper's Ferry Armory - they are at present exceedingly unsightly and unworthy of a National Establishment, and many of them, being mere wooden sheds, are besides liable to accident from fire..."¹

On February 2, 1842, the Secretary of War ordered the Ordnance Department to make a detailed examination of the U.S. Armory at Harper's Ferry. A board comprised of Col. S. Churchill, Inspector General, and Major Henry K. Craig, ^{the} ~~now~~ Superintendent of the Harper's Ferry Armory, was appointed by Lieut.Col.

1. Harper's Ferry National Historical Park Microfilm Reel 20, Vol. 6, p.624- from National Archives Record Group No. 156, Records of the Chief of Ordnance, Entry 129, Vol. II, p.6, Washington, D.C.

George Talcott, the newly-appointed Chief of Ordnance, to make this study.

The board, submitting its report on February 22, 1842, wrote in regards to "Permanent Improvements" at Harper's Ferry:

From actual examination, and testimony on which reliance is to be placed, the board is fully impressed by the necessity of very extensive improvements, repairs, and additions to the buildings, machinery, &c attached to this armory; not only for the increase and quality of its production, but for the security of those productions and of the other public property, and also for the comfort and preservation of the health of the officers and workmen of the armory..." 2

The program of rebuilding the U.S. Musket Factory on the Potomac, the U.S. Rifle Factory on the Shenandoah, and the structures of rehabilitating the structures on Arsenal Square was to get underway in 1842. From January 1, 1842 to June 30, 1860, the U.S. Congress was to appropriate \$ 939,200 in special appropriations and the Ordnance Department was to expended a total of \$ 911,020.42 for making improvements, repairs, and purchasing lands at the U.S. Armory at Harper's Ferry, Va., (See 1, p. 3, and Chart 2, pp. 4-5.)

2. Public Documents of the United States, published in a Serial Numbers Series by the Congress of the U.S., 1817- 1861, in approximately 1,100 volumes. Serial No. 404, Document No. 207, p. 44. Henceforth cited as Serial No. , Document No. , p. .

Congress, in 1856, also authorized the expenditure of an additional \$ 33,725.27 to make permanent improvements at Harper's Ferry. This money was the proceeds reached from the sale of house lots and Armory Dwelling Houses in September 1852. For programed use of this money, see Chart No. p. .

Expenditures for Land, Construction, and
Repair of Buildings, Canals, Dams, and Roads
at the U.S. Armory at Harper's Ferry, Virginia,
January 1, 1842 to June 30, 1860

(From Ordnance Department's Annual Reports of Operations to Congress)

Year	TOTAL	Serial No.	Document No.
Jan. 1, 1842 to Sept. 30, 1842:	\$ 45,260.31 (1)	421	113
Oct. 1, 1842 to June 30, 1843:	32,480.06	441	23
July 1, 1843 to June 30, 1844:	35,046.06	464	43
1844-45:	28,701.10	483	96
1845-46:	62,468.77	499	41
1846-47:	55,346.27	516	22
1847-48:	75,269.63	540	25
1848-49:	55,674.70	576	37
1849-50:	38,373.24	598	20
1850-51:	62,399.44	640	36
1851-52:	60,979.25	677	26
1852-53:	47,979.19	717	19
1853-54:	60,023.04	783	33
SUBTOTAL:	\$ 660,001.06	-	-
1854-55:	37,292.67	851	21
1855-56:	39,858.00	897	25
1856-57:	45,081.91	955	55
1857-58:	25,044.68	1004	32
1858-59:	32,663.07	1048	27
1859-60	71,079.03	1097	35
SUBTOTAL 1854-60:	\$ 251,019.36	-	-
GRAND TOTAL 1842-60:	\$ 911,020.42	-	-
Total, 1796-1860	\$ 1,786,891.01		

(L) Vouchers of Paymaster indicate that only about \$ 13,037.93 went to pay for Improvements and Repairs in 1842; the remaining \$ 32,222.39 was apparently spent to pay off old debts for the manufacture of arms.

CHART 2

4

BREAKDOWN BY PROJECTS OF ANNUAL APPROPRIATIONS FOR REPAIRS AND IMPROVEMENTS
AT HARPER'S FERRY ARMORY, VIRGINIA, FROM 1842 to 1861

YEAR	Total of Appropriation	For Machinery, Water Wheel	For Repairs - General	Construction at Musket Factory (1)	Construction at Rifle Factory (1)	Construction U.S. Arsenal (1)	Canals & Walls Along.	Armory Dwellings (1)	Purchase of Land
1842	\$ 30,000	\$ 15,000	\$ 10,000	2,500	-	-	-	-	-
1843-44	\$ 30,500	9,500	8,000	\$ 13,000	-	-	-	-	-
1844-45	12,000	4,000	3,500	4,500	-	-	-	-	-
1845-46	18,000		-	8,000	\$ 5,000	-	\$ 5,000	-	-
1846-47	128,361	24,550	-	22,050	10,800	-	-	15,000	50,261
1847-48	17,770	4,700	-	10,330	-	-	2,740	-	-
1848-49	\$ 53,091		1,871	20,500	23,630		3,320	170	
1849-50	62,820	27,370	2,675	30,305	440			3,645	200
1850-51	50,560	2,070	10,880	7,740	27,000		2,870		
1851-52	23,100	3,220	3,500	10,150	6,230				
1852-53	28,950	5,000	2,300	19,550	450		1,650		
1853-54	+ 63,500	7,700	24,000	25,200	2,600		5,000		
1854-55	35,100	11,100	1,700	9,400			6,000		
1855-56	52,673	7,033	800	13,721	8,480		3,739		
1856-57	38,892	13,050		3,966		5,761	8,693	422	
1857-58	34,970	34,204		766					
1858-59	101,907	15,000		11,103		27,325	8,479		
1859-60	55,000	13,000		1,600	15,820		10,730		
1860-61	65,500	39,700		13,650					
TOTAL	\$ 902,694	\$ 236,197	\$ 69,226	\$ 228,031	\$ 100,150	\$ 33,086	\$ 58,221	\$ 19,237	50,461
1861-62	64,500	27,280			12,128		23,092	2,000	
TOTAL	\$ 967,194	\$ 263,477	\$ 69,226	\$ 228,031	\$ 112,278	\$ 33,086	\$ 81,313	\$ 21,237	\$ 50,461

(1) Includes Buildings and Grounds.

BREAKDOWN BY PROJECTS OF ANNUAL APPROPRIATIONS FOR REPAIRS AND IMPROVEMENTS
AT HARPER'S FERRY ARMORY, VIRGINIA, 1842 to 1861.

5

YEAR	Dams			Armory Stables & Yard	Armory Powder Magazine	Armory Lumber Shed	Rain Water Cisterns	Sources: Serial No.	Doc. No.	Pages
1842	2,500.00	-	-	-	-			Reel 20	Vol. 7	637,639
1843-44	-	-	-	-	-			Reel 20	Vol. 7	643-645
1844-45	-	-	-	-	-			439	6	94-95
1845-46	-	-	-	-	-			Reel 20	Vol. 7	652-653
1846-47	\$ 900			\$ 2,800	-		2,000	481	9	111-112
1847-48	-	-	-	-	-			497	9	141-142
1848-49								514	2	110-111
1849-50							1,300	538	2	117-119
1850-51								568	4	156-157
1851-52								Reel 20	Vol. 7	694
1852-53								633	2	212
1853-54								675	2	257-258
1854-55					1,000	6,000	1,000	714	2	188-189
1855-56								781	3	238-239
1856-57	7,000							865	2	244-247
1857-58								909	2	162
1858-59	40,000							941	2	193-194
1859-60	26,000							996	2	181-182
1860-61								1043	2	229
TOTAL	\$ 76,400			\$ 2,800	\$ 1,000	\$ 6,000	\$ 4,300			
1861-62								1092	2	322-323
TOTAL	\$ 76,400			\$ 2,800	\$ 1,000	\$ 6,000	\$ 4,300			

CHART No. 3

6

CASH FLOW FROM U.S. TREASURY DEPARTMENT TO THE
PAYMASTER AT THE HARPER'S FERRY ARMORY, VA., FOR PERMANENT
IMPROVEMENTS, 1842 to 1861

Year	Appropriated During Year	Total Available	Amount withdrawn by requisition of Paymaster during year.	Balance in Treasury at end fiscal year	
1841				\$ 18,000.00	
1842	\$ 30,000.00	\$ 48,000.00	\$ 23,000.00	25,000.00	(1)
1843	0	25,000.00	20,000.00	5,000.00	(2)
1843-44	30,500.00	35,500.00	31,600.00	3,900.00	(3)
1844-45	12,000.00	15,900.00	15,900.00	0	(4)
1845-46	18,000.00	18,000.00	18,000.00	0	(5)
1846-47	128,461.00	128,835.97	96,600.00	32,235.97	(6)*
1847-48	17,770.00	50,005.97	50,005.97	0	(7)
1848-49	53,091.00	53,091.00	33,000.00	20,091.00	(8)
1849-50	62,820.00	85,699.86	36,000.00	49,699.86	(9)
1850-51	50,560.00	100,259.86	45,281.98	54,977.88	(10)
1851-52	23,100.00	78,077.88	65,000.00	13,077.88	(11)
1852-53	28,950.00	13,077.88	13,077.88	0	(12)
1853-54	63,500.00	43,500.00	43,500.00	0	(13)
1854-55	35,100.00	35,100.00	35,100.00	0	(14)
1855-56	52,673.00	52,673.00	37,850.00	14,823.00	(15)
1856-57	38,892.00	53,715.00	53,625.03	89.97	(16)
1857-58	34,970.00	35,059.97	18,000.00	17,059.97	(17)
1858-59	101,907.00	123,366.97	38,900.00	84,466.97	(18)
1859-60	55,000.00	139,466.97	88,608.40	50,858.57	(19)
1860-61	65,500.00	116,358.57			(20)
TOTAL	\$ 902,694.00		\$ 763,049.26		

7

CHART NO . 3

Sources; Chart-Cash Flow, 1842-61, for Permanent Improvements, Treasury Department to Armory Pay Master, Harper's Ferry, Va.

1. 1842- Serial No. 421, Document No. 62, p.3.
2. 1843- Serial No. 442, Document No. 114, p.3.
3. 1843-44- Serial No. 465, Document 76, p. 3.
4. 1844-45- Serial No. _____, Document No. _____ P. _____ Volume missing.
5. 1845-46- Serial Number 550, Document No. 65, p.4.
6. 1846-47- Serial Number 506, Document No. 27, pp.2-3. Repaid \$ 474.97*.
7. 1847-48- Serial Number 540-Document No. 27, p.5.
8. 1848-49- Serial No. 554, Document No. 10, p.4.
9. 1849-50- Serial No. 580, Document No. 89, p.3. Repaid \$ 2,988.86*.
10. 1850-51- Serial Number No. _____, Document No. _____ p. (missing)
11. 1851-52- Serial No. 676, Document No. 8, p. 2.
12. 1852-53- Serial No. 715, Document No. 5, p.3.
13. 1852-54- Serial Number 781, Document No. 8, p. 3.
14. 1854-55- Serial No. 815, Document No. 9, p.4.
15. 1855-56- Serial No. 878, Document No. 17, p.5.
16. 1856-57- Serial No. 924, Document No. 29, p. 5.
17. 1857-58- Serial No. 1006, Document No. 64, p. 4/.
18. 1858-59- Serial No. 1047, Document No. 21, p.4. Repaid \$ 4,400.00.*
19. 1859-60- Serial No. 1097, Document No. 34, p.3.
20. 1860-61- Report never printed.

Between 1842 and 1861 a total of 40 new structures were to be constructed at the U.S. Armory at Harper's Ferry and eight additional dwelling houses were to be acquired by purchase. These 48 additional buildings brought the grand total of Armory edifices constructed or acquired from 1796 to 1861 to about 308 buildings,

Of the some 260 Armory structures built or purchased prior to 1842, 232 had been disposed of between 1842 and 1861: about 175 by demolition and 57 dwelling houses ^{by} being sold off at public auction. In 1861 only 28 of the pre-1842 buildings were standing. These included three remodelled or relocated structures at the U.S. Musket Factory, three old buildings on Arsenal Square, two remodelled storehouses at the U.S. Rifle Factory, and 20 of the old Armory dwelling houses, which had number 170 on January 1, 1843. Another 37 of the ^{ed} ^{still} ^{were} old residences were standing, but now owned by Armory workmen.

Construction Program, 1842 - 1861

Department	No. Built	No. Remodelled	No. Purchased	Total	No. standing in 1859
Musket Factory	24	3	0	27	23
Arsenal Square	0	0	0	0	3
Rifle Factory	8	2	0	10	10
Powder Magazine	1	0	0	1	1
Stable	1	0	0	1	1
Market House	1	0	0	1	1
Dwelling Houses	5	0	8	13	33
----- TOTAL: -----	40	5	8	53	72

NUMBER AND LOCATION OF BUILDINGS AT THE U.S. ARMY AT HARPER FERRY,
VIRGINIA, 1796 - 1861

Locations:	1803	1811	1821	1834	1848	1859	1861	Total Built 1796-1861
Black Powder Factory	5	10	16	14	19	22	24	70
Arsenal Square	2	3	4	7	4	3	3	9
Rifle Factory	1	3	4	22	23	10	10	36
Powder Magazine	1	1	1	1	1	1	1	4
Stables	2	1	1	1	1	1	1	5
Black Powder House	0	0	0	0	1	1	1	1
Dwelling Houses	7	20	89	130	163	33	33	183
TOTAL:	18	37	114	184	212	71	73	308

RATE OF CONSTRUCTION OF ARMY BUILDINGS,
BY PERIODS, 1796 - 1861

Locations:	Built 1796-1811	Built 1812-1821	Built 1822-1841	Built 1842-1861	Total Built	Standing in 1861	Demolished 1796-1861
Musket Factory	15	8	23	24	70	24	47
Arsenal Square	3	1	5	0	9	3	5
Rifle Factory	4	1	23	8	36	10	26
Powder Magazine	2	1	0	1	4	1	3
Stables	2	1	1	1	5	1	4
Market House	0	0	0	1	1	1	0
Dwelling Houses	20	60	81	13	183	33	93 -sold 57 more.
TOTAL:	46	81	133	48	308	73	179 plus 57 sold.

CHAPTER I

Major Henry K. Craig, 1842 - 1844;

From 1795 to 1841 both [redacted] of the National Armories at Harper's Ferry, Virginia, and Springfield, Massachusetts, had been under the charge of civilian superintendents. On April 1, 1841, [redacted] however, Chief of Ordnance George Bomford, in an effort to improve the efficiency of each plant and to eliminate certain abuses, was authorized by the Secretary of War to replace the civilian superintendents with Army officers selected from the Ordnance Department ranks. Major Henry K. Craig was ^e ¹ *Chosen* to take command at Harper's Ferry and reported for duty on April 16, 1841.

In [redacted] response to Ordnance Department requests, Congress, on March 3, 1841, had appropriated \$ 38,000 in a special fund for the purpose of making repairs, improvements, and new machinery at the Harper's Ferry Armory. The Armory Paymaster withdrew \$ 20,000 of this appropriation from the U.S. Treasury during 1841, leaving a balance of \$ 18,000 available at the Treasury for use in 1842. ² ³ Most of the money spent in 1841 was utilized to make repairs and to pay off cost-over runs that the previous civilian superintendent, Edward Lucas, Jr., had run up in manufacturing arms.

In the Estimates for 1842 the Ordnance Department asked Congress to provide \$ 40,000 for "Improvements at Harper's Ferry Armory," explaining "Many of the buildings at this establishment require repairs and the machinery for the Manufacture of Arms (for the new 1842 model percussion musket and rifle) is far from being complete....and should be improved. For these purposes the estimate embraces \$ 20,000. For repairing embankments, dams, and forebays at the water shops... \$ 20,000. Total \$ 40,00. (4)

1. For detailed discussion of the decision to use military superintendents at the armories, see Smith, Merritt Roe, Harpers Ferry Armory and the New Technology, The Challenge of Change (Cornell University Press, Ithaca and London, 1977), pp. 258-268. The Secretary of War who approved this change was John Bell.

2. U.S. Statues at Large, Vol. V, p. 434.

3. Serial No. 402, Document No. 62, p. 3.

4. Harpers Ferry NHP Reel 20, Vol. 6, p. 637.

This vague and generalized request for money suggests that the Ordnance Department had not yet formulated a definite ^{program} for rebuilding ^{the} Harper's Ferry Armory by the ^{end} of 1841, when this estimate was sent to Congress. Congress did not act until August 23, 1842 and then provided only \$ 30,000 of the \$ 40,000 that had been asked for. ⁵

The estimate for the fiscal year January 1, 1843 to June 30, 1844 (the Ordnance Department was changing to a ^{new} July 1, ¹⁸⁴⁴ - June 30, ¹⁸⁴⁵ fiscal year plan) was much more definite in detailing the use of the ⁶ requested \$ 30,500: \$ 6,500 was to be used to construct a new boring mill at the Musket Factory, \$ 16,000 for new machinery at the Musket and Rifle Factories, and \$ 8,000 to repair workshops at the two plants. ⁷ Congress voted the requested \$ 30,500 on March 1, 1843. An additional \$ 12,000 was appropriated for permanent improvements at Harper's Ferry Armory for the July 1, 1844 to June 30, 1845 fiscal year on June 17, 1844. ⁸

All told then, from January 1, 1842 to June 30, 1844, Congress provided a total \$ 90,500 for construction and repairs and Major Henry C. Craig expended a total of \$ 112,786.43 for these purposes during that period. ⁹ Major Craig left Harper's Ferry for new duties in November 1844 and was replaced by Major John Symington as Superintendent of the Armory.

Major Henry K. Craig began the process of reconstructing the Armory's old physical plant. Three major and two minor shops were erected at the ^{was built} the Musket Factory and one important new structure/at the Rifle Factory during Craig's administration. Craig also raised the previous level of construction by insisting that the new edifices be built of the best materials and in the best manner.

5. U.S. Statues at Large, Vol. 5, p. 509.
6. HFNHP Reel 20, Vol. 6, 643-644.
7. U.S. Statues at Large, Vol. 5, p. 605.
8. U.S. Statues at Large, Vol. 5, p. 698. For estimates for 1844-45 year see Serial No. 439, Document No. 6, pp. 94-95. \$ 17,000 was requested and \$ 12,000 was appropriated by Congress.
9. See Charts 1 and 2, pp. 3-4. The \$90,500 includes the \$ 18,000 carried over from 1841.

Appropriations for Repairs and Improvements, Harpers Ferry Armory, 1842-1845

Calendar Year	Musket Factory Warehouse, built 1841-44	Musket Factory boring Mill, 1843-44	Musket Factory Proof House 1843-44	Rifle Factory Fiddlers shop 1843-44.		Apropriated during year- Total
1841	yes	0	0	0		Carry over of \$ 18,000.00
1842		1				30,000.00
1843	yes	6,500.00	yes	yes		30,500.00
1844	yes	4,500.00	yes	yes		12,000.00
To June 30, 1845	no	no	no	no		18,000.00
Estimated Cost	\$ 7,200.00	\$ 10,500.00	\$ 2,500.00	\$ 1,000.00		\$ 108,500.00

Also built- frame engine house and frame lime house.

\$ 21,000 estimated cost of major buildings.

1,500 estimated cost of engine and lime houses.

\$ 22,700 Total estimated cost of five buildings.

A. Construction and Repair at the U.S. Musket Factory, 1842-44:

1. The New Warehouse for Iron, Steel, and other Supplies, 1841-43, Bldg 12:

This large two-story warehouse, built of cut- stone and brick, in 1841-42 was to be the first structure erected in a new generation of architecturally impressive and substantially-constructed workshops and storehouses that were to be built 1842-1860 to replaced the earlier (1800-10) non-discript edifices at the U.S. Musket Factory and U.S. Rifle Factory.

This new warehouse is Bldg. No. 10 on Map No. 1(1844), Bldg. No. 18 on Map No. 5, [] (1848), and Bldg. No. 12 on the 1859 Historical Base Map.

Major Craig ^{apparently} never submitted any special request or estimate to the Ordnance Department or Congress to Construction the new warehouse, but used funds generally intended for improvements and repairs during the years 1841 to 1843. The new building was to be located at the eastern head of the northern line of Musket Factory workshops, which stood adjacent to the Potomac river wall. Extensive preparations, which apparently included extending the great stone river wall eastward and considerable filling behind the wall, were required to prepare the site [] for the construction of the foundations of the great warehouse. A total of \$ 1,892.82 was expended for this purpose in the 4th quarter (October-December) of 1841. The mason George Mattlingly received \$ 1,833.82 of the total: \$ 1,119.94 for building 756 18/25 perches of dry wall, the "foundation walls of a warehouse", and \$ 507.88 for "filling in 2,412½ cubic yards of embankment "for foundations of a warehouse." The balance of \$59.00 was spent to acquire 29½ barrels of cement for use on the project.

however
A. Craig's estimate of the cost of erecting the warehouse, may have been attached to the Board of Inspection's Report of Feb 22, 1842 and hence been lost.

1. National Archives Record Group 217, Washington, D.C. U.S. Treasury Department, Records of the Second Auditor, 2nd Series, File No. 6718-Voucher No. 84 to Mattlingly dated Nov. 22, 1841; Voucher No. 85 to George Reynolds and Co. for cement, dated December 31, 1841.

On March 17, 1842, the following "Notice to Builders" appeared in the Virginia Free Press:

Written proposals will be received by the Superintendent of the Harper's Ferry Armory until the 31st instant, for the erection of a BRICK WAREHOUSE, at Harpers-Ferry, Va...

The builder to furnish all materials and labor, such as Brick, Mortar, Stone Window Caps. and Stools, Stone Door Caps, and Sills, Stone Cornice, and Staging.

The Brick, Lime and Sand to be of the best quality, and the stone to be hammered, either all lime granite, or the best quality of stone, found on the Government land at this place.

Builders will state their price per thousand for the brick work, and the price per foot (superficial) of exposed stone-work, specifying the different kinds of stone.

The work to be finished before the 31st July, 1842, in the best manner, and to the entire satisfaction of the Superintendent of the Armory.

The building will be erected on a foundation already prepared, and will be 93 by 30 feet, two stories high, and the walls 18 inches thick... 2

This advertisement indicates that the plans for the intended structure had been completed by March 1842, but for reasons that are not known, actual construction on the warehouse ceased until the fall of 1842, when the masons were paid a total of \$ 279.42 for making further improvements to the foundation and the stone cutters received \$ 843.49 for providing approximately 1,472 feet of cut stone for use in the new building. George Lynch received \$ 57.42 on September 19, 1842 for making 287 cubic yards of "embankment at the east gable end of the warehouse; on December 24, 1842 the stone mason Peter Little was paid \$ 222.00 for building "148 perches of stone wall to protect the embankment at the gable end of new warehouse and connect the end of the river wall with the same." This expenditure brought the cost of the foundation and site to \$ 2,172.24. Of the cut stone, Redmond Burke & Co. provided 1,255.3

2. R.G.217- 2nd S., File 1837-Voucher No. 1- Bill from J.S. and H.N. Gallagher for \$ 2.00 for Proposal, March 17, 1842-apparently run for two weeks. Bill not paid until April 6, 1843

3. R.G.217-2nd series-File 7654-V. 66.

4. R.G. 217-2nd S-V. F. 8011-V. 95.

5
feet and received \$ 713.49 for his work. The balance, 216 and 2/3 feet
6
was purchased from Daniel Pine for \$ 130.00. A total of about \$ 1,122.91
appears to have been expended on the construction of the new warehouse in 1842.
Included in one of Burke's orders were 44 window sills, totaling 291 feet of
cut stone, and four door lintels, totalling 59.8 feet., also 124.8 feet of "bases."⁷

The stone cutter Redmond Burke delivered an additional 1,781 feet of
cut stone in the fall of 1843 and paid a ^{was} *Total* ^{of} \$ 1,059.63 for his work.
were
Included 258 feet cut stone for "underpinning of the base of the warehouse;
110½ feet cut stone for caps for quadrant and square windows (probably at
third story levels of east and west gable ends), window sills at base basement
of warehouse" "Door & window sills, caps, and door posts, and 427 feet 2
8
inches of stone cornice.

Peter Little, the stone mason, was paid \$ 196.50 on November 28, 1843
for "building 102 perches of mortar stone wall, part of foundation of warehouse,
9
for setting stone underpinning, and setting cut stone window and door sills.

The stone cutters and stone masons appear to have received a total of about
\$ 4,272.86 for their contributions to the construction of the new warehouse
from 1841 to December 31, 1843.

The brick walls of the warehouse were erected by the brick mason John
Lambaugh in the fall of 1843 for a total of \$ 1,660.10. He furnished the materials,
linear
laid 168,072 bricks for \$ 1,596.68 and also set 634 feet 3 inches of
10
cut stone cornice, "window and door caps", for the sum of \$ 63.42.

5. Record G.217/ , 7654-V.1; 8011-V.90; 8011-V. 89; all 2nd S.
6. R.G.217- 2nd S., 7654-V. 68.
7. R.G. 217-2nd S., 8011-V. 89.
8. R.G.217-3rd Series, F. 187-V. 118; F.440-V. 73 and 74, Sept. 29/1843;
July 11, 1843; 630-V. 93, Nov. 3, 1843.
9. R.G. 217 -3rd S., 630-V. 27.
10. R.G.217- 3rd S, F. 630-V.100-dated November 22, 1843.

The vouchers of the Armory Paymaster apparently did not specify the carpenters who framed the roof and put in the flooring (they may have been carried on the regular Armory payroll¹¹ and paid a daily rate). Other vouchers however, indicated that 5,068 feet of yellow pine for use as joists in the new warehouse were purchased in October 1843 for \$ 76.02. Also acquired¹² at a cost of \$ 70.14 was 4,008 feet oak plank "for warehouse." Total cost of lumber used in the construction came to about \$ 146.16, exclusive of the services of the carpenters.

William Bayley slated the roof of the new warehouse, 3,920 square feet, in November 1843 and was paid \$ 431.20 for providing the materials and¹³ doing the labor. The tinsmith Benjamin M. Snook made and put up the copper gutters and downspouts on the new storehouse, in December¹⁴ 1843. The cost of Snook's work came to \$ 130.97.

The new warehouse thus appears to have been substantially complete by¹⁵ December 31, 1843. About \$ 2,368.43 had been sent on construction during 1843. Final touches costing a total of approximately \$ 84.14¹⁶ were made in 1844 to complete the structures. James Bowen was paid \$ 72.39 on May 11, 1844, for plastering 580 square yards "in upper room of warehouse, two coats" for \$ 58.00 and \$ 14.39 "for plastering lower room, 359 7/9 square yards, one coat." Benjamin Snook put up some addition copper spouting for¹⁷ \$ 4.00. Stone cutter Timothy McBrierty was paid \$ 6.00 "for cutting 8 stone bases for columns in warehouse." Stone cutter Redmond Burke, in October 1844, received \$ 1.75 "for one days work drilling holes for door irons at¹⁸ warehouse."

Total costs of onstruction, 1841 to 1844 were approximately \$ 6,725.43, exclusive of the cost of the labor of the carpenters. With this

- 11. R.G. 217. 3rd series, 630-V. 3-Oct.23, 1843.
- 12. R.G. 217-3rd S. 630-V.98-November 24, 1843.
- 13. R.G. 217-3rd S., 630-V.24- November 24, 1843.
- 14. R.G. 217-3rd S., 630-V. 48, December 20/1843.
- 15. R.G.217-3rd S., 1165-V. 21-May 11, 1844.
- 16. R.G. 217-3rd S., 1165-V.90, July 9, 1844.
- 17. R.G.217-3rd S., 1698-V. 35, Sept. 13/44.
- 18. R.G. 217-3rd S., 1934-V.8, October 28, 1844.

18

item included, the total cost of erecting the new warehouse, 1841-44, was probably about \$ 7,100 to \$ 7,200.

In a report to the Secretary of War dated January 6, 1845, Lt. Col. George Talcott, Chief of Ordnance reported that "A storehouse of two stories, 93 by 30 feet, has been built for storing iron, steel, and other supplies, in a location (at the Musket Factory) much more convenient to the shops ¹⁹ than the place formerly used for such purposes."

Major John Symington, who followed Major Craig as Superintendent of the Harper's Ferry Armory in November 1844, also described the new warehouse in his first annual report of operations, July 1, 1844 to June 30, 1845, as follows:

"A store-house of brick, on stone foundations, 93½ by 30 10/12 feet, two stories high, and covered with slate.

The two floors of this building have been fitted up with frames, racks, and shelves suitable for exhibiting the different varieties of stores deposited. The heavy articles on the lower floor, including all the sizes of iron and steel in separate lots." ²⁰

As has been mentioned, the newly completed warehouse appears as Bldg. No. 10 on Map. No. 1 (1844) and Bldg. No. 18 on Map No. 2 (1848).

19 , Congressional Serial Number Series-Public Documents of the United States, Serial No. 464, Document No. 43, p.2.

20. Serial No. 470, Document No. 1, p. 19.

Construction of Warehouse, Musket Factory,
1841- 1844

Project	Cost	Description of Work
Embankments for Foundations	\$ 565.30	For fill and embankments of earth 2,699½ cubic yards
Building dry Walls	1,585.41	1,083 2/25 perches of stone dry wall.
Foundation Mortar walls	153.00 24.95	for laying 102 perches of mortar masonry for setting stone underpinings.
Cement	59.00	for 29½ barrels of cement
To Cut stone masons	1,922.84	for providing 3,159 feet 3 inches of cut stone and other work by stone cutters.
Bricks	1,601.43 81.97	for providing and laying 168,072 bricks. for laying 634 feet 3 inches of cut stone cornice and setting door and windows sills.
Lumber	146.16	5,068 feet yellow pine for joists, \$ 76.02. 4,008 feet of oak for flooring, \$ 70.14.
Carpenter Work	?	Laying floors and framing roof.
Slating	431.20	providing and slating 3,920 square feet, roof of warehouse.
Gutters & Spouts	134.97	Making and putting up copper gutters and downspouts on roof.
Plastering:	72. 39	plastering total of 939 7/9 square yards: 580 yards, 2 coats in upper room, 359 7/9 yards, 1 coat in lower room.
Total:	\$ 6,778.62	

2. The New Boring Mill, 1843-1844: Bldg No. 5.

The second large brick structure to be designed and erected by Major Henry K. Craig at the Harper's Ferry Armory was the New Boring Mill (Bldg. No. 3 on Map No. 1(1844); Bldg. No. 3 on Map No. 5(1848), and Bldg No. 5 on the 1859 Historical Base Map. The new workshop replaced the Old Boring Mill, a two-story brick building, measuring 120 by 30 feet in size, that had been erected in 1799-1800 as the first "Armory" or "Factory" of the plant.

The Estimate for the Service of the Ordnance Department for the Year January 1, 1843 to June 30, 1844 requested the appropriation of \$ 6,500 "for altering and rebuilding boring shop at musket factory", explaining "The present boring mill is too low between the floor and the ceiling and too narrow, in consequence of which the shop is dark and badly ventilated and machinery too much cramped. To put the present present shop in tolerable condition would require and out-lay of \$ 500 or \$ 600".¹ Congress provided the requested \$ 6,500 on March 1, 1843.² The additional sum of \$ 4,000 was requested³ for completing the erection of a new boring mill" in the estimate of funds for the service of the Ordnance Department for the Fiscal Year- commencing July 1, 1844, and ending June 30, 1845.⁴ Congress appropriated the \$ 4,000 on June 17, 1844, so that the total approximate cost of construction was about \$ 10,500.

The Armory Paymaster's voucher indicate that only a limited amount of (\$ 852.27's worth) work was undertaken on the foundations of the new Boring Mill during the fall of 1843, to the extent of \$ 345.02 and that an additional \$ 505.25 was expended to acquire 843 feet 9 inches of cut stone for use as cornice and water table on the building.⁵ Edwin McGuigan excavated 270 3/4 cubic yards of

5. Records of the Second Auditor, 3rd Series-File 630, Voucher 101, dated Dec. 2, 1843, to Timothy McBrierty, \$ 244.60 for 407 feet 4 inches cut stone; F. 630-V. 102, Dec. 9, 1843, to Redmond Burke, \$ 261.85 for 436 feet 5 inches of cut stone for Boring mill.

1. Harpers Ferry NHP Microfilm Reel No. 20, Vol. 6, p. 643, 644.

2. U.S. Statues at Large, Vol. V, p. 605.

3. Serial Number 439, Document No. 6, p. 94.

4. U.S. Statues at Large, Vol. 5, p. 698.

earth for part of the foundation for \$ 43.22 and the mason Peter Little built 242 6/25 perches of dry wall at the Boring Mill. Timothy McBrierty and Remond Burke, who were providing the cut stone for the new warehouse, also furnished the cut stone for the new Boring Mill.

In March 1844 Superintendent Craig advertised in the area newspapers for a brick maker who was to provide "300,000 hard brick of the best quality". The first delivery of 50,000 was to be made by June 1 and this was to be followed by delivery of 50,000 brick at each 15 day intervals. The brick awarded contract was to William Lee, who made and delivered a total of 281,500 brick for \$1836 in 1844, delivering 50,000 in August, 100,000 in September, 50,000 in October and 81,500 bricks in November. During the spring an additional 1,440 feet 2 inches of cut stone were purchased from McBrierty and Burke at a cost of \$ 725.08. Included in this lot were stone for water table, cornice, sills and lintels, three door steps and 3 spout stones.

Construction on the new Boring Mill apparently got underway in July August 1844. On 19th the slater George W. Tracey was paid \$ 39.04 for taking off the old slate, 1,628 feet, from the roof of the old Boring Mill; On August 15, the mason Peter Little received \$ 137.83 for taking down the old Boring Mill and saving 137,836 brick and \$ 31.50 for quarrying

9. 3rd S., all to William Lee, File 1613-V. 18, Aug. 20/44, for \$ 325.00; F. 1613-V. 24, for \$ 325.00, Sept. 7, 1844; F. 1934-V. 33, Nov. 7, 1844 for \$ 325.00; and F. 1934-V. 60, Dec, 12/4/44, for \$ 536.00. V. 11/5 V39, 1844, 1844
 10. 3rd S., F. 1165-V. 8, April 16, 1844, to Redmond Burke, \$ 280.58, for 541 feet 2 inches cut stone, plus 3 door steps and 3 spout stones; F. 1165-V. 35 to Timothy McBrierty, June 14, 1844, \$ 444.50 for 889 feet of cut stone.
 11. 3rd S., F. 1698, V. 17, Aug. 19, 1844.

6. Series 3, File 440-Voucher 727. dated Sept. 22, 1843.

7. 3rd S., F. 630-V. 27, dated November 28, 1843.

8. 3rd S., F. 970, V. 24, to A.S. Abell, March 2, 1844, \$ 8.67 for running advertisement.

325.00 for 50,000 bricks

4 perches of heavy stone from the basin between the shops and then
¹²
 laying 22 perches of dry wall in the basin.

Litle then worked from August through the end of October 1844 ^{excavating}
 the foundation and constructing the stone masonry ^{mortar and}
^{foundation} dry walls of the new mill, receiving a total of \$ 1,717.25 these
^{en}
 contributions. This work included 511 8/27 cubic yards of excavation,
 building about 576 perches of mortar masonry wall, and erecting 57 perches
 of dry ^{wall}. In October he installed 51 feet 4 inches of cut stone, the steps to
 mill, 392 feet of cut stone for the head blocks of the water wheels, also
 20 1/2 perches of grouted wall for the head blocks and 102 8/25 perches of mortar
¹³
 wall for the head blocks. Cut stone lintels and sills were also set.

In September 1844 an additional ¹⁴ \$ 702.71
 was paid to Burke and McBrierty for 1,219 feet 7 inches of cut stone,
 some of which was also intended for use on the new warehouse ^{new} and proof
 house that ¹⁴ were then under construction.

The two-story brick walls of the Boring Mill were erected by
 Hunt and Bates, who were paid \$ 430.51 on September 21, 1844, for laying
¹⁵
 215,258 bricks in the walls of the mill.

In August \$ 576.48 was spent to purchase 32,027 feet of white pine lumber
¹⁶
 for use as joists in the Boring Mill. The Armory Carpenters, paid from
 days wages, apparently, framed the roof and erected the wooden floors in the
 new mill, for no vouchers were found made out to carpenters for these services.

12. 3rd Series, F.1698, V. 14, dated August 15, 1844.
13. 3rd Series, 1613-V. 28, Sept. 8, 1844 to Peter Litle for \$ 678.10; File 1698-V. 78, October 7, 1844 to Litle for \$ 632.22, and F.1934, V. 25, dated 11/5/44, for \$ 406.93.
14. 3rd Series, File 1613-V. 44, to Redmond Burke, 9/21/44, \$ 539.68 for \$ 980 feet 11 inches of cut stone; F.1698 V.-35, to Timothy McBrierty, \$ 139.23 for 238 feet 9 inches of cut stone, Sept. 13, 1844; F.1934-V. 8 to R. Burke, Oct. 28/44. \$ 23.80 for setting 238 feet of cut stone in Boring Mill.
15. 3rd S., F.1698, V. 46, to Hunt and Bates, 9/21/44, for \$ 430.51.
16. 3rd S., F- 1698, V. 20, to A. Bowers, August 31, 1844, for \$ 576.48.

The carpenters had completed their task by October, for at the end of that month the slater William Bayley was paid \$ 738.10 for providing 7,381 feet of slate and slating 73 81/100 squares on the roof of the new Boring Mill. ¹⁷

The tinsmith Benjamin M. Snook made and put up 771 feet of "lead gutter" on the Boring Mill in September and 199 feet of "round copper spouting" on the structure in December 1844. He received \$ 147.44 for these ¹⁸ services.

The ceilings of the new mill were plastered at a cost of \$ 205.62. This total included \$ 17.87 for ¹⁹ 14,300 ceiling lath, and \$ 187.75 for the services of James Bowen, who in November plastered 1,825 1/9 square yards in the new mill and also put up 2,090 feet of joist stripes. ²⁰

Exclusive of the cost of the carpenter work, approximately \$ 7,287.22 was spent on the construction of the new Boring Mill in 1844, with expenditures of 1843 included- \$ 852.27, the grand total was more than \$ 8,139.49.

In his annual report to the Secretary of War on the operations of the National Armories at Harper's Ferry and Springfield, dated January 6, 1845, the Chief of Ordnance, Lt. Col. George Talcott, informed Secretary William Wilkins, "A large workshop, 123 by 42 feet, two stories high, for barrel boring and other operations, has been constructed [at the musket factory] in place of a narrow and inconvenient shop, which had become much ²¹ dilapidated."

The heating system of the completed mill was installed in the structure at a cost of \$ 385.32 in the first quarter of 1845. This was comprised of 820 feet of stove pipe to distribute the heat from 10 cylinder

17. 3rd Series, F.1934, V. 5, to William Bayley on October 28, 1844, for \$ 738.10.

18. 3rd Series, To Benjamin M. Snook, F.-1698, V. 61, Oct. 1, 1844, for \$ 124.13 ;

F.1934, V. 32, Nov. 7, 44, for \$ 6.00; and F.2213, V. 7, Jan. 1845, for \$ 17.31.

19. 3rd Series, F.1934, V. 23, to King and Pick (?), Nov. 5, 1844, for \$ 17.87;

20. 3rd S. F.1934, V. 62, To James Bowen, Dec. 6, 1844, for \$ 187.75.

21. Serial No. 464, Document No. 43, p. 2.

stoves, the latter including 6 large and 4 medium size stoves.

Total cost of constructing the new Boring Mill, exclusives of the carpenter work, thus appears to have been about \$ 8,327.95. The balance of some \$ 976 was probably used to paid for the carpenter work and the cost of installing machinery. The new mill is shown on Map No.1, which was drawn in November 1844.

The work of installing the machinery continued into 1845 and in his first annual report for the fiscal year ending June 30, 1845, Armory Superintendent Major John Symington, who had replaced Major Craig as superintendent in November 1844, reported of the Boring Mill; " A workshop of brick, on stone foundation, 122 by 42½ feet, two stories high, and covered with slate; bevel-gear²³ed (water) wheels, on solid cut-stone head blocks, under the lower floor, communciate motion to the lines of working shops on the two floors above.

" The various operations upon the barrel from the forged to the finished product will be done in this shop, in addition to other work; most of the machines for the purpose being already in position and in operation." The mill would produce barrels for the new model perc²³ussion muskets that were just going into production.

Later in this same report, Symington described this machinery as follows: At the Musket Factory

1st. Under the first floor of new workshop (boring mill) is heavy and permanent bevel gearing, with the main driving drum; also about 49 feet of of large iron shaft, with spur and bevel-gearing, extending into the wheel house and connecting with the large iron water wheel, There is also 179 feet of iron and lead pipe, connected with a force pump, to supply water to the machinery for boring barrels.

22. 3rd Series, F.1934, V. 108, To Hazelwood, Fox, and Co., 1/7/45, for \$ 351.60; F. 2213, V.38, To Hazelwood, Fox, & Co., March 29, 1845, for \$ 34.72.

23. Serial No. 470, Document No. 1, p.419. Note that Lt. Col. Taclott gave the dimension of this same shap as being 123 by 42 feet.

On the first floor, 96 feet of the main line of working shafts with drum pulleys, counter pulleys, and shafts in operation. The upper room is fitted up with an inspector's office, and work benches and vices on the sides, with tool and work chests for each filer. The working shafts, &c., for this floor are in progress. 24

A year later, in the annual report for the year ending June 30, 1846, Major Symington described the "Machinery constructed and put in operation during the year" in the Musket Factory Boring mill as follows:

1st. 1 backshot water-wheel, 15 feet diameter, 10 feet wide, with penstock and geared gates; also shafting, bevel, and spur gearing; large driving drum, to give the machinery in new boring shop...

the

4th. In new boring shop, on the first floor, 36 feet of main driving shaft, with the necessary hangers, drums, pulleys, &c., fast and loose, for driving the several machines; also, 103 feet of cast-iron and lead pipe, to convey water to the barrel-turning machines. On the second floor, 90 feet of main driving shaft, and 28 countershafts (73 feet), 2 perpendicular shafts (21 feet), for driving drilling machines: the whole with the necessary appendages.....

The whole of the shafting, &c., in the foregoing items, is made in the most substantial manner of wrought-iron, except the main shafts, spur and bevel gearing of the large water wheel, which are of cast-iron." 25

24. Serial No. 470, Document No.1, p. 420.

25. Serial No. 493, Document No.1, p. 163. The wheel pit for the 15 foot water wheel had been excavated from solid rock. The structure had a breast-wall and forebay of masonry-see Serial No. 470, Doc.1, p. 419.

Construction of the Boring Mill, 1843-44

Project:	Cost	Description of Project
Excavation	\$ 129.61	Foundations-820 cubic yards excavation of earth and 4 perches of heavy rock.
Stone Mason Work	\$ 405.55 1,315.86 51.55	For erecting 321 6/25 perches of dry wall. for erecting 678 7/25 perches mortar masonry stone foundation walls. For erecting 20 1/2 perches of grouted wall.
For cut stone:	1,934.04	for 3,503 feet 6 inches of cut stone for use as water table, cornice, lintels, sills, steps, and spout stones.
Tearing Down Old Mill	176.87	saved 137,836 brick and 1,628 feet of slate from old building.
Making and Delivering Brick	1,836.00	281,500 brick made and delivered.
Laying Brick	430.51	for laying 215,258 brick in walls.
Lumber	576.48	32,027 feet white pine for joists.
Carpenter work	?	for floors and roof.
Lath	17.87	14,300 ceiling lath for putting up 2,090 feet of joist strips.
Plastering	187.75	for plastering 1,825 1/9 square yards.
Slate & Slating Roof	738.10	For 7,381 square feet of slate and putting it on the roof.
Roof Gutters and spouting	147.44	For making and putting up 771 feet of gutters, lead, and 199 feet of copper spouting.
Heating System	386.32	for 820 feet of stove pipe and 10 cylinder stoves, 6 large and 4 medium size.
Approximate Total Cost	\$ 8,327.95	(Maximum- \$ 10,500.00)

3. The new Proof House, 1843-44:

The third new large brick structure to be designed and erected by Superintendent Henry K. Craig at the Musket Factory was the Proof House. This is Building No. 14 on Map No. 5 (1848) and Bldg. No. 15 on the 1859 Historical Base Map. A new building material, sheet iron, was used for the first time at the Harper's Ferry Armory in the construction of the proof house, 1843-44.

Preliminary estimates were apparently not submitted to Congress that specifically requested funds to construct the proposed proof house. ^A

Work on the structure probably got underway in May 1843, for on June 17, the mason George N. Lynch was paid a total of \$ 695.03 for excavating 735 8/9 cubic yards of earth for the foundation and for erecting 432 3/4 ¹ perches of stone wall, the foundations of the new proof house.

The bricks, 115,297, were furnished and laid by the mason John Lambaugh in the ^{two} story high brick walls of this structure for \$ 1,095.32.

Lambaugh, for an additional \$ 47.35, also set 475 linear feet of cut stone ² window caps, door sills, and cornice.

Redmond Burke provided at least 83 feet 3 inches of the 475 linear feet of cut stone used in the workshop at a cost of \$ 35.65, the balance ^{large} coming from the ³ orders placed with Burke and Timothy McBriety for cut stone for the new warehouse and boring mill.

The carpenter bills for framing the roof and putting in the floor ⁵ have not been found, suggesting that Armory carpenters, paid from day labor, did this work.

1. Record Group 217, 3rd Series, File No. 187, Voucher 110, to George N. Lynch, June 17, 1843. He received \$ 132.46 for the excavation and \$ 562.57 for building the foundation walls.
2. 3rd S., F. 630, Vouch. 97-To John Lambaugh, Nov. 11, 1843, for \$ 1,142.87.
3. 3rd S., F. 440, V. 74, Sept. 29, 1843, for \$ 25.25, for 62 feet 4 inches; F. 1613, V. 44, dated September 21, 1844, for \$ 10.40 for 20.9 feet.

A HOWEVER, CRAIG'S ESTIMATES FOR THE PROOF HOUSE MAY HAVE BEEN ATTACHED TO THE BOARD OF OFFICERS INSPECTION REPORT OF FEB 22, 1842 AND HAVE BEEN LOST.

2,155 feet of yellow pine were acquired "for new building",
probably the proof house, for \$ 28.11, in October 1843. 14

28

The new proof house was apparently ready to be roofed by October 1843, for on the 20th of that month G. & J. A. Sheenberger were paid \$ 254.54 for providing 3,511 feet of sheet iron and roofing with it the proof house. 5 By mid December the tinsmith Benjamin Snook, assisted by two helpers, made and completed the installation of copper gutters and down spouts on the gable roof of the proof house, charging a total of \$ 106.67 6 for these services.

Expenditures on the structure, exclusive of the services of carpenters, in 1843, totaled approximately \$ 2,248.47. An additional \$ 81.98 was spent in 1844 to complete the building. The major item of the 1844 expenditure was \$ 67.58, which was paid to James Bown^e on May 3, 1844, for plastering 675 8/9 square yards of the interior of the Proof House.

Total cost of construction, 1843 to 1844, thus came to more than \$ 2,330.45

In his annual report to the Secretary of War on the operations of the National Armories, dated January 6, 1845, Lt. Col. George Talcott, Chief of Ordnance, informed Secretary William Wilkins of the extensive construction that Superintendent Henry K. Craig had accomplished at the Harper's Ferry Armory in the period 1843 to 1844. With regards to the proof house, Talcott wrote:

"A new proof-house has been erected, with rooms for loading and inspecting barrels, 70 by 30 feet, admirably well designed and suited to use; this is covered with a sheet-iron roof. The other new buildings [the warehouse and boring mill] are slated; and the whole are constructed in the most

substantial manner, of durable materials, reflecting great credit on the officer

5. 3rd Series, F. 440, V. 53. dated Oct. 20, 1843.

6. 3rd S. F. 440, V. 43, Sept. 30, 1843, for \$ 57.00; F. 630, V. 48, Dec. 20, 1843, for \$ 45.67, and F. 1165, V. 90, July 7, 1844, for \$ 4.00.

7. 3rd S., F. 1165, V. 18, to James Bowen, May 3, 1844, for \$ 67.58.

14. 3rd Series, F. 630, Voucher 8, to McPherson & ?.. October 31, 1843, a \$ 28.11 item in a bill totaling \$ 735.19.

29

Construction of the Proof House, Musket Factory,
1843-44

Project	Cost	Description of Project
Excavation for foundations	\$ 132.46	Excavating 735 8/9 cubic yards of earth
Stone foundation walls	562.57	Constructing 432 3/4 perches of stone foundation walls. Stone mortar masonry.
Providing and laying brick	1,095.32	Providing and laying 115,297 bricks in walls.
Cut Stone:	35.65	for 83 feet 1 inch of cut stone, balance used from purchases for warehouse, boring mill.
	47.35	For setting 475 linear feet of cut stone cornice, window and door caps and sills.
Lumber	28.11	For 2,155 feet of yellow pine for framing floors and roof.
Carpenter work	?	putting in floors and roof framing.
Roofing	254.54	for providing and installing 3,511 square feet of sheet iron roofing.
Gutters and spouts	106.67	for making and installing ? feet of copper gutter and ? feet of copper down spouts
Plastering	67.58	For plastering 675 8/9 square yards, ceiling and perhaps interior walls..
Total Cost	\$ 2,330.25	Estimated total cost: \$ 2,500.00

in charge of the establishment.... "8"

8. Serial No. 464, Document No. 43, p. 2.

4-5. Engine House and Lime House, 1843-44.

In addition to the three large brick shops erected at the Musket Factory, Chief of Ordnance, Lt. Col. Talcott, informed the Secretary of War on January 6, 1845, "several frame buildings, such as an engine house, lime house, ... have been effected..." by Major Craig. The locations of these structures in the Musket Factory yard is not known because the wooden engine house was replaced ~~in~~ 1848 and location of the lime house is not shown on the 1848 Map (Map No. 5). The 1844 lime house was also to be replaced, as we shall see, by a new wooden lime house in 1852.

The carpenter bills for constructing the two frame structures in 1844 have not been found, so we have estimated this cost \$ 750.00 each, making a total of \$ 1,500 for this work. These were both probably one-story frame structures, but no data has been found describing the features of these edifices.

6. Repairs to the Old Musket Factory Shops, 1842-44:

During the period 1842 to December 31, 1844, Major Craig spent about \$ 3,441.40 to make repairs to the old workshops, plus \$ 2,586.84 to purchase a large supply of cement and lime to use in the new construction and repairs, making a grand total of \$ 6,028.24. The rate of expenditure was \$ 2,060.31 in 1842, \$ 3,940.70 in 1843, and \$ 27.23 in 1844. William Bayley and George W. Tracey were paid a total of \$ 191.61 for repairing the slate roofs on the old shops. ~~received about \$3,956.00~~ The stone mason Speer for repairing shops, laying curbs and paving at the Musket Factory. ~~Carpenter work came to about \$428.67~~

4. 3rd Series, F.630, V. 27, Nov. 28, 1843, for \$ 39.71; 3rd S., F.440, V.40, Sept. 28, 1843, for \$ 156.94; 3rd S., F. 970, V.57, March 15, 1844, \$ 3.15.

1. Serial No. 464, Document No.43, p. 2.

2. Cement and Lime- 2nd Series, F. 8190, Voucher 44, Abstract D, to George Shafer, February 1, 1843, \$ 2,586.84-for 3880 bl cement and lime.

3. To William Bayley, 2nd Series, Nov. 7, 1842, for \$ 172.78; To George W. Tracey, 3rd S. F.1165, V. 40-6 June 1844, for \$ 18.83.

31

485.73

\$101.92

The plasterers received about \$⁵ _____ and the painters \$ _____ for their efforts during this period. Timothy McBrierty was also paid \$ 5.25 in 1844 for cutting the stone head blocks for the water wheel in the Old Bell Shop .⁶ In May 1843 \$ 875.06 was expended to put⁷ gutters and down spouts^{cooper} on the public buildings of the Armory.

- 5. Plasterers: Jerry Harris, 3rd S., F.187, June 3, 1843-\$ 7.75; To Hiram McKenzie: 3rd S., F.187, V.78, April 4, 1843, for \$ 105.09; F.187, V. 18, May 11, 1843, for \$ 104.70-plastering in Stocking Shop; F. 440, V. 66, Sept. 30, 1843, for \$ 19.15, also in stocking shop.
- 6. 3rd S. F. 1698, V. 35, Sept. 14, 1844, for \$ 5.25.
- 7. 3rd Series, F. 187, V.27, May 6, 1843, for \$ 875.06.

Expenditures at the U.S. Musket Factory for Repairs,
1842 to 1844

Year	Slating	Painting	Plastering	Gutters & Spouts	Carpenters	Masons	Total
1842	\$ 172.78	25.96	229.08	0	428.67	1,203.82	\$ 2,060.31
1843	0	85.06	256.65	875.06	0	2,743.78	3,960.55
1844	18.83	0	0	0	0	8.40	27.23
Total	\$ 191.61	111.02	485.73	875.06	428.67	3,956.00	\$ 6,048.09

- (1) Slating, 2nd Series, F.8011, V.22, to William Bayley, \$ 172.78 on 11/7/42; 3rd S., F/1165,V. 40-To George W. Tracey, for \$ 18.83, June 1844.
- (2) Painting, 2nd S.,F.8011, V. 43, to John P. Kennedy,, for \$ 25.96 on 12.8/42; 3rd S., F.187, V.55,to John P. Kenndey for \$ 67.76 on 6/19/43; 3rd S., F.440, V. 40. John P. Kennedy, for \$ 17.30 on 6/28/43.
- (3) 2nd Series,F.7045, V.49,to Hiram Mckenzie, 3/29/42 for \$ 13.37; 2nd S., 7654,V. 36,To Hiram McKenzie, 9/21/42, for \$ 170.58; 2nd S.,F.8011, V. 47, To Hiram McKenize for \$ 45.13, on 12/17/42.

6 Musket Factory Potomac River Wall, 1842

On March 28, 1842 the mason George R. Riddle was paid \$ 120.00 for building 60 perches of mortar masonry wall "connecting the Government river wall to the abutment of the B. & O R.R. wall at the east¹(or south) end of said wall."

7 Musket Factory Gate and Walls, 1843:

Major Henry Craig spent approximately \$ 2,581.58 constructing an armory fence and gate as follows:

To Redmond Burke, July 11, 1843, \$ 450.60, for cutting and setting 751 lin.² feet of cut stone "for six columns, pedestal for gates leading to Armory shops."

On June 28, 1843, the mason Peter Little received \$ 698.21 for executing the following work: on "Part of wall enclosing public grounds":

\$ 16.92 for excavating 94.4 cubic yards of earth.
 104.10 for erecting 83 perches 7 feet of dry rubble wall.
 21.00 for erecting 14 perches of mortar wall.
 130.20 for 217 lin. feet of cut stone water table ; .for wall.
 214.80 for 358 lin.ft of cut stone coping for wall.
 35.89 for setting 358 ft of cut stone coping.
 166.39 for furnishing and laying 18,488 bricks.
\$ 698.21 (3)

On September 28, 1843, Little was paid \$ 1,432.77 for work definitely connected with the "armory fence and gate". This included the following services:

1. 2nd S., F. 7045, V. 45, March 28, 1842, for \$ 120.00.
2. 3rd S., F. 187, V. 118, July 11, 1843, for \$ 450.60.
3. 3rd S., F 187, V. 112, June 28, 1843, for \$ 698.21.

34

14.14
\$ 1 for 2,310 bricks.
104.20 for 83 9/25 perches dry wall for fence and gate.
22.68 for 16½ perches mortar wall.
361.60 for furnishing and laying 38,064 bricks.
836.35 for 1,394 3/12 feet of cut stone.
9.60 for 16 feet of cut stone.
84.20 for 842 feet ashlar and ?
\$ 1,432.77 (4)

8, Wells, Reservoirs, and Pipes: 1843-44

In 1843 a "reservoir" constructed of cut stone, was erected at some unknown location" between the Musket Factory shops." On November 3, 1843, the stone cutter Redmond Burke received \$ 115.00 for providing 209 feet 3 inches of cut stone for this reservoir. On September 29, 1844, Burke was paid \$ 51.55 for setting 515 feet 6 inches of cut stone "in reservoir at musket factory." On January 18, 1844, Rezin Daily ^{was} ~~had~~ been paid \$ 17.50 "for cutting on public land and hauling to armory 20 pine logs for pipes to conduct water to reservoir between the shops."

Lead and cast iron pipes, however, were coming into use during this period. On September 1, 1843 1,004 lbs "medium lead pipes for conveying water into shops" were purchased for \$ 56.26. On April 5, 1844, Hugh Gilleece, who operated a iron foundry on Virginus Island, sold 1,612 feet of "casing of iron for water pipes for pumps at Musket Factory," for \$ 64.48.

4. 3rd S., F. 440, V. 39, September 28, 1843, the \$ 1432.77 is part of a payment totalling \$ 1,466.67.
5. 3rd S. F.630, V. 93, November 3, 1843, for \$ 115.00
6. 3rd S., 1613, V. 44, September 21, 1844, for \$ 51.55.
7. 3rd S., F. 1165, V. 53, January 18, 1844, for \$ 17.50.
8. 3rd S., F. 440, F. 25, To Tatha(?) and Brother, Sept. 1, 1843, for \$ 56.26.
9. 3rd S. F.970, V. 4, April 5, 1844, for \$ 64.48.

Expenditures on the Physical Plant at the U.S. Musket Factory, 1842 - 1844

Year	For New Buildings	For repair of Buildings	For River Wall	Gates and Walls	Reservoirs, Pipes	Surveying	Roads	Total
1841	\$ 1,892.82	-	-	-	-	-	-	\$ 1,892.92
1842	1,122.91	2,060.31	120.00	-	0	0	50.00	3,353.22
1843	6,741.50	3,960.55	0	2,581.58	171.26	93.90	346.82	13,895.61
1844	8,953.34	27.23	0	0	133.53	0	237.10	9,351.20
Total Recorded	18,710.57	6,048.09	120.00	2,581.58	304.79	93.90	633.92	28,492.85
PROBABLE Total	21,600.00							

B Arsenal Square, Block A, Shenandoah Street, 1842-44

On February 2, 1842, the Secretary of War ordered a board comprised of Col. S. Churchill, Inspector General, and Major Henry K. Craig, the newly appointed superintendent of Harper's Ferry Armory, to make a detailed inspection of the state of that establishment and to render a report of their findings. ¹ The two officers submitted their findings on February 22, 1842. With regarding to Arsenal Square and the Winchester and Potomac Railroad, which crossed the square, the board wrote:

The board cannot close its proceedings without advertng to the very great injury sustained by the United States in the location of the Winchester and Potomac railroad in the very midst of the public buildings and the immediate vicinity of the arsenal, wherein are deposited the arms manufactured at this establishment and other valuable stores, and also in the immediate vicinity of the rifle factory.

Great inconvenience is experienced by the workmen of the armory, living in the public houses (located along Shenandoah Street), by the publicity which is given to their domestic arrangements by the passage of the road through their back yards, and by the loss of ground in consequence of this location.

The greatest evil, however, which is experienced, and is to be dreaded from the situation, is the imminent danger of fire being communicated from the engines, which burn wood. In saying that fires communicated to the public buildings in this way are matters of a very frequent occurrence, the board does not use language too strong for the occasion. Within a few days, and at the moment when the members of the board were leaving the rifle works, an engine passed, and set fire to a building in which were deposited about three thousand finished stocks. The same engine, in returning with an hour, set fire to another building.

The attention of the Department is invited to this subject, in the hope that by the offer of a valuable consideration, the company may be induced to depose of their right the location on the public ground." 2

The Winchester and Potomac Railroad was not about to dispose of at any prices its vital and valuable right of way across Armory lands, which provided its connecting line to the Baltimore and Ohio Railroad. At the request of Congress, President Andrew Jackson had granted this right of

1. Serial No. 404, Document No. 207, p. 43.

2. Serial No. 404, Doc. 207, p. 45. Also see Harrpers Ferry NHP Photostat Collection, Vol. 2, pp. 80-81.

way to the Winchester and Potomac free of charge on January 27, 1835.

As a result of the report of the Ordnance Board in 1842, however, Superintendent Henry K. Craig was ¹ directed to confer with officials of the W. & P. railroad for the purpose of inducing them either to draw their cars by horses over their tracks on the armory lands, or to burn coal instead of wood in their locomotives. ³ Craig opened ^{these} negotiations with the company on March 18, 1842, ^{4 but not} with no success. Major John Symington, the next Superintendent of the Armory, reported railroad caused fires in December 1844 ^{and} January 1846. ⁵

In March 1846, the War Department finally took legal action to prevent the Winchester and Potomac Railroad from passing through the Rifle Factory and Arsenal Square. ⁶ ^{Finally} This step ¹ bought the railroad company to heel! On April 23, 1846, 11 years after the original grant of the right of way, the Solicitor of the Treasury informed the Secretary of War ⁷ that the President of the Winchester and Potomac had agreed in writing to take the proper precautions to prevent the outbreak of fire by using spark arrestors on the wood burning engines and also to utilize coal in the company locomotives.

The April 1846 agreement ended the danger of fire to the Large and Small Arsenal buildings from the locomotives, but from 1842 to early 1846, the fire threat remained great. Superintendent Henry K. Craig undertook to lessen the danger to the two large brick arsenals by removing the flammable structures ^{immediate} from the vicinity of these buildings. A comparison of Map No. 2 (drawn in 1834) with Map No. 3 (drawn in November 1844) reveals

3. Lt. Col. George Talcott, Chief of Ordnance, to the Secretary of War, Harpers Ferry NHP Microfilm Reel 23, Vol. 2, p. 134.
4. Supt. Craig to William L. Clark, President of the Winchester and Potomac Railroad Company, March 18, 1842. HFNHP Microfilm Reel 23, Vol. 4, p. 376.
5. Major Symington to George Talcott, Chief of Ordnance, December 24, 1844, Reel 23, V. 4, p. 372; and again on January 4, 1846, Reel 23, Vol. 4, p. 366.
6. Prest. William Clark, W & P. RR, to Secretary of War Marcy, March 23, 1846, Harpers Ferry NHP Reel 23, Vol. 8, p. 741.
7. Seth Barton, Solicitor of the Treasury to Sec. of War Marcy, April 23, 1846, Reel 23, Vol. 8, p. 750.

the changes that were made, probably in 1843-44. Bldgs. No. 6-The ^{east} Stock House and Bldg. No. 7, the Lumber Shed, both located along the boundary of the square, and Bldg. No. 5, the ice house, all shown on Map No. 2, were removed from Block A, Shenandoah Street. The original gate to Arsenal Square, located on the east boundary between Bldgs No. 6 and 7 (see Map 2), was walled up with stone and the entrance built on the north side to open out on Shenandoah Street and centered between the Superintendent's Office Bldg. No. 1 and the Small Arsenal, Bldg. No. 3 on Map No. 3 (1844).

The ⁸ relocation of the Arsenal Square Gate took place in the summer of 1844 and cost a total of \$ 73.10 to build. Two thousand bricks to be used "for piers for Arsenal gateway" were purchased for \$ 12.00 in December 1843. The mason Peter Litle received a total of ⁹ 61.10 in June and August 1844 for providing and setting 101 feet 10 inches cut stone caps and sills for the new arsenal gate.

totalling about \$ 32.96

Otherwise, only minor repairs ¹⁰ were made to the four buildings standing on Arsenal Square during the period 1842 to January 1845. Two squares of the roof of the Commanding Officer's Office, Bldg. 1 on Map 3 were reslated at a cost of \$ 18.75 in March 1842 and \$ 1.00 was spent to put in a coal grate in January 1845. Only \$ 1.37 was spend on the two arsenals and this was done in 1844 to repair the ^{copper} down spouts. ¹¹ A total of \$ 11.84 was expended to repair the Paymaster's Office, Bldg. No. 4 on Map No. 3 (1844). ¹² This work included \$ 1.97 for whitewashing the Paymaster's Vault in June 1844; ¹³ \$ 9.00 for making a smoke jack for the building in July 1844, and 87 cents for repairing the sheet iron chimney top and making one sheet iron fender for office. ¹⁴

8. 3rd Series, File 630. Voucher 50, to Barton Garret, Dec. 21, 1843, for \$ 12.00.

9. 3rd Series, File 1165, V. 42, June 14, 1844, for \$ 39.70; and F. 1698, V. 14, August 15, 1844, for \$ 21.40.

10. 2nd Series, F. 7045, V. 42, to George W. Tracey, March 28, 1842, \$18.75 for slating; 3rd Series. F. 2213, Voucher 7, to Benjamin M. Snook, Jan. 1845, for \$ 1.00-sheet iron coal grate.

11. 3rd Series, F. 1165, V. 90, to Benjamin M. Snook, July 9, 1844, for \$ 1.37.

Total expenditures for construction and repair at Arsenal Square from 1842 to December 31, 1844 thus came to approximately \$ 106.06 during Major Henry K. Craig's administration of the Harper's Ferry Armory.

12. 3rd Series. F1165, V. 55, to Jerry Harris, June 20, 1844, for \$ 1.97.
13. 3rd S. F. 1165, V. 90, To Benjamin M. Snook, July 9, 1844, for \$ 9.00.
14. 3rd Series, F. 2213, V. 7, To Benjamin M. Snook, Jan. 1845, for 87 cents.

EXPENDITURES ON THE PHYSICAL PLANT OF THE ARSENAL, 1842 to 1844

Year	Supt.'s Office	Paymaster's Office	Two Arsenals.	New Gate	Total	
1842	\$ 18.75	0	0	0	\$ 18.75	
1843	0	0	0	12.00	12.00	
1844	1.00	11.84	1.37	61.10	75.31	
TOTAL:	\$ 19.75	11.84	1.37	73.10	\$ 106.06	

77
2

97

C Repair and Improvement at the U.S. Rifle Factory, 1842-44:

The Board of Officers inspecting the Harper's Ferry Armory, in their report dated February 22, 1842, recommended that the physical plant should be rebuilt, writing:

From actual examination, and testimony on which reliance is to be placed, the board is fully impressed by the necessity of very extensive improvements, repairs, and additions to the buildings, machinery, &c. allotted to this armory; not only for the increase and quality of its productions, but for the security of those productions and of the other public property and also for the comfort and preservation of the health of the officers and workmen of the armory. (1)

Attached to the original report were estimates for funds for permanent improvements which have never been located in the National Archives.

1843-44
Superintendent Henry K. Craig's construction program for the warehouse and proof house at the Musket Factory and also for the new Filers Shop he was about to erect at the U.S. Rifle Factory on the Shenandoah River, may have been covered by the missing 1842 estimates.

1 Filers Shop 1843-44, Bldg. No. 1.

The new brick Filers Shop is Bldg. No. 4 on Map No. 6 (1848) and Bldg. No. No. 1 on the 1859 Historical Base Map. Construction on the new workshop got underway in the summer of 1843. On August 18, the mason George N. Lynch was paid a total of \$ 179.53 for excavating 8.51 cubic yards of rock, constructing 58 perches of mortar stone foundation wall, and 71.32 perches of dry wall for the foundation of the "new workshop at the Rifle Factory." 2 In November 1843, \$ 27.40 was spent to purchase

1,849 feet 9 inches of yellow pine timber for use as joists in the new shop. 3

This expenditure of \$ 206.93 for 1843 apparently covered the total amount of work done on the structure during that year.

1. Serial No. 404, Document 207, pp. 44-45.

2. National Archives R.G. 217, 3rd S. File 440, Voucher 19, dated August 18, 1843, to George N. Lynch.

3. 3rd S., F. 630, V. 22, to Jonas Waham, Nov. 22, 1843, for \$ 27.40.

42

Construction resumed in July 1844: the mason Peter Litle received
\$ 13.12 for laying 15 more perches of dry wall and Alexander Hunt was
paid \$ 108.01 for laying 37,291 bricks in the walls and also 147 feet 7 inches
of cornice. Timothy [redacted] McBrierty and Redmond Burke together provided
at least 99 feet 5 inches of cut stone for the building at a cost of \$ 49.65.
The carpenters, whose vouchers have not been found, then put in the floors
and framed the roof. In [redacted] early October, William Bayley was
paid a total of \$ 79.23 for providing and slating 814 square feet of the
new workshop's roof. Benjamin M. Snook, the tin smith, received \$ 25.50
for making and putting up the copper gutters and down spouting.
Finally, the [redacted] ceilings and perhaps the interior walls of the
new shop were lathed and plastered by James Bowen for about \$ 85.54.

Total recorded expenditures for the filers shop in 1844, exclusive of the
cost of the brick and work of the carpenters, was about \$ 335.01 and for
the period 1843 to 1844, \$ 541.94. With the unrecorded expenses included,
the total cost of construction probably amounted to from \$ 900 to \$1,000.

In his annual report to the Secretary of War on the operations of the
national armories, dated January 6, 1845, Lt. Col. George Talcott, Chief
of Ordnance, reported: "The addition to the rifle works on the Shenandoah
consist of a filing shop, two stories high, 73 by 24 feet, covered with
slate, and several water wheels renewed; the whole machinery has also undergone
changes and renewals consequent on the change from the manufacture of

Hall's patent arms to that of the new model percussion rifle."

4. 3rd S., F. 1698, V. 14. dated August 15, 1844, to Peter Litle.

5. 3rd S., F. 1165, V. 88, Aug. 8, 1844, to Alexander Hunt, for \$ 108.01.

This total also included 50 cents for laying one hearth.

6. 3rd Series, F. 1834, V. 8, to Rmond Burke, Oct. 28, 1844, for \$ 8.00, for
cutting 80 feet; F. 1698, V. 35, to Timothy McBrierty, Sept. 13, 1844, \$ 41.65,
for 19 feet 5 inches of cut stone and for setting steps to new shop at Rifle
Factory.

7. 3rd S., F. 1934, V. 1, to William Bayley, October 10, 1844, for \$ 79.23.

8. 3rd S. F. 1698, V. 61; to Benjamin Snook, October 10, 1844, for \$ 25/50.

This cover 14 and 3/4 days labor.

9. 3rd Series, F. 1698, V. 23, to James Bown. September 3, 1844, for \$ 85.00;
Some of this work was probably down at the Rife Factory and the rest at the

In his first annual report from Harper's Ferry, for the year ending June 30, 1845, Supt. John Symington provided the following description of this new Rifle Factory shop, writing:

"1. A brick workshop, one story over a high basement of stone-masonry, 74 by 25½ feet, covered with slate.

" This is a finishing shop for filers, and is fitted up with work benches and vices round the sides and end."

Because the relatively small number of bricks (37,291) used in a two story structure, it is probable that Major Symington's description of it as a one-story brick workshop over a high stone basement is more accurate than that provided by Lt. Col. Talcott (as a two-story brick shop).

10. Serial No., 464, Document No. 43, p. 4.
11. Serial No. 470, Document No. 1, p. 420.

Construction of the Filer Shop
at the Rifle Factory, 1843-44.

Project	Cost	Description of the Work
Excavation	\$ 6.38	For excavating cubic yards of rock, foundation of shop.
Stone Foundation	92.27	for 86.32 perches of dry wall for foundation.
Stone Foundation	84.00	for laying 58 perches of mortar masonry wall, foundations.
For cut stone	49.65	For 99 feet 5 inches, including setting 19'5" for stone steps-balance of cost included in stone for musket factory structures.
Making and Delivering Brick (\$ 300.00)	Estimated for	40,000 bricks.
Laying Brick	83.90	for laying 37,291 brick
Cut Stone	23.61	for laying 147 feet 7 inches of cornice.
	.50	for laying hearth.
Lumber	27.40	for 1,849 feet 9 inches of yellow pine.
Carpenter work	?	Framing floors and roof.
Slate and slating	79.23	814 square feet slated and for slate.
Copper gutters and downspouts	25.50	14 3/4 days work putting up gutters and spouts on roof; also made same, but this may not be included in this charge.
Lathing and Plastering	85.00	lathing and plastering ceilings; this also includes work on workshops at Musket factory
Approximate Cost	\$ 857.44	(Probable total cost= \$ 900 to \$ 1,000)

Repairs at the Rifle Factory, 1842-1844:

From 1842 to 1844 Major Craig spent a total of approximately \$ 1,053.41 to make repairs to the Rifle Factory buildings. This included \$ 243.42 for slating; \$ 55.11 for painting; \$ 387.06 for zinc and scrap copper to make gutters and down spouts; and \$ ^{365.82} to the stone masons to erect dry walls. The rate of expenditures for repairs was as follows:
 1842: \$ 670.83; 1843- \$ ^{350.23}; and \$ 32.35 in 1844.

George W. Tracey apparently did the slating on the roofs of the rifle factory shops, receiving \$ 226.66 for ¹ his work in 1842 and 16.76 in 1844. John P. Kennedy did glazing and painting and in 1842 received \$ 55.11 for putting 402 panes of glass in rifle factory shops windows and for making 664 panes. ² John McKineize & Sones provided 1,391 feet zinc in 1842 "for covering rifle factory shops" and also 1,000 pounds of scrap copper at a cost of \$ 387.06. ³

In 1843 the mason Peter Litle was paid a total of \$ 29.61 for building 3 21/25 perches of dry wall for \$ 4.50 and building 41 feet 4 inches of dry wall at a forebay at the rifle factory. ⁴ The Mason George W. Lynch was paid a total of \$ 320.62 during the period May to August 1, 1843 for work that was prehaps preliminary to the construction of the new filing shop. On May 25 he received \$ 112.50 for excavating 150 cubic yards of rock. ⁵ On June 17 he was next paid \$ 37.68 for excavating rock and

File 7045, V.42.

1. R.G.217. 2nd Series, March 28, 1842 to George W. Tracey, \$ 88.75 for repairing slate roofs at rifle factory; 2nd Series 7654, V. 69, To George W. Tracey on October 1, 1842 for \$ 137.91 for work from April 12 to Sept. 23, 1842, repairing roofs, putting 9 square-60 feet slate stock house roof; putting on 11 square, 82 feet slate, Smiths shop, Rifle Factory. 3rd S., F. 1698, V.17, to George W. Tracey, August 19, 1844, \$ 16.76, for slating rifle factory roof.
2. 2nd Series F. 7045, V.3, To John P. Kennedy on January 21, 1842, for \$ 55.11.
3. 2nd Series, F. 7654, V. 44, dated September 26, 1842, for \$ 387.06.
4. 3rd Series, F. 630, November 28, 1843, for \$ 29.43.
5. 3rd S. F.187, V. 109C, May 25, 1843, for \$ 112.50 to George N. Lynch.

Expenditures for Repairs at the U.S. Rifle Factory, 1842-44							
Year	Slatting	Painting	Plastering	Gutters & Spouts	Carpenters	Masons	Total
1842	\$ 226.66	55.11	0	387.06	0	2.00	\$ 670.83
1843	0	0	0	0	0	350.23	350.23
1844	16.76	0	0	0	0	15.59	32.35
Total	\$ 243.42	55.11	0	387.06	0	367.82	1,053.31

- (1) Slatting: 2nd Series, F. 7045, V. 42, To George W. Tracey for \$ 88.75 on 3/28/42; 2nd S., F. 787654, V. 69- to George W. Tracey for \$ 137.91 on 10/1/42. 3rd S., F. 1698, V. 17, To George W. Tracey for \$ 16.76 on 8/19/44.
- (2) Painting: 2nd Series, F. 7045, V. 3, to John P. Kennedy, for \$ 55.11, on 1/21/42.
- (30). Gutters and spouting: 2nd Series, F. 7654, V. 44, to John McKineize & Sons, for \$ 387.06 on 9/26/42.
- (40) Masons: 2nd Series, F 7354, V. 20, To Henry Niswanner, for \$ 2.00, 6/10/42, for hauling 2,000 bricks to rifle factory. 3rd Series, F. 630, V. 27, to Peter Litle for \$ 29.61 on 11/28/43; George W. Lynch, for \$ 170.44 on 8/1/43, in 3rd S., F. 440, V. 19; 3rd S. 187, Vouch. 109C, To George N. Lynch for \$ 112.50 on 5/25/43; 3rd S., F. 187, V. 110C, To George N. Lynch for \$ 37.68 on 6/17/43. # 3rd S., F. 1698, To Peter Litle, Voucher 14, for \$ 13.12 on 8/15/44; 3rd S., F. 1165, V. 42, to Peter Litle for \$ 2.47 on 6/14/44.

97

Expenditures on the Physical Plant of the U.S. Rifle Factory,1842 - 1844

Year	Filing Shop	Repairs	Total
1842	0	\$ 670.83	\$ 670.83
1843	206.93	350.23	557.16
1844	335.01	32.25	367.26
Total:	541.94	1,053.31	\$ 1,595.25

building a stone wall." ⁶ Finally, on August 1, 1843, Lynch received \$ 170.44, for "building a wall at the Rifle Factory" which may have been part of the stone ^{first story} of the filing shop, which the vouchers show he was ^{Constructing} on August 18. ⁷

6. 3rd Series, F. 187, Voucher 110C, June 17, 1843 for \$ 37.68.

7. 3rd S., F 440, Aug. 1, 1843, for \$ 170.44.

48

E Armory Wood Yard, 1842-44

On November 28, 1843 Peter Litle was paid \$ 139.50 for laying 232¹ feet 6 inches of dry wall at the Armory Lumber yard. William Newton received \$ 4.81 on December 9, 1843 to purchase 27 locust posts for the² wood yard fence. Expenditures in 1843 thus totalled approximately \$ 144.31.

On June 14, 1844, Peter Litle received \$ 475.64 for erecting 273 8/25 perches of dry wall and 75 perches of mortar wall for "the River³ Wall at the Wood Yard."

Total expenditures on the Armory Wood Yard 1842 to 1844 thus amounted to about \$ 619.95.

The Armory Wood or Lumber Yard was located on the bank of the Shenandoah River at Z on the 1848 Map of Harpers Ferry.

1. 3rd Series, F. , 630, V. 27, Nov. 28, 1843, for \$ 139.50;
2. 3rd S., F. 630, V. 45, Dec. 9, 1843, for \$ 4.81.
3. 3rd S., F. 1165, V. 42,, June 14, 1844, cost of the dry wall was \$ 409.98 and the stone mortar wall, \$ 65.66.

D U.S. Canals, 1842 - 1844

1. U.S. Musket Factory Canal on the Potomac:

No money was spent for work on the Potomac Canal in 1842 or 1843, but a total of \$ 1,907.03 was expended on two projects in 1844. In March 1844 the mason Peter Litle received \$ 147.61 for building 105 1/5 perches of dry wall and making 80 15/27 cubic yards of embankment at the head of the Armory Canal.¹ A total of \$ 1,759.42 was expended on the second project which invloved the reconstruction of the canal locks during the fall of 1844. Expenditures included the following items:

\$ 391.38 for 238 barrels of cement;² \$ 87.24 for 1,454 lbs of rolled plate iron for the new lock gates;³ \$ 13.50 for the use for 9 days of a horse and cart to clean out the bed of the canal;⁴ and \$ 1,267.30 to Peter Litle for rebuilding the locks.⁵ The mason built 363 3/5 perches of stone mortar wall, for \$ 909.00, and laid 597 feet 2 inches of cut stone work for \$ 358.30.

