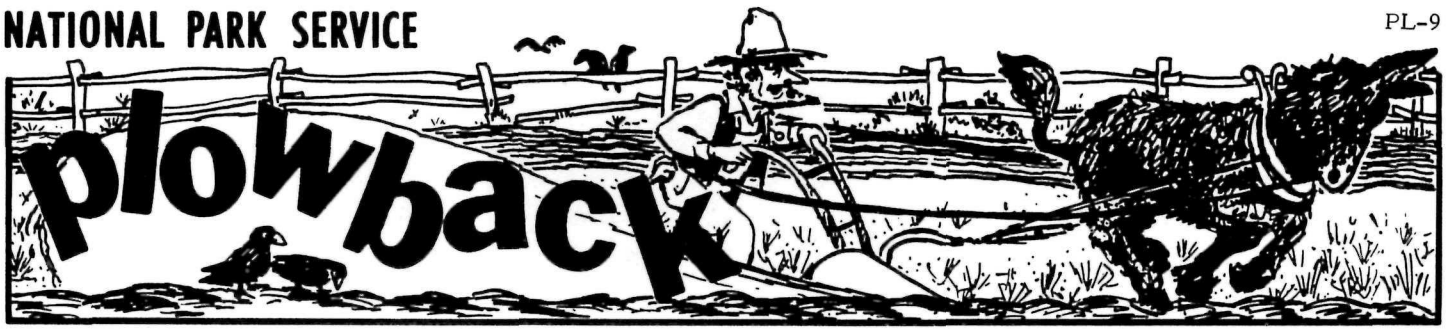
NATIONAL PARK SERVICE

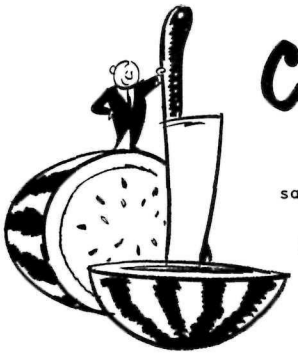
PL-9



MAY 1969

NUMBER 2

Cut Yourself a Slice of Award Money!



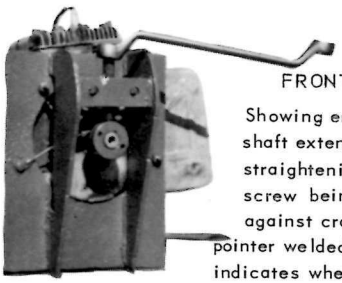
Send a money-saving idea in for an NPS Incentive Award

LAWN MOWER CRANKSHAFT STRAIGHTENER (NPS SE 66-148)

A bent lawn mower crankshaft usually means an outlay of money and loss of service of the mower for several days while it is in a commercial repair shop. James C. Hope, operator general, Hot Springs National Park, designed the tool shown here to do the job on the spot.

Cut a large circular hole in a piece of scrap metal to form a frame through which the crankshaft will protrude (see photos). Weld cross braces to the frame. To the cross braces, weld a threaded bar which will hold a large set-screw in position to contact the crankshaft.

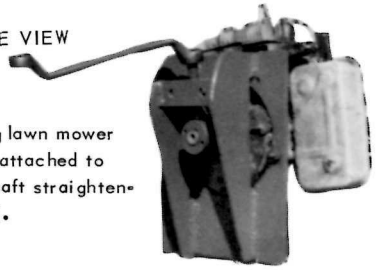
Place the tool on a bench and attach the mower engine. The bent crankshaft can then be straightened by tightening the set-screw. A metal pointer welded to the frame of the tool indicates when the crankshaft has been straightened.



FRONT VIEW

Showing engine crankshaft extending through straightening tool; set-screw being tightened against crankshaft; pointer welded to left side indicates when crankshaft becomes straight.

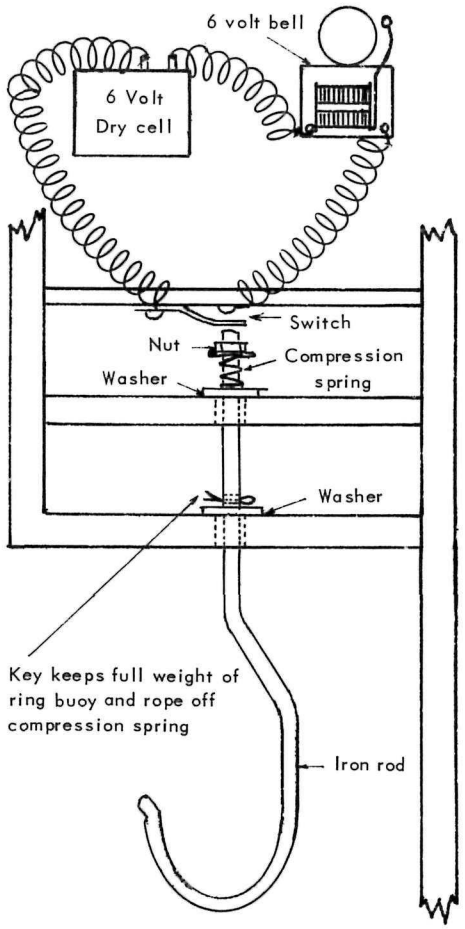
SIDE VIEW



Showing lawn mower engine attached to crankshaft straightening tool.

RING ALARM FOR A RING BUOY (NPS NE 66-58)

Bard Rock area of Vanderbilt Mansion National Historic Site on the Hudson River has a precipitous shore line, deep water, and fast currents. As a visitor safety measure, a ring buoy and rope were placed at the most heavily visited point. They disappeared in a short time.

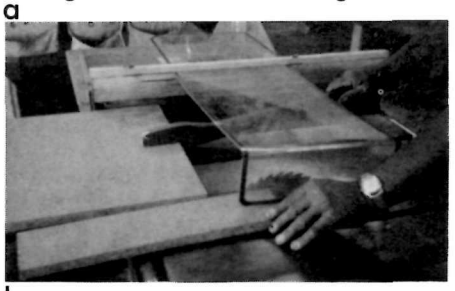


Some means had to be devised to protect the equipment from vandalism. Park Ranger John D. Hunter built the board and electric alarm device shown here. A bell rings as soon as the buoy and rope are removed. The equipment was undisturbed during its first season of use when a good share of the 233,800 park visitors used the area.

