

REPORT

OF THE

SUPERINTENDENT OF THE HOT SPRINGS RESERVATION, JUNE 30, 1884.

SIR: I have the honor to submit the following report of improvements made and other transactions had on the Hot Springs Reservation for the year ending June 30, 1884.

This reservation was established by the General Government in 1832. It lies near the center of the State of Arkansas, in latitude $34^{\circ} 30'$ north, longitude 93° west from Greenwich. It is 60 miles southwest from Little Rock, in the highlands or eastern spur of the Ozark Mountains. It has an elevation of about 1,200 feet above the sea, the mountains within its limits rising sharply to an altitude of nearly 700 feet above the lowest points of the valleys. The location is healthful, with a delightful climate, giving a mean annual temperature of nearly 63° , while the extreme range is limited, rarely going above 92° and more rarely below 20° above zero. The altitude, even temperature, and drainage facilities give this all the natural advantages of a health resort. It has also within a radius of 12 miles many cold springs impregnated with iron and sulphur of recognized efficacy in restoring health.

The reservation consists of four sections of land. It has four mountains within its limits which are permanently reserved by the Government. They are well wooded, not difficult of access, and very desirable points of resort, especially during the summer months. If consistent with the views of the Department, I recommend that privileges be granted to suitable parties to improve certain points on these mountains under proper limitations and restrictions. By this means pleasant and healthy resorts will be provided for visitors and the mountains improved and beautified without cost to the Government.

About one-half the area of the reservation, constituting the valley portion, is laid off in lots for settlement. Of this area, nearly two-fifths was awarded to actual settlers by the late United States Commission. Of that remaining some 250 lots have been sold, leaving some 300 still the property of the Government. At the late sale these lots brought a fair average price. I recommend, however, that no more sales be made at present, or not until the growth of the city demands more area. The hot-water reservation extends along the line of Hot Springs Creek nearly 1,600 feet, its western boundary forming the eastern line of Central avenue. It extends to the eastward, including all of the Hot Springs Mountain, some 265 acres, and is surrounded on all sides by a broad avenue.

This reservation includes all the hot waters which are within an area of 1,200 feet north and south, and 500 feet east and west, all flowing

from one mountain spur. These springs have a daily flow estimated at 500,000 gallons, varying in temperature from 100° to 160° Fahr.

During the past year the creek has been improved along the reservation front and through the gorge above, by the construction of side-walls and an arch entirely inclosing it, for a distance of over one-half a mile. This work required a massive structure to resist the mountain floods, and great capacity. The work has been done under plans approved by the Department August 3, 1883, to which plans reference is respectfully made for explanation of details. The completed work gives a fine street 100 feet wide through the gorge where before its completion a carriage could not safely pass. It also protects the reservation front, rendering possible improvements necessary for fully utilizing the hot waters. The sewer-pipes referred to in the plan were omitted in the construction of the work, under directions from the Department, as it was considered that the creek thus covered would answer all requirements for sewerage. So far it has been perfectly satisfactory. I have watched the result carefully, and am satisfied that the plan will be perfectly successful whenever the main work may be extended. For other improvements I have added four springs and secured them for use pending the general plan for securing all the hot-water flow. One of these, a new discovery, is of higher altitude than any others, and has a temperature of 160° Fahrenheit, 3° higher than any heretofore reported. The successful opening of this hot-water course enabled me to bring into use the reservoir constructed by my predecessor in office, too high for the existing flows, and which had previous to this stood unused. On Hot Springs and North Mountains drives and bridle-paths have been laid out under my direction extending 3½ miles in the aggregate. These drives are of easy grade, well constructed, and opening up scenery unsurpassed. They are well shaded by the mountain growth, and give the visitor free access to the fresh, pure air of the mountains.

One hot spring only appears on the west side of the creek, the Alum Spring. This is found of peculiar qualities, and is largely used for diseases of the eyes and throat. I have carefully secured it, and as it could not be raised to the level of the street, have walled up to grade and constructed steps of dressed stone, by which it is now easily accessible.

The free baths consisted of one pool covered in by a rough, dilapidated building. I have during the past year enlarged and improved this pool, constructed another for female bathers, repaired the old, and built a new building joined to the other. This gives the indigent bathers two pools with springs in the bottom of each, an office to the manager, waiting-rooms for each sex, with full bath-house accommodations. The manager's report shows that we have given during the year 2,258 free baths to women and 32,800 free baths to men, a total of 35,058 free baths for the year, an average of 97 per day. The water from the springs serves to keep the pools hot, but where so much bathing is done it is necessary to introduce a large flow of water from outside sources for douches and to renew the waters of the pools. Many prefer these baths to those in tubs, claiming that the waters in large pools and the natural flow from the hot ground are more beneficial. No satisfactory analysis of these waters has yet been made, and consequently the curative properties are not fully understood, though the results are too patent to be doubted. To the long list of diseases for which they are now recommended can be added that they are a specific in the treatment of alcoholism and all diseases arising from the excessive use of tobacco and opium. I recommend that a careful and exhaustive analysis of the waters be made and

the report made of record for use of all needing the benefits of the waters.