Total expenditures on the Potomac Canal, 1842 to 1844, was \$ 1,907.03.

In his annual report to the Secretary of War dated January 5, 1845, Lt.Col. George Talcott, described the work on the Potomac Canal as follows:

During the past season, the canal. which supplies the power from the dam on the Potomac, has received extensive and thorough repairs in the new head gates, a pier-head and ice breaker, and new gates to the lock, which admits boats with coal and other supplies for the armory; indeed, the whole mass of masonry at the head of the canal, and the lock, have been renewed, and the canal cleared out; whereby the power will be much increased in periods of low water, and a more uniform supply of water be obtained. These repairs have been much needed for several years; the opportunity of a cessation of work (while changing to the new model percussian muskets and rifles) has been taken, and the whole has been done in a substantial manner, calculated to endure the shock of floods and ice freshets, to which they are annually exposed." 6

1. Record Group 217, 3rd Series, F. 970, V. 57, dated 3/15/44. Litle received \$ 131.50 for building the dry wall and \$ 16.11 for making the embankment.
2. 3rd S., F. 1698, V. 37, to Henry Shafter, Sept. 17, 1844, for \$ 391.38.
3. 3rd S., F. 1698, V. 74, to Henry Thompson, October 4, 1844, for \$ 87.24.
4. 3rd S., F. September 11, 1844, to Jessie Schofield, Sept. 11, 1844, for \$ 13.50.
5. 3rd S., F. 1934, V. 25, to Peter Litle, Nov. 5, 1844, for \$ 1,267.30.
6. Serial No. 464, Document No. 43, pp. 2-3.

In the annual report for the fiscal year ending June 30, 1845, 50

Superintendent John Symington described the 1844 work on the Potomac Canal as follows:

The works for admitting the water, at the ☐ head of the armory canal have been reconstructed, consisting of difficult excavations, heavy stone-masonry in cement laid in the breast-walls of the locks of the of the canal, and in the pier or jettee. New lock-gates and breast work of strong wood-work, with eight iron feeder-gates. A waste dam, extending from the river embankment to the pier. 7

2. Rifle Factory Shenandoah Canal, 1842-44:

\$ 17.00 was spent making repairs to the Shenandoah Canal in 1842;

\$ 281.91 in 1843, and 0 in 1844, making a total of \$ 298.91 for the period 1842 to 1844.

The mason George N. Lynch was paid \$ 170.44 during the summer of 1843 "for erecting a wall at the Rifle Factory for guard lock of Shenandoah Canal to W. & P. Railroad and for lock down same canal".

Lynch erected 106.72 perches of stone wall, charging \$ 146.74. He also filled in behind the ^{wall} with 118 14/27 cubic yards of earth embankment at a charge of \$ 23.70. 8

The remaining balance, \$ 111.47, went to William Newton for 2,286 feet 9 inches of locust timber, which was used to ☐ repair the wooden bridge over the Shenandoah Canal. 9

Expenditures on the U.S. Armory Canals, 1842 - 1844:

a

Year	Potomac Canal	Shenandoah Canal	Total Canals
1842	0	\$ 17.00	\$ 17.00
1843	0	281.91	281.91
1844	1,907.03	0	1,907.03
Total	\$ 1,907.03	\$ 298.91	\$ 2,205.94

7. Serial No. 470, Document No. 1, p. 419.

8. 3rd S., F. 440, V. 9, to George N. Lynch, August 18, 1843, for \$ 170.44.

9. 3rd S. F. 630, V. 59, December 30, 1843. \$ 102.90 for the lumber and \$ 8.57 for repairing the bridge.

51

E U.S. Dams, 1842 - 1844 :

4. Musket Factory Dam on the Potomac:

A total of \$ 1,747.43 was spent on the Potomac Dam in 1842; 0 in 1843, and 0 in 1844, making a grand total of \$ 1,747.43 expended on repairs and improvements on the dam during the years 1842 to 1844.

On December 27, 1842 the firm of Randall and Galler(?) received a total payment of \$ 1,747.42 for accomplishing the following mason work on the Potomac dam and canal pier head: ^{at the inlet to the , , , , Armory canal} building 418 35/100 perches of pier wall for \$ 1,631.56; filling in with 51 25/100 perches with rubble for \$ 35.87. Extra work of rounding two of the corners of the pier head for \$ 50.00; drilling cap stones of the dam, \$ 20.00, and cutting 1 ¹⁰ groves, \$ 10.00.

D Rifle Factory Dam on the Shenandoah

The vouchers of the Armory paymaster indicate that no work was done on the Rifle Factory dam during the years 1842 to 1844.

Expenditures on the Armory Dams, 1842 to 1844:

Year	Potomac Dam	Shenandoah Dam	Total Dams
1842	\$ 1,747.43	0	\$ 1,747.43
1843	0	0	0
1844	0	0	0
Total:	\$ 1,747.43	0	\$ 1,747.43

10. 2nd Series, File 8011, Voucher 99, dated December 27, 1842, for \$ 1,747.43.

52

F. Armory Dwelling Houses, 1842-44:

The Board of Officers inspecting the Harper's Ferry for the Secretary of War reported on February 22, 1842 with regards to the "Dwelling Houses:"

Most of the officers and armorers live in houses owned by the Government - the officers of the armory having their houses rent free, or, when they are not furnished with public houses, receiving a commutation of \$ 60 per annum; the workmen who occupy public houses pay rents averaging from \$ 60 to \$ ___ per annum, according to size and condition of house.

Many of these houses are scarcely habitable; many are out of repair, and few of them possess those conveniences of arrangement so essential to comfort and even health of the occupants.

The board would therefore recommend that a portion of the rents received be applied to the erection of one or two dwelling-houses annually; the cost of these, with the repairs of the others, not to exceed the amount of rent received that year. These new buildings to be of a uniform plan, approved by the Secretary of War.

For domestic purposes, as well as for the prevention of damage by fire, there is a great want of water. In a very scattered population of nearly two thousand inhabitants, there are not more than seven or eight sources whence water for domestic purposes is to be obtained. It is therefore recommended that strong efforts be made to enlarge the supply, and distribute it more equally than is now done." 1

Rents

Despite the recommendations of the board, no new dwelling houses were built or new wells sunk in the period 1842 to 1844. There were 169

Armory owned dwelling houses standing in 1842. In 1843, one very old wooden house, House No. 34, located on Shenandoah Street, was demolished because it was no longer habitable., thus reducing the total number of

public dwelling houses to 160. The Armory rent rolls for 1844 reveal

that 169 families rented 165 houses during the fourth quarter of 1844. 2

1. Serial No. 404, Document No. 207, p. 45.

2, National Archive Record Group 217- 3rd Series, File 1934, Rent Roll , dated 31st December 1844.

During the period 1842-44, a total of \$ 16,583.36 in rents was collected as follows:

Year	Rents	No. of Houses	No. of renters
1842	\$ 4,897.45	168	(3)
1843	5,497.04	169	(4)
1844	6,188.87	168	(5)
Total	\$ 16,583.36		

Included in this total was also the rent for the Shenandoah Ferry which was then being leased to Michael Derry for about \$360.00 a year. 6

2. Repairs to the Armory Dwelling Houses:

The vouchers of the Armory Paymaster reveal that Superintendent Henry K. Craig spent a total of \$ 1,881.24 during the years 1842 to 1844 making repairs to the 169 public dwelling houses. A break down of these expenditures is shown on the chart that follows. 7

3. Rent rolls for 1842 in 2nd Series, Files 7654 and 8011.
4. Rent Rolls for 1843 in 2nd Series, Files 8190 and 3rd Series, Files 440 and 630.
5. Rent rolls for 1844 in 3rd Series, Files 970, 1165, 1613, and 1934.
6. Rent roll, 4th quarter 1844, 3rd Series. File 1934, p.4 of rent roll.
7. Footnotes for Chart for 1844 entries: All 3rd Series-For Shingling- F.970,V.56, for \$ 31.17 to Horace Jarboe, 3/13/44; F.1165,V.65,Anderson & Hobbs,for \$ 25.95 on 6/25/44; F.1165,V.74,to John F.Price, 7/25/44 for \$ 16.02; F.1165,V.83-to Alfred H.Gust, 7/3/44, for \$ 15.07. File 1165,V.25,to John Q. Anderson, 5/14/44, for \$ 26.25. Plastering- F.970,V.3, Jerry Harris,1/16/44, for \$ 20.97; F.1165, V.11, Jerry Harris, 4/2/44, for \$ 41.72.F.1165,V.55, to Jerry Harris for \$ 45.73 on 6/20/44. F. 1934, V.44, to Jerry Harris,11/13/44 for \$ 49.60; F.970, V. 68, to John Kinkell, 4/8/44,for \$ 10.50. Masons- To Peter Little,3/15/44 for \$ 39.45, F.970,V. 57;F.1165,V. 42,to Peter Little, 6/14/44, for \$ 65.66; F.1698, V.14, to Peter Little, 8/15/44, for \$ 31.32; F.1165,V.61, to Joseph Hilliard 6/24/44,\$90.00 for work done in 1838; F.1165, V.34,Alexander Hunt,5/28/44,for \$16.00 for building 2 brick chimney House 146.

EXPENDITURES FOR REPAIRS AND ADDITIONS MADE TO ARMORY DWELLING
HOUSES, 1842 to 1844

EXPENSES, 1842 to 1844.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Year	Slating	Wood Shingling	Painting	Plastering	Gutters & Spouts	Carpenters	Masons	Wooden Fencing	Total
1842	\$ 0	0	133.37	281.27	0	0	143.01	48.47	606.12
1843	332.84	183.39	26.13	108.57	0	42.18	0	0	693.11
1844	21.85	114.46	0	168.52	9.25	0	267.93	0	582.01
Total	\$ 354.69	297.85	159.50	558.36	9.25	42.18	410.94	48.47	1,881.24

- (1) Slating- To William Bayley, Nov. 24, 1843, for \$ 332.84-for for slating 2,522 feet 8 inches of dwelling house no 3-3rd series, F. 630, Voucher 24. To George W. Tracey, Oct.30, 1844, \$ 21.85, for putting on 641 feet zinc on roof. F.1934, V. 11, 3rd Series.
- (2) Shingling, 3rd S., F. 440, V.65, to G. W. Cox, October 3, 1843 for \$ 16.21; Alfred H. Gust, Nov.23, 1843, for \$ 40.47; A.H. Gust, Dec.18, 1843, for \$ 27.10, 3rd S., F. 630, V. 38; 3rd S./o. F.630, V.30-to John Hyatt, \$ 75.60 for sheathing and shingling, Dec.7, 1843; 3rd S.630, V. 39, to Anderson and Rowe, 24.01. Dec.18, 1843, for sheathing and shingling.
- (3) Painting: 2nd S., 765, V.56, To John Kennedy, October 1842, for \$ 133.37, painting and glazing repairs. 3rd Series, F.440, V. 40, to John P. Kennedy, Nov.28, 1843, \$ 26.13 for painting 326 6/9 square yards 2 coats.
- (4) Plastering- Hiram McKenzie, 3/29/42, \$76.80 -2nd S., 7045, V. 49; Hirm McKenzie, 6/4/42, \$ 74.79-2nd S., F. 7354, V. 18; Hirm McKenzie, 12/17/42, for \$ 15.09, including \$ 13.84 for plastering a school room, 2nd S., F.8011, V.47. To Jerry Harris, 9/24/42, for \$ 114.59, 2nd S., F.7654, V.39. To Hiram McKenzie, 11/17/43, for \$ 22.93, 3rd S., 630, V. 20; To Hirm McKenzie, 10/10/43, for \$ 52.64, 3rd S., F. 440, V. 66; To Jerry Harris, 12/18/43, for \$ 33.00, 3rd S., F. 630, V. 37.
- (5). To Benjamin M. Snook, 8/9/44 for \$ 4.90, putting up tin spouting, 3rd S., 1165, V.90; To Benjamin M. Snook, 11/7/44, for \$ 4.35, for work on House No.145, 3rd S., F.1834, V. 32.
- (6). Carpenter work. To Alfred H. Gust, 9/22/43, for \$ 11.02, 3rd S., F.440, V.36; To John Hyatt, 12/7/43, for \$ 31.16, for repairing the slaughter house, 3rd S., F. 630, V. 30.
- (7) Masons: To Peter Litle, 3/14/72, for \$ 135.01, for work on House No.55, building dry wall and excavating in rear to prevent dampness in the first story; 2nd S., F.7045, V.32; To Daid Lowrie, 12/22/42, for \$8.00 for furnishing 16 perches of building stone, 2nd S., F.8011, V. 48. F.1934, Vo.46, 11/25/44, for \$ 25.50.
- (8). Fencing: To George Whittle, March 7, 1842, \$ 48.47 for 1,298 feet locust timber for \$ 43.43 and 19 locust posts for \$ 3.04, for fencing, 2nd S. F. 7045. V.27.

45

Armory Dwelling Houses, Harper's Ferry Armory,
January 1, 1843

Materials Built of	One-Story Houses	Two-Story Houses	Total No. of 1843	A.
Wood	74 (1)	9	83 (1)	
Stone	15	18	33	
Brick	15	38	53	
Total:	104	65	169	

A. From National Archives Record Group 217, 2nd Auditor's Account, 3rd Series, File 1934, Rent rolls for period ending December 31, 1844, with one house, Dwelling No. 34, one-story, wood, which was demolished in 1843, added to the December 31, 1844 total of 168 houses.

3. Settlement of Workmen's Claims for Repairs and Improvements make to Government Dwelling Houses, 1842-44.

From 1822 to 1841, the U.S. Armory had expended \$ 18,901.12 to settle 175 claims of workmen for the construction of 49 dwelling houses on Armory land and for making repairs and improvements to Government -built residences. On January 1, 1842 there were approximately 18 such claims valued at \$ 776.50 still outstanding. Congress had not voted enough ¹ money in 1836 to pay the full face value of the claims, so that Armory had prorated the available money ² among the outstanding claims. Some of the workmen, however, had refused to settle on these terms in the period 1836 to 1841. Two such workmen ,however, decided in 1844 to settle for what money was available. Daniel Johnson thus received \$ 17.75 in November for improvements that had been valued at \$ 25.00 in 1831. ¹ Abraham Fleming, also in November 1844, was paid \$ 98.91 for improvements to a house valued at \$ 115.00. In Fleming's case, the reduction of \$ 16.09 represented the legal cost to the United States ² of regaining possession of the dwelling.

On March 16, 1844 James Louiland was paid \$ 47.25, the full value of 126 panels of wooden fencing that he had constructed around a lot that he had leased from the Armory and which he had surrendered back for ³ U.S. use when requested.

The ³ total expenditures for settling workmen's claims, 1842-44, thus amounted to \$ 163.91.

- 1. 3rd Series, F. 1934, V. 29, Nov. 7, 1844, \$ 17.175 to Daniel Johnson.
- 2. 3rd S., F. 1934, V. 30, Nov. 7, 1844, \$ 98.91, to Abraham Fleming.
- 3. 3rd S., F. 690, V. 58, March 3, 1844, for \$ 47.75, to James Louiland.

57

Total of
Expenditures on Armory Dwelling Houses, 1842- 1844 :

Year:	Repair & Improvements	Settlement of Claims	Total
1842:	\$ 606.12	0	\$ 606.12
1843	693.11	0	693.11
1844	582.01	163.91	745.92
		0	
Total	\$1,881.24	163.91	\$ 2,045.15

Acquiring Title to Privately Built Commerical Structures located on Armory Land.

On April 20, 1843, the Armory purchased from Eli H. Carrell^R_A, a Harper's Ferry hotel keeper, for \$ 191.00 his title to a stable built on the public lands on the margin of the Shenandoah River. The Paymaster's voucher noted that the foundation wall and embankment for the stable had been paid for by the United States and that Jno. Littlejohn had erected the stable on this foundation. Littlejohn had then assigned his rights to the stable to Carrell by deed in consideration of \$ 240.00. The Armory accepted this price in purchasing the stable, but deducted from that total the sum of \$ 49.00 for two years unpaid ground rent.¹

See Map 7(1834) and Map No. 3(1846) Site 2 on 1848 map for the location of the old stables.

1. 3rd S., F. 187, V. 99, To Eli H. Carrell, for \$ 191.00 on April 20, 1843. The ground rent was calculated at 50 cents per foot on 49 feet for two years.

58

E Roads: 1842-44

On March 14, 1842, Henry Niswaner received \$ 50.00 "for making a road leading to the wood land on the mountain (Loudoun Heights) (belonging to the U.S.) and to the Shenandoah River, about 400 yards in length, to facilitate ascent and descent of teams conveying wood and charcoal to the Armory."

In April 1843 the armory also paid \$ 346.82^{due} for work done in May, June, and June of 1840 for making a road and guard wall. This was the balance due for "a set of hands of 306½ days work, mostly at the public dam & inlet of armory canal, excavating for public road from Keep Tryste Furnace to Harpers Ferry" on the land of the United States.

On March 15, 1844, the mason Peter Litle received \$ 237.10 "for building 190 8/25 perches of dry wall for a culvert or sewer from Shenandoah Street to the River, 559 feet in length."

F Surveying the Public Lands, 1843:

On October 3, 1843, the surveyor James M. Brown received \$ 60.00 for surveying the public lands at Harpers Ferry. On September 28, 1843, the stone mason Peter Litle was paid \$ 33.90 for providing "for 56 feet 6 inches of cut stone for boundary stones marking public lands. This indicates that corners of the U.S. Armory lands at Harper's Ferry were marked with boundary stones, probably in September 1843.

10. 2nd S. F. 7045, V. 31, March 14, 1842, for \$ 50.00

11. 2nd S., F. 8190, V. 43, Abstract C to Edward Lucas, Jr., April 3, 1843, for \$ 346.82.
12. 3rd S., F. 970, V. 57, March 15, 1844, for \$ 237.10.
13. 3rd S. F. 440, V. 54, October 3, 1843, for \$ 60.00.
14. 3rd S., F. 440, V. 39, September 28, 1843, for \$ 33.90, part of payment totalling \$ 1,466.67.

SUMMARY CHART - EXPENDITURES FOR REPAIRS AND IMPROVEMENTS AT THE HARPER'S
FERRY, 1842 to 1844. Major Henry K. Craig, Superintendent

Year	Musket Factory	Rifle Factory	Arsenal Square	Lumber Yard	Canals	Dams	Dwelling Houses	Total	
1841	\$ 1,892.82	-	-	-	-	-	-	\$ 1,892.82 (1)	
1842	3,353.22	670.83	18.75	0	17.00	1,747.43	606.12	6,413.35	
1843	13,895.61	557.16	12.00	144.31	281.91	0	693.11	15,584.10	
1844	9,351.20	367.26	75.31	475.64	1,907.03	0	745.92	12,922.36	
TOTAL	\$ 28,492.85	1,595.25	106.06	619.95	2,205.94	1,747.43	2,045.15	\$ 36,812.63	

(1) cost of foundations for new warehouse, 4th quarter of 1841.

	Cost	
New Buildings, Musket Factory:	5 - \$ 18,710.57	(3 large brick, 2 small frame).
	Rifle Factory :	1 - 1,041.94 (1 brick).
Subtotal:	6 \$ 19,752.51	(4 brick and 2 wooden structures).
For repairs:	13,325.93	
Total:	\$ 33,078.44	Approximate recorded total.

Expenditures for Repair and Improvements at the
Harpers Ferry Armory, 1842 - 1845

By Fiscal Year	Expenditures by Fiscal Year	By Calender Year	Calender Year Expenditures	Appropriated during Cal. Year
Carry Over from 1841	-	-	-	\$ 18,000.00
Jan. 1 1842 - Sept. 30, 1842	\$ 45,260.31 A	1842	\$ 27,329.54 (1)	30,000.00
Oct. 1, 1842 - June 30, 1843	32,480.06 B	1843 ¹	31,798.00 (2)	30,500.00
July 1, 1843 - June 30, 1844	35,046.06 C	1844	39,861.01 (3)	12,000.00
July 1, 1844 - June 30, 1845	28,701.00 D	To June 30, 1845	4,985.01 (4)	18,000.00
Total:	\$ 141,487.53	Total	\$ 103,973.56	\$ 108,500.00

- (1). 2nd Series, Files 7045, 7354, 7654, and 8011.
 (2) 2nd Series, file 8190; 3rd Series, Files 187, 630, and 440.
 (3) 3rd Series, Files 970, 1165, 1613, and 1934.
 (4) 3rd Series, Files 2213, 2474.

- A. Serial No. 421, Document No. 113.
 B. Serial No. 441, Document No. 23.
 C. Serial No. 464, Document No. 43.
 D. Serial No. 483, Document No. 96.

National Archives

Record Group No. 217, Records of the United States General Accounting Office, Washington, D.C. Records of the Second Auditor:

from Paymaster of the U.S. Armory at Harper's Ferry, Virginia, Expenditures for Permanent Improvements

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL	Dec. 31 Balance:
1842	a 3,027.14	b 3,344.99	c 6,665.80	d 14,291.61	\$ 27,329.54	4,800.31
1843	e 2,875.66	f 12,303.10	g 6,518.39	h 10,100.85	31,798.00	11,945.31
1844	i 5,691.77	j 10,425.39	k 11,665.21	l 12,068.64	39,861.01	2,160.06
1845	m 4,581.13	n 403.88	o 6,061.20	p 7,279.25	18,325.46	8,778.21
	q	r	s	t		
	u	v	w	x		

TOTAL					117,394.01	

- a. 2nd Series, File 7045
- b. 2nd Series, File 7354
- c. 2nd Series, File 7654
- d. 2nd Series, File 8011
- e. 2nd Series, File 8190
- f. 3rd Series, File 187.
- g. 3rd Series, File 440
- h. 3rd Series, File 630
- i. 3rd Series, File 970
- j. 3rd Series, File 1165
- k. 3rd Series, File 1613
- l. 3rd Series, File ~~1898~~.1934
- m. 3rd Series, File ~~1934~~ 2213
- n. 3rd Series, File 2474
- o. 3rd Series, File 2841-Vouchers with summary are missing.
- p. 3rd Series, File 3122.

Spent on Major Henry K. Craig's programs,
 ✓ January 1, 1842 to June 30, 1845:
 \$ 103.973.56

\$ 98,988.55, from January 1, 1842 to
 December 1, 1844.

The U.S. Shenandoah Ferry and the Shenandoah Bridge Company, 1842-1844

As has been noted in Volume I of this study, the United States government purchased the ferry rights on the Shenandoah River at Harper's Ferry for \$ 5,000.00 from ~~Fred~~nando Fairfax on October 27, 1818. From 1818 to 1844 the Armory leased the ^{rope to} ferry operators who provided their own boats and ropes and paid annual rents ranging from about \$ 250 to ⁴⁵⁰ per year. The annual rent gradually increased as traffic and population increased. Three early plans, in 1825, 1829, and 1834, to bridge the Shenandoah came to naught.

On August 1, 1842, the U.S. Congress passed a law that granted the newly formed Shenandoah Bridge Company at Harper's Ferry authority "to erect a bridge across the river Shenandoah, on the lands belonging to the United States, at or near the town of Harper's Ferry, and to connect the same by a sufficient road or passway through the said lands with the road on the east side of said river and the Main Street of said town..." The location of the proposed bridge had to be approved by the Secretary of War prior to its erection. The bridge company was also "empowered to erect a toll-house adjacent to the said bridge on the lands...of the United States; Provided that should the said bridge never be constructed, or having been constructed shall be abandoned by said company, the rights vested therein by this act, shall cease and determine."

Finally, Congress specified that "all agents, servants, ^(slaves) and property in

1. see Charles W. Snell, "Historic Building Site Survey Report: History of Block F, Block G, and the U.S. Ferry Lots, Shenandoah Street, 1796-1869, Harpers Ferry National Monument," (typescript, Harpers Ferry, W.Va., February 9, 1959), pp. 29-35, for additional details on early efforts.

"the service of or belonging to the United States shall pass and be transported free of toll."²

The officers of the new bridge company, Philip Coons³ William Anderson, and Michael Foley, opened the books of their company in July 1842 and ^{Made} an effort to raise \$ 5,000 to erect the new bridge. The State of Virginia had incorporated the company in April 1842 with an capital of \$ 5,000 and ⁴ authority to increase this to \$ 10,000.

After considering several possible sites, the Company selected on⁶ that had been suggested by Superintendent of the Armory, Major Henry K. ~~C~~^Xraig. Philip Coons, President of the Company, advised Craig of the final choice on July 24, writing: "After mature deliberation, the Pres. was authorized to inform Major H. K. Craig... that the Co. had concluded to select as the site of their Bridge, a point opposite the termination of the second alley (later named Bridge Street), west of the Master Armorer's ^{ARMORY DWELLING NO 2 or} House(-Park Bldg. No. 34-35, located on Lot. ⁴ Block B, Shenandoah ⁵ Street)." ⁵

Secretary of War J. M. Porter approved the requested site and also granted authority to the Bridge Company to erect a small toll house on U.S. land at the north ^{X Harpers Ferry} end of the bridge on August 9, 1843. ⁶

The company, while awaiting approval, advertised for stone masons and carpenters to bid on constructing ⁷ the 375 foot long frame structure which was to rest on stone piers.

Construction probably got underway in August 1843 and was definitely in progress in April 1844. ⁸ The Armory rent roll for the fourth quarter of

8. On April 30-May 1, 1844-The Ordnance department granted the Shenandoah Bridge company permission to cut down two trees that were blocking the construction of the foundations. Reel 12, V.12, p.1179; Reel 19, Vol.2, p.181.
2. Snell, C.W., History of Block F, Block G, etc., p.30 and 35. U.S. Statues at
3. Virginia Free Press, July 7, 1842, p.3, C.5 Large, Vol. 6, 848-49.
4. Virginia Free Press, April 14, 1842, P.1, c.4.
5. George Mauzy and Philip Coons to Major H. & K. Craig, July 24, 1843, Harpers Ferry NHP Microfilm Reel 23, Vo..2, p.190.
6. Chief of Ordnance George Talcott to Craig Aug.9, 1843, Reel 19, Vol.2, p. 155; also see Reel 23, V.2, p.189.
7. Virginia Free Press, July 13, 1843, p.3, c.1.

64

1844 indicates that the leased Shenandoah Ferry ceased its operations about December 10, 1844, thus suggesting that the new
9
Shenandoah Toll Bridge was functioning by that date.

The frame bridge was burned by Confederate troops on June 28, 1861^{28,}
^
and not rebuilt. With the destruction and abandonment of the bridge, the ferry rights over the Shenandoah River reverted to the U.S. Government.

These ferry rights were to be offered for sale to the highest bidder at the public auction of U.S. land that was held at Harpers Ferry in December 1869.

For the Location of the 1844 Shenandoah Toll Bridge and its toll house see Map. No. 8 (1848).

Data on the Builders who Rebuilt the U.S. Musket and Rifle Factories, 1842 - 1851:

The vouchers of the Armory Paymaster for the years 1842 to 1851 reveal the following data on the builders who reconstructed the shops at the U.S. Musket and Rifle Factories during the years 1842 to 1851, under the direction of Armory Superintendents Major Henry K. Craig, 1842-1844, and Major John Symington, 1845 - 1851.

A. Carpenters

1. Alfred H. Gust, active 1843-44, shingling ^{Roofs of} dwellings. _A
2. John Hyatt, active 1843-paid \$ 106.76. Dec. 31, 1841 Hyatt living in Armory Dwelling No. 60, wood, 1-story, on Washington Street, paying a rent of \$ 4.50 per quarter. Lived there to March 31, 1845, when he moved out owing the U.S. \$ 28.95 in unpaid rent,
3. John Q. Anderson, Active 1844.
4. Horatio Jarboe, active 1844, shingling dwellings. He was living in Dwelling House No. 148, a stone 2-story house that was located on the bank of the Potomac above the Musket Factory, Dec. 31, 1844, paying rent of \$ 8.60 per quarter.
5. John F. Price, Active 1844, shingling dwellings. He was residing in Dwelling No. 71, wood, one-story, which was located between Washington Street and the Musket Factory, Dec. 31, 1844, paying \$ 8.05 per quarter. He lived in this house from at least 1841 to Dec. 31, 1846. On September 1, 1852 he purchased vacant house Lot No. 8, Block J, Camp Hill for \$ 53.00 and received his deed from the U.S. on July 3, 1857.
6. Samuel Gilbert, 1845-46 active making fencing, received \$ 266.94.
7. Jessie Schofield, active 1845-1851 constructing new shops, received \$ 5,535.77. Schofield, July 3, 1844 for \$ 8,000, acquired a 2/3rd interest in Tract No. 4, the sawmill property on the Island of Virginus, and with John Wernwag, who held the remaining 1/3rd interest. They operated the saw mill. On August 24, 1847 they sold tract No. 4 for \$ 37,000.
8. Patrick H. Kelly, active 1849-50, received \$ 950.76 for working shops, etc. Kelly purchased the northeast(right) half of Wager Lot 50 for \$ 600 on March 20, 1844. Stone mason Peter Little and Edward Tearney purchased the southwest or left portion of Lot 50 for \$ 600 on March 22, 1844. Jointly, the three men erected Park Bldg. No. 38, a duplex dwelling and store in 1844. Tearney acquired title to Kelly's portion on February 7, 1860.
9. Jeremiah Fuss, carpenter and master builder for Armory; in 1851 he received \$ 1,498.79 from his construction work, on Armory buildings. Also erected as first mayor of Harpers Ferry in 1851. By December 31, 1844, Fuss was living in Armory Dwelling No. 140, a brick 1-story house that was located on Lot 12, Block B, Camp Hill. His rent was \$ 10.35 per quarter. He was still living in the same house in 1849. Fuss purchased this house and its lot for \$ 400.00 at the private sale for Armory workmen that was held on August 31, 1852. The U.S. issued the deed to this property to Fuss on October 13, 1859.

Carpenter^S(Continued)

10. Philip Porter, Active in 1847, received \$ 59.81.
11. William J. Rowe, Active in 1849, received \$ 109.00.
William T or L. Rowe purchased vacat U.S. Lot 13, Block W., Camp Hill on September 1, 1852 and received his deed from the U.S. on October 20, 1852.
12. Jonathan Renner, active 1851 and received \$ 70.00.
13. Meen and Brewing, active in 1851, received \$ 204 50.
14. Henry Read, active 1851, received \$ 70.12
15. Armistead Fites, active in 1851, received \$ 52.85.

B Tinsmiths, (Gutters, Downspouts, Roofing.)

1. ^WBenjamin M. Snook, Active 1843-47. Benjamin Snooke, "Coppersmith, Tin, Plate, and Sheet Iron manufacturer" and maker of "Eave Spouting and Roofing, repairing Still and th~~h~~eir apparatus, and all kinds of Tin Ware", first opened his shop in Harpers Ferry in September 1836. His store was located on the first floor of Park Bldg. No. 45, which was then known as Armory Dwelling No. 7. He remained in business at this location, apparently, until May 1843. Received \$ 330.82 1843-44. On December 31, 1841, he was living in Armory Dwelling No. 58, a stone 2-story house on Washington Street. \$ 12.00 per qr.
2. Dennis Snook, active 1846- 1851. Received 379.82. (1)
Dennis Snook purchased Lot No. 8, Block I, Camp Hill, a vacant house lot for \$ 356.00 at the public auction held on Sept. 1-2, 1852. The U.S. issued his deed to Snook on October 18, 1852.
3. Harry V. Edwards, active 1850-51. Died in February 1851. Received \$ 340.54.
4. Alexander S. Vernon, active in 1850, received \$ 66.42.

C, Painters and Glazers

1. John P. Kennedy, active 1842-43, received \$ 332.69. A John Kennedy was living in Armory Dwelling House No. 163, Stone, on the Upper Hall Island above the U.S. Rifle Works on Dec. 31, 1841, paying \$ 7.50 per quarter in rent. He was not living in a Armory house on Ddc. 31, 1844.

2. George W. R. Seale, 1849-18 50, received \$ 612.97..
3. Francis Trimmous, 1849, received \$ 160.83.
4. Francis Simmons, 1850, received \$ 160.20.
5. Robert Wilson, 1846. received \$ 22.51.

) 1. (Benamin Snook was still living in House No. 58 on Dec. 31, 1844, paying \$ 13.80 per quarter rent. He was not living in Armory dwellings by Dec. 31, 1846.

D, Plasterers

1. Hiram McKenzie, active 1842-43, received \$ 684.58.
2. Jerry(Jeremiah) Harris, 1842-45, received \$ 400.51 . On December 31,1844, Jerry Harris was residing in Armory Dwelling No. 63, wood, 1story, located on Camp Hill near Harpers Grave yard, and paying a rent of \$ 4.60 per quarter. He was not living in a government house on Dec.31,1846.
3. William H. Bowen, active 1846-47, received \$ 222.75.
4. James Bowen,1844, received \$ 340.87.
5. John Ringer, active in 1849, received \$ 231.90.
6. Reuben F. Dowling, 1849-50, \$ 16.16.
7. Robert Sims, 1850-51, \$ 106.52.
8. R. J. and W. Brenn, 1847, received \$ 883.27.

E. Roofers, Sheet Iron

1. William Volkman, active 1846- 1849, received \$ 712.26.

F Slaters:

1. William Bayley, 1842-44, 1850, received \$ 1,404.98.
2. George W. Tracey, 1842- 1851, received \$ 1,237.27.

g Stone Cutters

Names	Active	Paid	Lineal Feet of Cut Stone provided
1. <u>Redmond Burke</u>	-1842-51	\$ 11,059.94	18,256 feet 6 inches.(1)
2. <u>Daniel Pine</u>	1842	130.00	216 feet 8 inches.
3. <u>Timothy McBriety</u>	1843-45	979.31	1,702.feet 10 inches.
4. <u>David Maxwell</u>	1846	65.00	82 feet 10½ inches
Total, Stone cutters	1842-51	\$ 12,234.25 +	20,258 feet 10½ inches +

(1).Remond Burke was still active in 1860. Based upon the U.S. Census of 1860, it is probable that "Redmand Burk,"stonecutter, his wife and five children , rented the two-story stone house that fronted on High Street and was located on Wager Lot No. 39. The house and lot were owned by Richard D. Doran,1850-1863.

Brick Makers for the Armory, 1842-1851

Brick Maker	Active	Paid	No. of bricks made
1. William Collins	1846-51, died.	\$ 11,200.41	1,287,977
2. John Lambaugh	1843-45	3,377.50	377,369
3. William Lee	(1844-45-died)	2,044.00	307,500
4. Peter Litle	1843	361.60	38,064
5. John A. Steiner	1851	1,216.75	157,000
6. Other, 8 men	1842-1845	1,204.01	158,200
Total, 1842-51	Missing July 1, 1847-Dec. 31, 1848	\$ 19,404.28	2,326,110

I #, Brick Masons, Paid for laying bricks:

1. John Lambaugh, Active 1843, paid \$ 2,802.97.
 2. William Collins, active 1845 to Oct. 1850, died, paid \$ 15,272.69.
 3. N. T. Haller, active 1851, paid \$ 1,812.46
-
- Total: Brick Masons, 1842-1851: \$ 19,888.12.

Notes: John Lambaugh, purchased Wager Lot No. 30, in Wager Six Acre Reservation from Gerard B. Wager on June 12, 1841, a vacant lot, for \$ 400. Lambaugh sold Lot 30 on the same day for \$ 400.00 to Samuel Breitenbaugh.

J, Stone Masons(excavation for, stone foundations walls, canals)

1. Peter Litle,	1842-1849, died,	paid \$ 19,658.98.
2. Edward Tearney(Jr. partner of Peter Litle, 1842-1849) active 1849-51),	paid	28,269.48
3. George W. Lynch,	1842-49	1,396.22
4. S. D. McMurphey,	1845	1,728.23
Total, Stone Masons	1842-51:	\$ 51,052.91

Notes: Peter Litle and his junior partner, Edward Tearney, purchased the southwest (left) half of Wager Lot No. 50 for \$ 600.00 on March 22, 1844. With the carpenter Patrick H. Kelly, who owned the other half of Lot 50, the three men erected Park Bldg. no. 38 in 1844 as 2½ story brick structure 41 feet 10 inches by 30 feet 2 inches. The duplex house had two store rooms on the first floor and two sets of living quarters on the upper floor. Litle left title to the left half of the lot to Tearney in his will of 1849. Peter, Litle resided in Armory Dwelling House No. 66, wood, 1 story, from at least Dec. 31, 1841 to 1849. His rent in 1841 was \$ 7.50 per quarter and in 1849 he was paying \$ 10.00 per quarter. The house was located between Washington Street and the Musket Factory. Tearney apparently resided on a lot he owned in Bolivar.

Expenditures for the Services of Builders at the National Armory at Harper's Ferry, Virginia,
January 1, 1842 to December 31, 1851, (based on the vouchers issued by the Armory
Paymaster in National Archives Record Group No. 217, Vouchers of the 2nd Auditor,
Series 2 and 3, U.S. Treasury Department.

FISCAL YEAR	Carpenters	Plasters	Painters & Glazers	Slaters	Tinsmiths (Gutters & Spouts)	Stone Masons	Brick layers	Iron Workers (roofing)	TOTAL
1842	-	\$ 449.53	\$ 55.11	\$ 226.66	-	\$ 575.58		-	1,306.88
1842-43	-	262.67	227.09	172.78	875.06	4,465.70			6,003.30
1843-44	336.56	446.57	50.59	819.83	281.90	5,474.15	124.01	-	7,533.51
1844-45	17.80	322.89	0	933.33	215.63	3,319.36	455.81	-	5,264.82
1845-46	768.35	119.75	0	18.69	102.74	7,596.70	3,358.77	(1)	11,965.00
1846-47	661.10	1,081.82	337.06	44.40	414.90	8,320.49	3,213.16	464.96	14,537.88
1847-48	?	?	?	?	?	?	?	?(2)	?
1848-49	936.64	231.90	165.10	40.11	126.36	2,657.15	1,191.61	(3)	5,348.87
1849-50	2,923.20	64.91	653.33	266.38	205.25	6,910.96	6,703.02	247.20	17,974.25
1850-51	1,891.44	5.18	227.29	777.35	330.25	13,439.20	0	4.84	16,675.55
1851-52	1,621.76	52.59	0	53.85	6.48	6,951.78	1,222.17	(4) 0	9,208.63
TOTAL:	\$ 9,156.85	\$ 3,037.81	\$ 1,715.47	\$ 3,335.38	\$ 2,558.57	\$ 59,711.07	16,268.55	\$ 717.00	\$ 96,248.70

(1) Vouchers for 3rd quarter of 1845 missing. (2). Vouchers for 3rd and 4th Quarters of 1847 and 1st and 2nd quarters of 1848 are missing. (3). Vouchers for the 3rd and 4th Quarters of 1848 are missing. (4) Vouchers for the 1st and 2nd Quarters of 1852 have been destroyed.

Expenditures for Some Buildings Materials used in the Construction of
Structures at the Harpers Ferry Armory, Virginia, January 1, 1842 to December 31, 1851
(Based on data from the vouchers of the Armory Paymasters in the Records of the 2nd
Auditor of the U.S. Treasury Department, Series 2 and 3, National Archives Record Group 217).

FISCAL YEAR	To Brick Makers	Number of brick purchased	To Stone Cutters	Lineal feet of cut stone purchased	For iron, frames, roof floors.				TOTAL for brick cut stone
1842	0	0	\$ 248.50	451 7/12	0				248.50
1842-43	361.16	38,064	594.95	991	\$ 254.54				956.56
1843-44	3,303.11	377,541	2,894.44	6,756 6/12					6,197.55
1844-45	1,511.00	231,500	925.59	1,467 5/12					2,436.59
1845-46	2,417.67	288,840	578.28	668	50.40	(1)			2,995.95
1846-47	3,991.24	427,996	3,101.60	4,998 9/12	1,241.38				7,092.84
1847-48	?	?	?	?	?	(2)			?
1848-49	1,437.62	172,747	0	0	153.92	(3)			1,437.62
1849-50	2,913.71	357,838	1,749.71	1,716 4/12	0				4,663.42
1850-51	2,251.57	274,584	548.58	723 10/12	79/20				2,800.15
1851-52	1,216.75	157,000	418.29	477 3/12	0	(4)			1,635.04
TOTAL:	\$ 19,404.28	2,326,110	\$ 11,059.94	18,256 6/12	\$ 1,779.44				\$ 30,464.2

(1) Vouchers for the 3rd quarter of 1845 are missing. (2) vouchers for the 3rd and 4th quarters of 1847 and the 1st and second quarters of 1848 are missing. (3). Vouchers for the 3rd and 4th quarters of 1848 are missing. (4). Vouchers for the 1st and 2nd quarters of 1852 have been destroyed.

71

Expenditures For Labor and Materials in Making Repairs
and Improvements at the Harper's Ferry Armory, 1845-1851
from Records of the Armory Paymaster, by Calendar Year.

Calendar Year	For Labor	For Materials	Recorded Total	
4th Quarter only, 1845	\$ 5,772.63	\$ 1,507.62	\$ 7,280.25	(3 months only).
1846	21,094.92	16,452.06	37,546.98	
1- 2nd qrs. 1847	17,223.44	9,723.00	26,946.44	(6 months only(1))
1848			?	(2)
1849	23,561.66	14,806.80	38,368.46	
1850	27,019.01	22,376.40	49,395.41	
1851	39,272.09	27,790.93	67,063.02	
Total:	\$ 133,943.75	92,656.81	\$ 226,600.56	

(1) Paymaster's vouchers for 3rd and 4th quarters of 1847 are missing.

(2). Paymaster's records for all 4 quarters of 1848 are missing.

EXPENDITURES FOR LABOR AND MATERIALS IN MAKING
REPAIRS AND IMPROVEMENTS AT THE HARPER'S FERRY ARMORY,
1845 to 1851, By Fiscal Year.

Fiscal Year	For Labor	For Materials	Recorded Total	Total Spent	
July 1, 1845 - June 30, 1846	\$ 11,498.69	\$ 4,928.70	\$ 16,427.39 (1)	\$ 62,468.77	Recorded 9 months
July 1, 1846 - June 30, 1847	32,592.30	22,753.98	55,346.28	55,346.27	
July 1, 1847 - June 30, 1848	?	?	?	75,269.63	(2)
July 1, 1848 - June 30, 1849	10,677.33	8,757.69	19,435.02 (3)	55,674.70	Recorded 6 months
July 1, 1849 - June 30, 1850	24,790.63	13,582.61	38,373.24	38,373.24	
July 1, 1850 - June 30, 1851	34,728.12	27,669.32	62,397.44	62,397.44	
July 1, 1851 - Dec. 31, 1851	19,656.68	14,964.51	34,621.19	34,621.19	Recorded 6 months
Total	\$ 133,943.75	\$ 92,656.81	\$ 226,600.56	\$ 384,153.24	

(1) Does not include figures for the 3rd Quarter of 1845.

(2) Records of the Armory Paymaster July 1, 1847 to June 30, 1848 are missing.

(3) Record for the period July 1, 1848 to December 31, 1848 are missing.

72

CHAPTER III

THE MILITARY SUPERINTENDENTS: MAJOR JOHN SYMINGTON, 1844-1851:

In his annual report to the Secretary of War, dated January 6, 1845, Lt.Col. George Talcott, Chief of Ordnance, _____ 'praised the rebuilding efforts of Superintendent Henry K. Craig at the Harper's Ferry Armory, _____ noting that Major Craig had left this position in November 1844 to _____ describing four assume duties at a new post. After _____ the large well-built brick workshops erected by Craig, Talcott advised that much work remained to be done. At the Musket Factory, the Chief of Ordnance wrote: "There are still several shops of large dimensions in a wretched condition; having been originally placed too low, upon insecure foundations, they are scarcely tenatable, and should all be rebuilt; some of them immediately. The experience had in relation to the river floods enables us to place all new structures at a suitable elevation, so that no injury will be sustained from them in the future, except in some very remarkable and unusual cases...."

Talcott

The situation was no better at the Rifle Factory, _____ continued: Several buildings at these works require immediate reconstruction, being in a state of decay. They were originally built of perishable or inferior materials, in a cheap manner, placed on insecure foundations, and, from false economy, generally of too small dimensions..." 1

's

Craig's replacement as Superintendent of the Harper's Ferry Armory was Major John Symington, who reported for duty at Harper's Ferry on November 9, 1844. Symington was an eccentric but talented West Point-trained engineer. During Symington's seven year regime at Harper's Ferry, 1845-51, he was to exhibit considerable ability as a builder, architect, and town planner. Symington was to introduce _____ architectural style to armory buildings;

2. Continue of Harpers Ferry, 3rd ed Shepherstown, W.V.a, 1959, first published in 1901. Barry had known Symington when Barry was a young boy.

1. Congressional Serial No. 464, Document No. 43, p. 2. The operations in the production of the Hall patent rifle at the Shenandoah works had been regarded as purely experimental from 1819 to 1827, hence most of the shops were frame and all constructed from very limited funds.

2. Merrit Roe Smith, Harpers Ferry Armory and the New Technology, The Challenge of Change (Cornell University Press, 1977), p. 276. For a description of some of Symington's eccentricities, see Joseph Barry, The Strange Story of

he was to conceive a plan for solving the 50-year problem of providing adequate housing for armory workman and ^{was able} to induce the Secretary of War and Congress to put the scheme into effect; and Symington also laid out the basic street and lot plan for Harper's Ferry in 1851-52 that still prevails. As a ^{young} Lieutenant, John Symington had briefly served as acting superintendent of the Harper's Ferry Armory in August 1829. During this period he must familiarized himself with the land problems at the Musket Factory and the plans that were being suggested to solve them. In 1845 Symington was to revive these early schemes that had never been carried into effect due to changing economic and political conditions, and to successfully execute them.

After only a month on duty, Symington, ^{on December 12, 1844,} presented the Chief of Ordnance George Talcott ^{with alternative plans that required} ~~from~~ \$ 81,909 to \$ 92,55.94 in appropriations to rebuild and improve the U.S. Musket Factory. Included were 13 detailed estimates totalling \$ 41,294.94, accompanied by five detailed plans (of proposed buildings (the plans are unfortunately missing) ^{for} rebuilding workshops and storehouses at both the musket factory and rifle works and also repairing ^{on} forebays and ^{old} constructing new machinery. ³ These items, some of which may reflect also the thoughts of Major Craig, are dated November 30, 1844.

The two alternative land buying programs, one for purchasing 36 buildings, and 18 lots for \$ 31,648 and the second for acquiring 40 structures, 22 lots, and an island for \$ 50,261, were accompanied by

3. These are published in Serial No. 464, Document No. 43, pp. 13- 17, 13 estimates. The five plans of buildings were not printed and cannot now be located in the National Archives.

74

an detailed and accurate map drawn to scale and in color delineating not only the lots but the buildings that were to be bought. Entitled "Map of the Relative Position of the Reserved (Wager Six Acre Reservation) to Public Works at Harpers Ferry, Va- 1844", this map was drawn by Symington and submitted with his letter of December 12, 1844. (See Map No. 4 in this report). Major Symington, of course, strongly urged that the full \$ 92,556 program be attempted.

Duly impressed with this data, Chief of Ordnance Talcott presented these packages, with maps and plans, to the Secretary of War in his annual report for operations in 1844, dated January 6, 1845, commenting:

"The officer (Symington) who has recently taken charge of the armory has furnished plans and estimates for renewing several of these defective buildings; they have been prepared since the completion of the annual estimates submitted to Congress (for the June 1, 1845-June 30, 1846 fiscal year), and the importance and urgency of the case is believed sufficient to justify their presentation at this time; and I therefore respectfully recommend them to your favorable consideration..." 5

In addition to the proposed rebuilding program, Talcott also recommended that the land purchasing program proposed by Symington be carefully considered; that be and then one of them adopted by the War Department be presented to Congress. 6

(Talcott's remarks on the land program will be considered at greater length later in this chapter under the subject dealing with land acquisition.).

The funds for the 1845-46 fiscal year, \$ 18,000 appropriated by Congress on March 3, 1845, however, reflected the reduced (\$ 27,359) recommendation of former Superintendent Henry K. Craig. The first appropriation to

4. The alternative land plans, known as Schedules A and B, with Symington's letter of December 12, 1844, but not the map, are published in Serial No. 464, Document No. 43, pp. 6 to 12. Fortunately Map No. 4, copy made by Major Symington of his 1844 map, drawn on March 22, 1847, was found in the National Archives Record Group 121 Laminated Material in 1980).
5. Serial No. 464, Document No. 43, p. 2.

6. Serial No. 464, Document 43, p. 3.

7. U.S. Statues at Large, V, p. 747. See HFNHP Reel 20, V. 7, pp. 650-653, for Craig's request for \$ 27,359 for the 1845-46 fiscal year.

reflect. Major John Symington⁵ 1844 suggestions appear in the
1846-47 fiscal year figures: ^{ON} August 8, 1846, when Congress voted
128,361.00^X
the huge sum of \$₈ for repairs and improvements at the Harper's
Ferry Armory.

The plans and efforts of Col. George Talcott and Major John
Symington to rebuild and modernize the physical plant at the Harper's Ferry
Armory were greatly facilitated by the course of international events.
For a third time, and as in 1799 and 1808-10, war or threats of war resulted
in Congress appropriating large sums of money to improve and build at the
Harper's Ferry Armory. On May 11, 1846, the United States declared war on
Mexico and this conflict continued for about two years, until the
Treaty of Guadalupe Hidalgo was signed ¹² on February 2, 1848. During this
~~war~~ Congress made large sums of money available for repairs and improvements
at the U.S. Armory at Harper's Ferry.

8. U.S. Statues at Large, Vol. IX, p. 69; For 1846-47 fiscal estimates
requesting \$ 128,361.00., see Serial No. 481, Document No. 9, pp. 111-112.

During Symington's first eight months on the job, November 1844 to June 30, 1845, however, because of appropriation situation, the ^{new} superintendent was only able to put the finishing touches to the Craig-designed structures: ^{namely,} the warehouse and boring mill at the Musket Factory and the ^{filers} shop at the Rifle Factory, and to construct one modest building of his own- a proof house at the Rifle Factory. ⁹ A year later, ^{and with the Mexico War in Progress,} however, Symington was able to report that he had three new brick workshops, designed in a similiar architectural style, constructed, or under construction at the Musket Factory. "The [3] buildings before mentioned," he wrote to Chief of Ordnance Taftcott, "all conform to the same general plan and style, and to the plans submitted with the last estimate to the Ordnance office." ¹⁰ By June 30, 1847, the construction on these three structures had been completed and work was ¹¹ underway on two more new workshops. Three more new shops were being erected ¹² by June 30, 1848, Symington was to keep up this pace of building until his departure from the armory in 1851.

9. Symington's annual report for year ending June 30, 1845, Serial No. 470, Document No. 1, p.419-420.
10. Annual report for June 30, 1846, Serial No. 493, p.164. The three buildings were the Charcoal House, north wing of the Forging or smiths shop, and a store house for stocks.
11. Annual Report, June 30, 1847, Serial No. 503, p.692.
12. Annual Report, June 30, 1848, Serial No. 537, p. 348.

From July 1, 1845 to December 31, 1851, Major John Symington was to spend a total of \$ 384,153.24 for repairs and improvements at the Harper's Ferry Armory. Of this sum about \$ 200,321 was expended at the Musket Factory and approximately \$ 189,851 was for buildings and the balance for the armory canal and dam. About \$ 83,095 was spent for improvements at the Rifle Factory, and \$ 81,550 was for buildings and grounds and the remainder for the Shenandoah canal and dam. Expenditures on the two canals came to \$ 9,110, on the two dams, \$ 2,500, and \$ 34,995 was spent on Armory dwelling houses. A total of 27 buildings were added to the Armory rolls by Symington, 19 by construction and eight by purchase.

At the Musket Factory, Symington designed and constructed 11 workshops and storehouses, 10 of them major, and one of them minor structures. He also remodelled two of the pre-1842 buildings for continued use.

At the Rifle Factory Superintendent Symington designed and constructed three major and one minor structure, and also prepared the plans for a fourth major workshop.

Finally, he designed and erected two large dwellings houses for the Commanding Officer and Paymaster at a cost of \$ 21,709, also built one stable for the armory, one market house for the town, and acquired eight well-built dwelling houses for use as residences for the armory officers and workmen.

John Symington as an Architect :

Symington continued the practice that had been started by Major Henry K. Craig- that is, of insisting that the new buildings be constructed of the best materials and of the finest workmanship. Craig and Symington were building for the ages! Thus the workshops, storehouses, and dwellings that Major Symington designed and erected had excellent stone foundations of mortar masonry; the solid

upper stories were built of brick and were trimmed with cut-stone water table, window and door sills, and coping. The door and window frames, generally, were of cast-iron. The gable roofs of the shops and storehouses were covered either with slate or sheet iron for protection against fire. The roofs also had copper gutters and downspouts and were protected by lightning rods. The exterior brick walls of these buildings were painted with two coats of oil paint and the edifices were heated by means of cast-iron coal stoves.

Symington also devised a basic or ^{plan} standard floor that he used, with variations, in eight of the most ^{important} buildings that he designed and erected, 1845-51, at the Musket Factory and Rifle Factory. His floor plan was for a rectangular-shaped structure that was subdivided into three sections. These sections were comprised of ^a center building that was flanked on either side by a wing. Each section was covered by a gable roof, but the roof of the center structure was set at right angles to the gable roofs of the wings. The plan was flexible as to length, width, and height.

Symington's structures varied in length from 60 to 280 feet and in the width of the wings, from 35½ to 36 feet. The center building often projected to the rear of the wings. The number of stories varied as follows: All three sections one-story in height: Musket Factory Bldg. No. 14, and Rifle Factory Bldgs. No. 5 and 6.

One and two-story variation: The center building was two-story and the wings, one-story in height. Examples: Musket Factory Bldgs. No. 8 and 13.

1. Musket Factory Buildings No. 6, 8, 13, and 14, and Rifle Factory Bldgs. No. 3, 4, 5, and 6, Bldg. No. from 1852 historical base map.

All two-story Variation : In some of Symington's basic plan buildings, all three sections of the structure were two-stories in height. Musket Factory Bldg. No. 6 and Rifle Factory Bldg. No. 3 were built on the two-story variation.

The gable ends of the two wings and also the gables of the front and rear elevations of the center buildings were adorned with brick parapet walls that were crenelated [^] capped with cut-stone coping, and which also rose ^{above} the ridges of their gable roofs. The gable ends of six storehouses and workshops that Symington designed and erected at the Musket Factory, as well as the armory stable, on a simpler rectangular floor plan, were also decorated in the same manner with parapet end gables. ²

The first stories of all 15 of these buildings were subdivided into arcaded bays. Each bay was comprised of a round arch that was set on brick capped pilasters. Recessed within each bay there was a brick panel that generally contained with a round-arch window or door.

The second stories of the ^{two-story} structures were subdivided into rectangular bays with a flat arch and set between brick pilaster. Recessed within each bay ^{and} set in a brick panel, was window topped with a flat ^{style} arch. This architectural afforded a uniform and impressive exterior to all of the Symington-designed buildings, which also did not clash with the more conservatively ^{designed structures} that had been built by Major Craig in 1842-44.

All of the later major structures to be constructed at the Harpers Ferry Armory during the years 1852 to 1861, were to be designed and built in this same architectural style that Major John Symington began utilizing in 1845.

2. Symington's buildings with rectangular floor plans were Musket Factory Bldgs. No. 1, 4, 7, 8, 10, and 16, (1859 historical base map Bldg. Numbers.).

EXPENDITURES FOR REPAIR AND IMPROVEMENTS AT THE HARPER'S FERRY ARMORY,
1845 to 1851

By Fiscal Year	Expenditures Fiscal year	By Calendar Year	Expenditures Calendar year	Appropriations by Calendar year	Date
July 1, 1845 - June 30, 1846	\$ 162,468.77 (1)	July 1, 1845 to Dec. 31, 1845	\$ 13,340.45 (8)	0	3/3/45
July 1, 1846 - June 30, 1847	55,346.27 (2)	1846	37,546.98 (9)	\$ 128,361.00	8/8/46
July 1, 1847 - June 30, 1848	75,269.63 (3)	Quarters 1-2 1847	(26,946.44) (10)	17,770.00	3/2/47
July 1, 1848 - June 30, 1849	55,674.70 (4)	1848	(151,792.48) (11)	53,091.00	8/14/48
July 1, 1849 June 30, 1850	38,373.24 (5)	1849	38,368.46 (12)	62,820.00	3/3/49
July 1, 1850 June 30, 1851	62,399.44 (6)	1850	49,095.41 (13)	50,560.00	9/28/50
July 1, 1851 - Dec. 31, 1851	34,621.19 (7)	1851	67,063.02 (14)	23,100.00	3/3/51
Total:	\$ 384,153.24	Total	(\$ 384,153.24)	\$ 335,702.00	-

- (1) Serial No. 499, Document No. 41.
- (2) Serial No. 516, Document No. 22.
- (3) Serial No. 540, Document No. 25.
- (4), Serial No. 576, Document No. 37.
- (5) Serial No. 598, Document No. 20.
- (6) Serial No. 640, Document No. 36.
- (7) 3rd Series, File 12680 and 13017.
- (8) 3rd Series, Files 2841 and 3122.
- (9) 3rd series, Files 3502, 3858, 4403, and 4837.
- (10). 3rd Series, Files 4967 and 5623-files for 3rd and 4th quarters missing.
- (11) 3rd Series, File 8737- files for all 4 quarters of 1848 are missing.
- (12) 3rd Series, Files 9093, 9307, 9895, and 10279.
- (13) 3rd Series, Files 10673, 11000, 11542, and 12169.
- (4) 3rd Series, Files 12169, 12680, and 13017.

87

National Archives

Record Group No. 217, Records of the United States General Accounting Office, Washington, D.C. Records of the Second Auditor:

from Paymaster of the U.S. Armory at Harper's Ferry, Virginia, Expenditures for Permanent Improvements

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL	Dec. 31 Balance:
	a	b	c	d		
1846	3,372.75	5,774.39	14,933.43	13,466.41	37,546.98	17,204.18
	e	f	g	h		
1847	10,459.87	16,486.57	?	?	(26,946.44)	?
	i	j	k	l		
1848	?	?	?	?	?	?
	m	n	o	p		
1849	6,471.41	12,963.61	6,764.05	12,169.39	38,368.46	209.48
	q	r	s	t		
1850	4,294.56	15,145.24	10,433.69	19,521.92	49,095.41	13,787.51
	u	v	w	x		
1851	9,468.21	22,973.62	20,961.40	13,659.79	67,063.02	35,449.75

TOTAL					219,020.31	

Major John Symington, July 1, 1845 to
December 31, 1851.

- a. 3rd Series, File 3502
- b. 3rd Series, File 3858
- c. 3rd Series, File 4403
- d. 3rd Series, File 4837
- e. 3rd Series, File 4967
- f. 3rd Series, File 5623
- g. 3rd Series, File missing
- h. 3rd Series, File missing
- i. 3rd Series, File 8737 missing.
- j. 3rd Series, File 8737 missing.
- k. 3rd Series, File 8737 missing
- l. 3rd Series, File 8737 missing.
- m. 3rd Series, File 9093
- n. 3rd S., File 9307.
- o. 3rd S., File 9895.
- p. 3rd S., File 10276.
- q. 3rd S., File 10673.
- r. 3rd S., F. 11000.
- s. 3rd S., File 11542.
- t. 3rd S., File 12169.
- u. 3rd S., 12169 file-1st quarter of 1851.
- v. 3rd S., File 12680.
- w. 3rd Series, File 12680.
- x. 3rd Series, File 13017.

\$ 232,360.76, plus 18
months, 1847-48.

The U.S. Armory at Harper's Ferry, Virginia, -January 1848

Musket Factory	19 Buildings
Arsenal Square	4 Buildings
Rifle Factory	23 Buildings
Stables	1
Magazines	1
Dwelling Houses	161 buildings , valued at \$ 88,590
<u>Market House</u>	<u>1</u>

Total of Bldgs: 210 buildings

C.O's and P.M's

Quarters..... 2 buildings valued at \$ 21,709.

Total: 212 buildings.

SUMMARY SHEET OF APPROPRIATIONS FOR REPAIRS, IMPROVEMENTS, AND MACHINERY, HARPER'S FERRY ARMORY,
1845-1851

Calendar Year	Musket Factory	Rifle Factory	Potomac Canal & Dam	Shenandoah Canal & Dam	Stable & Lumber Yard	Dwellings	Specific Total	Grand Total	Balance (General)
1845	\$ 8,000.00	5,000.00	5,000	0	0	0	\$ 18,000	\$ 18,000	0
1846	86,911	17,300	0	900	2,800	19,000	126,911	128,361	1,450
1847	13,030	0	2,740	0	0	0	15,770	17,770	2,000
1848	4,000	25,450	0	0	0	170	29,620	53,091	23,471
1849	57,875	0	0	0	0	4,945	61,520	62,820	0
1850	7,675	26,560	2,225	645	0	10,880	47,985	50,560	2,575
1851	12,360	7,240	0	0	0	0	19,600	23,100	3,500
	12,360	7,240							
TOTAL	\$ 189,851	81,550	9,965	1,545	2,800	34,995	\$ 320,706	\$ 353,702	34,995

Balances:

- 1846- of \$ 1,450.00 to purchase governors for water wheels.
 1847 of \$ 2,000.00 for incidental repairs to machinery, water wheels, forebays, water gate, &c.
 1848. Of \$ \$ 16,500 for building a rolling mill at musket factory- not built.
 1848 of \$ 3,600 for repairs and preservation of machinery, shops, and storehouses at the musket factory.
 1848 Of 1,500 for repairs and machinery at rifle factory.
 1849. Of 0.
 1850. Of \$ 505 for repairing floor of store house at musket factory. (New warehouse).
 1850 Of \$ 2,070 for repairing and keeping in order the water wheel, forebays, and tilt hammers at the musket and rifle factories.
 1851. Of 3,500.00 for repairs and preservation of public buildings, musket factory, rifle factory, dwellings, machinery.

1845 to 1851: \$ 12,670.00 for general repairs and preservation plus \$ 10,880 for general repairs of dwellings

APPROPRIATIONS FOR THE U.S. MUSKET FACTORY, 1845 - 1851: (1) Repairs and Improvements, Machinery.

Year:	1846 Caldenar Charcoal House	Store House for Stocks 1846-47	Smiths Shop 1845-48	Coal Bins 1845-51	Remodelled Offices 1847-48	Engine & Guard House 1847-48	Stocking & Machine Shop 1847-50	Lumber House & Coal Bins 1848-49
1845					0	0	0	0
1846					\$ 850.00		18,900.00	5,200.00
1847		750.00	4,500.00	1,800.00		1,540.00		
1848							950.00	
1849								
1850				880.00			6,300.00	495.00
1851								
TOTAL.	(1)	(2) 750.00	(3) 4,500.00	2,680.00	850.00	1,540.00	26,150.00	5,695.00

- (1) estimated cost of construction-\$ 1,200.00.
 (2) estimated cost of construction- \$ 5,750.00.
 (3) Estimate cost of Construction - \$ 17,500.00.

APPROPRIATIONS FOR REPAIRS AND IMPROVEMENTS U.S. MUSKET FACTORY, 1845-1851(2)

Calendar Year:	For Land 1847-49	Tilt Hammer Shop. 1849-51	Polishing Shop. 1849-50	Grinding, Saw & Planing Mill 1850-51	1851-52		Remodelled Bell Shop 1847-50	Repair Old Grinding Mill	Repair Old Tilt Hammer Shop	
					Annealing Shop-Brass Foundry					
1845	0	0	0	0	0		0	0	0	
1846	48,261							2,500.00	10,400.00	
1847									2,700.00	
1848			1,700.00						850.00	
1849	200	43,370.00		11,630.00			2,675.00			
1850										
1851					9,550.00					
TOTAL	\$48,461 (1)	43,370.00	1,700.00	11,630.00	9,550.00		2,675.00	2,500.00	13,950.00	

(1) \$ 9,829.67 of the appropriation for land reverted to the general treasury, as the land could not be purchased.

A APPROPRIATIONS FOR REPAIRS AND IMPROVEMENTS AT U.S. MUSKET FACTORY, 1845-1851 (3)

Calendar Year:	Entrance Gates, fences	Brick Pavement	River Wall	Grading Grounds	For force Pump	Total Musket Factory	Repair of Storehouse	Repair Bldg. Mach.	
1845	-	-	-	-	0	8,000.00			
1846	350.00	450.00				86,911.00			
1847	1,100.00		640.00			13,030.00			
1848				500.00		4,000.00		3,600.00	
1849						57,875.00			
1850						7,675.00	505.00		
1851					1,610.00	12,360.00			
TOTAL	1,450.00	450.00	640.00	500.00	1,610.00	\$ 189,851.00			

C Construction and Repair at the U.S. Musket Factory, 1845-51:

1. The new Charcoal House, 1845-46:

This one-story brick structure, completed by June 30, 1846, was the first shop to be designed and erected by Major John Symington in the new architectural style. The Charcoal House is Bldg. No. 13 on the 1848 Map, No. 5, and Bldg. No. 16 on the 1859 Historical Base Map.

Major Symington's detailed estimates, submitted to the Ordnance Department on November 30, 1844, contained one for a Charcoal House to be built at a cost of \$ 730.00. The estimated materials and work were as follows:

185 yards of excavation, at 18 cents	\$ 33.30
220 perches masonry laid with cement,	
at \$ 2.-----	410.00
4,800 feet of yellow-pine plank, at 1½ cent ----	72.00
3,400 feet of yellow-pine timber, at 1½-----	51.00
249 feet of locust scantling at 5 cents -----	12.45
300 lbs. nails at 4½ cents-----	12.75
200 lbs. hinges and fastenings for doors, at 12½c-	25.00
45 days carpenter's work, at \$ 1.50-----	67.50
8 days calking and pitching roof, at 80 cents---	6.40
Pitch and Oakum-----	9.00
	\$ 730.00 (1)

This estimate, in the writer's opinion, however, appears to be for a stone and frame structure, and not for the brick storehouse that was actually erected.

Construction of the charcoal house got underway in the third quarter (July-September) of 1845. Unfortunately, the Paymaster's vouchers for the 3rd quarter of 1845 (File No. 2841) are missing from the records of the National Archives so that the details relating to the construction of the stone foundations and brick walls are unknown. ^{HWCVC(R)} The stone foundations were probably built by

1. Serial No. 464, Document No. 43, p.14.

Peter Little and the brick walls by Williams Collins, the two masons who were doing most of this type of work for the Armory at that time.

Judging by costs of building the foundation of the armory stable in 1847, which had the same dimensions (35½ by 35½ feet) as the Charcoal

House, the cost of building the 1845 stone foundation probably amounted to about \$ 400.00. Peter Little did the following work for a total \$ 397.05 on the stable foundation in 1847:

Excavating and removing 115 23/27 cubic yards of earth, at 30c ---	\$ 34.75
Erecting 162 3/25 perches of mortar masonry for foundation, @ \$ 2.00 per perch-----	324.24
Setting 140 8/12 feet of cut stone water table-----	14.06
Setting 48 feet of cut stone arching-----	24.00
<u>Total: (2)</u>	<u>\$ 397.05</u>

That the stone foundations and brick walls were completed by the end of October 1845 is demonstrated by the fact, that the carpenter Jesse Schofield was paid \$ 15.84 " for framing & putting in 1,056 feet of floor and joists in new " ^{Charcoal} House" in December 1845. ³

The tinsmith Dennis Snook was paid \$ 18.68 for proving ^d 18 feet 10 inches of copper gutters, 33 feet 8 ^{inches} of copper down-spouting, and two spout heads for the new charcoal house. ⁴ In April 1846, Jesse Schofield

received \$ 68.83 for making 78 circular sash and 720 square light sash for the structure. William Volkman provided and put on 1,352 square ⁵ feet of sheet iron roofing at a cost of \$ 54.68. The sheet iron roof ⁶ was then painted by Robert M. Wilson for \$ 28.73.

2.3rd Series, File 5623, Voucher 48, To Peter Little, July 2, 1847, for \$ 397.05, for foundations of armory stable.

3.3rd S., F. 3122, V. 60, Dec. 12, 1845, for \$ 15.84, to Schofield.

4. 3rd S., F. 3122, V. 79, January 3, 1846, for \$ 18.68.

5.3rd S., F. 4403, V. 34, Sept. 14, 1846, for \$ 54.68.

6.3rd Series, F. 4837, V. 32, December 8, 1846, for \$ 28.73.

The Paymaster's extant vouches indicate that \$ 15.84 was spent on the construction of the new Charcoal House in 1845 and \$ 170.92 in 1846, making a total of \$ 186.76. The total cost of constructing the structure, 1845-46, has been estimated at \$ 1,200.00: \$ 1,029.08 in 1845 and \$ 170.92 in 1846.

Under the heading of "Buildings constructed" during the year ending June 30, 1846, Major Symington reported: (1) "Charcoal house, of brick, on stone foundations, one story, 35½ by 35½ feet, with cut stone water table, sills, cornice and coping; cast-iron door and window frames; sheet iron roof; the interior ⁷ divided into four compartments by 2-inch partitions."

Major Henry K. Craig had first used sheet iron to roof the new Musket Factory proof house in October 1845, but Symington was the first utilize cast iron door and window frames, in the third Quarter of 1845, in the construction of Armory buildings at Harper's Ferry.

Repairs and Alterations to the Charcoal House, 1847-51:

The only known work down on the Charcoal House after 1846 occurred in 1849 when Francis Trimmous was paid \$ 7.62 for coloring the exterior brick ⁸ walls of the Charcoal House, 109 square yards, with a cement wash.

7. Serial No. 493, Document No. 1, p.164.

8. 3rd Series, F. 10276, V. 16, dated November 3, 1849, for \$ 7.62.

The Armory paymaster's vouchers in the National Archives for the third quarter of 1845 are missing so what materials ^{that} may have been purchased to be used in the construction of the Stock House ^{are not} known.

On November 11, 1845, Redmond Burke was paid a total of \$ 424.62 for providing a total of 422 8/12 feet of cut stone for use on the new charcoal house ⁴ and the new stock house. The order was made up of the following items:

72½ feet, superficial, of water table, for	\$ 36.24
48 8/12 feet of cornice, for.....	32.60
301½ linear feet of coping, for.....	355.77
	<u>\$ 424.62</u>

During the winter of 1845-46 the carpenter Jessie Schofield was engaged in making window sash for the new charcoal house and new stock house. On April 8, 1846 he was paid \$ 148.59 for making 1,494 circular and 288 square sash for the stock house. ⁵

The mason Peter Little began constructing the stone foundations, perhaps in March, and certainly in April 1846, for on May 2 he received \$ 1,612.86 for accomplishing the following work:

1. Excavation of 1,189½ cubic yards of earth and removing from the foundation and basement of the stockhouse-	\$ 356.85.
2. Excavation of 213 3/4 cubic yards of rock	10.97
3. for 555 perches of mortar wall, hewn stone, for foundation and basement.....	1,110.00
4. For 810 feet of hammered face of wall.....	81.00
5. for setting 27 lin. feet of water table	27.00
6. for labor of bailing water from the foundations, equal to 80 days work.....	64.00
7. For labor and ramming the same and the walls, and making concrete for foundation and walls, equal to 54 days work.....	27.00
Total Bill:	<u>\$ 1,692.92</u>
Deducted \$ 80.00 for 213 perches of stone	<u>-80.00</u>
Paid	<u>1,612.86</u>

6

4. 3rd S., F. 3122, V. 27, Nov. 22, 1845, for \$ 424.62.
5. 3rd S. F. 3858, V. 12, dated April 8, 1846- \$ 21.60 for 288 square and \$ 126.99 for the 1,494 circular sash.
- *6. 3rd S. F. 3858, V. 19, May 2, 1846, to Peter Little for \$ 1,612.86.

On May 2, 1846, the armory purchased 4,536 lbs of cast iron window frames for use at stock house for \$ 167.85 from Hugh Gilleece, who had produced them at his iron foundry on Virginus Island.

William Collins erected the two-story high brick walls of the stock house in May 1846, receiving a total of \$ 979.84 for providing the following

services:	For furnishing ¹ life, sand, labor, scaffolding and	
	laying 155,317 bricks in new stock house.....	\$ 901.12
	For setting 292 feet cut-stone cornice.....	78.72
		<u>\$ 979.84</u> (8)

In June, Jessie Schofield was paid \$ 160.00 for "framing and putting 16 girders into the first and second floors of the new stock house.:"

By June 30, 1846, according to the Paymaster vouchers, a total of approximately \$ 3,493.76 had been expended on the construction of the stock house. In his report for the fiscal year ending June 30, 1846, Major Symington informed Chief of Ordnance Talcott, in regard to the construction program at the Musket Factory: "3. Storehouse for stocks, of brick, on stone foundation, three stories- the lower (stone basement), partially under ground - 100 by 35½ feet, with cut-stone water table, sills, cornice, and coping; sheet iron roof and cast-iron door and window frames". "The roof and floors of this building have yet to be put on," he commented.

In August 1846, the mason William Collins was paid \$ 151.35 for providing an additional 12,000 bricks and laying 7,992 of them in the gable end walls of the stock house. The tinsmith Dennis Snook received \$ 51.00

in September for making and putting up 200 feet of copper gutter for \$ 30.00.

7. 3rd S., F. 3858, V. 43, dated May 2, 1846, for \$ 167.85.
8. 3rd S. F. 3858, V. 54, June 2, 1846, for \$ 979.84.
9. 3rd S. F. 3858, V. 69, June 23, 1846, for \$ 160.00.
10. Serial No. 493, Document 1, p. 164.
11. 3rd S., F. 4403, V. 18, dated August 31, 1846, for 12,000 brick at \$ 117.00 and \$ 40.35 for laying 7,992 bricks.

116 feet of copper for \$ 11.00, and making "4 heads of spouts," for \$ 10.00. ¹²

The iron work ¹² William Volkman also prepared and put on the sheet iron roof, 3,781 square feet, in September 1846 and received \$ 151.24 for his ¹³ services. The work continued into November and December 1846.

Carpenter Jessie Schofield was paid a total of \$ 194.32 for the following work:

6,281 feet joists framed and put in.....	\$ 94.21.	
6,281 feet of floor laid,,,,,.....	78.51	
288 light sash made and fitted.....	21.60	
	<u>\$ 194.32</u>	14

The painters also finished their work: Robert W. Wilson painted the ¹⁵ sheet iron roof and was paid \$ 80.34. John P. Kennedy painted 1,200 ¹⁶ light sash in the new stock house and received \$ 42.00 for his efforts.

The final touches to the large storehouse were apparently done by the stone mason Peter Little, who received \$ 77.16 for installing the ¹⁷ stone pillars and steps. This work included the following tasks:

3 16/25 perches mortar masonry-platform & steps----	\$ 7.28
setting 41 3/12 lin. feet of cut stone.....	4.12
setting 48 2/12 feet cut-stone plinth pillars	24.08
setting the above plinth.....	.93
8 flag stones set in plinth.....	6.00
22 days labor mixing and depositing concrete	19.25
3 days labor & service of horse & cart & driver...	4.50
6 days labor of a stone mason.....	<u>12.00</u>
	\$ 77.16

Total expenditure on the new stock house in 1846 appears to have been about \$ 3,516.55 and from 1845 to 1846, approximately \$ 3,941.17, as recorded in extant vouchers.

In his annual report for the year ending June 30, 1847, Major Symington noted the completion of the building, writing:

12. 3rd S., F. 4403, V. 32, Sept. 8, 1846, for \$ 51.00.	
13. 3rd S., F. 4403, V. 34, Sept. 14, 1846, for \$ 151..	24.
14. 3rd S., F. 4837, V. 37, Dec. 15, 1846, for \$ 194.32.	
15. 3rd S., F. 4837, V. 32, Dec. 8, 1846, for \$ 80.34.	
16. 3rd S., F. 4837, V. 35, Dec. 14, 1846, for \$ 42.00.	
17. 3rd S., F. 4837, V. 40, Dec. 16, 1846, for \$ 77.16.	

"The new brick store-house for stocks^(at the Musket Factory), 100 by 35¹/₂ feet, two stories high, with basement of stone, door and window frames of cast iron, and sheet iron roof; unfinished at the last report, is now completed and occupied."¹⁸

Repairs to the Store House for Stocks, 1847 to 185¹/₂^{of 1847}

The Paymaster's vouchers for the 3 and 4th quarters[^] and all four quarters of 1848 are missing from the records of the National Archives. There are therefore no extant records of repairs being made to the Stock House from 1847 to 1848.

Minor repairs were made in 1849 and 1850. Henry W. Edwards was paid \$ 1.31¹⁹ in January 1849 for 3/4th days work repairing the gutters. William Coddins, the brick mason, received \$ 1.75 for one-half days work of a mason, laborer, and²⁰ 1/2 load of mortar in November 1850.

In June, lightning rods,²¹ two points and to leads to the ground, were installed on the stock house at a cost of \$ 34.50.

18. Serial No.503, Document No. 1, p.692

19. 3rd S. F. 9093, V. 7, January 29, 1849, for \$ 1.31.

20. 3rd S. F. 12169, V. 20, November 30, 1850, for \$ 1.75.

21. 3rd S. F. 12680, V. 69, to Decker and Robinson, July 3, 1851, for \$ 34.50.

Construction of Store House For Stocks, Musket
Factory, 1846-47: (Bldg. 7- 1859 Map).

Construction	Cost	Description of Work
Foundation Excavation	\$ 356.85 \$ 10. 97 \$ 367.82	1,189½ cubic yards of earth 213 ¾ cubic yards of rock
Stone Foundation and basement walls	1,110.00 81.00 27.00 11.00 1,229.00	555 perches of mortar wall 810 feet of hammered face of stone wall setting 27 lin. feet of cut stone water table. Other costs
Stone steps and pillars in basement Total paid to stone Mason: \$ 1,690.02	\$ 7.28 4.12 25.01 6.00 35.75 \$ 77.16	3 16/25 perches mortar masonry, platform & steps. setting 41 3/12 linear feet cut stone. setting 48 2/12 feet cut stone plith pillars setting 8 flag stones in plith. Other costs
Two story Brick Walls.	\$ 1,072.47 78.72 1,131.19	for providing materials and laying 163,307 bricks. for laying 292 lin. feet of cut stone cornice.
Cut stone	\$ 424.62	For 72½ feet, sup. of water table; 48 2/12 feet of cornice, 301½ lin. feet of coping.
Iron	\$ 167.85	4,536 lbs of cast-iron window and door frames.
Lumber Carpenter Work	? \$ 502.91	Making 288 square light, 4,494 circular sash, 288 sash made and fitted; 6,281 feet of joists frame and put in, 6,281 feet of floor laid. 16 griders frame and put in first & 2nd floors.
Iron Roof	\$ 151.24	Preparing and putting on 3,781 feet of sheet iron roof.
Copper Gutters & Spouts	\$ 51.00	200 feet gutters, 116 feet downspouts, 4 spout heads.
Painting	\$ 80.34 42.00 \$ 122.34	for painting 3,781 feet of iron roof. for painting 1,200 light sash.
Total Cost:	\$ 4,225.13	-(probable total cost- \$ 6,438.00).