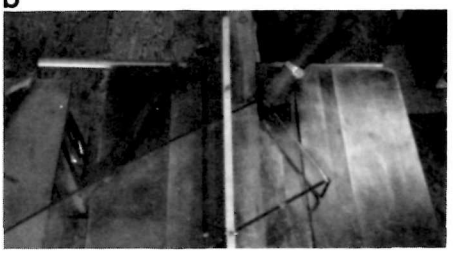
PLEXIGLASS TABLE SAW GUARDS (NPS SW 67-9 & 67-11)

Photos A and B show a see-through 14"x28" plexiglass safety guard for a table saw, which slides into a slit sawed in the ripping fence. Wing nuts tighten down the fence, keeping the guard from slipping. The guard can be moved quickly to any width of cutting, and can be fixed at an angle for ripping. Plywood, 3/4", slips easily under to lift plastic up. A pusher-stick guides the material through.

a



b



A cut-off guide guard is shown in photo C. It, too, is made of plexiglass, and it fits into the slit of the push guide. It can be changed to either side of the saw guide and angles for 45-degree cutting.

c

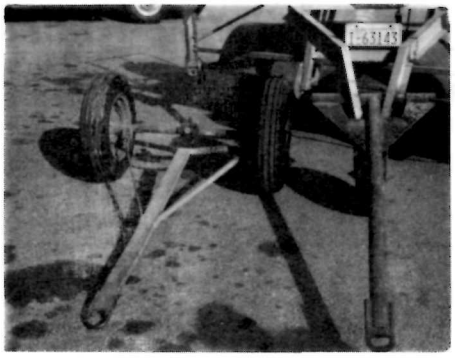
Both guards keep dust from flying into face and eyes, from stinging hands and arms, and also keep hands a safe distance from the blade.

Keith M. Wilkins, carpenter, Glen Canyon National Recreation Area, is the creator of the guards.

ROAD BROOM MANEUVERABILITY IMPROVED (NPS MW 67-68)

The road broom used at Dinosaur National Monument balked at short turns and back-ups—in fact it jackknifed. This meant that the operator either had to make a long circle back to the work area or the unit had to be disconnected and pushed by hand. In each eight hours of operation this could amount to as much as two hours of additional time.

The problem was the two factory mounted wheels on an axle which was attached to the broom by a center swivel pin. Operator A. Lee Wilkins decided that a swivel wheel would increase the maneuverability and efficiency of the equipment. A rubber tired heavy duty implement wheel was purchased from a farm store. Scrap iron and pipe were used to construct the caster wheel frame and pull tongue (see photos). The wheel was mounted onto the broom with a pin in the same way as the factory wheel mount. For towing, a cross pipe was welded through the frame of the broom and the tongue mounted over this to allow raising and lowering. The swivel wheel can easily be removed and the factory wheels installed when the broom is to be towed on the highway.



Factory wheels in preparation for interchange with swivel wheel.

Factory wheels ready for towing unit on highway.

Side view showing caster wheel in place and position of the tongue.

Front view of broom with swivel wheel.

PAVEMENT PATCHING MADE EASIER (NPS SE 66-157)

Ingenuity, a couple of 55-gallon oil drums, a little scrap steel, metal screening, and some cutting and welding will get you a charcoal fueled asphalt heater. For about $10 you can make that patching job go faster and easier.

Marcelle Mann, construction and maintenance representative, Natchez Trace Parkway designed and built the one shown here.

FIREBOX. Cut off one end of a 55-gallon oil drum to the depth of about six inches. Weld on two handles at the bottom opposite each other (see sketch).

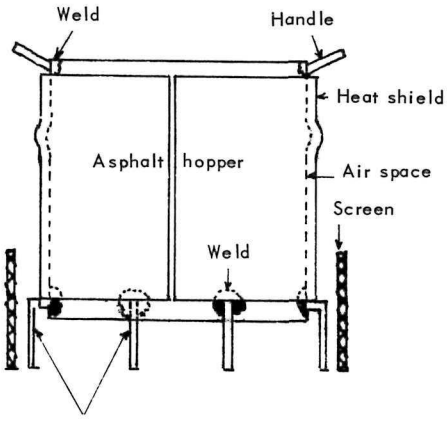
ASPHALT HOPPER. The remaining, larger part of the drum becomes the asphalt holder. Using 3/4" scrap steel rods or reinforcing steel, weld four offset legs to this part to permit placing the firebox underneath it (see sketch). Weld handles to the top.

HEAT SHIELD. To help hold the heat, make an outer shell by dividing a second 55-gallon drum lengthwise. Place it around the hopper, leaving an air space of about one inch.

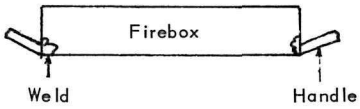
FIRE SCREEN. From hardware cloth or metal mesh, form a protective screen around the firebox to prevent coals from escaping.

Placed on the bed of a dump truck and transported to the point of use, asphalt can then be fed into the hopper, heated by the charcoal fueled firebox, and fed from the hopper to spot to be patched.

The heater will make the use of cold-mix type asphalt easier in winter or summer, and a firmer patching job can be accomplished. If hot-mix type asphalt is being used but is not close enough to transport and keep hot and workable while in transit, this unit can be used to keep asphalt hot or to reheat it. It also can be used to reheat and make workable asphalt that has become old and somewhat "set."

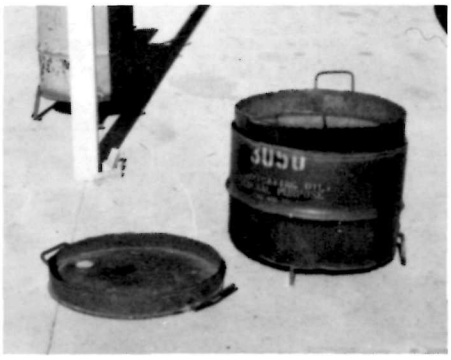


Offset legs to allow firebox to fit underneath



Use charcoal for heat

Approximately 200 lbs. of asphalt can be heated at one time, and additional asphalt is added as needed.



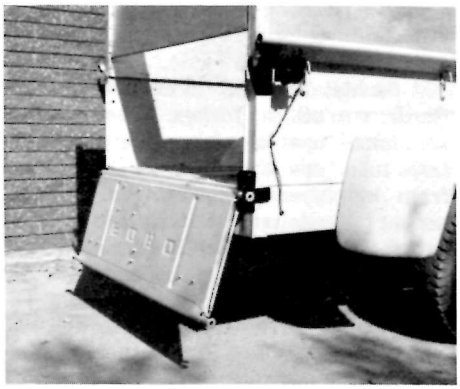
View showing firebox removed from underneath hopper.

