



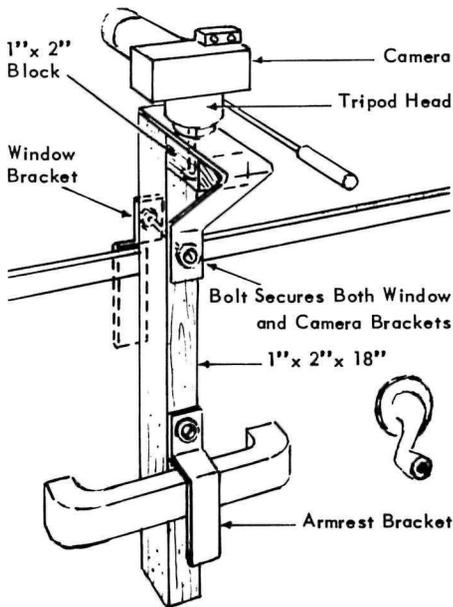
This publication is devoted to the reporting of time- and money-saving ideas originated by employees of the National Park Service. Each item herein has been rewarded through a cash

payment to the originator and each is intended for broad application wherever possible. Extended use of this material, strongly encouraged, makes awarded ideas of ever-greater value to the Service. -Ed.

AUTOMOBILE DOOR CAMERA TRIPOD

The naturalist—and others, too—who are interested in getting good, steady pictures from a vehicle will appreciate the advantages of using the automobile door camera tripod developed by Roland H. Wauer, Park Naturalist at Zion National Park. (NPS SW 63-67)

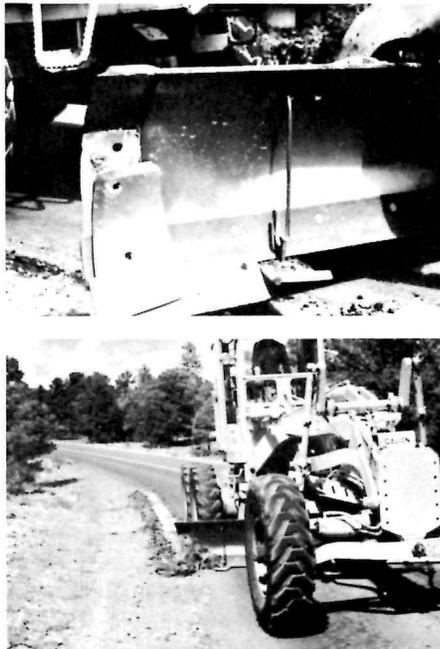
In telling of his invention, sketched below, Roland says "During the last three years that I have been using this tripod I have taken some very fine animal photos. The car itself seldom frightens the birds or mammals away, but acts as an excellent blind."



The tripod, constructed of an 18" piece of wood and a few pieces of metal, is easily put together and offers a fast, inexpensive method of holding a camera steady along roads. The actual tripod head can be purchased for as little as \$1.50 in most camera shops.

FASTER REPAIR OF OILED ROAD MAT EDGES

Repairing ravelled mat edges of oiled roads is usually a hand repair job and therefore expensive. Pervy R. Smith, Operator General, Grand Canyon National Park has eliminated the hand labor by devising an attachment which will let a grader do the cutting. (NPS SW 63-30).



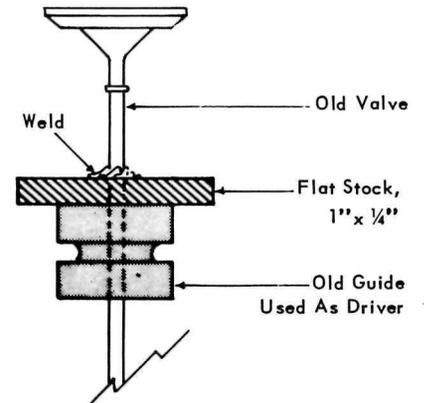
As shown in the pictures, an 18-inch long section of grader cutting edge is welded to another worn cutting edge and placed in position on the grader. A snow-plow skid shoe or similar heavy plate is positioned by means of a 3/4-inch bolt running from the shoe to the moldboard. The stone guard is dropped one hole space and re-bolted to insure stability. With the cutting edge resting on the mat and the skid shoe pressing, the blade addition will cut a 2-inch deep trench, straight and clean with sharp sides, a better job than is feasible with hand labor.