3. The Smiths or Forging Shop , 1845-48

a. North(or west) Wing and Center, 1845-1846

This is Building No. 17 on Map No.6 (1848) and Bldg. No. 13A-North wing and 13B, Center, on the 1859 Historical Base Map. This gigantic shop, about 280 feet long and 35½ feet wide, was the largest single building to be erected at the Harper's Ferry Armory and it was to be constructed in two stages: the North(or west) wing and center in 1845-46 and the South(or east) wing(Bldg. 13C on the 1859 base map) in 1847-48.

In his November 30, 1844 estimates, Major John Symington had submitted a item: "Estimate in detail for reconstructing Smiths' forges" and "Plan No. 1" requiring a total of \$ 13,500.00 for this project. This construction, he estimated would require the following labor and materials:

2,452 ^{Cubic} yards excavation of earth for foundation walls of building, at 18 c-	\$ 441.36
195 yards excavation of earth for foundation of forge fires, at 8 cents	35.10
1,761 perches masonry for foundation walls of building, laid in cement, at \$2-	3,522.00
300 perches masonry for foundation walls of forge fires, at \$ 2.....	\$ 600.00
718 feet of cut stone water table, at 60 cents.....	430.80
762 feet of cut-stone cornice, at 60 cents.....	\$ 457.20
360 feet of cut stone window caps, at 60 cents.....	216.00
175,000 hard bricks, laid in mortar, one-third cement, at \$ 10.50 per M.	1,837.50
88,00 feet of lumber, at 1½ cent.....	1,320.00
1,200 lbs. nails, at 4½ cents.....	51.00
900 feet of window glass, at 8 cents.....	72.00
12,050 feet of tinued sheet iron roof, at 10 cents.....	1,205.60
548 feet of copper gutter, at 70 cents.....	383.60
112 feet of copper spouting, at \$ 1.05.....	117.60
Lock, hinges, screws, &c. 28 sheet-iron hoods, pipes, and water-troughs for forges.....	550.00
Oil and paint.....	115.00
Carpenter's work.....	1,632.00
Painting and glazing.....	125.00
Transportation of materials, and contingencies.....	388.24
	<u>\$ 13,500.00</u>

On March 2, 1847, Congress appropriated an additional \$ 4,500.00.² "for finishing the south wing of the smiths shop." The estimate for 1847-48 requesting this sum, explained "Until this wing is finished, with its fan-blast to drive the forge fires, one of the old [Smiths] shops must be occupied, which is subject to

1. Serial No. 464, Document No. 43, p.13.

2. U.S. Statues at Large, IX, p.151.

" inundation at high water, and the additional expense of working the forges
by hand bellows."

In order to construct the north(or west) wing and center of the new Forging shop, two old smiths shops, both built in 1808-09, Bldg. No. 7, 80 by 30 feet, and Bldg. 8, 120 by 30 feet on Map No. 1(1844) had to be demolished to clear the site. Bldg. No. 9, the 130 by 30^{feet} Forging Shop, also built in 1808-09, on Map No. 1 would also have to be torn down later to clear the ground for the construction of the south or east wing. The old forging shops No. 7 and 8 on Map No. 1 were apparently demolished during the 3rd quarter (July-September) of 1845, for the bills for saving the old bricks and slate from their roofs, as well as demolishing the structures have not been found and hence were probably paid in the vouchers of the 3rd Quarter of 1845, which are missing from the records of the National Archives. The probable cost of tearing down these two large brick structure, judging by the extant voucher for demolishing Bldg. No. 9, was approximately \$ 220.00

The stone mason Peter Little must have begun excavations for the foundations of the north wing and center of the new smiths shop in the period June to September 1845, for on November 7 of that year he was paid \$ 3,526.13
4
for completing the following construction:

for deep excavation and removing the gravel, stone, &c. from the rear and end, foundations, smiths shop, 877 17/27 cubic yards....	\$ 438.81
For excavation and removal of earth &c. from front and cross walls of smiths shop, 525 cubic yards.....	157.50
Rock face masonry in abutments of arches, 300 sup. feet at 50¢....	150.00
1,015 sup. feet of hammered rock.....	101.50
laying 144 feet cut stone in face of arches.....	86.50
1,281 19/28 perches of stone masonry laid in mortar 1/3 cement....	2,563.52
Hammered stone chimney stack(of center)base 48 1/2 feet at 40¢..	1940.
Pumping water from foundations, 122 days work at 87¢.....	106.75
Labor of mason 1 1/2 day-----	2.25
3. Serial No. 497, Document No.3, p. 141-142.	\$ 3,526.13
4. 3rd Series, F. 3122, V. 17, Nov.7, 1845, to Peter Little for	\$ 3,526.13

262623

The brick mason William Collins, must have begun his work in October and completed it in November, his two payments totalling \$ 1,480.09 for this construction were made in early November and early December.

In October Collins apparently completed the one-story north wing and in November ^{part of} the centre building and its great 90 foot tall chimney stack.

Collins provided the line, sand, labor and scaffolding for laying the brick as follows, for:

<u>North Wing</u>	<u>Centre and Stack</u>	<u>Total</u>
Brick: 86,624 for \$ 502.41	159,197 for \$ 923.34	245,821 brick for \$ 1,425.75
Cut 279 2/12 ft- \$ 44.00	88 8/12 feet 14.80	367 10/12 ft for 58.80
Stone -cornice & coping.	for cornice	
	Charges	Deduct \$ 4.50 - 4.50
		Total, 1845 \$ 1,480.09

Some of the materials to be used in the construction of the shop must have been purchased during the 3rd quarter of 1845 and these vouchers, as has been mentioned, are missing. During the 4th quarter of 1845 the armory purchased a total of 112,000 hard bricks and 8,000 fire bricks from John Lambaugh and Thomas J. Lee for \$ 891.50. About 136,000 additional hard bricks and also the cast-iron door and window frames must have been been acquired during the 3rd quarter.

On November 22, 1845, Redmond Burke was ^{paid} \$ 122.66 for providing 245 4/12 sup. feet of cut stone, which included stone steps.

In December, 3,649 feet of white pine planking was purchased for \$ 100.34. and 66 half boxes of 9 by 10 exterior glass for \$ 366.75 and 12 half boxes

5. 3rd S., File 3122, V. 18, Nov. 8, 1845, for \$ 547.07 and F. 3122, V. 35, December 4, 1845, for \$ 933.02.
6. 3rd S. 3122, Vo. To John Lambaugh, Nov. 8, 1845- \$ 542.00= for 66,000 hard brick at \$ 462.00 and 8,000 fire brick at \$ 80.00; F. 3122, V. 49, Dec. 18, 1845 to John Lambaugh, \$ 143.50 for 20,000 hard brick. F. 3122, V. 48, To Thomas J. Lee, December 12, 1845, \$ 208.00 for 20,000 brick delivered.
7. 3rd S., 3122, V. 27, Nov. 22, 1845, for \$ 122.66 .
8. 3rd S., F 3122, V. 50, to John Gibson, Dec. 18, 1845, for \$ 100.34.

of 10 by 12 inch and 8 by 10 glass for \$ 60.90, total: \$ 427.65.

More than \$ 6,768.37 was expended on the construction of the north wing and center of the forging shop in 1845.

Work was resumed on the structure in April 1846. 169,340 more brick
1,506.07 165,340 \$ 1,498.57
were purchased for \$/ This included hard brick for and
10
3,500 "salmon and arch bricks" for \$ 17.50. 160 barrels of hydraulic cement
11
were acquired for \$ 240.00. Working at his foundry on Virginus Island, Hugh

Gilleece received \$ 167.85 for casting forges for the new smith shop and
12
also a cap for its chimney stack. In April 1846 the carpenter Jesse Schofield
was paid \$ 192.15 for making 2,562 square light sash for use in the windows of
the new shop. In May the brick mason William Collins completed his work
on the center of the smiths shop and was paid \$ 834.84 for accomplishing the
following work/

In the chimney stack above the 40 foot level, to the top, laying
46,052 bricks at \$ 10 per M..... \$ 460.52
for brick work in the residue of the chimney stack above the
square of the building (center), horizontal flues, forges, and
gables of the centre building: ... 55,767 bricks at \$ 5.80
per M..... 323.44
for setting 243 feet cut stone coping, blocking & iron plate
for cornice in the top of the chimney stack at 16 cents per ft.. 38.88
For 4 days work of bricklayers & tender at \$ 3 per day..... 12.00
while washing chimney stack with cement wash.....
\$ 834.84

From January to June 30, 1846 an additional \$ 2,940.91 was spent on the
construction of the building and the total stood at approximately: \$ 9,709.28

In his annual report for the fiscal year ending June 30, 1846, Major John
Symington rendered a progress report on the construction of the north wing

9. 3rd S., F.3122, V.45, to H.J. and C.J. Baden, Dec.17,1845, for \$ 427.65.
10. 3rd S. F. 3858, V.7, to William Collins, April 10,1846 for \$ 526.50 for
54,000 hard bricks delivered; F.3858, V. 13, to Daniel Pine, April 18,1846 for
\$ 368.80 for 46,840 hard bricks at \$ 351.50 and 3,500 salmon & arch brick, \$ 1750.
for \$ 17.50. F.3858, V.26, to William Collins, May 6,1846, for \$ 628.87 for
64.50 hard bricks.
11. 3rd S., F. 3858, V. 35, to George Shafer, May 19,1846, for \$ 240.00.
12. 3rd Series, 3858, V. 43, May 4,1846, for \$ 167.85.

"Forging shop(north wing) of brick, on stone foundation, one story, 122 by 35½ feet, with cut-stone water table, sills, cornice, and coping; cast-iron door and window frames; sheet iron roof. Through the centre of this wing, there is a line of double forges for burning anthracite coal, under which are two horizontal flues leading to the main chimney stack. The centre building, for inspectors' offices and model and pattern rooms, is of brick, on stone foundations, two stories, 46 by 37 feet, with cut stone water table, sills, cornice, and coping; sheet iron roof; door and window frames of cast-iron. In the middle of the back (east or north) wall of this centre building is the main chimney stack, 90 feet high, 10 feet square at base and 6 feet at top; it is built upon a massive stone arch thrown across a tail race leading from one of the water wheels and waste dam of the canal. The other (South or east) wing of this structure has yet to be erected."

manufactured
Also 1 at the armory for use in the new smiths shop in 1845-46, were " 1 turbine reaction water-wheel, with penstock and cast-iron gates, shafting and bevel gearing for driving the fan-blast, for smiths' forges, and grindstones" and "1 fan-blast for smiths' forges, with 35½ feet of shafting, in position, ready for use."

The roof, gutters, down spouts, windows, and other work remained to be completed before the north wing and center were finally finished in 1846. In September William Volkman was paid \$ 259.14 for preparing and putting on 1,491 square feet of sheet iron roof on the center and north wing.

13. Serial No. 493, Document 1, p. 164.

14. Serial No. 493, Doc. 1, p. 163.

15. 3rd S. F. 4403, V. 34, Sept. 14, 1846, for \$ 259.14.

The tinsmith^(made) and put up 328 $\frac{1}{2}$ feet of copper gutter for \$ 49.27, 95 feet of spouting for \$ 9.50, and two head spouts for \$ 5.00, total \$ 63.77; also 14 feet of copper pipe for \$ 5.25.

The brick mason William Collins received \$ 49.53 for making final adjustments, which included \$ 48.53 for laying 242 $\frac{8}{12}$ feet of cut-stone window sills and \$ 1.00 for $\frac{1}{2}$ days service of mason in walling up air flue of new smiths' shop to seal it again.

In October, 1,440 lbs. of cast iron window frames and "pull plates" were purchased for \$ 50.40. The carpenter Jesse Schofield was paid \$ 16.00 for fitting new light sash at the smiths' shop. William H. Bowin (or Bowen) received \$ 164.75 for plastering 159 square yards of the ceiling in the new shop in November. The painters were also at work in November: \$ 135.44 went to Robert H. Wilson for painting 6,374 square feet of the sheet iron roof of the forging shop, while John P. Kennedy received \$ 50.25 for glazing 2,010 new light sash for this shop.

In December 1846 Little next received \$ 43.88 for finding and laying 24 stones under each set of anvil blocks for \$ 36.00; \$ 7.58 for 15 $\frac{2}{12}$ feet of cut stone for chimney base, and 30 cents for setting 3 lin.

- 19. 3rd S., F. 4837, V. 37, Dec. 15, 1846, for \$ 16.00.
- 20. 3rd S., F. 4837, V. 25, Nov. 28, 1846, for \$ 164.75.
- 21. 3rd S., F. 32, Dec. 8, 1846, for \$ 135.44.
- 22. 3rd Series, F. 4837, V. 35, Dec. 14, 1846, for \$ 50.25.
- 23. 3rd S. 4403, V. 28, Sept. 8, 1846, for \$ 1,093.21.

- 16. 3rd S., 4403, V. 32, Sept. 8, 1846, for \$ 63.77; F. 4837, V. 83, Jan. 19, 1847, for \$ 5.25, both to Dennis Snook.
- 17. 3rd S., F. 4403, V. 35, Sept. 14, 1846, for \$ 48.53; and F. 4837, V. 26, Nov. 30, 1846, for \$ 1.00.
- 18. 3rd S., F. 4837, V. 2, to Ross Winans, Oct. 10, 1846, for \$ 50.40.

24

feet of cut stone^X. This completed the work on the building in 1846. Expenditures during 1846 amounted to approximately \$ 3,763.32 and a total from 1845 to date of \$ 10,531.69 .

1847

Approximately \$ 132.45 was expended in the spring of to complete the north(or west) wing and center, thus bringing the total cost of construction to about \$ 10,664.14 . William H. Bowin(or Bowen) was paid \$ 34.00 for plastering an additional 136 square yards in the new smiths shop and \$ 98.45 was spent to purchase 1,405 feet of sheet "for the floor of the smiths shop under the forges."

Construction of the South or East Wing of the Forging Shop, 1847-48:

Construction of the South or east wing of the smiths shop got underway in March 1847. The stonemason Peter Little demolished the old smiths shop, Bldg. No. 9 on Map No. 1(1844), which measured 130 by 30 feet and dated from 1808-09, and received a total of \$ 1,079.87 on April 10,1847 for this and the construction on the foundation of the new shop. Little performed the following work:

Labor for taking off slate roof and removing old brick smiths shop -----	\$ 110.00
For excavating and removing 475 23/27 cubic yards of earth, gravel and stones for foundation east(or south) wing @ 50 cents.....	237.92
For excavating and removing 10 25/27 cubic yards of earth for forge foundation.....	3.27
For erecting 319 16/25perches of mortar masonry of foundation of heavy stone @ \$ 2 per perche-----	639.28
For 600 sup.feet of foundation wall, face hammered.....	60.00
For setting 294 lin. feet of cut stone water Table-----	29.40
	\$ 1,079.87(27)

On April 10,1847 the brick mason and maker, William Collins, was also making and paid \$ 292.50 for delivering 30,000 hard brick for use in the south wing.

- 24. 3rd S., F.4837, V.40, Dec.16,1846, for \$ 43.88.
- 25.3rd S., F, 5623, V. 21, May 13,1847, for \$ 34.00.
- 26.3rd S., F. 4967, V.67, To Jacob Albertm April 24,1847, for \$ 98.45.
- 27.3rd S., F. 5623, V. 48, April 10,1847, for \$ 1,079.87.
- 28. 3rd S. F. 5623, V. 1, April 10,1847, for # \$ 292.50.

In his annual report for the fiscal year ending June 30, 1847, Major John Symington described this construction as follows:

"At the ^{Musket} Factory... The stone foundation, up to the water table of smiths' shop 121 by 35 feet, with the arched horizontal flues for forges, completed." ²⁹ Total cost (recorded) of Construction on the great shop, 1846 to June 30, 1847 was approximately \$ 12,036.51.

The Paymaster's vouchers for the 3rd and 4th quarters of 1847 and all four quarters of 1848 are missing from the National Archives Record Group 217, so that the details of the construction of the south or east wing of the forging shop cannot be narrated. The same workmen who constructed the north and center of the structure, however, undoubtedly also built the south or east wing. Probably a total of about 100,000 hard bricks went into its one-story high walls. Total cost of construction of the two wings and center was approximately \$ 18,000.00.

During the year ending June 30, 1847, the superintendent also reported that 283 feet of 12 and 8-inch cast-iron air pipe, 750 feet of 4 and 3 inch cast iron water pipe, and 522 feet of lead pipe, jointed and laid, for conveying blast to forges and water through the armory yard, and to different shops, had been made and put into operation. ³⁰ Much of this was probably for use in the new forging shop.

On June 30, 1848, Major Symington recorded the completion of the Forging shop, writing: " Musket Factory: The south wing of new smith's shop, 121 by 35½ feet, one story brick, with cut-stone water table and cornice, cast iron door and window frames, and sheet iron roof, has been completed and is now occupied. The foundation for this shop was prepared during the previous year." ³¹

29. Serial No. 503, Document No. 1, p. 692.

30. Serial No. 503, Document No. 1, p. 691.

31. Serial No. 537, Document No. 1, p. 348.

104

Among the machinery made during the fiscal year end^{ing} June 30, 1848, the superintendent reported that "10 forge fires (were) completed, in new south wing of smith's shop, with cast iron hearths, coal, and water troughs." Also made were" 88 feet main branch cast iron air pipe, 8-inch bore; 30 feet main branch cast iron air pipe, 3-inch bore, with cast iron valve boxes and air chests. 262 feet lead pipe, for water, adapted to the ten; new forges first mentioned."

Repairs and Improvements to the Forging Shop, 1849 - 1851

In 1849 a total of \$ 328.48 was spent to make repairs and improvements to the new forging shop. Of this sum, \$ 153.92 went to purchase 2,368 lbs of sheet iron for floor of the new smiths shop; \$ 44.75 to color the exterior brick walls of the building with cement wash; and \$ 4.81 to repair the copper gutters. The remaining balance of \$ 125.00 the masons was paid to William Collins and Peter Little (the latter dying during 1849), for making repairs to forges and stones for the anvil blocks.

1850
In a total of \$ 124.28 was spent on the forging shop. Of this sum \$ 109.75 went to the mason William Collins for repairs to the forges (Collins died in 1850) and \$ 14.53 to the tinsmiths Dennis Snook and Alexander S. Vernon, who repaired and put up 121 feet of copper gutter and put on 242 feet of sheet iron roof.

36. 3rd S., F. 9093, V.23, To William Collins, 2/23/49, for 75 cents; F. 9307, V. 36, To Edward Tearney, partner and executor of the estate of the late Peter Little, June 11, 1849, for \$ 9.00; To Wm. Collins, F. F.9037, V.35, 6/9/49, for \$ 24.50; F. 9895, to W. Collins, V.23, 8/31/49, for \$ 9.00; F.10276, V. 8, to W. Collins, 10/26/49, for \$ 9.50; and F. 10276, V.33, to William Collins, 11.29.49, for \$ 75.25.
37. 3rd S. F.11000, V.52, to William Collins, 6/26/50, for \$ 4.00. F/11000, V.24, to W. Collins, 6/26/50, for \$ 97.00; F. 12169. V. 4, to executor of Wm. Collins estate, 10/24/50 for \$ 7.75; F.1219, V. 20, to estate, 11/26/50, for \$ 1.00.

32. Serial No. 537, Document No.1, p.346.
33. 3rd S., F. 9093, V. 7, To Albert & Bro., April 1849, for \$ 153.92.
34. 3rd S., F. 10276, V. 16, To Francis Trimous, Nov.3, 1849, for \$ 44.75.
35. 3rd S., F 9093, V. 7, To Henry V. Edwards, Jan. 27, 1849, for \$ 4.81.
38. F. 12169, V.28, to Alexander S. Vernon, Dec. 3, 1850 for \$ 8.47-work on sheet iron roof and gutters; F. 12169, V.77, to Dennis Snook, 11/20/50, for % 6.06.

105

In 1851 the sum of \$ 327.39 was expended making repairs to the Forging shop. This included \$ 79.20 for 1,780 lbs of sheet iron for flooring ; \$ 80.00 for the painting and pointing of the 90 foot high chimney stack with three coats of paint; \$ 87.45 for putting lightning rods- 8 points and 4 leads to the ground, the shop; and \$ 80.74 to Dennis Snook for taking off, altering, and putting up 367 feet of copper gutter.

Summary Data on Construction of South Wing, 1847-48 ★

Construction	Cost	Description of Work
Demolition	\$ 110.00	for demolishing old smiths shop, saving slate, brick.
Excavation for Foundation:	241.19	for excavating 486 21/27 cubic yards of earth, gravel and stone
Basement masonry walls	639.28	for erecting 319 16/25 perches of mortar masonry of heavy stone.
Hammered stone	60.00	for 600 sup. feet of face hammered foundation wall.
Cut stone	29.40	for laying 294 lin. feet of cut stone water table.
Total:	\$ 1,079.87	paid to stone mason Peter Little for foundation work.

★ Paymaster vouchers detailing other construction, July 1, 1847 to Dec. 31, 1848 are missing.

- 39. 3rd S., F. 12680, V. 35, to Robert & Magraw, June 27, 1851, for \$ 79.20.
- 40. F. 12680, V. 69, to Decker & Robinson, July 3, 1851, for \$ 80.00.
- 41. F. 12680, V. 69, to Decker & Robinson, July 3, 1851, for \$ 87.45.
- 42. F. 12680, V. 72, to Dennis Snook, July 3, 1851, for \$ 80.74.

CONSTRUCTION OF THE NORTH(WEST) AND CENTER BUILDING, FORGING SHOP,
MUSKET FACTORY, 1845-1847

106

Construction	Cost	Description of Work
Excavation for Foundations:	\$ 438.81 157.50 \$ 596.31	877 17/27 cubic yards of earth, gravel, stone. 525 cubic yards of earth, rock gravel. 1,402 17/27 cubic yards of excavation.
Basement masonry walls.	150.00 101.50 86.50 2,563.52 19.40 109.00 \$ 3,029.92	for 300 sup. feet rock faced masonry in abutment arches. for 1,015 sup. feet hammered rock. for 144 feet cut stone laid in face of arches. for 1,281 19/28 perches of stone masonry in mortar one-third cement. Foundation walls. for 48½ feet hammered stone in chimney stack. Other labor costs (minus \$ 100.21 for charges from total)
Anvil Blocks 1st story	36.00 7.58 .30 \$ 43.99	for laying 24 stones under anvil blocks. for cut stone, chimney base. for laying 3 lin. feet of cut stone.
Subtotal paid	\$ 3,570.01	to stone mason Peter Little
Brick work	2,712.02 13.00 107.06 2,832.08	for laying 347,640 bricks. for other laborer. for setting 610½ feet of cut stone. paid to brick mason William Collins.
Tearing down old buildings	220.00	Estimated cost of tearing down two old smiths shops, saving bricks and slate.
Brick	2,397.57	For making and delivering 289,340 hard bricks.
Cut stone	122.66	For cutting and delivering 245 4/12 feet of cut stone.
Cement	240.00	for 160 barrels of hydraulic cement.
Lumber	100.34	for 3,649 feet white pine planking.
Carpenter work	208.15	for making 2,562 square light sash and fitting some
window glass	427.65	for 78 half-boxes of panes for windows.
Iron Roof	259.14	for preparing and putting on 1,491 square feet of sheet iron roof.
Iron widows frames	50.40 167.85	for 1,440 lbs cast iron widdow frames, etc. for 4,536½ lbs cost iron window and door frames.
Iron flooring	98.45	for 1,405 for sheet iron flooring.
Plastering	198.75	for plastering 295 square yards of ceiling.
Painting:	135.44 50.25 185.69	for painting 6,374 square feet of sheet iron roof. for glazinf and painting 2,010 light sash.
Copper gutters	69.02	for 328½ feet copper gutters, 95 feet down spouts, and 14 feet of copper pipe.
Total	\$ 11,147.76	Total cost of construction, \$ 18,000, 1845-48.

107

4) Coal Bins Under the Baltimore and Ohio Railroad Tracks: 1846-1851:

In November 30, 1844, submission of estimates for proposed construction, Superintendent John Symington had included an Plan (No. 2) and "Estimate in detail for coal houses or bins (see plan No. 2)" in the amount of \$ 1,300.00.¹

On examination of this document reveals that it was proposed to erect a stone and brick structure, with a wooden roof. The superintendent did not build a coal house of this description, apparently because he devised what he considered to be a better plan. Thus in his annual report for the year ending June 30, 1846, under the heading of construction at the Musket Factory, Symington recorded: "Coal bins and storerooms for heavy stores:

Seventeen compartments, each 17 by 15 feet, have been constructed under the trestle work of the Baltimore and Ohio railroad, for storing anthracite and bituminous coal, and other heavy stores. The floors are of two-inch oak plank, and strong oak joist on heavy heavy oak sleepers; these rest upon stone piers...

He further reported: " 2,300 cubic yards of filling (have been made) under the trestle work of the Baltimore and Ohio Railroad, to make depositories for heavy articles- such as castings, grindstones, old iron, &c...." 2
This work was probably done during the 3rd quarter of 1845. (2A)

The stone mason Peter Little was engaged in constructing more coal bins of this type during the fall of 1846, receiving a total of \$ 223.64 for building 45 20/25 perches of dry wall and 95 22/25 perches of mortar stone wall under the railroad tracks. ³ These 15 compartments formed a line 289 feet long and 15 feet wide.
fiscal year

The estimates for the 1847-48 requested and received, March 2, 1847, an appropriation of \$ 1,800.00 "for converting into store rooms the space under the tressel-work of the railroad," explaining that "This space may be advantageously converted into good storage places for coal, castings, grindstones, and other heavy articles, which are now exposed, and encumber the grounds around the shops."⁴
On July 2, 1847, Peter Little was thus paid \$ 168.72 "for erecting 112 12/25 perches

2A. The vouchers for the 3rd quarter of 1845, in file 2841, are missing from the National Archives records so that no details on the cost of this construction are available.

1. Serial No. 464, Document No. 43, p. 13.

2. Serial No. 493, Document No. 1, p. 164.

3. 3rd Series, F. 4837, Sept. 8, 1846, for \$ 109.05; and F. 4837, V. 40, Dec, 16, 1846, for \$ 113.59.

4. Serial No. 497, Document No. 3, p. 142. U.S. Statutes at Large, IX, p. 151 for appropriation on March 1, 1847.

F4403

of dry masonry for storehouse, etc. under railroad tracks."⁵

The Paymasters vouchers for the 3rd and 4th quarters of 1847 and all four quarters of 1848 are missing, so that it is impossible to trace the construction of additional coal bins in detail during this period.

In the spring of 1849, Edward Tearney, partner of the lately deceased mason Peter Little, was paid \$ 51.85 for constructing coal bins under the tracks. This work included ³ ~~12~~²⁵ perches of stone masonry and ⁶ ~~perches~~^{perches} of dry wall. In the annual report for year end June 30, 1849, Major Symington reported: "A store ^{Room} 15 by 45 feet has been constructed under the B. & O. railroad, for depo⁷site of scrap iron, steel, &c."

On December 10, 1849, Edward Tearney was paid \$ 221.44 for building 80 24/25 perches of dry wall and making 400 cubic yards of embankment for coal bins under the railroad tracks at the Musket Factory., thus bringing the total expenditures for construction of coal bins to \$ 272.29 during 1849.

On June 30, 1850, Superintendent Symington reported additional work, writing: "A number of permanent places of ⁹ deposite for coal and other heavy articles, not liable to injury from weather, have been made under the superstructure of the Baltimore and Ohio railroad, by filling up with quarry rubble and flooring with rough boards." In the estimates for the fiscal year 1850-51, the sum of \$ 880.00 was requested for filling up low grounds, and grading around the buildings at the musket and rifle factories, and for ¹⁰ filling under the Baltimore and Ohio Railroad to make a depository for coal. ¹¹ The money requested was appropriated on September 28, 1850.

8 8. 3rd Series, F. 10276, V. 36, for \$ 221.44

- 5. 3rd S., F. 5623, V. 48, July 2, 1847, for \$ 68.72.
- 6. 3rd S. F. 9307, V. 22, May 19, 1849 to Edward Teanry as executor of Peter Little deceased, for \$ 20.22; and F. 9307, V. 36, June 11, 1849, for \$ 31.63 to Tearney.
- 7. Serial No. 549, Document No. 1, p. 366.
- 9. Serial No. 587, Document 1, p. 476.
- 10. Serial No. 568, Document No. 4, p. 157, 157.
- 11. U.S. Statues at Large, IX, p. 507.

Tearney went back to work constructing additional coal bins and on December 20, 1850 was paid \$ 401. 87 for this work which involved constructing 88 3/4 perches of stone masonry rubble for \$ 133.12 and \$ 268.75¹² for making 1,075 cubic yards of fill with earth and spalls.

Symington described this construction in his annual report of June 30, 1851 as additional bins made "by filling up with quarry rubble, covered with¹³ a rough floor of old plank."

During the fall of 1851, Edward Tearney was paid a total of \$ 245.20 for constructing more coal bins under the B. and O. railroad tracks at the Musket Factory For ~~th~~^{is} sum he built 38 10/25 perches of heavy dry wall, erected 7 5/25 perches of mortar masonry, and filled in the space under the track with 700 cubic yards, enough for ~~Five~~¹⁴bins. In his annual report for the fiscal year ending June 30, 1852, Col. Benjamin~~X~~ Huger reported of this work: " The open space under the trestle-work of the Baltimore and Ohio railroad, 13 feet deep, by 17, feet, has been filled in with rubbish and earth, for eight coal-bins, or places of deposite for other heavy materials."¹⁵

These eight coal bins, probably 15 feet wide, 13 feet deep, and 17 feet long, formed a line under the tracks that was 136 feet long.

11. 3rd Series, F, 12169, V. 43, Dec. 20, 1850, for \$ 401.87.
13. Serial No. 611, Document No. p. 459.
14. 3rd S. F., 12680, V. 54, Sept. 30, 1851, for \$ 210.20, for 4 bins; also F. 13107, V. 41, Dec. 124, 1851, for \$ 35.00 for filling up space under railroad, quantity not given.
15. Serial No. 659, Document No. 1, p. 254, item no. 8.

National Archives Record Group No. 217- Records of the United States General Accounting Office,
Washington, D.C. Records of Second Auditor: Records and Accounts from the Paymaster of the
U.S. Armory at Harper's Ferry, Virginia, relating to expenditures for Permanent Improvements:

Construction of Coal Bins at the Musket Factory

YEAR	Cost	Perches Mortar Wall	Perches Dry Wall	Cubic yards embankment	No. of compartment built	Size in feet			
1842	-	-			0				
1843	-				0				
1844	-				0				
(1) 1845	?	?	?	2,300	17	17 by 15	Vouchers missing for	3rd quarter	
1846	\$ 223.64	95 20/25	45 20/25						
(2) 1847	168.72	-	112 1/25	0	1(?)	store- house	vouchers missing for	3 & 4th quarters	
(3) 1848	?				0		vouchers missing for all 4 quarters		
1849	272.20	3 11/25	110 24/25	400		store room coal bins	-15 by 45		
1850	401.87		88 3/4	1,075	?				
1851	245.20	7 5/25	38 10/25	850	5				
TOTAL:	\$ 1,311.72	176 11/25	395 23/25	4,625	24 + ?				

- (1) Vouchers for the 3rd quarter of 1845 are missing.
 (2) Vouchers for the 3rd and 4th quarters of 1847 are missing.
 (3). Vouchers for all four quarters of 1848 are missing.

111

5. Remodelled Building for Offices., 1847-48:

This is Building No. 1 on Map No.1(1844), Bldg. No. 1 on Map No.5(1848) and Building No. 2 on the 1859 Historical Base Map. This two-story brick residence had been erected by Superintendent James Stubblefield in 1808-09 and served as the Armory Superintendent's dwelling from 1808 to 1844. It was repaired^{ed} and then served from November 1844 to 1847 as the residence of Richard Parker, the Armory Paymaster.

As built in 1808-09, the structure was a two-story brick residence with a cellar kitchen and dimensions of 36 by 30 feet. In 1828-29, a large brick addition, probably a kitchen wing, was made to the south(or east) end of the original house and the interior of the main house was extensively remodelled. The gable roofs of house and wing were also slated. Dimensions of the residence after the 1829 enlargement appear to have been approximately 100 by 30 feet.

In the estimate for the 1846- 1847 fiscal year Major John Symington requested the sum of \$ 850 for "altering old quarters in offices," explaining: "The situation of the house formerly occupied by the superintendent(Bldg. No.1) renders it unsuitable for a dwelling, and its vicinity to the (Musket Factory) shops fits it well for armory offices, which are wanted..." "The present offices", he continued, "are widely separated, and distant from the shops." The Superintendent's Old Office was located at the northeast corner of Arsenal Square and the Paymaster's Old Office at the northwest corner of that same square. The Master Armorer's Office was then located in Bldg. No. 4 on Map No. 1(1844). Symington's estimate also included a request for \$ 15,000 to build new dwellings¹ for the superintendent and paymaster which were to be located on Camp Hill.

The sums requested for these projects was appropriated by Congress² on August 8, 1846. Work on remodelling the old residence got underway

1. Serial No. 481, Document No. 9, p. 111-112.
2. U.S. Statues at Large, IX, p.69.

112

during the 3rd or 4th quarters of 1847 and was largely completed by June 30, 1848. Because the paymaster's vouchers for the 3rd and 4th quarters of 1847 and all four quarters of 1848 are missing from the National Archives records, details of the work, including costs and names of the workmen, are unknown. Superintendent Symington, in his report for the year ending June 30, 1848, proudly described this improvement as follows:

"The old quarters inside the armory yard have been suitably arranged for offices for the commanding officer, the paymaster, and storekeeper, and the master armorer, by considerable alteration and repairs necessary to fit it for above named purpose. The kitchen connected with this building has been converted into a money vault, perfectly secure, with walls of heavy masonry 3 to 3½ feet thick, covered with flag-stones of very great size and weight." ³ The cost of these alterations were probably about \$ 850.00 . During 1849 a total of \$ 46.50 was spent as follows on the new Office building:

\$ 24.00 for making new porch(wooden) to front of offices and for putting up hand rail & banister, stairs of storehouse (Probably Bldg. 4 on Map No. □). 4
4.50 for repairing fireplaces and resetting three coal grates in Armory Offices. 5
18.00 For making doors, floors, and ceiling of privies for the Armory Offices. (6)
\$ 65.81

In 1851 \$ 8 was spent on the Office Building: \$ 25.50 was paid to Decker and Robinson on July 3, 1851 for installing lighting rods- two points and two leads to the ground- on the Office building. The stone mason Edward Tearney received \$ 16.93 on June 24, 1851 "for building new file room- which was connected either with the office or a work shop. Office", This construction required the excavation of 4 21/27 cubic yards of earth and the erection of 10 1/3 perches of stone mortar masonry wall. The tinsmith Dennis Snook was paid \$ 23.38 on May 19, 1851 for putting on 531 square feet tin roof on "new file room" and for making 50 feet tin gutter and 12 feet tin spouting. ⁸

3. Serial No. 537, Document No. 1, p. 348/. ^{g. 9}
4. 3rd Series, F. 9307, V. 77, to carpenter William Rowe, July 9, 1849, \$ 24.00.
5. 3 S., F. 9895, V. 23, to brick mason William Collins, Aug. 31, 1849, \$ 4.50.
6. 3rd S., F. 10276, V. 46, To carpenter Patrick H. Kelly, Dec. 27, 1849, \$ 18.00.
7. 3rd S., F. 12680, F. 69, July 3, 1851, for \$ 25 50/4
8. 3rd S., F. 12680, V. 33, for \$ 16.93. The wall cost \$ 15.50 and excavation, \$ 1.43.
9. 3rd S., F. 12680, V. 5, for \$ 23.38- Tin roof cost \$ 15.93, 50 feet of tin gutters, \$ 6.25, and 12 feet of down spouting, \$ 1.20.

The latter work was apparently described in Major Symington's report for the year ending June 30, 1851, as follows:

"A new store-room for files, 11 by 30 feet, of brick on stone foundation, has been built in connexion with suitable compartments for the ¹⁰ different varieties of files. The building is covered with sheet tin."

114

6. Engine and Guard House, 1847-48: Park Bldg. No. 63):

This is building No. 19 on Map No. 5(1848) and Bldg. No. 1 on the 1859 historical base map. In his estimates submitted on November 30, 1844 Major John Symington had requested \$ 720.00 to construct a brick engine house to house the fire engine at the musket factory . His "Estimate in detail for engine house-(See plan No.3)" was based on the following calculations:

147 yards of excavation, at 18 cents.....	\$ 26.46
67 perches masonry laid with cement, at \$ 2.....	134.00
26,000 hard bricks laid, at \$ 10 per M.....	260.00
160 feet of cut-stone water-table and cornice, at 60¢	96.00
2,000 feet of lumber, at 1½ cents.....	30.00
100 lbs. iron for hanging doors, at 12½ cents.....	12.50
600 feet of slating, at 10 cents.....	60.00
36 day carpenter's work, at \$ 1.50.....	54.00
8 days painting, at \$ 1.45.....	11.60
50 lbs. nails, at 4½ cents.....	2.12
480 feet of paving, at 6 cents.....	28.80
Oil and paint.....	4.52
	<u>\$ 720.00 (1)</u>

In his estimates for the 1847-48 fiscal year, however, Symington requested an appropriation of \$ 1,540.00"for constructing a house for the fire-engine, and the accommodation of the night watch." The structure was needed, he explained, because "The fire- engine and appartatus are now badly sheltered in a wooden shed, out of position. This item is for the erection of a neat brick building for the engine and apparatus, to be used also as a watch house." The requested amount was appropriated by Congress on March 2, 1847.

It seems possible that in preparing his second estimate, Symington may have simply doubled his 1844 estimate, which was for a smaller brick structure without the guard room included.

The work of constructing the engine and guard house got underway during the 3rd or 4th quarter of 1847 and was completed by June 1848. In his

1. Serial No. 464, Document No. 43, p. 14.
2. Serial No. 497, Document No. 3, p. 142, item No.6.
3. U.S. Statues at Large, IX, p. 151.

annual report for the year ending June 30, 1848, Superintendent Symington wrote: " A engine⁴ and guard house, 35½ by 24 feet, one-story brick, covered with slate, and having copper gutters and down spouts, has been constructed, and is now occupied." Because the paymaster's vouchers are missing from the National Archives records for the 3rd and 4th quarters of 1847 and all four quarters of 1848, it is not possible to provide specific data on the costs of construction erecting. and amount of material used in the engine and guard house . Total cost was probably about \$ 1,540.00. The following workmen also probably built the structure: excavation for and construction of stone foundation: the mason Peter Little; brick work by the mason William Collins; slating by William Bayley, and cop^per gutters and downspouts by Dennis Snook.

The building was designed to house two fire engines and one-third of the structure served as a^a room for the night watchmen. The architecture of the engine and guard house matched that of the other new building being erected by Symington. The structure fronted three bays^{wide} on the musket factory yard and was two bays deep. Each bay was comprised of a recessed panel that was set within a relieving round arch that was supported by a capped pilaster^s. Bays on the (left) south gable end and also on the west(rear) elevation had solid brick walls set within each arch to the height of the capped pilaster, the space above this, to the top of the round arch, was enclosed by large semi-circular windows. Parapet^{ed} brick walls with turrets at the corners rose at either end above the gable roof. Each end wall contained a small^{centered} chimney, the service of for a iron^{coal} stove . In the center of the roof was a square wooden cupola which contained a bell that served as a fire alarm.

4. Serial No. 537, Document No.1, p. 348. Item 3 at the Musket Factory.

The center and left bay on the front (east or north) elevation each contained wide double wooden doors above which were semicircular windows. These were the entrances for the two fire engines. The third, or right bay on the front elevation lead into the guard room section. This entrance was comprised of a single centered door that was flanked on either side by side lights, each containing 10 lights of 8 by 10 inch glass. The door and sidelights were topped by a wide semicircular window with fixed sash.

The engine room was separated from the guard room by means of an interior solid brick wall. The north (or west) gable end wall had two casement double windows, one in each bay, which opened inwards. Each window contained 12 panes of glass. The round arch area above each casement window was enclosed by a solid brick wall.

On February 21, 1849, the mason William Collins was paid \$ 8.46 for "setting 70½ feet brick cornice at new engine and guard house."

The extant paymaster's vouchers for the period 1849 to 1851 indicate that no further work was done on the structure during this period. The destruction of the Paymaster's vouchers for the years 1852 to 1861 by the National Archives staff in the 1940's makes it impossible to determine what work might have done to the structure during this period. However, the failure to mention the engine and guard house in the annual reports of the superintendent for the years 1849 to 1861 undoubtedly indicates that no major repairs or alterations were made to the engine and guard house prior to the Civil War.

5. W. Lewis Barlow, IV, "Historic Structure Report: John Brown's Fort, Architectural Data, Harpers Ferry National Historical Park, Maryland-W. Va." (Denver Service Center, Historic Preservation Division, National Park Service, Denver, Colorado, May 1976), for modern plans and details
6. 3rd Series, File 9093, V. 23, for \$ 8.46.

7. Stocking and Machine Shop, 1847-1850: Bldg No. 6.

117

The Stocking Shop (South wing) is Bldg. No. 4 on the Map. No. 5(1848) and was built on the site of the Old Storehouse, Bldg. No. 4 on Map No. 1(1844). The Stocking Shop is Bldg. No. 6A on the 1859 Historical Base Map. The Machine Shop or North wing, was built on the site of the old stocking shop, Bldg. No. 5 and Bldg. No. 5 and Map No. 1(1844). on Map No. 5(1848) The Machine shop is Bldg. No. 6B on the 1859 Historical Base Map.

In his estimates for the 1846-47 fiscal year, Major John Symington requested the sum of \$ 15,200.00 for " rebuilding stocking and machine shop at the musket factory." This replacement was necessary, the superintendent explained, because: "The buildings now used for stocking and machine shops (Bldgs. No. 5 and No. 8 on Map No. 5(1848)) were built upwards of thirty years ago, (when machinery was not used), slightly, like common dwelling houses, and of bad materials. They are now in a ruinous state, and require to be propped and stayed to prevent their falling. Besides, they are so low on the ground that the driving machinery and lower floors, in high freshets, are several feet under water, interrupting the operations and ruining the machinery." In addition, Symington also requested that \$ 3,700.00 be provided to manufacture the "line of working shafts, &c, in this shop at the musket factory." Congress appropriated the requested \$ 18,900.00 on August 8, 1846.

The new building, designed by Major Symington in the same architectural style as the other new workshops then under construction, was to consist of a center building with north and south wings.

During the period September 8, 1846 to December 31, 1846, there was spent a total of \$ 5,051.04. Of this sum \$ 4,602.06 was expended to purchase 3,586 feet of cut stone and 252,016 bricks, and \$ 448.98 for constructing a wheel pit.

1. Serial No. 481, Document No. 9, p. 111, items 3 and 4. In addition, another
2. U.S. Statues at Large, IX, p. 69. \$ 1,450.00 was provided to acquire "Governors to the water wheels", Item No. 14. It was explained "The means for regulating the water upon the wheels according to the work in hand, is essential to the proper working of the machinery."

The bricks and stone were not only intended for use on the proposed stocking and machine shop, but were also used on the new stock house and new forging or smiths shop that were being erected in 1846-47.

The materials were acquired as follows:

From Redmond Burke on September 8, 1846, 3,586 feet 10 inches of cut stone for \$ 2,217.60 consisting of:

1,519 4/12 superfical feet cut stone water table, for	\$ 759.00
720 lin. feet cut stone cornice, for-----	482.40
798 10/12 lin. feet cut stone window sills-----	535.21
250 lin feet, cut stone coping-----	295.00
290 8/12 sup. feet, cut stone door steps-----	145.33
3,586 10/12 feet	\$ 2,217.60 (3)

The bricks were purchased from the following people.

11,870 bricks from Richard John, Sept. 14, 1846 for.....	\$ 83.09 (4)
35,142 hard red bricks from Ellen Lynch, Sept. 21, 1846.....	281.13 (5)
4,536 brick(3,600 good red bricks for \$ 30.60, and 936 good arch and salmon bricks for \$ 45.08) from John F. Wall, Sept. 25, 1846 for.....	75.68 (6)
200,468 hard red bricks from William Collins on Sept. 22 and November 4, 1846 for.....	1,944.56 (7)
252,016 bricks	\$ 2,384.46

The \$ 448.98 for construction went to the stone mason Peter Little on December 16, 1846, for building what is believed to be the wheel pit and its foundation wall for the water wheel that was to turn the machinery in the new stocking house. If this theory is correct, then this construction was done at Bldg. 6B on the 1859 historical base map. Little performed the following work on this project in 1846:

For excavation and removal of 209 cubic yards.....	\$ 12.70
For building 139 18/25 perches mortar masonry.....	244.51
For 340 8/12 sup. feet rock facing wall.....	173.37
For 114 sup. feet dressed stone.....	18.40
	\$ 448.98 (8)

6. 3rd S. V. 4403, V. 46, to John F. Wall.
7. 3rd S., F. 4403, V. 39, to William Collins, Sept. 22, 1846, \$ 784.31 for 81,468 bricks; and F. 4837, V. 8, To W. Collins, Nov. 11, 1846, \$ 1,160.25 for 119,000 bricks.
- (8) 3rd S., F. 4837, V. 40, to Peter Little, Dec. 16, 1846, for \$ 448.98.
- (3) 3rd S. F. 4403, V. 27, Sept. 8, 1846, for \$ 2,217.60, to Burke.
4. 3rd S. F. 4403, V. 36, to Richard John.
5. 3rd S., F. 4403, V. 38, to Ellen Lynch.

Construction of the South Wing(Bldg. 6A)-The Stocking House and Wheel House(Bldg.6B), 1847-48:

Construction on the large south(or east) wing, which was to be the Stocking Shop, got underway in June 1847. On July 2, 1847 Peter Little was paid \$ 80.00 for taking off the slate roof, pulling down the two-story brick walls of Bldg. No. 4 on Map No. 1(1844)- the Old Storehouse and Master Armorer's Office, and removing the material to clear the site for the construction of the south wing.

The demolished building, a two-story brick building measuring 80 by 30 feet, had been erected by Paymaster John Mackey in 1799 for the first "Factory" or "Armory" for the musket factory.

Because the paymaster's vouchers for the period July 1, 1847 to December 31, 1848, are missing from the National Archives Records, it is impossible to trace the costs of construction and amounts of material utilized in detail during this 18 month period. The records for 1849, however, indicate that the same men who built the new stockhouse and forging shop, namely masons Peter Little and William Collins, etc., also erected the south wing or stocking shop.

In his annual report for the fiscal year ending June 30, 1848, Major Symington reported on the progress of construction as follows:

"The south wing of new stocking and machine shop (Bldg. 6A on 1859 map), 89 by 35½ feet, has been erected, (the foundation is of stone, cut-stone water table,) two stories, of brick, cast iron door and window frames, and sheet iron roof, with copper gutters. This shop is near its completion, and will be finished in a few weeks. Connected with this shop is the wheel house (Bldg. 6B on 1859 Map), covering the water-wheel and main driving gear, This is completed; it is of brick, 9.3rd S. F. 5623, V.48, Peter Little, July 7, 1847, \$ 80.00.

" 18 by 26 feet, one story, on stone foundations, with cast iron frames,
and covered with slate."¹⁰

Under the heading of machinery made, the Superintendent further reported,
" 72 10/12 feet heavy main driving gearing, with heavy spur and bevel wheels, and
seats and main driving drums; also
28½ feet of main line working shafts, (have been) put up in the new stocking shop."¹¹

In the estimates for the 1848-49 fiscal year, Symington had requested the
sum of \$ 950.00 "for building a brick wheel house over the (water) wheel driving
the machinery of the new stocking and machine shop at the musket factory."

"The present shelter over this wheel, and penstock, ~~the~~ continued"
is a temporary rough-board shed."¹² Congress provided the requested amount
on August 14, 1848.¹³ The cost of building the wheel house thus appears to
have been approximately \$ 950.00, and with this appropriation, a total of
\$ 19,850 had been provided for construction.

The paymaster's vouchers indicate that \$ 843.76 spent putting the final
touches to the stocking (south wing) shop in the spring of 1849.

This total included the following items:

To William Collins, February 21, 1849, \$ 25.30, for setting 175 feet of
brick cornice for \$ 21.00 and \$ 4.30 for hauling and setting 500 brick. (14)

To Edward Tearney, partner of Peter Little, May 19, 1849, \$ 9.75
for 4 days work of mason, \$ 8.00, and 2 days work of tender, \$ 1.75, for
altering head blocks. (15)

The painter G. W. R. Seale received a total of \$ 143.47 for painting some
1,224 square yards as follows:

181 square yards painted one coat.....	\$ 18.10	
988 8/9 square yards painted 2 coats.....	116.11	
54½ square yards painted 3 coats.....	9.26	
	<u>\$ 143.47</u>	(16)

15. 3rd S., F.9307, V.23, to Edward Tearney.

16. 3rd S., F.9093, V. 22, to G.W.R. Seale.

10. Serial No. 537, Document No. 1, p. 348. Item 4, musket factory.

11. Serial No. 537, Doc.1, p.346.

12. Serial No. 514, Document No.2, p.110-111, item No. 2.

13. U.S. Statues at Large, IX, p. 306.

14. 3rd S., F.9093, V. 23, to William Collins.

The carpenter Jesse Schofield received a total of \$ 665.24 for executing the following carpenter work on the newly finished south(or east wing):

" For carpenter work of roof, including girders, ceiling joist & jack rafter: 3,500 feet @ 6c (87½ x 40 feet) = \$ 227.50.
For 2nd floor, including girders, joist and flooring @ \$ 5 3/4, (86 x 32 2/12 feet) = \$ 159.04.
For 1st floor, including joist & floor, 2,698 feet, @ \$ 4½ (85 8/12 by 31 6/12 feet)= \$ 121.41.
For carpenter work of putting on ceiling, 5,243 fet @ \$ 3 (86 by 32 2/12 feet and 78 by 31 6/12 feet) = \$ 157.29.
Total of bill: \$ 665.24. (17)

In his annual report for the year ending June 30, 1849, Superintendent Symington reported:" The south wing of new stocking and machine shop, at the musket factory, is completed, and the whole of the machinery (stocking) transferred to it (from Bldg. 5, the old stocking shop on Map No.5,1848), and in operation."

With regards to machinery, he informed the Chief of Ordnance that "83 feet main line, and 253 8/12 feet counter driving machinery and fixtures, (had been) put up and (were) in operation in new stocking shop."

(Bldg.6D) (Bldg.6C)
Construction of the North wing or Machine shop and center building, 1849-50:

Construction on the north wing and center of this great building got underway in March 1849 . Edward Tearney took down the old stocking house(Bldg. No. 5 on Map No. 1(1844) and No.5(1848)), removing the slate from the roof, timbers, and bricks, thus clearing the ground for the north wing. The old Stocking House, a two-story brick workshop, 111 by 30 feet feet, had been erected by Superintendent James Stubblefield and Paymaster Samuel Annin in 1808-09, as a tilt-hammer shop. About 1820 it had been converted into a stocking shop. By April 19, 1849, Tearney had completed the construction of the stone foundations for the wing and center and received a total of \$ 1,024.65 for his services.

- 17. 3rd S. F. 9093, V. 28, April 5,1849, for \$ 665.24.
- 18. Serial No. 549, Document No.1, p.366. item 1.
- 19. Serial No. 549, Document No.1, p. 365.
- 20. 3rd S., F. 9307, V. 23, April 19,1849, for \$ 1,024.65.

Tearney performed the following work for this money:

For taking down and removing materials of old stocking shop-----	\$ 70.00
For excavating and removing 263 16/27 cubic yards of earth.....	79.08
For excavating and removing 8 10/27 cubic yards of hard rock.....	7.32
For building 410 16/25 perches stone masonry wall.....	821.28
for hammered face wall, 426 sup. feet.....	42.60
For setting 221 3/12 feet cut stone water table.....	22.12
	\$ 1,042.40

Minus \$17.75 deducted for 71 perches of old stone wall
used in the new foundation..... -17.75

\$ 1,024.65 (21)

On January 1, 1849 William Collins was paid \$ 1,437.62 for making and delivering 172,532 bricks. (21A)
The carpenter William J. Rowe received \$ 12.00 for putting up

temprary stairs in the new building on July 7, 1849. The brick mason

William Collins was paid \$ 546.69 for performing the following work in

June: "For laying 105,074 brick in the north wing and centre building of new stocking and machine shop from their basement to the bottom of the 2nd tier of joists.....	\$ 525.31
For setting 164½ lin. feet of cut stone sills.....	21.38
	\$ 546.69. (23)

\$ 3,021.96

About ; had been spent on the construction of the north
January
wing and centre building from 1 1849 to June 30, 1849.

In his annual report for the fiscal year ending June 30, 1849, Major
John Symington described the progress of this construction as follows:

"The centre building for offices and north wing for machine shop (at the musket
factory) is built up to the second floor. The dimensions of this building are:
centre, 35½ by 48 feet, (enclosing water wheel;) wings, each 35½ by 89 feet, two
stories, built of brick, on stone foundations. Iron door and window frame, with
sheet-iron roof." Under the heading of machinery, the superintendent stated
that " 8 7/12 feet (of) counter machinery driving, & (have) been put up in the
machine shop."

(21.A) 3rd S., F. 9093, V. 5, to William Collins, Jan. 26, 1849-\$ 1,371.7 for 167,216
building brick and \$ 66.45 for 5,316 long cornice brick, total: \$ 1,437.62.

21. 3rd S., F. 9307, V. 23, April 19, 1849, to Tearney.

22. 3rd S., F 9307, V. 77, to W.J. Rowe.

23. 3rd S. F. 9307, V. 80, To William Collins, July 10, 1849, for \$ 546.69.

24. Serial No. 549, Document No. 1, p. 366, item 1.

25. Serial No. 549, Doc. No. 1, p. 365.

The brick mason William Collins continued erecting the brick walls during the summer of 1849 and received a total of \$ 592.36 for performing the following work on the north wing and center:

August 25, 1849, for laying 100,530 bricks in the walls of the 2nd story of centre and west (or north) wing.....	\$ 502.65	
for setting 334 4/12 lin feet of cut stone coping and sills.....	43.40	
For putting on 201 feet of brick cornice.....	25.12	
	<u>\$ 571.23</u>	(26)
August 31, 1849- For Scaffolding cutting out window in gables and setting. Mason, 3 days= \$ 6.00; tender 3/4 day = \$ 0.75.....	6.75	(27)
October 10, 1849- For altering walls.....	14.38	(28)
	<u>\$ 592.36</u>	

In addition, Collins was paid \$ 537.60 on August 31, 1849 for making and delivering 64,000 brick to the building site.

From the vouchers, it is apparent that William Collins laid a total of 205,604 in the two-story high walls of the center and north wing, set 498 10/12 lin. feet of cut stone coping and sills, and laid 201 feet of brick cornice.

The stone cutter ^dRemond Burke provided 105 lin. feet of additional cut stone coping for this building for \$ 123.90. ³⁰Approximately \$ 4,459.58 was expended on the construction of the north wing and center in 1849 and \$ 1,684.26 to June 30, 1850, so that the cost of the wing and center appear to have been more than \$ 6,384.63.

The carpenter Jesse Schofield was paid a total of \$ 1,408.34 for performing the following carpenter work on the north wing and center:

February 20, 1850 for putting 6,110 feet of roof on.....	\$ 397.15
for putting 5,849 feet on lower floor.....	134.75
for " 4,215 7/12 ft, on upper floor...	242.39
8,097 ft. ceiling	242.91
for 37 steps finished.....	41.25

- 26. 3rd S., F. 9895, V. 20, August 25, 1849, for \$ 571.23.
- 27. 3rd S., F. 9895, V. 23, August 31, 1849, for \$ 6.75-part of a bill for \$ 543.75.
- 28. 3rd S., D. k0276, V. 8, October 10, 1849.
- 29. 3rd S., F. 9895, V. 23, Aug. 31, 1849. The 64,000 brick cost \$ 512.00 and the cost of transportation, \$ 25.60.
- 30. 3rd S. f. 10276, Dec. 11, 1849, to Burke.

for 41½ feet skirting.....	\$ 6.22	
for making 46 window sills.....	23.00	
2,397 feet rough garrett floors.....	29.96	
for making 444 lights of square sash.....	33.30	
for 78 lights of circular sash.....	6.63	
for 2 inside doors, circular head, fitted with sash, frames, &c.....	70.00	
For 2 inside doors, square heads, complete.....	50.00	
for one window, circular head, complete.....	25.00	
for one window, square, complete.....	15.00	
for 3 small door frames and trimming.....	6.00	
for 1 double front door, &c faced with sheet iron(?).....	12.00	
for 4 clothes presses and one partition, down stairs.	32.00	
For one partition up stairs.....	17.50	
February 20, 1850.....	\$ 1,390.06	(31)
April 26, 1850 For making 144 square lights of sash..	\$ 10.80	
For making 88 circular lights of sash	7.48	
	<u>\$ 18.28</u>	(32)
Total:	\$ 1,408.34	

The iron worker, William Volkmar, prepared and installed the sheet iron roof, 6,180 feet on the wing and center in September 1849, receiving
³³
 \$ 247.20 for this work. The exterior brick walls of the Stocking and Machine shop were colored with a cement wash in October 1849 at a cost of
³⁴
 \$ 21.47. In November 1849, \$ 10.90 was spent for "plastering with cement"
³⁵
 121 7/9 square yards the wheel house (Bldg. 6B) for the shop.

The painter G. W. R. Seale received a total of \$ 387.30 for his work on the north wing and center. This included:

November 11.23.1849: For priming and glazing 2,910 lights of sash @ 5¢...	\$145.50	(36)
January 13, 1850 For painting centre and north wing:		
95 5/9 square yards 3 coats.....	\$ 15.90	
118 sq. yards 1 coat.....	5.90---	241.80(37)
1,760 sq. yards 2 coats.....	<u>220.00</u>	
	241.80	\$ 387.30

On March 1, 1850, the tinsmith Henry W. Edwards was paid \$ 29.47 for
³⁸
 putting up 393 feet of copper spouting on the new building.

(37) 3rd S. F. 10276, V. 86, Jan. 13, 1850, for \$ 241.80.
 38. 3rd S., F. 10673, V. 18, March 1, 1850, for \$ 29.47.

31. 3rd S. V. 10673, V. 15, February 20, 1850, to Jesse Schofield, \$ 1,390.06.
 32. 3rd S., F. 11000, V. 10, April 26, 1850, for \$ 18.28.
 33. 3rd S. F. 10276, V. 1, To Wm. Volkmar, October 10, 1849, for \$ 247.20.
 34. 3rd S., F. 10276, V. 16, to Francis Trimous, November 3, 1849, for \$ 21.47.
 35. 3rd S. F. 10276, V. 45, to Robert F. Dowling, Dec. 24, 1849, for \$ 10.90.
 36. 3rd S., F. 10276, V. 29, Nov. 23, 1849, for \$ 145.50.

On March 2, 1850 Mrs. Margaret Krepps was paid \$ 3.90 "for making 39³⁹ cotton window curtains for the stocking and machine shop." Finally, William Collins received \$ 0.75 on June 26, 1850, for sending a mason and tender part of a⁴⁰ day to make minor repairs on the new wing. In the annual report for the fiscal year ending June 30, 1850, Major Symington wrote: "The centre building and north wing of the new stocking and machine shop, described in the last annual report, when partially completed, has been finished."⁴¹ Under the heading of machinery, the superintendent also reported that "126 feet main line of driving machinery, 133½ feet counter line of driving machinery, fabricated, and in operation in the new machine shop, Musket Factory."⁴²

The cost of constructing the new stocking and machine shop must have exceeded the \$ 19,850 that had been appropriated, for in his estimate for the 1850-51 fiscal year, Major Symington requested an additional \$ 6,300.00 be provided, explaining that about \$ 4,300 was needed to complete the structure and \$ 2,000 to put up "the necessary driving machinery."⁴³ The requested sum was appropriated⁴⁴ on September 28, 1850.

Probable costs of construction, 1846 to 1850 thus totaled about \$ 26,150: This figure included^d \$ 20,450.00 for the structure and \$ 5,700.00 for the machinery.^h

From June 30 to December 31, 1850, the sum of \$ 117.55 was spent on the new shop. \$ 109.50 was paid to color the exterior brick walls, 1,564⁴⁵ yards, with three coats of wash. On November 30, 1850, the mason William Collins received \$ 8.00 for sending a mason and tender to work 2½ days making⁴⁶ minor repairs.

45. 3rd S. F. 11542, V. 12, to Francis Sinnon, September 27, 1850, for \$ 109.55.

46. 3rd S., F. 12169, V. 20, Nov. 30, 1850, for \$ 8.00.

39. 3rd S., F. 10673, V. 20, March 2, 1850, for \$ 3.40.

40. 3rd S., F. 11000, V. 52, June 26, 1850, for 75 cents.

41. Serial No. 587, Document No. 1, p. 476, item 1.

42. Serial No. 587, Doc. 1, p. 475.

43. Serial No. 568, Document No. 4, pp. 156-157, item 1.

44. U.S. Statues at Large, IX, p. 507.

Finally, the sum of \$ 66.00 was spent on the new stocking and machine shop during 1851. Lightning rods- three points and three leads to the ground,
47
were installed on the new workshop.

47.3rd S., F. 12680, V.69, to Decker and Robinson, July 3, 1851, for \$ 66.00.

Construction of the Stocking and Machine Shop, Musket Factory
 (Stocking shop, 1846, center and Machine shop, 1849
 (Bldg. 6A, 6B, Center, Bldg. 6C, Machine Shop, 6C on 1859 map).

Project	Cost	Description
For cut stone	\$ 2,217.60 123.90 \$ 2,341.50	1846- 3,586 feet for water table, coping, sills. 1849 105 feet for coping 3,691 feet.
For bricks	\$ 2,384.46 \$ 1,975.22 \$ 4,359.68	1846 for 252,016 bricks 1849 for 236,532 bricks 4,88,548 bricks
Stone foundations, Stone mason:	488.98 80.00 ? 70.00 972.20 9.75 \$ 1,563.38	1846 construction of wheel pit and foundations, Bldg. 6- , excavation 209 cubic yards; 139 18/25 mortar masonry erected; 340 8/12 sup. feet rock facing wall' 114 feet ,sup. dressed stone. demolishing old store house and Master Armorer's office. cost of excavation and construction of stone foundation of south wing(Stocking Shop in 1847. cost of demolishing old stocking shop. cost of excavation and construction of stone foundations of center and north wing(machine shop),1849. excavating of 263 16/27 cubic yards of earth,excavtion of 8 10/27 cubic yards of hard rock. Building 410 16/25 perches of stone masonry foundation walls; 426 sup. feet of hammered face wall; 221 3/12 feet of cut stone water table laid. Other, work in 1849. To Peter Little and Edward Tearney.
Laying Bricks:	? 25.30 1,027.96 64.78 25.12 .75 \$ 1,164.35	1847-brick walls of south wing -1848 1849-setting 175 feet brick cornice, south wing. 1849 for laying 205,604 brick in north wing and center. 1849 for laying 498 10/12 feet cut stone. 1849 for putting up 201 feet of brick cornice,north wing 1850-other repairs. for work as brick mason to William Collins.
Carpenter work joists,floors, roof, ceiling.	\$ 665.24 \$1,408.34 12.00 \$ 2,085.58	1849 for carpenter work on south wing. Jesse Schofield 1849-50 carpenter work in north wing and center, to Jesse Schofield. Other, to Wm. Rowe, 1849. North wing.
Iron roof:	? \$ 247.20	1847-sheet iron roof on south wing 1849, for 6,180 ft sheet iron roof for north wing,center.
Painting	\$ 143.47 387.30 \$ 530.77	1849 for painting about 1,224 square yards,south wing. 1849-50 for painting about 1,973 5/9 square yards and priming and glazing 2,910 sash,north wing & center.
Copper gutters and down spouts	? 29.47	1847-for south wing 1850-,393 feet for north wing and center.
Cement wash	32.37	1849 walls of wheel house and new shop.
Total:	\$ 12,354.30	Cost of structure: \$20,450.00;machinery:\$ 5,700.00

8. Lumber House and Coal Bin, Musket Factory, 1848-49

The lumber house and coal bin is Bldg. No. 10 on Map No. 5(1848) and Bldg. No. 10 on the 1859 historical base map.

Major John Symington's estimate for the 1846-47 fiscal year requested the sum of \$ 5,200.00 for the "erection of brick lumber house", explaining that "There is no building for this purpose at the armory, and one is wanted." The request, ¹ money was appropriated on August 8, 1846. ² Because the paymaster's vouchers for the 3rd and 4th quarters of 1847 and all four quarters of 1848 are missing from the National Archives Records, it is impossible to trace the construction of this edifice in detail during this period.

Due to the heavy construction program on larger and more important buildings, it is probable that construction on the lumber house and coal bin did not get underway until the spring of 1848, and at the earliest, after July 1, 1847. As we shall see, the stone foundations and stone-first story were constructed by Peter Litle and his partner Edward Tearney, and the brick second story by the mason William Collins. Superintendent Symington described the progress of construction of this storehouse in his annual report for the year ending June 30, 1848, writing: "The new lumber house has been commenced, and the foundation and first story, which is of masonry, is now nearly up. The lower story of this building will be reserved as a place of deposit for bituminous coal; the dimensions are 77 4/12 by 53 8/12 feet." ³

The brick second story was erected by William Collins in May 1849 and on June 9, he was paid \$ 277.39 for laying 47,642 brick for \$ 238.21 and \$ 39.08 for setting 156 lin. feet of cut stone water table and 156 feet of cut stone coping. ⁴ On June 11, 1849, Edward Tearney, acting as the administrator of

1. Serial No. 481, Document No. 9, pp. 111.112, Item 8.
2. U.S. Statues at Large, IX, p.69.
3. Serial No., 537, Document No.1, p. 348, Item 5, Musket Factory.
4. 3rd Series, F.9307, V. 35, To Collins, June 9, 1849, for \$ 272.71, and F. 9307, V. 80, to Collins, July 10, 1849, for \$ 4.68- for charges omitted from V. 35.

his deceased partner's estate, Peter Little, was paid \$ 157.76 for the following work in the new lumber house:

filling in and paving, 53 ½ square yards.....	\$ 33.43
paving with flag stones, 207 2/9 square yards.....	124.33
	<u>\$ 157.76 (5)</u>

In his annual report for the fiscal year ending June 30, 1849, Major Symington wrote: "Lumber house, musket factory, is completed except the slating of the roof, which is half done. Dimensions, 53 8/12 by 78 feet. The lower story is of stone, which includes and covers the bituminous coal bins; the upper story of brick, the openings having wooden frames fitted with blinds."

Shortly after writing this, in July 1849, a hurricane struck the musket factory yard and the incomplete roof was torn off the lumber house and its brick gable end walls in part demolished.

William Collins was paid \$ 7.11 for laying 1,422 brick in rebuilding the gable ends. Redmond Burke also provided 32 feet of cut stone coping to be used in the rebuilding for \$ 37.36. The original carpenter work and also the rebuilding of the lumber house was done by Patrick H. Kelly, who received a total of \$ 390.00 for performing the following work:

For putting in girders and joists, laying one floor rough, framing and putting up roof, fitting and hanging blinds, doors, &c,	
for the sum previously agreed on-----	\$ 380.00
Broken timbers, occasioned by the falling of gable end walls, removed and replaced by others, for.....	10.00
	<u>\$ 390.00 (9)</u>

Finally, on August 9, 1849, the slater George W. Tracey was paid a total of \$ 109.41 for performing the following services:

6. Serial No. 549, Document No. 1, p.366. Item 2.

5. 3rd S., F. 9307, V.36, June 11, 1849, for \$ 157.76.
- 7.. 3rd S., F.11000, V. 24, June 26, 1850, for \$ 7.11-He was not paid to this date, but must have done this work in July 1849.
8. 3rd S.F. 9895. July 24, 1849, for \$ 37.36.
9. 3rd S., F. 9307, V.79, July 9, 1849, for \$ 390.00.

For labor of taken off slate roof, 2,622 square feet, of the
old stock house(Bldg. No. 12 on Map No.5, 1848, which was being
demolished).....\$ 13.11

For putting on the slate roof of new lumber house, 4,815 sq.ft.... 96.30

\$ 109.41 (10)

In the estimate for the 1850-51 fiscal year Symington requested the
the
sum of \$ 495.00 " for repairing damage to lumber house at the musket factory,"
A
explaining:" The end walls of this building were thrown down by a violent
hurricane just as the roof framing was ready to be put on, and many of the timbers
11
were broken..." The money for this purpose was appropriated on September 28,
12
1850. Prior to this, however, in his annual report for the year ending
June 30,1850, Superintendent Symington reported:" The new lumber house,...
13
described in the last report, has been completed."

The total cost of constructing the lumber house and coal bin, 1848-
1849, including the rebuilding, was approximately \$ 5,695.00.

During the summer of 1850 \$ 45.69 was paid to Francis Simmons for
"coloring exterior(brick) walls of new lumber house with 3 coats of cement
14
wash, 509 sq. yards. During the summer of 1851, lightning rods-
2 points and 2 leads to the ground- were installed on the new lumber house
15
at a cost of 15 cents per foot, total cost was \$ 33.60. Finally, on
December 24,1851, the stone mason Edward Tearney received \$ 6.75 for the
16
services of a mason for three days, building steps at the coal house.

The destruction by the National Archives staff during the 1940s of the
Armory paymaster's vouchers for the years 1852 to 1861 makes it impossible to
trace in detail any alterations or repairs that may have been made to the
lumber house during this period. Judging from the superintendents' annual

10. 3rd Series, F. 9895, V. 17, August 9,1849, for \$ 109.41.

11. Serial No. 568, Document No. 4, pp. 156,157, item 3.

12. U.S. Statues at Large, IX, p.507.

13. Serial No. 587, Document No.1, p.476, item 2.

14. . 3rd S., F. 11542, V. 12, Ø Sept.27,1850, for \$ 35.69.

15. 3rd S., F. 12680, July 3,1851 to Decker and Robinson, for \$ 33.60.

16 3rd S. F, 13107, V.4, Dec. 24,1851, for \$ 6.75.

reports, 1852 to 1860, however, it would appear that no major alterations or repairs were made during these years.

132

CONSTRUCTION OF LUMBER HOUSE AND COAL BINS, MUSKET FACTORY,
1848-49

Project	Cost	Description of work
Excavation	?	Excavation for foundations, 1848- Peter Little.
Foundation walls	?	erection of ? perches stone mortar wall for foundations.
Masonry walls of 1st story	?	construction ? perches of stone mortar walls of 1st story, Peter Little.
Paving 1st story Floor	\$ 157.76	Filling in and paving, $53\frac{1}{2}$ square yards; paving $207\frac{2}{9}$ sq. yards with flag stones, to Peter Little, deceased.
For brick	?	
For cut stone	37.36	32 feet of coping, replacement.
Brick mason	238.21 7.11 <u>245.32</u> 39.08 <u>285.40</u>	laying 47,642 brick, 2nd story. laying 1,422 replacement bricks 49,064 brick for setting 312 lin. feet of cut stone (156 feet of water table and 156 feet of coping). Total to brick mason, William Collins.
Carpenter work	380.00 10.00 <u>390.00</u>	Contract for girders, joists, one rough floor, framing roof, fitting and hanging blinds, doors, etc. replacing damaged girders, etc. To carpenter Jesse Schofield.
Slating:	13.11 96.30 <u>109.41</u>	labor for taking 2,622 feet slate off old stock house. for putting 4,815 square feet slate on lumber house roof. To slater George W. Tracey
Gutters & spouts	?	for ? feet of copper gutters and ? feet of copper downspouts.
Total:	\$ 979.03	(Probably total cost: \$ 5,695.00, including \$ 495 for repairs)

9. Tilt Hammer Shop for Barrel Welding, Musket Factory, 1849-1851:

(Bldg. No. 9 on the 1859 Historical Base Map.)

In the annual estimate for the 1849-50 fiscal year, prepared by Major

John Symington on February 4, 1848, he requested the sum of \$ 17,900.00" for

constructing a barrel welding, tilt hammer, and swedging shop, 200 by 50 feet",

built of brick on stone foundations and covered with sheet iron. Explaining the

need for this new structure, he wrote:

To replace the ⁵present barrel welding and tilt hammer shop (Bldg. No. Bldg. No. 11 on Map No. 5, 1848), which has all the defects, but in a greater degree, of the other old shops, which have had to be reconstructed; being dark and badly ventilated, with its floor so low that every freshet covers it, some times to the depth of eight feet. There is also now a separate wheel and gearing for each hammer, eight in all, six of which are tub wheels, utterly useless when submerged, having thus lost 28 working days last year, and 52 the year before, besides considerable damage to the perishable parts of the machinery by the frequent floodings. The present forebays and penstocks supplying the wheels are of wood carried through the ground, and require frequent repairs, and entire renewal every few years. Whilst these repairs are in hand, a suspension of the manufacture of arms are necessary, causing embarrassment to the operations of the armory and much loss. This is a measure of pressing importance." 1

Symington also request^{ed} \$ 27,370 to provide the necessary new machinery for this proposed barrel welding and tilt hammer^{shop}, and also for a proposed new grinding mill, saw and planing^{mill}. The machinery for the tilt hammer shop would require eight tilt hammers for welding barrels, rods, &c, including water power and gearing (estimated at \$ 12,928.00); two double tilt hammers for drawing barrel plates and tilt iron and steel, with driving power and gearing (estimated at \$ 5,372.00); large shears, with gearing (\$ 385.00); driving machinery for four sets of drop hammers for swedging components (\$ 3,785.00); blow machine, including water wheel and air pipes (\$ 2,550.00), and fitting up large grindstone and gearing (\$ 450.00), Total, \$ 25,470, leaving only \$ 1,900 for machinery in² the grinding mill.

The total estimated cost of constructing the tilt shop and equipping it with new machinery was thus \$ 43,370.00. Congress appropriated this sum on March 3, 1849. (3)

1. Serial No. 538, Document No. 2, pp. 117, 118, Item No. 2.

2. Serial No. 538, Document No. 2, pp. 117, 118, Item No. 3. Symington more detailed estimate for machinery, dated Feb. 4, 1858, is in the Park Files.

3. U.S. Statutes at Large, IX, p. 376.

Work on the large new shop's foundations began in the spring of 1849, but because of some unknown cause, some of paymaster's voucher paying Edward Tearney were not paid until 1850 and 1851! Thus on December 20, 1850, Tearney was paid \$ 1,338.02 for performing the following work "on new tilt Hammer shop, Musket Factory", probably in 1849, as follows:

\$ 648.71	For excavating and removing 2,162 10/27 cubic yards of earth for foundation.
264.64	For constructing 132 8/25 perches stone masonry.
105.97	for 1,059 9/12 feet, superfisal, face hammered wall.
51.95	for setting 519 6/12 lineal feet cut stone water table and step.
260.00	for 1,040 cubic yards filling in with earth for floor.
6.75	for 3 days work of stone cutter cutting corners of sills.
<u>\$ 1,338.02.</u>	(4)

On June 30, 1849, Major Symington, in his annual report for the fiscal year noted: "Tilt Hammer Shop, at musket factory has been commenced, about half of the ^a excavation and stone foundation being done. The dimensions of this shop," he continued "will be 53½ feet by 188 feet, one story brick, on stone foundations. Iron door and window frames, with sheet iron roof.

During 1849, however, only \$ 506.08 was spent on the tilt hammer project. William Collins received \$45.04 for hauling 112,639 bricks from the rifle factory to the musket factory for the new tilt hammer shop.

The balance of \$ 461.04 went to stone cutter Redmond Burke for providing 668 5/12 feet pf the following cut stone:

\$ 134.83	for 1 269 8/12 feet of water table.
137.27	for 116 9/12 feet of coping.
188.94	for 282 feet of window sills.
<u>\$ 461.04</u>	668 5/12 feet (7)

(7) 3rd S., F. 9895, V. 8, July 24, 1849, for \$ 461.04.

4. 3rd S., F. 12169, V. 43, dated Dec. 20, 1850, for \$ 1,338.02.

5. Serial No. 549, Document No. 1, p. 366, item No. 3.

6. 3rd S., F. 9895, V. 23, August 31, 1849, for \$ 4.26, for hauling 10,666 brick; F. 10276, November 29, 1849, for \$ 40.78 for hauling 101,973 bricks.

Major construction probably resumed in April or May 1850.

On May 23, 1850, Edward Tearney was paid \$ 3,000.00 for constructing 1,500 perches of mortar stone masonry, "foundation walls in part of new tilt hammer shop. ⁸

The stone foundations were completed by May, for on June 26, 1850, the mason William Collins erected the brick walls and received \$ 1,224.81 for performing the following work:

\$ 1,125.88,	for labor, scaffolding, mortar, laying 225,166 brick @ \$ 5 per M.
51.43	for setting 396 lin. ft. cut stone window sills and coping at 13¢ per foot.
47.50	for setting 380 feet of brick cornice @ 12½ ¢.
<u>\$ 1,224.81</u>	(9)

In his annual report for the fiscal year ending June 30, 1850, Superintendent Symington reported of this construction:

"The excavation, stone foundation, and brick walls, with cut-stone coping, water-table, window and door sills of new tilt-hammer, and barrel-welding shop have been completed, and the roof is now being put on. This shop is 190 feet long by 53½ feet wide, of one story- floor to be laid with stone flagging, and roof (having a continuous ventilator along the ridge) to be covered with slate. ¹⁰
The door and window frames are of cast iron."

During the fall of 1850 the carpenter Jesse Schofield was paid \$ 1,017.47 for performing the following carpenter work on the new tilt shop:

\$ 724.03	for framing, putting on roof, 11,139 square feet.
79.86	for sheathing, 10,649 sq. ft. for slate roof.
<u>\$ 803.89</u>	October 31, 1850 (11)
129.60	for making 1,726 square light sash.
83.98	for making 988 circular light sash.
<u>\$ 213.58</u>	July 10, 1850 (12)
<u>\$ 1,017.47</u>	

8. 3rd Series, F. 11000, V. 31, May 23, 1850, for \$ 3,000.00.
9. 3rd S. F. 11000, V. 52, June 26, 1850, for \$ 1,224.81.
10. Serial No. 587, Document No. 1, p. 476, Item 3.
11. 3rd S., F. 12169, Oct. 31, 1850, for \$ 803.89. Voucher No. 9.
12. 3rd S., F. 12169, V. 16, July 10, 1850, for \$ 213.58.