View showing firebox in place.

TWO-WAY HINGED DUMP-BED TAILGATE (NPS W 66-162)

Pickup truck tailgates are hinged at the bottom, and if open when dump beds are raised may be jammed into the ground and damaged. Auto Mechanic Edward J. Allen, Sequoia and Kings Canyon National Parks, devised modifications which eliminate that problem and provide greater flexibility.

Ed hinged the gate at top and bottom and provided two sets of catches. Photo 1 shows the gate securely closed with upper and lower catches fastened. Releasing the lower catches permits the gate to hinge at the top, avoiding the possibility of its jamming into the ground (photo 2). Locking the lower catches and releasing the upper ones hinges the gate at the bottom in the usual manner (photo 3). This also permits chaining the gate in a horizontal position to provide support for long loads. Photo 4 shows that if need be the gate may be removed completely.



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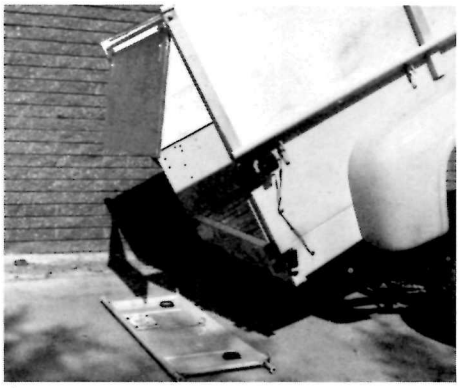


4

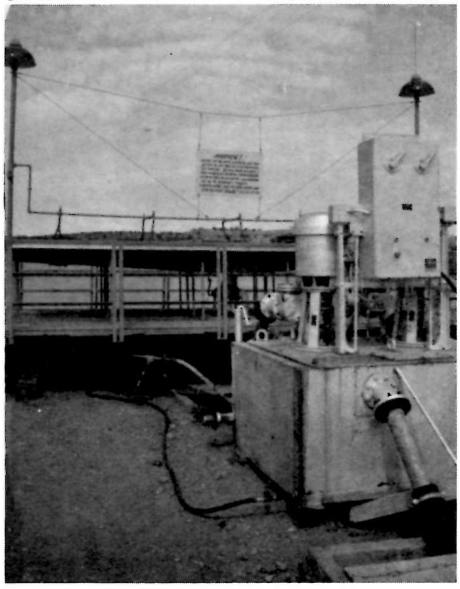
CLEANER TANK FOR CLEANING FISH (NPS SW 67-2)

Keeping the fish cleaning tank (photo A) clean was a smelly problem at Temple Bar, Lake Mead National Recreation Area until Robert H. King, laborer, found a solution.

Fish entrails, bones, scales, and other discarded bits and pieces accumulated, mostly in the corners of the tank. Scum which formed on the surface of the water was a breeding ground for blowflies, and their maggots would then cause a stench.

Bob installed a gate valve (photo B) on a line leading into the bottom of the tank to flush out the corners. The valve produces a stream of water at high pressure which keeps scales and bones in motion so that they can be picked up by the pump (see sketch). The valve is opened 2 to 4 hours before cleaning which is done every second or third day. (This has saved at least five hours cleaning time a week, and Bob says that at installations where there is no restriction on the water supply more time could be saved by opening the valve for longer periods.) It is said that you can even go near that fish cleaning tank now without a clothespin on your nose.

a



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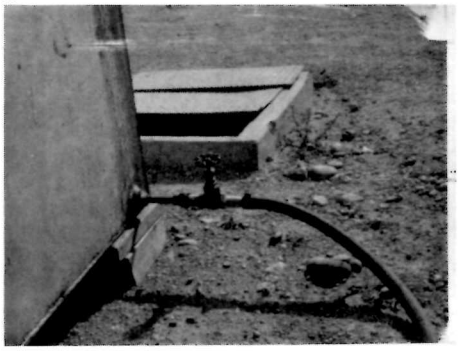
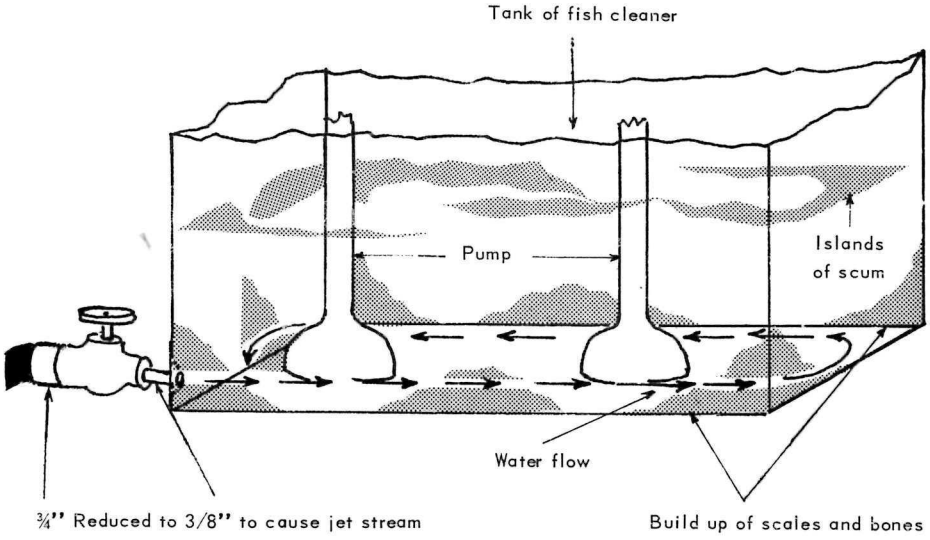
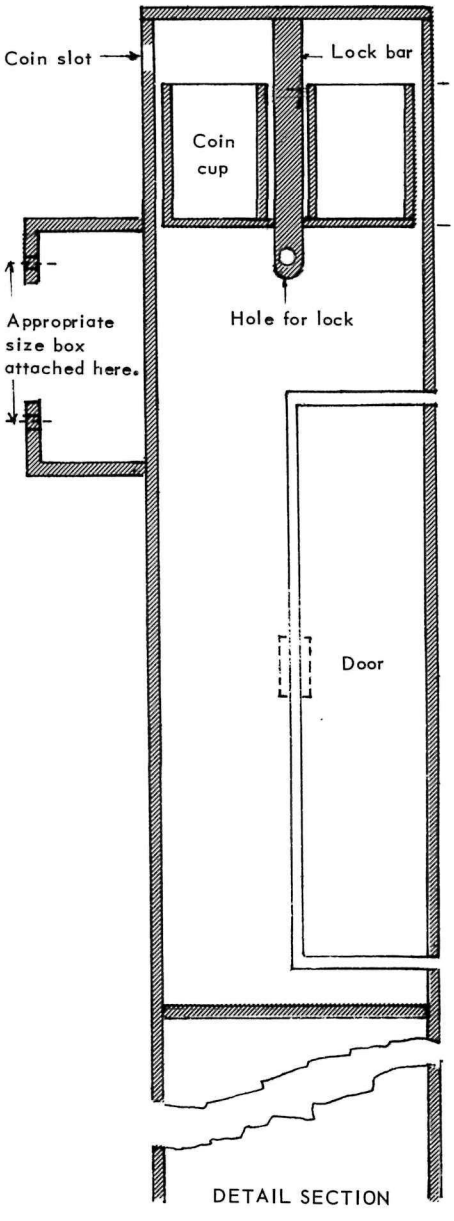