Tests have shown the costs of preparing mat edges for repair to be \$16 per tenth of a mile using hand labor, but only \$1.10 per tenth of a mile for grader and operator time, using Pervy's attachment.

TOOL FOR INSTALLING VALVE GUIDES IN ENGINE BLOCKS

Any automotive repair shop could benefit from using the tool and method now used at Yosemite National Park because of the suggestion made by Automotive Mechanic George A. Downes. (NPS W 63-55). George has already won an award, and we predict he'll be receiving thanks from many a mechanic who saves time and temper by using his system.

As George describes it: "Take on old valve from the job, and a piece of 1-inch by 1/4-inch flat stock two inches long. In this flat stock, drill a hole to fit the valve stem, in the center. Slip the valve through the hole and weld the valve to the piece of flat stock as illustrated in the accompanying sketch.



"Then take on old valve guide from the job and cut it to the desired length for the depth wanted. Slip this piece of the old valve guide on to the valve stem up against the piece of flat stock, slip on the new guide up against this old piece, and drive or press it into place."

"How do the beasts groan! The herds of cattle are perplexed, because they have no pasture; yea, the flocks of sheep are made desolate. O Lord, to thee will I cry: for the fire hath devoured the pastures of the wilderness, and the flame hath burned all the trees of the field."

Joel 1:18-19

BETTER BITE FOR LOADER BUCKET

It takes of big bang with the bucket to loosen up hard clay or gravel with a front end loader. Both the operator and the equipment take a beating in the process. So Truck Driver Vernon O. Robinson of Petrified Forest National Park decided to see what he could do about the problem—and came up with the idea of adding teeth to the sides of the bucket, an award-winning suggestion. (NPS/SW 63-72.)

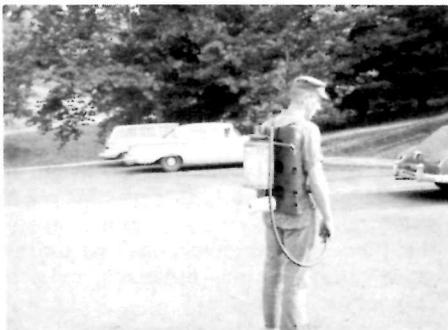


The teeth along the edge of the bucket are at the bottom as the loader approaches a bank and in hard clay they can only scale off a small load when moved upward by the operator. The side teeth added by Vern cut into the bank as the loader moves against it and thus make it far easier for the bucket to move upward and take a heavy bite.

The two teeth added on each side also act as "side boards" when material other than sand or dry gravel are being moved, thus increasing the size of the load held in the bucket.

IMPROVED SPRAYING PROCEDURE

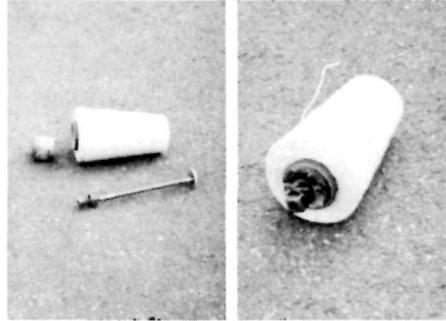
How can mounting a cone of string on a pack on a man's back save \$1,570 a year? Carroll L. Nichols, Seasonal Park Ranger in Shenandoah National Park, recently showed how it could be done and thereby won himself a cash award (NPS SE/RO 63-11).



The reason the mounting of a string supply on a man's back saved money is that until this was done an extra man had to go along to lay out the string to show where the next section of plant disease control spraying should begin—and the extra man's seasonal salary is \$1,570.