Under machinery, the sum of \$ 6,137.24 was expended on September 9, 1850, to pay for three turbine water wheels, cast-iron, complete with flumes, implements, main up right shafts and bevel gearing. These were made by the Ames Manufacturing Company of Boston, Mass., cost \$ 2,000.00 each, and the cost of freight from Boston to Harper's Ferry was \$ 137.24(13).

On August 10, 1850, William Collins was paid \$ 386.85 for making and delivering 47,178 bricks to the armory yard for use in the new buildings. He was also paid \$ 1.00 in November 1850 for sending a mason to do one half days work in the new shop. Redmond Burke was also paid \$ 88.77 for providing 132½ additional feet of cut stone, as follows:

\$ 45.89 for	68½ lin.ft of water table.
42.88 for	64 lin.ft of window sills.
<u>\$ 88.77</u>	16.

The slater George W. Tracey received \$ 319.14 in November 1850 for performing the following services:

Labor taking off slate roof of old shop (Bldgs. 7, 8, and 9, Old Carpenter Shop, Old Machine Shop, and Old Carpenters Shop on Map No. 5(1848), 10,328 square feet.....	\$ 51.64
Labor slating 13,375 square feet roof of new tilt hammer shop:	267.50
	<u>\$ 319.14 (18)</u>

Henry W. Edwards

\$ 53.15 was paid to the tinsmith for making and upping up copper gutters and down spouts on the new shop as follows:

To the estate of Henry W. Edwards, deceased, for making 380 feet of copper gutters.....	\$ 15.20
For making 114 feet of copper spouting.....	11.40
For making 6 copper spout heads.....	3.75
	<u>\$ 30.35(18)</u>

13. 3rd S. F. 11542. V.10, Sept.9,1850, for \$ 6137.24.
14. 3rd S., F 11542, V. 4, Aug.10,1850, for \$ 386.85.
15. 3rd. Series, F. 12169, V. 20, November 30,1850, for \$ 1.00
16. 3rd S., F.12169, V. 27, Dec. 2,1850, for \$ 88.77.
17. 3rd S., F. 12169, V. 24, November 27,1850, for \$ 319.14.
18. 3rd S., F. 12169. V.14, Feb.13.1851, for \$ 30.35.

To Alexander S. Vernon, December 3, 1850, for putting up
380 feet of copper gutter, etc at new tilt shop.....\$ 22.80 (19)

This evidence indicates that the new tilt hammer shop was up and roofed ^{by}
December 1850. Much work remained to be done by the stone mason Edward
Tearney, however, before the shop could function: two wheel pits for two
water wheels and the stone forebay remained to be built and the stone flag
floors were yet to be installed.

On April 21, 1851, Tearney received a total of \$ 3,209.38 for constructing
the stone forebays, which involved the following construction:

For 205 9/25 perches mortar masonry.....	\$ 359.38
For 561 superficial feet rock faced wall.....	280.50
for 259 22/27 cubic yards earth excavation.....	77.94
for 27 6/27 cubic yards earth puddling.....	8.16
For 229 20/25 perches cement masonry for wheel pit, tail race	459.60
For 186½ superficial feet circular cut stone, wheel pit.....	186.50
for 552 19/25 perches dry masonry wall.....	829.14
for 76 22/27 cubic yards of rock excavation.....	172.83
for 2,784 12/27 cubic yards of earth excavation.....	835.33
	<u>\$ 3,209.38 (20)</u>

On June 24, Edward Tearney was paid \$ 1,218.71 for building the
beds
foundations for the tilt hammer blocks. This involved the following
construction:

For 472 24/27 cubic yards of earth excavation.....	\$ 141.86
For erecting 478 15/25 perches mortar masonry of very heavy stone:	<u>1,076.85</u>
	\$ 1,218.71 (21)

In June lightning rods- four points and 3 leads to the ground-were installed
22
on the new tilt hammer shop at a cost of \$ 59.70.

19. 3rd S., F. 12169, V. 28, Dec. 3, 1850, for \$ 22.50.
20. 3rd S., F. 12680, V. 5, April 21, 1851, for \$ 3,209.38.
21. 3rd S., F. 12680, V. 33, June 24, 1851, for \$ 1,218.71.
22. 3rd S. F., 12680, V. 69, To Decker and Robinson, July 3, 1851, for \$ 59.70.

On September 30, 1851, Edward Tearney received \$ 570.96 for putting the stone floor in the tilt hammer shop; this involved the following construction:

For 793 square yards of heavy stone flagging, floor.....	\$ 396.50
For 59 19/25 perches mortar masonry.....	119.52
For 78 8/27 cubic yards excavation of earth.....	19.57
For 32 days of laborer drilling holes in walls.....	32.00
For 1½ days service of stone cutter drilling holes in walls..	3.37
	\$ 570.96 (23)

Finally, the master carpenter Jeremiah Fuss was paid \$ 24.00 for making two large doors: "made, fitted & hung at new tilt hammer shop, Musket Factory." 24
(exclusive of water wheels and machinery)
Total recorded cost of construction was approximately \$ 12,958.34.

In his annual report for the fiscal year ending June 30, 1851, Major John Symington reported: "New tilt-hammer and barrel-welding shop described in last report has been completed, and a portion of the machinery placed in position, including two iron turbine wheels, the whole of the main line of shafting, four trip hammers(belt) and one fan blast and pipe; the remaining machinery, &c., for this building, in in hand." 25

Under the heading of machinery, the superintendent further remarked: "...two (turbine) water-wheels have been placed in position) at the new tilt hammer shop; and substantial wheel-pits of masonry sunk, together with cast-iron head-gates, set in solid walls of grouted masonry; also (two) water-wheel regulators placed in position, complete..."

"The machinery for tilting and barrel-welding has undergone considerable repairs, as has also the pit-gears attached to replace those worn out. One fan blast has been placed in position in new tilt-hammer shop, together with fifty feet of pipe for carrying blast to forges..." 26

23. 3rd S., F. 12680, V.54, Sept.30,1851, for \$ 570.96

24. 3rd S. F. 13107, V. 42, Dec. 24,1851, for \$ 24.00.

25. Series No. 611, Document No.1, p.458, Item 1.

26. Serial No. 611, Document No. 1, p. 457.

Under machinery purchased, Symington listed:

3 turbine water-wheels, cast-iron, with cast-iron flumes, wrought-^{iron}, forebay and fixtures complete. (Purchased from the Ames Manufacturing Company, Boston, for \$ 6,137.24).

2 fan-blasts, with 162 feet of 9-inch copper pipe.

3 regulators for water wheels.

1 large factory force-pump, (five plungers) with fixtures complete.²⁷

Machine in progress of being fabricated included:

2 trip-hammers²⁸ for forging bayonet sockets, about two-thirds finished.

4 trip-hammers(belt) for forging musket barrels, about one-half finished.

27. Serial No. 611, Doc. No. 1, p. 457.

28. Serial No. 611, Document No. 1, p. 456.

Construction of Tilt-Hammer Shop for Barrel-Welding
Market Factory, 1849-51 (Bldg. 9, 1859 Map)

140

Project	Cost	Description of Construction
Foundations	\$ 648.71 3,264.64 105.59 51.95 260.00 6.75 \$ 4,338.02	For excavation of 2,162 10/27 cubic yards. For 1,632 8/25 perches stone mortar masonry walls. for 1,059 9/12 sup. feet face hammered wall. for setting 519 6/12 feet, lin. cut stone water table. for 1,040 cubic yards of earth fill. for other costs. cost of stone foundation
Forebay and wheel pits	\$ 77.94 359.38 280.50 8.16 459.60 186.50 172.83 835.33 829.14 \$ 3,209.38	for 259 22/27 cubic yards of excavation. for 205 9/25 perches of mortar masonry wall. for 561 sup. feet rock faced wall. for 27 6/27 cubic yards earth puddling. for 229 20/25 perchs cement masonry, wheel pit, tail race. for 186½ sup. feet circular cut stone, wheel pit. for 76 22/27 cubic feet excavation of rock, for 2,784 12/27 cubic yards of earth excavation. for 552 19/25 perches of dry masonry wall. For Forebay, wheel pits, and tail race.
Foundation tilt hammer blocks	\$ 141.86 1,076.85 \$ 1218.71.	for 472 24/27 cubic yards of earth excavation. for 478 15/25 perches sup. ff mortar masonry wall. of) very heavy stone.
Flagging Floors	\$ 19.57 396.50 119.52 35.37 \$ 570.96	for 78 8.27 cubic yards of earth excavation. for 793 square yards of heavy stone flagging of floor. for 59 19/25 perches of mortar masonry, for 33½ days of labor drilling holes in walls.
Subtotal:	\$ 9,337.07	paid to stone mason Edward Tearney for above work.
Purchase of Cut Stone	\$ 180.72 \$ 231.82 \$ 137.27 \$ 549.81	for 338 2/12 feet cut stone water table. for 346 feet of cut stone will sills. for 116 9/12 feet of cut stone coping. for 800 11/12 feet: To Redmond Burke.
Making & Delivering brick	45.04 386.85 \$ 431.89	for transporting 112,639 bricks. for making & delivering 47,178 bricks. for 159,817 brick, paid to William Collins.
Laying Brick walls:	\$ 1,125.88 51.48 47.50 1.00 \$ 1,225.81	For laying 225,166 bricks in walls. for setting 396 lin. ft. cut stone window sills, coping. for setting 380 feet of brick cornice. for other work. paid to brick mason William Collins.
Carpenter work	1,017.47 24.00 \$ 1,041.47	for framing roof, 11,139 square feet; sheathing roof for slating, 10,649 feet; making 1,726 square sash and 988 circular sash of light: To Jesse Schofield. for making two large doors, to Jeremiah Fuss.
Slating Roof:	\$ 51.64 267.50 \$ 319.14	taking 10,328 ft slate off roofs of old shops. for slating 13,375 feet roof of tilt shop. paid to slater George W. Tracev.
Cooper Gutters and spouts:	\$ 30.35 22.80 \$ 53.15	for making 380 ft copper gutters, 114 feet of copper spouting and 6 spout heads. To Henry W. Edwards. for putting up gutters, etc., to A. S. Vernon.
Total:	\$ 12,958.34	Probable total cost: \$ 17,900.00

Construction of Tilt Hammer Shop for Barr. al Welding, Musket Factory

	Cost	Description of work
Excavation	\$ 172.83 1,780.96 \$ 1,896.24	For 76 22/27 cubic yards excavation of rock. for 5,757 22/27 cubic yards excavation of earth. For excavation paid to Edward Tearney
Stone Masonry	\$ 5,279.99	for 2,605 21/25 perches of stone mortar masonry.
ed Hammer Wall:	386.09	for 1,620 9/12 sup.ft of hammered rock wall.
Cut stone	238.45	for 706 lin.feet of cut stone laid.
Fill	260.00 8.16	for 1,040 cubic yards of earth fill. for 27 6/27 cubic yards of earth puddling.
Dry wall	829.14	for 552 19/25 perches of dry wall built.
Flag stone	396.50	for 793 square yards heavy flag stone paving.
Other Labor	42.12	for labor, drilling holes in walls, etc..
Total	\$ 9,337.07	paid to stone mason Edward Tearney, 1849-51.

142

10. Polishing Shop, Musket Factory, 1849-50:

The Polishing Shop is Bldg. 4, located between Bldgs. No. 3-the Old Bell Shop and Bldg. No. 5, the new Boring Mill, on the 1859 historical base map.

In the estimates for the 1848-49 fiscal year Major John Symington requested the sum of \$ 1,700.00" for building a polishing shop at the Musket factory," explaining that "The present shop is too small and dark for the necessary work, and some of the wheels have consequently been set up in the finishing (or Bell) Shop, (Bldg. No. 2 on Map No. 5(1848)); this is destructive to the machinery, from the dust made. The workmen also suffer much from the want of proper ventilation to carry off the dust." ¹ The requested amount was appropriated on August 14, 1848. ²

The Polishing shop was built so as to connect Bldg. No.3, the Old Bell Shop and the new Boring Mill, Bldg. No. 5.

Construction on the new polishing shop got underway, probably in September or October, of 1849. The mason William Collins received a total of \$ 737.51 for executing the following construction:

\$ 7.80 for excavating and removing 26 cubic yards of earth.
24.00 for making 16 perches of stone masonry.
238.58 for laying 47,716 brick in front and rear walls.
5.62 for laying 45 lin. feet of brick cornice.
12.54 for laying 96½ ft. of cut stone coping and cornice.
18.95 for hauling 47,395 bricks from rifle factory to the building site.
15.00 for 7½ days mason, for cutting out stone and brick walls, building abutments, & preparing for building arches & walls of wheel house.
6.25 for 6½ days service of tender.
0.75 for hauling 3 cart loads of sand.
0.50 for hauling 2 cart loads of stone.
391.27 for making 47,395 brick.
4.00 for taking down gable of old wheel, taking down, & replacing cornice, removing and resetting lintels, & rebuilding a portion of gable at wheel house, 2 days of mason
1.25 for 1½ day of tender.
0.75 for mortar for this work.
\$727.76 for building new Polishing shop, including cost of brick. (3)

1. Serial No. 514, Document No., 2, p. 110-111, item 1. The Old Polishing shop had been erected in 1834 and its location along the Armory canal is not known.
2. S. Statues at Large, Vol. IX, p. 306.

3. 3rd S., F. 10276, V. 8, October 29/1849, for \$ 727.76.

\$ 9.75 for 3½ days work of mason, 1 3/4 days work ,of labor, and 1 load
of mortar. (4)

\$ 737.51

The stone cutter Redmond Burke received \$ 77.88 for providing 66 feet of
cut stone coping for the new Polishing shop.

Patrick H. Kelly, working under a contract for the specified sum of
\$ 160.00, did the "carpenter and joiners work constructing a polishing shop and
wash have over the wheel house between the bell shop and boring mill, according
to the specifications and for this sum previously agreed on." On March 8, 1850,
George W. Tracey was paid \$ 40.84 for slating the roof of the new polishing shop
with slate, 2,042 square feet. Also in March 1850, the tinsmith Henry W.
Edwards received \$ 2.80 for making 28 feet of copper spouting for the new shop.
Finally, in June 1850, Robert Simms received \$ 20.00 for plastering 80 square feet
inside the new Polishing shop. Total recorded cost of construction was
approximately \$ 1,039.03. Total cost was probably about \$ 1700.00.

In the annual report for the fiscal year ending June 30, 1850, Superintendent
John Symington described the Polishing shop as follows:

"A new polishing-shop has been erected, 40 by 22 feet, two stories high, of brick,
on stone foundation, and covered with slate. This shop is built in connexion
with the bell-shop and boring mill, and covers the large iron over-shot wheel that
drives ^{in part} the machinery in those two shops." The polishing shop was apparently
22 feet wide and 40 feet long.

Destruction of the paymaster's vouchers for the period 1852 to 1861 in the
National Archives records during the 1940's make it impossible to trace repairs
or alterations in detail. The absence of any further mention in the superintendent's

8. 3rd S., F.10673, V. 18, March 1, 1850, for \$ 2.80.
9. 3rd S., F. 11000, V. 46, June 21, 1850, for \$ 20.00.
10. Serial No. 587, Document No. 1, p. 476.

4. 3rd S., F.10276, V.33, November 29, 1849, for \$ 9.75, To William Collins.
5. 3rd S., F. 10276, V.39, Dec. 11, 1849, for \$ 77.88.
6. 3rd S., F. 10276, V.37, December 10, 1849, for \$ 160.00.
7. 3rd S. F. 10673, March 8, 1850, for \$ 40.84.

annual reports for the years 1852 to 1860, however, suggests that no major repairs or alterations were made to the polishing shop during those years.

CONSTRUCTION OF THE POLISHING SHOP, 1849-50, Musket Factory
Bldg. No. 4 on 1859 Historical Base Map.

Projects	Costs	Description of Work
Foundations	\$ 7.80 24.00 <u>31.80</u>	for excavting 26 cubic yards of earth. for 16 perches of stone masonry, foundation. Paid to William Collins.
	391.27 18.95 238.58 5.62 12.54 28.59 9.75 <u>705.71</u>	for making 47,395 bricks. for delivering 47,395 bricks. for laying 47,716 bricks. for laying 45 lin. feet of brick cornice. for laying 96½ feet of cut stone coping and cornice. for services of mason, tender, mortar in making alterations. for service of same as above. Paid to William Collins.
Carpenter work	160.00	Paid to Patrick H. Kelly.
Cut stone	77.88	for 66 feet of cut stone coping.
Slating Roof	40.84	for slating 2,042 square feet of roof.
Copper gutters	2.80	for 28 feet of copper spouting.
Plastering	20.00	For plastering 80 square vards inside.
TOTAL	\$ 1,039.03	Probably total cost: \$ 1,700.00.

Of the record total of \$ 1,039.03; \$ 975.39 was spent in 1849 and \$ 63.64 in 1850.

11. New Grinding Mill, Sawmill and Planing Mill, Musket Factory, 1850-51.

This is Bldg. No. 8 on the 1859 historical base map, with 8A being the new Grinding Mill, 8B, the center building which contained the saw mill, and 8C, serving as the new carpenter shop.

In his annual report for the year ending June 30, 1849, Major Symington reported that at the musket factory the old buildings were being torn down to clear the site for the construction of new ones, as the functions of the old structures could be transferred to the new shops. ¹ Old workshops demolished at this time apparently included the Old Carpenters Shop. Bldg. 7, erected in 1834 (See Map 5, 1848); Bldg. 8, the Old ^{Machine Shop} (1834), and the Old Grinding Mill, Bldg. No. 9, erected in 1831 (See Map 5 (1848)).

In the estimates for the 1849-50 fiscal year Superintendent John Symington requested the sum of \$ 9,730 for "constructing a grinding mill, saw and planing mill." Explaining the need, he wrote: "This building, to accommodate the machinery and fixtures for the grinding, sawing, and planing, is necessary to replace the present make-shift structures, used for these purposes with great inconvenience and loss. The present grinding mill (Bldg. No. 9 on 1848 map) has its floor below the ^{surface} of the ground, and is covered during the freshets to a depth of sometimes five feet. The saws and turning laths are at present in the machine shop (Bldg. No. 8 on 1848 map), among filers and iron workers, for want of power and a better locality elsewhere; whilst the planing machinery is equally out of position in a shed put up on the side of one of the shops, and not well secured from the weather. The present structures are also much decayed, and are only kept in use by frequent repairs, to the delay of the operations of the armory.:" ² In this same estimate, Symington requested the additional ^{the new} appropriation of \$ 27,370 for machinery for grinding mill, saw and planing mill

1. Serial No. 549, Document No. 1, p. 365.

2. Serial No. 538, Document No., 2, pp. 117-118, Item No. 1.

and also for the new barrel welding and tilt hammer shop he was hoping to build. Symington's original submission, dated February 4, 1848, as has been mentioned itemized the cost of machinery of the tilt shop as totalling \$ 25,470, leaving grinding, only \$ 1,900.00 for the machinery to equip the saw, and planing mills. In the estimate presented to Congress, the machinery required for the grinding, saw and planing mill was described as follows:

"two turbine wheels. with iron feeding troughs and penstock, shafts, and bevel gearing; a main line of driving shafts, with pullies, hangers, belting, &c., for the grinding mill, and machinery with pullies &c, complete, for driving upright and circular saws, turning lathes, planing machine, and tenoning, grooving, and boring machines...." 3

The money requested for these projects was appropriated on March 3, 1849. 4

Building materials such as cut stone and brick were purchased in 1849 and 1850 but actual construction on the grinding, saw, and planing mills did not actually get underway until the fall of 1850. Purchases of cut stone, all provided by Redmond Burke, were as follows:

July 24, 1849	\$ 39.00	for 78 feet cut stone steps (5).
December 11, 1849	189.90	for 316½ feet cut stone water table (6)
December 2, 1850	391.31	for 33 ft. lin. stone water table got \$ 22.11. (7)
		for 216 lin. ft. window sills, for \$ 144.72.
		for 154 4/12 lin. ft. coping, for \$ 182.11
		for 84 9/12 ft sup. door sills and steps, for \$ 42.37.
	<u>\$ 620.21</u>	for 882 7/12 feet of cut stone.

On October 24, 1850, the administrator of the estate of William Collins was paid a total of \$ 542.24 for making and transporting the following brick:

\$ 499.72	for making 55,750 bricks.
<u>42.57</u>	for hauling 106,444 brick for new grinding mill. (8)
\$ 542.24	(8)

The stone mason apparently began construction on the foundations in September or October 1850, and the brick mason William Collins put up the

3. Serial No. 538, Document No. 2, p. 117, 118, item No. 3.

4. U.S. Statues at Large, Vol. IX, p. 376.

5. 3rd Series F., 9895, V. 8, July 24, 1848, for \$ 39.00.

6. 3rd S., F. 10276, Dec. 11, 1849, for \$; 189.90. Voucher 39.

7. 3rd S., F. 12169, V. 4, October 10, 1850., for \$ 542.24.

in October and November 1850.

Edward Tearney was paid \$ 1,322.25 on December 20, 1850 for his construction of the stone foundations. This included the following work:

\$ 132.55 for excavating and removing 441 $23/27$ cubic yards of
of earth for the foundation.
1.096.16 for constructing 548 $2/25$ perches of stone mortar masonry.
45.37 for 453 $9/12$ sup/ft. face hammered wall.
37.05 for setting 370 $6/12$ lin.ft water table and steps, cut stone.
10.12 for $4\frac{1}{2}$ days work of stone cutter (corners of sills, &c).
\$ 1,322.25 (8)

The brick mason William Collins received \$ 877.00 for erecting the brick walls and the following work in November 1850:

\$ 782.02 for furnishing labor, mortar, scaffolding, and attendents and
for laying 156,405 bricks.
5.60 for hauling 14,000 brick from rifle factory to armory yard.
25.49 for setting 207 lin. ft. of brick cornice.
27.49 for setting $211\frac{1}{2}$ lin. ft. of cut stone window sills.
20.02 for setting 154 lin.ft. of cut stone coping.
8.00 for four days work of brick mason
8.00 for 7 days work of laborer and 1 cart load of mortar.
\$ 877.00 (9)

The carpenter Jesse Schofield was paid a total of \$ 752.43 for executing the following work on the new shop:

\$ 97.20 for making 1,296 square lights of sash and fitted up.
53.04 for making 624 circular lights of sash
\$ 150.24 1,920 lights of sash. (10)
for carpenter work, fitting, working, and laying floor with girders,
joists, two inch plank complete.
\$ 112.07, 1st floor, 2,637 sq. feet. 2 inch plank.
63.53 2nd floor, 1,105 sq ft of $1\frac{1}{2}$ inch plank.
65.79 ceiling, 2,193 square feet.
324.80 for framing and sheathing roof, 4,480 square feet.
36.00 for making, fitting, and hanging three outside doors.
\$ 602.19 (11)
\$ 752.43 Total.

8. 3rd S., F. 12169, V. 43, Dec. 20, 1850, for \$ 1,322.25.
9. 3rd S., F. 12169, V. 20, Nov. 30, 1850, for \$ 877.00.
10. 3rd S. F. 12169, V. 16, Jan. 10, 1851, for \$ 150.24.
11. 3rd S., F. 12169, V. 26, April 14, 1851, for \$ 602.19.

George^{W.} Tracey slated the roof of the new grinding, saw, and planing in December 1850 or early January 1851, receiving \$ 97.93 for performing the following work:

\$ 96.62 for putting 4,806 square feet of slate on roof.
1.31 for 3/4 days work putting snow board on the roof.
 \$ 97.93 (12)

Dennis Snook was paid \$ 44.00 on January 20, 1851 for putting the copper gutters and down spouts on the new shop at the following rates:

\$ 27.00 for making 216 feet of copper gutter.
 12.00 for making 120 feet of copper spouting.
5.00 for making 8 copper spout heads.
 \$ 44.00 (13)

Final touches were made to the shop in June 1851:

Meen and Brewing were paid \$ 31.23 for carpenter work and plastering, 1,041
 14
 feet of the ceiling in the center building.

In May and June the stone mason Edward Tearney swung back into action to construct the two wheel pits for the new shop, receiving a total of \$ 1,486.15 for the following construction:

\$ 209.94 for building 139 24/25 perches of dry stone masonry for culvert at wheel pit.
 31.50 for 63 sq.yards of stone flagging at bottom of wheel pit.
 196.00 for 98 perches mortar stone masonry for wheel pit.
 151.20--- for 60 12/25 perches circular masonry for wheel pit.
 114.75 for 114 3/4 ft, sup., circular cut stone, wheel pit.
 246.66 for 109 17/27 cubic yards rock excavation for wheel pit.
 99.33 for 331 3/27 cubic yards earth excavation for culvert walls & pit.
 237.54 for 135 20/25 perches mortar stone masonry, for forebay and culvert walls.
 137.50 for 275 ft. sup., hammered stone in forebay.
61.62 for 205 11/27 cubic yards excavation and puddling in forebay.
 \$ 1,486.15 (15)

12. 3rd S., F. 12169, V. 6, January 28, 1851, for \$ 97.93.
13. 3rd S., F. 12169, V. 77, January 20, 1851, for \$ 44.00.
14. 3rd S., F. 12680, V. 52, June 30, 1851, for \$ 31.23
15. 3rd S., F. 12680, V. 33, June 24, 1851, for \$ 1,486.15.

149

Finally, Lightning rods- four points and 3 leads to the ground,
16
were installed on the new shop in June 1851 at a cost of \$ 48.60.

In his annual report for the fiscal year ending June 30, 1851, Major John Symington described the new musket factory shop as follows:

New grinding and saw-mill and carpenter's shop has been erected, and is now occupied. This building 110 by 36 feet, is similar in style to the other new shops; it is of brick, on stone foundations, with cut-stone water table, coping, door and window sills, &c., cast-iron door and window frames, roof covered with slate, and gutters and spouts of copper. The centre building (one-third of the whole length) is of two stories; the wings of one story, One of the wings is the grinding ^d-mill (the south or east wing, B.dg. 8A), now in full operation; the other wing, with the centre building, will accommodate the saws, planing machine, wood-turning lathes, and other machinery necessary for making arms chests, &c. The turbine wheel now in operation (in the grinding mill) will
17
suffice for the whole of the machinery of this shop."

The turbine water wheel, complete with flumes, implements, main upright shaft and bevel gearing had been purchased from the Ames Manufacturing Company of Boston, Mass. on September 20, 1850, at a cost of \$ 2,000 plus about \$ 45.74 for
18
railroad freight.

Of the water wheel, Symington wrote in his annual report : One new turbine wheel had been placed in position at the new grinding mill " and substantial wheel pits of masonry sunk, together with cast-iron head gates, set in solid walls of grouted masonry." One water-wheel regulator had also been placed in position complete. "Heavy foundation walls of masonry have been erected in the new grinding mill, to support the cast iron frames for the (grind) stones which have been transferred from the old to the new shop, and placed in position. New housing for the (grind)

16. 3rd S., F. 12680, V. 69, to Decker and Robinson, July 3, 1851, for \$ 48.60.

17. Serial No. 611, Document No. 1, pp. 458-459.

18. 3rd Series, F. 11542, V. 10, September 20, 1850, part of an order for 3 cast-iron water wheels, for \$ 6,000.00 plus \$ 137.24 for freight. The other two turbines were put in the tilt hammer shop for barrel welding.

150

"stones have been made and attached, and extensive repairs done to the
fixtures generally of the mill, which is now in complete running order."

Total recorded cost of constructing the new shop, exclusive of machinery,
to December 31, 1851, was \$ 5,822.04. Total cost of construction was probably
about \$ 9,730.00.

151

CONSTRUCTION OF THE GRINDING MILL(8A,) Sawmill(Center-Bldg.8B),
and Carpenters Shop(North Wing-Bldg. 8C), Musket Factory, 1950-51.

Project	Cost	Description of Work
For Foundation, Forebay, wheel Pit: To stone mason Edward Tearney	\$ 2,808.40	For 109 17.27 cubic yards of rock excavation for 978 10.27 cubic yard of earth excavation for 842 9/25 perches stone mortar masonry. for 139 24/25 perches of dry wall masonry. for 728 9/12 sup. feet face hammered stone wall. for 485 3/12 lin. feet of cut stone, water table, steps, set.
To Brick mason William Collins	877.00	For laying 156,405 bricks in walls for laying 207 feet of brick cornice for setting 365½ lin.feet cut stone window sills and coping.
Stone Cutter Redmond Burke	\$ 620.21	For providing \$ 882 7/12 lin. feet of cut stone.
To brick maker William Collins	542.24	for making and delivering 55,750 bricks for transporting 106,444 additional bricks.
Carpenter Work Jesse Schofield, Meen & Brewing.	783.66	For making total of 1,920 square and circular lights of sash;putting in 1st and 2nd floor flooring; 3,842 sq.feet of flooring, ceeling 3,234 square feet; framing and sheathing roof, 4,480 sq. feet, making 3 outside doors.
Slating: George W. Tracey	97.93	slating 4,806 sq.feet of roof.
Copper Gutters & Spouts, Dennis Snook	44.00	for 216 feet gutters, 120 feet spouts, and 8 heads for spouts.
Lightning rods	48.60	for 4 points and 3 leads, at 15 c per foot.
Total:	\$ 5,822.04	Probable total cost: \$ 9,730.00

Construction expeditures:

1849: \$ 178.90
1850: 3,132.85
1851: 2,460.34

Total of cut stone used in construction of
shop= 850 9/12 lin. feet.

12. The new Annealing Shop and Brass Foundry, Musket Factory, 1851-52

The Annealing House and Brass Foundry is Bldg. No. 14 on the 1859 Historical Base Map.

By 1850, the Annealing Shop and Proof House, built of stone in 1834 at a cost of approximately \$ 1,872.36 (See Bldg. No. 15 on Map No. 5(1848)), was in such ruinous condition as to be no longer safe to use.

Accordingly Major John Symington paid the brick mason William Collins \$ 129.77 in June of 1850 for constructing an ^{temporary} annealing furnace and also ¹ a charring furnace in the old smiths shop, Bldg. No. 16 on Map 5(1848).

The superintendent described this construction in his annual report for the year ending June 30, 1850 as follows: A double-annealing furnace and stack of brick-work, with cast-iron front, has been erected in one of the old smiths shops; also, in the same shop, a new charring-furnace (for leather), with cast-iron ² cylinder."

In his estimates for the 1851-52 fiscal year, Major John Symington requested the appropriation of \$ 9,550.00 "for erecting a new annealing furnace and brass foundry at the musket factory", explaining the need as follows:

"The old annealing shop has, from necessity, been abandoned, the walls threatening to tumble down, and the floor flooded more or less, at every freshet in the river. Temporary structures for this work have had to be resorted to till suitable ³ permanent ones, which are much wanted, can be constructed." The requested ⁴ money was appropriated on March 3, 1851.

3. Harpers Ferry NHP Microfilm Reel No. 20, Vol. 7, p. 694, Item No. 1.
4. U.S. Statues at Large, Vol. IX, p. 620.

F. 11000 for \$ 19.25,
1. 3rd S. V. 24, to William Collins, June 26, 1850 for 6½ days service of mason, tender, mortar; F. 11000. V. 52 to Collins, June 26, 1850, for \$ 110.52. 20,249 brick apparently went into the new annealing furnace and 2,320 brick into the charring furnace.
2. Serial No. 587, Document No. 1, p. 476, Item No. 6.

153

This was the last structure at the musket factory to be designed and erected by Major John Symington.

Construction on the annealing house and brass foundry got underway during the summer of 1851. The stone cutter Redmond Burke was paid \$ 412.89 for providing 453 3/12 lin.ft of cut stone and also steps for use as follows:

\$ 191.16	for 162 feet of coping.
172.86	for 258 feet of window sills.
22.27	for 33 3/12 feet of water table.
24.00	for 24 cut stone steps.
2.00	for 1 day checking on steps.
\$ 412.89	453 3/12 ft of cut stone. (5)

The stone mason Edward Tea rney received \$ 2,695.77 for executing the following construction on the foundations of the building:

\$ 341.40	for 1,138 cubic yards of earth exeavated.
101.40	for 507 cubic yards of earth excavated for foundations.
2,158.00	for building 1,079 perches of heavy mortar masonry, foundations.
57.40	for 574 sup. ft. hammered face wall.
34.20	for 342 ft of cut stone water table and sills set.
3.37	for 1½ days service of stone cutter dressing water table.
\$ 2,695.77	(6)

Major Symington described this work in his report for the year ending June 30, 1851, writing: "The excavation and stone masonry for foundation of annealing shop and brass foundry is nearly complete and ready for the brick masonry. This building will be 109½ by 36 feet, divided by partition walls into three compartments, and of the same style of finish as the other new shops."

The one-story brick walls were erected by N.P. Haller (who had replaced the deceased mason, William Collins) in the fall of 1851 for the sum of \$ 1,057.10. This work included the following items:

\$ 995.10	for laying 165,850 bricks.
19.75	for laying 158 feet of cornice. (brick?).
20.41	for setting 157 feet of cut stone coping.
21.84	for setting 168 ft of cut stone window sills.
\$ 1,057.10	(8)

(5). 3rd Series, F. 12680 V. 23, September 1, 1851, for \$ 412.89.

(6). 3rd S.. F. 12680, V. 54, September 8, 1851, for \$ 2,695.77.

(7). Serial No. 611, Document No. 1, p. 459, item No. 4.

8. 3rd S., F. 13107, V. 17, November 5, 1851, for \$ 1,057.10.

The master carpenter Jeremiah Fuss was paid a total of \$ 695.28 for performing the following carpenter work on the annealing shop and brass foundry:

October 31, 1851	- \$ 377.54	for framing, constructing and sheathing 5,207½ feet for roof. (9)
December 12, 1851	41.25	for making 15 large window and door frames, set, with the center.
	13.50	for 9 small window and door frames, ditto.
	36.30	for three large doors & frames, fitted & hung.
	7.75	for 1 small door and frame ditto.
	62.40	for making 624 circular light sash.
	51.84	for making 527 square light sash.
	105.00	for three ventilators on the roof complete.
	<u>\$ 317.74</u>	Dec. 12, 1851 (10)
	\$ 695.28	

Total of recorded expenditures on the construction of this building in 1851 was approximately \$ 4,861.04.

Destruction of the Armory paymaster's vouchers for the years 1852 to 1861 by the National Archives staff during the 1940's makes it impossible to trace in detail both the final completion of the Annealing Shop and Brass foundry in 1852 and any repairs or alterations made from 1853 to 1861.

In his annual report for the fiscal year ending June 30, 1852, Brevert Colonel Benjamin Huger, the new superintendent, reported: "The new annealing and brass foundry, described in the last report as ready for the brick masonry, has been completed." 11

The Annealing House and Brass Foundry had cut stone water table, coping, window sills; apparently wooden door and window frames; copper gutters and down spouts; its gable roof, probably covered with slate, was crowned on the ridge with three ventilators, one for each of the three compartments below.

9. 3rd S., F. 13017, V. 11, October 31, 1851, for \$ 377.54.
10. 3rd S., F. 13107, V. 42, December 24, 1851, for \$ 317.74.
11. Serial No. 659, Document No. 1, p. 253, item 1.

Construction of the Annealing House and Brass Foundry, Musket Factory,
1851-52. Bl'g. No. 14 on 1859 historical base map).

Project	Cost	Description of Work
Foundations: Edward Tearney	\$ 2,695.77	for 1,645 cubic yards of excavation of earth. for 1,079 perches of heavy stone mortar masonry. for 574 sup.ft. hammered face wall. for laying 342 lin.ft. of cut stone water table, sills.
For cut stone Redmond Burke	412.89	for 453 3/12 lin. feet of cut stone water table , sills, coping, and stone steps.
For brick walls N.P. Haller	1,057.10	for laying 165.850 bricks. for laying 158 feet of brick cornice. for setting 157 feet of cut stone coping. for setting 168 ft. of cut stone window sills.
For carpenter work Jeremiah Fuss	695.28	framing and sheathing, 5,207½ feet for roof. for making 15 large window and door frames for making 9 small window and door frames. for making and hanging 3 large and 1 small doors and frames. for making 624 circular and 527 square light sash. for making three roof ventilators.
For making Brick	?	?
For slating roof	?	? 1852
For gutters and spouts	?	? copper gutters and spouts ,1852
Building 2 brick annealing furnaces	?	? brick, 1852-53
Total:	\$ 4,861.04	Probable total cost= \$ 9,550.00

156

13. Alterations to the Finishing, or Old Bell Shop, Musket Factory,
1845-51

The Old Bell Shop, or Finishing Shop, is Bldg. No. 2 on Map No. 1 (1844), Bldg. No. 2 on Map No. 5 (1848), and Bldg. No. 3 on the 1859 historical base map.

The finishing shop, or Old Bell Shop, as it was usually called had been designed and erected by Superintendent James Stubblefield and Paymaster Samuel Annin in 1809-10. This workshop, the largest at the Harper's Ferry Armory ^{Prior to 1845} was two-storied, built of brick, with a wood shingled gable roof, and its dimensions were 131 by 45 feet. Its water wheels and forebay were constructed of wood. In 1824 a fire apparently swept through this building, leaving the brick wall standing, but destroying the floors, roof, and machinery. The structure was rebuilt in 1824 at a cost of \$ 5,000; the new roof was slated and a lath and plaster ceiling was installed. In March 1825 a cupola with a bell was constructed on the center of the Old Finishing or Turning Shop roof and the structure was henceforth generally known as the "Old Bell Shop." This At some unknown date after 1825 but prior to 1835, a large stone chimney stack bell sounded the hours of labor for the Armory workmen. During the period 1833 to 1839, the raceway and flume of this shop, including its forebay, were completely

rebuilt of stone and enlarged and ^{NCP} deepened, so that a new, larger, and more efficient water wheel could be installed to driving the machinery in the Bell Shop. ¹
constrast

Probably because of its great width, 45 feet, in contrast to only 30 feet for the other old musket factory workshops, and its extensive rebuilding in the late 1820's and 30's, Major John Symington decided to preserve this old structure by altering ^{it} for modern use and replacing its machinery with newer items

The remodelled Bell Shop and the remodelled Armory Office building were

1. See Volume I for a detailed history of this building, 1809 to 1841, with summary pp. 496-498.

thus to be the only two surviving examples of the early(pre-1810) structures still to be standing at the Musket Factory in 1861.

The estimate for the 1844-45 fiscal year contained a request for \$ 500.00 for the purchase of a large clock. It was explained" Much inconvenience is experienced from the want of means for regulating properly the hours of labor. It is thought that the cost of a good clock would soon be reimbursed by the precision given to the signals for labor."² The money for this fiscal year was appropriated on June 14, 1844,³ so it is possible that this clock, if actually acquired, was added to the cupola of the Bell Shop in 1844 or 1845.

In his annual report for the year ending June 30, 1845, under the heading of machinery made, Superintendent Symington reported that"26 feet of main working shaft, 19 counter shafts, with the requisite pulleys and appendages, (had been⁴ put in operation in finishing shop(at the musket factory)."

In June 1847 \$ 23.42 was spent to repair the plaster in the Bell Shop.⁵ In his his annual report for the year ending June 30, 1847, Major Symington reported: " 21 60/100ths square of new joist and floorings, and 11 66/100ths squares of new partition, have been put up in the finishing shop, the old floor having fallen in from decay."⁶ The Paymaster's vouchers for the 3rd and 4th quarters of 1847 and all four quarters of 1848 are missing from the^R places in the National Archives both Records, hence it is impossible to determine^A the cost of alterations and who performed the work on the Bell Shop during this period. In the annual report for fiscal year ending June 30, 1848, however, Symington described these changes as follows: "A large chimney stack of masonry in the bell shop, to accommodate a forge fire on each floor, has been taken down, and two portable⁷ forges, opening into sheet iron flues, substituted." He further reported that "The driving machinery

2. Serial No. 439, Document No. 6, p. 94, Item No.3.

3. U.S. Statues at Large, V, p.698. The original estimate of \$17,000 was reduced to an appropriation of only \$ 12,000. It is not clear if the money was provided to purchase the clock.

4. Serial No. 470, Document No.1, p.420.

5. 3rd S., F. 5623, V. 38, to R.J. and W. Brenn, June 10, 1847, for \$ 23.42.

6. Serial No. 503, Document No.1, p. 692, Item 3.

"in the bell or finishing shop has been improved by substituting pulleys and cones of pulleys for the continuous line of drums on the main driving shaft; and removing, as unnecessary, one line of counter machinery. By this arrangement the consumption of oil will be greatly diminished, and fewer bands required."

In the estimates for the 1849-50 fiscal year, Major John Symington asked for \$ 2,675.00 "for repairs to finishing shop, fitting up shelves and racks for patterns, and coloring the exterior of buildings." He explained the need, writing "The finishing shop requires gutters and down spouts, and a ceiling of boards for the upper story, the old lath and plaster ceiling being broken by the driving machinery, The patterns [for musket parts], which are very numerous and valuable, have now no special place of deposit, and suffer for the want of order and management. Some of the buildings only being colored, it is proposed, or uniformity and preservation, to color them all with a uniform fast wash." The requested sum was appropriated on March 3, 1849.

The tinsmith Henry W. Edwards was paid \$ 41.81 on May 18, 1849 for repairing or making the copper spouting gutters on the Bell Shop and one dwelling house.

In March 1850 the carpenter Patrick H. Kelly received \$ 100.00 "for carpenter and labor ceiling the second story of the Bell Shop and casing pillars & girders, for the same." In his annual report for the fiscal year ending June 30, 1850,

Symington also noted: Extensive repairs have been made on the large iron-overshot-wheel at the Bell Shop.

7. Serial No. 537, Document No. 1, p. 347, Items 1 and 2.
8. Serial No. 538, Document No. 2, p. 118, 119, item No. 4.
9. U.S. Statues at Large, Vo. IX, p. 376.
10. 3rd S., F. 9307. V. 22, May 18, 1849, for \$ 41.81.
11. 3rd S., F. 10673, V. 23, March 8, 1850, for \$ 100.00.
12. Serial No. 587, Doc. 1, p. 475,

In October 1850 \$ 5.18 was spent to plaster 51 8/9 square feet of ceiling
of the wash house at the Bell Shop. ¹³ In May 1851 the carpenters Meen and
Brewing received \$ 70.00 for "making alterations to wash house at Bell Shop
and Boring Mill, to fit it for holding the grinder(?)" ¹⁴ In June 1851,
lightning rods- 2 points and 2 leads to the ground, were installed on the roof
¹⁵
of the Old Bell Shop at a cost of \$ 50.40.

13. 3rd S. F. 12169, V. 1, to Reuben & Dowling, October 18, 1850, for \$ 5.18.
14. 3rd S., F. 12680, May 21, 1851, for \$ 70.00.
15. 3rd S. F. 12680, V. 69, to Decker and Robinson, July 3, 1851, for \$ 50.40.

14. A Coal Scale and Shed, Musket Factory, 1849.

A minor structure erected for Major John Symington in the musket factory yard in 1849 at a cost of \$ 85.02 was a coal scale and shed.

received

The stone mason Peter Little \$ 45.52 for the following work:

\$ # 4.31 for excavating 14 10/27 cubic yards of earth.
 39.42 for erecting 26 7/25 perches of stone masonry.
 1.79 for paving 14 3/9 sq.yards with brick.
\$ 45.52 (1)

2

The carpenters Landerkin and Rowe were paid \$ 39.50 "for making a wooden shed over the coal scale".

The location of this scale in the musket factory yard is unknown. As the coal was delivered from barges that entered the armory canal, the scale was probably located near the armory canal and perhaps adjacent to the Lumber House and Bituminous coal bins, Bldg. No. 10 on the 1859 base map(Bldg. No. 10 on 1848 Map No. 5).

-
- 1.3rd Series, F. 9307, V. 36. June 11,1849,,for \$ 45.52-money was paid to Edward Tearnay as executor of Peter Little,deceased.
 2. 3rd., F. 9093, V.27, March 3,1849, for \$ 39.50.
 - 3.3rd S. F. 10276, V. 16, Nov.3,1849, for \$ 160.83.

160
B/L No 5

Repairs and Alterations to the Boring Mill, 1846-1851:

From 1846 to December 31, 1851, a total of approximately \$ 115.72 was spent making repairs or alterations to the Boring Mill. In 1846 6½ feet²⁶ of copper spouting was added at a cost of \$.65. In 1850 the brickwork²⁷ was repaired for \$ 3.50. Also in 1850, the exterior brick walls, 644 square yards, were colored with one coat of cement wash.²⁸ In July 1851 lightning rods, consisting of three points with three leads to the ground were installed²⁹ at a cost of \$ 41.55. Finally, in August 1851, the carpenter Jeremiah Fuss was paid \$ 55.00 under a contract for making window frames, door frames,³⁰ sash, door, and putting up a board partition wall in the Boring Mill.

[B/L No 3 in 1848 Man]

- 26, 3rd S., F.4403, V. 22- To Denis Snook, Sept. 8, 1846.
27. 3rd S., F.12168-V. 20, to William Collins, Nov.30, 1850, for \$ 3.50.
28. 3rd S., F. 11542, V. 12, To Francis Sinmons, Sept.27, 1850.
30. : 3rd Series, F, 12680, F. 10, to J.Fuss, Aug.8, 1851.
29 .3rd S., F. 12680, V.69-Decker and Robinson, July 3, 1851.

15. Horse and Carriage Shed, Musket Factory, 1851.

In December 1851 Superintendent Brevet Colonel Benjamin Huger expended \$ 104.72 to erect "horse and carriage shed" at some unknown location. It could have been located at the Armory stable, Block F, Lot 2, Shenandoah Street, or perhaps more likely, near the Armory Office Building (No. 2 on 1859 base map) and gates to the Musket Factory, for parking visitor's horses and carriages. The foundations of the building were constructed by Edward Tearney for \$ 27.72, who performed the following work:

\$ 1.80 for excavating 6 cubic yards of earth
25.92 for erecting 17 7/25 perches of stone wall, foundation.
 \$ 27.72 (1)

The master carpenter Jeremiah Fuss received \$ 77.00 for doing the carpenter work for constructing the new shed. (2)

In his annual report for the fiscal year ending June 30, 1856, Superintendent Henry W. Clowe reported: "The horse shed, occupying a position in the Armory yard, near the entrance gate, has been removed to a more suitable site,, on North Cliff Street...." ³ This ^{Probably} refers to the shed that was constructed in 1851.

1. 3rd S., F. 13107, V. 41, December 24, 1851, for \$ 27.72.
2. 3rd S., F. 13107, V. 42, December 24, 1851, for \$ 77.00.
3. Serial No. 876, p. 389.

162

Bldg 15

Repairs and Alterations to the Proof House, 1845- 1851

In March 1850 the carpenter Patrick H. Kelly was paid \$ 38.00
for making 10 large blinds and taking down roof and repairing the sheathing
8
at the musket factory proof house. In 1849 the exterior brick walls
of the building had been colored by Francis Trinmous with cement wash
9
at a cost of \$ 31.29.

[Bldg No 14 in 1848 map]

8. 3rd Series, F. 10673, Voucher 25, To Patrick H. Kelly, March 8, 1850,
for \$ 38.00. \$ 30.00 for making blinds and \$ 8 for repairing
Sheathing. Patrick H. Kelly, incidently had help build and was owner of
one-half of Bldg. No. 38 (Park Building) on Shenandoah Street.

9. 3rd S., F. 10276, V. 16, dated November 3, 1849, for \$ 31.29.

Repairs and Alterations to the Warehouse, 31st. 12.
Musket Factory, 1845-51.

In 1849 approximately \$ 341.95 was spent making repairs to the
warehouse: This included \$ 1.31 for repairing gutters; ²¹ \$ 12.00 for
²² putting up handrail and banister stairs of storehouse; 50 cents for
²³ one-fourth day work of brick mason; \$ 47.32 "for cloring (exterior) walls
²⁴ of storehouse with cement wash; and finally, \$ 281.32 for "filling in the

- 21. R.G. 217-3rd S., 9093-V.7-Jan.27,1849-to Tinsmoth Henry W. Edwards.
- 22. R.G. 217-3rd S., 9307-V. 77-July 9,1849-William J. Rose, Carpenter.
- 24 R.G. 217-3rd S.-10276-V.16-Nov. 3,1849-Fancis Trimmous.
- 23, R.G. 217-4rd S, 10276-V. 8-Oct.10,1849-William Collins,brick mason.

"cellar of warehouse" with 398 3/4 cubic yards for \$ 119.62 and paving ground floor, 259 1/2 square yards" for \$ 161.00.²⁵ In his annual report for the year ending June 30, 1849, Major Symington described the work on the cellar of the warehouse as follows: "The wooden floor of (the) new storehouse, at the musket factory, being decayed, fell in; the damage has been repaired by filling in the space an average depth of five feet with quarry spalls, and covering with large stone flagging."²⁶ To recover the money that had been expended in repairing the wooden first story floor, the annual estimates for July 1, 1850-June 30, 1851 requested the sum of \$ 505.00 to cover the cost of this construction.²⁷ Congress appropriated the requested amount on September 28, 1850.²⁸

Final changes to the building that can be documented from existing Armory Paymaster records occurred in June 1851, when \$ 31.35 was spent to have lightning rods installed on the warehouse. Two points with two leads to the ground, 209 feet, were placed on the storehouse.²⁹

- 25. R.G. 217-3rd S., F. 9307-V. 36- June 11, 1849-To Edward Tearney, as executor of the estate of Peter Little, deceased stone mason.
- 26. Serial No. 549-Document No. 1, p. 366.
- 27. Serial No. 568, Document 4, p. 156-157. For repairing the storehouse at Musket Factory - \$ 505.00. The wooden floor of this building having fallen in from the decay of the timber, it becomes necessary to provide a new flooring, which is to be made permanent by filling in with quarry spalls to the level of the floor, and paving with rough flagging."
- 28. U.S. Statues at Large, IX, p. 507.
- 29. R.G. 217-3rd S., 12680-V. 69- July 3, 1851 to Decker and Robinson, They charged 15 cents a foot, Total of bill, \$ 31.35.

16. Repair of the Old Workshops at the Musket Factory, 1845-51:

From 1845 to 1851 a recorded total of approximately \$ 4,430.72 was spent to make repairs to the old shops, as follows:

1845:	\$ 508.91
1846.	3,081.46 (includes \$ 3,009.88 for cast iron forebay)
1847:	records for one-half year missing
1848	records missing
1849	433.39
1850	278.96
1851:	127.90.

17. Repair of Old Grinding Mill (1831) and Old Tilt Hammer Shop, Wheelbar Factory, 1845-1847

The major repair work during this period was done on the Old Grinding Mill, Bldg. No. 9 on Map No. 5 (1848), and the Old Tilt Hammer Shop for Barrel Welding, Bldg. No. 11 on Map No. 5.

In his estimates for the 1846-47 fiscal year, Major Symington requested a total of \$ 12,900.00 to rebuild the wooden water wheels and forebays of these two structures. Of the total, \$ 10,400 was earmarked for the tilt shop and \$ 2,500 for the grinding mill.

At the grinding mill, Symington hoped to replace the decaying wooden forebay with a new one of stone and the old wooden wheels with new ones.

At the tilt hammer shop, the sum of \$ 2,600 was to be used to replace its rotting wooden forebay with a new one cast iron, and to also replace old wooden wheels with new ones.

The sum of \$ 7,800 was to be used to reconstruct the wooden hammer frames of six tilt hammers for barrel welding with stone frames. Six wooden wheels should be renewed and their shattered flues rebuilt.

The requested amount of \$ 12,900 was appropriated on August 8, 1846. On October 10, 1846 a cast-iron forebay and penstock for the tilt hammer shop was purchased from Ross Winans for \$ 3,009.88.

In his estimates for the 1847-1848, Symington requested an additional appropriation of \$ 2,700 "for raising the floor of the barrel-welding shop, and for replacing the tub-wheels now used for barrel-welding, by turbine wheels." He explained that the floor "is now, in ordinary freshets" under water", thus stopping all work. Also that turbine wheels, unlike tub wheels were "not materially affected by back water."

15. Serial No. 481, Document No. 9, p. 111, 112, item 11.

16. Serial No. 481, Doc. No. 9, p. 111, 112, Item 10.

17. Serial No. 481, Doc. No. 9, pp. 111, 112, item 9.

18. U.S. Statues at Large, IX, p. 69.

19. 3rd S., F. 4837, V. 2, October 10, 1846, for \$ 3,009.88.

20. Serial No. 497, Document No. 3, p. 142, item 7.

March 2, 1847, thus bringing the total available for work on the tilt hammer shop to \$ 13,100, and the grand total for this and the grinding mill, to \$ 15,600.

Finally, in his estimate for the 1848-49 year, Symington requested and received on August 14, 1848, the sum of \$ 850.00 "for building a room for inspecting forged barrels at the musket factory," explaining: "There is neither room nor light for inspecting barrels in the welding shop, consequently these barrels have to be carted down to the lower shops to be inspected, and sent back to have the cone seat welded on. This great inconvenience and expense will be avoided by having an inspecting room adjoining the barrel forging shop."²² Total of \$ 13,950 thus appears to have been expended on the tilt hammer shop for barrel welding and \$ 2,500.00 on the old grinding mill, making a grand total of \$ 16,450 spent for repairs on the two structures.

In his annual report for the fiscal year ending June 30, 1848, Major John Symington described this repair work as follows:

"Extensive repairs have been made to the barrel-welding shop, and to the wheel and forebay of the grinding mill.

The forebays and penstocks of these shops have been repaired- almost renewed, and the wheels repaired. The hammer frames for welding barrels have very generally required repeated repairs. An ~~ent~~irely new frame for the hammer, for drawing iron and steel, has been made. The heavy repairs, so frequently recurring to this old and worn out machinery will add considerably to the cost of producing the musket.:"²³

The old grinding mill, as has been noted, was pulled down in 1850,

21. U.S. Statues at Large, IX, p151.
22. Estimate in Serial No. 514, Document 2, pp.110,111, item 3.; appropriation in U.S. Statues at Large, IX, p.306.
23. Serial No. 537, Document No.1, p.347, item 3.

168

and the old tilt Hammer shop for barrel welding, ldg. ^B 16.18 on 1848 map,
24
was to be demolished during the fiscal year ending June 30, 1853.

18. Musket Yard Privies : 1849-51

169

From 1849 to 1851 a total of approximately \$ 111.17 was expended on the construction of privies in the musket factory yard.

On December 27, 1849, the carpenter Patrick H. Kelley received \$ 18.00 for making doors, floors, and ceiling for the (probably brick) privy of the Public Offices (Bldg. No. 2 on the 1859 historical base map.)

On September 30, 1850, the carpenter Jesse Schofield was paid \$ 51.67 for "carpenter work building of one new privy for armory 18 by 7 feet with 7 stalls, including the removal of the old privy and constructing a new one in its stead, the same dimensions.:"

In 1851 \$ 42.50 was spent to erect a new privy. Of this total, \$ 4.50 went to the stone mason Edward Tearney for providing the services of a stone cutter, who spent 2 days "cutting out wall under (B.&O) railroad for new privy." The balance, \$ 37.00, was paid to the carpenter Jeremiah Fuss for "Construction of one new privy for shops, for \$ 35.00; and \$ 2.00 for repairing old privy for the shops."

1. 3rd S., F. 10276, V.46, Dec. 27, 1849, for \$ 18.00.
2. 3rd S., F. 11542, V.14, September 30, 1850, for % \$ 51.67.

3. 3rd S., F. 13107, December 24, 1851, for \$ 4.50.
4. 3rd Series, F. 13107, December 24, 1851, for \$ 37.00.

19. Coloring the Exterior Brick Walls of the Shops with Cement Wash. 1849-52 each

The details of applying cement wash to the exterior brick walls of musket factory building, has been mentioned in the discussion of that edifice. Here is noted that a total of \$ 321.03 was expended on this project in in 1849 and 1850 . Of this sum, \$ 160.⁸³ was paid to Francis Trinmous on November 3, 1849 for coloring a total of 3,480 square yards of brick wall. on September 27, 1850 The balance, \$ \$ 160.20, went to Francis Sinnons for applying three coats of cement wash to 2,718 square yards of brick wall.

In his annual report for the fiscal year ending June 30, 1851, Major John Symington reported : "Two coats of patent paint, in oil, have been applied to the exterior walls of all the shops(except three not yet completed) and storehouses(at both the musket and rifle factories); also, to the commanding officer's, paymaster's, and master-armorer's quarters."

4. 3rd S., F., 11542, V. 12, September 27, 1850, for \$ 160.20.

2. Serial No. 611, Doc. 1, p. 459.

20. HEATING Facilities for the Workshops: 1851:

In his annual report for the year ending June 30, 1851, Superintendent Symington reported "The facilities for warming shops have been very much improved at the musket and rifle factories, by 644 feet of sheet iron stove pipe, 11 inches in diameter." ¹ Cast iron stoves were being made by Hugh Gilleece at his foundry on Virginus Island. On April 8, 1846, the Armory purchased three cast iron stoves from Gilleece for \$ 55.16 "for heating armory shops." ² On September 25, 1850, the armory also purchased 775 feet of stove pipe from the tinsmith Alexander S. Vernon, for \$ 50.37 : "for heating workshops." ³

- ¹ W. Serial No. 611, Document No. 1, p. 457.
² D. 3rd S., F. 3502, V. 54, April 8, 1846, for \$ 55.16.
³ B. 3rd S. F. 11542, V. 11, September 9, 1850, for \$ 50.37.

21.

Placing Lightning Rods on the Public Buildings, Musket
and Rifle Factories, and the Quarters of the Commanding Officer
and Paymaster, 1851.

The details and cost of placing lightning rods on each public building ~~are~~ discussed in each section dealing with structures at the Musket and Rifle Factories and also for the sections relating to the construction of the new dwelling houses for the Commanding Officer and the Paymaster. Here it is noted that this work was performed by Decker and Robinson, who were paid a total of \$ 597.75 for this service on July 3, 1851. For this sum they furnished the materials and placed in position on the public buildings a grand total of 3,955 lineal feet of lightning rods and points at a charge of 15 cents per foot. In his annual report for the fiscal year ending June 30, 1851, Superintendent John Symington noted that lightning rods had been attached to all these buildings.

1, 3 vs. F. 12680, V. 69, for \$ 597.75, part of payment totalling \$ 677.75.
Serial No. 611, Document No. 1, p. 459.

22. Purchase of Land for the Musket Factory, 1847-49:

In Volume One of this study, pp. 376-380, it was narrated how Superintendent James Studdblefield, in April 1828, first suggested the desirability of purchasing about one acre of the Wager Family land that was located in the Six Acre Reservation, immediately to the west or south of the Musket Factory tract and running parallel with the Musket Factory canal for about 140 yards. Only a 15 foot wide alley separated the numerous wooden structures on this private land from the musket factory workshop. Stubblefield pointed out that the acquisition of this land and buildings, would permit the demolition of the edifices, many of which were "miserable tippling shops" that were contrary to good morals and industrious habits of Armory workmen, and also fire hazards. The narrow alley could also be widened into a broad street, thus creating an effective fire lane to protect the musket factory shops. It would also make it possible to widened and more readily maintain the armory canal. On July 2, 1836, after several unsuccessful requests, Congress finally appropriated the sum of \$ 5,000.00 to purchased the proposed one acre of Wager land. By this date, however, the Wager heirs were involved in financial and legal difficulties and no longer able to sell the one acre of land they had been ready to ^{deliver} for this price as late as 1834. The whole project in 1836 thus became abortive.

Major John Symington, as a young lieutenant, had served as acting superintendent of the Harper's Ferry Armory in August 1829 and thus may have learned of this plan to purchase the Wager land. ^{It} ~~is~~ certain, however, that shortly after

1

assuming his duties as superintendent of the Harper's Ferry Armory, in 1844, Symington revised the 1828-36 project and expanded it. In a letter to the Chief of Ordnance, Lt. Col. George Talcott, dated December 12, 1844, Major Symington, wrote:

I have the honor to enclose, herewith, schedules A and B, with plat (see Map No. 4) of a part of the public property at this place, with adjacent lots belonging to private individuals (in the Wager Six Acre Reservation).

These schedules and plat exhibit the relative locality of some of the public buildings, and of such lots and parts of lots adjoining, to private individuals, with a description of the improvements thereon, and the price for which the whole can be purchased for the United States from the respective owners. (Schedules A and B are in Appendix No. I).

These papers have been prepared with a full belief that when the inconvenience of having private property, over which the United States has no control, so immediately contiguous to public buildings of great value are made known and understood, speedy arrangements will be made to purchase out such private property, and thus secure the control of it to the United States.

The considerations to offer for the purchase of this property are, the public buildings bordering the armory canal from danger of fire occurring in the alley; to which casualty there is great liability, from the many stables and small shanties situate thereon.

The public buildings adjoining are generally filled with machinery, immensely valuable; the loss of any one of which would be threefold the value of the whole of those private lots with their improvements - not to count the loss to be sustained by a general interruption to the operations of the armory.

But even should fire originate in the rear of one of the public buildings, the confined situation of the narrow alley would be a serious (perhaps insurmountable bar) to its being checked, as was the case May, 1824, when a valuable building (The Old Bell or Finishing Shop, Bldg. No. 3 on 1859 map) was totally consumed (except for its brick walls) from fire occurring in a stable in the rear, covering one of the water wheels. Could access have been had to the rear, and room to play the engines in this alley, the fire would have been put out before it communicated to the main building.

Another great inconvenience is, that this alley is, for the most part, occupied by stables, and used by the tenants of the lots, whose residences are generally on High Street, as an approach to their premises; here is received wood and other supplies, and it is made a place of deposit for all the offal made in the vicinity - its only place of removal, whenever it is required, being into the armory canal; thus occasioning labor and expense in cleaning from time to time.

175

This too has been a fruitful cause, and perhaps the chief one, of the sickness that at times prevails.....

The schedule A includes the whole of such lots, and the improvements thereon, between High street and the alley (in the Wager Six Acre Reservation), that can be purchased. Also the two lots and buildings, Nos. 11 and 12 (in the Wager Ferry Lot Reservation), at the entrance of the armory enclosure, about which I shall say more hereafter; and considering all things, I would certainly recommend that this entire purchase be made, rather than a part, as shown in Schedule B/ (Schedule A asked for \$ 50,261 and Schedule B for only \$ 31,648). The purchase would secure some good comfortable dwellings on High street, suitable for inspectors and other officers whose quarters are furnished to them. And thus quartered, the stables, shanties, &c. being removed, and the alley permanently widened to a broad avenue of (say) 40 feet, they could have the armory buildings always under view, and the declivity between these dwellings and the avenue neatly cultivated. There is a want of good buildings for dwellings for the armorers. The greater part of those built many years since, of wood, and in low damp situations, are in wretched bad condition, continually requiring repairs, so as to consume in a great degree the amount received from rents. The purchase of those in schedule A would secure several good residences, so much needed to be occupied in place of so many of the old structures now tottering in decay, and consuming by continual expenses for repairs, the rent fund.

The Lots Nos 11 and 12 (in the Wager Ferry Lot Reservation) are covered entirely with buildings occupied as stores. They are situated, as you will perceive on the plat (Map No. 4), in front of the armory enclosure, and allowing only a narrow entrance to the armory. This approach is most generally filled with horses, wagons, &c., and the empty packages turned out from the stores, and is the usual mart where the country people exhibit their products for sale, rendering the place filthy, and frequently interrupting the entrance into the armory.

This nuisance can only be corrected by purchasing out the property... //

After discussing the merits and demerits of the alternative plan Schedule B, Symington also requested \$ 2,000.00 to purchase Dr. Nicholas Marmion's leasehold of U.S. land, which will be given further consideration in the section on Armory Dwellings, and \$ 1,500.00 to purchase a large portion of an island that was located in the Potomac immediately to the east or north of the musket factory. With regards to the island, Symington commented:

I submit also a proposition from Mr. Byrnes, the owner of a part of what is called Byrnes's island, the rest of the island being already in the possession and occupancy of the United States.

As the price asked appears to be reasonable, (\$1,500), I would recommend the purchase of it, as the only means of keeping off bad neighbors and of affording excellent gardening ground for armorers, who will be allowed to cultivate it on sufferance." 1

Under Schedule A, Symington hoped to buy 22 Wager Lots containing 40 buildings for \$ 47,761 (plus \$ 3,500 to acquire the Marmion Lease and Byrnes island), making a total of \$ 51,261.00 Under Schedule B, only 18 Wager lots with 35 buildings would be acquired for \$ 29,648 (plus \$ 2,000² for the Marmion lease, bringing the total to \$ 31,648).

Impressed with Symington's plans, Chief of Ordnance George Talcott, transmitted Symington's long memo, Schedules A and B, and the plat, to the Secretary of War _____ on January 6, 1845, as a part of his annual report, strongly endorsing proposal in the following words:

Some years ago(, (viz: in 1830), it was deemed proper to purchase one acre of land at the lower end of the armory canal, on the Potomac, to give more room for its extension, and quiet all claims to the land on its margin. The price then asked was \$ 5,000. The appropriation for this purpose was ultimately made in 1836; but, in the mean time, some of the land had changed owners; buildings had been erected on it; the price then demanded was for beyond the amount appropriated; it could not be purchased, and the money reverted to the surplus fund in the treasury. The reasons which formerly required this purchase have existed and gathered new force in consequence of the manner in which the ground is now occupied, but the cost at this time will be far beyond anything heretofore demanded. The officer in charge of the armory has presented a sketch of the ground, showing the position of all the buildings upon it, and estimate of the amount necessary to purchase the whole. I respectfully urge the importance of his views, as set forth in the papers herewith. Every year will add to the value of the land, and the necessity for the purchase will become stronger, as the hazard to the valuable machinery and workshops becomes greater. Although the cost will now be great, the position of things will not be improved by delaying the measure; and I therefore recommend the purchase at this time... (3)

The Ordnance's Department's estimates for the 1846-47 fiscal year contained a request for \$ 50,261.00 to purchase land for the musket factory in accordance with Schedule A.⁴ Congress appropriated the requested \$ 50,261 on August 8, 1846.⁵ a. Wager Lots Acquisitions 1847-49.

The purchase of the Wager land got underway in 1847 and was completed^{st. //} as far as it was possible to go, some owners^A refusing to sell, in 1848.

2. Serial No. 464, Document 43, pp. 9 to 12 contains Schedules A and B, but did not publish the 1844 map or plat, Map No. 4.
3. Serial No. 464, Document No. 43, 2-3.
4. Serial No. 481, Document No. 9, pp. 111, 112, item No. 19.
5. U.S. Statues at Large, IX, p. 69.

177

Although funds were appropriated on August 8, 1846, the Armory was unable to begin purchasing any of the desired property until June 1847 for the following reasons: (1) Some owners were unwilling to sell at the established prices. (2) Since the Schedule A of estimated prices for lots and buildings had been submitted on December 12, 1844, additional improvements had been made on three lots, thereby increasing their value. Their owners refused to sell unless they received an increased compensation of these improvements.^{5A} Finally, under the terms of the 1846 appropriations act, the entire area had to be acquired for the specific amount of \$ 50,261, or not could be purchased at all. In this situation Superintendent Symington informed Chief of Ordnance Talcott on December 4, 1846, the Armory could not legally purchase any portion of the desired land.^{5B}

These obstacles were surmounted first, by having Congress pass a special act on March 3, 1847, which authorized the purchases of parts of the desired land.^{5C} Second, by deciding to^{To} the relinquish the plan to purchase Lots No. 30, 31, and 32, and a part of Lot 29. The money saved by not acquiring these lots could be used to meet the increased prices demanded on the other lots. It was believed that the deleted^d property was located so far from the Musket Factory workshops, that any structures built on those lots would not endanger the public buildings in case of fire. Secretary of War Wilkins approved the change in plans for eliminating certain lots on April 29, 1847.^{5D}

After the Hon. James M. Mason examined the titles and the Attorney General approved his report, the money to purchase the property was sent to Armory on June 6, 1847.^{5E}

5A. Symington to Lt. Col. George Talcott, Chief of Ordnance, August 18, 1846, Harpers Ferry NHP Microfilm Reel 23, V.7, p.679.

5B. HFNHP, Reel 23, V.9, p.736,

5C. Reel 20, Vol. 7, p.657. U.S. Statutes at Large, IX, p.151.

5D. Reel 20, V.1, p.15.

5E. Reel 23, V.9, p.826. Also see Sullivan, Arthur L., "Historic Building Site Survey Report: Wager Lots No. 17 - 34, 1782-1869, Harpers Ferry National Monument, W.Va. (N.P.S. typescript, Harpers Ferry NM, W.Va., May 15, 1959), .13-15X.

On March 3, 1849, Congress made the further appropriation of \$ 200.00 to purchase a small Wager lot, part of No. 15, subdivision 4, that had not been included in the Schedule A listing. This additional increased the total money made available to buy land to \$ 51,461, of which 47,961 was earmarked to acquire Wager lots.

The annual rate of expenditure for acquiring land was as follows:

Year	Land and Bldgs. adjacent Musket Factory	Dr. Nicholas Marmions lease	for Byrnes Island	Total
1847	\$ 35,088.33	\$ 2,000.00	0	\$ 37,088.33
1848	3,640.00	0	1,500.00	5,140.00
1849	209.00	0	0	209.00
Total:	\$ 38,937.33	\$ 2,000.00	\$ 1,500.00	\$ 42,437.33

A balance of \$ 9,829.67 was left in the account on December 31, 1851 because the owners refused to sell.

The chart on the following presents a comparison of the estimated prices as given in the 1844 Schedule A and the actual prices paid in 1847-49. Of the 25 items included in the plan, 21 were acquired, but three of the latter were for only a small portion of a lot, and not the entire property as originally intended.

B. The Byrnes Island Purchase, 1848

On July 28, 1763, the royal governor of Maryland, Horatio Sharp, had granted Robert Harper a patent to an island in the Potomac River containing about 10 acres of land. This island, which was located opposite to the future site of the musket factory, passed through Harper's heirs to the United States

6. U.S. Statues at Large, IX, p. 372.

7. A fully documented account of the purchases 1847-49, will be found in Charles W. Snell, "The Acquisition and Disposal of Public Lands at the U.S. Armory at Harper's Ferry, Virginia, 1796-1885," (Typescript, Denver Service Center, National Capital Team, December 1979), Vol. I, pp. 15-20.

On November 14, 1853 and January 13, 1854, \$ 7,000.00 of the balance of \$ 9,829.67 was to be utilized to purchase Wager Lot No. 11 and the building standing on it.

CHART- LAND ACQUISITION, 1844- 1849

179

Schedule A Estimate

Prices Paid

Wager Lot No.	for Land	For Bldgs.	Total	For Land	For Bldgs.	Total	Date of Purchase
11	\$ 2,286	\$ 4,000	\$ 6,286	-	-	-	Not brought
12 NE	1,600	1,600	3,200	1,833.35	3,166.00	4,999.35	9/15/47 7/29/48 1
12 SW	2,500	2,500	5,000	2,500.00	2,500.00	5,000.00	7/1/47 2
16	182	218	400	237.00	0	237.00	6/6/48 3
17	182	18	200	237.00	0	237.00	6/6/48 4
18	725	1,700	2,425	1,806.00	800.00	2,606.00	7/1/47 7/2/47 5
19	725	1,700	2,425	750.00	1,845.00	2,595.00	6/30/47 7/9/47 6
20	725	2,500	3,225	833.33	3,500.00	4,333.33	6/8/47 9/4/47 7
21	750	2,050	2,800	1,000.00	2,000.00	3,000.00	7/1/47 8
22	750	2,200	2,950	1,000.00	2,500.00	3,500.00	7/1/47 6/6/48 9
23	800	100	900	900.00	0	900.00	3/7/48 10
24	750	850	1,600	200.00	222.66	422.66	* 6/7/47 6/8/47 11
25	600	50	650	224.66	0	224.66	* 6/7/47 12
26	800	1,800	2,600	833.33	2,250.00	3,083.33	6/8/47 9/14/47 13
27	800	1,200	2,000	1,000.00	1,000.00	2,000.00	6/9/47 14
28	800	1,200	2,000	400.00	0	400.00	* 6/8/47 15
29	800	700	1,500	1,000.00	750.00	1,750.00	10/2/47 16
30	800	900	1,700	0	0	0	not bought
31	350	60	410	0	0	0	not bought
32	1,000	100	1,100	0	0	0	not bought
33	350	40	390	400.00	40.00	440.00	10/2/47 6/8/47 17
34	800	2,200	3,000	1,000.00	2,000.00	3,000.00	10/2/47 18
15-4	200	0	200	209.00	0	209.00	5/28/49 19
Subtotal 24 lots	19,275	28,686	47,961	\$ 15,357.69	23,579.66	38,937.35	19 lots purchased
Marmion's Lease	0	2,000	2,000	0	2,000.00	2,000.00	11/30/47 20
Byrnes Island	1,500	0	1,500	1,500.00	0	1,500.00	2/2/48 21
Total	\$ 20,575	38,686	51,461	\$ 16,857.69	25,579.66	42,437.35	

* Only a small portion of the lot purchased..

by will and a deed to the Government, the later dated June 15, 1796, which gave the United States" an island in the River Potomack opposite to Harper's Ferry containing about Twenty Acres."

In 1815 or 1816, Patrick Byrnes had obtained a patent from the State of Maryland claiming the entire large island, including the 20 acre U.S. section. In an suit held in a Washington County, Maryland, court, Byrnes succeeded^d in establishing his title to about 30 of the 40 acres the island was then believed to contain. The title to remaining 10 acres was held by the Harpers Ferry Armory.

In 1841 Byrnes sold a very small portion of the island to the Baltimore and Ohio Railroad company, who purchased the lot as a footing for a possible railroad bridge that the company might wish to build over the Potomac. On February 7, 1848, Patrick Byrnes sold all his remaining portion of the island, about 72 3/4 acres, to the United States for \$ 1,500.00, thus eliminating the possible development of that island. This additional increased the total⁸ land holdings of the armory to about 1,949 acres.

C The Creation of North Cliff or Potomac Street, 1848-51:

Buildings located on the former Wager Six Acre land and fronting on the 15 foot wide alley that ran along the armory canal were demolished or removed after their acquisition by the U.S. Armory, 1847-49, thus eliminating both a fire hazard and a source of filth. Twenty-feet in depth of lower(or alley) end of ^{each} acquired lot was made into a forty-foot wide fire lane that was known first as North Cliff Street and later as Potomac Street. The new avenue, however, extended only from just south(or east) of lot 16 north (or west) across Wager Lot 34. The alley from Lot 15 south to Shenandoah Street was still only 15 feet wide;(See Map 4, 1844) Map. 5, (1848). Major Symington

8. Snell, C.W., "The Acquisition and Disposal of Public Lands at the U.S. Armory at Harper's Ferry, Virginia, 1796-1885," pp. 19-20.

described this work in his annual report for the fiscal year ending June 30, 1851 as follows: "The grading of the street along the (armory) canal, and the building of the stone wall on one side of said street, at the foot of the precipitous slope, to prevent the wash being deposited in the canal, is nearly completed. The grading of the road extends about 1,100 feet along the canal on a width of about 40 feet, requiring an average depth of excavation and filling of 1 4/12 feet; the wall is 667 feet in length, and 2 1/2 feet thick."

23. Armory Entrance Gate and Fence: 1846, 1849:

Major John Symington planned to construct a formal entrance and fence to the musket factory yard. ON November 22, 1845, the stone cutter Redmond Burke was paid \$ 31.00 for providing four cut-stone posts to be used at the armory gates. In the estimates for the 1846-47 fiscal year, the superintendent also requested \$ 350.00 for building a "Fence and gate at the upper end of the armory yard." ¹¹ This would be at the northern or western end. ¹² The amount was appropriated on August 8, 1846.

In his report for the year ending June 30, 1846, that there had been built "Wrought-iron gates, for the main entrance into the armory grounds: a large double and two large single gates." ¹³ In the estimates for 1847-48, Symington asked for \$ 1,100.00 "For enclosing wall and iron railing at the entrance of the armory yard," explaining that "The removal of buildings mentioned in Schedule A., attached to last year's estimate (building located on Lot 12) will leave this end of the yard open to the main street and without enclosure. ¹⁴ It is proposed to enclose it with a low brick wall and cast-iron palings." The requested sum was appropriated on March 2, 1847. (14A)
The acquisition of complete title to Wager Lot 12 on July 29, 1849 at a

9. Serial No. 611, Document No. 1, p. 459., item 5.
10. 3rd S., F. 3122, V. 27, November 22, 1845, for \$ 31.00.
11. Serial No. 481, Document No. 9, p. 111, item No. 12.
12. U.S. Statues at Large, IX, p. 69.
13. Serial No. 493, Document No. 1, p. 165, Item No. 12.
14. Serial No. 497, Document No. 3, p. 142, item No. 8.
- 14.A. U.S. Statues at Large, IX, p. 151.

182

total cost of \$ 9,999.35 for the buildings and land enabled construction to get underway in 1849. The large brick stores on Lot 12 had to be demolished. Redmond Burke provided the cut stone for the entrance; Peter Little constructed the stone foundations and the brick mason William Collins erected the brick walls.

Redmond Burke was paid \$ 411.50 on July 24, 1849 for providing the following "cut stone for entrance":

\$ 96.00 for 64 feet cut stone coping, wide.
206.50 for 175 feet of cut stone coping, wide.
40.00 for 8 ft cut stone caps for piers.
60.00 for 15 ft cut stone caps for piers.
6.00 for 1 ft. cut stone cap for pier.
3.00 for cutting piers by the day, 1½ days.

\$ 411.50 (15)

In early June 1849,

the stone mason Peter Little received \$ 84.40 for his services

"on the enclosing walls of armory yard:

\$ 27.25 for filling in with 136 8/27 cubic yards of earth.
6.11 for excavation of 20 10/27 cubic yards of earth.
44.04 for erecting 29 9/25 perches of stone mortar masonry.
7.00 for 70 feet of hammered face stone wall.

\$ 84.40 (16)

The brick mason William Collins, also in early June 1849, was paid \$ 51.40 for building "the enclosing walls of the armory," as follows:

\$ 30.20 for laying 7,550 bricks
20.95-- for setting 159 10/12 feet of coping and water table.
.25 for hauling 2 loads of brick.

\$ 51.40 (17)

In his annual report for the fiscal year ending June 30, 1849, Symington reported: "The front enclosing wall of armory yard has been commenced, and 130 feet linear completed, round the site of one of the buildings recently purchased on lot No. 12."

15. 3rd S., F. 9895, V.8, July 24, 1849, for \$ 411.50.
16. 3rd S., F. 9307, V. 36, June 11, 1849, for \$ 84.40-the money was paid to Edward Tearney as executor of the late Peter Little estate.
17. 3rd S., F.9307, V.35, June 9, 1849 for \$ 46.43, and F.9307,V. 80, July 10, 1849, for \$ 4.97.
18. Serial No. 549, Document No. 549, Document No.1, p.366, Item 6.