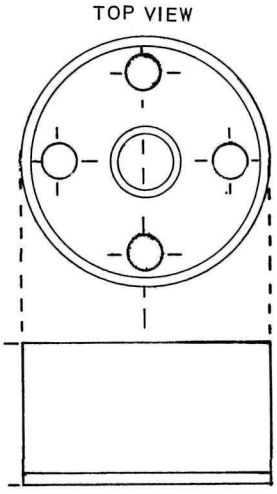


IMPROVED BOOKLET DISPENSER
(NPS W 67-210)

A booklet dispenser in use on the Cholla Gardens trail in Joshua Tree National Monument has had favorable comments from members of the safety committee and from employees who service the dispenser. Vandalism of locks and theft of cash has been temporarily eliminated.



Scale 1" = 4"

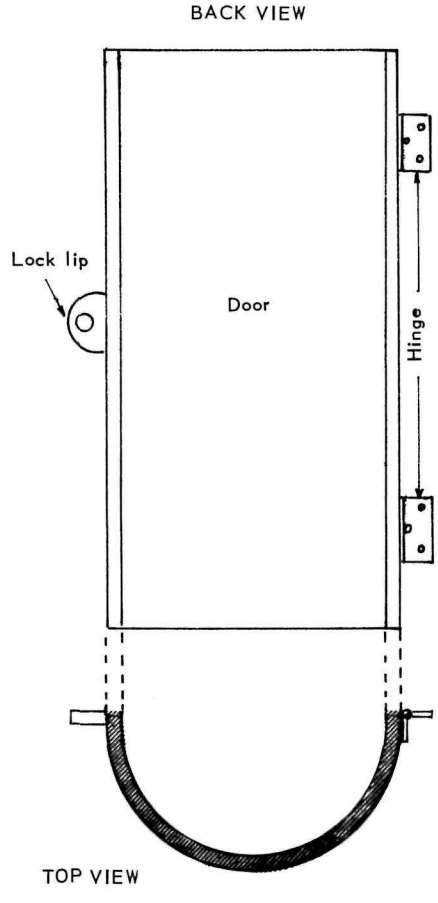


Donald M. Black, supv. park naturalist and Elden K. Wanrow, park naturalist, made the suggestion as a substitution for the dispenser usually in use on the self-guiding nature trails.

The experimental model was constructed by a private business concern for a total cost of $76 exclusive of locks. The dual lock system permits only selected employees to collect cash, whereas all employees having restricted pass keys have access to the booklet supply for periodic servicing.

Don and Elden mention that the old type dispensers in use on the Oasis and Cap Rock Trails were made with large heavy lids with shear-like edges. One ranger received a severe injury when one of the lids accidentally closed on a finger. The weight of the lid on the new dispenser is small and the lid is less likely to cause injuries that might result in tort claims.

The sketch has been supplied by Don and Elden to aid anyone who wishes to construct one of these dispensers.

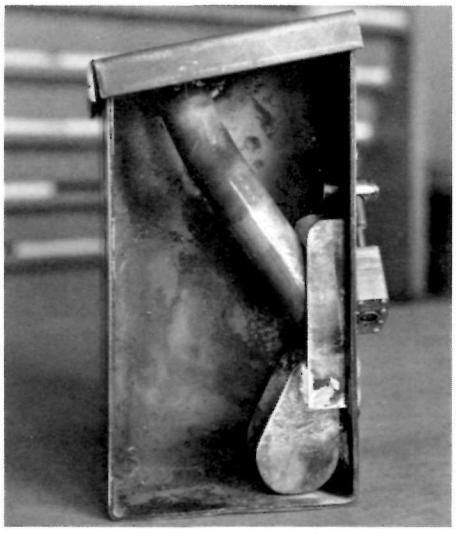


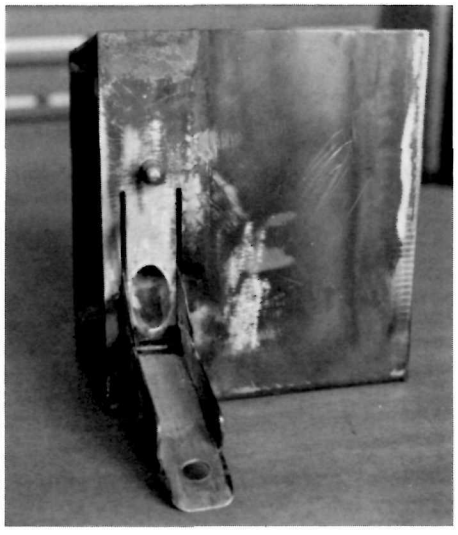
TIME-SAVER COIN COLLECTION BOX
(NPS SW 66-79)

An improvement on the can-in-a-pipe type coin box frequently used at self-serve nature trail pamphlet dispensers has been designed and built by Chief Park Naturalist Arthur C. Hathaway and Floyd C. Standlee, Laborer, Craters of the Moon National Monument.