Of the improvements necessary the first is to secure all the hot water and render it available for use. The present system of supply is the crudest possible and to the disadvantage of both the Government and the consumer.

A large part of the water formerly in use flows below the present grade of bath-houses, as the buildings are now built from 8 to 12 feet above the former line. These waters now flow to waste. The method of supply is such a curious complication that the superintendent is powerless to remedy any errors that may arise.

The plans heretofore submitted contemplate the collection of all the waters in one reservoir below the level of all the waters, to be pumped thence to a distributing reservoir on the mountain of sufficient altitude to answer all purposes, from thence to be taken to the points where used.

Under the present system the water is rented at \$15 per tub per annum. The capacity of tubs varies greatly. It is recommended that in all cases meters be used on the pipes and that the system of renting be changed and the water rented by quantity that can be accurately measured. The supply is ample for present wants if it can all be utilized, and for years to come, if the supply to each house is measured and recorded.

The entire area from which the springs flow should be inclosed by a substantial fence and no access to them be permitted except to authorized persons. The beneficial results of these springs are yearly becoming better known to the public, and each year shows an increase of invalids seeking benefits from them.

The area on the reservation front available for bath-house sites is comparatively limited, and should be preserved for this purpose, as all this and more will soon be required to meet the demands of the general public. For this reason also the utmost economy in the use of the waters should be insisted upon, which in all cases should be held strictly under control of the Department.

I inclose statement showing receipts and expenditures for the year.

Respectfully submitted.

SAMUEL HAMBLIN,
Superintendent.

Hon. H. M. TELLER.

Report of receipts and disbursements, account Hot Springs Reservation, for year ending June 30, 1884.

Dr.			Cr.		
1883.			1883.		
July.	Water rents	\$315 00	July.	Disbursements	\$42 25
	Ground rents	250 00		Deposit	522 75
		<u>565 00</u>			<u>565 00</u>
Aug.	Water rents	315 00	Aug.	Disbursements	74 40
		<u>315 00</u>		Deposit	240 60
					<u>315 00</u>
Sept.	Water rents	302 50	Sept.	Disbursements	174 78
		<u>302 50</u>		Deposit	127 72
					<u>302 50</u>

Report of receipts and disbursements, account Hot Springs Reservation, &c.—Continued.

Dr.			Cr.		
1883.			1883.		
Oct.	Water rents	\$302 50	Oct.	Disbursements	\$74 65
	Ground rents	250 00		Balance	477 85
		<u>552 50</u>			<u>552 50</u>
Nov.	Balance	477 85	Nov.	Disbursements	46 50
	Water rents	302 50		Balance	733 85
		<u>780 35</u>			<u>780 35</u>
Dec.	Balance	733 85	Dec.	Disbursements	138 35
	Water rents	308 75		Balance	904 25
		<u>1,042 60</u>			<u>1,042 60</u>
1884.			1884.		
Jan.	Balance	904 25	Jan.	Disbursements	355 57
	Water rent	308 75		Balance	1,107 43
	Ground rent	250 00			<u>1,463 00</u>
		<u>1,463 00</u>			<u>1,463 00</u>
Feb.	Balance	1,107 43	Feb.	Disbursements	487 51
	Water rent	308 75		Balance	928 67
		<u>1,416 18</u>			<u>1,416 18</u>
Mar.	Balance	928 67	Mar.	Disbursements	397 58
	Water rent	308 75		Balance	839 84
		<u>1,237 42</u>			<u>1,237 42</u>
Apr.	Balance	839 84	Apr.	Disbursements	714 56
	Water rent	308 75		Balance	684 03
	Ground rent	250 00			<u>1,398 59</u>
		<u>1,398 59</u>			<u>1,398 59</u>
May.	Balance	684 03	May.	Disbursement	514 38
	Water rent	308 75		Balance	478 40
		<u>992 78</u>			<u>992 78</u>
June.	Balance	478 40	June.	Disbursements	366 78
	Water rent	308 75		Balance	420 37
		<u>787 15</u>			<u>787 15</u>
	Balance	420 37			