The demolished building on Lot No. 12 was large 2½ story brick structure with a wood-shingle covered gable roof and a full cellar. Erected by Joseph L. Russell and John A. Fitzsimmons in 1830-31, this was the first brick structure to be erected on privately owned land in Harper's Ferry. The double house, 60 feet wide and 30 feet deep, had contained two stores on the first floor and ^{Two} dwellings on the upper floors. ¹⁹ The 136 8/27 cubic yards of earth fill provided by Peter Litle probably went to fill in the basement or cellar of the demolished stores,

The brick mason continued his work on the armory fence during the the summer of 1849 and on August 31, 1849 was paid \$ 429.07 for performing the following construction on the entrance:

\$	5.60	for excavating 28 cubic yards of earth.
	44.04	for building 29 9/25 perches of stone masonry, foundation.
	11.20	for hauling 28,000 bricks to site.
	111.79	for laying 27,949 bricks in fence.
	229.60	for making the 28,000 bricks.
	26.84	for laying 206½ lin. feet of cut stone coping.
\$	<u>429.07</u>	(20)

A total of approximately \$ 976.37 was expended to construct the front enclosing wall of the armory on lot No. 12 in 1849.

19. for detailed history of construction and use of Lot 12 building, 1830-1848 see Snell, Charles W., "An Historical Study of Wager Lot No. 12, 1830-1848, Ferry Lot Studies," (NPS typescript, Harper Ferry National Monument, W.Va., September 24, 1958) 26 pages.

20. 3rd S., F. 9895, V.23, August 31, 1849, for \$ 429.07.

In his annual report for the fiscal year ending June 30, 1850, Major John Symington described the new entrance as follows: "The front enclosing wall of armory yard has been finished; its extent, about 340 linear feet. The gate front is built with piers and low panels, the upper part of the panels fitted with iron railing to the height of the piers."

"The remaining portion of the wall is of brick, solid, on stone foundation; the height of the enclosure 9 feet; and walls coped with cut stone." ²¹

Harpers Ferry NHP Negative HF 90, a photograph taken in October 1859, provides an close and excellent detail^d view of the entrance gate, iron fence, and solid brick enclosing^l wall that was built on Lot No. 12 in 1849.

The Armory was unable to purchase Wager Lot No. 11 and hence Symington's plan to construct a matching fence and wall across that property had to be deferred until 1855.

On September 1, 1851 the stone cutter Redmond Burke was paid \$ 6.00 for three days work repairing the cut stone of the enclosing walls of the armory yard. ²² On December 24, 1851, the stone mason Edward Tearney received \$ 14.06 for 6½ days labor of a stone cutter cutting stone for the support of a pillar. ²³ This may relate to repair of one of the armory gate posts.

Musket

24. Brick Pavement in Front of Musket Factory Shops: 1849

In the estimates for the 1846-47 fiscal year Symington requested \$ 450.00 for placing "brick pavement in front of shops,". ²⁴ This money was appropriated by Congress on August 8, 1846. ²⁵ This work, however, may not have been done until 1849. On October 26, 1849 the brick mason William Collins was

- 21. Serial No. 587, Document No.1, p.476, item No.4.
- 22. 3rd S.F. 12680, V.23, September 1, 1851, for \$ 6.00.
- 23. 3rd S.,F. 13102, V.41, December 24, 1851, for \$ 14.06.
- 24. Serial No. 481, Document No.9, p.111, item No. 13.
- 25. U.S. Statues at Large, IX, p. 69.

paid \$ 326.85 for the following work which may relate to the 1846 appropriation for paving:

\$ 297.31 for making 36,271 bricks.
14.50 for hauling 36,271 bricks from the rifle factory to the entrance of the Armory yard.
10.54 for paving 84 1/3 square yards with brick.
3.00 for 1 1/2 days services of a mason.
1.50 for 1 1/2 days services of a tender.
\$ 326.85 (26)

25. Potomac River Wall of Musket Factory ; 1847-48: 26A
In 1846 the mason Peter Little was paid \$ 87.37 for repairing the river wall.
The estimate for the 1847-48 fiscal year contained an item requesting \$ 640.00

"for raising the river wall, grading grounds, gutters to shops, and stone steps to such of the armory buildings as require them." Symington explained the purpose was "To raise the area about the shops above the ordinary freshets , the river wall must be made about ²⁷₂₈ 1/2 feet higher." The money for this purpose was appropriated on March 2, 1847. The Paymaster's vouchers for the period July 1, 1847 to December 31, 1848 are missing from the National Archives files so that there is no record of details of this construction, its cost, or who did it.

26. Grading the Grounds at the Musket Factory: ,1850-51:

In the estimates for the 1848-49 fiscal year Superintendent Symington requested \$ 500.00 "for filling up low grounds and grading the musket factory," explaining that "Much of the ground about the shops is under water at moderately ²⁹ high freshets, thus interrupt³⁰ing operations." The desired sum was appropriated on August 14, 1848. This money was apparently held in reserve and not used until 1850. On December 20 of that year the stone mason Edward Tearney was paid

26. 3rd S., F 10276, V.8, October 26, 1849, for \$ 326.85.

27. Serial No. 497, Document No. 3, p. 141, 142, item No. 4.

28. U.S. Statues at Large, IX, p. 151.

29. Serial No. 514, Document No. 2, p. 110, 111, Item No. 4.

30. U.S. Statues at Large, IX, p. 306.

26A-3rd S., F. 3858, V. 19, May 2, 1846, \$ 87.37 for building 58 1/2 perches dry wall of heavy stone, repair of river or guard wall.

\$ 498.95 for "filling in and grading the armory yard" with 2,935 cubic yards of earth and spalls.³¹ In his annual report for the year ending June 30, 1851, Symington reported: "There has been much filling and grading of grounds, both at the musket factory and rifle factory, to an extent of 3,000 cubic yards."³²

In his annual estimate for the fiscal year 1851-52, Symington asked for \$ 1,200.00 "for filling up low grounds in the Armory yard, and filling up and grading grounds within the enclosure at the Rifle factory," explaining it was necessary "To complete the grading of the Armory yard and the leveling of the grounds about the new buildings at the Rifle factory, and to afford convenient places of deposite for Coal and other heavy articles."³³ The requested amount was appropriated by Congress on March 3, 1851.³⁴

31. 3rd S., F. 12169, V. 43, Decemebr 20, 1850, for \$ 498.95. Tearney charged 17 cents per cubic yard delivered.

32. Serial No. 611, Document No. 1, p. 459.

33. Harpers Ferry Microfilm Reel 20, V. 7, p. 694, Item 3.

34. U.S. Statues at Large, IX, p. 620.

An additional \$ 431.50, ^{thus} was spent for the following grading during the period July 1-December 31, 1851:

To William T. Daugherty, October 31, 1851, \$ 171.50- "for hauling and delivering into the armory yard 70 cart loads of river sands.. for grading the public ground at the musket factory".³⁵

To Edward Tearney, December 24, 1851, \$ 260.00, "for filling up the Armory yard from the end of the Boring Mill (Bldg. No. 5 on 1859 map) to the upper end of new machine shop (Bldg. No. 6D on 1859 map), grading the roadway to the proper height, covering the culverts & drains and walling the same, for this sum previously agree on."³⁶

The grading and landscaping of the armory yard was not to be completed until 1853.

27. Wells, Springs, Pumps, and Pipes"

In 1845 William Darke, Jr. was paid \$ 75.00 for excavating 183 3/4 ³⁷ perches of rock and digging a well. The location of the well is not known.

In 1849 Peter Little received \$ 9.18 for building 6 3/25 ³⁸ perches of stone masonry wall "around spring in Armory."

35. 3rd S., F. 13017, V.12, October 31, 1851, for \$ 171.50, Daugherty charged 25 cents per wagon load.

36. 3rd S., F. 13107, V. 41, December 24, 1851, for \$ 260.00.

37. 3rd S., F. 3122, V. 8, October 28, 1845, for \$ 75.00.

38. 3rd S., F. 9307, V.36, June 1, 1849, for \$ 9.18. The money was paid to Edward Tearney as the executor of the late Peter Little.

received

In 1846 Ross Winas ³⁹ \$ 140.02 "for making pattern for water pipes",
for cast iron. pipes. Log pipes were still in use. In 1849
William B. Brown & Son was paid \$ 6.00 for three white oak pump logs 20 feet
long "for repair of pumps." ⁴⁰

In the estimates for the fiscal year 1851-52, Major Symington asked
for \$ 3,220.00 for the "purchase of factory pumps and fixyres for the musket
and rifle factories," explaining "This purchase is much required as the
only reliable safeguard against fire occuring among the shops." ⁴¹
Congress appropriated the money for this project on March 3, 1851. ⁴²

On January 27, 1852, J. T. Ames Manufacturing Company of Boston, Mass.,
was paid \$ 2,448.78 for making ⁴³ and delivering 62,188 lbs of cast iron pipe
and one force pump for the rifle factory.

The installation of this fire-fighting equipment was to be completed
in 1853.

- ³⁹ 3rd S., F.4837, V.2, October 10, 1846, for \$ 140.02.
- ⁴⁰ 3rd S. F. 9307, V.46, June 28, 1849, for \$ 6.00.
- ⁴¹ Harpers Ferry NHP Microfilm Reel 20m V.7, p. 694, Item 2.
- ⁴² U.S. Statues at Large, IX, p. 620.
- ⁴³ 3rd S., F.13017, V. 76, January 27, 1852, for \$ 2,448.78. The cost of the pump was \$ 1,865.64 and the pipe \$ 583.14.

CONSTRUCTION AT THE MUSKET FACTORY, HARPER'S FERRY ARMORY, 1845 - 1851

	1	2	3	4	5	6	7	8
Year:	Charcoal House	Stock House	Forging or Smiths Shop	Coal Bins	Office Remodelled	Engine and Guard House	Stocking & Machine Shop	Lumber House
1845	(1,029.08	424.62	6,768.37	yes	-	-	-	-
1846	170.92	3,516.55	3,763.22	223.64	-	-	5,051.04	-
1847			1,504.82+	167.72+			80.00	-
1848					(850.00)	(1,540.00)		?
1849	7.62	1.31	328.48	272.29	46.50	8.46	5543.05	971.92
1850		1.75	124.28	401.87	0	0	1,801.51	42.80
1851		34.50	327.39	245.20	65.81	0	66.00	40.35
TOTAL	\$ 1,207.62	3,978.73	12,036.41	1,311.72	112.31	8.46	12,541.60	1,054.87
Approp. For	1,200.00	6,438.00	18,000.00	2,680.00	850.00	1,540.00	20,450.00	5,694.00
For Machinery							5,700.00	

Records for the 3rd quarter of 1845, 3rd and 4th quarters of 1847, and all 4 quarters of 1848 are missing.

CONSTRUCTION AT THE MUSKET FACTORY, HARPER'S FERRY ARMORY, 1845-1851

	9	10	11	12	13				
Year:	Tilt Hanner Shop	Polishing Shop	Grinding Saw and Planing Mill	Annealing Shop & Brass Foundry	Altering Bell Shop	Total Bldgs.	Land Purchases	Wells, Pipes	
1845	-	-	-	-	0	8,222.07	0	75.00	
1846	-	-	-	-	0	12,725.37	0	140.02	
1847	-	-	-	-	23.42	1,775.96	35,088.33		
1848	-	-	-	-	(2,675.00)	(5,065.00)	5,140.00		
1849	506.08	975.39	178.90	-	41.81	8,881.81	209.00	15.18	
1850	7,398.86	63.64	3,132.85	-	105.18	13,072.74	0	0	
1851	5,113.10	0	2,460.35	4,861.04	120.40	13,334.13	0	2,448.78	
TOTAL	13,018.04	1,039.03	5,7772.09	4,861.04	290.81	58,012.08	40,437.33	2,678.98	
Approp For Machinery	17,900.00	1,700.00	9,730.00	9,550.00	2,675.00	98,407.00	51,461.00	3,220.00	
	25,470.00		1,900.00			33,070.00			

Records for 3rd quarter of 1845, 3rd and 4th quarters of 1847, and all 4 quarters of 1848 are missing.

CONSTRUCTION AT THE MUSKET FACTORY, HARPER'S FERRY ARMORY, 1845-1851

Year:	Gates and Fences	Coal Scales	Privies	Total New Construction	For Repairs	Grading	Brick Pavement	River Wall	TOTAL
1845	31.00	-		\$ 8,328.07	508.91			87.37	8,924.35
1846		-		12,527.76	3081.46				15,609.22
1847		-		36,864.29	yes				36,864.29
1848		-		5,140.00	yes				5,140.00
1849	976.37	85.02	18.00	10,185.38	433.49		326.85		10,945.72
1850	0	-	51.67	13,124.41	278.96	498.95			13,902.33
1851	20.06	-	41.50	15,844.47	127.90	431.50			16,403.83
TOTAL	\$ 1,027.43	85.02	111.17	102,014.38	4,430.72	930.45	326.85	87.37	107,789.75
Approp.	1,450.00	0	0	154,538.00	16,440.00*	1,700.00	450.00	640.00	170,978.00
For Machinery									

*provided for renewing water wheels and forebays.

Record for the 3rd quarter of 1845, the 3rd and 4th quarters of 1847, and all 4 quarters of 1848 are missing.

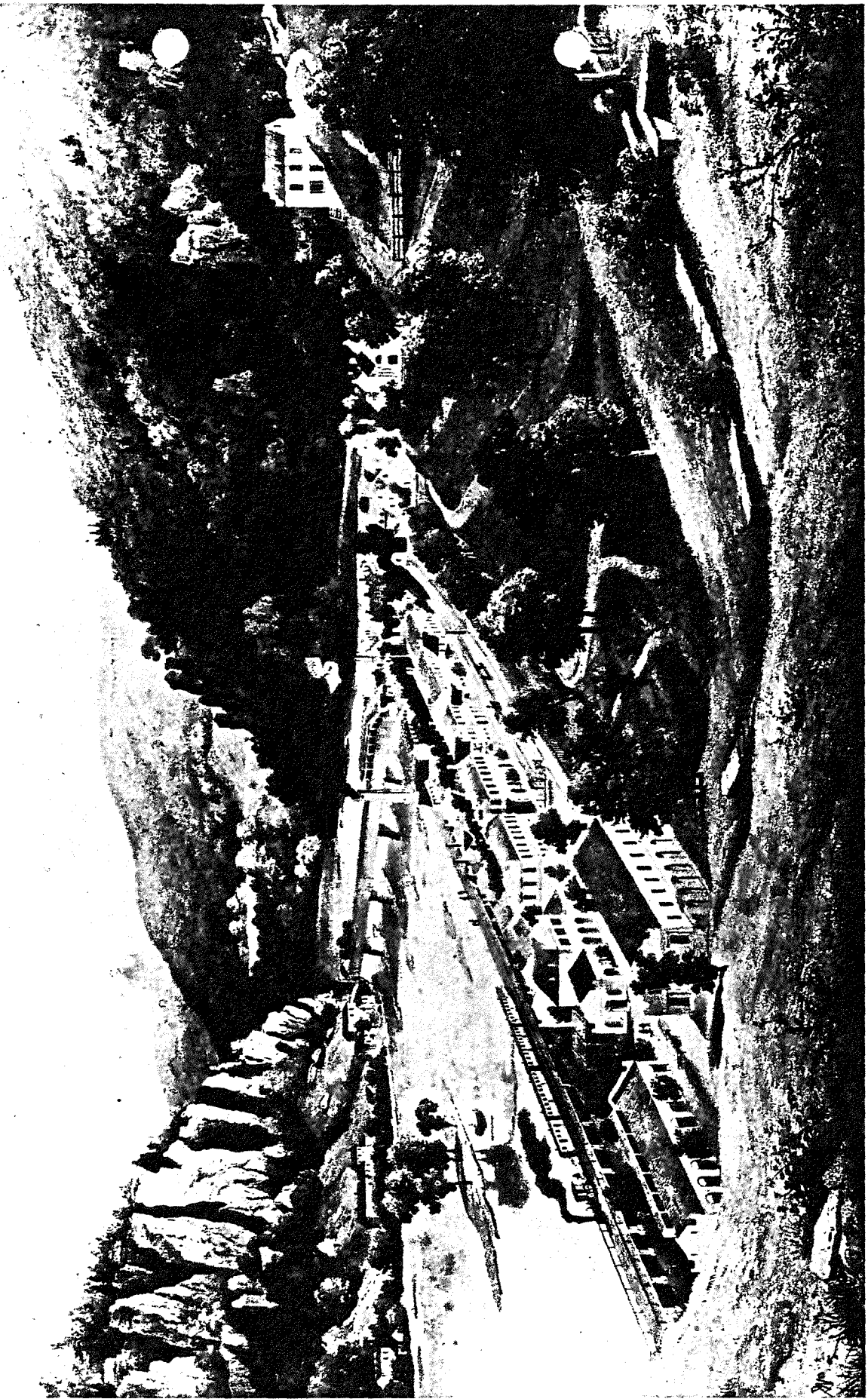
EXPENDITURES FOR REPAIRS AT THE U.S. MUSKET FACTORY, HARPER'S FERRY ARMORY,
1845 - 1851

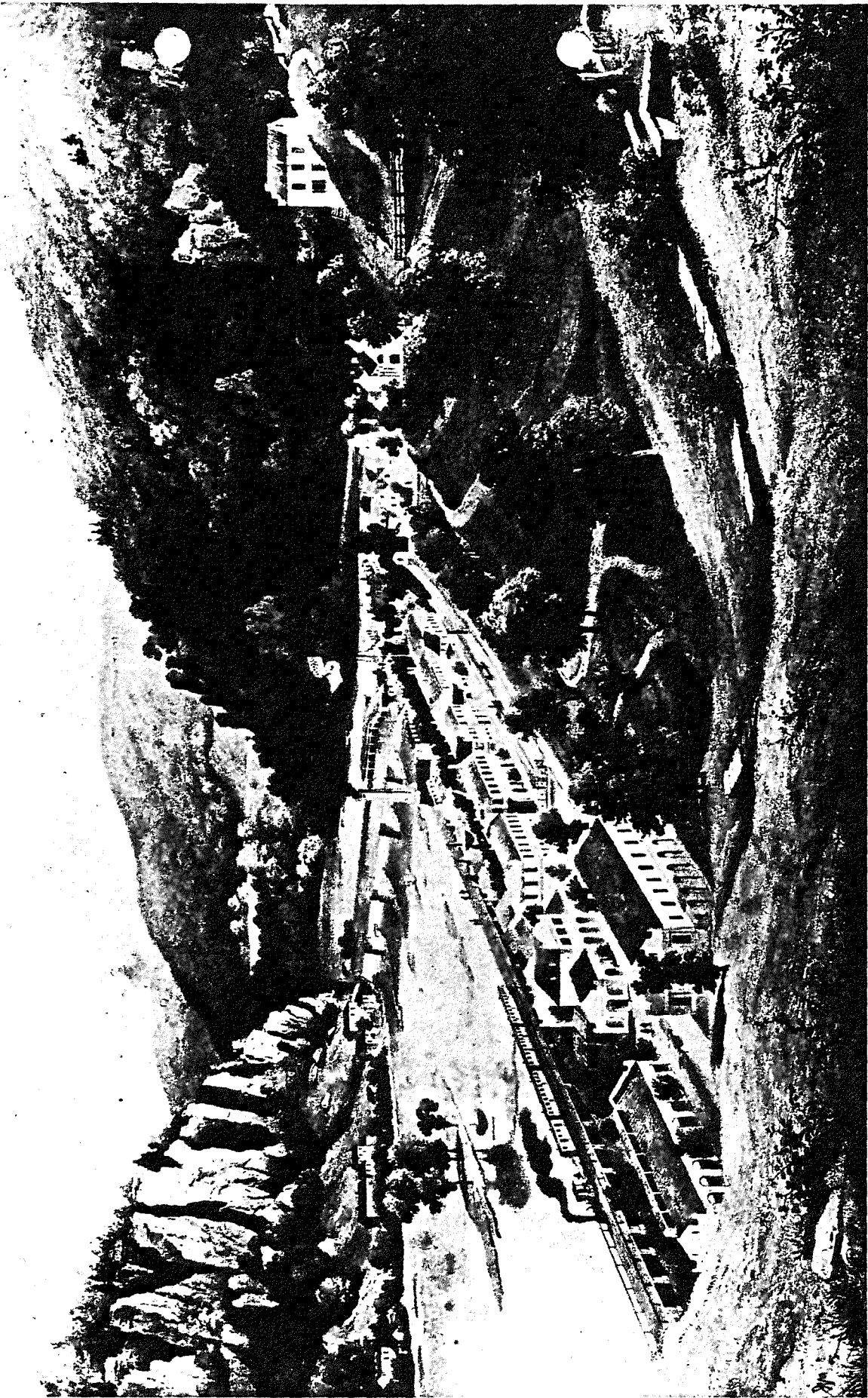
	Bldg. 18	Bldg. 14	Bldg. 3	Bldg. 15	Bldg. 11	Bldg. 9		
Year:	New Ware-house	New Proof House	New Boring Mill	Old Annealing Shop	Old Tilt Hammer Shop	Old Grinding Mill	Old Polishing Shop	Total-Repairs
1845			368.91		yes		140.00	\$ 508.91
1846			.65	70.93	3,009.88			3,081.46
1847								
1848					yes	yes		
1849	342.64	31.29	41.81	17.75				433.49
1850		38.00	18.52	abandoned	4.50			278.96
1851	31.35		96.55					127.90
TOTAL	373.99	69.29	526.44	88.68	3,014.38	yes	140.00	4,430.72
Approp.					13,940.00 +	2,500.00		16,440.00

+ \$ 7,800.00 for 6 new tilt hammers; 2,600.00 for water wheels; \$ 2,700.00 for raising floors, \$ 850.00 for adding new room to tilt hammer shop.

192

193





D. REPAIRS AND IMPROVEMENTS AT ARSENAL SQUARE, 1845- 1851:

Judging from the surviving vouchers of the Armory Paymaster and from the lack of mention in the superintendent's annual reports during the period 1845 to 1851, no major repairs, improvements, or alterations were made to the four structures located on Arsenal Square.¹

The two old brick arsenal buildings, located on the square, continued to be used for the storage of muskets and rifles manufactured at the armory. The Baltimore and Ohio Railroad road had entered ^{Harpers Ferry} in June 1841, thus providing a rapid and cheap means of shipping arms to the Atlantic coast. In 1842 the railroad proceeded as far west at Cumberland, Md., but here it was blocked by the mountains and not until 1852 was the line able to build across the reach Appalachian barrier and Wheeling, thus also providing a rapid and cheap means of shipping arms to the west.

The Large Arsenal, designed and erected by Paymaster John Mackey in 1799-1800, was a two-story brick structure in 1845 with a slate covered gable roof. The building had no cellar and was 125 feet long and 32 feet wide.

The Small Arsenal, constructed by Paymaster Samuel Annin in 1806-07, was a two-story brick building with a slate covered gable roof. The edifice had a cellar and measured 68 by 36 feet.

Harpers Ferry NHP Negatives showing the two arsenals are as follows: HF-66 (photo taken in 1859, showing large arsenal; HF- 90 and HF-625 photo taken in October 1859, showing small arsenal and arsenal Shenandoah Street fence. HF 492, taken about 1880, show the state of Arsenal Square at that date).

1. The Paymaster's vouchers for the 3rd quarter of 1845, 3rd and 4th quarters of 1847 and all four quarters of 1848 are missing from the National Archives Record 217, so that some minor repairs may have been made, but no important work was done, or this would have been mentioned in the superintendent's annual report.

The major change occurring to Arsenal Square, 1845-51, was not in the appearance, but in the use of the Superintendent's Old Office building ^{also} and the Paymaster's Old Pay Office and vault, which took place in 1848.

Prior to this, in 1846-47, the workmen had been paid a total of \$ 2.87 for making the following repairs to these two offices:

To the tinsmith Benjamin M. Snook: \$ 1.87.

On March 3, 1846, the plaster Jerry Harris received \$ 1.00"for
office of Commanding Officer and repairing the cellar in same."

In his annual report for the ^{fiscal} year ending June 30, 1848, as has been mentioned, Major Symington announced that the former Superintendent's House, located in the Musket Factory yard (Bldg. No. 2 on 1859 map) had been remodelled for use as the Armory Office building and that he and the Paymaster had left their old offices on Arsenal square to occupy the Musket Factory structure.

The Superintendent's Old Office Building was leased briefly in July 1848 by a group of Armory workmen who had formed a library association for use as a library. In August 1848, however, the structure was next leased to the Harper's Ferry Female Seminary for use as a school room. The old office was used as a school house from 1848 to 1856 .

The Superintendent's former office was a one-story brick building with a slate-covered hipped-roof and measured 28 by 21 feet in size.

2. ~~X~~ 3rd S., F. 2213, V. 7, January 1845, \$ 1.87.
3. 3rd S. F. 3502, V. 25, March 3, 1846, for \$ 1.00.
4. Serial No. 537, Document No. 1, p. 348, item 2.
5. Smith, Philip R., Jr., "Superintendent's Old Office, 1833-1869, Arsenal Square, Block A., Lot 1, Shenandoah Street, Harpers Ferry National Monument," (NPS typescript, Harpers Ferry NM, W.Va., revised April 29, 1959, 14 pp), p.4, for documented account.

The structure had been erected at some unknown date after 1811, but prior to 1826. It was used from 1826 to 1832 as a dwelling house for an armory workman. In 1832 the Armory took over the residence and remodelled it for use as the Superintendent's Office; it was used for this purpose from 1832 to 1848. Harpers Ferry NHP Negative No.HF -18, taken in the period 1862 to 1865, provides an excellent view of the Superintendent's Old Office as well as of Arsenal Square. HF- 492, taken about 1880, shows that the structure was still standing at that date.

In March 1848, the Paymaster's Old Office and vault were rented to T. J. W. Sullivan for \$ 17.50 per quarter, or \$ 70.00 per year, for use as a men's clothing store and tailor shop. In 1850 the building was next rented at the same price to the lawyer Isaac Fouke for use as his office. On July 5, 1851, the building ^{was} then leased to the newly incorporated town government of Harper's Ferry. The city father's used the main structure as the mayor's office and city council meeting chamber and the adjoining vault as the town jail from July 1851 to April 1858, when the Old Pay Office was finally removed from Arsenal Square to a new location.

The Old Pay Office, erected in 1822, was a one-story brick structure with a slate roof; it was 24 by 18 feet in size. In 1840 a one-story brick vault with walls 2½ feet thick and measuring 7 by 5 feet was added to the rear of the main building. The building served as the office of the Armory

Pay master from 1822 to February 1848. There are no views or photographs of this building.

6.Smith, Philip R., Jr., "Old Pay Office, Block B, Lot 2, Shenandoah Street, 1822-1858, Harpers Ferry National Monument," (NPS typescript, Harpers Ferry NM, W. Va., May 5, 1859, 15 pp), p.3-4.

APPROPRIATIONS FOR REPAIRS AND IMPROVEMENTS AT U.S. RIFLE FACTORY, 1845-1851

(Includes Machinery earmarked for definite shops).

	1847-48	1848	1849-51	1851-52	1852-53				
Calendar Year:	Proof House 1845	Finishing Shop	main t ail Race	Tilt Hammer & smiths shop	Annealing Furnace-Proof House	Machine Shop	Fencing, Force Pump	Total	Repair Bldgs. Mac
1845		0	0	0	0	0	0	5,000.00	
1846		17,300.00						17,300.00	
1847								0	
1848			3,320.00	22,130.00				25,450 .00	1,500.00
1849								0	
1850		9,580.00				16,980.00		26,560.00	
1851					5,100.00		2,140.00*	7,240.00	
TOTAL	(1) (5,000.00)	26,880.00	3,320.00	22,130.00	5,100.00	16,980.00	2,140.00*	\$ 81,550.00	

(1) Estimate cost of Proof House-\$ 750.00- money, balance, may have been used at Musket Factory.

* 1851- \$ 1,610.00 for purchase of force pump.
 530.00 for fencing.

 \$ 2,140.00

E. Repair and Improvements at the Rifle Factory, 1845-1851:

In his annual report to the Secretary of War, dated January 6, 1845, Lt. Col. George Talcott reported that the buildings at the U.S. Rifle Factory on the Shenandoah at Harper's Ferry Armory, were outdated and required replacement. Talcott wrote: "Several building as these works require immediate reconstruction, being in a state of decay. They were originally built of perishable or inferior materials, in a cheap manner, placed on insecure foundations, and, from false economy, generally of too small dimensions..."¹

1 Proof House, 1845, Bldg no 29
Major John Symington, the new superintendent of the armory, who reported for duty in November 1844, probably erected as his first structure at Harper's Ferry, a new proof house (Bldg. No. 23 on Map No. 6(1848)) at the Rifle Factory in early 1845. Symington described this building in his annual report for the year ending June 30, 1845 as follows:

"A wooden proof house for proving barrels, 19½ by 15 feet, with back wall of stonemasonry, 2½ feet thick, erected at the Rifle Factory."² The cost of construction has been estimated at \$ 750.00. No vouchers have been found that can be definitely associated with the construction of the proof house.

On April 30, 1845, however, \$ 98.29 was paid to the stone cutter Timothy MCBriety for providing \$ 167 9/12 feet of cut stone as follows:

\$ 72.13	cutting and furnishing	115 5/12 ft water table.
26.16	" " "	52 4/12 feet of cornice.
<u>\$ 98.29</u>		167 9/12 lin. ft. (3)

The material was to be used in the construction of new buildings at the armory and rifle factory.

1. Serial No. 464, Document No. 43, p.2.
2. Serial No. 470, Document No. 1, p.420, item No.2.
3. 3rd S., F. 2747, Vo. 13, April 40, 1845, for \$ 98.29.

The estimate for the 1845-56 fiscal year requested the appropriation of \$ 5,000.00 for "rebuilding a shop at Rifle Factory." It was explained that this would be used "For a new shop at the rifle factory in place of one now so⁴ decayed as to be unfit for use or repairs, besides being badly arranged."

This requested amount was provided by Congress on March 3, 1845.⁵

After studying the situation in more detail, Symington July 24, 1845, in a letter to Chief of Ordnance George Talcott, raised :

"...the propriety of suspending the repairs or additions to the buildings at the Rifle Factory, for which funds were appropriated at the last session of Congress. From the dilapidated condition of these buildings, and their singularly inconvenient arrangement for the operations for which they were designed, I should look upon any expenditure repairs or additions to them badly applied. The principal buildings cannot be repaired without going to the foundations, in which case it would unquestionably be better to rebuild them upon a proper and systematic plan. The forebays, which an estimate was made to reconstruct of masonry and for which funds were appropriated, I am having repaired temporarily with wood to serve until some definite determination [after...] become to relative to the buildings generally of the Rifle factory.

Though I am strongly inclined to believe that the best arrangement would be to construct new buildings, at the Musket Factory, to carry on the fabrication of arms other than muskets, and abandon the site of the Rifle works altogether there is room enough at the Musket works for such buildings as it would be necessary to construct to carry out such a plan; and with small expense, the water power could be made sufficient for all the operations.

Leaving out the unfit condition of the Rifle Shops, their locality, so distant from the Musket factory and the storehouses, is liable to great objection as you will know upon the source of expense in transporting materials and work back and forth, and from the greater expense of maintaining two establishments instead of one. 6

Symington thus appears to have expended this money in limited amounts to make temporary repairs in 1845. The Ordnance Department decided not to abandon the Rifle Works, but instead to undertake a major rebuilding program

6. Continued: In his estimates submitted to Talcott on November 30, 1844, Symington in Estimate No. 7 requested \$ 1,100.00 to "rebuild with hammered stone, laid in cement, forebay of the turning and boring shop at the rifle factory" plus \$ 100.00 for repairing wood forebays of other shops. Serial No. 464, Document No. 43, p. 16.

4. Harpers Ferry NHP Microfilm Reel No. 20, Vol. 7, p. 652, Item No. 5.
5. U.S. Statues at Large, V, p. 747.

6. Harpers Ferry NHP Microfilm Reel 23, V. 5, p. 477.

2. The New Finishing and Machine Shop, Rifle Factory, 1847-48

The new Finishing and Machine Shop is Bldg. No. 1 on Map No. 6(1848) and Bldg. No. 3 on the 1859 Historical Base Map.

In the estimates for the 1846-47 fiscal year Major John Symington requested a grand total of \$ 17,300.00 to erect and equip with machinery a new finishing and machine shop at the rifle factory, as follows:

\$ 10,800.00 for building" new finishing and machine shop," explaining¹ the old shop is unsufficient for the purpose, and the walls are giving way, having been badly built on insecure foundations."

" \$ 2,300.00 for"Line of working shafts for this shop."²

" \$ 4,200.00 ~~for~~ Water wheels and forebays at this shop," commenting,"The forebays and wheels of the old shop are entirely rotten. Permanent stone³ forebays should be made for the new shop."

Congress appropriated the requested total of \$ 17,300.00 on⁴ August 8, 1846.

Construction on the new structure got underway in late 1846.

On December 12, 1846 the carpenter Jesse Schofield was paid \$ 56.49 for 838 square light sashes for the proposed finishing shop. ⁵ On January 2, 1847, the mason Peter Little received \$ 959.57 for performing the following work on " a new tail race to the new finishing & Machine Shop at Rifle Factory:"

\$ 401.40	for constructing 267 15/25 perches of dry wall for side wall of culvert.
80.28	for constructing 53 13/25 perches dry wall for projecting walls to support arch of culvert.
180.60	for constructing 120 10/25 perch dry wall on top of culvert.
55.79	for excavating 139 13/27 cubic yards of rock for wall foundations.
195.60	for excavating 652 cubic yards of earth for foundation.
45.90	for constructing 30 15/25 perch of dry wall, repair of waste gate.
<u>\$ 959.57</u>	(6)

1. Serial No. 481, Document No.9, p. 111,112, item No. 15.

2. Ibid., Item No. 16.

3. Ibid., Item No.17.

4. U.S. Statues at Large, IX, p. 69.

5. 3rd S., F. 4837, V.37, Dec.12, 1846 for \$ 56.49.

6. 3rd S., F. 4967, V.9, January 2, 1847, for \$ 959.57.

During the winter of 1846-47, material needed to erect the new buildings at both the musket and rifle factories were acquired. On March 26, 1847, 15,996 pounds of cast-iron door and window frames were purchased⁷ from T.W. and R. E Smith for \$ 2,496.54. On June 10, 1847, Joseph Roman, Jr. & Co. also provided 14,276 pounds of sheet iron that was to be used for roofing the new structures⁸ for \$ 892.25.

The mason Peter Litle resumed his work on the foundations of the shop in March or April 1847 and on May 8 of that year received \$ 1085.64 for the following construction on the foundations and tailrace:

May 8, 1847-	\$ 64.60	for excavating and removing 358 25/27 cubic yards of earth.
	971.25	for constructing 555 perches of stone mortar masonry wall
	38.54	for puddling in rear(?) above wall 214 3/27 cubic yards.
	<u>1,074.39</u>	(9)
July 2, 1847	11.25	For labor of driver, 3 horses, and wagon hauling material 3 3/4 days.
	<u>\$ 1,085.64</u>	(10)

Superintendent Symington described the progress of this construction in his annual report for the year ending June 30, 1847 as follows:

"At Rifle Factory: Foundation up to water table of new finishing shop, 130¹¹ by 35½ feet, with two wings, 24 by 24 feet completed."

He also noted that "A main tail race, to receive the waste water from the different wheels, 10 feet wide, 6 feet high, and covered over; side walls 2½ feet¹² thick, of large stones, has been commenced, and 223 feet in length completed."

Archeological work conducted in 1959 revealed that this tail race ran parallel with and in rear of the new finishing and machine shop. Cost of the tail race and foundation, constructed by Peter Litle, was approximately \$ 2,044.61.

7. 3rd S., F. 4967, V. 1, March 26, 1847, for \$ 2,496.54.
8. 3rd S., F. 5623, V. 37, June 10, 1847, for \$ 892.25.
9. 3rd Series F. 5623, V. 19, May 8, 1847, for \$ 1,074.39.
10. 3rd S., F. 5623, V. 48, July 2, 1847, for \$ 11.25.
11. Serial No. 503, Document No. 1. p. 692, item No. 2.
12. Ibid., Item No. 1.

The Paymaster's vouchers for the 3rd and 4th quarters of 1847 and all four quarters of 1848 are missing from the National Archives Record 217 files, so that it is impossible to provide details on the construction during this period. In his annual report for the fiscal year ending June 30, 1848, however, Major Symington announced that the new structure had been completed and described the building as follows:

"The new ; furnishing shop, at the rifle factory, has been completed. This shop is 128 by 35½ feet, two stories, brick, with two wings, one-story each, 24 by 24 feet. The door and window frames are of cast iron, the foundation stone masonry, cut stone water table, ¹³ cornice, and sills, and copper gutters and spouting - all roofed with sheet iron."

Under the heading of machines and machinery constructed at the rifle factory, the superintendent further reported: " One 6-foot diameter turbine wheel, with main driving gear and drums. Stone forebay, with penstocks and gate completed, and ready to drive the machinery in one wing of the new finishing shop.

"The main line of working shafts, with counter shafts, on the two _____ ors of both wings of this new shop, will be completed in a few more weeks. When completed, the various cutting, drilling, ~~barring~~ boring, and turning machines with the stocking machines and polishing wheels, now in operation in the old, will be gradually ^{TRANSFERRED} transferred to the new finishing shop, after undergoing such modification and improvement as they require. The change of position will be so arranged that no interruption will occur in the operations. "

In the estimates for the 1848-49 fiscal year Symington requested \$ 3,320.00 "for completing the main tail-race, re-constructing the guard lock and gates, cleaning the canal and walling it in front of the shops at the rifle factory." He explained "The old works at this place have given out, the gates and

13. Serial No. 537, Document No. 1, p. 348, item No.6.

14. Ibid., p.347.

"sills being entirely decayed. This work has been commenced from the necessity
 of the case, and the amount estimated is necessary for its completion."¹⁵

The money for this project was appropriated on August 14, 1848;¹⁶
 however, it is possible that most of this work was already done by June 30, 1848 ,
 for in his annual report, Symington noted: "At rifle factory: "New guard gates, with
 feeders, with new substantial walls of Masonry, have been constructed for the
 armory canal (which ran in front of the shops)." ¹⁷

In his annual report for the fiscal year ending June 30, 1849, Major
 Symington reported with regards to the finishing shop, under the heading of
 "machinery": "Two 6 feet turbine water wheels, with cemented stone forebay
 put up in operation. 24 feet of pit gearing, 1,930 feet main line and 329 5/12
 feet counter-driving machinery, with fixtures complete, put up and in operation."¹⁸
 These were probably put in the new finishing shop . He further commented:
 "...at the rifle factory all the cutting machines for components, the barrel-boring,
 turning and rifling machines, together with the whole of the stocking machines, have
 been transferred to the new finishing shop, and are, generally, in operation. The
 old buildings which accommodated these operations (Namely Bldg.s No. 12, 13, and 18
 on Map No. 6 (1848)) are now taken down, preparatory to the erection on the site
 of a new shop (Bldg. No. 4 on 1859 Historical Base Map), for tilt hammers, and
 forging, and swedging."¹⁹

During 1849 a total of \$ 111.07 was expended making final touches to the
 finishing shop. George W. R. Seale, February 20, 1849, was paid \$ 15.31 for painting,
 " 2 coats, 122½ square yards, new finishing shop." ²⁰ Mrs. Margaret Kreps earned a
 total of \$ 11.42 for making 74 cotton window curtains for the new finishing shop
 in 1849. ²¹

15. Serial No. 514, Document No. 2, pp. 110, 111, item 8.

16. U.S. Statues at Large, IX, p. 306.

17. Serial No. 537, Document No. 1, p. 348.

18. Serial No. 549, Document No. 1, p. 364.

19. Serial No. 549, Doc. No. 1, p. 365.

20. 3rd S., F. 9093, V. 22, February 20, 1849, for \$ 15.31.

21. 3rd S., F. 9093, March 28, 1849, \$ 4.32 for 13 curtain; F. 9307, V. 48, June 30, 1849,
 for \$ 4.80 for 48 curtain; and F. 9895, V. 74, \$ 1.30 for 13 curtains.

The brick mason William Collins, who probably erected the brick walls
received
of the structure in 1847-48, \$ 84.34. in 1849 for performing the following

work: \$ 53.52 for hauling bricks, providing scaffolding, ~~and~~ drill for
cutting window in front gable, new finishing shop, Rifle Factory.
Feb. 23, 1849 and for laying 10,704 bricks at new shop. 22
Aug. 31, 1849 4.87 for mason for 2 days = \$ 4.00, for tender and materials finishing
window = 87 cents. 23.
Nov. 29, 1849 25.95 for new driving machinery at finishing shop.
\$3.90 for excavation of 13 cubic yards of earth.
20.93 for laying 3,984 bricks and laying 4 4/9 square
yards of brick, latter at 55 cents.
1.12 for 3/4 days work of horse, cart and driver.
Project included cutting a hole through stone wall and
building brick walls beneath the shop for a band(?) to
run. 24.

\$ 84.34

Total cost of construction of the new finishing shop, exclusive of machinery,
was probably about \$ 10,800.00, ~~for~~ the forebays and water wheels, \$ 4,200.00,
and of the new tail race, \$ 3,320.00.

On December 3, 1850 the tinsmith Alexander S. Vernon was paid \$ 34.56
for providing and installing ²⁵ 518 feet of cast iron stove pipe to heat the
finishing shop.

In 1851 \$ 46.50 was spent to improve the shop: On May 26, 1851 Margaret
Kreps received \$ 1.20 ²⁶ "for making 12 window curtains of muslin for new finishing
shop, Rifle Factory. Finally, in June 1851, lightning rods - 4 points and
three leads to the ground, were installed on the roof of the finishing shop at a
cost of \$ 45.30. ²⁷ The exterior brick walls of the new finishing shop also
probably
received "two coats of patent paint, in oil", as did the walls of all
the shops at the musket and factory factories, "except three not yet completed." ²⁸

- 22. 3rd S., F. 9093, V. 23, February 21, 1849, for \$ 53.52.
- 23. 3rd S., F. 9895, V. 23, August 31, 1849, for \$ 4.87.
- 24. 3rd S., F. 10276, V. 13, for \$ 25.95, November 29, 1849.
- 25. 3rd S., F. 12169, December 3, 1850, for \$ 34.56.
- 26. 3rd S., F. 12680, V. 21, May 26, 1851, for \$ 1.20.
- 27. 3rd S., F. 12680, V. 69, to Decker and Robinson, July 3, 1851, for \$ 45.30.
- 28. Serial No. 611, Document No. 1, p. 459. Superintendent's annual report for
fiscal year ending June 30, 1851.

The new finishing shop , in its architectural design, was the same as that of the new buildings that Symington was also erecting at the musket factory. First story elevations with divided in to bays with recessed panels set within round arches that were supported by capped pilasters. Second-story ~~Bays~~ ^{two-story main} were rectangular, with flat arch topped windows set in recessed bays. The parapet end walls, crenelated and topped with cut stone coping, arose above the gable roofs at the ends. The structure was also divided into three equal sections comprised of a center building, and two wings. The gable roof of the center, parapeted on the front and rear elevations, ran at right angles to the gable roofs of the two wings.

In his estimate for the 1850-51 fiscal year, Major John Symington was forced to request an additional appropriation of \$ 9,580.00 "To complete the finishing shop at the rifle factory." He explained:

When the estimate for this building was made, it was supposed that the driving machinery, which was in use, would answer to be put up in the finishing shop. It has been found that very little of it was serviceable, and that it was necessary to provide a much greater quantity of this machinery than was supposed to be requisite. This, with the fitting up benches, forms, closets, &c., in this shop, has overrun the original estimate, and makes the amount of this item requisite for completing the shop.

29
30
Congress appropriated the requested amount on September 28, 1850. This brought the total cost of construction to \$ 11,880 for machinery, ^{and} \$ 15,000.00 for the structure, forebays and water wheels, Total-\$ 26,880.00, plus \$ 3,320.00 for constructing a new main tail race that was to serve all of the new shops.

29. Serial No. 568, Document No. 4, p. 156, 157, item No. 8.

30. U.S. Statutes at Large, IX, p. 507.

206

Construction of the Finishing and Machine Shop, Rifle
Factory, 1847 -48

Project	Cost	Records missing for period of Description of Work July 1, 1847 to December 31, 1848.
Tail Race	\$ 195.60 55.79 661.28 45.90 \$ 959.57	for excavation of 652 cubic yards of earth for excavating 139 13/27 cubic yards of rock for foundation for constructing 441 13/25 perches of dry wall, sides and top of culvert. for constructing 30 15/25 perch dry wall, repair of waste gate. to mason Peter Litle. 1847
Foundations of main bldg & two wings.	64.60 971.25 38.54 11.25 \$ 1,085.64	for excavating 358 25/27 cubic yards of earth. for constructing 555 perches of mortar masonry foundation walls. for puddling 214 3/27 cubic yards. other To mason Peter Litle, 1847.
For two wheel pits for 6 feet turbines	\$?	located in rear wings, one to each wing. Probably built by Peter Litle.
Cut stone	?	cut stone for water table, sills, and coping probably furnished by stone cutter Redmond Burke.
Bricks	?	bricks probably made and transported by William Collins.
Brick laying	84.35	? brick walls in 1847-48, probably put up by William Collins in 1849 to William Collins for laying 14,688 bricks, cutting window in front gable and cutting hole through stone wall and building brick walls beneath shop.
Sheet iron Roofing	?	probably installed by William Volkmar.
Copper gutters and spouts.	?	probably installed Benjamin or Dennis Snook, or Henry V. Edwards.
Heating System	34.56	1850 518 feet of cast iron stove pipe, Alexander S. Vernon.
Cast iron window and door frames	2,496.54	for 15,996 lbs for use on many shops, 1847.
sheet iron roofing	892.25	for 14,276 lbs for roofing many shops. 1847 1849
Window curtains	13.62	for 86 cotton and muslin window curtains, Margaret Kreps.
Lightning rods	45.30	for 4 points and 3 leads to ground. 1851 1849
Painting	15.31	for painting, 2 coats. 122½ square yards, G.W.R. Seale.
1847-51: Total:	\$ 5,627.14	Water wheels & forebays: 4,200.00; Machinery- 11,880.00. Total cost: Bldg- 10,800.00 Grand Total- \$ 26,880.00.
		Addition in 1857- \$ 2,8620.00 new water wheels, 1856- \$ 2,050.00.

3. New Tilt Hammer and Smiths(or Forging) Shop, Rifle Factory ,
1849-1851

The new tilt hammer and foriging shop is Building No. 4 on the 1859 Historical Base Map.

In his estimate for the 1848-49 fiscal year Major John Symington requested \$ 22,130.00 "for constructing new tilt-hammer and forging shops, with stone forpays, turbine wheels, tilt-hammers, working shafts and fan blast at the rifle factory." To explain the need, he wrote: "The old shops for these purposes, with their forebays and water-wheels, are in a ruinous condition, and must be renewed as soon as it can be done. They are also distant from each other, and each has its own driving wheel and gear, requiring¹ much expense to keep them in repair."

² The amount asked for was appropriated by Congress on August 14, 1848. The paymaster's vouchers for the 3rd and 4th quarters of 1848 are missing from the National Archives Record Group 217, so that it is not known what steps, if any, were taken in 1848 towards erecting the new tilt shop. Except for the possiblity of purchasing building materials in 1848, the extant vou^chersfor 1849 suggest that actual construction of the tilt hammer and smiths shop did not get underway until the fall of 1849.

In his annual report for the fiscal year ending June 30,1849, Superintendent Symington wrote" The old buildings which accommodated these operations(cutting machines for components, barrel-boring, turning and rifling machines,as well as the stocking machines) are now taken down, preparatory to the erection,on the site, of a new shop for tilt hammers, and forging and³ swedging."

1. Serial No.514, Document. No.2, p.111, item No. 9.
2. U.S. Statues at Large,IX, p.306.
- 3.Serial No.549, Document No.549, p.365.

summer
In the of 1849 the following workshops shown on

Map No.6(1848), were probably torn down to clear the site for the new building:

Bldg.9, Rod Tilt Shop (1831).

Bldg. 13, Bell Shop (Stockers and Machinery) (1808-09).

Bldg. 15, House for Steaming Stocks.

Bldg. 18- Drill Shop (1836).

During 1849 359 8/12 feet of cut stone was purchased from Redmond Burke for \$ 306.73 for use on the new rifle factory shop. This included the following items:

\$ 87.59 for 129 feet of cut stone window sills.
180.14 for 152 8/12 ft of cut stone coping.
39.00 for 78 feet of cut stone steps.
\$ 306.73 for 359 8/12 feet (4)

On December 10, 1849, the stone mason Edward Tearney received \$ 3,689.52 for constructing the stone foundations and forebay of the new shop. The foundations, costing \$ 2,530.68, required the following construction:

\$ 252.00 for excavating and removing 840 cubic yards of earth.
75.00 for excavating and removing 175 cubic yards of stone.
1,934.80 for constructing 967 10/25 perches of stone mortar masonry for the foundation walls.
134.40 for 1,344 feet stone wall face hammered, foundations walls.
40.70 for setting 407 feet of cut stone water table, window sills.
15.10 for making 60 18/27 cubic yards of embankment.
7.00 for service of stone mason, 3½ days, fitting corners of water table, sills, and steps at \$ 2.00 per day.
71.68 for grouting front wall of building, 71 17/25 perches, with hydraulic cements.
\$ 2,530.68 subtotal, cost of foundation.(5)

6

The new stone forebay cost \$ 1,198.78, and included the following work:

4. 3rd S., F.9895, V. 8, July 24, 1849, \$ 266.37 for 301 2/12 ft of cut stone; F 10276, V. 39. December 11, 1849, for \$ 40.36 for 58½ ft of cut stone.
5. 3rd Series, F. 10276, V. 36, December 10, 1849.
6. Ibid., total bill, \$ 3,689.52.

\$ 133.80 for removing 446 cubic yards of earth for forebay.
 924.72 for constructing 308 6/15 perches heavy stone masonry laid
 in hydraulic cement. Walls of forebay.
 15.16 for 189 7/12 feet of stone covering (or coping)
 98.60 for 986 feet of stone wall face hammered.
 26.50 for puddling site of forebay.

\$ 1,198.78-subtotal, cost of forebay.

-39.94 minus \$ 39.94

\$ 1,

\$ 3,689.52 total paid to Edward Tearney in 1849 for work on tilt shop.

On November 29, 1849 the mason William Collins was paid \$ 1,901.84 for erecting the brick walls of the shop. This included the following construction:

\$ 1,127.59 for making and delivering 137,511 bricks.
 687.55 for laying 137,511 bricks in the walls of the shop.
 44.42 for setting 341 9/12 feet of cut stone, sills, etc.
 .50 for 1/2 days services of mason putting in and cutting for stove pipe.
 41.78 for other service.

\$ 1,901.84 (7)

Total

expenditures for construction of the new shop in 1849 came to \$ 5,898.09.

On April 26, 1850, the carpenter Jesse Schofield received \$ 510.34 for the following carpenter work on the tilt hammer shop:

\$ 316.74 for framing roof, 4,378 feet.
 36.54 for sheathing the roof, 4,875 feet.
 99.60 for making 1,328 lights of square sash, fitted and hung.
 57.46 for making 676 lights of circular sash, fitted and hung.
\$ 510.42. (8)

The slate roof went on the building in February because on March 8, 1850, the slate^R George W. Tracey received \$ 116.13 for performing the following work:

\$ 105.72 for slating roof of new tilt hammer & smiths shop, 5,286 feet.
 6.12 for 3 1/2 days work putting on snow fenders.
 4.29 for taking off old slate roof, 858 feet.
\$ 116.13 (9)

Copper gutters and spouts also went up in February, for on March 1, 1850 the tinsmith Henry W. Edwards was paid \$ 31.40 for putting 79 feet of copper

- (7) 3rd S., F. 10276, V. 33, November 29, 1849, for \$ 1,901.84.
 8. 3rd S., F. 11000, 10, April 26, 1850, for % \$ 510.34.
 9. 3rd S. F. 10673, V. 22, March 8, 1850, for \$ 116.13.

spouting and 172 feet of copper gutters on the new shop. ¹⁰

On May 15, 1850, the mason William Collins received \$ 11.36 for labor and furnishing scaffolding, mortar, and attendent:

\$ 8.64 for laying 1,728 brick.
2.72 for laying 175 feet of brick cornice on the shop.
\$ 11.36 (11)

On May 16, 1850 the painter George W. R. Seale was paid \$ 105.20 for priming and glazing 2,104 light sash for the new rifle factory shop. ¹²

The 30th of May James L. Ames of Boston, Mass., received \$ 1,156.98 for making and delivering one four-foot turbine water-wheel, fixtures, with cast-iron forebay and penstock. ¹³

In his annual report for the fiscal year ending June 30, 1850, Major Symington described the progress of construction as follows:

"Rifle Factory:...The new tilt-hammer shop, 110 feet long by 35½ feet wide,, the centre projecting in the rear 14½ feet, for office for foreman, has been put up. This building is one story, of brick, over a stone basement, with cut-stone water-table, steps, sills, and coping, cast iron door and window frames, and covered with slate. This shop will be completed in a few weeks - the laying of the floor, paving the basement, and putting in window sash, being all that is required to finish it." ¹⁴

Under machinery, he further commented: " 1 cast-iron turbine wheel, with cast-iron flume, placed in position, ready for use, in new tilt hammer shop, rifle factory; and stone forebay of heavy faced masonry, completed." ¹⁵

10. 3rd S., F. 10673, V.18, March 1, 1850, for \$ 31.40.
11. 3rd S., F. 11000, V. 24, May 15, 1850, for \$ 11.36.
12. 3rd S., F. 11000, V. 22, May 16, 1850, for \$ 105.20.
13. 3rd S., F. 11000, V. 39, May 30, 1850, for \$ 1,156.98, this included the cost of freight from Boston, which amounted to \$ 26.68.
14. Serial No. 587, Document No.1, p. 476, item No.9.
15. Serial No. 587, Document No.1, p. 475.

Work continued on the tilt hammer shop in 1850. On October 22, 1850 George W. Seale received \$ 67.09¹⁵ for furnishing and painting 536 7/9 square 2 coats, sash and frames at new tilt hammer and smiths shop at rifle factory." On December 20, 1850 the slater William Bayley was paid \$ 350.00 for providing the material and "for slating 53 squares of slate roofs of new buildings",¹⁷ which we have charged to this account. The brick mason William Collins also returned to do some minor work: he received \$ 15.00 in November for providing the following services:

\$11.00 for 5½ days work of brick mason.
 4.00 for 3 days work of laborer and 1 load of mortar.
\$ 15.00 (18)

The stone mason Edward Tearney also put in the brick floors for \$ 178.59 in December, 1850. This involved the following construction:

\$ 91.09 for 364 10/27 cubic yards of earth to fill in basement.
 55.00 for paving 275 square yards with brick pavement.
 24.00 for constructing 12 perch masonry for piers for girders.
 4.50 for 2 days work of mason underpinning joists and girders.
 4.00 for 2 days work of laborer and 2 cart loads of mortar.
\$ 178.59 (19)

A total of approximately \$ 1,379.61 was spent on the construction of the tilt hammer and smiths shop during 1850, ^{gtc} exclusive \$ 1,156.98 expended on the purchase of a turbine wheel.

On January 28, 1851, George W. Tracey was paid \$ 16.28 for taking off the²⁰ old slate roof of the old tilt hammer shop, 3,257 feet, at the rifle factory. The Old Tilt Hammer Shop, Bldg. No. 7 on Map No. 6 (1848()), had been erected in 1837-38 and was now being demolished to clear the ground for the construction of a new machine shop.

- 16. 3rd S., F 12169, V. 2, October 22, 1850, for \$ 67.09.
- 17. 3rd S., F. 12169, V. 40, December 20, 1850, for \$ 344.50.
- 18. 3rd S. F 12169, V. 20, November 30, 1850, for \$ 15.00.
- 19. 3rd S., F. 12169, V. 43, December 20, 1850, for \$ 178.59.
- 20. 3rd S., 12169, V. 6, January 28, 1851, for \$ 16.28.

The tinsmith Dennis Snook was paid a total of \$ 50.35 for making and installing tin blast pipe in the new shop. This included the following work:

\$ 10.30	for 51½ feet hammered tin blast pipe.
1.65	for 11 feet of tin pipe.
.75	for other services
<u>\$ 12.70</u>	January 20, 1851 (21)
37.65	May 19, 1851 for "tin blast pipe", (22)(119½ feet, put up).
<u>\$ 50.35</u>	for 182 feet of tin pipe.

The carpenter Jonthan Renner was paid \$ 70.00 for "making the frame, sash, and (3) doors, complete and fitting up of three openings in the centre and wings of the new tilt hammer shop, Rifle Factory." The largest door was apparently located in the center, as this cost \$ 30.00. Each of the doors in the wings cost only \$ 20.00 a piece.

During the spring of 1851 the roof of the shop was apparently altered to install three ventilators and this section then had to be reslated. On June 30, 1851 the carpenters Mee~~ve~~²³ Brewing received \$ 145.02 for executing the following carpenter work:

\$ 120.00	for constructing" three lanterns or ventilators 8 feet long and 5 feet wide on roof of new tilt hammer and smiths shop.
25.02	for erecting and finishing a partition including sash door 8 feet high, 3,235 feet of plank.
<u>\$ 145.02</u>	(24)

On August 16, the slater George W. Tracey was paid \$ 36.51 for performing the following services:

\$ 5.40	for slating 270 feet roof of new tilt hammer shop.
31.11	for removing slate roof of old building, 6,2333 feet,
<u>\$ 36.51</u>	(25)

This indicates that additional old workshops at the rifle factory were being demolished.

21. 3rd S.F. 12169, V. 77, January 20, 1851 for \$ 12.70.
22. 3rd S., F. 12680, V. 5. May 19, 1851, for \$ 37.65.
23. 3rd S.F. 12169, V. 11, February 11, 1851, for \$ 70.00.
24. 3rd S., F. 12680, V. 52, June 30, 1851, for \$ 145.02.
25. 3rd S., F. 12680, V. 14, August 16, 1851, for \$ 36.51.

In June 1851 lightning rods, three points and and two leads to the ground, were installed on the roof of the new tilt hammer and smiths shop at the rifle factory at a cost of \$ 29.55.³⁰

Finally, the stone mason Edward Tearney returned in the spring of 1851 to construct the wheel pit and tail race, build the foundations for the drop and tilt hammer, and install foundations for 14 anvil blocks at a cost of \$ 1,121.57. This included the following construction:

For wheel pit and tail race:	\$23.50 for for 78 9/27 cubic yard excavation of earth.
	40.29 for excavation of 80 16/27 cubic yards in water.
	412.80 for erecting 275 5/25 perches dry mason.
	84.32 for 42 4/25 perches cement masonry.
	60.00 for 60 superfical feet circular cut stone.
	<u>\$ 620.91 (31) April 21, 1851.</u>

For Foundation drop and tilt hammer:	32.66 for 108 24/27 cubic yard of earth excavation.
	432.00 for erecting 216 perches of cement masonry.
	<u>\$ 464.66 (32) April 21, 1851.</u>

Foundation stones for anvil blocks	\$ 28.00 for placing in position 14 foundation stones for anvil blocks. (33)
	<u>8.00 for cut stone bases for 4 anvil blocks. (34)</u>
	<u>\$ 36.00</u>

A total of approximately \$ 1,469.28 was expended on the construction of the new tilt hammer and smiths shop in 1851 and the total cost of construction recorded

from 1849 to 1851 was about \$ 8,746.98.

fiscal
In his annual report for the year ending June 30, 1851, Superintendent John Symington announced: " The trip-hammer and smith's shop, partially completed and described in the last report, is now completed and occupied. There are five trip hammers(belt) in operation in this shop; the forges, nine in number, are all of cast iron, and one cast-iron turbine wheel will suffice for all the machinery

30. 3rd S., F.12680, V. 69, to Decker and Robinson, July 3, 1851, for \$ 29.55.
31. 3rd S., F. 12680, V. 5, April 21, 1851, for \$ 620.91.
32. 3rd S., F. 12680, V. 5, April 21, 1851, for \$ 464.66.
33. 3rd S., F. 12680, V. 33, June 24, 1851, for \$ 28.00.
34. 3rd S., F. 12680, V. 54, June 30, 1851, for \$ 8.00.

"designed for this building." Under the heading of "Machinery fabricated complete" at the rifle factory, Major Symington gave the following additional details on the new shop:

"22½ lineal feet pit-gears and shafting (made) in new tilt and	forging	shop.
65 lineal feet main-line	" " " " " "	" "
5 " " counter-line	" " " " " "	" "
2 trip-hammers(belt) for forging barrels, rods, screws, &c.		

" Fabricated under appropriation for "repairs and improvements,"

9 cast-iron forges^m with sheet-iron bonnets and smoke-flues^m complete, in new tilt and smith's shop.
1 cast-iron furnace and flue for heating iron and steel, in new tilt and smith's shop.
102 feet of 8-inxh tin blast pipe, in same shop.
80 feet of $\frac{2}{3}$ inch tin blast pipe, " " "

" Remarks:

In the new tilt and smith's shop, anvil-blocks of oak timber have been placed in position at each of the forges, and the floor of the building covered with stout sheet-iron. Nine cast-iron forges and fixtures have been placed in position, complete, together with furnace for heating iron and steel for tilting. One fan-blast, and pipe conducting blast to forges, have been placed in position, complete; the whole being now in working order.

Under the heading of "Machines purchased," Symington listed "1 regular for water-wheel" and "1 factory force pump(five plungers,) and fixtures."

These were probably acquired for use in the new tilt hammer and forging shop.

35. Serial No. 611, Document No.1, p. 611, item 7.

36. Serial No. 611, Document No.1, p. 457-458.

Construction of Tilt Hammer and Smiths Shop, Rifle Factory, 1849-51
(Bldg. No. 4 on 1859 Historical Base Map).

215

Project	Cost	Description of work
Cut Stone	\$ 306.73	129 linear feet of window sills. 158 8/12 linear feet of coping 78 linear feet of stone steps. 359 8/12 linear feet of cut stone-Redmond Burke.
For brick	1.136.23	139,239 for making and delivering bricks. William Collins
For laying brick walls	791.97	for laying 139,239 bricks in walls. for laying 175 feet of brick cornice for setting 341 9/12 linear feet of cut stone aills, coping. Paid to William Collins
Subtotal:To William Collins:	\$ 1,928.20	1849-50.
Stone Foundations To Edward Tearney-	\$ 2,530.68	for excavating and removing 840 cubic yards of earth. for excavating and removing 175 cubic yards of stone. for constructing 967 10/25 perches of stone mortar masonry for the foundation walls. for 1,344 feet stone wall face hammered, foundations walls. for setting 407 feet of cut stone water table, window sills for making 60 18/27 cubic yards of embankment. for service of stone mason, 3 1/2 days, fitting corners of water table, sills, and steps at \$ 2.00 per day. for grouting front wall of building, 71 17/25 perches, with hydraulic cements.
For stone forebay: To Edward Tearney:	1,198.78	for removing 446 cubic yards of earth for forebay. for constructing 308 6/25 perches heavy stone masonry laid in hydraulic cement.Walls of forebay. for 189 7/12 feet of stone covering(or coping?) for 986 feet of stone wall face hammered. for puddling site of forebay.
For Wheel Pit and Tail Race- To Edward Tearney:	620.91	for for 78 9/27 cubic yard excavation of earth. for excavation of 80 16/27 cubic yards in water. for erecting 275 5/25 perches dry mason. for 42 4/25 perches cement masonry. for 60 superficial feet circular cut stone.
For foundations of drop and tilt hammer-to Edward Tearney	464.66	32.66 for 108 24/27 cubic yard of earth excavation. 432.00 for erecting 216 perches of cement masonry.
Foundation stones for oak anvil blocks-To Edward Tearney:	36.00	for placing in position 14 foundation stones for anvil blocks. (33) for cut stone bases for 4 anvil blocks.(34)
Subtotal	\$ 4,949.68	to stone mason Edward Tearney, 1849-51.

Project	Cost	Description of work
Carpenter Work	\$ 510.52	framing roof, 4378 feet sheathing roof, 4,875 feet making 1,328 lights of square sash making 676 light of circular sash. By Jesse Schofield.
	70.00	For making three exterior doors, one in center and one each in wings. Jonathan Renner.
	145.02	For making three lantern ventilators, 8 by 5 feet, on roof, making one partition wall, 3,235 feet of plank, with a 1/2 height foot high door. Built by Meen and Brewing.
	\$ 725.44	for carpenter work., 1849-51.
For brick pavement and support for sheet iron flooring. To Edward Tearney	178.59	for 364 10/27 cubic yards of earth to fill in basement. for paving 275 square yards with brick pavement. for constructing 12 perch masonry for piers for girders. for 2 days work of mason underpinning joists and girders. for 2 days work of laborer and 2 cart loads of mortar.
Slating Roof:	\$ 111.12	for slating 5,556 feet roof of shop.
	6.12	putting snow fender on roof.
	51.68	for removing 9,480 feet + of old slate roof from at least 3 buildings.
	\$ 168.92,	subotal paid to George W. Tracey.
	344.50	to William Bayley for providing and slating 53 squares on roofs of new buildings.
	513.42	for slating.
Gutters and spouts, copper:	31.40	79 feet of spouts and 172 feet of gutters, copper, made and installed by Henry W. Edwards.
Tin Blast pipes	50.35	for 102 feet of 8 inch tin pipe and 80 feet of 3 inch tine blast pipe, made and installed by Dennis Snook.
Painting:	172.29	for glazing and painting 2,104 light of sash and painting 536 7/9 square yards two coats. To George W. R. Seale.
Lighting rods	29.55	for 3 points and 2 leads to ground, installed by Decker and Robinson, at 15 cents per foot.
Sheet Metal (iron) Flooring)	?	cost of material and instalation ?
Recorded Total:	\$ 8,747.06.	\$ 22,130.00 provided for construction & machinery.
Water wheel	1,156.98	for one-fourfoot cast iron turbine, with cast-iron forebay and penstock, made by James L. Ames of Boston.

Annealing Furnace and Proof House, Rifle Factory, 1851-52.

The Annealing Furnace and Proof House is Bldg. No. 5 on the 1859 historical base map.

The Old Annealing Shop, Bldg. No. 20, and ^{Old} Annealing Furnace Bldg. No. 21, (see Map No. 6, 1848), had both been erected by the brick mason Joseph Mullen in 1835 and by 1850 were apparently both in very poor condition. Late in 1850 Major John Symington had to spent \$ 231.44 to construct a new annealing furnace with a chimney stack. This was erected by the masons Edward Tearney and William Collins as follows:

To Edward Tearney : \$ 16.33 for excavating and removing 54 12/27 cubic yards of earth.
 134.40 for constructing 67 5/25 perches mortar masonry.
 \$ 150.73 for annealing furnace at rifle factory. (1)

To William Collins \$ 80.71 for labor laying 16,143 brick, furnishing scaffolding, mortar, and attendance of mason building new annealing furnace and chimney stack at Rifle factory. (2)

In the estimates for the 1851-52 fiscal ^{year} Superintendent Symington requested an appropriation of \$ 5,100.00 for "a new annealing furnace and proof house at the Rifle factory," explaining: "The old annealing furnaces are defective, not answering the purposes, and are put up in small buildings inconveniently located." 3
 Congress provided the \$ 5,100.00 for this purpose on March 3, 1851. 4

Prior to this, on February 11, 1850, the administrator of William Collins, deceased- William R. Collins, was paid \$ 1,380.37 for making and delivering to the armory 171,656. ^{5. picks} This expense has been arbitrarily charged to the annealing house account, together with the building of the new annealing furnace, thus

1. 3rd S., F. 12169, V. 43, December 20, 1850, for \$ 150.73.
2. 3rd S., F., 12169, V. 17, November 15, 1850, for \$ 80.71.
3. Harpers Ferry NHP Microfilm Reel 20, Vol. 7, p. 694, item No. 5/.
4. U.S. Statues at Large, IX, p. 620.
5. 3rd S., F 12169, V. 13, February 11, 1850, for \$ 1,380.37.

producing a total of \$ 1,611.81 expended during 1850.

Actual construction on Bldg. No. 5, the new Annealing Furnace and Proof house got underway in the spring of 1851. The stone mason Edward Tearney was paid \$ 509.46 for performing the following work on the "foundations of new annealing shop at Rifle Factory":

\$ 77.78 for excavation and removal of 259 8/27 cubic yards of earth.
407.12 for erecting 203 14/25 perches mortar masonry, foundation walls.
1906 for setting 198 8/12 feet of cut stone water table.
5.50 for 5 1/2 days work of laborer filling in with earth.
\$ 509.46 (6)

In his annual report for the fiscal year ending June 30, 1851, Major Symington at the rifle factory described the progress of this construction/as follows:

"The stone foundation for the annealing shop and proof-house is completed and ready for the brick masonry, The furnace, with its flue, is also completed and in use. This building will be 60 by 36 feet, divided by two partitions into three compartment, and in style and finish like all the other new shops."

The description of the complete annealing furnace indicates that structure erected by Tearney and Collins in late 1850 for a total of \$ 231.44 was intended to be incorporated in the large building now being erected. It also suggests that Old Bldg.s No. 20 and 21, the Old Annealing Furnace and Old Annealing Shop, shown on Map 6, must have been demolished in 1850 in order to clear the site for the construction of Bldg. No. 5.

The brick walls of the structure were erected in August 1851 and on September 5, 1851, the mason N.T.V. Haller was paid \$ 630.14 for the following construction: \$ 593.29 for labor, furnishing mortar, attendents, scaffolding, and laying 98,883 bricks for new annealing and proof shop.
14.85 for laying 118 10/12 feet of cornice (brick?).
22.00 for setting 169 3/12 feet of cut stone sills, etc.

\$ 630.14 (8)

- 6. 3rd S., F. 12680, V. 33, June 24, 1851, for \$ 509.46.
- 7. Serial No. 611, Document No. 1, p. 459, item No. 8.
- 8. 3rd Series, F. 12680, V. 26, September 5, 1851, \$ 630.14.

On September 27, 1851 the master carpenter Jeremiah Fuss received \$ 433.51 for executing the following carpenter work on the rifle factory annealing house and proof shop; under contract:

\$ 166.89 for framing 2,302 feet of roof.

29.00 for making, fitting, and hanging two outside doors and frames.

7.75 for making, fitting and hanging one inside door and frame.

9.00 for making, fitting, and hanging 1 inside door.

36.00 16 window frames "set with center".

4.00 2 window inside shutters made, hung, etc.

70.00 two ventilators made, hung, etc.

16.56 184 lights of square sash made.

13.00 130 lights of circular sash made.

11.98 389 feet of wooden ceiling put up.

40.00 for 5 sets of venetian blinds for semi-circular windows constructed.

29.37 for 11 3/4 days work of measuring work of stone mason and brick layers, &c.

\$ 433.51 (9)

On October 29, 1851, John A. Steiner was paid \$ 1,216.75 for making and¹⁰ delivering 157,000 building bricks to the armory. This sum has been arbitrarily charged to the Annealing House account, bring the total recorded expenditures during 1851 to \$ 2,789.76, and from 1850 to 1851 inclusive, ~~to~~ \$ 4,406.67.

Destruction of the Armory Paymasters vouchers for the years 1852 to 1861 by the National Archives staff during the 1940's makes it impossible to trace in detail the final construction in 1852 and also any alterations or repairs that may have been made from 1853 to 1861.

In his annual report for the fiscal year ending June 30, 1852, the new superintendent, Brevet Colonel Benjmain Huger, reported: "The anealing proof-shop, described in last report as having foundation ready for the brick masonry, has been¹¹ completed."

9.3rd S., F. 12680, V.41, September 27, 1851, for \$ 433.51.

10.3rd Series, F. 13017, V. 8, October 29, 1851, for \$ 1,216.75.

11. Serial No. 659, Document No.1, p. 254, item No. 9.

As it was build like the other shops going up, the annealing house
 and proof shop, ^{would have} had copper gutters and downspouts. Its gable roofs,
^{Annealing}
 like that of its larger sister shop at the musket factory, were probably
 and its interior [^]
 slated.,

^{also}
 was [^]divided into three compartments, probably a center building with
 flanking wing on either side. Two wooden ventilars adorned the ridge
 of the gable roofs, probably one on each wing, of the rifle factory
 shop. Lightning rods were ^{also} probably installed on its roof and the exterior
 brick walls may have been painted with two coats of patent paint, in oil, in 1852.
 Total cost of the building was probably about \$ 5,100.00.

CONSTRUCTION OF ANNEALING FURNACE AND PROOF HOUSE, RIFLE FACTORY, 1851-52:

Project	Cost	Description of Work
Foundations: Annealing Furnace:	\$150.73	for excavating and removing 54 12/27 cubic yards of earth. for constructing 67 5/25 perches mortar masonry walls.
Foundations to Main structure	509.46	for excavtion and removal 259 8/27 cubic yards of earth. for erecting 203 14/25 perches mortar masonry wall. for setting 198 8/12 linear feet of cut stone water table. for 5½ days work of filling in with earth
	\$ 660.19	To mason Edward Tearney, 1850-51.
For brick	1,380.37 1,216.75 \$ 2,597.12	for 171,656 made and delivered by William Collins, 1850 for 157,000 made and delivered by John A. Steiner, 1851 for 328,656 bricks made and delivered.
For brick walls, annealing furnace: main building:	80.71 630.14 710.85	for laying 16,143 bricks in furnace and stack for laying 98,883 bricks in walls of main structure. for laying 118 10/12 feet of cornice, probably brick. for setting 169 3/12 feet of cut stone sills and coping. for laying 105,026 bricks: To William Collins for furnace and N.T.V. Haller for main building.
Carpenter Work To Jeremiah Fuss:	433.51	for making, fitting, and hanging two outside doors and frame. for making, fitting and hanging one inside door and frame. for making, fitting, and hanging 1 inside door. 16 window frames "set with center". window inside shutters made, hung, etc. two ventilators made, hung, etc. 184 lights of square sash made. 130 lights of circular sash made. 389 feet of wooden ceiling put up. for 5 sets of venetian blinds for semi-circular windows constructed. for 11 3/4 days work of measuring work of stone mason and brick layers, &c.
Slating Roof	?	(1852) Slating done by either George W. Tracey or William Bayley.
Gutters & Spouts	?	making and installing copper gutters and down spouts, probably done by Dennis Snook. 1852)
Painting:	?	painting sash and perhaps exterior brick walls two coats. Sash probably done by George W.R. Seale. (1852)
Lightning Rods	?	Probably installed by Decker and Robinson. (1852)
Floors	?	probably paved with brick. (1852)
1850-51		
Total:	\$ 4,401.67	Probably total cost, 1850-52: \$ 5,100.00

Bldg. No. 5 at Rifle Factory, 1859 Historical Base Map.

5. New Machine Shop, Rifle Factory, 1852- 1853:

The new Machine Shop is Bldg. No.6 on the 1859 historical base map.

This was the last shop at the rifle factory to be designed by Major John Symington.

In his estimate for the 1850-51 fiscal year, Superintendent Symington asked for \$ 16,980.00 "for building a machine shop, including the requisite machinery at the rifle factory," explaining: "The present shop is old, and is only a make-shift, like all the other old buildings at this factory, and entirely too small to accommodate the machines necessary to keep up the work - some of which have now to be set up in sheds and other out-houses." The requested sum was appropriated by Congress on September 28, 1850.

Perhaps because of the press of other construction, work on the new machine shop did not get underway until 1852.

On December 2, 1850, however, \$ 68.50 was spent to purchase 103 3/12 lineal feet of cut-stone water table from Redmond Burke, the stone cutter, "for new machine shop at rifle factory." On April 21, 1851, mason Edward Tearney was paid \$ 585.86 for constructing wheel pit and tail race " at new drilling and turning shop, Rifle Factory", which is probably the proposed machine shop. This involved the following construction:

\$ 136.40	for excavating 454 18/27 cubic yards of earth.
192.32	for erecting 96 4/25 perches of cement masonry wall.
252.48	for erecting 168 8/25 perches of dry wall.
4.60	for 23 cubic yards of earth filled in.
<u>\$ 585.86</u>	(4)

1. Serial No. 568, Document No. 4, p. 156, 157, item No. 10.
2. U.S. Statues at Large, IX, p. 507.
3. 3rd Series, F. 12169, V. 27, December 2, 1850, for \$ 68.50.
4. 3rd S., F. 12680, V. 5, April 21, 1851, for \$ 585.86.

On December 24, 1851,

Edward Tearney was paid \$ 244.00 for "labor taking down the machinery and building, and clearing away the rubbish from the site for the new machine shop at the rifle factory." Charges were as follows:

\$ 206.00	for labor of 12 men, 18 days each, at \$ 1.00 per day each.
38.00	for Foreman supervising the work, 19 days, at \$ 2 per day.
<u>\$ 244.00</u>	(5)

In order to construct the new machine shop, the following buildings on Map No.6(1848) had to be taken down in 1851, or earlier:

Bldg. 5-Old Filers Shop, dating from 1837.

Bldg. No. 6- Barrel Welding Shop, erected in 1831.

Bldg. No. 7- Tilt Hammer Shop, constructed in 1837(38) .

Bldg. No. 9- Rod Tilting Shop, dating from 1831.

Although designed by Major Smington in 1849 or 1850, the actual construction of the new Machine Shop, Blding No. 6, was to be supervised by his replacement, the new superintendent, Brevet Colonel Benjamin Huger in 1852-53. This story will be told in the next chapter.

5.3rd. S., F. 13107, V.41, December 24, 1851, for \$ 244.00.

6. Repair of Old Rifle Factory Buildings, 1845-1851.

During the period 1845-1851 a record total of approximately \$ 93.88 was spent making repairs to old Hall Rifle Factory shops. (See Following chart). Of this total, \$ 4.87 went to the brick mason William Collins; \$ 21.33 to the stone mason Edward Tearney; \$ 34.69 to the slater George W. Tracey, and \$ 9.44 to the plasterer Robert Simms.