As the photos show, coins are dropped through a slot in the solid top and collect at the bottom of the tube. When the padlock is removed to collect the coins, the hasp, which is an integral part of the bin, pulls

out and down, tipping the lower end of the tube so as to spill the coins into the hasp which forms a chute under which the collection bag is held. Time is saved and coins are not dropped in the process of removal. Pamphlets are kept in the adjoining section.





SEE-THROUGH SIGN COVERS
(NPS MW 66-36 & 67-129)

Many National Park Service areas, especially those having hard winters, usually protect valuable signs by placing canvas hoods over them, covering them with plywood sheets, or even by removing them and storing them indoors. The trouble with all these methods is that the signs are useless to the growing number of off-season visitors. Some protection must be provided, however, because wood will deteriorate, and paint will crack, curl, and fade, making costly, periodic refinishing or rebuilding of the sign necessary.

Garbage can liners which are made of a tough, durable, polyethylene material that is impervious to wind and water make good covers. When placed over a sign, the legend is clearly visible, the cover glare-proof. The sign is protected, yet it continues to serve the visiting public.

For a horizontal sign, slit the bag down one side and place it over the sign. Fold the top edges of the bag twice and staple to the sign. Cut off the "gathered" bottom of the bag, cut to proper length, allowing for a double foldover. Staple to the sign. After a winter's testing of the sign covers, it was decided that it was necessary to leave the bottom edges of the covers open to prevent accumulation of moisture inside. Although loose at the bottom, the test showed that the covers withstood severe windstorms intact. Any sign up to 30" square can be covered front and back with a single bag. For larger signs, two bags may be cut and stapled together, shingling the horizontal edges in order to exclude water. If used to protect only the face of the sign, a bag may be cut open so as to cover a sign up to 34"x 64", with enough material left to permit wrapping around the edges and then stapling directly to the wood at the back of the sign.

The bags cost about 5 1/2 cents each when purchased from G.S.A. Polyethylene sheets, slightly thicker, but still quite transparent, are available from G.S.A. in rolls 8' wide and 200' long for about 3 cents per 10 square feet.

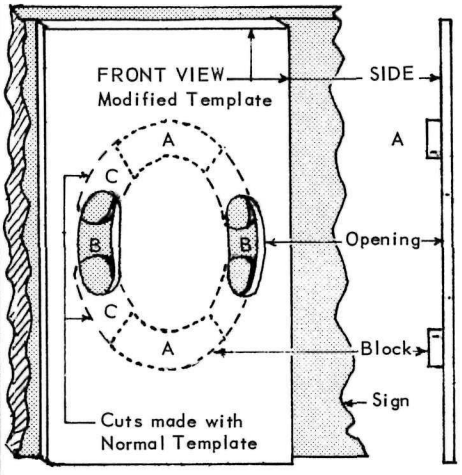
Tests showed that lighter gauge garbage can liners, used in windswept areas, exposed to wind-driven hail, snow, rain and sand, were beginning to deteriorate. This type should, therefore, be discarded after a winter's use. The heavier gauge covers could be used for at least one more winter season. In the spring following the test winter, the protected signs proved to be as good as new, whereas another sign, uncovered and new the fall before, showed noticeable evidence of weathering.

Park Ranger Don Gillespie, Wind Cave National Park, whose suggestion this is, also suggests combining the sign-building and cover-fabrication functions at the same location to insure custom fitted covers.

SIGN ROUTING IMPROVEMENT
(NPS W 66-118)

A modified template designed by Michael Pszyk, maintenanceman, Haleakala National Park, Maui, Hawaii, will, he says, speed up sign production and improve the quality of the work.

The modified templates are for routing those letters and numbers that cannot be completely cut in one operation (see sketches and explanations).



Mike says that this method eliminates the need for readjusting the depth of the cut as is the case in the usual method when changing from the templates to free-hand lettering. Some of the templates may be used for more than one letter, that is, one for "O" and "Q" and one for "P" and "R". The templates are cut from massonite.

ROTATING OFFSET SIGN POST (NPS W 67-220)

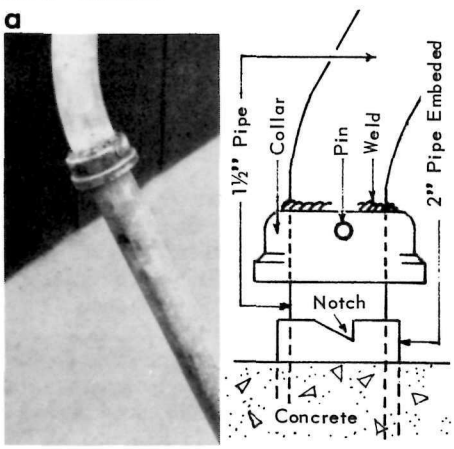
Movable stop signs of the type frequently used at park entrance stations, because of the location in which they must be placed, are subject to occasional encounters with moving vehicles. The result is usually damage to one or the other or both. When the station is closed or the sign not needed it must be manhandled, probably over a curb, or hauled away to storage.

These disadvantages can be eliminated by adoption of an offset, rotating post designed and constructed by District Ranger Douglas Warnock, Area Ranger Ronald Trussell, and Plumber Foreman John Banias all of Yosemite National Park.

Their sign post, shown here (Photos B and C) consists of a 1 1/2" pipe with two 45 degree bends. The distance between the bends can be varied to fit the sign and the amount of offset needed. This 1 1/2" pipe with angles is set into a 2" pipe capped on the bottom and buried in the ground (in this case on the island on which the entrance station is located). A collar is welded on the 1 1/2" pipe (photo A) to fit over the top of the 2" pipe. This prevents any dirt or moisture from entering the 2" pipe and allows the 1 1/2" pipe to turn freely inside the larger pipe. Sloping notches in the top of the 2" pipe and a pin through the 1 1/2" pipe prevent the sign from rotating past a desired point, yet will allow it to be turned back without difficulty.

The sign can be removed if desired by simply lifting the 1 1/2" section out of the 2" section.

a



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c

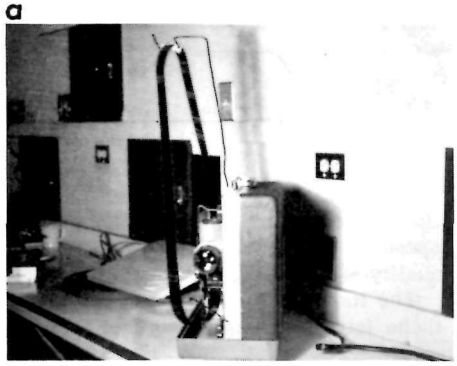
IMPROVED GUIDE FOR CONTINUOUS-SHOW FILMSTRIP (NPS SE 66-137)

A week of heavy use was about the life expectancy of filmstrip spliced to be shown continuously and used on a Dukane Auditorium Filmstrip Projector at Natchez Trace Parkway. Historian Robert R. Madden found that passage of the film over a plastic spool in a coat-hanger guide arrangement which had originally been rigged up was causing excessive wear.

Bob and Electrician Maynard M. Swinney devised and constructed the arm and 4-sprocket arrangement shown in the photos to eliminate the problem. Tension is important to successful operation. If the filmstrip is too tight, the film guide will be pulled away from the drive sprocket. This stops the advance of the filmstrip and puts the program out of synchronization. If the strip is not tight enough, it may jump off the sprockets. In photo B you can see the slot which permits tension adjustment.

About $12.00 covered the cost of materials and labor for a device which, Bob figures, about doubles the life of a filmstrip.

a



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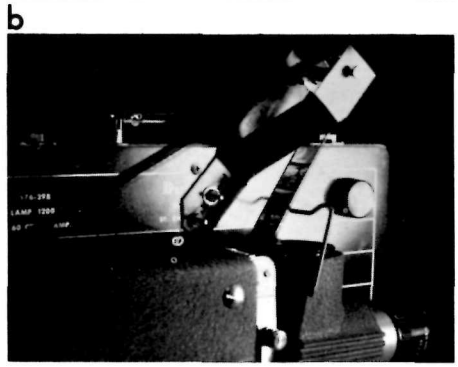

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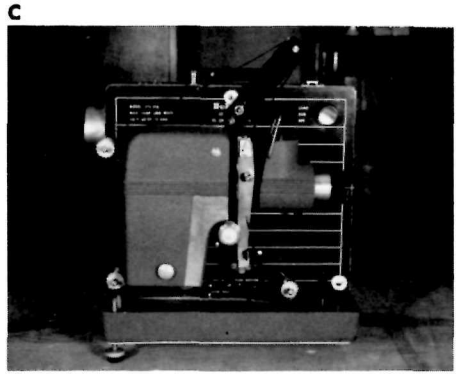
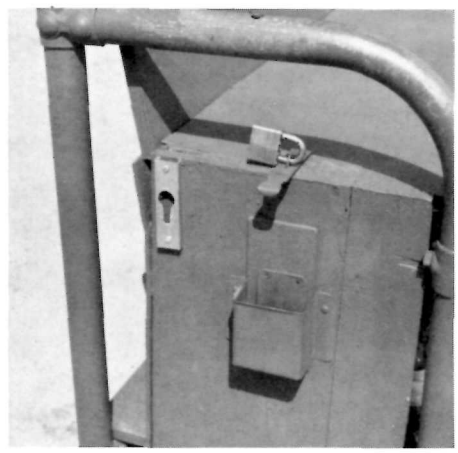
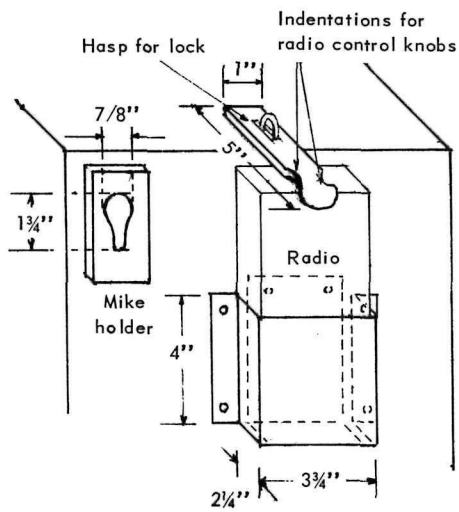


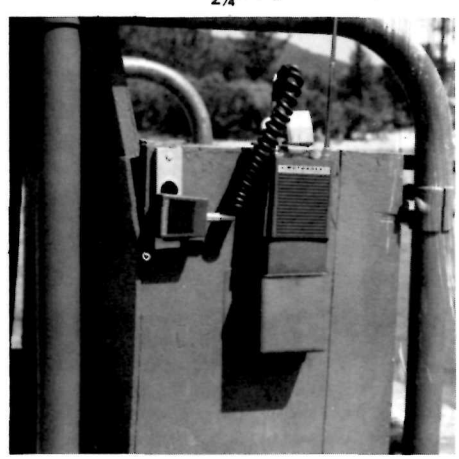
SAFEKEEPING FOR LIFEGUARD RADIOS (NPS W 67-42)

A handie-talkie radio is too expensive (about $600 each) to be left unprotected when a lifeguard must leave his stand. Herbert D. Cornell, supervisory park ranger and Tom Alexander, seasonal park ranger, Whiskeytown National Recreation Area designed the protective mounting shown here.

An open-top box in which the radio can sit and a mike holder are mounted on the right hand side of the lifeguard stand. A bar across the top of the radio and locked in place (see sketch) prevents removal of the radio.







DRY STORAGE IN A DAMP CAVERN (NPS SE 66-227)

Keeping first-aid equipment and emergency light dry in a cave presents special problems.

Park Guide Walter E. Hartz, Mammoth Cave National Park, found that coleman lanterns stored in the cave required constant maintenance and replacement every three years because of the 87 percent humidity. First aid materials such as bandages and gauze became moist. Maintenance and replacement costs for the ten stations where these items as well as splints, stretchers and oxygen bottles were kept were considerable.

An experiment was conducted in the cave in an effort to find a method of assuring that first aid materials would always be in usable condition and that emergency light would always be available. Two boxes, one of metal and the other of styrofoam were placed in the Mammoth Dome Area of the cave where humidity is highest. Dried bread was placed in each container. The boxes were closed and left in the cave for 12 days. Inspection showed that the bread in the styrofoam box had absorbed moisture, while that in the metal container was perfectly dry. The experiment was continued another 20 days when inspection again revealed that the bread in the metal container was as dry as when put there in March.

The metal box used was an obsolete 15"x 15"x 12" military ammunition container made of an aluminum alloy painted Navy gray. When closed it is hermetically sealed by a rubber grommet inside the lid, which is fastened down by four attached metal clamps. The box has two carrying handles and weights approximately 15 pounds when empty. It is designed to keep out moisture, and the experiment proved that it does.