Bldg. 20 REPAIRS AT RIFLE FACTORY, 1845-51

	Bldg. 11	Bldg. 13	Bldg. 18	Bldg. 12	Bldg. 2			
Year:	Old Annealing Shop	Old Assembling & Finishing shop	Old Bell Shop	Old Drilling Shop	Old Turning & Boring Shop	Old Forging & Tempering Shop	Total for Repairs	
1845								
1846								
1847								
1848								
1849	2.62 (1)		26.59(4)			1.75 (8)	30.96	
1850	.50. (2)	24.55 (3)		21.33 (5)	9.44. (8)		44.82	
1851				7.10 (6)			7.10	
TOTAL	\$ 3.12	24.55	26.59	28.43	9.44	1.75	\$ 93.88	

1. 3rd S., F. 9895, V. 23, to Brick mason William Collins, August 31, 1849, for \$ 2.62-rebuilding furnace.
2. 3rd S., F. 11000, V. 24, to William Collins, May 15, 1850, \$.50 for repairs of furnace.
3. 3rd S. F. 11542, V. 43, July 13, 1850, for demolition of structure, \$ 24.55.
4. 3rd S., F. 9307, V. 44, to George W. Tracey, June 23, 1849, for \$ 26.59, removing slate, demolishing shop.
5. 3rd S. F. 12169, V. 43, to stone mason Edward Tearney, 12/20/50-repair of foundations, \$ 21.33.
6. 3rd F. 12680, V. 14, to George W. Tracey, August 16, 1851, \$7.10 for repair of slate roof, 355 feet.
7. 3rd Serial F. 11,000, May 30, 1850 to Robert Simms, \$ 9.44 for lathing and plastering 104 sq. yards, repair of plaster.
8. 3rd S., F. 10276, V. 33, to William Collins, brick mason, November 29, 1849, for \$ 1.75, repair of tempering furnace.

225

7. Grading at the Rifle Factory Grounds, 1845-1851:

In his annual report for the fiscal year ending June 30, 1848, Major John Symington noted: "The low grounds about the buildings^{(at} the rifle factory⁾ have been partially filled up, 1,080 cubic yards of quarry rubble being carted upon it." ¹ The probable cost of this work was about \$ 270.00 , calculating the charge at 25 cents per cubic yard.

In the report for the year ending June 30, 1850, Symington reported:

"There has been a considerable amount of grading done on the grounds around the shops at the rifle factory, rendered necessary by the unevenness of the surface, the old race-ways having to be filled up." ²

On December 20, 1850 the mason Edward Tearney was paid \$ 113.00 "for filling up ground at Rifle Factory with 452 cubic yards, filling in with earth and spalls." ³

In his annual report for the fiscal year ending June 30, 1851 Symington noted this work, writing: "There has been much filling and grading of grounds, both at the musket and rifle factories, to the extent⁴ of 3,000 cubic yards."

On the basis of the Tearney voucher, as given above, 452 cubic yards of grading were down at the rifle factory and 2,548 cubic yards at the musket factory.

From 1845 to June 30, 1851 more than 1,532 cubic yards of fill were placed about the new buildings at the rifle factory at a cost of approximately \$ 382.00.

2. Serial No. 587, Document No. 1, p.476, Item No. 10. Vouchers for the period July 1, 1847 to June 30, 1848 are missing.

1. Serial No. 503, Document No. 1, p. 692, Item No. 3.

3. 3rd S., F. 12169, V. 43, December 20, 1850, for \$ 113.00. Tearney charged 25 cents per cubic yard of fill.

4. Serial No. 611, Document No. 1, p.459, item No. 9.

8. Fencing at the Rifle Factory:

In his estimates for the 1851-52 fiscal year Major John Symington requested the sum of \$ 530.00 "for enclosing the Armory yard at the Rifle Factory with a board fence", explaining: "The yard at the Rifle factory is⁵ entirely open and a thoroughfare for cattle &c., at all times."⁶
The requested amount was appropriated by Congress on March 3, 1851.

There is no mention in the annual reports for June 30, 1851 or June 30, 1852 of the board fence being erected at the Rifle Factory. However, If it had been put up, the flood of April 1852 might well have swept it away.

5. Harpers Ferry NHP Microfilm Reel 20, Vol. 7, p.694, item 4.

6. U.S. Statues at Large, IX, p. 620.

9. Demolition of old ~~Bldgs~~ at the
The Rifle Factory, 1847 -1851 :

In the period 1846 -1851 Major John Symington designed and erected four workshops major and one minor shop that tranformed the old ramshackled

collection of workshops and storehouses at the rifle factory into a modern one. The following old buildings were demolished to clear the sites for the new (See Map 6-1848):

2. Forging and Tempering Shop(1837-38)

5. Filers Shop (1837)

6. Barrel Welding Shop(1831).

7. Tilt Hammer Shop(1837-38). January 1851, taken down.

8. Vitriol House (1837)(sold for material, July 13,1850) (1)

9. Rod Tilting Shop(1831)

11. Assembling and Finishing Shop(1837),sold for materials,July 1850.(2)

13. Bell Shop(1808-09.) Down In June 1849 (3)

15. House for Steaming Stocks.

18. Drill Shop(1836) in 1852?

20. Annealing Shop(1835) in 1851.

21. Annealing Furnace(1835) unusable in 1850. Down in 1851.

10. Description of the New Plant, 1852

Symington's new brick and stone shops fronted to the north, on straight the south bank of the Shenandoah Canal, and extended in a line from east to west along that canal. Symington's new buildings, running from east to west, were as follows:

1. Bldg. No. 5, the Annealing Furnace and Proof House, one -story, brick, stone foundations, 60 by 36 feet, built 1851-52, cost about \$ 5,100.

2. Bldg. No. 4, The Tilt Hammer and Smiths Shop, located ; perhaps 100 feet west of Bldg. 5, one story brick, stone foundation, 110 by 35½ feet, built 1849-51, cost about \$ 22,130.00.

1.3rd.S., F. 11542. Sold at public sale of old materials to Dr. Nicholas Marmion for \$ 3.60 on July 13,1850.

2.3rd S. F. 11542, sold to Dr. Nicholas Marmion on July 13,1850 for \$ 24.55.

3.3rd S. F9307, V.44, George W. Tracey, June 23,1849,for removing slate from roof,

3. Bldg. No. 6, New Machine Shop, located 57 feet 6 inches west of Bldg. No. 4 .
A one story brick building with stone foundations, 87 feet 9 inches long and 35 feet wide, built 1852-53, cost, \$ 16,980.00.
4. Bldg. No. 3, new Finishing and Machine Shop, located 58 feet west of Bldg. No. 6,
A two story brick building on stone foundations, 128 feet long by 36 feet wide with two rear one-story brick wings, each 25 feet square, built in 1847-48 for about \$ 26,880.00.

New Main Tail Race, 10 feet wide, 6 feet high, and covered over, built 1847-48 in the rear (south side) of the line of new shops. Cost \$ 3,320.00

5. Bldg. No. 1 (Bldg. No. 4 on Map No. 6-1848), New Filers Shop, located to south east and rear of Bldg. No. 3. Erected by Major Henry K. Craig in 1843-4 at estimated cost of \$ 1,000. First story of stone and second of brick. Building about 74 feet long and 25½ feet wide.
6. New Proof House (Bldg. No. 2) (Bldg. No. 23 on Map No. 6, 1848). Erected by Major John Symington in 1845 at a estimated cost of \$ 750.00. A one story frame structure with a rear wall of masonry 2½ feet thick, building 19½ by 15 feet in size. This shop was located on the north side of the W. & Potomac Railroad track, close to the line and adjacent to the east side of the Hall Island.

Old shops still standing in 1852 may have included: the following, seven:

3. Stockers Shop. (1848 map No. 6)
10. Inspectors office
12. Barrel Turning and Boring Shop.
16. Engine House (frame, erected in 1843-44). Major Craig.
17. Privy
19. Forging Shop (1827)
22. Forging Shop (1819).

Expenditures for new buildings and the new tail race at the rifle factory by Symington, 1845-June 30, 1852, totaled about \$ 75,160.00. With the one new structure erected by Major Craig included, the total was about \$ 76,160 to \$ 77,160., 1842 to 1851.

CONSTRUCTION AT THE U.S. RIFLE FACTORY, 1845 - 1851

	1	2	3	4	5				
Year:	Proof House	Finishing & Machine Shop	Tilt Hammer & Forging Shop	Annealing House & Proof House	Machine Shop	Total for Buildings	Repairs	Grading	TOTAL
1845	(750.00)	-	-	-	-	(750.00)			750.00
1846		56.49				56.49			56.49
1847		5,434.00				5,434.00			5,434.00
1848								yes	
1849		111.07	5,898.09			6,009.16	30.96		6,040.12
1850		34.56	1,379.61	1,611.81	68.50	3,094.48	55.82	113.00	3,263.30
1851		46.50	1,469.28	2,789.86	829.86	5,135.50	7.10		5,142.60
TOTAL	\$ 750.00	5,682.62	8,746.98	4,406.67	898.36	20,479.63	93.88	113.00	20,686.51
Approp. Building		10,800.00		5,100.00				\$530.00(1)	
For Machinery		16,080.00	22,130.00		16,980.00	76,090.00		\$ 3,320.00(2)	

(1) for board fencing, March 3, 1851.

(2) for constructing new main tail race.

79,940.00

230

APPROPRIATIONS FOR REPAIRS AND IMPROVEMENTS, HARPER'S FERRY ARMORY, 1845-51

Calendar Year:	Armory Stable	Armory Lumber Yard	Potomac Canal	Shenandoah Canal	Potomac Dam	Shenandoah Dam		Subtotal	Repair & Presv.
1845			5,000.00					5,000.00	
1846	2,000.00	800.00				900.00		3,700.00	
1847			2,740.00					2,740.00	2,000.00
1848								0	5,100.00
1849								0	
1850			725.00	645.00	1,500.00			2,870.00	2,070.00
1851								0	3,500.00
TOTAL	\$ 2,000.00	800.00	8,465.00	645.00	1,500.00	900.00	\$	14,310.00	12,670.00

231

Sketch of the U.S. Rifle Works at Harper's Ferry, Virginia
Drawn Ca. June 1853, by Lieutenant James G. Benton, From the
U.S. Military Academy, Library Manuscript Collection, West
Point, N.Y.

Harpers Ferry National Historical Park Negative No. HP-704.

Looking east along the Shenandoah Canal towards Harper's Ferry.

Shenandoah Street runs along the north bank of the Shenandoah Canal in the center of the drawing. Note the wooden bridge across over the canal and leading to the Upper Hall Island. Beyond the frame bridge, in the distance, can be seen a stone arched bridge leading to the Lower Hall Island and the Rifle Factory shops.

At the right, near the lower right hand corner, can be seen the roofs of two Armory Dwelling Houses that were located on the Upper Hall Island. These were perhaps Houses No. 158 and 159-160. House No. 158 was a two-story brick house valued at \$ 900 in 1852; No. 159, a two-story stone house valued at \$ 200; and No. 160, a one-story stone residence valued at \$ 250.

The large two-story factory shop, located on the south bank of the Shenandoah Canal and standing on the Lower Hall Island, is the Finishing and Machine Shop, Bldg. No. 3, which was constructed in 1847-48. A turbine cast-iron water wheel was located in the one-story wing that is visible on the right or rear side of the main edifice.

The next shop in line, above Bldg. No.3, is Bldg. No. 6, the one-story Machine Shop, which was built in 1852-53. Note the wooden cupola or belfry on the center section of this three-part shop.

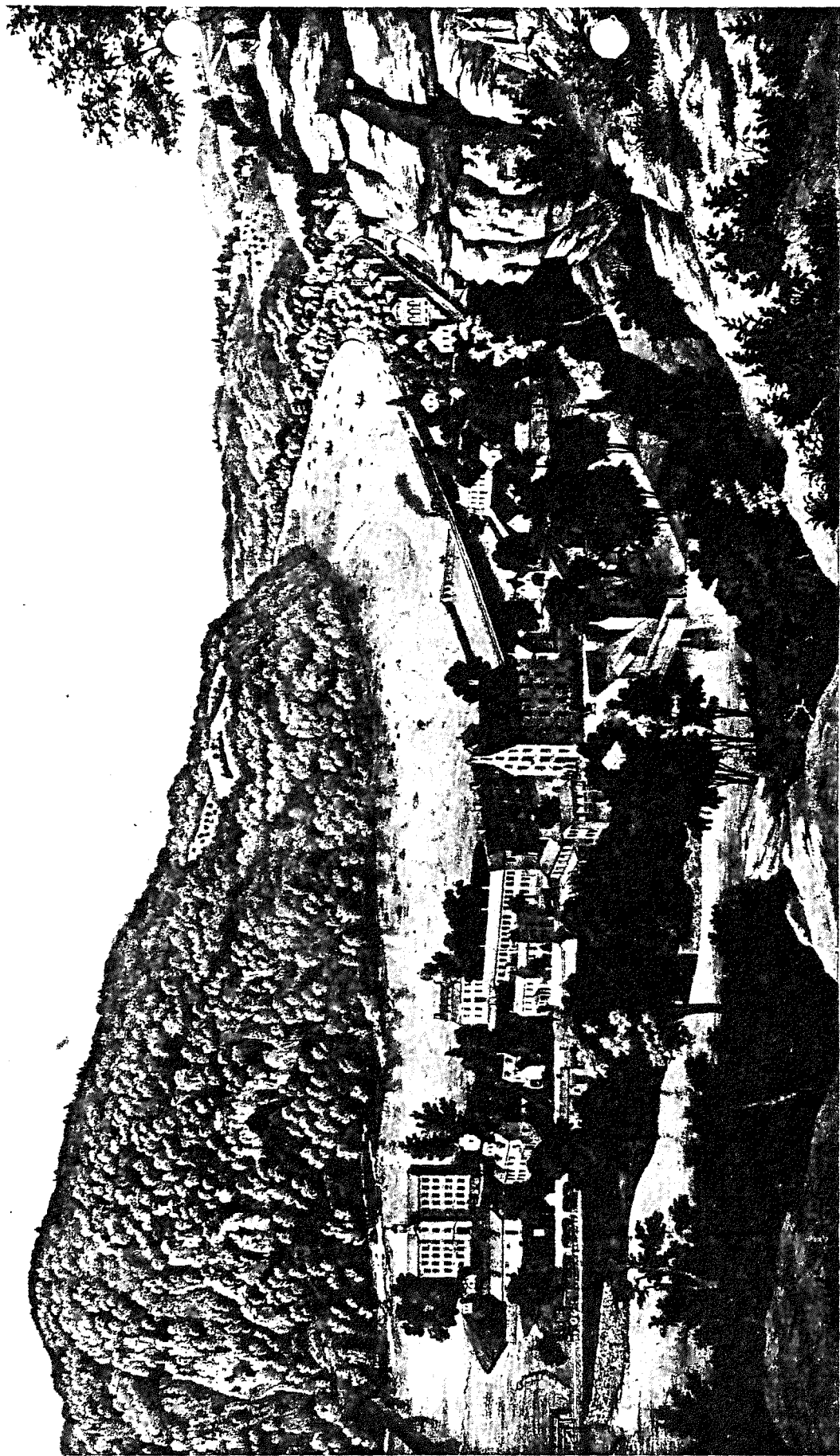
Above Bldg. No.6, can be seen Bldg. No. 4, the Tilt Hammer and Smiths Shop, a one-story brick three-part building that was erected in 1849-51.

Beyond Bldg. No. 4 , stands Bldg. No.5(not very clearly), a one-story brick-three-part Annealing Furnace and Proof House, that was constructed in 1851-52.

The fact that Bldg. No.6, the new Machine Shop, is clearly visible in this drawing indicates that the sketch had to drawn in 1853 or later, as the Machine Shop was not completed until June 30, 1853.



Figure 19. Sketch of the U.S. Rifle Works at Harpers Ferry, ca. 1851, by Lieutenant James C. Benton. From the United States Military Academy, Library Manuscript Collection, West Point, N.Y. Photograph courtesy of the Harpers Ferry National Historical Park, No. 794. 22 June 1853



VIEW OF THE ISLAND VIRGINIUS, IN THE SHENANDOAH, AT HARPERS FERRY.

TAKEN NEAR JEFFERSON'S ROCK.

234

F. New
The Armory Stables: 1847-48:

The new Armory Stables was located at T, Public Stables on Map No. 8, drawn in 1849, and on Lot No. 2, Block F, Shenandoah Street, on the 1859 Historical Base Map.

In his annual estimate for the 1846-47 fiscal year Major John Symington^{ed} request^{ed} \$ 2,000.00" for new brick stable, feed room, and shelters for carts, &c," "The present stables and sheds (located at Z on Map No. 8 (1848)) are a collection¹ of old wooden sheds entirely beyond repairs." Congress appropriated the² desired sum on August 8, 1846.

The stone mason Peter Little erected the stone foundations in June 1847, receiving \$ 397.05 for the following construction:

\$ 34.75	for excavating and removing 115 23/27 cubic yards of earth.
324.24	for erecting 162 3/25 perches of mortar masonry for foundation.
14.06	for setting 140 8/12 linear feet of cut stone water table.
24.00	for setting 48 feet of stone arching.
<u>\$ 397.05</u>	(3)

In his annual report for the^{fiscal} year ending June 30, 1847. Superintendent⁴ Symington noted: "Stone foundations for public stable, 35½ by 35½ feet, laid." The Armory Paymaster's vouchers for the period July 1, 1847 to December 31, 1848 are missing from the National Archives Record Group 217 files, so that it is impossible to provide in detail the amount of material used, costs of these items, and labor, and^{also} the names of the workmen. The brick walls, however, were probably erected by the mason William Collins.

In his annual report for the fiscal year ending June 30, 1848, Symington announced: "The new stable, 35½ by 35½ feet, one story, with high loft, of brick, with cut stone water table, coping, and cornice, and covered^{has been} with slate, ^ completed and is now occupied. The foundation for this was prepared during the previous year" (5)

1. Serial No. 481, Document No. 9, p. 111, item No. 5.
2. U.S. Statues at Large, IX, p. 69.
3. 3rd S., F. 5623, V. 48, July 2, 1847, for \$ 397.05.
4. Serial No. 503, Document No. 1, p. 692, item 2, Armory grounds.
5. Serial No. 537, Document No. 1, p. 349, Item 9.

Final touches to the new brick stable were apparently made in February 1849 when the brick mason William Collins received \$ 26.04 for the following work:

\$ 8.46 for setting 70½ feet of brick cornice.
17.58 for laying 3,516 bricks.

\$ 26.04 (6)

This completes the record of work known to have been done to the brick stable from 1849 to 1861. The stable was designed in the same architectural style of the new buildings being erected at both the musket and rifle factories by Symington during the 1845-51 period. It contained stalls for at least six horses.(7)

7. Superintendent Benjamin Huger to Col. Henry K. Craig, Chief of Ordnance, July 23, 1852, reporting on the number of horses owned and maintained by the armory, Harpers FERRY NHP Microfilm Reel 26, Vol. 4, p.333. *also see*

6. 3rd S., F. 9093, V. 23, February 21, 1849, for \$ 26.04.

97 *→* Snell Charles, W., Historic Building Site Survey Report: History of Block F, Block G, and the U.S. Ferry Lots, Shenandoah Street, 1796-1869, Harpers Ferry National Monument, West Va., "(NPS typescript, Harpers Ferry NM, W.Va., February 9, 1859) pp.8-13.

G. ARMORY LUMBER YARD:

In 1848 the "Old Stables, Wood Yard,&c." were located at "Z", between Shenandoah Street and the Shenandoah River, on Map No. 8(1848),or on Lots No. 1 to 4, Block G.,Shenandoah Street, on the 1859 Historical Base Map.

In his estimate for the 1846-47 fiscal year Superintendent John Symington asked for \$ 800 "for enclosing stable and woodyard &c.", explaining,"The present yard is conveniently situated for receiving wood and lumber, but the ground is so low that much loss is sustained during freshets. This item is for renewing the enclosure, filling up the ground, &c." Congress appropriated the requested sum on August 8,1846.

Construction on this project was apparently done during the period July 1,1847 to June 30,1848, the period during which the Paymaster's vouchers are missing from the National Archives Record group 217 files. Details of the cost, amount of materials used, and of the name of the workmen who did this work are thus not available. In his annual report for the fiscal year ending June 30, 1848, however, Major Symington described this work as follows:

"In the lumber yard, on the Shenandoah, 42 stone piers, 3by 3 feet, and 6½ feet high, have been constructed, on which are laid are laid heavy timbers, with joist above, to form a platform, for securing fire-wood, lumber and all such materials, from being carried off by freshets,"

On October 30, 1851 Henry Read was paid \$ 70.12 "for enclosing the public woodyard." This included the following work:

\$30.00 for labor removing the old posts and fence around armory wood yard,
clearing away obstructions to new fence and dressing chestnut posts.
37.12 for putting up 49½ panels of fence.
3.00 for locust pieces and dressing them for use as gateway.
\$ 70.12 (4)

1. Serial No. 481, Document No. 9, p. 111, item No. 6.
2. U.S. Statues at Large, IX, p. 69.
3. Serial No.537, Document No. 1, p. 349, Item No. 10.
4. 3rd S., F. 13017, V. 10, October 30,1851, for \$ 70.12.

In his annual report for the fiscal year ending June 30, 1852,

Colonel Benjamin Huger described the above construction as follows:

"Fifty-four panels of fence, sixteen feet high⁵ have been constructed around the wood-yard and along the south side of armory canal."

5. Serial No. 659, Document No. 1, p. 253, item No. 6. Also, Snell, Charles W., "Historic Building Site Survey Report: History of Block F, Block G, and the U.S. Ferry Lots, Shenandoah Street, 1796-1869), Harpers Ferry National Monument, West Virginia," (NPS typescript, Harpers Ferry NM, W. Va., February 9, 1959), pp. 14-18.

H. Market House for the Town, 1846-1847

The new brick Market House, intended for the use of the citizens of Harpers Ferry as a town market, was designed by Major John Symington and its construction was supervised by Jeremiah Fuss, the master carpenter of the Armory. This is "U- Market House" on Map No. 8(1848) and is also on Lot No. ⁴, Block B, Shenandoah Street on the 1859 Historical Base Map.

The Armory provided the money required to erect the first story, which was to serve as the public market, and the funds for the second story¹ were furnished by the lodge known as the "Sons of Temperance," who planned to use the second floor as their lodge room. ¹ Symington had organized¹ the Sons of Temperance and recruited armory workmen as members in an effort to reduce the amount of drunkenness among the U.S. employees.

Construction got under way in June 1846 and the building was completed by June 17, 1847. ² foundations, The cost to the Armory of the first story and roof was \$ 402.04. The Sons of Temperance probably paid about \$ 200.00 for the second story, thus bringing the total cost of the structure to approximately \$ 600.00. The foundations were constructed by the mason Peter Little, ³ who received \$ 161.80 for the following construction:

excavating and removing 71 cubic yards of earth, foundation.
laying 80 8/25 perches stone mortar wall, foundation.

The brick walls of the 1st story, comprised of 31,175 bricks, was constructed by William Collins for \$ 155.88. ⁴ Collins also probably erected the brick second story containing an estimate additional 31,175 for an additional \$ 155.00. ⁵ 636 feet of oak timber were purchased for use in the structure for \$ 6.36.

1. Captain Maynadier, Ordnance Office to Supt Symington, June 22, 1846, Microfilm Reel 23, Vol. 10, p. 933.
2. Virginia Free Press, June 17, 1847, P.2, col. 4.
3. 3rd S., F. 4403, V. 28, September 8, 1846, for \$ 161.80.
4. 3rd S., F. 4403, V. 18, August 31, 1846, for \$ 155.88.
5. 3rd S., 4967, V. 48, to William McSherry, April 15, 1847, for \$ 6.36.

The carpenter Jesse Schofield was paid \$ 33.60 for⁶ 2,240 feet of rafter framed, put on and sheathed. By November^{21,} 1846 George W. Tracey had slated⁷ the roof, 2,220 feet, receiving \$ 44.40 for this work.

The two-story brick building, with stone foundations and slate-covered⁸ gable roof, was approximately 60 feet long and 30 feet wide. The long sides were divided into six bays and the gable ends into two bays. The first story bays were arcaded, each have a round arch supported by brick pilasters, with the round arched windows being recessed within the arch. The second story windows, containing ~~nine~~ over six lights, were topped by flat brick arches and were recessed in panels within the projecting brick piers located between each bay. There were no windows in the second story levels of the east and west gable end. A small chimney was located at the west end of the roof. By 1865, a one-story, wide frame porch with a shed roof had been built across the full width of the west (Market Street) gable end and this porch may have continued around and along the south (Shenandoah River) elevation. The building also probably had gutters and downspouts of copper or tin.

The first story was used as the town public market where meat and fresh vegetables were sold on every Wednesday and Saturday during the 19th century. The second floor served as a lodge assembly room from 1847 to 1861. This structure stood from 1846 until 1936, when it was largely destroyed by the 1936 flood.

Historical prints and photographs showing the market house are as follows:

Harpers Ferry NHP Negatives: No. HF-361, stereoptican view taken in 1865;

6. 3rd S., F. 4837, V. 37, December 15, 1846, for \$ 33.60.
7. 3rd S., F. 4837, V. 19, November 21, 1846, for \$ 44.40.
8. Smith, Philip R. Jr., "Research Report: History of the Market House, 1846-1869, Block B, Lot 4, Shenandoah Street, Harpers Ferry National Historical Monument, West Virginia," (NPS typescript, Harpers Ferry NM, W.Va., May 1, 1959), 19 pp.

HF-68, Oil painting by Ferdinand Richardts, painted ca. 1870-1883; HF-99,
Photo taken from Loudoun Heights, ca. 1892-96;

HF-306, taken March 18, 1836,
excellent closeup view showing flood damage. HF-291, 1932 aerial photograph.
HF- 331, taken ca. 1896.

I. The U.S. Canals, 1845 - 1851:

4. The U.S. Musket Factory Canal on the Potomac:

In his estimate for the 1845-46 fiscal year Major John Symington requested that \$ 5,000.00 be appropriated in order to accomplish the following objectives:

1." \$ 3,500.00 for building a culvert across the Armory Canal". The superintendent explained that this was "To conduct the water and debris from a deep ravine under the canal of the musket factory. The rush of the water which is thrown into this ravine, in times of heavy rains, is so great that large quantities of earth and stones are carried down and deposited in the canal, across the entire width of which it has formed a bank."¹

2 . \$ 1,500.00 "for cleaning out Armory Canal.", "for the purpose of increasing the capacity of the canal at the musket factory, by freeing it from earth and stone that now obstruct the free passage of water."²

Congress appropriated the requested \$ 5,000.00 for these two projects on March 3, 1845,³ In 1845 and to June 30, 1846, Symington spent a total of \$ 1,029.58⁴ for the following work on the canal.

To George W. Lynch, February 4, 1846 \$ 443.96 "for excavating, clearing, and removing 1,343 cubic yards and 25 feet of earth, stone, &c. from the middle ground of the Armory canal at 33 cents per yard."⁴

\$ 586.09⁵ was spent for "work done with a view of more securely protecting the Amory Canal at the cross wall, by forming a basin, for the receipt of the deposit of stone and rubbish from the hill margin of the river, and in lieu of a culvert under the canal:" Of this sum \$ 423.65 was paid to S. McMurphy on November 29, 1845 for performing the following work:

1. Harpers Ferry Microfilm Reel 20, Vol. 7, p.652, Item 1.
2. Ibid. Item No. 4.
3. U.S. Statues at Large, V, p.747.
4. 3rd S., F. 3502, V. 13, February 4, 1846, for \$ 443.49.
5. from the voucher to S.D. McMuprhy, 3rd S., F. 3122, V. 35, November 29, 1845.

242

\$ 97.03 for 277½ cubic yards of excavation in clay and depositing
the earth on the canal embankment.

326.62 for erecting 201 perches of stone wall for the basin.

\$ 423.65. (6)

On December 8, 1845 George N. Lynch was paid \$ 90.62 for 362½
cubic yards of embankment "on the Armory Canal, put up with a view of preventing the
wash of stones and gravel therein, in the time of freshets, in lieu of culvert
beneath the canal." In 1846 Lynch also received \$ 71.82 for:

\$ 12.43 for 24 21/25 perches of Rip Rap Wall.

59.40 for 297 cubic yards of excavation, for cleaning out and to
prevent the wash from the hillside into the armory canal.

\$ 71.82 8

In his annual report for the fiscal year ending June 30, 1846, Major
Symington described this construction as follows:

"9. A reservoir on upper (inland) side of armory canal, to receive the wash
of stones and earth from a ravine, and prevent the filling up of the canal;
excavation of 277 cubic yards of earth; stone wall on sides and end, 201
perches. (by McMurphy for \$ 423.65),

10. Two rip-rap dams of loose rubble stone, 362½ perches, on the side of
armory canal, opposite the mouth of ravines, to receive stone and earth pushed
down in heavy rains. These are in lieu of culverts under the canal, for which
the appropriation was made. (by George N. Lynch, for \$ 162.44).

11. 1,343 cubic yards of earth excavated to the depth of four feet in the
armory canal, and removed. This was the remains of the old canal embankment
before its enlargement, and interrupted the full supply of water to the wheels."

Although he was not paid for this work until September 8, 1846. the mason
Peter Little must have actually constructed \$ 1,093. 21¹ that described below,
prior to June 30, 1846:

6. 3rd S., F. 3122, V. 35, November 29, 1845, for \$ 423.65.

7. 3rd S., F. 3122, V. 37, December 8, 1845, for \$ 90.62.

8. 3rd S., F. 4403, V. 16, August 31, 1846, for \$ 71.82.

9. Serial No. 493, Document No. 1, pp. 164-165.

\$ 85.29, for excavating & removing 473 22/77 cubic yards of earth for
 "revetment wall in rear of shops.
 955.99 for erecting 546 7/25 perches of stone revetment wall.
 51.93 for puddling before the revetment wall.
\$ 1,093.21 10

June 30, 1846,

In his report for the year ending, Superintendent Symington appears to have
 describe Little's construction in the following terms:

"5 Canal embankment of stone, laid in mortar and cement, 780 feet long, 11½
 feet, and 2½ feet thick (made); about 600 cubic yards of earth excavated and
 275 yards of puddling (done)." 11

With this project included, Symington spent a total \$ about \$ 2,122.79
 of the \$ 5,000.00 appropriation on the musket factory canal in 1845-46.

In the estimates for the 1847-48 fiscal year, Symington requested that
 a total of \$ 2,740 be provided for the following two canal projects:

1. \$ 1,580.00 "for completing the canal embankment wall in rear of shops,
 widening the canal, and sloping the bank," explaining, "The old wall was built
 dry, and too weak to sustain the pressure on it. A part of ^{it} has been substantially
 rebuilt. This item is to complete it as far as the line of shops, which will also allow
 of widening the canal, and obtaining a better supply of water." 12

2. \$ 1,160.00 " for a fence along the armory canal, and a paved gutter to
 receive and carry off the wash from the hill side." This was needed, he explained
 "To prevent the breaking down of the canal banks by cattle, and its being used, as
 it now is, as place for depositing all manner of offal." 13

Congress appropriated the \$ 2,740 covering these two projects on
 March 2, 1847. 14

10. 3rd S., F. 4403, V. 28, to Peter Little, September 8, 1846 for \$ 1,093.21.
11. Serial No. 493, Document No. 1, p. 164.
12. Serial No. 497, Document No. 3, p. 142, item 2.
13. Ibid., Item No. 3.
14. U.S. Statues at Large, IX, p. 151.

George N. Lynch continued his work on the canal prior to June 30, 1847 and received \$ 266.74 for the following construction:

\$ 134.75	for excavating and removing 336 22/27 cubic yards of earth for canal embankments and river wall.
65.00	for sodding slope of embankment, 325 square yards.
20.00	for taking out old coffin dam.
32.80	for labor of 3 hands, 41 days, digging, boating clay, and puddling bank.
17.31	for use of 3 horses.
14.20	other.
<u>\$ 266.74</u>	<u>15</u>

In his annual report for the fiscal year ending June 30, 1847, Symington recorded that "The embankment of the armory (Musket Factory) canal, next to the shops and along their whole extent, has been cut down to a regular width, and slope sodded. This now affords a full supply of water to the various wheels.

16

"A neat bridge has also been constructed across this canal," he noted.

The Armory paymasters' vouchers for the period July 1, 1847 to December 31, 1848 are missing from the National Archives Record Group 217 files, thus making it impossible to trace the work done on the canal in detail during this 18 month period.

Symington, however, did not request additional funds for work on the canal in

17

the 1848-49 fiscal estimates. In his annual report covering the work done during the period July 1, 1847 to June 30, 1848, Symington reported that: "The

(Musket Factory) canal, at the guard gates, has been improved by having about 67 perches of dry wall built to prevent the wash of rubbish from the hill side."

18

15. 3rd Series, F. 5623, V.74, paid July 20, 1847, for \$ 266.74/
16. Serial No. 503, Document No. 1, p. 692, item 4, Musket Factory.
17. Serial No. 514, Document No. 2, p. 110-111.
18. Serial No. 537, Document No. 1, p. 347, item 4.

During 1849 \$ 459.54 was spent for work on the Musket Factory Canal that Superintendent Symington did not mention in his annual report for the fiscal year ending June 30, 1849. On January 1, 1849, George N. Lynnh was paid \$ 36.54 for "constructing 121 $4/4$ perches of Rip rap walling around the basin at the head of the armory raceway to arrest the wash from the hillside." ¹⁹

On June 11, 1849, Edward Tearney, acting as executor for the estate of the late Peter Litle, received for the following "work on canal embankments and revetment walls:

55.69	for excavting 309 $11/27$ cubic yards of earth.
65.44	for constructing 65 11.25 perches of dry wall.
59.77	for excavating 199 $7/27$ cubic yards of earth.
242.10	for erect 161 $10/25$ perches of stone masonry.
<u>\$ 423.00</u>	(20)

19.3rd S., F. 9093, V. 4, January 23, 1849, \$ 36.54.

20.3rd S., F. 9307, V. 36, June 11, 1849, for \$ 423.00.

The battle of stopping the wash from the hill side had not been won, for in his estimate for the 1850-51 fiscal year, Symington asked for \$ 725.00 "for building a guard wall, to prevent the wash of dirt into the canal," The superintendent explained that it was planed;

To construct a rough stone wall at the foot of the hill, about 40 feet from the canal bank, to prevent the wash of earth and rubbish into the canal, which has hitherto caused inconvenience by filling up, and expense in cleaning it out. The road is to be graded so as to allow the water from the hill to be conducted by a drain to the tail race. 21

22

The money for this project was appropriated on September 28, 1850.

Total of \$ 2,166.19 was expended on the Market Factory Canal during 1851 and of this sum, \$ 2,113.34 went to the mason Edward Tearney for the following construction:

For guard wall along Armory Canal:	\$ 436.30 for 1,744 cubic yards of earth filled in and graded at \$ 25 ¢ per yard.
	500.62 for 400½ perches of dry masonry wall with coping @ \$ 1.25 per perch.
	<u>\$ 936.00</u>
For. Cleaning out Canal	\$ 5.00 for 10 laborers ½ day each=5 days @ \$ 1.00 cleaning out sand bars from canal.
	.75 for 2 carts and driver ½ = ½ day @ \$ 1.50= 75 cents.
	<u>\$ 5.75</u>
For constructing revetment wall	269.27 for excavating 897 16/27 cubic yards of earth at 30¢ per yard.
	589.80 for constructing 471 21/25 perches of dry masonry wall at \$ 1.75 per perch.
	<u>\$ 859.07</u>
For culvert to guard wall of armory canal	19.44 for 64 22/27 cubic yards earth excavated.
	149.20 for 119 9/25 perch of dry wall masonry @ \$ 1.25.
	<u>\$ 168.64</u>
	<u>\$ 1,969.46, subtotal, September 30, 1851 (23)</u>

21. Serial No. 568, Document No. 4, p. 156, 157, Item 5.
 22. U.S. Statues at Large, IX, p. 507.
 23. 3rd S., F. 12680, V. 54, September 30, 1851, for \$ 1,969.46.

To prevent wash from hillside from falling into canal \$ 125.76 for 125 19/25 perches of dry wall at \$ 1.00 per perch.
 Culvert walling to carry 18.12 for 14½ perches of dry masonry wall at \$ 1.75 off surface wall from canal per perch.
\$ 143.88 (24)
 \$ 2,166.19 paid to Edward Tearney in 1851.

Armistead Fites was paid \$ 52.85 for fencing the armory canal as follows:

\$ 31.85, for putting up 49 panels of fence on the side side of the Armory raceway @ 65¢ each.
 19.00 for sloping the canal bank from the water surface to the fence wall for the sum previously agreed upon.
 2.00 for providing and preparing locust pins for the fence, 2 days @ \$ 1.00 per day.
\$ 52.85 (25)

fiscal

In his annual report for the year ending June 30, 1852, Col. Benjamin described Tearney's construction in 1851 as follows: "Two drains, about 300 feet long, and a stone wall, built on the hillside, about 217 feet long, seven feet high, and 2½ feet thick, have been finished along the south side of the armory canal, to prevent the wash of earth from the hill and road into it." 26

As has been noted under roads and streets in the section on the Musket Factory, North Cliff Street, which ran parallel and adjacent to the south bank of the Musket Factory canal, had been improved as follows:

"The grading of the street along the canal, and the building of the stone wall on one side of said street, at the foot of the precipitious slope, to prevent the wash being deposited in the canal, is nearly completed. The grading of the road extends about 1,100 feet along the canal on the width of about 40 feet, requiring an average depth of excavation and filling 1 4/12 feet; the wall is 667 feet in length, and 2½ feet thick. (27)

By June 30, 1852, the wall along the hillside on the south side of the armory canal appears to reached a length of 884 feet.

- 24. 3rd S. F. 12680, V. 54, September 30, 1851, for \$ 143.88.
- 25. 3rd S., F. 13017, V. 18, November 5, 1851, for \$ v 52.85.
- 26. Serial No. 659, Document No.1, p.253.
- 27. Serial No. 611, Document No.1, p.459, item 5.

U.S. Musket Factory Canal on Potomac

Calender Year	Recorded Expenditure	Appropriated for canal
1845	\$ 514.27	\$ 5,000.00
1846	1,608.52	0
	266.74	
1847	(1)	2,740.00
1848	missing	0
1849	459.54	0
1850	0	725.00
1851	2,166.19	0
Total	\$ 5,015.26	\$ 8,465.00

An accurate view of the Musket Factory Canal appears in a lithograph that was published in 1857, Harpers Ferry NHP Negative No. HF- 51 or HF-256.

22 U.S. Shenandoah Canal, 1845 to 1851:

As has been noted¹, in the estimates for the 1848-49 fiscal year Major John Symington requested the sum of \$ 3,320 "for completing the main tail race², reconstructing the guard lock and gates, cleaning the canal and walling it in front of the shops at the rifle factory," explaining: "The old works at this place have given out, the gates and sills being entirely decayed. This work has been commenced from the necessity of the case, and amount estimated is necessary for its completion."¹

The money for this work was appropriated on August 14, 1848.²

The new main tail race mentioned above had been started in in 1846-47 and ran along the rear or to the south of the new work shops being constructed at the rifle factory. In his annual report, for the fiscal year ending, June 30, 1847, Symington first reported "A main tail race, to receive the waste water from the different wheels, 10 feet wide, 6 feet high, and covered over; side walls 2½ feet thick, of large stones, has been commenced, and 223 feet in length completed."³

The Armory paymaster's voucher⁴ for the period July 1, 1847 to December 31, 1848, are missing from the National Archives Record Group 217 files, so it is impossible to provide any further details on the cost of construction and amounts of materials used on the August 14, 1848 appropriation.

In his annual report for the fiscal year ending June 30, 1848, Symington noted: "New guard gates, with feeders, with new substantial walls of masonry, have been constructed for the armory canal (at the rifle factory)."⁴

1. Serial No. 515, Document No. 2, pp.110,111.item No.8.
2. U.S. Statues at Large, IX, p.306.
3. Serial No.503, Document No.1, p.692, Item No/ 1.
4. Serial No.537, Document No. 1, p. 348.

was done,
 No work or money for construction on the Shenandoah Canal was appropriated from 1848 to 1850. In the estimate for the 1850-51 fiscal year Major Symington asked for \$ 645 "for building a bridge across the armory canal, explaining: it would be used" To build a wooden bridge on stone piers, in the place of the old bridge, which is out of position, abutting immediately upon the workshops, and over which all domestic supplies for those living upon the [upper part of the Hall] island, have to pass. The new position for the bridge is above the workshops, so as to admit of the armory yard being properly enclosed⁵ ."

6

The money for the new bridge was appropriated on September 28, 1850.

A total of \$ 1,746.48 was expended on construction of the Shenandoah Canal at the Rifle Factory in 1851 and of this amount \$ 818.98 went to erect the new bridge. Prior to the bridge, however,

In April 1851, the mason Edward Tearney was paid \$ 927.50 for constructing a drain culvert and a revetment wall at the rifle factory:

\$ 14.61	for 48 20/27 cubic yards excavation of earth @ 30 ¢ per yard.
89.90	for 179 22/27 cubic yards excavation of earth in water at 50¢ per yards.
33.60	for 22 10/25 perches of dry masonry wall @ \$1.50 drain culvert.
789.48	for 526 8/25 perches of dry masonry @ \$ 1.50.
<u>\$ 927.50.</u>	(7).

Edward Tearney also had the bridge abutments in place by June 30, 1851, and received \$ 703.98 for the following construction on the "new bridge across the canal at Rifle Factory:"

5. Serial No. 568, Document No. 4, pp. 156, 157, item No. 9.

6. U.S. Statues at Large, IX, p. 507.

7. 3rd S., F. 12680, V. 5, April 21, 1851, for \$ 927.50.

\$ 37.86 for 126 6/27 cubic yards of earth excavation @ 30¢.
 319.69 for erecting 182 17/25 perches mortar masonry @ \$ 1.75.
 154.98 for erecting 103 8/25 perches mortar masonry @ \$ 1.50.
 191.35 for 793 11/27 cubic yards of earth filled in and graded @ 25¢.
\$ 703.98 (8)

In the annual report for the fiscal year ending June 30, 1851, Superintendent Symington remarked of this work: "Two abutments of masonry, with wing walls, for a bridge over the canal (at the rifle Factory), have been erected, together with considerable filling in, rendered necessary by the improvement."

In July 1851 master carpenter Jeremiah Fuss constructed the wooden superstructure of bridge over the Shenandoah Canal and received \$ 115.00 for this work. Col. Benjamin Huger described the bridge in his annual report for the fiscal year ending June 30, 1852 as follows:

"A new bridge, 32 feet span, 12 feet wide, has been constructed over the (rifle factory) canal to the workshops."

U.S. Shenandoah Canal at Rifle Works, 1845- 1851

Calendar Year	Recorded Expenditures	Appropriated for canal
1845	0	0
1846	0	0
1847	0	0
1848	0	0
1849	0	0
1850	0	645.00
1851	\$ 1,746.48	0
Total	\$ 1,746.48	\$ 645.00

Accurate view of the Shenandoah Canal and bridge appear in Harpers Ferry Negative No. 794, a drawing made by Lt. James G. Benton about 1853, and HF-490, a lithograph that was published in 1857.

8. 3rd S., F. 12680, V. 54, September 30, 1851, for \$ 703.98.
9. Serial No. 611, Document No. 1, p. 459. Item 9.
10. 3rd S., F. 12680, V. 10, August 6, 1851, for \$ 115.00.
11. Serial No. 659, Document No. 1, p. 254, item No. 11.

J. U.S. Armory Dams, 1845 - 1851:

1. U.S. Musket Factory Dam on the Potomac:

On October 18, 1845, S. D. ^{Mc}~~X~~Murphey was paid \$ 1,060.37 for making the following repairs to the U.S. Dam on the Potomac:

\$ 501.75 for 223 square yards of heavy stone laid edgewise securing Potomac Dam on Potomac River.
 194.62 for 64.718 square yards of heavy flagging stone drilled and bolted to solid rock.
364.00 for 112 perches of heavy stone drilled and bolted to solid rock.
\$ 1,060.37. (1)

In his annual report for the fiscal year ending June 30, 1846, Superintendent John Symington described this construction as follows: "Dam across the Potomac repaired by laying 223 square yards of large flat stones on edge. 65 yards of large flagging stones, drilled and bolted to the solid rock, and 112 perches of stone breast walls built. "²

In his annual estimate for the 1850-51 fiscal year, Major John Symington asked for \$ 1,500.00 "for repairing the dam across the Potomac, the guard wall at canal gate, the lock and sluice gates, and abutment wall, and for cleaning out the canal." He explained "The sluice gates are entirely decayed, and require renewing. The repairs to the dam and wall are necessary, and the sooner they are done the less expensive they will be."³ The money for this project⁴ was appropriated by Congress on September 28, 1850.

The mason Edward Tearney made repairs in June 1851 and received \$ 202.50⁵ for erecting 135 perches of dry stone masonry on the Potomac Dam. In his annual report for the year ending June 30, 1851, Symington reported that⁶ "Heavy repairs have been made upon the dam across the Potomac River."

1. 3rd Series, F. 3122, V. 5, October 18, 1845, for \$ 1,060.37.

2. Serial No. 493, Document No. 1, p. 164. Item No. 7.

3. Serial No. 568, Document No. 4, P. 156, 157, item No. 6.

4. U.S. Statutes at Large, IX, p. 507.

5. 3rd S., F. 12680, V. 33, June 24, 1851, for \$ 202.50. He charged \$ 1.35 per perch.

6. Serial No. 611, Document No. 1, p. 457/.

Expenditures on the U.S. Potomac Dam, 1845-51

Calendar Year	Recorded Expenditure	Appropriated for dam.
1845	\$ 1,060.37	0
1846	0	0
1847	0	0
1848	0	0
1849	0	0
1850	0	1,500.00
1851	202.50	0
Total	\$ 1,262.87	\$ 1,500.00

2x U.S. Shenandoah Dam for Rifle Factory, 1845 - 1851:

On December 27, 1845, S. D. McMurphy was paid \$ 244.21 for "fir¹nishing material and erecting 137 perches of heavy stone wall on the dam in the Shenandoah river at the Rifle Factory." In his annual report for the fiscal year ending June 30, 1846, Superintendent John Symington reported: "Dam on the Shenandoah River repaired by 137 perches of stone to improve the head of water."²

In the annual estimate for the 1846-47 fiscal year, Major Symington asked for \$ 900.00 for "new water dam at rifle Factory," explaining: "The position of the present waste dam is altogether bad; another should be made."³ The requested amount was appropriated on August 8, 1846.⁴

Money for building the new waste dam was appearntly spent during the period July 1, 1847 to December 31, 1848, the period were the Armory Paymaster's vouchers are missing from the National Archives Record Group 217 files. There are thus no details available regaring cost, amount of materials, and who built the new waste dam, which was probably related also to the construction of the new main tail race at the rifle factory.

U.S. Shenandoah Dam Expenditures:, 1845-51:

Calendar Year	Recorded Expenditures	Appropriated for dam
1845	\$ 244.21	0
1846	0	900.00
1847	0	0
1848	(900.00)	0
1849	0	0
1850	0	0
1851	0	0
Total:	\$ 1,144.21	\$ 900.00

1. 3rd Series, F 3122, V., 59, December 27-1845, for \$ 244.21.
2. Serial No. 493, Document No. 1, p. 164, item No. 8.
3. Serial No. 481, Document No. 9, p. 111, 112, item No. 18.
4. U.S. Statues at Large, IX, p.69.

Recorded Expenditures on U.S. Canals and Dams, Harper's Ferry Armory, 1845- 1851:

Calendar Year:	Potomac Canal	Shenandoah Canal	Total Canals		Potomac Dam	Shenandoah Dam	Total Dams		
1845	\$ 514.27	0	514.27		1,060.37	244.21	1,304.58		
1846	1,608.52	0	1,608.52		0	0	0		
1847	266.74	0	266.74		0	0	0		
1848						(900.00)	(900.00)		
1849	459.54	0	459.54		0	0	0		
1850	0	0	0		0	0	0		
1851	2,166.19	1,746.48	3,912.67		202.50	0	202.50		
TOTAL	\$ 5,015.26	1,746.48	6,761.74		1,262.87	1,144.21	2,407.08		
Approp- riation	8,465.00	645.00	9,110.00		1,500.00	900.00	2,400.00		

255-

K. ARMORY DWELLING HOUSES, 1845 to 1851:

256

L. Rents Collected from Armory Dwelling Houses, 1845-1851:

During the period 1845 to 1851, a total of approximately \$ 40,951.42 was collected in rent from Armory employees residing in Armory dwelling houses. The money, annually, was collected as follows:

Calender Year	Rent Collected	No. of houses
1845	\$ 6,068.96	161
1846	5,229.74	159
1847	6,000.00 (estimated)	153
1848	6,000.00(estimated)	158
1849	6,217.98	148
1850	6,032.25	141
1851	5,402.49	124
Total	\$ 40,951.42	(1)

Total of Rents collected, 1822 to 1851 was as follow

Period	Amount Collected	Houses
1822-1841	\$ 48,114.65	
1842-1844	16,583.36	170
1845-1851	40,951.42	124
Total:	\$ 105,649.43	-

(1) See Chart in Appendix II for document sources of rent rolls.

APPROPRIATIONS FOR REPAIRS AND IMPROVMENTS OF ARMORY DWELLINGS, 1845-51

Calender Year:	Purchase of leases	General Repairs	Quarters Comanding Officer's	Quarters- Paymaster	Rain water cisterns		TOTAL		
1845							0		
1846	2,000.00		15,000.00	(1)	2,000.00		\$ 19,000.00		
1847							0		
1848				170.00			170.00		
1849				3,645.00	1,300.00		4,945.00		
1850		10,880.00					10,880.00		
1851							0		
TOTAL	\$ 2,000.00	10,880.00	15,000.00	3,815.00	3,300.00		\$ 34,995		

(1)\$ 15,000 also included money for Paymaster's House, perhaps \$ 4,000.00.

257

2. Repairs to Armory Workmen's Dwelling Houses, 1845-51:

The vouchers of the Armory Paymaster reveal that Superintendent John Symington ^{recorded} spent a grand total of more \$ 2,030.46 making repairs to the Armory dwellings of its mechanics and workmen during the years 1845 to 1851. The vouchers for the 3rd quarter of 1845, the 3rd and 4th quarters of 1847, and all four quarters of 1848, -21 months in all, are missing from the National Archives Record Group 217 files, so that the total spent on repairing residences undoubtedly exceeded the figure of \$ 2,030.46 that is given above.

A break down of the recorded expenditures for repair services(e.g. carpenters, masons,etc.) appears on the chart that follows.

The slating of roof was down by George W. Tracey.¹ Jerry Harris did the plastering in 1846 and 1847.² William H. Bowen was also plastering dwellings⁴ in 1847,³ and R.J. and W. Breen repaired the plaster in 10 houses in 1847. Repairs to the gutters, down spouts,⁵ ^{and} stove pipes were done^{we} by Dennis Snook in 1846 and 1847.

Masons work on repairing dwellings⁶ included John Lambaugh in 1845; Peter Little in 1846⁷ and William Collins also made repairs to dwelling in 1845.⁸

In his annual report for the fiscal year ending June 30, 1846, Major John Symington reported: "Extensive repairs (made) to dwelling houses and lots occupied by the mechanics employed in the armory, including the erection of one brick two-story kitchen, 18 by 18 feet, covered with slate, ^{and} three others of wood, on stone foundations; also 1,500 panels of board fencing."⁹

9. Serial No. 493, Document No.1, p. 165, item No. 13.

- 1. 3rd S., 3122.V. 80, January 8, 1846 for work done in 1845.
- 2. 3rd S., F. 3502, March 6, 1846, for \$ 35.00; F 3122, V. 43, December 12, 1845, for \$ 52.15; 3rd S. F. 3858, V. 61, June 12, 1846, \$ 10.40.
- 3. 3rd S. F. 3858, V. 60, June 10, 1846.
- 4. 3rd S. F. 5623, V 38, June 10, 1847.
- 5. 3rd S., F, 3502, V. 43, April 3, 1846 for \$ 84.06. F. 4403, V. 32, September 8, 1846, for \$ 4.30; F. 4837, V. 83, January 19, 1847, for \$ 29.51. F. 4967, V. 33, March 3, 1847, for \$ 2.00.
- 6. 3rd S., F. 3122, V. 49, December 18, 1845.
- 7. 3rd S. F. 3858, V. 19, May 2, 1846.
- 8. 3rd S. F. 3122, December 2, 1845.

Expenditures for Repairs to Armory Dwelling Houses, 1845 to 1851

Cal. Year:	Slating	Shingling	Painting	Plastering	Gutters & Spouts	Carpenters	Masons	Total	Vouchers
1845	18.69 \$			52.15			52.40	\$ 123.24	3 months missing
1846				35.00	88.36		143.00	266.36	
1847				52.50	31.51			84.01	6 months missing
1848									all missing
1849				231.90	113.51		576.92	922.33	
1850				9.12	107.83	229.02	64.66	410.63	
1851				5.25	6.48	196.50	64.13	272.36	
TOTAL	\$ 18.69 (1)	0		485.92	347.69	425.52	901.11	\$ 2,030.46	

(1) 3rd S., 3122, V. 80, To George W. Tracey, January 8, 1846.

259

In the annual report for the fiscal year ending June 30, 1847, Superintendent Symington commented: "The dwelling houses, generally, have had slight and necessary repairs made to them. 367 panels of new board fence and paling fence have also been made to enclose the lots."¹⁰

In his June 30, 1848 annual report, he simply noted¹¹ "some important repairs (made) to the workshops and during houses... during the year."

In a letter to the Chief of Ordnance dated August 11, 1848, Superintendent Symington explained the normal process followed in making repairs to Armory dwelling houses, writing:

"The repairs to the Government dwellings are made from time to time as they are needed and generally after an inspection has been made by the Master Carpenter to judge the urgency of the case. The office books show an expenditure on this account since I have been in command of \$ 7,200. For the last few months the repairs have been for urgent cases only, in the expectation that soon the Government might determine to sell out such portion of the public lands at this place as was not necessary for the purposes of the Armory. Where additions are made to dwellings so as to change their class, or having repairs or cisterns have been constructed, a small addition has been made to the rent. This is the only augmentation, with perhaps a few cases where changes were made from a fraction to a round sum, that I know of in the rent. In many cases the cost of the repairs made have been three to four times the sum of the annual rents.

The rents charged to the operatives are here among disinterested persons acknowledged to be low, largely below the rents charged generally for private dwellings (located on privately owned land) in the neighborhood, as may be inferred from the fact that the operatives who occupy private dwellings are closely on the watch for a chance to get a Government one..." 11A

10. Serial No. 503, Document No. 1, pp. 692-693, item 4.
11. Serial No. 537, Document No. 1, p. 349.

11A., Harpers Ferry NHP Microfilm Reel 23, V.10, p. 983-984. Also See, Snell, Charles W., "A Comprehensive History of the Construction, Maintenance, and Numbers of Armory Dwelling Houses, 1796 to 1869,:" (N.P.S. type script, Harpers Ferry National Monument, West Virginia, January 13, 1959, 140 pages), Chapters VII ... IX, and X.

During the year 1849, the brick mason William Collins received a total¹² of \$ 47.90 for making a ^bnumber of small repairs to dwelling houses.

The tinsmith Henry H. Edwards was paid \$ 113.51 during 1849 for repairing and putting up gutters and downspouts. Among the houses repaired were dwellings

No. 55, 90, 91, 92, 93, 143, and 178. On April 6, 1849 John Ringer received \$ 231.49 for plastering 1,152 square yards two coats and repair of 15 dwelling¹³ houses. On June 11, 1849, Edward Tearney, as the executor of the mason Peter Little, deceased, received \$ 517.86 for the following construction:

\$ 46.80 for excavation and removal of 156 cubic yards of earth.
 451.86 for building 301 6/25 perches of stone masonry.
 15.00 for excavating drain, 60 feet.
 2.70 for setting stone sills, 27 feet.
 1.50 for 3/4th days work of mason.
 \$ 517.86 for repair of dwelling houses. (15)

^{fiscal}
 In the annual report for the year ending June 30, 1849, Major Symington reported of this work: "Several small buildings of stone, brick, and wood have been constructed, being additions to buildings occupied by clerks, inspectors, and armorers, Repairs¹⁶ have been made..to the dwelling houses, except those considered not worth the cost."

12. 3rd S., F. 9093, V. 23, February 23, 1849, for \$ 31.25. F. 9307, V. 35, June 9, 1849, for \$ 5.75. F. 9307, V. 80, July 10, 1849, for 45 cents. F. 9895, V. 23, August 31, 1849, for \$ 9.50; and F. 10276, V. 33, November 29, 1849, for \$ 1.00.
13. 3rd S.F. 9093, V. 7, January 27, 1849, for \$ 21.20; F. 9093, V. 22, May 18, 1849, for \$ 41.81; F. 9093, V. 45, June 1849, for \$ 10.43. F. 10276, V. 89, January 1, 1850, for \$ 40.07.
14. 3rd S., F. 9093, V. 64, April 6, 1849, for \$ 231.90.
15. 3rd S., F. 9307, V. 36, June 11, 1849, for \$ 517.86.

During 1850, Symington spent only \$ 410.63 on the repair of the dwelling houses. Of this total \$ 101.51¹⁷ went to the tinsmith Henry V. Edwards for making and repairing gutters and down spouts. Robert Simms was paid¹⁸ \$ 9.12 for plastering 36½ square yards in a dwelling house. The brick mason William Collins¹⁹, who died during the year, received \$ 13.33 for making minor repairs. On November 30, 1850, his executor, William R. Collins²⁰, was also paid \$ 17.75 for repair to brickwork of some houses. The stone mason Edward Tearney received \$ 16.62 for constructing 4 22/25 perches of rubble masonry²¹ and other minor repair work to dwellings.

The largest sums in 1850, however, went to the carpenters: Patrick H. Kelly was paid \$ 144.74 on May 6, 1850, for the following work on Dwelling House No. 116.

\$ 130.26, for removing old roof and snow board, lengthing rafters & sheathing same; flashing chimney, & shingling, 4,008 feet.
4.50 for painting shingles with Blakes Patent fire proof paint.
10.50 carpenter work laying rough floor 16 by 20 feet, repairing wash stand _____, putting up step _____/
<u>\$ 144.76</u> (22)

Carpenter Jesse Schofield¹, on May 23, 1850 received \$ 84.26 for repairing House No. 177 as follows:

\$ 20.00 for making 4 pair window blinds, fitting and hanging same.
24.00 for making 3 closets or presses.
37.26 for making rear gallery, with hand rail, banister, steps. roofing same and _____/
3.00 for making dresser(?) shelves for kitchen.
<u>\$ 84.26</u> (23)

17. 3r Series, F. 10673, V. 18, March 1, 1850, for \$ 30.29. F. 11000, V. 30, May 23, 1850, for \$ 71.22.
18. 3rd S., F. 11000, V. 46, July 21, 1850, for \$ 9.12.
19. 3rd S. F. 11,000, V. 52, June 26, 1850 for \$ 9.83; F. 12169, V. to administrator of estate of William Collins deceased, October 24, 1850, for \$ 3.50.
20. 3rd S. F. 12169, V. 20, November 30, 1850, for \$ 17.75.
21. 3rd S, F., 12169, V. 43, December 20, 1850, for \$ 16.32.
22. 3rd S., F. 11000, V. 18, May 6, 1850, for \$ 144.76.
23. 3rd S., F. 11000, V. 29, May 23, 1850, for \$ 84.26/.

In his annual report for the fiscal year ending June 30, 1850, Symington simply remarked of this work that "extensive repairs" had been made "to dwellings".²⁴

In his annual estimates for the 1850-51 fiscal year, Major Symington ask for \$ 10,880.00 "for repairs of public buildings and all other objects heretofore paid from money received from rents of dwelling houses, including arrearages on this account, for the fiscal year 1849-'50." He explain^{ed} the need for the fund as follows:

By the act of 3d March, 1849, (Pamphlet Laws, p. 105,) all moneys received for rent of the public buildings have to be paid directly into the treasury from the 1st of July, 1849. Consequently, for the necessary repairs, &c., to be made during the present and next fiscal years, no funds will be available. This item is only for a ^{re}appropriation of the rents turned into the treasury, instead of being credited, as heretofore, to the appropriation for repairs of the armory." ²⁵

The requested amount was appropriated by Congress on September 28, 1850.²⁶

During 1851 about \$ 470.82 was spent on the repair of mechanics' houses.

On February 13, 1851 the estate of the recently deceased tinsmith Henry W. Edwards received \$ 6.32 for making gutters for dwelling houses.²⁷ The tinsmith Dennis Snook was paid \$ 6.48 for making gutters and fire screen of sheet iron ²⁸ for dwelling during December 1851.

On June 24, 1851, the mason Edward Tearney received \$ 48.13 for making the following repairs to Armory Dwelling House No. 182,

located on ^{W. E. 27} High Street:

\$ 5.47 for excavating 18½ cubic yards of earth at 30¢.
35.50 for 23 2/3 perches of dry stone wall at \$ 1.50.
3.41 for 27 1/3 square yards of brick pavement @ 12½¢.
3.75 for 30 feet drain made and paved @ 12½¢.
\$ 48.13 (29)

24. Serial No. 587, Document No. 1, p. 476.

25. Serial No. 568, Document No. 4, p. 156.157, item No. 11.

26. U.S. Statues at Large, IX, p. 507.

27. 3rd S., F. 12169, V. 14, February 13, 1851, for \$ 6.32.

28. 3rd S., F. 13017, V. 63, January 5, 1852, for \$ 6.48.

29. 3rd S., F. 12680, F. 33, June 24, 1851, for \$ 48.13.

The brick mason N. P. Haller received \$ 16.00 on November 5, 1851 for the following repairs to dwellings:

\$ 9.00 for putting in 3 coal grates @ \$ 3.00 each.
 1.00 for laying two hearths at 50¢ each.
 6.00 for repairing fireplace, 3 days at \$ 2 per day.
\$ 16.00 (30)

Robert Simms was paid \$. 5.25 for 3½ days work repairing the plaster in
 (31) **(In 1851 Armory Dwelling No. 2 was redesignated as "free quarters A and E." ~~House No. 182~~ became Quarters E.)**

Carpenters were also active:

Meen & Brewing were paid \$ 134.50 on May 21, 1851 for making the following repairs to Armory Dwelling House No. 182 and No. 118:

\$ 68.00 for removing old and making new gallery, including stairs, Officers Quarters No. 182
 15.50 repairs of front porch.
 12.75 repair of door and _____.
 14.00 making railing around area in front of house
 12.25 for making new _____ House No. 182.
 12.00 for repairing front porch and making new steps in rear gallery of House No. 118.
\$ 134.50 (32)

Master carpenter Jeremiah Fuss received \$ 62.00 for making the following repairs to Quarters "D" and "E":
 35 **(In 1851- House No. 180 became Quarters D and House No. 182 Became Quarters E.)**

\$.00 for making and fitting, hanging 7 venetian blinds at \$ 5. each, Quarters E.
 7.00 for making, fitting and hanging 2 plain panel shutters at \$ 3.50 each, Quarters E.
\$ 42.00 - Quarters E. (33)
 20.00 for making and putting in position two cupboards or presses at \$ 10.00 each, Quarters D. (34)
\$ 62.00.

In his annual report for the fiscal year ending June 30, 1851, Major Symington noted: "some necessary repairs have been made to quarters of officers and clerks, and also to the dwelling occupied by workmen."
 35

30. 3rd S., F. 13017, V. 17, November 17, 1851, for \$ 16.00.
31. 3rd S.F. 13017, V. 30, 4th quarter of 1851, for \$ 5.25.
32. 3rd S., F. 12680, V. 18, May 21, 1851, for \$ 134.50.
33. 3rd S., F. 12680, V. 10, August 6, 1851, for \$ 42.00.
34. 3rd S., F. 12680, V. 10, August 6, 1851, for \$ 20.00.
35. Serial No. 611, Document No. 1, p. 459.

3. Additional Dwelling Houses for Armory Workmen, 1845-1851:

No new armory dwelling houses were built for the use of clerks, inspectors, and the workmen of Armory during the period 1845 to 1851, but in 1847-48 ^{eight} excellent residences, constructed by private individuals, and their lots, were acquired by purchase and made available as rental quarters to Armory employees. (See Map No. 4). The cost of these structures, exclusive of the land, was \$ 18,363.69. A description of these houses follows:

1. Wager Lot No. 18. On High Street, a 2½ story brick house over full basement with wood shingle gable roof, 22 feet wide and 30 feet deep. Purchased for \$ 1,806 in 1847. This house became Armory dwelling house No. 176 in 1847 and was Number 14, by 1859. The house had been built by Gerard B. Wager about 1841. The residence was valued at \$ 2,000 in 1850 and placed in Class 3. (1)
2. Wager Lot 19: On High Street, a 2½ story brick house over full basement with wood shingled gable roof, 23 feet wide and 30 feet deep. purchased for \$ 1,845.00 in 1847. The house had been built by Charles Button in 1841. The residence became Armory Dwelling House No. 177 in 1847 and was known as Armory Dwelling No. 15 in 1859. The residence was valued at \$ 2,000 in 1850 and placed in Class 3. (2)
3. Wager Lot No. 20: On High Street, a 2½ story brick house over full basement with slate covered gable roof, well finished, 23½ feet wide and 34 feet deep. Built by Isreal Russell, 1839-41. The dwelling became Armory Dwelling no. 179 in 1847 and was known as Armory Dwelling No. 16 in 1859. In 1850 the house was valued at \$ 2,000 and placed in class 3. (3)
4. Wager Lot No. 21: On High Street, a 2½ story stone house over full basement, with slate covered gable roof, well finished, 26 feet wide and 30 feet deep. Built by Gerard B. Wager, 1835-36, this was his home until 1847. The dwelling house became Armory Dwelling No. 178 in 1847 and was known as Armory Dwelling No. 17 in 1859. In 1850 the house was valued at \$ 2,000 and placed in class 3. (4)

4. Serial No. 464, Doc, No. 43, P.9; A/L, Sullivan, "Wager Lots No. 17-34," pp. 35-36, -65-66.

1. Serial No. 464, Document No. 43, p.9, Schedule A, December 12, 1844. Also Sullivan, Arthur L., :Historic Building Site Survey Report, Wager Lots No. 17 to 34, 1782 to 1869, High Street Studies No.1, Harpers Ferry National Monument, West Virginia, "(N.P.S. typescript, Harpers Ferry N.M., W.Va., May 15, 1959, 90 pp), pp.30-31, 62.
2. Serial No. 464, Document No.43, p.9; Sullivan, A.L, "Wager Lots No.17 to 34," pp.31- 33, 63.
3. Serial No. 464, Doc. No.43, p.9, Sullivan, "Wager Lots No.17 to 34," pp.33-35, 64-65.

267

4. Demolition of Old Armory Dwelling Houses, 1845-1851:

The total number of Armory Dwelling Houses was increased by 10 during the 1845-51 period by the purchase of eight relatively new residences and the construction of two as Quarters for the Commanding Officer and Paymaster, ⁱⁿ 1846-1848. At the same time Major John Symington began a program to demolish some the older dwellings, some of which dated ^{Back} to 1810. Thus in May 1850 John Blanchfield was paid \$ 17.26 " for cleaning and piling no doubt 34,525 old brick saved from torn down buildings," which included old workshops ¹ at the musket and rifle factories as well as dwellings.

On December 31, 1844, according to the rent rolls, there were 168 Armory dwelling houses standing. In addition, one site was leased as a slaughter house lot and ^{bring ing} two lots were rented as stable sites, the total to 172 rental units.

The following Armory dwelling houses were demolished by Symington's orders:

No. of House	Description	Class	Location	Date demolished
29	wood, one story	-	Shenandoah Street	1845
50	wood, one story	-	Between River & Shenandoah Street	Burned up in 1845
51	wood, one story	-	Between Shenandoah Street & River	demolished in 1845
56	wood, one story	-	Washington Street	" in 1845
82	wood, one story	-	Between Washington St & musket Factory	" in 1845.
123	wood, one story	-	Camp Hill, Block C or D	" in 1845
150	wood, 1 story	-	Camp Hill ?	" in 1845.
7. one-story wooden houses demolished in 1845: Standing Dec. 31, 1845: 161 houses.				
27	wood, one story	-	Shenandoah Street	demolished in 1846
28	wood, one story	-	Shenandoah Street	" in 1846
Two wooden one story houses demolished in 1846: Houses standing Dec. 31: 159				

1. 3rd S., F. 11000, V. 27, May 20, 1850, for \$ 17.26.
 2. 3rd Series, File 1934, Rent Roll-Statement of Dwelling Houses belonging the United States, at the National Armory, Harper's Ferry, Va., and of the amount of Rents due thereon, on the 1st December, 1844.

No. of House	Description	Class	Value	Location	Year Demolished
44	wood, 1 story	12	\$ 250	Between Shenandoah Street & River	1847
60	wood, 1 story			Washington Street	1847
63	wood, 1 story	16	50	Camp Hill near the Graveyard	1847
142	wood, 1 story	16	50	Camp Hill, back of Washington Street	1847
155	wood, 1 story	13	200	Indian above Rifle factory	1847
Five wood, 1 story houses			\$ 550	demolished in 1847: Standing: 154 houses	
1	brick, 2 story	1	\$ 2,700	Converted from dwelling to office, Musket Factory	1847-48
6 houses, 1847,			\$ 3,250	available for rent 153	
Added in 1848 - 10 houses, brick or stone. 8 construction, latter for Commanding Officer				by purchase and 2 by and Paymaster	161, available
42	wood, 1 story			North side of Shenandoah Street	demolished in 1848
164	brick, 2 story	2	2,500	Camp Hill, Capt. John H. Hall's 1827 house	" 1848
174	Brick	5	900	Washington Street	" 1848
175	Stone	5	900	Washington Street	" : 1848
Four houses demolished in 1848:			\$ 4,300	Houses standing Dec. 31, 1848: 158 houses:	
31	wood, 1 story	12	250	North side of Shenandoah Street	demolished in 1849
70	wood, 1 story	10	400	Between Washington St. & Musket Factory	" 1849
71	wood, 1 story	10	400	" " "	1849
72	wood, 1 story	10	400	" " "	1849
73	wood, 1 story	10	400	" " "	1849
74	wood, 1 story	11	300	" " "	1849
75	wood, 1 story	12	250	" " "	1849
76	wood, 1 story	12	250	" " "	1849
77	stone, 1 story	11	300	" " "	1849
81	wood, 1 story	13	200	" " "	1849
10 one-story houses demolished, 1849			\$ 3,150	Standing Dec. 31, 1849: 143 houses.	

No. of House	Description	Class	Value	Location	year Demolished
78	Stone, one story	11	\$ 300	Between Washington St. & Musket Factory	1850
79	Brick, one story	13	200	" " "	1850
80	wood, one story	14	150	" " "	1850
86	stone, 1 story	10	400	" " "	1850
89	Stone, 1 story	11	300	" " "	1850
162	wood, 1 story	8	500	Island above Rifle Factory	1850
167	Stone, 1 story	9	450	Island above rifle Factory	1850
7 one-story houses demolished 2,290				Standing Dec. 31, 1850: 14 houses.	
12	wood, 1 story	15	100	Shenandoah Street, Block D, Lot 2	May 31, 1851
13	wood, 2 story	12	250	Shenandoah Street, Block D, lot 2	May 31, 1851
14	wood, 2 story	12	250	Shenandoah Street, Block D, Lot 3.	May 31, 1851
15	wood, 1 story	13	200	Shenandoah Street, Block D, lot 3	May 31, 1851
20	wood, 1 story	13	200	Shenandoah Street, Block E, Lot 2	May 31, 1851
21	wood, 1 story	13	200	Shenandoah Street, Block E, Lot 3	May 31, 1851
58	Stone, 2 story	13	200	Washington Street	May 31, 1851
66	wood, 1 story	16	50	Between Washington St. & Musket Factory	Dec 1, 1851
83	wood, 1 story	16	50	" " "	May 31, 1851
84	wood, 1 story	11	300	" " "	May 31, 1851
85	wood, 1 story	16	50	" " "	May 31, 1851
87	Stone, 1 story	12	250	" " "	May 31, 1851
88	Wood, 1 story	12	250	" " "	May 31, 1851
90	Brick, 1 story	12	250	Washington Street	May 31, 1851
91	Brick, 1 story	12	250	" "	May 31, 1851
92	Brick, 1 story	12	250	" "	May 31, 1851
93	Brick, 1 story	12	250	" "	May 31, 1851
17 houses demolished in 1851 \$ 3,350				Standing Dec. 31, 1851: 124 houses.	
Total: 53 Houses demolished-value \$ 16,250				Plus Old Supt. & P.M. Offices: 2	

The number of Armory Dwelling Houses available during the years 1841 to 1854 are shown on the chart that follows:(p. 271)

On Page 272 are charts that reveal the numbers and types of dwelling houses that were demolished by Major Symington 1844-51, as well as the number and type of Armory residences still standing on December 31, 1850.

The chart on page 216 shows the number of Armory dwelling on December 31, 1850, arranged by class, value, number of stories, and material constructed of.

Data on page 273 reveals the use being made of the 141 Armory dwelling houses as of December 31, 1850.

In 1847 or 1848, Superintendent John Symington probably began the practice of offering the materials from the demolished old armory dwellings for sale at public auctions. The Armory Paymaster's vouchers for the 18 month period July 1, 1847 to December 31, 1848 are missing from the National Archives Record Group 217 files so that this question cannot be answered. During this period, nine old armory residences valued at \$ 4,850, however, were torn down as were some 15 structures located on the Wager Six Acre Reservation lots that were purchased in 1847-48.

During the years 1849 to 1851, however, the Paymaster's voucher indicate that George Koonice conducted a series of six public auctions that disposed of materials for Armory structures at a gross total of \$ 651.38. Of this figure, Koonice received \$ 29.95 as his commission as auctioneer, and the net, \$ 621.43, went to the U.S. Armory. (see Chart on p. 275).

Types of Armory Dwelling Houses Demolished 1843 to 1851

Materials Built of	One-story Houses	Two-Story Houses	Total Number of Houses	
Wood	36	2	38	
Stone	8	1	9	
Brick	5	2	7	
Total	49	5	54-- (A)	

(A) Total includedx House No. 34, wood, 1-story, Shenandoah Street, demolished in 1843.

Types of Armory Dwellings Standing December 31, 1850

Materials Built of	One Story Houses	Two Story Houses	Total No. of Houses (B)	
Wood	49	9	58	
Stone	10	19	29	
Brick	15	18	53	
Total	74	6	140 (C)	
Value of Houses:			\$ 78.850.00 (C)	

B. From "List of Dwelling Houses belonging to the United States at Harpers Ferry, December 31, 1850 (National Archives R.G. 153, Judge Advocate General, Abandoned Military Reservation File No. 34, -Harpers Ferry NHP Photostatic Collection, Map Case Drawer No. 4.

C. Total of houses and also value, do not include, the Commanding Officer's Quarters and the Paymaster's Quarters, erected in 1846-48 at a cost of \$ 21,708.80. Also does not include Bldg. No. 1, Superintendent's Old quarters, 2 story brick, valued at \$ 2,700, being used since 1848 as the Armory Office Building in the Musket Factory Yard.

"List of Dwelling Houses at Harpers Ferry, December 31, 1850: (A)

Value of each house in class	Class	Brick 2-story	Brick 1-story	Stone 2-story	Stone 1-story	Wood 2-story	Wood 1-story	Total of Houses in class
\$ 2,700	1	3 (1)						3
2,500	2	0						0
2,000	3	3		4				7
1,200	4	1		2				3
900	5	8						8
800	6	15		1				16
600	7	4		3		1		8
500	8	1	1	4	1	2	3	12
450	9	1	1	1	1	2	5	11
400	10	0	4	1		1	5	11
300	11	1	2	1	4	1	10	19
250	12	1	6		1	5		13
200	13	1	1	2	2		7	13
150	14						3	3
100	15						3	3
50	16						8	9
Total:	-	39	15	19	10	9	49	141 (B)
Estimated Value	-							\$ 81,550

Figures do not include Commanding Officer's House, brick, 2 story, and Paymaster's Quarters, brick, 1 story, built in 1846-48 at a cost of \$ 21,708.80.

(A) from National Archives, R.G. 153, Military Reservation File, HFNHP Photostatic Collection, Map Case, Drawer No. 4.

(1) One of the two-story brick houses is the Old Superintendent's House in the Musket Factory Yard, which since 1848, had been used as the Armory Office Building. Not included on the list is the Old Supt.'s Office and Old Pay Office, both 1-story brick houses that were located on Arsenal Square.

B. The Superintendent's Old Quaretrs were valued at \$ 2,700 in 1850.

B. Value of 140 dwelling houses ^{out} with old Supt.'s residence included, was \$ 78,850.00

Rent-Free Dwellings On December 31, 1850, included the following structures:

House No.

- 2- Master Armorer James H. Burton's Quarters. Shenandoah Street, \$ 2,700 value.
103. - Master Millwright Henry W. Clowe's house , Camp Hill. \$ 900, Brick 2 story.
- 140.- Master Builder Jeremiah Fuss's house, Master carpenter. Camp Hill. \$ 500, Brick 1 story
- 177 - ^{Chice} Clerk A. M. Kitzmiller's house. ^{Lot 19} High Street, brick, 2 story. \$ 2,000.
- 179 - ^{Paymaster's} Clerk John E. P. Daingerfield's quarters. ^{Lot 20} High Street, brick, 2 story, \$ 2,000.
- 180- George W. Ward's quarters, clerk. ^{Lot 22} High Street. Stone, 2 story, \$ 2,000.
- 16- Foreman Philip H. Hoffman. Shenandoah Street. Brick, 2 story, \$ 1,200.
- 107 James B. Young, Foreman, Camp Hill. Brick, 2 story, \$ 900.
- 112- Adam Rhulman, Foreman., Camp Hill. Brick, 2 story, \$ 900.
119. Thomas K. Laley, Foreman, Camp Hill., Brick, 2 story, \$ 800.
1. Armory Office Building, Musket Factory Yard. Brack, 2 story, \$ 2,700.
- 144- Methodist Parsonage, Camp Hill. Wood, 1 story, \$ 250 value.
- 64- School House, ^{stone}, 1 story- \$ 50 value.
- 96- School House, wood, 1 story- \$ 50 value.
- 102- School House, wood, 1-story , \$ 150. Value.
- 15 free houses.
- 110 rented by armory work men.
- 6 rented by other than workmen.
- 10 house unoccupied.
- 141 houses, total.

119 workmen live ^D in the 110 rented houses. (1)

The Old Pay Office, Arsenal Square, was rented to the lawyer Isaac Fouke at \$ 17.50 per quarter. T.J. W. Sullivan, a tailor, rented House No. 4 as a store for \$ 15.00 per quarter.

(1) "List of Dwelling Houses belonging to the United States at Harpers Ferry, December 31, 1850," HF NHP Photostatic Collection, Map Case Drawer No. 4.

5 Public auctions conducted by George Koonce, 1849-51 of building material from Old Armory Dwellings and shops:

Date of Sale	Buildings sold	Gross	Commission to Koonce	Net to U.S.
June 14, 1849	Houses No. 31, 70, 71, 72, 73, 75, 77, 81, Old privy, Old cow shed, Old fences.	176.24	4.40	171.84 (1)
July 13, 1850	House Nos. 74, 78, 80, 86, 189, 167 Vitrol House, Bldg. No. 8, and Finishing & Assembly Shop, Bldg. No. 11, Rifle Factory	56.65	4.65	52.00 (2)
December 31, 1850	14 lots of old lumber, broken sash, doors, 5 old sheds, 3 lots of old sash and materials from House No. 79.	131.49	6.57	124.92 (3)
January 17, 1851	House No. 13, 14, 15 and four old sheds.	23.75	1.18	22.57 (4)
May 31, 1851	House Nos. 12, 20, 21, 58, 83, 84, 85, 88, 90, 91, 92, 93, ..	242.75	12.13	230.62 (5)
December 24, 1851	House No. 66 materials	20.50	1.02	19.48 (6)
Total: six sales, 1849-51:		\$ 651.38	29.95	621.43

On December 31, 1851 the number of extant Armory dwelling houses stood as follows:

	Houses	Value
Old Houses, built 1810- 1838 -----	123	\$ 75,500
Commanding Officer's and Paymaster's Quarters, built 1846-48-----	2	21,709
Total, December 31, 1851:	125	\$ 97,200

1. 3rd S., F. 9093, June 14, 1849 account of sales.
2. 3rd S., F. 11,542. July 13, 1850, account of sales.
3. 3rd S., F. 11542, December 31, 1851 account of sales.
4. 3rd S. F. 11542, January 17, 1851 account of sales.
5. 3rd S., Fl. 12680, May 31, 1851 account of sales.
6. 3rd S., F. 12680, December 24, 1851 account of sales.

6 Quarters for the Chief Armory Officers, 1845-1851:

a New Quarters for the Commanding Officer, Camp Hill, 1846-48:

The Commanding Officer's Quarters, Park Building No. 59 (in part) is the C.O.'s Quarters on the 1848 Map and Armory Dwelling House No. 25 on the 1859 historical base Map.

On November 30, 1844, shortly after assuming command of the Harpers Ferry Armory, Major John Symington submitted a Building Plan, No 2, and an estimate "for paymaster's residence" to the Chief of Ordnance, requesting \$ 9,538.97 to erect this dwelling. From the events that followed and type of residences actually built, it is clear that the large proposed dwelling was really intended for Symington's own use. For this reason, the estimate for the paymaster's quarter's follows:

960 cubic yards of excavation, at 25 cents.....	\$ 240.00
250 perches masonry at \$ 1.50.....	375.00
202,500 bricks laid at \$ 10 per M.....	2,025.00
1,614 feet of cut stone at 60 cents.....	968.40
10 marble mantels, at \$ 35.....	350.00
33,433 feet of yellow pine scantling, at 1 3/4 cents.....	585.07
7,077 feet of yellow-pine flooring, 1 1/2 inch, at 3 cents.....	212.31
10,864 feet of yellow pine plank, 1 inch, at 1 3/4 cent.....	190.12
50,250 feet of white pine plank, at 5 cents.....	251.25
3,037 yards of plastering, at 25 cents.....	759.25
4,716 feet of slating, at \$ 100 per 100.....	471.60
858 feet of window glass, 12 by 18, at 12 1/2 cents.....	107.25
Hardware, including locks, hinges, screws, nails, &c.....	239.75
Carpenter's work.....	1,800.00
Painting, including materials.....	188.10
Enclosing four acres of ground with plain fence eight feet high.....	275.87
For contingencies.....	500.00
	<u>\$ 9,538.97 (1)</u>

The estimates for the 1845-46 fiscal year that were sent to Congress thus included a request for \$ 9,559.00 for "Quarters for Superintendent". In justifying this item, Symington explained: "The Paymaster now occupies the quarters formerly

1. Serial No. 464, Document No. 43, p. 15, Estimate No. 5 and drawing No. 2.

"inhabited by the Superintendent (That is, Bldg. No. 1-on Map. No. 1(1844) and also on Map No.5(1848).) The location of this house renders it unsuitable for a dwelling, but it is well adapted for Armory offices from its vicinity to the shops, and should be so appropriated, and quarters erected for the superintendent this year² and for the Paymaster next year." Congress, however, deleted this project from its appropriation bill, which was approved on March 3, 1845.³

Superintendent Symington, taking a slightly different tack, tried again in the estimates for the 1846-47 fiscal year, this time requesting \$ 15,000.00 "for quarters for the commanding officer, and for paymaster and storekeeper. " In justification, the reasons given in 1845-46 estimates were repeated, and the 1846-47 estimate also requested \$ 850.00 to remodel the Paymaster's present house into an office building for the U.S. Musket Factory.⁴ Perhaps because all phases of this plan were included, at a total estimated cost of \$ 15,850.00, Congress appropriated the requested amounts on August 8, 1846.⁵

The stone foundations and brick walls of the new quarters for the Commanding Officer were to be erected by the mason William Collins, who was to receive \$ 2,599.01 for his efforts in 1846-47. Collins began work at once on the foundations in August and on September 14, 1846 received \$ 1,007.23 for the following construction:

\$ 62.17 for excavating 248 19/27 cubic yards of earth.
 57.05 for excavating 163 cubic yards of soft rock.
 \$ 119.22 for excavating 406 19/27 cubic yards of earth and rock.
 710.50 for erecting 284 5/25 perches of stone masonry.
 57.00 for 570 superficial feet hammered face stone wall.
 11.15 for setting 111½ linear feet of cut stone water table.
 \$ 897.87 cost of stone foundations (6)

2. Harpers Ferry NHP Microfilm Reel 20, Vol. 7, p.652, item No. 3.
3. U.S. Statues at Large, Vol. V, p. 747.
4. Serial No. 481, Document No. 9, p. 111, item No. 1 for quarters, item No. 7 for altering quarters into office.
5. U.S. Statues at Large, IX, p. 69.
6. 3rd S., F. 4403, V. 35, September 14, 1846, for \$ 1,007.23.

paymaster for the period July 1, 1847 to December 31, 1848 are missing from the National Archives Record Group 217 files, so that construction on the house during this period cannot be traced in detail. Total recorded costs of construction, 1846 to June 30, 1847, however, were \$ 5,591.00. Not included in this figure are the cost of the carpenter work.

The roof was apparently framed and sheath in late 1846 or early 1847, as Dennis Snook received \$ 81.37 for making and putting up 305 feet¹² of copper gutters and 143 feet of copper spouting in January 1847. In April 1847, William Volkmar was paid \$ 572.50 "for furnishing material and roofing with tin the quarters of the Commanding Office, 57½ squares of 100 feet¹³ each." On July 6, 1847, George W. Tracey was also paid \$ 40.62 "for slating 20¹⁴ 31/100 squares roofs, part of C.O.'s Qrs."

In May William Bevan was paid \$ 17.93 for "10½ days work setting and securing¹⁵ marble mantels in C.O. Qrs." In April a "160 lbs range-top=¹⁶ cast iron kitchen range for C.O.'s Qrs," was purchased for \$ 15.02.

On June 10, 1847 the plasters R.J. & W. Breen received \$ 590.76 for the following services:

\$ 423.60	for furnishing all materials and plastering C.O.'s Qrs., 1,412 square yards (all openings deducted).
120.00	for plastering 480 square yards.
10.22	for plastering 73 square yards.
32.94	for at \$ 1.83.
4.00	for finishing one center piece for hall ceiling.
512.94	for other
<u>\$ 590.76</u>	(17)

- 12.3rd S., F.4837, V.83, January 19, 1847, for \$81.37. For making 305 feet copper gutters=\$ 45.75, for making 143 feet of copper spouting=\$ 14.30; for putting up 305 feet of gutters, \$ 21.32.
- 13.3rd S., F.4967, V.60, April 19, 1847, for \$ 572.50.
- 14.3rd S., F. 5623, V. 56m July 6, 1847, for \$ 40.62.
- 15.3rd S.F. 5623, V.20. May 13, 1847, for \$ 17.93.
- 16.3rd S., F. 4967, V. 44, to Haywood Fox & Co., April 3, 1847, for \$ 15.02.
- 17.3rd S., F.5623, V.38, June 10, 1847, for \$ 590.76.

Finally, with regard to the main house, the bill with Redmond Burke
for most of the cut stone unsed in the construction of the mansion,
amounting to \$ 819.60 for 1,337 1/12 feet, was settled on June 5, 1847.

This included the following items:

\$ 285.42 for 426 linear feet of cut stone cornice.
45.23 for 38 4/12 lin. feet of coping.
387.26 for 578 lin. ft of window sills.
78.16 for 156 4/12 ft of prepared platform steps.
23.53 for 138 5/12 ft rough faced steps.
\$ 819.60 for 1,337 1/12 linear feet. 18

Also under construction in the spring of 1847 was a rain water
cistern for the service of the Commanding Officer's quarters. Charges connected
with the cistern include the following:

19
\$ 1.00 to Dennis Snook for soldering lead pipes in C.O.'s Quarters.
40.50 to William McSherry for hauling bricks to the C.O. Quarters
for cisterns and also for Paymaster's Cistern. (20)
154.63 to Haywood Robinson & Co. for 806 lbs of sheet lead at \$ 48.32.
for 105 lb \$ 31.50
for 893 lbs lead pipe for \$ 12.50
for 16 days labor of plumber = \$ 40.00
for 9 days labor of mason = \$ 20.25, at cistern at C.O. Qr. (21)
The mason William Collins also returned to the scene and received

\$ 302.81 for the following construction.

\$ 5.12 for excavating and removing 20 14/27 cubic yards of earth.
12.50 for erecting 5 perches of mortar masonry.
102.47 for laying 20,494 bricks.
11.90 for setting 119 linear feet of curb stone.
30.21 for paving 241 3/4 square yards of brick pavement.
80.00 for 40 days work of mason
33.00 for 33 days work of laborers.
2.00 for one days work of horse, cart and driver.
17.50 for hauling and finishing 35 loads of sand and mortar.
8.05 for filling in between kitchen joists, with 7 perch of stone.
\$ 302.81 (22)

18. 3rd S., F5623, V. 32, June 5, 1847, for \$ 819.60.
19. 3rd S., F. 4967, March 26, 1847, for \$ 1.00.
20. 3rd S., F, 4967, April 15, 1847, for \$ 14.50 for hauling 11,600 brick; F. 5623,
V. July 12, 1847, for \$ 26.00, for hauling with 4 horses and wagons, brick, 1 1/2 days.
21. 3rd S., F 5623, V. 77, July 26, 1847, for \$ 154.63.
22. 3rd S, 5623, V. 59, July 6, 1847, for \$ 302.81.

Finally, prior to June 30, 1847, the fence maker Philip Porter received \$ 59.81 for putting up 60²³ panels of paling fence @ \$ 27.35 plus \$ 32.46 for 87½ panels of board fence.

As has been noted, the total record cost of construction, exclusive of carpenter bills, 1846 to June 30, 1847, was \$ 5,591.00. In his annual report for the fiscal year ending June 30, 1847, Major Symington reported:

"The quarters for the commanding officer are nearly completed."²⁴

On July 15, 1847, the Virginia Free Press reported that the new house for the Commanding Officer of the Armory had been finished and described it as "a large and commodious building on Camp Hill that greets the eye from almost every direction."²⁵ In his annual report for the fiscal year ending June 30, 1848, Superintendent Symington laconically noted²⁶ "The quarters for the commanding officer have been completed, and are now occupied."

This reason for this unusual reserve exhibited by Symington in his annual report, so different from his normal habit of describing in detail the fine new shops he was erecting, appears to be due to the fact that political enemies were charging the superintendent with have wasted taxpayer's money by constructing this spacious mansion. In 1848 Symington was requested by the Ordnance Department to explain the high cost of building the superintendent's new house.

He responded on August 11, 1848, writing in part:

23. 3rd S. F. 5623, V. 6, April 3, 1847, for \$ 59.81.

24. Serial No. 503, Document No. 1, p. 692.

25. Virginia Free Press, July 15, 1847, p. 2, c. 5.

26. Serial No. 537, Document No. 1, p. 348.

"The Site for the quarters of the commanding officer was a rough hill top with the grounds about unimproved and entirely bare of any thing but stones and weeds. These had necessarily to be cleared off and the ground to be prepared for the growth of grass by hauling manure and refuse coal dust upon the bare and barren spots. The grounds were otherwise improved by planting forest trees, gravelling a road round the house, laying off a garden in walks and beds, putting up some interior fences, and as an indispensable convenience a stable was built upon the premises..."

He further stated:

"Both these buildings [the Commanding Officer's and Pay Master's quarters] conform to the plans made for them and to the style of work estimated for except in two particulars, that a book case has been made to fill the space in one of the lower rooms between the chimney stack and wall, the door frame of which are of black walnut, at $3\frac{1}{2}$ cents a foot— The other that the south front door, has been enclosed with sash between the posts, the area enclosed being 9 X 14 feet, this is what is called the green house, and these two items comprise the only departure worthwhile from the plans and estimates in the working style of both quarters. The washstands and wardrobes are of pine, painted on the exterior... The former are shelves or benches fitted into recesses or against the wall, the latter clothes presses filling recesses such as are found in all decently constructed dwellings.

The kitchen range is the same that was authorized to be purchased not only in this but the paymaster's quarters also. One cause for the excess of expenditure...being explained, I have now to shew another. The Estimate was made before any work of this kind had been done high up on the hill, based on the prices paid for similar work below, the contractor more practically estimating the difficulties of the steep and long ascent up which his sand, lime and water had to be hauled, charged accordingly, that is from $1\frac{1}{2}$ to 2 dollars more pr thousand for laying bricks than work of the same character would have been charged below where these difficulties did not exist. To this cost is also to be added that paid for hauling the bricks up 14 dollars per thousand, and in this proportion for other materials used about the buildings. I regret that this deficiency has occurred, but in making estimates correct results cannot also be obtained however close the attention given..."

27

Jeremiah Fuss, master carpenter and master builder for the armory, was also called upon to make statement in regards to the high cost of building the Commanding Officer's Quarters. Fuss wrote:

"I have to state in reply that in regard to the appropriation of nine thousand dollars for, and the supposed expenditure of twenty thousand dollars in the erection of said quarters, (as set forth in the statement before me) I can give no information, not being in possession of the facts relative to the appropriations, or the expense incurred in erecting the building.

Some of the articles (all except the secretaries) enumerated by Mr. Strider have been procured, and fabricated in the manner stated by him, and placed in the quarters. He has erred however in saying that the articles fabricated were made in the most expensive manner, and the material used the best quality of curled walnut. All were made in plain style, and mainly (the Bookcase excepted) of the cheapest material. The bookcase alone of all the objects

named and only the front of that was made of walnut. The cooking range is not of the kind which would justify the charge of its being 'very costly.'

The 'Green House' named as one of the items in the extract before me, is an addition made on the south side of the house. The dimensions of which is 9 X 14 feet, one story, having the opening intervals between the posts filled with sash. This is valuable on account of the protection it affords to one of the rooms during the heat of the day, it might however be used as a conservatory for plants & flowers if desirable.

With regard to the specifications to heavy expenditure having been incurred in laying out and fitting up a garden pasture grounds &c I must state that I can furnish no facts relative to the expence of, nor the authority for doing that work, I will say however, that the enclosing the grounds referred to, was a very necessary and important improvement. Many of the armorers have gardens within the enclosures protected thereby.

Fuss further stated:

"It may be proper for me to state here that the general finish of the Comg. Officers quarters is plain and neat, having no unnecessary ornament, its permanency and durability, being the main objects held in view in its construction."

28

The appropriations for constructing the Commanding Officers and Paymaster's Houses, 1846-1849, totaled \$ 18,815.00. Symington actually spent \$ 21,708.80, thus producing a cost overrun of \$ 2,893.80. As the Commanding Officer's Quarters was a two-story dwelling and the Paymaster's only a one-story structure, the cost of the Superintendent's residence is here estimated

\$ 14,405.00 and the Paymaster's dwelling at \$ about \$ 7,303.00.

As large workshops were being constructed at the musket and rifle factory

for for \$10,000 to \$ 15,000, the complaint may have had a point.

28. Fuss to Major Symington, August 8, 1848, Reel 23, Vol. 10, p. 987.

29. Symington to Talcott, Reel 23, Vol. 10, p. 978-985, August 11, 1848.

The cost overrun of the original, \$ 15,000, appropriation was \$ 6,708.80.

CONSTRUCTION OF COMMANDING OFFICER'S QUARTERS AND STABLE,
CAMP HILL, Park Bldg. No.59)(Ammory Dwelling House No.25), 1846-47:

284

Project	Cost	Description of Work
Foundations: For excavation:	\$ 125.34	297 4/27 cubic yards of earth 163 cubic yards of soft rock 460 4/27 cubic yards by William Coblins.
For stone foundation walls:	831.70 57.00 32.75 22.60 \$ 943.70	for erecting 332 17/25 perches stone mortar masonry. for 570 sup.feet hammered face stone wall. for setting 327 linear feet of cut stone water table. service of stone mason setting door sills,etc.
	\$ 1,074.04	total - To William Collins.
Brick walls	1,158.09 21.60 47.22 \$ 1,226.91	for laying 231,613 brick in walls for setting 216 feet of cut stone water table. other To William Collins
For brick & transportation of	224.16 109.00 ?	for transportation of more than 179,733 brick. for making 12,140 cost of 219,473 brick.
For cut stone	884.00	643 10 1/2/12 linear feet of cut stone window sills. 426 lin. feet of cornice. 38 4/12 feet of coping. 156 4.12 feet of platform stone and steps. 183 5/12 feet of rough platform stone(for porch). 1,402 11 1/2/12 linear feet of cut stone.
For 10 marble mantels and installation	223.93	\$ 206.00 for mantels, \$ 17.93 for installation.
Kitchen range	15.02	for 160 lb cast iron kitchen range top.
Carpenter Work	?	framing,sheathing roof, flooring. door and window frames, making and hanging doors and windows.
Painting	?	painting and glazing sash, woodwork.
Roofing	572.50	furnishing and cover roofs with 5,725 square feet, 57 1/2 squares of 100 feet each, of tin. To Henry Volkmar.
Gutters & spouts	82.37	for making and putting up 305 feet of copper gutters and 143 feet of copper spouting. To Dennis Snook.
Plastering interior	590.76	for plastering more than 1,965 square yards and making one center piece for hall ceiling. To R.J. & W. Brenn.
Pipes	153.63	for some 1,804 lbs. of lead pipe for use in main house and rain water cistern.

Construction of Commanding Officer's Quarters, Stables,
and Rain Water Cistern, Camp Hill, 1846-47: (Continued)

285

Project	Cost	Description of work
L*\$\$ 1847 Bricks	44.50	for hauling more than 11,600 brick for pavement, etc.
1847 mason work William Collins	\$ 302.81	for 20 14/27 cubic yards excavation of earth. for erecting 5 perches of mortar masonry for laying 20,494, bricks. for setting 119 linear feet of curb stone for paving 241 3/4 square yards of brick pavement. for filling in between kitchen joists with 7 perch of stone. for 40 days work of mason and 33 days work of laborer.
Fencing	\$ 59.81	for putting up 6- panels of paling fence and 87½ panels of board fence, enclosing grounds at C.O.'s Quarters. To fence maker Philip Porter.
Recorded Total:	\$ 5,591.00	Actual approximate total cost= \$ 14,405.00

Improvements and Repairs, 1849-1851"

Approximately \$ 241.36 was spent on the Commanding Officer's Quarters during 1849. Of this total, \$ 38.97 went for work on the main house, \$ 67.79 for erecting a smoke house, and \$ 124.60 for constructing a rain water cistern and cess pool.

Repairs to the main house included the following work:

\$ 7.62	to Henry W. Edwards for repairing pump, 1½ days = \$ 2.62 and for making and putting on a chimney cap.	30
6.11	to William Collins for setting 47 feet window sills and lintels.	31
13.50	to William J. Rowe for carpenter work of putting frame work around portico of Commanding Officer's Quarters.	32
3.37	to William Collins for repair of proch, 1 day mason = \$ 2 00, 1 day laborer = \$ 1.00, mortar = 35¢.	(33)
8.37	To Francis Trimmous for coloring exterior brick walls with cement wash.	(34)
<u>\$ 38.97</u>		

The masons William Collins received 64.27 for the following construction on the smoke house in 1849:

\$ 58.49	for laying 16,712 bricks in walls.
1.52	for setting 15 3/12 linear feet of brick sills.
2.94	for paving floor, 23 1/3 yards, with brick.
1.35	for plastering walls of smoke house, 22½ square yards.
<u>\$ 64.27</u>	(35)
13.52	To George W. Tracey for labor slating 676 feet roof of "stable", but probably smoke house.
<u>\$ 67.79</u>	for smoke house.

In his annual report for the year ending June 30, 1849, Major Symington recorded that "A smoke house has been erected at the commanding officer's house." 37

- 30. 3rd S.F. 9093, V. 7, January 27, 1849, for \$ 7.62.
- 31. 3rd S., F. 9093, February 21, 1849, for \$ 6.11. Voucher 23.
- 32. 3rd S., F. 9307, V. 77, July 9, 1849, for \$ 13.50.
- 33. 3rd S., F. 9307, V. June 9, 1849, for \$ 3.37.
- 34. 3rd S. F. 10276, V. 16, November 3, 1849, for \$ 8.37.
- 36. 3rd. F. 9307, V. 44, June 23, 1849, for \$ 13.52.
- 37. Serial No. 549, Document No. 1, p. 366.

William Collins received \$ 122.60 on August 31, 1849 for "constructing a rain water cistern, filter, & cess pool, complete the commanding officer's stable. This involved the following construction:

\$ 110.00 under terms of contract
 8.10 for excavating 40½ cubic feet of soft rock @ 20¢.
 4.50 for repairing stone work, pointing smoke house,
 hauling old brick, 2½ days @ \$ 2.00.
\$ 122.60. (38)

On November 11, 1849, stone cutter Redmond Burke was paid \$ 2.00 for one³⁹ days work of stone cutter for repair of rain water cistern at C.O. Quarters.

In his annual report for the fiscal year ending June 30, 1851, Major John Symington reported that "Two coats of patent paint, in oil, have been applied to the exterior walls ...of the commanding officer's quarters," and also that⁴⁰ lightning rods had been attached to this residence.

During the period July 1 to December 31, 1851, a Outside store house was erected for the new superintendent, Brevet Col. Benjamin Huger for \$ 271.73. This involved the following construction:

Foundations: \$ 15.30 for excavating and removing 51 cubic yards of earth.
35.60 for erecting 17 20.25 perch mortar masonry wall.
 \$ 50.90 To Edward Tearney, mason, September 30, 1851 (41)

Brick walls: 96.70 for furnishing and laying 16,177 bricks.
 8.62 for laying 69 feet of cornice.
3.90 for setting 36 feet of cut stone sills.
 \$ 109.22 to N.P. Haller, brick mason, November 5, 1851 (42)

Plastering: \$ 46.37 for furnishing and plastering 185½ square yards 3 coats.
0.97 for cementing . 7 7/9 square feet.
 \$ 47.34 To Robert Simms, December, 1851 (43)

Recorded total" \$ 271.73.

38. 3rd S., F. 9895, V. 23, August 31, 1849, for \$ 122.60.

39. 3rd S. F. 10276, V. 39, November 11, 1849, for \$ 2.00.

40. Serial No. 611, Document No. 1, p. 459.

41. 3rd S., F. 12680, September 30, 1851, V. 54, for \$ 50.90.

42. 3rd S., F. 13107, V. 17, November 5, 1851, for \$ 109.22.

43. 3rd S. F. 13017, V. 30, December 1851, for \$ 47.34.

In his annual report for the fiscal year ending June 30, 1852, Col. Huger wrote that "An outside store house of brick, on stone foundations, ⁴⁴ ~~has~~ been erected at the commanding officer's quarters." Early correspondence in August 1851, ^{proposed} relating to the ⁴⁵ new smoke house indicates that the structure was ^{probably} from 16 to 18 by 20 feet in size.

44. Serial No. 659, Document No. p. 253.

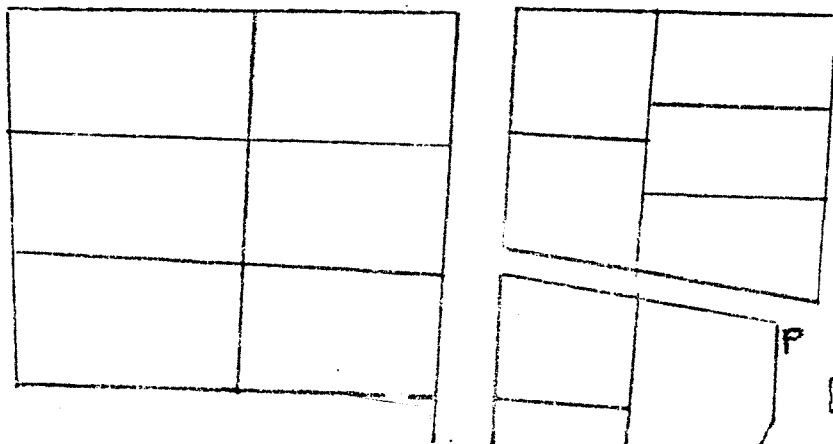
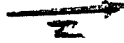
45. Philip R. Smith, Jr., "Research Report: History of The Commanding Officer's Quarters, Camp Hill (Anthony Hall, Storer College), Harpers Ferry, 1847-1867, Harpers Ferry National Monument, W. Va.," (NPS typescript, Harpers Ferry NM, W. Va., March 19, 1959, 18 pp)., pp. 6-7.

289

MAP OF HARPERS FERRY
Prepared in compliance
with letter to Major
Symington, April 22, 1848.
~~Revised by Symington,~~
Jan, 1851.

C.O. Stable

C.O. Quarters



B. New Quarters for the Paymaster, Camp Hill, 1847-48

The Paymaster's Quarters (Park Bldg. No. 56) is the P.M. Quarters on the 1848 Map and Armory Dwelling House No. ~~32~~³² on the 1859 historical base map.

In his estimate for the 1846-47, as has been noted, Major John Symington asked for \$ 15,000.00 to erect "quarters for commanding officer, and and for paymaster and storekeeper," explaining, "The situation of the house formerly occupied by the superintendent (and then by the paymaster, Bldg. No. 1 on Map No. 1-1844¹) renders it unsuitable for a dwelling, and its vicinity to the shops fits it well for armory offices, which are wanted. It is proposed to appropriate it to this purpose, and erect quarters¹ for the commanding officer and paymaster and storekeeper."

Congress appropriated \$ 15,000 to build these two dwellings² and also \$ 850.00 to remodelled the Paymaster's present abode in the musket factory yard into an office building on August 8, 1846.

Construction got underway immediately in August 1846 on the new house for Superintendent Symington and his residence was completed in July 1847. Work on the dwelling for the Paymaster, however, was not started until after July 1, 1847 and was apparently completed in late September 1848. The vouchers^{of} the Armory Paymaster for the period July 1, 1847 to December 31, 1848 are missing from the National Archives Record Group 217 files, so that it is impossible to trace the construction of the residence in detail with regards to cost, materials used, and who did the work.

1. Serial No. 481, Document No. 9, p. 111, item No. 1.
2. U.S. Statues at Large, IX, p. 69.

In his estimates for the 1845-46 fiscal year Symington had unsuccessfully requested an appropriation of \$ 9,539.00 to erect a new house for the commanding officer.³ Thus it seems probable that of the \$ 15,000 provided in 1846, \$ 9,539.00 was intended for use in constructing the commanding officer's house, and the balance, \$ 5,461.00 earmarked for erecting the paymaster's quarters. William Collins, the mason who constructed the stone foundations and brick walls of the commanding officer's house in 1846-47, probably^{also} erected the paymaster and storekeeper's residence in 1847-48.

In April, 1847, the clearing of the site for the new paymaster's quarters was authorized by the Secretary of War, and the former residence of John H. Hall, erected in 1827 and his home to 1840, and occupied by the ^{in 1847} clerk, ^{Chief} A.M. Kitzmiller^g was demolished. The old ^{Two story} house was listed on the Armory rent rolls as House No. 164 and described as being constructed of ¹¹ brick and wood.¹¹⁴

On May 25, 1847, Major Symington submitted the plans for the new quarters for the paymaster, to the Chief of Ordnance, George Talcott, accompanying them with the following remarks:

"...The building will be erected on the summit of a knoll, the ground falling on all sides, so that its low elevation compared with the extent of the front, will not offend the eye. The floors of the lowermost rooms will be 3½ feet about below the surface of the ground, which at this place is the out-cropping slate rock and very dry. These rooms consequently will be found to be dry at all times.

P.S. A skylight in the roof will give light to the dining room." ⁵

Colonel Talcott replied on May 28, 1847, that the Secretary of War had approved the plans for the new house and directed Symington to proceed with its construction. ⁶

3. Harpers Ferry NHP Microfilm Reel No. 20, Vol. 7, p. 652.
4. 3rd S., F. 4967, Rent roll for quarter ending December 31, 1846, p. 6.
5. Symington to Talcott, May 25, 1847, Microfilm Reel No. 23, V. 9, p. 822.
7. Talcott to Symington, May 25, 1847, Reel 19, Vol. 3, p. 302.

In his annual report for the fiscal year ending June 30, 1848; Symington was able to report "The quarters for the paymaster are now under roof, and will be completed before the close of September., The dwelling house is 56 4/12 by 39 9/12 (feet), one story of brick upon a high basement story of stone. Cut stone water table, copper gutter and spouting and roofed with sheet tin. An outbuilding 18 by 20 feet of brick, one story covered with (wood) shingles - and also a rain water cistern capable of holding 12,000 gallons together with the necessary drains, conductors, &c, have been made in connexion with this building." 8

Political opponents in Jefferson County, Va., wrote to Washington complaining about the alledged excessive cost of constructing the new quarters for the commanding officer and the paymaster. Symington was forced to defend himself against these charge and he wrote in his defense to Chief of Ordnance, Col. George Talcott on August 11, 1848.

"With regard to the paymaster's quarters (not yet completed) some necessary expenditures have already been incurred to make them habitable, not previously estimated for, these are, the construction of an out building for wood & coal and privies, completing the enclosure. These quarters are on the same site of those formerly occupied by Capt. Hall. The grounds are improved and garden made so that a trifling expense will put them in proper order.

The whole amount expended for materials and labor of all kinds in the construction of the quarters for the Comd. Officer and the paymaster in checking the out buildings, and for improving grounds about them is, up to this date \$18,808.80, and it is estimated that a farther sum will be necessary to complete the paymaster's quarters including the necessary repairs to the stable and fences of \$2,900, making an expenditure of \$21,708.80 over the sum originally appropriated for the dwelling houses only, for this excess an item will be found in the annual estimate to be presented in due course, to replace the amount to the credit of other objects from which the sum has been borrowed.

The excess of expenditure over the amount appropriated is not owing to extravagance in the style of building as charged but in part to causes already explained and to others not foreseen or considered where the original estimate was made, and will presently shew. Both these buildings conform to the plans made for them and to the style of work estimated for except in two particulars, over that a book case has been made to fill the space in one of the lower rooms between the chimney stack and wall the door frame of which are of black walnut, at $3\frac{1}{2}$ cents per foot...."

Symington went on to say, presumably about the furniture in both houses:

"The washstands and wardrobes are of pine painted on the exterior, the former are shelves or benches fitted in to recesses (?) or against the wall, the latter clothes presses filling recesses such as are found in all decently constructed dwellings.

The kitchen range is the same that was authorized to be purchased not only for this but the paymasters quarters also."

9

Continuing, Symington then proceeded to give a second reason for the cost overrun, writing:

"One cause for the excess of expenditure...being explained, I have now to shew another. The estimate was made before any work of this kind has been done high up on the hill, based on the prices paid for similar work below, the contractor more practically estimating the difficulties of the steep and long ascent up which his sand, lime and water had to be hauled, charged accordingly, that is from $1\frac{1}{2}$ to 2 dollars more per thousand for laying bricks than work of the same character would have been charged below, where these difficulties did not exist. To this cost is also to be added that paid for hauling the bricks up $1\frac{1}{2}$ dollars per thousand, and in this proportion for other materials used about the buildings. I regret that this deficiency has occurred, but in making estimates correct results cannot always be obtained however close the attention given..." 10

In his estimates for the 1848-49 fiscal year, Major Symington had requested \$ 170.00 "for a cistern at the paymaster's quarters", writing "This dwelling-house, and other on the (Camp) hill above the works, are so distant from supplies of water that cisterns are necessary for all domestic purposes, as well as in case of fire." 11 Congress appropriated the desired sum for this project on August 14, 1848, thus slightly reducing the cost overrun. 12

In the estimates for the 1849-50 fiscal year Superintendent Symington also forced to request \$ 3,645.00 "for completing paymaster's quarters and necessary outbuildings". The reason his additional sum was needed he explained was that:

"The original estimate for Officer's quarters was based upon prices paid for laying brick in the shops which had been erected on the river bank; but the more elevated site of the quarters, on the hill, rendering it necessary to haul of the materials, used in their construction, up a steep ascent, the cost was thereby so increased as to require this addition to the previous estimate." 13

Congress appropriated this desired amount on March 3, 1849, thus providing a grand total of \$ 18,815.00 in funds earmarked for the construction of the two houses. 14

10. Symington to Talcott, August 11, 1848, Reel 23, Vol. 10, pp. 978-85.
11. Serial No. 514, Document No. 2, p. 110-111, item No. 5.
12. U.S. Statues at Large, IX, p. 306.
13. Serial No. 538, Document No. 2, p. 118, 119, item No. 5.
14. U.S. Statues at Large, IX, p. 376.

This money permitted Symington to finish paying for the Paymaster's Quarters, which had been completed in the follow of 1848.

Total cost of constructing the Commanding Officer's Quarters and the Paymaster's Quarters appears to have been \$ 21,708.80. As the former was a two-story dwelling and the latter only a one story residence, the final cost of constructing the Commanding Officer's house has been estimated at \$ 14,405 and the Paymaster's Dwelling at approximately \$ 7,303.00. The cost overrun at the Paymaster's residence was thus about \$ 1,842.00.

On January 27, 1849, the tin¹⁵smith Henry W. Edwards was paid \$ 4.51 for repairing roof and gutters at the Paymaster's quarters and for making stove pipe for the house.

On February 21, 1849, William Collins, the mason who had probably built the stone foundations, basement and brick walls, received \$ 26.98 for two days labor of mason and for 191½ feet of brick cornice laid at the Paymaster's Quarters."¹⁶

In August Collins was also paid 75 cents for the services of a mason in "repairing the sink."¹⁷

On June 23, William McSherry was given \$ 42.00 "for hauling brick to Camp Hill."¹⁸

Finally for 1849, on July 9, the carpenter William J. Rowe received \$ 20.00 "for carpenter work of putting up frame work around the gallery of Paymaster's Quarters and Portico of... P.M., and for making blind for the end of the gallery at the P.M. quarters."¹⁹

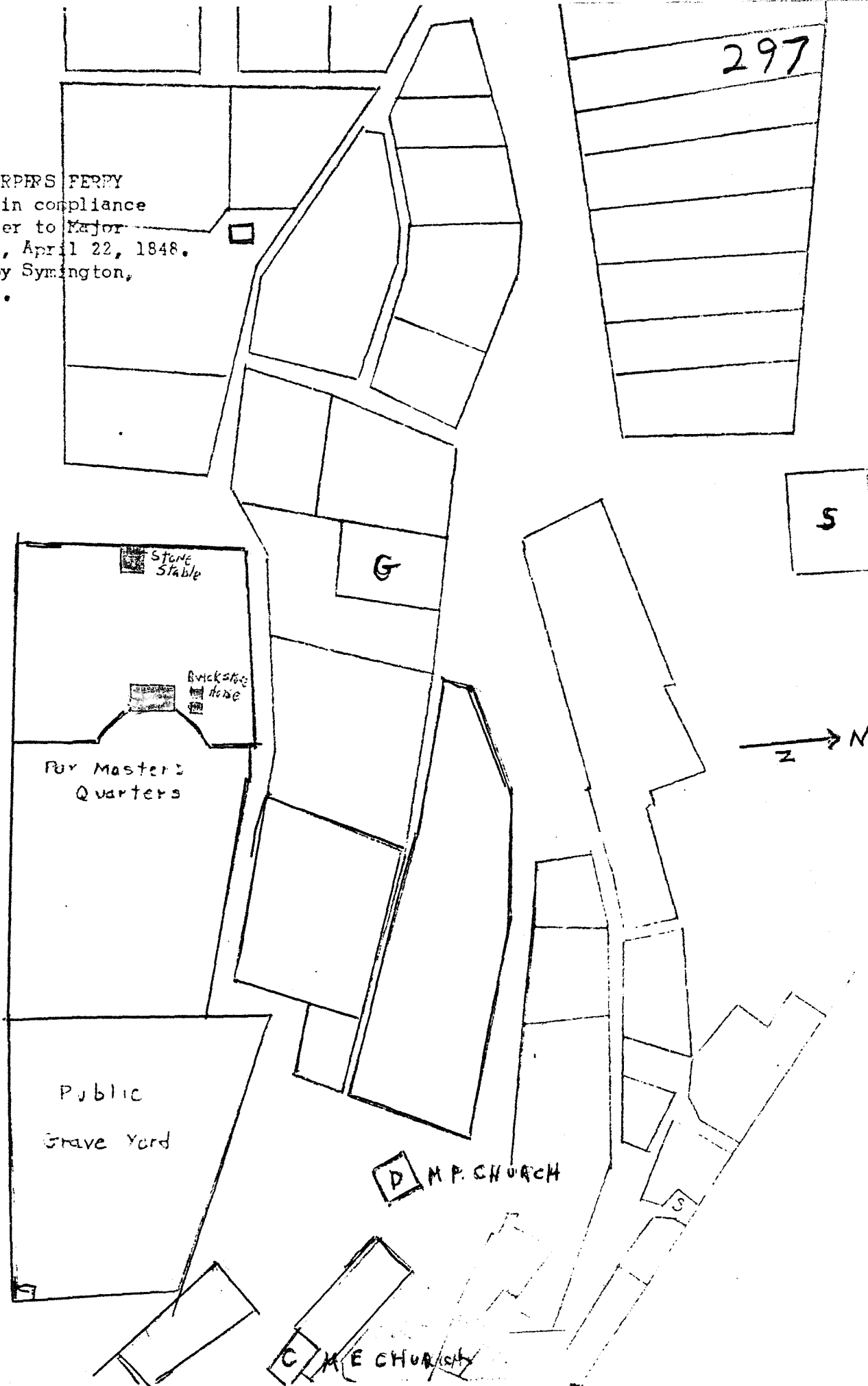
In his annual report for the fiscal year ending June 30, 1849, Major Symington announced: "The quarters of the paymaster and military storekeeper all completed and occupied, and about 80 panels of paling fencing put up to enclose the grounds attached."²⁰ A total of \$ 94.24 was expended in the above listed work on the Paymaster's Quarters, exclusive of the fencing, in 1849.

- 15. 3rd S.F. 9093, V. No. 7, January 27, 1849, for \$ 4.51.
- 16. 3rd S., F. 9093, V. 23, February 21, 1849, for \$ 26.98.
- 17. 3rd S., F. 9895, V. 23, for \$ 0.75. August 31, 1849.
- 18. 3rd S., 9307, V. 43, June 23, 1849, for \$ 42.00.
- 19. 3rd S., F. 9307, V. 77, July 9, 1849, for \$ 20.00, part of payment under a contract totalling \$ 33.50.
- 20. Serial No. 549, Document No. 1, p. 366, item No. 7.

In June 1851 \$ 23.25 was spent to install lightning rods, 3 points and
two leads to the ground, on the roof of the Paymaster's Quarters.²¹ In his
annual report for the fiscal year ending June 30, 1851, Major John Symington
reported: "Two coats of patent paint, in oil, have been applied to the exterior
(brick) walls... of the paymaster's...quarters." He also noted that lightning
rods had been attached to the house.²²

-
21. 3rd S., F. 12680, V. 69, to Decker and Robinson, July 3, 1851, for \$ 23.25.
22. Serial No. 611, Document No. 1, p. 459.

MAP OF HARPERS FERRY
Prepared in compliance
with letter to Major
Symington, April 22, 1848.
Revised by Symington,
Jan, 1851.



c. Repairs to the Master Armorer's Quarters, Block B,
Shenandoah Street, 1845-1851:

The Master Armorer's Old Quarters (Park Bldg. No. 34-35) is Armory Dwelling House No. 2, located on Lot 3, Block B, Shenandoah Street, on the 1859 Historical Base Map. ^{A.} The House was also known as "Quarters A" in 1851.

The residence had been constructed by Dr. Joseph Annin in 1812 as a drug store and residence. In 1818 the Armory occupied the dwelling and used it from 1818 to 1858 as the quarters of the Master Armorer. The armory purchased the structure for \$ 2,500.00 in 1821 and the dwelling was then described as a brick house of two stories, with cellar, and measuring 36 by 30 feet. In 1827 a one-story brick kitchen wing, 22 by 20 feet, was added to the southwest (rear) corner of the houses. In 1837 the house was further enlarged by adding a brick wing and the main house was increased to 2½ stories by the addition of six dormer windows. The roof of the house was slated about 1833. In 1838 the interior was painted and 1841 it was also largely replastered. Master Armorer^{CP} Benjamin Moor resided in Armory Dwelling No. 2 from 1830 to the spring of 1850 (He was officially replaced as Master Armorer on November 10, 1849). The next master armorer, James M. Burton, lived in the residence from June 1850 to March 16, 1854:

During the summer of 1850, \$ 174.12 was spent improving the interior of the house for the use of James M. Burton. Robert Simms was paid \$ 12.00 on June 21, 1850 "for 8 days work, repairing, plastering, and whitewashing Dwelling House. No. 2." ² On July 20, 1850, the carpenter Jesse Schofield received \$ 162.12 to doing the following work to the house: \$ 143.00 "for carpenter work repairing Dwelling House No. 2. -renewing, upper, lower floors and roof

1. Snell, Charles W., "Historic Building Report, Part II, Historical Data Section for Bldgs. No. 34-35, 32, 33, and 34A, The Samuel Annin House, Lot No. 3, Block B, Shenandoah Street, Harpers Ferry National Monument, West Virginia," (NPS typescript, Harpers Ferry National M., W.Va., March 4, 1959, 45 pp), p. 16.

2. 3rd S., F. 11000, V. 46, June 21, 1850, for \$ 12.00.

A. On the 1852 map of Harper's Ferry, House No. 2 was located on Lot No. 4, Block B, Shenandoah. After the construction of adjacent Armory Dwelling No. 1 - Park Bldg. 36 - Master Armorer's new Quarters in 1858, the lot sizes were changed and House No. 2 was situated on Lot No. 3.

"of gallery, repairing floor and wash board of kitchen, making new window frames and shutters in front, making and fitting three clothes presses and putting shop and repairing all doors and windows..."

\$ 17.62 for making 47 feet ' ' paling fence, base and cap @ 37½c per foot.

1.50 for making and hanging one gate. Master Armorer's yard.
\$ 162.12 (3)

fiscal

In the annual report for the year ending June 30, 1851, Major John Symington reported: that "Two coats of patent paint, in oil, have been applied to the exterior (brick) walls... of the master-armorer's quarters." He also noted that lightning rods had been attached to this dwelling.

302

Ray Masters
Quarters

Public
Grave yard



Highway Rock

Shenandoah Street

VIVIAN'S
SALOON

Shenandoah

RIVER

MAP OF HARPERS FERRY
Prepared in compliance
with Letter to Major
Symington-April 22, 1848
By S. HOWELL BROWN.

MAP OF HARPERS FERRY

Master
Armory's
Yard

Post
Office

Store

ATLANTA

old survey
office

150

7. Rain Water Cisterns for Camp Hill Armory Dwellings, 1845-1851:

In the annual estimates for the fiscal year 1846-47, Major John Symington requested \$ 2,000.00 for "Construction of cisterns for rain water." This was required, he explained "for supplying water to the houses on the (Camp) hill,¹ which are remote from the ordinary supplies, and for use in cases of fire."² Congress appropriated the desired sum on August 8, 1846.

A total of \$ 502.77 was spent on the construction of rain water cisterns in 1846: \$ 31.25^{west} to William McSherry "for hauling 25,000 brick³ from Armory canal on Potomac to rain water cisterns on Camp Hill."

The balance, \$ 476.52, went to the mason William Collins, received December 16, 1846, for the following work:

\$ 420.00" for construction of brick masonry, four underground rain water cisterns, averaging 10 feet by 12 feet, by 12 feet,; sides 1½ brick thick, arch one brick thick with cross filler wall. The whole laid in cement & the interior plastered with cement, for \$ 105.00 each.
25.06 for excavating and removing 125½ cubic yards of soft rock of foundation.
31.46 for excavating and removing 52 12/27 cubic yards from foundation.
\$ 476.52 (4)

During the period January 1 to June 30, 1847, a total of \$ 1,066.01 was expended on the rain water cistern project for the following work:

For hauling brick: \$ 37.00 To William McSherry, April 30, 1847, for hauling brick, 9½ days, from armory to rain water cisterns on camp hill. (5)
54.80 To Peter Little, July 2, 1847 for labor of 10 hands, 68½ days cleaning brick; hauling with driver, horse, and cart 21 days, old bricks to rain water cisterns, \$ 31.50. (6)
Transportation brick \$ 91.80

1. Serial No. 481, Document No. 9, p. 111, item No. 2.
2. U.S. Statues at Large, Vol. IX, p. 69.
3. 3rd S. F. 4837, V. 28, December 1, 1846, for \$ 31.25.
4. 3rd S., F. 4837, V. 42, December 16, 1846, for \$ 476.52.
5. 3rd S., F. 5623, V. 10, April 30, 1847, for \$ 37.00.
6. 3rd S., F. 5623, V. 48, July 2, 1847, for \$ 54.80.

The tin smith Dennis Snook received \$ 138.67 for his work on the rain water cisterns, which included some of the following items:

\$ 17.30 Making tin pipes for rain water cisterns- 4½" diameter.
 10.07 making 32 feet 1½" diameter tin pipe.
 6.18 for making 41 feet tin pipe 2½" diameter.
 10.00 for 40 feet copper pipe.
 1.00 soldering lead pipe.
 10.60 for laying 60 feet of tin gutters.
 \$ 55.32 (7)
 83.35 "for tinsmith work on rain water cisterns.(8)
 \$ 138.67

Haywood Robbins & Company, plumbers, were paid \$ 72.76 for:

\$ 12.50 for 893 lbs lead pipes for rain water cisterns.
 40.00 for 16 days labor of plumber.
 20.25 for 9 days labor of mason.
 \$ 72.76. (9)

The mason William Collins was paid \$ 762.78 for constructing 7 more rain water cisterns on Camp Hill, bringing the total built by him to 11.

He did the following work:

\$ 33.60 for excavating 56 cubic yards of hard rock.
 15.91 for excavating and removing 79 15/27 cubic yard soft rock.
 \$ 49.51 for excavating 135 15/27 cubic yards of rock.
 20.77 for 138½ linear feet of water drains.
 200.00 for construction of two rain water cisterns complete, 10 by 12 feet deep.
 465.00 for five complete cisterns 10 by 10 feet deep.
 22.00 for building 11 cess pools.
 5.50 for walling up 11 man holes.
 \$ 762.78. (10)

In his annual report for the fiscal year ending June 30, 1847, Superintendent Symington noted: ^(Eleven) "Underground cisterns, averaging 10 by 10 by 12, feet, built of brick and cement, with ^(eleven) cesspools, conductors, &c.&c. completed. These cisterns are connected with such of the dwelling houses situated high on the [Camp] hill as have not water convenient to them" (11)

7. 3rd S.F. 4837, V. 83, January 19, 1847 for \$ 55.32.
8. 3rd S., F. 5623, V. 49, July 2, 1847, for \$ 83.35.
9. 3rd S., F. 5623, V. 77, June 26, 1847, for \$ 72.76.
10. 3rd S., F. 5623, V. 59, July 6, 1847, for \$ 762.78.
11. Serial No. 503, Document No. 1, p 692.

At least \$ 1,568.78 of the \$ 2,000.00 appropriated to construct rain water cisterns had been expended by June 30, 1847. The Armory paymaster's vouchers for the period July 1, 1847 to December 31, 1848 are missing from the National Archives Record Group 217 files, so that it is impossible to trace in detail any work that may have been ^{done} on the cisterns during this 18 month period.

Two more cisterns, one each for the Commanding Officer's Quarters and the other for the Paymaster's Quarters, the latter having a capacity of 12,000 gallons, were also built in 1846-June 30, 1848.

In his estimates for the 1849-50 fiscal year, Major Symington requested the additional sum of \$ 1,300.00 "for cisterns for dwelling houses." He explained: "The cost of these cisterns will exceed the original estimate, and the appropriation which has been made therefore, owing to several cases, among which is the quantity of rock excavation, and the necessity of making a cess-pool, or receiving well, for each cistern, with strainers, to prevent the conductors from being choked up, The cost and inconvenience of frequent repairs will more than justify the latter work." ¹¹ Congress appropriated the requested \$ 1,300.00 on March 3, 1849. ¹²

This money was apparently used to pay for work already done in 1847-48, for only \$ 39.50 was spent on cistern-related problems in 1849.

On February 21, 1849, the mason William Coblins received \$ 39.50 for providing the following services:

\$ 22.50 for 15 days labor cleaning out cisterns and building piers at \$ 1½.

11. Serial No. 538, Document No. 2, p. 118, 119, item No. 6.
12. U.S. Statues at Large, IX, 376.

\$ 17.00 for building stone abutments to 3 cisterns to support arches,
8½ perches at \$ 2.00 per perch.
\$ 39.50 (13)

The money spent for the construction of 11 rain water cisterns for the service of Armory dwelling houses for the workmen from 1845 to 1851 thus appears to have totalled about \$ 3,300.00, or \$ 300 per cistern. If the rain water cisterns built for the Commanding Officer's and Paymaster's Quarters were constructed at the same price, then the total cost of constructing 13 rain water cisterns on Camp Hill from 1845 to 1851 was approximately \$ 3,900.00.

13. 3rd S. F. 9093, V.23, February 21, 1849, for \$ 39.50.

8. Fencing for Armory Dwelling Houses, 1845-51:

Under Virginia law livestock was permitted to roam at will during the 18th and 19th centuries. Thus if one wished to protect one's garden or yard from being invaded and destroyed by cattle, etc., it was the responsibility of the owner of land to construct a fence to keep the animals out. ⁱ For this reason the U.S. Armory apparently accepted the responsibility and paid for the construction of wooden fencing to enclose lots leased to its employees.

Yellow pine and chestnut were used in the construction of the fences. Much of this wood apparently came from "gondolas" that came down the Shenandoah and

C. & O. Canals and were broken up at Harper's Ferry for use as lumber. Thus on June 25, 1845, Philip Burkhart was paid \$ 6.00 for "one gondola, 1,200¹ feet yellow pine plank for repair of fence on the Rifle Factory grounds."

On April 5, 1847, William McSherry received \$ 25.00 for furnishing 300² chestnut posts for fencing."

Samuel Gilbert appears to have been the chief fence-maker for the Armory and during the period July 1, 1845 to June 30, 1846 he received a total of \$ 261.94 for the following construction:

(3)

October 22, 1845-	\$ 85.37 for making 157 panels of fence to enclose public grounds.
Dec. 12, 1845	20.25 for making 40½ panels of fence. (4)
May 4, 1846	42.75 for making 114 panels of upright board fence.
	12.60 for making 28 panels of post and rail fence.
	.50 for 1 panel of paling fence.
	1.87 ; setting gate post, 1½ days.
	2.80 for setting gate posts, 3½ days. (5)
July 22, 1846:	39.50, making 105½ panels of post, rail and board fence.
	51.30 making 114 panels of paling fence.
	9.94 for making 35½ panels of post and board fence. (6)
	<u>\$ 261.94 for making 585½ panels of fence.</u>

1. 3rd S., F. 2474, V. 41, June 25, 1845, for \$ 6.00.

2. 3rd S. F. 4967, V. 48, April 5, 1847, for \$ 25.00.

3. 3rd Series, F. 3122, V. 7, October 22, 1845, for \$ 85.37.

4. 3rd S., F. 3122, V. 44, December 16, 1845, for \$ 20.25.

5. 3rd S. F. 3858, V. 24, May 4, 1846, for \$ 60.52.

6. 3rd S., F. 4403, V. 2, July 22/46, for \$ 100 80.

In his annual report for the fiscal year ending June 30, 1846, Major John Symington reported that "1,500 panels of board fencing" had been built and erected.⁷

On April 23, 1847, Philip Porter was paid \$ 59.81 for the following work:
 \$ 27.00 for putting up 60 panels of _____ paling.⁸
 32.81 for 87½ panels of board fence at the Commanding Officer's quarters and dwelling house.
 \$ 59.81 (8) for 147½ panels of fence.

In his annual report for the fiscal year ending June 30, 1847, Superintendent Symington noted "367 panels of new board fence and paling fence have also been made to enclose the lots."⁹

Vouchers of the Armory paymaster for the period July 1, 1847 to December 31, 1848 are missing from the National Archives Record Group 217 files, thus it is impossible to trace in detail the construction of fencing during this 18 month period.

In his annual report for the fiscal year ending June 30, 1849, Symington noted that "about 80 panels of paling fence put up to enclose the ground attached" to the Paymaster's new quarters.¹⁰

No further mention of new fencing for dwelling houses is made in Symington's annual reports for the fiscal years ending on June 30, 1850 and June 30, 1851.

The available evidence indicates that at least 1,947 panels of wooden fencing were erected by the Armory, 1845 to 1851, to inclose dwelling house lots.

7. Serial No. 493, Document No. 1, p. 165.

9. Serial No. 503, Document No. 1, p. 693.

8. 3rd S., F. 5623, V. 6, April 23, 1847, for \$ 59.81.

10. Serial No. 549, Document No. 1, p. 366.

9. Settlement of Workmen's Claims for Repairs and Improvements Made to Armory Dwelling Houses, 1845-51:

From 1822 to December 31, 1844, the Armory had spent a total of \$ 19,065.03 to settle 178 claims made by armory workmen for constructing some 45 of dwelling houses on U.S. land and for making additions, improvements, and repairs to Armory-owned residences. On January 1, 1845 there were still outstanding approximately 16 unpaid claims that had been evaluated as worth \$ 636.50. Congress, in its 1836 appropriation of money to settle the claims, had not provided enough money to cover the full-appraised value. The armory had thus been forced to pro-rate the available money against the appraised value. Many of the workmen had refused to settle on these terms, but by January 1, 1845, all but 16 had come to terms.

In 1845, two more claims of this type were settled:

1. A claim valued at \$ 61.25, ^{to} Richard Johnson, was paid ^{off at} \$ 17.80 on April 16, 1845.

His claim was adjusted as follows:

	20.00
Credit: \$	for furnishing materials and putting up 45 panels of fence upon public land,
	for furnishing material and erecting kitchen 15 by 33.75-12 feet.
	7.50 for building 5 perches of stone wall.
\$	61.25 total appraised value:
deductions	-30.62 for decay.
	- 12.83 cost of suit to gain possession of property.
\$	42.40- total of deduction
balance paid \$	17.80 to Richard Johnson. (1)

Richard Johnson had been living in Armory Dwelling House No. 140 for which he had paid a rent of \$ 30.00 per year.

On April 7, 1845, Jonathan M. Anders received \$ 24.00 for the "value of small wood building (smoke house and storehouse) and garden fence, built at his expense in the years 1839 and 1840 on a public lot, the dwelling house

1. 3rd S., F. 2474, V.7, April 16, 1845, for \$ 17.80.

2. 3rd S., F. 1934, rent roll for quarter ending December 31, 1844, p.7.

This I believe^e is the last of these sort of claims; and it is desirable, I think, that it be arranged, if the terms at which he offers can be approved.

I have had the buildings valued by Mr. (Jeremiah) Fuss, the master carpenter, who is fully competent to do so, and who sets down the valuation of \$ 2,260- exceeding the sum which Dr. Marmion proposes to sell for, \$ 260.

Dr Marmion's⁵ proposition is herewith enclosed." (Also see Appendix I)

Dr. Marmion's lot and building were shown as Lot No. H on the map (see Map No. 4-1844) that Symington submitted with his letter and Schedules A and B. On Schedule A, the superintendent indicated that the U.S.

States owned the ground of Lot H and ^{that} Dr. N. Marmion owned the two buildings^{edifices} on the lot, the structures being valued at \$ 2,000.00. The were described as "A 2-story stone house, with basement and gallery, 35 by 22 feet, and a wooden 1-story back building."

Talcott approved of Symington's plan for purchasing land, including the title to Marmion's Lot H building, and Schedule A, requesting \$ 50,261.00, was included in the estimates for the 1846-47 fiscal year. Congress appropriated the ~~desired~~⁸ sum on August 8, 1846.

Dr. Nicholas Marmion's 1844 offer to sell, which includes a detailed description of the stone house and other improvements made to lot H, can be found on page 25 of Herbert H. Kissling's "Historic Building Report for Building No. 1B-Marmion Hall, Harpers Ferry National Monument, West Virginia," (NPS typescript, Harpers Ferry NM, W.Va., October 30, 1958).

Symington, assuming the appraised value of the building to be \$ 2,260, calculated the ground rent due to the U.S. from 1829 to December 31, 1844, at the annual rate of 50 cents on the 35 foot wide frontage of the lot, to be \$ 271.25, thus producing a total of \$ 1,988.75 due to the doctor, if he sold.

5. Serial No. 464, Document No. 43, p. 7.

6. Ibid., p. 12.

7. Serial No. 481, Document No. 9, p. 111, 112, item 19.

8. U.S. Statues at Large, Vol. IX, p. 69.

9. see Kissling, "Marmion Hall Report", p. 26, for Symington's long letter to Lt. Col. George Talcott on the ground rent not paid by Marmion.

Although the money to purchase \$ 50,261 worth of land and leased had been provided by Congress in August 1846, it was not until April 14, 1847, that the Secretary of War authorized the Ordnance Department to purchase the _____ property. On April 15, 1847, Chief of Ordnance George Talcott was able to inform Superintendent Symington that Secretary of War W. S. Marcy approved in the following terms the day before: "The Ordnance Bureau is authorized to accept the terms herein proposed for the purchase of the property at Harpers Ferry, and to receive conveyances thereof, and contract to make payment therefor under the conditions imposed by the Joint Resolution of Sept. 11th, 1841."

Talcott, on the 15th, informed Symington:

You are therefore fully authorized to make the purchases and will do so with as little delay as practicable; keeping in view the conditions alluded to by the Secretary." 10

On November 30, 1847, on the receipt of \$ 2,000.00, Dr. Nicholas Marmion signed the deed transferring title to the building situated on Lot 11 H on High or Washington Street, thus ending the long struggle to eliminate private ownership of structures located on the Armory land. Dr. Marmion's stone house, on December 1, 1847, became an Armory Dwelling House, No. 175 and the residence was apparently demolished in 1848.

From 1836 to 1847 a grand total of \$ 16,670.00 was spent to settle eight claims to structures that had been erected by private individuals on the U.S. land. The settlement with Dr. Marmion in 1847 ended the ^(HOWEVER) problem.

10. Harpers Ferry Microfilm Reel 19, Vol. 3, p. 288.

11. Deed Book 29, p. 366, Jefferson County Courthouse, Charles Town, W. Va.

EXPENDITURES FOR REPAIRS AND IMPROVEMENTS OF ARMORY DWELLING HOUSES, HARPERS FERRY, VA., 1845-1851

Cal. Year:	Repairs Mechanics' Houses	Settlement of Claims	Commanding Officer's Quarters	Paymaster's Quarters	Master Ammorer's Quarters	Rain Water Cisterns	Fencing- Surveying	Total	
1845	\$ 104.55	41.80 0	-	-	-	-	111.16	257.51	
1846	285.05	0	2,894.45	0	0	502.77	161.32	3,843.59	
1847	84.01	2,000.00	2,695.95	0	0	1,066.01	84.81	5,930.78	6 months
1848	(4)								
1849	882.26	0	241.36	94.24	0	39.50	0	1,257.36	
1850	444.38	0	0	0	174.12	0	0	618.50	
1851	470.92	0	207.46	23.25	0	0	182.00*	883.63	
	(4)		(2)	(3)					
TOTAL	2,271.17	2,041.80	6,039.22	117.49	174.12	1,608.28	529.29	12,791.37	
Approp- riations	10,880.00	2,000.00	18,815.00(1)	-	0	3,300.00	0	34,995.00	

* For surveying, \$ 182.00.

(1) for constructing Commanding Officer's and Paymaster's Quarters.

(2) Probable total cost of Comanding Officer's Quarters was \$ 14,405.00.

(3) Probable total cost of Paymaster's Quarters was \$ 7,303.00.

(4). John Symington, August 11, 1848, reported expenditures for repairs on Armory Dwelling Houses, November 1845 to June 30, 1848, totaled \$ 7,200.

SUMMARY SHEET OF RECORDED EXPENDITURES AT HARPER'S FERRY ARMORY, 1845-51

Calendar Year:	Musket Factory	Arsenal Square	Rifle Factory	Canals	Dams	Stable	Lumber Yard	Market House	
1845	\$ 8,924.35	1.87	750.00	514.27	1,304.58	-	-	-	
1846	15,609.22	1.00	56.49	1,608.52	0	-	-	402.04	
1847	36,864.29		5,434.00	266.74		397.05			6 months
1848	5,140.00				(900.00)				
1849	10,945.72		6,040.12	459.54		26.04			
1850	13,902.32		3,263.30						
1851	16,403.87		5,142.60	3,912.67	202.50	104.72	70.12		
TOTAL	\$ 107,789.77	2.87	20,686.51	6,781.74	2,407.08	527.81	70.12	402.04	
	(1)								
Appropriations	189,851.00	0	81,550.00	9,110.00	2,400.00	2,000.00	800.00	0	

(1)(plus \$ 16,500.00 for a rolling mill not built. at this time. Total: \$ 206,351.00.

\$ 9,829.67 of the \$50,461.00 appropriation for purchase of land still remained available for use, December 31, 1851.

SUMMARY SHEET OF RECORDED EXPENDITURES AT HARPER'S FERRY ARMORY, 1845-1851

Armory Paymaster's Records:

Calendar Year:	Armory Dwellings	Recorded Total		For Labor	For Materials	Grand Total			
1845	257.51	11,752.58		\$ 5,772.63	1,507.62	7,280.25	for 3 months		
1846	3,843.59	21,520.86		21,094.92	16,452.06	37,546.98			
1847	5,930.78	48,892.86		17,223.44	9,723.00	26,946.00	does not include land. for six months		
1848		6,040.00	for land.		missing				
1849	1257.36	18,728.78		23,561.66	14,806.80	38,368.46			
1850	618.50	17,784.12		27,019.01	22,376.40	49,395.41			
1851	883.63	26,720.11		39,272.09	27,790.93	67,063.02			
TOTAL	12,791.37	151,459.31		133,943.75	92,656.81	226,600.56			
Approp. riated	34,995.00	353,702.00				286,741.00	+ land		

Ferry,
L. The Armory and the Churches of Harper's 1818-1869

Because the United States owned most of the land in Harper's Ferry and it was impossible to acquire private lots for the purpose, the Secretary of War granted leases to plots of U.S. land as the site for the construction of Church edifices as follows:

Denomation of Church	Date of Lease	Description & date building erected	Lot Letter on 1848 Map
Methodist Episcopal Church	April 1818	1825-28, 1½ stories, stone.	C (1)
Burned Jan. 1845 Free Church	April 1818	1825-27, 60 by 40 ft. stone, 3 story, school, Masonic Lodge	H (2)
Presbyterian Church	October 20, 1841	1843, 36 by 49 feet, 1½ stories, brick	A (3)
Methodist Protestant Church	July 27, 1843	1843-44, 30 by 50 feet, 1 story stone, 2nd story added 1845-46 by Odd Fellows	D (4)
St. John's Protestant Epsicopal Church	January 16, 1851	Park Bldg. 48A- 1851-52. 37 by 60 feet, 1 story, stone	H (5)
Evangelical Lutheran Church	February 21, 1850	1850-51, 41 by 50 feet, 1 story brick	F (6)
St. Peter's Roman Catholic Church (Built 1830-33). on private land.	December 29, 1853	Lease for school site located on top cliff in rear of church. School erected 1854-57	B (7)

5. Smith, Philip R., Jr., "Historic Building Report, Part II, Historical Data Section for Bldg. No. 48A, St. John's Protestant Epsicopal Church, Harpers Ferry National Monument, W.Va. (NPS typescript, Harpers Ferry NM, W.Va., May 25, 1959), p.1
1. Smith, Philip R., Jr., "Research Report: History of the Methodist Episcopal Church, 1818-1868, and the Free Church, 1818-45, Harpers Ferry National Monument, W.Va. (N.P.S. typescript, Harpers Ferry NM, W.Va., May 14, 1959).
2. Ibid.
3. Snell, Charles W., "Historic Structure Report for the Presbyterian Church, 1843-1868, Harpers Ferry National Monument, W.Va. (N.P.S. typescript, Harpers Ferry NM, W.Va., June 9, 1959).
4. Smith, Philip R., Jr., "research Report: History of the Methodist Protestant Church and Odd Fellow Hall, Harpers Ferry, 1843--1868, Harpers Ferry National Monument, West Virginia," (N.P.S. typescript, Harpers Ferry NM, W.Va., March 12, 1959).
6. Smith, Philip R. Jr., "Research Report: History of the Evangelical Luthern Christ Church, Camp Hill, 1850-1868, Harpers Ferry National Monument, West Virginia," (N.P.S. typescript, Harpers Ferry NM, W.Va., March 31, 1959).
7. Snell, Charles W., "Historic Building Site Survy Report: History of Catholic School Lot, Presbyertian Church Lot, and Jefferson's Lot, Shenandoah Street, 1796-1868, Harpers Ferry National Monument, West Virginia," (N.P.S. Typescript, Harpers Ferry N.M. W. Va,), February 11, 1959), pp.8-10.

317

M. The Methodist Episcopal Church Parsonage, 1838-1851:

On January 19, 1838, the Secretary of War granted permission to the Harper's Ferry Methodist Episcopal Church to use Armory Dwelling House No. 144, located on what later was designated as Lot No. 2, Block A, Camp Hill, as a parsonage. The one-story wooden house, valued at \$ 250.00, was rent free. In the sale of public lands held on August 31, 1852, House No. 144 was sold to an Armory workman at its appraised price, \$ 250.00. The Secretary of War gave a lease for vacant Lots No. 3 and 4, Block H, Camp Hill, to the Methodist Episcopal Church as a site on which to build their parsonage in 1851.

The Methodist Episcopal Church Parsonage was the only church parsonage situated on the U.S. land at Harper's Ferry Armory prior to 1852, when the U.S. Government issued leases to vacant lots to the church of Harpers Ferry to be used as sites for erecting parsonages for each church.

N. A Town Government Established for Harper's Ferry, 1851:

In September, 1850, a petition was introduced in the Virginia General Assembly requesting authority to incorporate Harpers Ferry as a town and to establish its first town government. Virginia passed the act incorporating Harpers Ferry as a town in March 1851. The first election of town officers, for mayor, recorder, and town councilmen, was held in May 1851, and Jeremiah Fuss, carpenter and master builder for the Armory, was elected as the first mayor. Fuss was then living in Armory Dwelling House No. 140, a one-story brick house that was located Lot No. 12, Block B, Camp Hill.

By 1850 Harpers Ferry had 1,638 free citizens and 109 slaves.

8. Smith, Philip R., Jr., "Research Report: History of the Methodist Episcopal Church, 1818-1868 and the Free Church, 1818-1845," p. 7.
9. Virginia Free Press, Charles Town, Va., October 11, 1850, p. 3, c. 3.
10. Ibid., March 21, 1851, p. 2, c. 5.
11. Ibid., May 9, 1851, p. 2, c. 2.
12. "List of Dwelling Houses belonging to the United States at Harpers Ferry, December 31, 1850."

Q. Cholera at Harpers Ferry, 1851:

In his report for the year ending June 30, 1851, Superintendent Symington noted: " that, owing to the prevalence of cholera in this place and vicinity, during the first three months of the year, the operations of the armory were interrupted, averaging a total interruption of six weeks during the period."⁷

⁷, Serial No. 611, Document No. 1, p. 459.

P. Solving the Housing and Land Problems at Harper's Ferry Armory,
1846-51:

Within 13 months of assuming command of the Harper's Ferry Armory, Major John Symington had conceived a plan that he thought would solved the serious housing problems that had ^{that had} plagued the Armory since 1800, ^{also} cost the Ordnance Department huge sums of money and had failed to produce enough dwellings in which to house the Armory employees. The United States, Symington thought, owned too much land at Harpers Ferry. This made it impossible for Armorers to purchase their own lots and to erect and own their own homes. The solution, Symington believed, was for the Government to dispose of all land that was not needed for the production and ^{storage} of arms.

The superintendent first suggested this idea to the Ordnance Department on January 14, 1846, writing:

I would propose the sale of a part of the public grounds... In the hands of private individuals this ground would soon be built up with dwellings and suitable stores and shops &c. for mechanics of various crafts who cannot now possibly get a spot on which to exercise their calling; and in a year or two it would be reasonable to say, that a flourishing town; under wholesome municipal regulations would spring up where now is wanting everything to make a residence desirable.

The ownership of all the ground in the vicinity of Harper's Ferry (except a small patch ^(of about 6 3/4 acres) at the end of the Potomac Bridge) being in the U. States, is an insuperable bar to the growth and improvement of the place as a town and yet from the locality, there are fine points in this section that offer the same advantages for trade and business generally.

To the U. States the growth and prosperity of the place would be advantageous, as affording a means at hand of procuring mechanical labor ~~to~~ certain supplies which have to be bought for a distance. But a still greater advantage would result to the workmen employed in the Armory and their families. Many would no doubt become owners of ^{the} property who are now only tenant at will on the public ground and consequently have no fixed house or interest in the place, and all could look to other sources for employment for their sons than this Armory. now the only chance. And in case of a suspension of

labor in the shops or a partial discharge of hands they could have the means of employment to a certain extent in various ways, and not be left idle to consume what little they may have laid by... It may be well... to remark that the portion of the public ground here alluded to will not at any future time be needed for the purposes of the Armory - sufficient will be reserved near the site of the present Arsenal or store house to erect other store houses when required." 1

- (1) Major John Symington to Lt.Col. George Talcott, Chief of Ordnance, Jan. 14, 1846, Harpers Ferry NHP Microfilm Reel No. 23, Vol. 7, pp. 627-629.

Symington's suggestion was filed and resulted in no action in 1846.

The Major returned to the subject on July 15, 1847; in submitting his estimate of funds that would be required for the erection and repair of the buildings at the Armory during the July 1, 1848-June 30, 1849 fiscal year, Symington wrote:

I must bring to your notice the condition of the dwelling houses at this place owned by the Government and occupied by the Officers and mechanics and other connected with the Armory. These houses, now comprising about nine-tenths of the buildings (exclusive of the Government workshops & storehouses) included in the TOWN OF HARPER'S FERRY (about 153 armory dwellings in 1847), were for the most part built upwards of 25 years ago, and generally of such indifferent materials, that notwithstanding the constant repairs made to them, many are now utterly irreparable.

This with the impossibility of procuring other quarters (the private property being closely built up and occupied) is so serious a drawback to the operations of the Armory, that measures must be taken without delay, to apply a remedy.

If the Government policy of providing housing on the public land for the workmen is to be continued, a large sum of money should be included in the estimates so that many new dwellings could be erected in the next few years.

If this money could not be provided, Symington concluded;

"I therefore suggest this, - to abandon the system of Government tenantry, which has thus far been a losing business, besides being productive of strife and trouble, numerous and expensive suits at law, and all such ills, and to sell out such portions of the public lands at this place, that cannot possibly be needed for Government uses."

For second time Symington's proposal was filed and additional funds also to replace the Armory dwelling houses generally were not included in the annual estimates for the years 1848 to 1851. With the passage of time the problem of aging houses became only worse. Symington unsuccessfully proposed his plan to Chief of Ordnance George Talcott again in 1848, 1849 and January 1851.

2. Symington to Lt. Col. George Talcott, Chief of Ordnance, July 15, 1847, Harpers Ferry NHP Reel 23, Vol. 10, pp. 924-926.
- 2A. For detailed account of Symington's repeated suggestions 1846-1851, see Snell, Charles W., "A Comprehensive History of the Construction, Maintenance, and Numbers of Armory Dwelling Houses, 1796-1869," pp. 83-91.

Symington, however, did not forget his plan and in August 1851, when Secretary of War C. M. Conrad personally inspected the Armory at Harper's Ferry, the superintendent seized upon this opportunity to explain in detail the and on the ground the merits of his plan to ^ASecretary . Conrad was impressed.

On August 9, 1851, Major John Symington reported to Col. Henry K. Craig, Chief of Ordnance and former superintendent of the Harper's Ferry Armory, that he had been able to induce the Secretary of War "to concur in the propriety of the measure that I have so long recommended, that is the sale of such portions of the Government land at this place, as will not be needed for the purposes of the Armory, preparatory to which a survey [will] be made and town plat laid off, with streets, buildings, blocks and reservations..."³

Col. Craig, concurring in Major Symington's plan, submitted the ^{W R I T T O N} proposal to the Secretary of War on August ⁴19, 1851. Secretary C. M. Conrad formally approved the plan on August 26, 1851. On August 28, Craig informed Symington of the Secretary's approval and ordered the Major to have a plat or map prepared for the town of Harpers Ferry land sale.⁶

On September ²1851, the Chief of Ordnance established a board of three ordnance officers to work out the details of the land to be retained and sold and also a town plan for Harpers Ferry. The board was comprised of Major John Symington, Brevet Col. Benjamin Huger, who had just been assigned to replace Symington as superintendent at Harper's Ferry, and Lt. Col. James W. Ripley, the superintendent of the U.S. Armory at Springfield, Mass.⁷

These officers meet at Harpers Ferry on September 22 and submitted their report to the Chief of Ordnance from Harpers Ferry on September 24, 1851:⁸

3. Symington to Criag, August 9, 1851, Reel 24, Vol. 5, pp. 414-419, including a copy of Symington's report on the land problems and solution.
4. Reel 20, Vol. p. 80. See Snell, C.W., "Comprehensive History," for Craig's August 19, 1851 report, pp. 91-92
5. Reel 19, Vol. 5, p. 468.
6. Ibid. See Snell, "Comprehensive History," p. 92.
7. Craig to Symington, Sept. 3, 1851, Reel 19, Vol. 5, p. 469. Snell, "Comprehensive History," p. 93.
8. Report of Board of Officer, Sept. 24, 1851, Reel 24, Vol. 8, p. 802-806.

They informed Col. Craig that:

Major Symington after consulting with the Authorities of the town, had employed a Surveyor who was engaged in making a plat of the place, shewing the streets, the ground to be preserved for public use, and the lots it would be proper to sell.

As this survey would be a work requiring several weeks to complete, the Board found it impossible to wait until the plat now being made was finished, they are therefore unable to accompany this report with the plan.

four

The board they presented their recommendations "of the proper course to be pursued,".....

1. To be preserved for the use of the Armory

1st. All the ground on which the Musket factory is situated, and all between this and the Six Acre reservation. - All the land along this reservation and the road (Washington Street) to the head of the ravine (running down towards the new barrel welding shop (Building No. 9 on 1859 Historical Base Map)), till oppsite present dwelling No. 97- (which was located on Lot 1, Block E, Camp Hill) -thence on the other side of the ravine to the edge of the cliffs on the bank of the Potomac, following on the upper edge of these cliff to the extreme western boundary of the public lands...."

This recommendation reserved approximately 72 acres of land for the Musket Factory operations.

To be preserved for use of the Armory:

" 2nd. On the Shenandoah Side:

The present lumber yard (at Z on 1848 map or Block G on 1859 map) and public stable (at T on 1848 map or Block F, Lot 2 on 1859 map) with a lot uniting them, and allowing room enough to extend the stable yards.

3rd. The Rifle factory. and the upper part of the island on which it is situated (the Upper and Lower Hall Islands), which is now occupied by dwelling houses. These dwellings should be removed, and this part of the island reserved for future use, and to protect the bank of the Canal by which it is bounded."

The Lower and Upper Hall Islands, by this date appearedly one island, contained 13 acres of land that was reserved for U.S. use in 1852.

9. Reel 24, Vol. 8, pp. 802-03.
10. Reel, 24, Vol. 8, p. 803.

Also to be reserved for U.S. use was

"4th- The Commanding Officer's quarters on the 1848 map, or Armory Dwelling No. 25 on 1859 map) and grounds attached; the Paymaster's Quarters & grounds attached (1848 map and Armory Dwelling No. 32 on 1859 map), also a sufficient quantity of ground between them and Washington Street, to erect quarters for the Officers of the Armory. &c.

The Master Armorer and Clerks, now occupy houses on ground which should be sold (Blocks B, and C, Shenandoah Street); these houses should be reserved from sale until suitable one are erected for their use.

11

All other dwellings should be removed from the land reserved."

It was further recommended that:

For the benefit of the town, besides the opening and better location of streets, and open spaces at certain points (public parks and squares) as will be shewen on the plat; It is recommended, that the present market house (located on Block B, Shenandoah Street) with proper space about it extending down to the Shenandoah river for a public landing, be reserved for the use of the town.

Also, for its use, a cemetery (Pine Grove Cemetery), permission to locate which has already been granted, will be surveyed and marked on the plan." 12

Finally, with regards to policy, the Board recommended :

that sales should be made from time to time of such parts of the public land not reserved, as are in demand for building lots, all possible care being taken to prevent its falling into the hands of speculators; and as recommended by the Colonel of Ordnance in his report to the Sec. of War dated August 19, 1851, reserving the right to bid in any lot or lots offered for sale and to dispose of them afterwards at private sale for not less than the highest price which has been bid." (13)

The preliminary plat of the town of Harpers Ferry, indicating the U.S. lands to be reserved and that to be sold, was submitted to the Chief of Ordnance by Col. Huger

29, 14 November 1851. On December 17, 1851 County Surveyer James M.

15

Brown received \$ 182.00 for rendering the following services:

\$ 146.00" for services as county surveyor platting and planting corners for Map of the Public Land at Harper's Ferry, laying the same off into lots, streets & surveying 18½ days.

36.00 For making Plat of the Public land, planting cut stone corners, 4½ days, in accordance with Ordnance

\$ 182.00 in accordance with Ordnance

11. Reel 24, Vol. 8, p. 803.

Department Order of August 28, 1851.

12. Reel 24, Vol. 8, p. 804.

13. Reel 24, Vol. 8, p. 804.

14. Reel 20, Vol. 1, p. 93-94.

15. National Archives R.G.217, 2nd Auditor, 3rd Series, File 13017, Voucher 37, to James M. Brown, December 17, 1851, for \$ 182.00

Col. Craig transmitted the Board of Officers September 24, 1851 report and the preliminary plat to Secretary of War Conrad on December 2, 1851. Conrad approved the report and the plat on December 26, 1851 and directed that a final and more detail map be prepared.¹⁶

On December 29, 1851, Chief of Ordnance Craig ordered Superintendent Huger: "... In conformity with this decision, you will have a (final) Plat of the whole U.S. land prepared and that which is to be sold, including the old Arsenal site (Blocks A and B on the 1852, ^{and} 1859, 1869 maps), laid off thereon in lots and numbered. The Plat must contain also the names of all the streets, those running N & S, as well as those E & W, and in giving names, it may perhaps be well to advise with the Town Council.....