Twenty of these boxes were obtained from the U.S. Army at Fort Knox, Ky. They were labeled to indicate use in emergencies only and furnished with the following items: 2 coleman lanterns, first aid items wrapped in cellophane bags, 1 set of new type (blow-up) splints, 2 oxygen bottles, six candles, matches, 2 generators and 2 mantels for the coleman lanterns, 1 coleman lantern wrench or pliers, and a screwdriver. To protect against moisture which might have been sealed in when opening and closing the container, a small bag of silica-gel was also placed in each box.

Walt also recommended that more stations be established so that the distance between them would be no more than half a mile. With parties of 400 visitors, it is essential in case of power failure that emergency light be provided as quickly as possible to avoid panic and accident. Speed of access to the emergency equipment and supplies and assurance that both will be in usable condition are of utmost importance. The added dividend of this dry storage suggestion is a considerable monetary saving.

INCINERATOR CAGE (NPS W 67-32)

You are not looking at a cage for wild beasts, unless, of course, your imagination will let you conjure up a flame breathing dragon instead of the load of trash that burns in this one every day.

From scrap pipe and surplus cyclone fence, Floyd C. Standlee, laborer, Craters of the Moon National Monument, built the cage. The hinges are made from oversize pipe and barn door hinges. The slanted pipe grate permits rapid clean-out, and the space below insures good draft. Wide gates, top and front, allow easy filling and emptying. Cyclone fencing allows air circulation and prevents burning material from escaping (pieces small enough to pass through the mesh are nearly all completely burned, with little or no fire hazard potential).

Because the cage is large enough to hold all the trash accumulated in one day at Craters of the Moon, crews are able to load the plastic-bagged material in one operation, dump it, light it, and leave it. There is no exposure to pressure can bursts because the men have left. The next day, when the material is cool, and just prior to reloading, the cage is cleaned.

FIREPLACE SAFETY IMPROVEMENT (NPS SE 65-162)

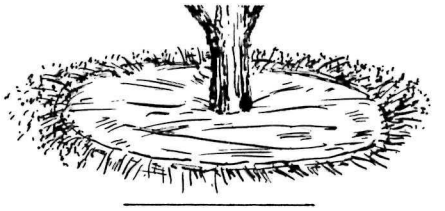
For the type of outdoor cooking unit mounted on a concrete base which is shown in the photo, William K. Holdaway, maintenance foreman, Bluff Maintenance Area, Blue Ridge Parkway, has a safety suggestion.

Those in use at Blue Ridge are hinged at the back and raise for easier cleaning and removal of ashes, but there is no handle for this purpose. Bill put a heat-proof spring-type handle or lifter on the left front corner. This not only reduces the possibility of burns, but makes it more likely that when the unit is being returned to working position after cleaning it will be lowered gently rather than being dropped, thus also reducing the chance that the concrete platform will be cracked.

PREVENT GRASS AND WEED GROWTH AT TREE TRUNK (NPS SE 67-12)

A clear polyethylene plastic sheet laid flat on the ground around a tree or shrub will keep grass and weeds from growing near the stem or trunk. This statement comes from Robert E. Jackson, Horseshoe Bend National Military Park.

Polyethylene may be kept in place by covering the outer edge with soil. The plastic will eliminate the need for costly hand weeding and trimming near the shrubbery.



The following is a partial listing of individuals who have received National Park Service suggestion awards to date. Following the listed awarded idea, you will find a page number if the idea was reported in this issue of PLOWBACK. Other listings cover awards for ideas of local application only. Awards information received after April 1969, will be reported or listed in subsequent issues of PLOWBACK.