"One copy of the Plat when finished must be sent to this Office" ...

The Surveyers plat which accompanies your letter of 29th Uttime is herewith with returned. Would it not be better to have the Plat which is to be made a matter of Record, drawn to a somewhat smaller scale?" 17

Brevet Colonel Benjamin Huger, who had been appointed as the new superintendent of the Harper's Ferry Armory on July 9, 1851, did not report for duty at Harper's Ferry until September 1851.¹⁸

The final plat and officers' report of September 24, 1851, were to receive their last approval by the Secretary of War on June 10, 1852.

The story of this and the sale of U.S. Dwellings and lots in 1852 will be told in the next chapter.

16. Reel 19, Vol. 5, p.482-483. See Snell, Comprehensive History, 94-95 for complete texts of Craig's and Conrad's letters.

17. Reel 19, V. 5, p.482-483. For complete text of Craig's orders, see Snell, "Comprehensive History," p.95.

18. General Order No. 9 of Adjutant General, Dated July 9, 1851, Reel 24, V. 6, p.517.

Q. U.S. Timber Rights and Wood Rangers, Loudoun Heights, 1846-1851:

In inspection report of Harper's Ferry Armory, submitted February 22, 1842, S. Churchill, Colonel and Inspector General, and Henry H. Craig, Major and Superintendent of the Harper's Ferry Armory, reported regarding "Land and ^d timber"

"The Government is owner of upwards of two hundred acres (actually 495 acres) of land at this place, and has the right of cutting fire wood and timber "for ever" on upwards of twelve hundred acres (actually 1,305 5/8 acres) more. On this property and right, there is, on the part of many persons in the neighborhood, a continual effort to trespass, and it is found that nothing short of legal proceedings is sufficient to secure and protect the interest of the United States." ¹ "

By December 1849, Major John Symington had employed John J. Laley as ² "caretaker and overseer" of the Loudoun Heights woodlands.

1. Serial No. 405, Document No. 207, p. 46.

2. Notice and Warning by John J. Laley, December 14, 1849, Reel 26: V.7, p. 710.

R. Shift from Wood to Coal for Heating, 1845-1856:

Firewood for heating Armory workshops and dwelling houses had been cut on the Loudoun Heights timber tract, first on the north side and then the top of the mountain, since 1813. Major John Symington began substituting coal for wood in 1845. On September 25, 1845, ^{He} Superintendent informed Col. George Talcott, Chief of Ordnance, "The consumption (of firewood) formerly was about 500 cords annually but as I have introduced coal stoves, for greater safety and cleanliness for heating the shops, a fourth of that quantity will suffice for the other purposes for which wood is required." 11

Despite this conversion, the best timber had been cleared from the north slope and crest of Loudoun Heights by 1851 and most cutting was then done on the south slope of the mountain. 12

In January 1856, the demand for firewood was probably further reduced when Col. Henry K. Craig, Chief of Ordnance, authorize Superintendent Henry W. Clowe: "to furnish to such of the Employess of the Armory as need it, a supply of coal to be paid for by them at a price to cover the cost and expense of the coal delivered at the Harpers Ferry Armory." 13

11. Symington to Talcott, Sept. 25, 1845, Reel 23, V. 6, p. 542.

12. Symington to Talcott, March 7, 1851, Reel 24, V. 4, p. 325.

13. Craig to Clowe, January 23, 1856, Reel 10, V. 9, p. 837, Als Smith, FCR, Jr., "History of Loudoun Heights," pp. 7-9.

8. Hillsborough and Harpers Ferry Turnpike Company,
add Loudoun Heights Land, 1844-51. (1)

The Hillsborough and Harpers Ferry Turnpike Company was incorporated by an act of the Virginia legislature in 1844 for the purpose of constructing a turnpike between Harper's Ferry and Hillsborough, Va. The turnpike company was organized on February 25, 1851, and Philip Coons of Harpers Ferry, a butcher and landowner, was elected president. On March 6, 1851, Coons applied to the Secretary of War through Superintendent John Symington, for permission to construct the turnpike across the U.S. Armory forestland on the south side of the Shenandoah River along the foot of the Loudoun Heights mountain.² This road was to lead up to the southern abutment of the Shenandoah Toll bridge.

In addition to locate⁴ the road on U.S. land, Coons also requested "permission" for the removal of such timber or other impediments as may be in the way, and also that permission be granted for use of all stone and earth necessary for its construction, and that the Stone House belonging to the United States near the bridges on the South Side of the Shenandoah River be granted to said Company, for a Toll House."³

Forwardings to Col. George Talcott, Chief of Ordnance
In Coons' request to Major

Symington recommended that permission be granted, pointing out that the construction of such a toll road east, ; and south around the base of Loudoun Heights and then^x west along the south slope of the mountain would facilitate the transportation of charcoal and wood to the Armory. This was true, he wrote, because most of wood supply on the crest and north side of the mountain has been about exhausted and the new

(1) Smith, Philip R. Jr., "Research Report-History of Loudoun Heights, 1813-1880, Harpers Ferry National Monument, West Virginia," (NPS typescript, Harpers Ferry MD, W. Va., June 9, 1959), pp. 14-16.

2. Philip Coons to Secretary of War, March 6, 1851, Reel 24, V. 3, p. 267.

3. Ibid.

growth of timber was still too young out. For this reason, most of the wood charcoal for Armory use was coming from the south side of Loudoun Heights during the 1850's. As Symington put it:

The land through which the road is to be made, is the mountain tract on the south side of the Shenandoah River and it will undoubtedly facilitate the transportation of the wood and coal, which are now derived from the south side of the mountain (the timber on the north side from which they were formerly brought now too young ^{thirty} for use)..." 4

Symington recommended that the removal of timber be limited to the ^{thirty} foot legal width of the proposed toll road, that the company be prohibited from erecting any building along the road as it passed through U.S. lands, and finally that Armory Dwelling House No. 153 be leased to the Turnpike Company for use ⁵ as the requested toll house. Col. Talcott granted Symington to enter into ⁶ an agreement with the company on March 12, 1851. Coons agreed to the Government ⁷ conditions on June 13, 1851 and on July 29, 1851, Coons and Symington, acting respectively on behalf of the Turnpike Company and the U.S. Armory, entered ⁸ into a formal agreement regarding the road. This agreement granted a 30 foot right of way for the company to construct the turnpike on the Armory forest land and also gave the use of Armory Dwelling House No. 153 to the company for use as a toll house at an annual rent of \$ 25 per year. In return, the company gave the United States a toll free passage to all officers, ⁹ workmen, and wagons over their road, both enroute to and in returning from the Loudoun Heights woodland tract.

Government Dwelling House No. 153 was a two-story stone house that was located on the south bank of the Shenandoah River; ^{it} was valued at \$ 600 ^{on} December 31, 1850. At that date ^{it was} occupied by two families, ¹⁰ who each paid \$ 30.00 a year in rent. This house had been built by George Harding 1826 for use as a ferry house. In 1860 the house was Armory Dwelling No. 9.

4. Symington to Col. S. Talcott, Chief of Ordnance, March 7, 1851, Reel 24, V. 4, p. 325.

5. Ibid.,

6. Talcott to Symington, March 12, 1851, Reel 19, V. 5, p. 450.

7. Coons to Symington, June 13, 1851, Reel 24, Vol. 5, p. 467.

8. Agreement between Philip Coons and Major John Symington, July 29, 1851, Reel 24, V. 5, pp. 422-425.

9. Ibid.

10. "List of Dwelling Houses Belonging to the United States at Harpers Ferry, December 31, 1850.

POPULATION OF HARPER FERRY AND VIRGINIUS Island, VIRGINIA, 1810- 1860

329

	1810	1820	1830	1840	1850	1860	1870	1880	1890	
White Males	386	681	656	879	806	619				
White Females	275	574	598	696	745	593				
Total Whites	661	1,255	1,254	1,575	1,551	1,212				
Free Black Males	0	13	21	40	50	20				
Free Black Females	0	11	43	50	37	19				
Total Free Blacks	0	24	64	90	87	39				
Slave Black Males		47	61	68	37	33	0	0	0	
Slave-Black Females		51	95	68	72	55	0	0	0	
Total-Slaves	90	98	155	136	109	88	0	0	0	
Total=Blacks	90	122	220	226	196	117				
GRAND TOTAL POPULATION	751	1,377	1,474	1,801	1,747	1,339				
No. Armory Houses	20	89	108	169	142	33				
No. of Families	100	196	224	277	279	217				
BOLIVAR: Whites	0	0	233	459	948	1,029				
BOLIVAR Free Blacks	0	0	16	51	60	74				
Black Slaves	0	0	20	5	46	27				
Total, Bolivar Blacks	0	0	36	56	106	101				
GRAND TOTAL BOLIVAR	0	0	269	515	1,054	1,130				
GRAND TOTAL HARPERS-FERRY-BOLIVAR	751	1,377	1,743	2,316	2,801	2,469				

MAP NO. 1

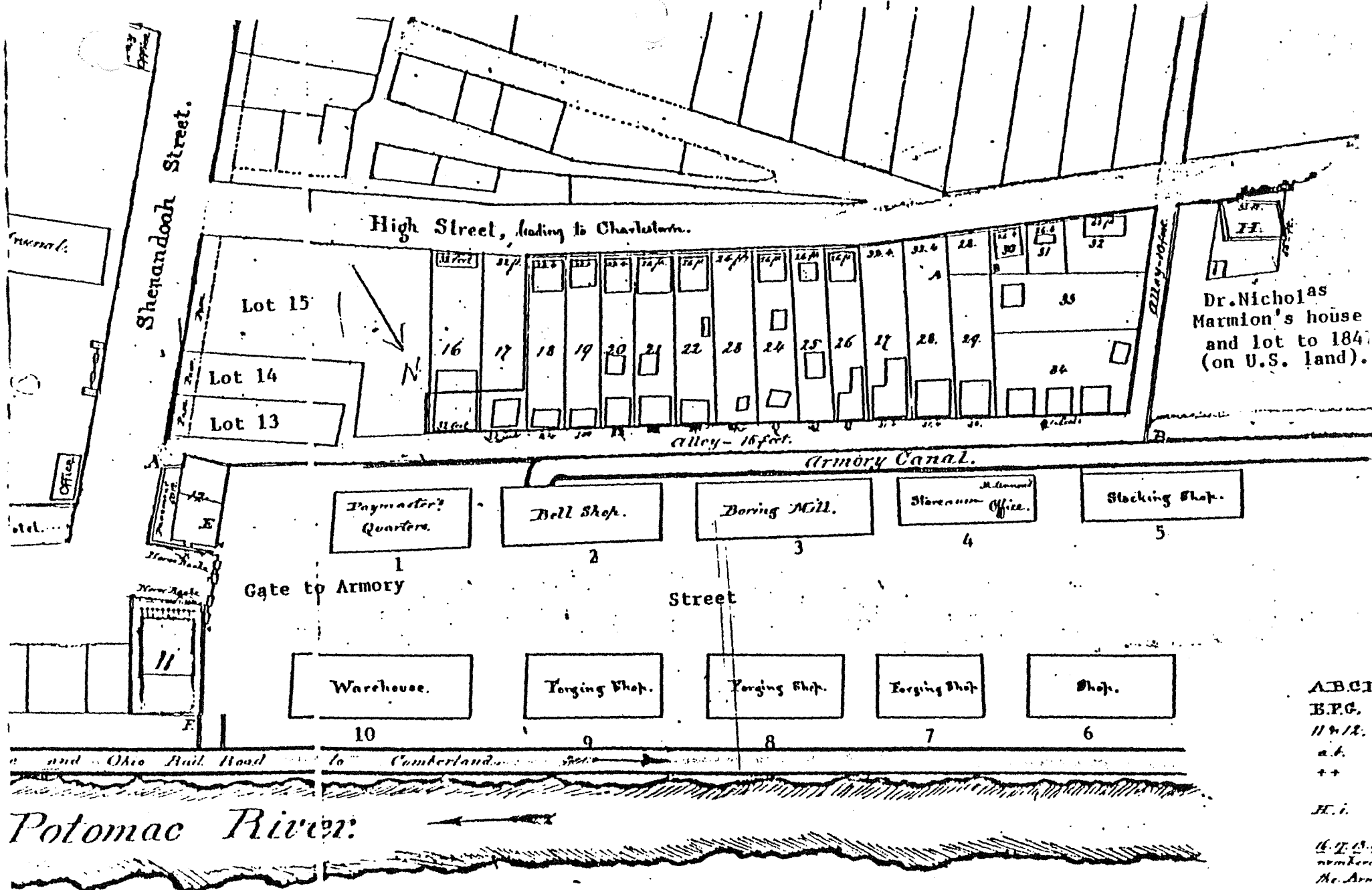
"MAP of the Relative Position of the Reserved (Wager-owned Six Acre Reservation) Land & Public Works at HARPERS FERRY, VA., 1844." (Copy, prepared by Major John Symington, Superintendent of the Harper's Ferry Armory, March 22, 1847).

National Archives Record Group 121, Public Buildings Service, Harpers Ferry Laminated Material(Drawer No. 5, Portfolio No. 1)

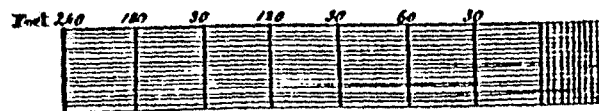
Section of Major Symington's Detailed Map.

Bldgs. in the U.S. Musket Factory, 1844

1. Paymaster's Quarters (Residence of the Superintendent 1808-09 to (November 1844).
2. Bell Shop, erected 1809-10, water wheels and machinery. 131 by 45 feet, 2 story. brick.
3. ^a Boring Mill, a new workshop erected in 1843-44 on the site of the 1799-1800 armory. Had water wheels and machinery. 122 by 12 $\frac{1}{2}$ feet, 2 story brick.
4. Store House, also Master Armorer's Office. Old Smiths' shop erected in 1799-1800 but converted to use as a storehouse by 1821. No water wheels or machinery. 80 by 30 feet, 2 story brick.
5. Stocking House, erected in 1808-09, water wheels and machinery. 111 by 30 feet, 2 story, brick.
6. "Shop", Annealing Shop and Proof Shop, 1834. 125 by 45 feet, 1834.
7. Forging Shop., erected 1808-1809, 10 forges, 80 by 30 feet, 2 story brick.
8. Forging Shop, erected 1808-09, 16 forges, 120 by 30 feet, 2 story, brick.
9. Forging Shop, erected 1808-09, 16 forges, 130 by 30 feet, 2 story brick.
10. Warehouse, new, 1843-44, 93 $\frac{1}{2}$ feet by 30 10/12 feet, 2 story, brick, for storing iron and steel,.



1844 MAP



1 Copy

Map of Harper's Ferry Shewing the Location of the Winchester and Potomac Rail Road, No. 2, Drawn by Lieuts. White, Allen, and R. S. Smith, U.S. Army Under the direction of James Kearney, Lt. Col. and T.E., Scale 100 feet to one inch. Approved by President Andrew Jackson, 27th January 1835."

National Archives Record Group 77, Records of the Office of the Chief of Engineers, Fortifications Map File, Drawer 150, Sheet 82, part 2, in Cartographic Division, National Archives, Washington, D.C.

This map shows conditions at the U.S. Musket Factory and and at Arsenal Square as of October 1834. Section of map showing details on Arsenal Square (Blocks A and B, Shenandoah St.)

Buildings on Arsenal Square:

Supts. Office, 1-story brick house, 21 by 28 feet, a dwelling converted for use to office in 1832.

Pay Office. Office of the Paymaster and Military Store-keeper, one story brick, 24 by 18 feet, erected 1822.

Old (Large) Arsenal, 2 stories, brick, 125 by 32 feet, erected in 1799-1800.

New (Small) Arsenal, 2 stories plus cellar, 68 by 36 feet, erected 1806-07.

Ice House, frame, erected (?)

Stock House, A house for storing gunstocks erected in 1822, 65 by 30 feet. One story

Arsenal-Square Gate, opening into Ferry Lot Reservation

Lumber House, one story, wood, 50 by 24 feet, ca. 1821.

Bldg. Marked No. 1-¹/₂ Carriage House of Supt., value \$ 40.

Bldg. " 2. Carriage house and stable of the Paymaster, value \$ 50.

Bldg. No. 3- Carriage House and Stable of Master Armorer, value \$ 150.

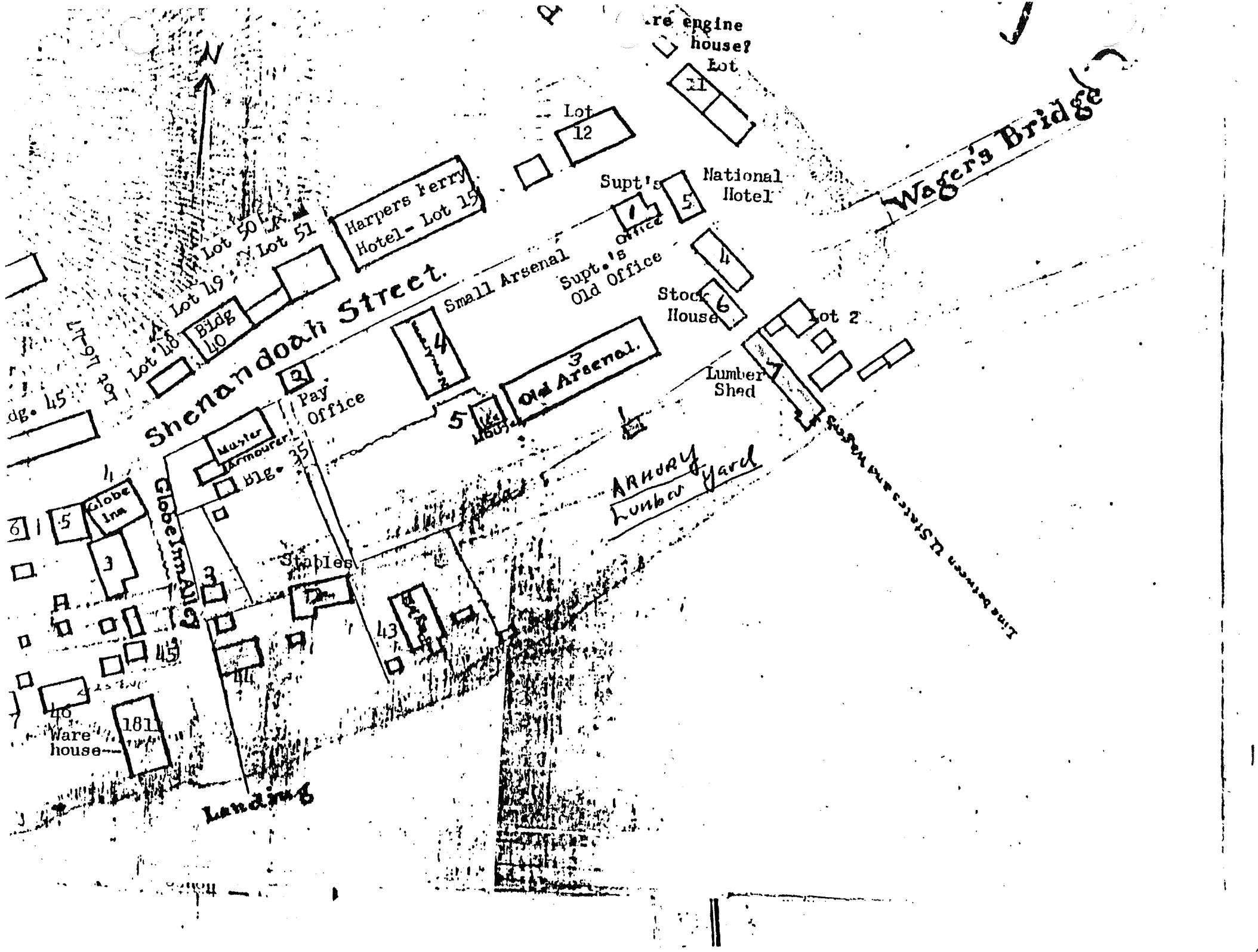
+ Bldg. No. 4¹/₂ Armory Dwelling House, Value of \$ 240, on which George F. Butler has a claim for \$ 140 in improvements. House cannot be removed.

Bldg. No. 43- Paymaster's House, Brick, 2 stories, cellar, kitchen wing, erected 1801-02. Value \$ 1,500.

Bldg. 35- Master Armorer's House, 2 story, brick erected 1812, 23 by 24 feet; kitchen wing added, 20 by 22 feet, in 1827, 1 story.

Bldg. No. 44 - Dwelling House, Value about \$ 200.

+ House A (or No. 4 in report) was located on the west side of Middle Alley and in the right of way to be given railroad. House not on this section of map.



"MAP of the Relative Position of the Reserved (Wager-owned Six Acre Reservation) Land & Public Works at HARPERS FERRY, VA., 1844." (Copy prepared by Major John Symington, Superintendent of the Harper's Ferry Armory, March 22, 1847).

National Archives Record Group 121, Public Buildings Service, Harpers Ferry Laminated Material(Drawer No. 5, Portfolio No. 1)

Section of 1844 Map showing Arsenal Square in Detail.

Numbers on Arsenal Square structures and also on privately owned Wager lots that abuted on the square, have been added by the author.

- No.1. Superintendent's Office. One-story, brick, 28 by 21 feet, built at dwelling, altered for office in 1832.
- No.2. Large Arsenal, 2-story, brick, 125 feet by 32 feet, no cellar, erected 1799-1800.
- No. 3. Small Arsenal, 2-story with cellar, brick, 68 feet 36 feet, erected in 1806-07.
- No. 4. Pay Office, 1-story, brick, 24 feet by 18 feet, erected in 1822. Brick vault, 7 by 5 feet added to rear of office in 1840.

These four structures had slate roofs.

Note that the 1834 gate to Arsenal Square, located in the east arsenal wall and opening on to Wager Lot No. 3, had been walled up. The gate to Arsenal Square was relocated from its original position on the east side to the Shenandoah Street(north) front in June 1844.

The Shenandoah Street fence, during the period 1810-1858, was constructed of condemned musket barrels. Note how this street fence enclosed both the Supt.'s Office and the Pay Office. Also note that there was no sidewalk or pavement along the arsenal(south) side of Shenandoah Street. A stone wall at the west end runs from the Pay Office south to the W & P. R.R. stone wall along the north side of its track, thus rendering Arsenal Square a secure area to protect the stored arms from fire and theft.

In 1852 it was reported by the Armory inspector that the surface of the Arsenal yard was from 1½ to 4 feet below the level of Shenandoah Street. In the years 1857-59, the level of the yard was raised to that of the street by filling and grading.

Shenandoah River.

1844 MAP

Viaduct.

D.K.O. Road.

Winchester & Potomac Mill Road.

Baltimore and Ohio Rail Road

Potomac River

to Cumberland.

See

lot 2

lot 3

lot 4

lot 5

Hotel

Hotel

Site of old Gate

ARSENAL SQUARE

Office

New Gate

Animal

Animal

Play

Shenandoah Street.

U.S. MUSKET FACTORY

Lot 13

Lot 14

Lot 15

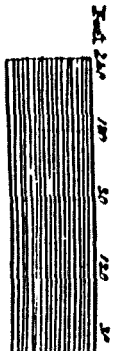
Warehouse.

Tonging Shop.

Engineer's Quarters

Boat Shop.

High Street, leading to Charles



Shenandoah

MAP

OF THE

Relative Position

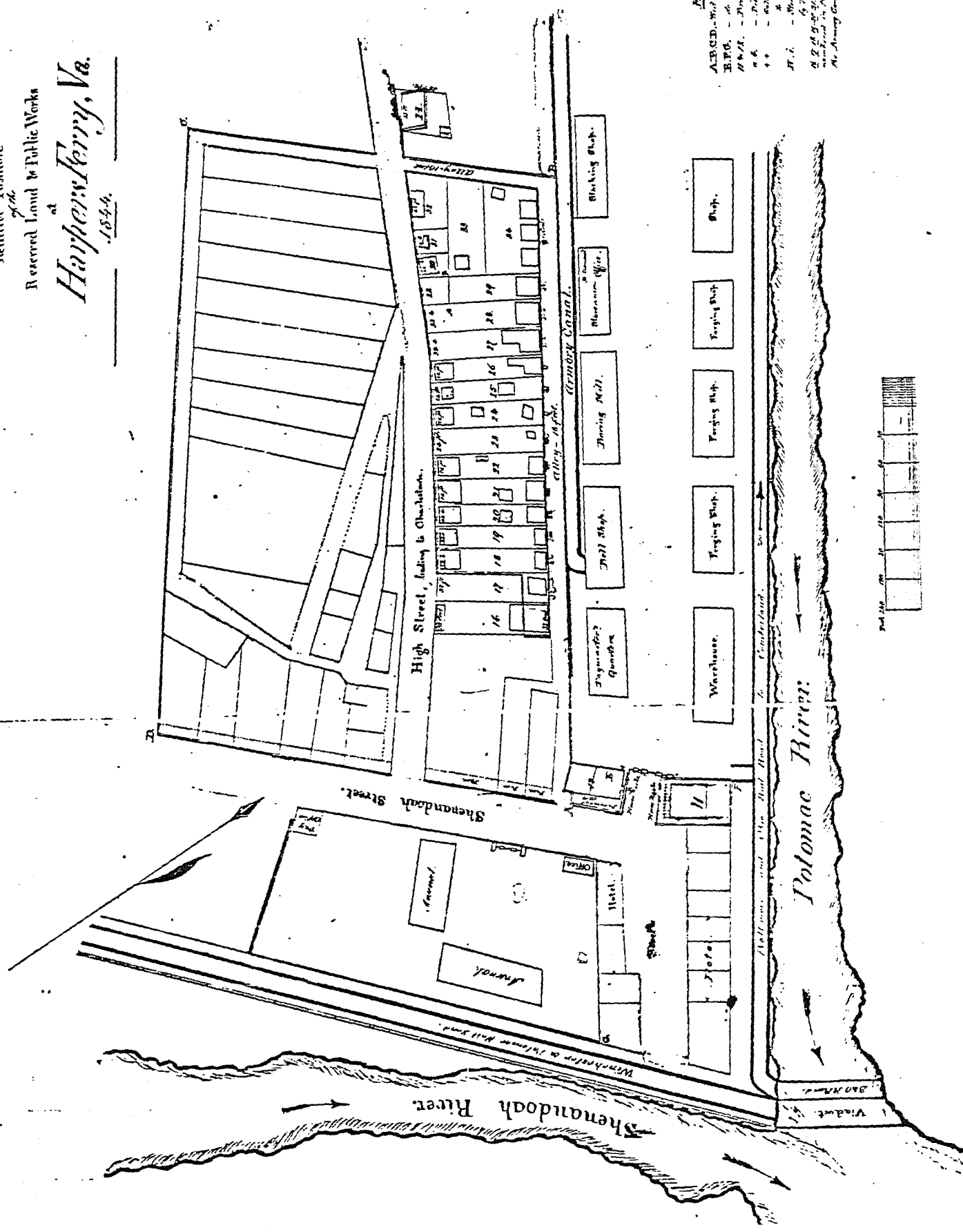
of the

Reserved Land to Public Works

at

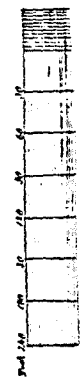
Harpers Ferry, Va.

1844.



Explanations.

- A.B.C.D. - Not defined, reference to other documents
- E.F.G. - do do, reference to other documents
- H.I.J.K. - do do, reference to other documents
- L.M.N. - do do, reference to other documents
- O.P.Q. - do do, reference to other documents
- R.S.T. - do do, reference to other documents
- U.V.W. - do do, reference to other documents
- X.Y.Z. - do do, reference to other documents
- 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.



MAP OF HARPER'S FERRY, VA., prepared in Compliance with Letter to Major(John) Symington, April 22, 1848," Drawn by S. Howell Brown, Surveyor, in 1848. Scale 165 feet to the inch. Original linen map, only existing copy.

Harpers Ferry National Historical Park Map Collection,
Map No. 77.

On this map of great historical value, Brown shows and names the U.S. Armory buildings in the Musket Factory, the U.S. Rifle Factory, and the U.S. Arsenal. Location of springs, pumps, stables, woodyards, firehouses, schools, and churches are also indicated. In 1851 Major John Symington revised and updated the section of the 1848 map relating to the Island of Virginus. These revisions were made in red ink on the linen map in 1851.

The dates of construction given after the names of buildings have been added by the writer. The number and name of each structure, however, was placed on the map by Brown in 1848.

SECTION OF THE MAP SHOWING THE U.S. MUSKET FACTORY
BUILDINGS:

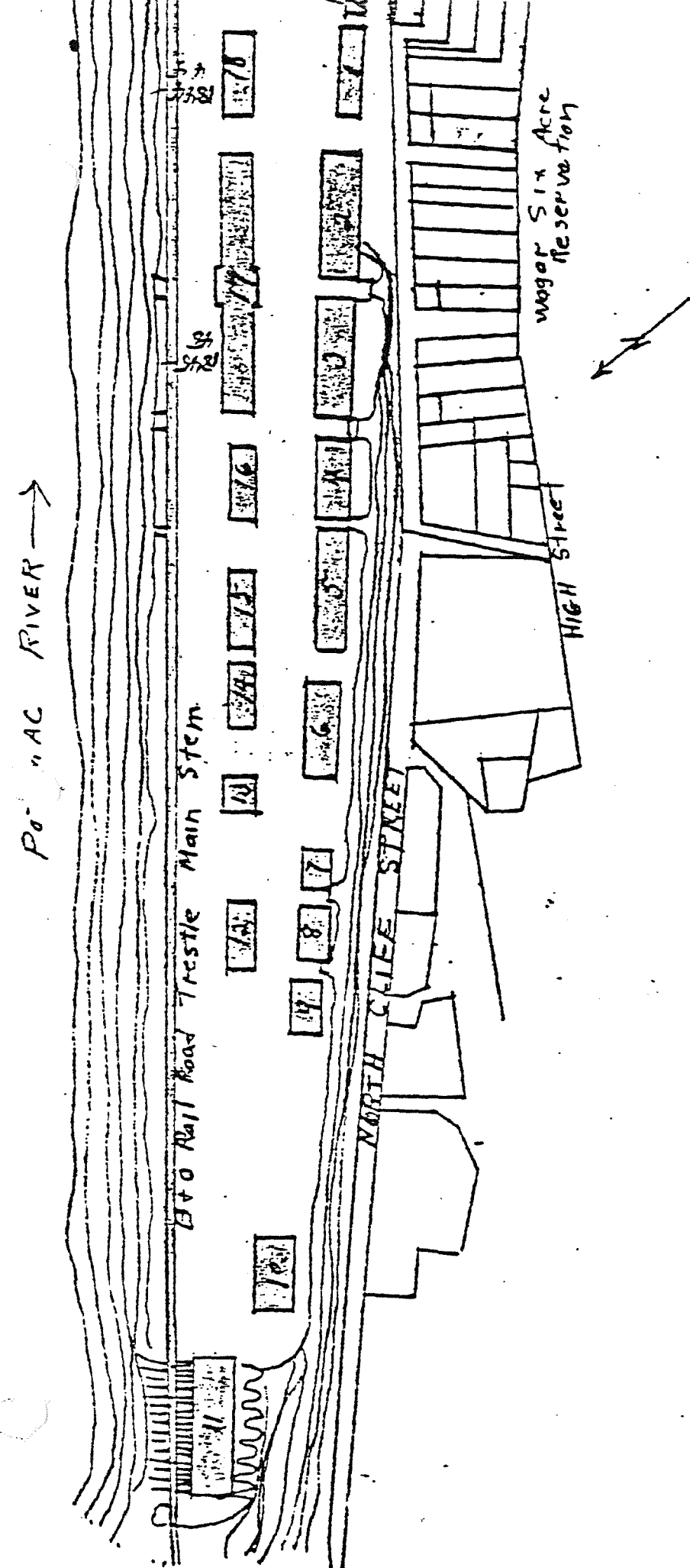
Structures marked "old" by Brown appear on Maps No. 6(1834), No.14 and 15(1837), and No.16(1844), and thus help to determine of the use of the unmarked buildings on the earlier maps.

In 1837-1839, the original width of the Musket Factory yard was increased by approximately 70 feet by building two great stone river walls north into the Potomac and then filling in behind them with earth and stone .

The line of old(1799-1810) of workshops situated along the north bank of the Armory canal and also the general level of the Musket Factory yard was very low and the grounds and floors frequently overflowed during river freshets. In the general rebuilding of the Factory that got underway in 1845, the new workshops had high stone foundations and the ground level was considerably elevated by much filling and grading.

BUILDINGS-1848:

1. Offices (1808-09, remodelled in 1847-48).
2. Bell or Finishing Shop (1809-10).
3. Boring Mill (1843-44).
4. Stocking Shop - New (1846-47).
5. Stocking Shop - Old (1808-09).
6. Stock Store House- New (1846-47).
7. Carpenters Shop - Old (1834).
8. Machine Shop - Old (1834).
9. Grinding Mill - Old (1831).
10. Coal Bin and Lumber House (1848-49).
11. Barrel Welding and Tilt Hammer Shop (1834-38).
12. Stock Store House- Old (1832-New Workshop?)
13. Charcoal House - New (1845-46).
14. Proof House - New (1843-44).
15. Annealing Furnace - Old (1834).
16. Smiths Shop - Old (1808-09).
17. Smiths Shop - New (1845-48).
18. Warehouse -New (for iron and steel, 1843-44).
19. Engine and Guard House- New (1847-48).



MAP OF HARPER'S FERRY, VA., prepared in
Compliance with Letter to Major(John) Symington,
April 22, 1848," Drawn by S. Howell Brown, Surveyor,
in 1848. Scale 165 feet to the inch. Original linen
map, only existing copy.

Harpers Ferry National Historical Park Map Collection,
Map No. 77.

On this map of great historical value, Brown shows and
names the U.S. Armory buildings in the Musket Factory, the
U.S. Rifle Factory, and the U.S. Arsenal. Location of springs,
pumps, stables, woodyards firehouses, schools, and churches
are also indicated. In 1851 Major John Symington revised and
updated the section of the 1848 map relating to the Island of
Virginus. These revisions were made in red ink on the linen
map in 1851.

The dates of construction given after the names of
buildings have been added by the writer. The number and
name of each structure, however, was placed on the map by Brown
in 1848.

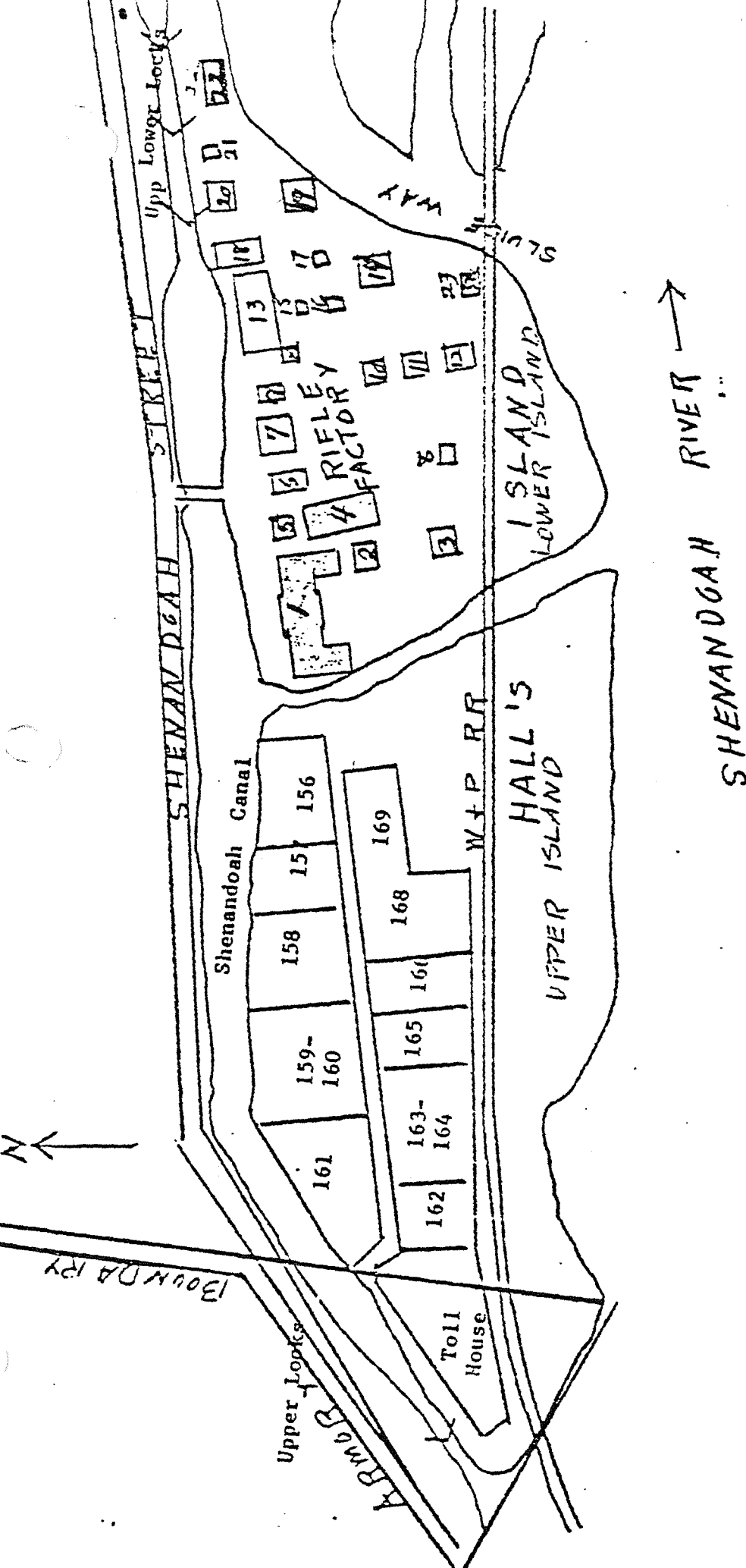
SECTION OF THE 1848 MAP SHOWING THE U.S. RIFLE
FACTORY BUILDINGS ON THE LOWER HALL ISLAND:

Structures not marked "new" by Brown may appear on Maps 9 and
10, both made in 1834, and hence are useful in identifying
the unmarked shops on the two earlier maps.

The Upper Hall Island was used as a residential area for Armory
employees in 1848 and the numbers of the Armory Dwelling Houses
have been added to their proper lots by the writer.

During the 1850's, the original ground levels of the Lower
Hall Island were to be considerably altered and elevated as
the result of considerable filling and grading.

U.S. RIFLE FACTORY BUILDING:
1848

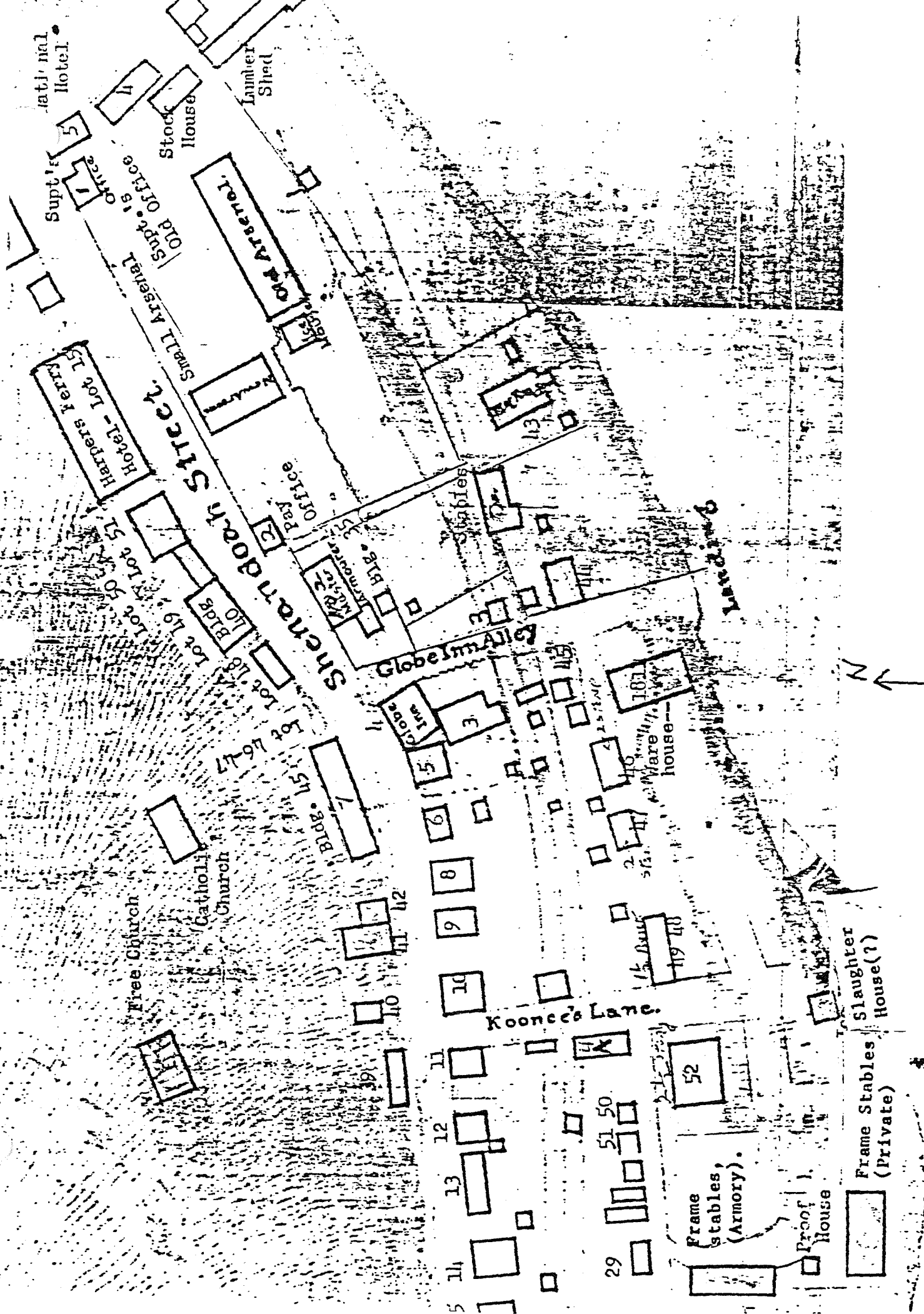


1. Finishing Shop-New (1846-48).
2. Forging and Tempering Shop.(1837-38)
3. Stockers Shop.
4. Filers Shop- New (1843-45).
5. Filers Shop-Old (1837).
6. Barrel Welding Shop(1837).
7. Tilt Hammer Shop.(1837-38)
8. Vitriol House.(1837)
9. Rod Tilting Shop.(1831)
10. Inspectors Office.
11. Asembling and Finishing Shop.(1837).
12. Barrel Turning and Boring Shop.
13. Bell Shop, Stockers and Machinery.(1808-09.)
14. Store House and Office.
15. House for Steaming Stocks.
16. Engine House(New-1843-44, frame).
17. Privy.
18. Drill Shop(1836).
19. Forging Shop(1827)
20. Annealing Shop.(1835)
21. Annealing Furnace(1835)
22. Forging Shop.(1819)
23. Proof House (New, 1845-46) (1 story, frame).

Map of Harper's Ferry Shewing the Location of the Winchester and Potomac Rail Road, No. 2, Drawn by Lieuts. White, Allen, and R. S. Smith, U.S. Army Under the direction of James Kearney, Lt. Col. and T.E., Scale 100 feet to one inch. Approved by President Andrew Jackson, 27th January 1835."

National Archives Record Group 77, Records of the Office of the Chief of Engineers, Fortifications Map File, Drawer 150, Sheet 82, part 2, in Cartographic Division, National Archives, Washington, D.C.

- Bldg. Marked No. 1-¹/₂ Carriage House of Supt., value \$ 40.
 Bldg. " 2. Carriage house and stable of the Paymaster, value \$ 50.
 Bldg. No. 3- Carriage House and Stable of Master Armorer, value \$ 150.
 +Bldg. No. 4¹/₂ Armory Dwelling House, Value of \$ 240, on which George F. Butler has a claim for \$ 140 in improvements. House cannot be removed.
 Bldg. No. 43- Paymaster's House, Brick, 2 stories, cellar, kitchen wing, erected 1801-02. Value \$ 1,500.
 Bldg. 35- Master Armorer's House, 2 story, brick erected 1812, 23 by 24 feet; kitchen wing added, 20 by 22 feet, in 1827, 1 story.
 Bldg. No. 44 - Dwelling House, Value about \$ 200.
 + House A (or No. 4 in report) was located on the west side of Middle Alley and in the right of way to be given railroad. House not on this section of map.



"Map of Harper's Ferry prepared in compliance with letter to Major John Symington, April 22, 1848, by S. Howell Brown."

This map is a tracing that Major John Symington, Armory Superintendent, made in January 1851, from the Brown 1848 map. Brown's 1848 map was submitted to the Ordnance Department in October 1848.

The original 1851 tracing by Symington is in the collections of Harpers Ferry National Historical Park.

Legend for Map:

- A -- Presbyterian Church, north side of Shenandoah Street.
- B. - Catholic Church, Wager Six Acre Reservation.
- ~~CP~~ - Pumps, on Shenandoah Street
- T. Public (Armory) Stables (Lot 2, Block F, Shenandoah Street on 1869 map).
- U - Market House (used by town to sell meat and vegetables, Block 3, Shenandoah Street on 18769 map).
- Z - Old (Armory) Stables. Wood Yard, &c, site (Block G, Lots 1 to 4, Shenandoah Street, on 1869 map).
- X. Old Office (for ferry), (on Block D, Lot 6 on 1869 map).
- * (added by writer) the site of Bldg. No. 48 in 1848 (Lot No. 2 north of Shenandoah Street on the 1869 map).
- H. - Protestant Episcopal Church Lot (leased to church, Park Bldg. 48A).

Each of these lots along the north and south sides of Shenandoah Street represents a house lot for a U.S. Armory dwelling house in 1848. Compare this map with Map No. 7, made in 1852, which shows how this same area was subdivided into house lots for sale and also the land that was reserved from that sale for U.S. use from 1852 to 1869.

Also compare Map No. 4 with Map No. 3. This latter map shows the distribution of Armory dwellings and their lots on the south of Shenandoah Street in 1834.

Slave Yard

I = APPROX STABLE
* SITE OF Bldg. No. 48

Jefferson Rock

N
↑

SHENANDOAH STREET

PUMPS

A

Z

WERR
KRAVINIS
Island

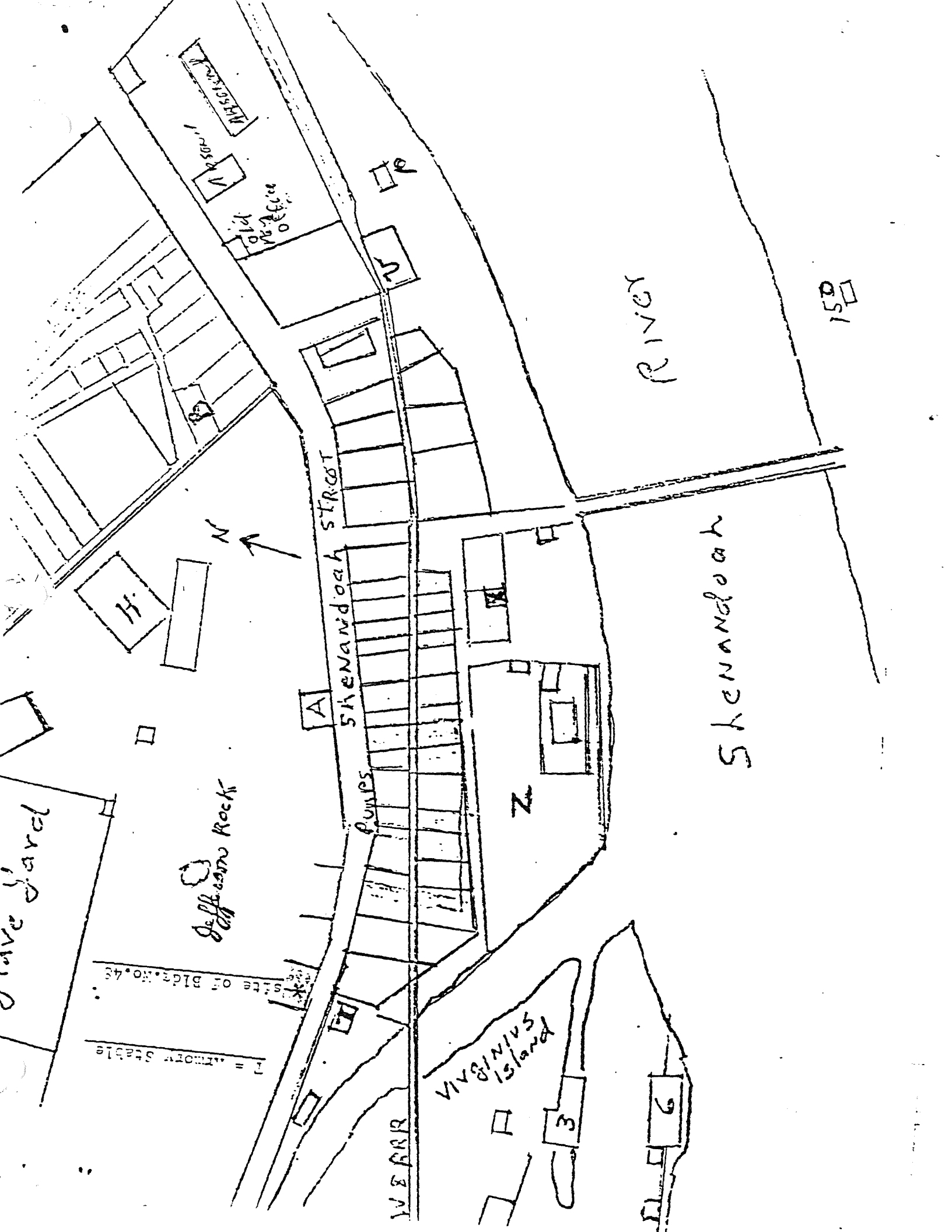
3

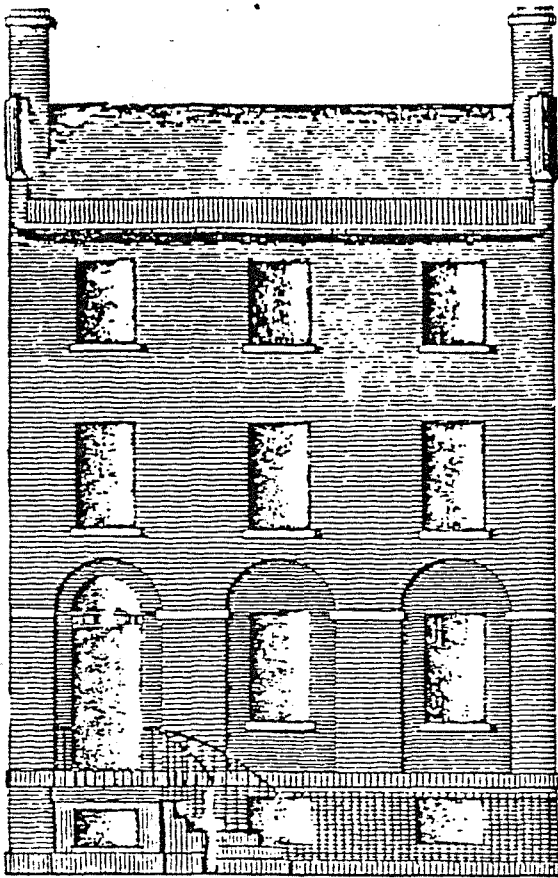
6

RIVER

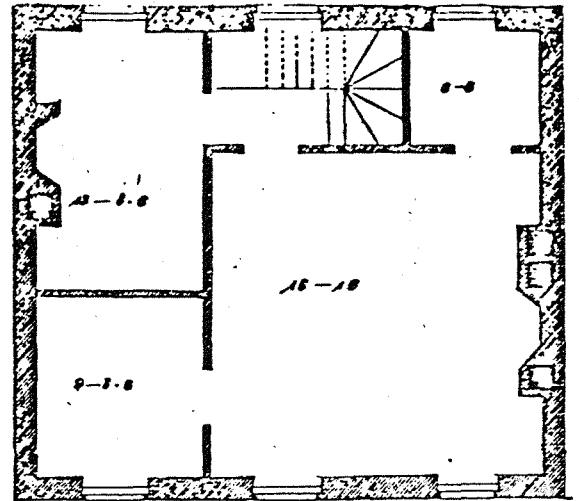
SHENANDOAH

150

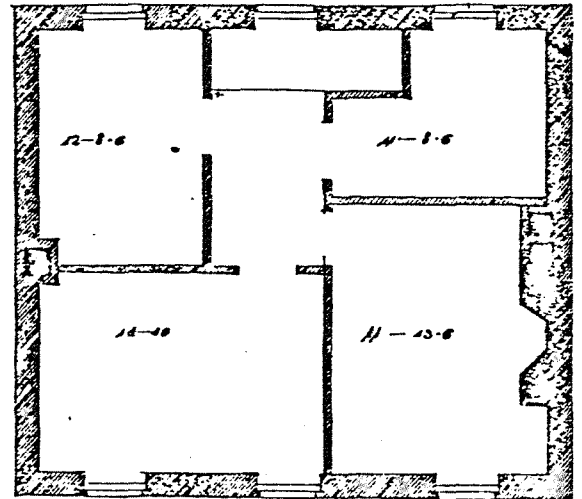




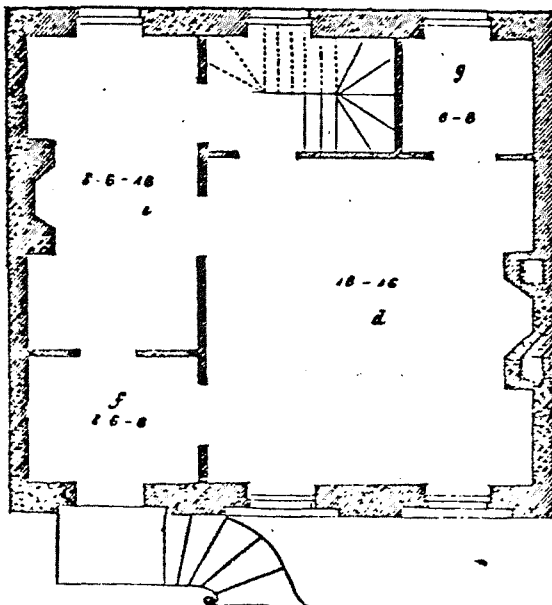
House designed by Asher Benjamin
(1773 - 1845), Architect.



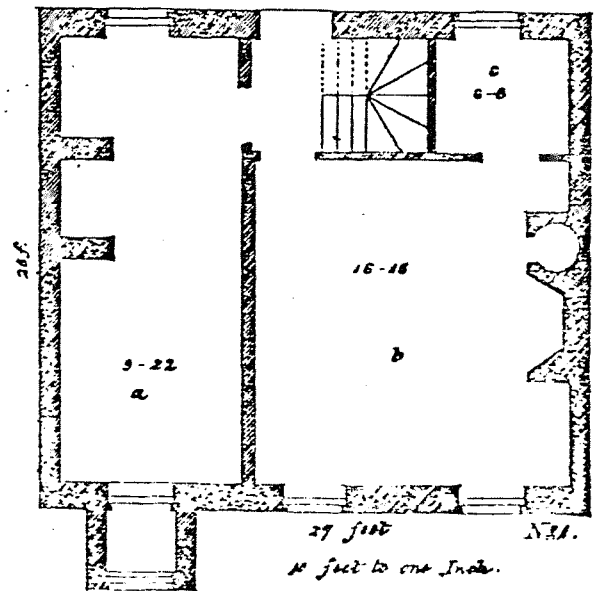
No. 3



No. 4.



No. 2.



No. 1.

27 feet
10 feet to one inch.

Eng. by G. W. F. M.

APPENDIX I

Schedules A and B, prepared by Major John Symington,
Superintendent, U.S. Armory at Harper's Ferry, Virginia, December 12, 1844

From Congressional Serial No. 464, Document No. 43, pp. 9 - 12

Schedule of lot, and improvements thereon, owned by private individuals, adjoining the public buildings at the Harper's Ferry armory, with description of the improvements on each lot, and the price for which the whole can be purchased - these lot and parts of lots being included within the blue lines marked on the accompany plat (See Map No. 4).

"Map of the Relative Position of the Reserved Land & Public Work
at Harpers Ferry, Va. - 1844."

SCHEDULE A

of lots and improvements thereon, owned by private individuals, adjoining the public buildings at the Harper's Ferry armory, with description of the improvements on each lot, and the price for which the whole can be purchased—these lots being indicated within the yellow lines marked on the accompanying plat.

340

| Number of lot. | Owner of ground. | Owner of buildings. | Description of the buildings, &c. | Price of ground. | Price of buildings. | Total. |
|----------------|------------------|---------------------|---|------------------|---------------------|---------|
| 11 | Mrs. Swayne | Richard D. Doran | Double brick building, 40 by 40 feet, 2 stories high, with finished garret and shingled roof; cellar underneath; an open gallery in front; back buildings of brick, 2 stories; lower story occupied as stores, upper story and garret as dwellings. | | | |
| Part of 12 | G. B. Wager | Richard D. Doran | Two-story brick building, with finished garret and cellar, 35 by 30 feet, covered with shingles; lower story occupied part as a drug and general variety store, and part as a shoemaker's shop; the upper story, including garret, as dwellings. | \$2,256 | \$4,000 | \$6,256 |
| Part of 12 | Henry Yost | Henry Yost | Two-story brick building, continuation of the building above-described, and under same roof, 25 by 50 feet; lower story occupied as a general variety store, upper story as a dwelling. | 1,600 | 1,600 | 3,200 |
| 13 | Mrs. Swayne | - | A large wooden stable, 60 by 30 feet, and left above. | - | - | 3,000 |
| 17 | Mrs. Swayne | J. G. Wilson | A small wooden house, 16 by 14 feet, 1 story. | 1-2 | 215 | 217 |
| 18 | G. B. Wager | Samuel Lover | On High street a 2-story brick house, 30 by 22 feet, covered with shingles, and cellar underneath; on the alley a stable for wood, with loft for hay. | 182 | 18 | 200 |
| 19 | G. B. Wager | Charles Eutton | On High street a 2-story brick house, 30 by 22 feet, covered with shingles, and cellar underneath; a porch in front and rear; on the alley a wooden stable, with hay loft, 20 by 18 feet. | 725 | 1,700 | 2,425 |
| 20 | G. B. Wager | Philip Coons | On High street a 2-story brick house, with basement, and cellar under basement, 31 by 23 feet, covered with slate, well finished; on the alley a 2-story stone house, 26 by 22 feet, covered with shingles. | 725 | 1,700 | 2,425 |
| 21 | G. B. Wager | G. B. Wager | On High street a 2-story stone house, with basement, 30 by 26 feet, covered with slate, with back building, all well finished; on the alley a stone stable 26 by 20 feet, with hay loft; also, a stone smoke-house 10 by 9 feet. | 725 | 2,700 | 3,425 |
| 22 | G. B. Wager | William Mcraw | On High street a 2-story stone house, with basement, 30 by 26 feet, covered with slate, well finished, and a stone corn-house 14 by 10 feet; on the alley a wooden stable 27 by 20 feet, with hay loft. | 750 | 2,050 | 2,800 |
| | | | | 750 | 2,050 | 2,800 |

Schedule of lots and parts of lots, &c.—Continued.

| Number of lot. | Owner of ground. | Owner of buildings. | Description of the buildings, &c. | Price of ground. | Price of buildings. | Total. |
|----------------|------------------|---------------------|---|------------------|---------------------|--------|
| 23 | Mary Thompson | Mary Thompson | A small wooden building of little value on the alley. | - | - | \$900 |
| 24 | Mrs. Swayne | A. Kelley | On High street a 2-story frame house, with basement, 24 by 20 feet, covered with shingles; in the middle of the lot a 1-story frame house 24 by 16; on the alley a wood blacksmith's shop 20 by 18 feet. | \$750 | \$850 | 1,600 |
| 25 | A. & R. Cross | A. & R. Cross | On High street a wooden shanty of little value, 25 by 25 feet. | 600 | 50 | 650 |
| 26 | Mrs. Swayne | P. Hagan | On High street a 2-story stone house, with basement, 24 by 20 feet, covered with shingles; on the alley a 2-story stone house, 30 by 26 feet, covered with slate, and a 1-story stone kitchen, 14 by 12 feet. | 800 | 1,800 | 2,600 |
| 27 | M. Foley | M. Foley | Vacant on High street, on the alley, a 2-story stone house, 30 by 20 feet, covered with slate, and a 2-story stone kitchen, 28 by 16 feet, shingle roof. | - | - | 2,000 |
| 28 | Mrs. Swayne | P. Hagan | On High street a stone foundation, and a wooden building partly erected, 30 by 25 feet; on the alley a 2-story stone house, 26 by 20 feet, slated roof. | 800 | 1,200 | 2,000 |
| 29 | Mrs. Grace | M. Grace | Vacant on High street, on the alley, a 2-story stone house, 28 by 20 feet, with a 1-story stone kitchen, 18 by 15 feet, both covered with slate. | - | - | 1,500 |
| 30 | M. Breitenbaugh | M. Breitenbaugh | A 2-story brick house, with basement, 26 by 22 feet, well finished. | - | - | 1,700 |
| 31 | Mrs. Swayne | M. Grace | Some waiving and an old wood building. | 350 | 60 | 410 |
| 32 | Mrs. Swayne | M. Grace | A 1-story wooden building of little value; good stone foundation. | - | - | 1,100 |
| 33 | Mrs. Swayne | Mrs. Swayne | A 1-story wooden building of little value. | 350 | 40 | 390 |
| 34 | M. Grace | M. Grace | On the alley a 2-story stone house, 30 by 18 feet; another stone house 2 stories, 20 by 18 feet; a 1-story wooden house, 25 by 20 feet, and another 1-story building, 20 by 12; the stone houses are partially new; the wood house of little value. | - | - | 3,000 |
| "H" | United States | Dr. N. Marnon | A stone house 2-stories, with basement and gallery, 35 by 22 feet; also, a wooden 1-story house, 16 by 14 feet. | - | - | 2,000 |
| | | | For payment for part of "Byrnes's island" | - | - | 1,500 |
| | | | | | | 50,261 |

HARPER'S FERRY ARMORY, December 12 1841.

JOHN SYMINGTON, Major of Ordnance.

Doc. No. 43.

10

Doc. No. 43.

341

SCHEDULE B:

B.

Schedule of lots and parts of lots, and improvements thereon, owned by private individuals, adjoining the public buildings at the Harper's Ferry armory, with description of the improvements on each lot, and the price for which the whole can be purchased—these lots and parts of lots being included within the blue lines marked on the accompanying plat.

| Number of lot. | Owner of ground. | Owner of buildings. | Description of the buildings. | Price of ground. | Price of buildings. | Total. |
|----------------|------------------|---------------------|---|------------------|---------------------|---------|
| 11 | Mrs. Swayne | Richard D. Doran | A double 2-story brick building, with gallery, finished garret and cellar; 40 by 40 feet, covered with shingles; back building of brick, 2 stories; lower story stores, upper story dwellings | \$2,286 | \$4,000 | \$6,286 |
| Part of 12 | G. E. Wager | Richard D. Doran | A 2-story brick building, and finished garret and cellar, 35 by 30 feet, shingle roof; lower story drug store and shoemaker's shop, upper story dwellings | 1,600 | 1,600 | 3,200 |
| Part of 12 | Henry Yost | Henry Yost | A 2-story brick building, continuation of the foregoing described building, 25 by 30 feet, same finish; lower story country store, upper story dwellings | - | - | 5,000 |
| 16 | Mrs. Swayne | - | A large wooden stable, with hay loft, 60 by 30 feet | 182 | 215 | 400 |
| 17 | Mrs. Swayne | J. G. Wilson | A small wooden house, 16 by 14 feet, 1 story | 182 | 15 | 200 |
| 18 | G. B. Wager | S. Lover | A wood stable, with hay loft, of little value | 182 | 12 | 200 |
| 19 | G. B. Wager | Charles Button | A small wood stable, with hay loft, 20 by 18 feet | 182 | 25 | 210 |
| 20 | G. B. Wager | Philip Coons | A 2-story stone house, 26 by 22 feet, covered with slate | 182 | 1,000 | 1,182 |
| 21 | G. B. Wager | G. B. Wager | A 2-story stone house on High street, with basement, 30 by 26 feet, covered with slate, with back buildings all well finished; on the alley a stone stable 26 by 20 feet, with hay loft; also, a stone smoke-house 10 by 9 feet | 750 | 2,050 | 2,800 |
| 22 | G. B. Wager | William McGraw | A wooden stable, with hay loft, 27 by 20 feet | 182 | 45 | 220 |
| 23 | M. Thompson | M. Thompson | A small wooden building | 200 | 20 | 220 |
| 24 | Mrs. Swayne | A. Keller | A wood black mill's shop, 20 by 18 feet | 182 | 215 | 400 |
| 25 | A. & R. Cross | A. & R. Cross | A small wooden shanty | 600 | 50 | 650 |
| 26 | Mrs. Swayne | P. Hagan | A 2-story stone house, 30 by 26 feet, slated roof, and a 1-story stone kitchen, 14 by 12 feet | 190 | 900 | 1,090 |
| 27 | M. Foley | M. Foley | A 2-story stone house, 30 by 20 feet, slated roof, and 2-story stone kitchen, 25 by 16 feet; shingle roof | - | - | 2,000 |
| 28 | Mrs. Swayne | P. Hagan | A 2-story stone house, 26 by 20 feet, slated roof | 180 | 900 | 1,080 |

Schedule of lots and parts of lots, &c.—Continued.

| Number of lot. | Owner of ground. | Owner of buildings. | Description of the buildings. | Price of ground. | Price of buildings. | Total. |
|----------------|------------------|---------------------|--|------------------|---------------------|--------|
| 29 | M. Grace | M. Grace | A 2-story stone house, 29 by 20 feet, with a 1-story stone kitchen, 18 by 15 feet, both slated | - | - | 61,500 |
| 31 | M. Grace | M. Grace | A 2-story stone house, 30 by 18 feet, another stone house, 2-story, 20 by 18 feet—these partially new, and a 1-story wooden house 25 by 20 feet, and another 1-story wooden house 20 by 12 feet—the wooden buildings of little value | - | - | 3,000 |
| 41 | United States | Dr. N. Martineau | A 2-story stone house, with basement and gallery, 35 by 22 feet, and a wooden 1-story back building | - | - | 2,000 |
| | | | | | | 31,640 |

HARPER'S FERRY ARMORY, December 12, 1844.

JOHN SYMINGTON,
Major of Ordnance.

Doc. No. 13.

Appendix II

342

HARPERS FERRY ARMORY RENT ROLLS, 1842-1851
in RECORDS OF THE 2ND AUDITOR OF THE TREASURY DEPARTMENT,
NATIONAL ARCHIVES RECORD GROUP 217, WASHINGTON, D.C.

| 2nd Series
File No. | Renters | Rent
Collected | 2nd Series
File No. | Renters | Rent Collected |
|--------------------------|------------------|-------------------|------------------------|-----------------------------|----------------|
| 1st Quarter
7654 | | \$ 1,348.34 | 1st Q.
2213 | | \$ 1,634.83 |
| 2nd Quarter
7654 | | 1,351.30 | 2nd Q.
2474 | | 1,552.73 |
| 3rd Quarter
8011 | | 1,390.19 | 3rd Q.
2841 | | 1,418.38 |
| 4th Quarter
8011 | (1) | 807.72 | 4th Q.
3122 | | 1,463.02 |
| 1842
Total: (1) | | \$ 4,897.45 | (4) 1845
Total: | | \$ 6,068.96 |
| 1st Q.
8190 | | 1,636.49 | 1st Q.
3858 | | \$ 1,446.55 |
| 2nd Q.
8190 | | 954.42 | 2nd Q.
4403 | | 1,568.99 |
| 3rd Q.
440-3rd Series | | 1,195.38 | 3rd Q.
4837 | | 1,356.83 |
| 4th Q.
630 | 169 houses | 1,610.75 | 4th Q.
4967 | 155 houses
to 159 famil. | 1,357.37 |
| 1843
Total: (2) | | \$ 5,497.04 | (5) 1846
Total: | 1846 | \$ 5,229.74 |
| 1st Q.
970 | | 1,623.11 | 1st Q.
4967 | | \$ 1,332.50 |
| 2nd Q.
1165 | | 1,624.10 | 2nd Q.
5623 | | 1,394.19 |
| 3rd Q.
1613 | | 1,311.73 | 3rd Q. | missing | ? |
| 4th Q.
1844 | 165 houses
to | 1,629.94 | 4th Q. | missing | ? |
| 1844
Total: (3) | 169 famil. | \$ 6,188.87 | (6) 1847
Total | \$ 2,726.69 | \$ 6,000.00* |

(1). plus \$ 355.04 in rent received late and credited to the 1st quarter of 1843, see file 8190.

(2).

(3.)

(4).

(5).

(6). * Total for 1847 estimated.

342

HARPERS FERRY ARMORY RENT ROLLS, 1842 - 1851
 IN RECORDS OF THE 2ND AUDITOR OF THE TREASURY DEPARTMENT,
 NATIONAL ARCHIVES RECORD GROUP 217, WASHINGTON, D.C.

| 3rd Series
File No. | Renters | Rent
Collected | 3rd Series
File No. | Renters | Rent Collected |
|------------------------|---------|-------------------|------------------------|---------------|----------------|
| 1st Quarter
8737 | missing | ? | 1st Q.
12 | | \$ 1,393.57 |
| 2nd Quarter
8737 | Missing | ? | 2nd Q.
12680 | | 1,350.75 |
| 3rd Quarter
8737 | Missing | ? | 3rd Q.
12680 | | 1,359.55 |
| 4th Quarter
8737 | Missing | ? | 4th Q.
13017 | | 1,298.62 |
| 1848
Total: (1) | * | (\$, 6,000.00) | (4)1851
Total: | | \$ 5,402.49 |
| 1st Q.
9093 | | \$ 1,616.79 | 1st Q. | | |
| 2nd Q.
9307 | | 1,612.33 | 2nd Q. | | |
| 3rd Q.
9895 | | 1,460.60 | 3rd Q. | | |
| 4th Q.
10276 | | 1,528.26 | 4th Q. | | |
| 1849
Total: (2) | | \$ 6,217.98 | (5)
Total: | 1852* | |
| 1st Q.
10673 | | 1,653.47 | 1st Q. | | |
| 2nd Q.
11000 | | 1,477.69 | 2nd Q. | | |
| 3rd Q.
12169 | | 1,468.59 | 3rd Q. | | |
| 4th Q.
12169 | | 1,432.00 | 4th Q. | | |
| 1850
Total: (3) | | \$ 6,032.25 | (6)
Total | 1853 to 1861: | |

(1). 1848 total estimated.

Total rented collected, 1842-51: \$ 57,34.78.

(2).

(3.)

(4).

(5). Rent rolls for years 1852 to 1861 destroyed by a committee of Archivists in the 1940's as being "repetitive."

(6).

APPENDIX III

Extracts from " B. Statement of expenditures at the United States Armory at Harper's Ferry, Virginia, and of the arms and appendages made therein, from its establishment(1796) to the 31st of March,1848. To accompany report to the Secretary of War of June 10,1848, in answer to a resolution of the Senate of April 28,1848." Data relating to land, repairs, and improvements made from 1822 to 1848,

From Serial No. 509, Document No. 54, pp. 10-13.

| YEARS | For Land, including Mill sites and the Houses on the land when purchased. | Buildings, milldams, canal or races, and other permanent improvements, including machinery. | Repairs of Buildings, dams, canals, &c. | Total for lands, buildings, improvements & repairs |
|---|---|---|---|--|
| 1796 to Dec. 31, 1821 | \$ 42,877.28 | \$ 256,509.41 | \$ 66,793.32 | (1)
\$ 366,180.01 |
| Dec. 31, 1822 | | 5,134.75 | 350.00 | 5,484.75 |
| Dec. 31 1823 | | 11,037.80 | | 11,037.80 |
| Dec. 31 1824 | | 16,271.96 | | 16,271.96 |
| Dec. 31 1825 | | 4,101.50 | 2,171.50 | 6,273.00 |
| Dec. 31 1826 | | 9,847.66 | 431.97 | 10,279.61 |
| Dec. 31 1827 | | 7,550.87 | | 7,550.87 |
| Dec. 31 1828 | | 6,533.00 | 5,500.00 | 12,033.00 |
| Dec. 31 1829 | | 1,461.82 | 157.33 | 1,619.15 |
| Dec. 31 1830 | | 14,431.93 | | 14,431.93 |
| Dec. 31 1831 | | 18,237.33 | | 18,237.33 |
| Dec. 31 1832 | | 18,408.68 | | 18,408.68 |
| Dec. 31 1833 | 2,600.00 | 33,422.91 | | 36,022.91 |
| Dec. 31 1834 | | 45,038.16 | | 45,038.16 |
| Dec. 31 1835 | | 23,432.47 | | 23,432.47 |
| Dec. 31 1836 | | 28,678.42 | | 28,678.42 |
| Dec. 31 1837 | | 81,579.27 | | 81,579.27 |
| Dec. 31 1838 | | 55,541.11 | | 55,541.11 |
| Sept. 30 1839 | | 26,752.49 | | 26,752.49 |
| Sept. 30 1840 | | 18,315.53 | | 18,315.53 |
| Sept. 30 1841 | | 57,578.88 | 16,423.99 | 74,002.87 |
| SUBTOTAL | \$ 45,477.28 | \$ 739,865.95 | \$ 91,828.11 | \$ 877,171.34 |
| (1) This line gives the totals of the report in detail made 30th November, 1822 and published in <u>American State Papers- Military Affairs</u> , Volume 2, p. 481. | | | | |

| YEARS | For Land, including Mill sites and the Houses on the land when purchased. | Buildings, milldams, canal or races, and other permanent improvements, including machinery. | Repairs of Buildings, dams, canals, &c. | Total for lands, buildings, improvements & repairs |
|--|---|---|---|--|
| 1796-Sept. 30, 1841 | \$ 45,477.28 | \$ 739,865.95 | \$ 91,828.11 | \$ 877,171.34 |
| Sept. 30 1842 | | 37,598.60 | 7,661.71 | 45,260.31 |
| June 30 1843 | | 29,527.37 | 2,952.69 | 32,480.06 |
| June 30 1844 | | 32,736.40 | 2,309.66 | 35,046.06 |
| June 30 1845 | | 28,386.04 | 315.06 | 28,701.10 |
| June 30 1846 | | 62,468.77 | | 62,468.77 |
| June 30 1847 | | 55,346.27 | | 55,346.27 |
| March 31 1848 | 30,632.66 | 36,613.30 | | 67,245.96 |
| Total to 6/30/47 | 45,477.28 | \$ 985,939.40 | \$ 105,067.23 | \$ 1,136,483.91 |
| Total to 3/31/48 | 76,109.94 | \$ 1,022,552.70 | \$ 105,067.23 | \$ 1,203,719.87 |
| 7/1/47 6/30/48 | 39,062.35 | 36,207.28 | | 75,269.63 |
| June 30, 1849 | 3,375.00 | 52,299.70 | | 55,674.70 |
| June 30 1850 | | 38,373.24 | | 38,373.24 |
| June 30 1851 | | 62,399.44 | | 62,399.44 |
| GRAND TOTAL | \$ 87,914.63* | \$ 1,175,219.06 | \$ 105,067.23 | \$ 1,368,200.92 |
| <p>* Total includes \$ 2,000 for purchase of Dr. Nicholas Marmion's houses which were standing on U.S. land.</p> | | | | |

April 1, 1981

Memorandum

To: Supt. Don Campbell, Harpers Ferry NHP

From: Historian Charles W. Snell, National Capital Team, DSC
(Room 4314, 1100 L. Street, Washington, D.C.)

Subject: Draft of research report: "A Physical History of Harper's Ferry
Armory, Vol. II, 1842-1851".

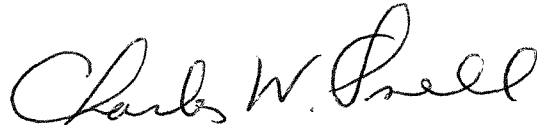
and last -ment

Enclosed is the 3rd install of "A Physical History of the Plant
of the United States Armory at Harper's Ferry, Virginia, 1794 to 1885.

It Evolution, Development, Destruction, and Disposal. Volume II-

Reconstruction of the Armory, 1842 - 1851, Harpers Ferry National Historical
Park, West Virginia," (April 1981), 346 pp., 4 illustrations, and 11 maps.

We transmit pages 232-346.



Charles W. Snell
Historian

April 1, 1981

Memorandum

To: Supt. Don Cambell, Harpers Ferry NHP

From: Historian Charles W. Snell, National Capital Team, DSC
(Room 4314, 1100 L. Street, Washington, D.C.)

Subject: Draft of research report: "A Physical History of Harper's Ferry
Armory, Vol. II, 1842-1851".

-ment

Enclosed is the 2nd install of "A Physical History of the Plant
of the United States Armory at Harper's Ferry, Virginia, 1794 to 1885.
It Evolution, Development, Destruction, and Disposal. Volume II-
Reconstruction of the Armory, 1842 - 1851, Harpers Ferry National Historical
Park, West Virginia," (April 1981), 346 pp., 4 illustrations, and 11 maps.

We transmit pages 102- 231.

Charles W. Snell
Historian

April 1, 1981

Memorandum

To: Supt. Don Campbell, Harpers Ferry NHP

From: Historian Charles W. Snell, National Capital Team, DSC
(Room 4314, 1100 L. Street, Washington, D.C.)

Subject: Draft of research report: "A Physical History of Harper's Ferry
Armory, Vol. II, 1842-1851".

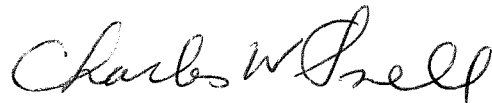
-ment

Enclosed is the 1st install of "A Physical History of the Plant
of the United States Armory at Harper's Ferry, Virginia, 1794 to 1885.

It Evolution, Development, Destruction, and Disposal. Volume II-

Reconstruction of the Armory, 1842 - 1851, Harpers Ferry National Historical
Park, West Virginia," (April 1981), 346 pp., 4 illustrations, and 11 maps.

We transmit pages 1- 100 .



Charles W. Snell
Historian