Alexander, Tom (NPS W 67-42) Safekeeping for lifeguard radios. See p. Pl-14

Allen, Edward J. (NPS W 66-162) Two-way

hinged dump-bed tailgate. See p. PL-11.
Baker, Eunice T. (NPS MW 69-32) Printed letterhead in place of mimeographed.
Baker, William H. (NPS NC 68-82) Worthington Fiarway Mower modification.
Banias, John (NPS W 67-220) Rotating offset sign post. See p. PL-14.
Berry, Russell W., Jr. (NPS MW 68-75) Buzzer "warning" system.
Black, Donald M. (NPS W 67-210) Improved booklet dispenser. See p. PL-12.
Brummond, Erwin F. (NPS MW 69-38) Pipelines at marinas.
Budge, Darrell E. (NPS MW 69-61) Installation of load leveler-type shock absorbers on ambulances.
Burns, Hazel L. (NPS W 68-139) Routing and transmittal slip.
Carlson, Evelyn B. (NPS MW 69-57) Chemical fertilizer for ice removal.
Carrillo, Richard F. (NPS MW 68-14) Independent self-contained phone sys.
Casey, Albert E., Jr. (NPS SE 68-111) Garden hose nozzle for fire fighting.
Clark, Elaine R. (NPS SE 67-157) Women's uniform to be one color.
Collier, Lloyola F. (NPS NC 67-175) Picnic area for employees.
Cornell, Herbert D. (NPS W 67-42) Safekeeping of lifeguard radios. See p. PL-14.
Crabtree, Carole A. (NPS NC 69-7) Follow-up slips.
Crawford, Twila S. (NPS SW 69-27) Correspondence referral.
Crawford, Twila S. (NPS SW 69-28) File copy surname route stamp.
Cummingham, Charles C. (NPS W 69-90) Construction program forms.
Cummings, Gary M. (NPS NE 69-11) Carpet repair.
Daniel, Harlan F. (NPS MW 69-22) Life preserver rod for boat houses.
DeLashmutt, III, Harry A. (NPS SE 68-120) External floodlights for visitor center.
Drucker, Franz (NPS WO 68-25) Change in invoices for services.
Duckworth Darryl R. (NPS NC 68-82) Worthington Fiarway Mower modifications.
Edgar, Max E. (NPS MW 69-44) Radio beacons in snow clearing operations.
Edwards, James P. (NPS NC 69-18) First aid boxes.
Farrar, Glenn C. (NPS SE 68-2) Tire guard.
Fisher, Robert S. (NPS NC 68-69) Deceleration lane for GWMP.
Foster, Joseph E. (NPS W 68-159) Water alarm system.
Fox, Joyce (NPS SW 69-37) Organization chart.
Franklin, Imogene C. (NPS SW 69-20) Transmittal sheet.
Gaskill, Richard C. (NPS SE 67-140) Wall urinal for small boys.
Gillespie, Donald (NPS MW 66-36) See-through sign covers. See p. PL-13.
Gillespie, Donald F. (NPS MW 67-58) Simplification of paper work and statistical data.
Griffen, Vere (NPS SE 68-107) Adjusted check valve for water supply line.
Hartz, Walter E. (NPS SE 66-227) Dry storage in a damp cavern. See p. PL-15.
Hastings, Homer F. (NPS SW 69-23) Slide talk for NPS Golden Anniversary.
Hathaway, Arthur C. (NPS SW 66-79) Time-saver coin collection box. See p. PL-12.
Hite, Richard (NPS SE 68-107) Adjusted check valve for water supply line.
Holdaway, William K. (NPS SE 65-162) Fireplace safety improvement. See p. PL-15.
Holditch, Sidney W. (NPS SE 68-2) Tire guard.
Hope, James C. (NPS SE 66-148) Lawn mower crankshaft straightener. See p. PL-9.
Housenfluck, Earl L. (NPS NC 68-123) Direct lines between Greenbelt Substation and U.S.P.P. headquarters.
Hout, Paul A. (NPS SE 67-139) Dispense old descriptive folders to hospitals.
Howell, James W. (NPS W 68-115) List of flowers and shrubs for residences.
Hughes, David A. (NPS WO 67-11) Amend suggestion form 10-63.
Hunter, John D. (NPS NE 66-58) Ring alarm for a ring buoy. See p. PL-9.
Jackson, Robert D. (NPS SE 67-12) Plastic sheet for tree base. See p. PL-15.
Johnson, Einar L. (NPS W 69-17) Emergency stretcher for delivery vehicle.
King, Robert H. (NPS SW 67-2) Cleaner tank for cleaning fish. See p. PL-11.
Kiryakakis, James G. (NPS NE 69-13) Check list for preliminary and working drawings and item bid list.
Kreis, Weston P. (NPS SE 68-62) Mercury vapor lights for parking lot.
Kroo, Karl (NPS WO 69-15) Meeting on malfunctioning of mech. & elec. instal.
Madden, Robert R. (NPS SE 66-137) Improved guide for continuous-show filmstrip. See p. PL-14.
Mann, Marcelle (NPS SE 66-157) Pavement patching made easier. See p. PL-10.
Martin, Verva L. (NPS MW 68-92) Revision of GSA catalog listing.
Martin, William V. (NPS W 68-155) Fluorescent lights instead of incandescent.
Miller, Frank S. (NPS NC 69-45) Winterization of information booth.
Moore, Tracye A. (NPS SW 68-68) IBM microphones w/desk stands for mtgs.
Morehead, John M. (NPS MW 69-62) Red vests and orange caps for rangers in elk reduction operations.
Morgan, Carlisle I. (NPS NC 69-25) Safety improvements for intersection of Forrestville Rd. & Suitland Pkwy.
Morrow, Robert (NPS NE 68-125) Night light for rear of Government quarters.
Mullen, Robert B. (NPS NE 69-25) Arrows for parking lots.
Newby, Charles R. (NPS NC 69-10) New system for registration of campers.
Oskuie, Peggy (NPS. WASO 69-10) More clocks for cafeteria.
Paulits, Thomas J. (NPS NE 68-124) Outdoor drinking fountain.
Paulits, Thomas J. (NPS NE 69-28) Lock screws for windows.
Picco, Theodore L. (NPS W 68-75) Form paragraphs to answer inquiries.
Ponec, Carol (NPS MW 69-24) Change slip for personnel roster.
Pratt, E.J. (NPS SE 67-37) Chloride-of-lime mixture for cleaning headstones.
Pszyk, Michael (NPS W 66-118) Sign routing improvement. See p. PL-13.
Reynolds, Charles L. (NPS NE 69-6) Aluminum letters for entrance signs.
Robertson, Otis E. (NPS SE 67-30) Driver's test for transferees.
Schiffman, Saul W. (NPS SE 67-126) Paper fastener used to extract jammed slides in projectors.
Schmidt, Joseph R. (NPS NE 68-123) Seven day time switches.
Sloan, Martha M. (NPS MW 69-46) Avalanche rescue.
Smith, Michael T. (NPS W 69-36) Sign for audiovisual program.
Smith, Richard M. (NPS MW 68-25) Encouraging back country visitors to bring out unburnable refuse.
Sponsel, Arthur M. (NPS MW 69-25) Post safety danger signs.
Standlee, Floyd C. (NPS W 67-32) Incinerator cage. See p. PL-15.
Steadle, Barbara M. (NPS SW 69-29) Improved use of Xerox 914 copier.
Standlee, Floyd (NPS SW 66-79) Time-proved booklet dispenser, See p. PL-12.
Stebbing, Thomas A.E. (NPS NC 69-8) New form for auto shop.
Swinney, Maynard M. (NPS SE 66-137) Improved guide for continuous-show filmstrip. See p. PL-14.
Taylor, Floyd B. (NPS NC 69-24) "Safety First."
Thorn, Margaret J. (NPS MW 67-6) Owner's address on Golden Passports.
Trebell, Thomas (NPS SW 69-30) Burlap bags for water recovery of partially decomposed human bodies.
Trussel, Ronald (NPS W 67-220) Rotating offsett sign post. See p. PL-14.
Vaughn, Joseph E. (NPS MW 68-60) Revise Form 10-190.
Wanrow, Elden K. (NPS SW 67-210) Improved booklet dispenser, See p. PL-12.
Warnock, Douglas (NPS W 67-220) Rotating offset sign post. See p. PL-14.
Welch, Wayne E. (NPS MW 67-129) See-through sign covers. See p. PL-13.
Wells, Alice A. (NPS W 69-22) Public Law increases and wage board adjustments for WRO payroll and furlough employees to sent in at same time.
Wells, Alice A. (NPS W 69-29) Cost accounts be included on awards.
Whitt, Lloyd K. (NPS SE 66-161) Visual aids in recruiting at colleges.
Wilkins, A. Lee (NPS MW 67-68) Road broom maneuverability improved. See p. PL-10.
Wilkins, Keith M. (NPS SW 67-9) Plexiglas table saw guards. See p. PL-9.
Wilkins, Keith M. (NPS SW 67-11) Plexiglas guard. See. p. PL-9.
Wylie, Thomas C. (NPS W 69-81) "Bus-stop" bench at visitor center.