In controlling white pine blister rust, it is necessary to eliminate gooseberry bushes, and this is done by spraying. Past

practice has been for a team of sprayers, using backpack pumps, to systematically cover the area by following a guide string laid by a non-sprayer. As the crew lines up side by side to spray, the man at the end nearest the previously laid string follows it, the second man guides from the first, and so on down the line. On the end, a non-sprayer plays out a roll of string to mark the new limit of sprayed area. With Carroll's system, this man at the end sprays with the rest and the string is automatically laid out as he walks.



The photographs show how the string is mounted. A small wooden wheel, which can be cut from a 2x4, is inserted in the large end of the string cone. A 1/2-inch hole is bored in this wheel, and a 3/8- by 8-inch bolt inserted through it and the cone. A nut is then run on the bolt, the bolt inserted in a hole bored in the carrier rack, and a fastening nut placed on the bolt.



Using a couple of links of chain, one end is hooked over a strap near the top of the carrier and the other end provides a way of passing the string out with even tension at a height that is enough to clear small obstacles and to allow deer and small wildlife to pass under.

HOSE DRAINING DEVICE

To be sure that parkway pumper units are ready for emergency fire service in cold weather, all hose must be drained to prevent ice formation; but the time-consuming job of stretching out the hose and rewinding it to get the water out is such a nuisance that there is a tendency to take a chance when the temperature is not quite freezing and leave the water in. So Supervisory Park Ranger Robert W. Peters of Natchez Trace Parkway designed a small gadget which makes hose draining fast and easy. (NPS SER 63-41).

Bob's time-saver is made from a stand-

ard garden hose cap, two hose washers and a metal type tubeless tire valve. First, a hole is drilled in the cap large enough to accommodate the valve. After securing the valve in place in this hole, it may be necessary to enlarge the center of one hose washer so that it will fit down around the bottom of the valve on the inside of the hose cap. The other washer is placed on top of the first in order to form a good seal. The valve core should be removed in order to make air passage easier.

In order to use the device, it should be screwed onto the discharge end of the hose, the accessory outlet valve opened and the pressure relief valve drain petcock opened. Then air can easily be blown through the hose from a compressed air source that is used for inflating tires. This will quickly force the water from the hose and out through the opened valves. All the water in 200 feet of hose will be removed in about fifteen seconds, although air should be applied for at least two minutes to be sure all drops are out. The accessory outlet valve should be closed after the first thirty seconds, causing an increase in air pressure which will do a better job of forcing out the last of the water.

SAFETY GUIDE FOR TABLE SAW

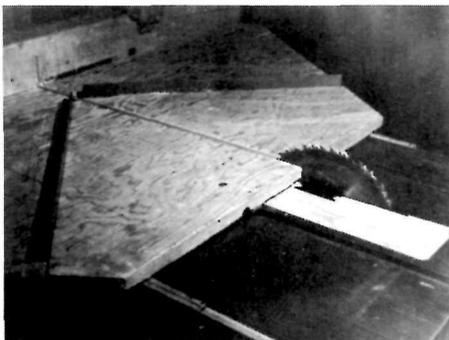
Scrap lumber and metals were used by John M. Moore, a carpenter at Mammoth Cave National Park, to construct the safety guide for a table saw which is pictured here. (NPS SER 63-84.) His safety guide is basically a slotted moving plywood table which rides over the smaller stationary metal table of the saw. The back edge of the safety guide, toward the operator, is made of 2 by 4-inch or heavier lumber, providing a sturdy hand hold.



The ball bearing runners on which the plywood safety guide moves are discarded desk drawer slides. To insure accuracy of position and movement, the plywood table

has on its underside a piece of metal bar stock positioned to ride in the guide slot of the metal saw table, and angle irons to ride on the desk drawer slides.

On the top surface of the guide table, at angles of 45 degrees to the saw cut, John routed a channel into which he can fasten pieces of angle iron to guide wood when angle cuts are desired.



Grief can take care of itself, but to get the full value of a joy you must have somebody to divide it with.
 —Mark Twain

FLATBED TRAILER AS MOBILE SPEAKERS' STAND

When Superintendent John O. Cook of Chickamauga-Chatanooga National Military Park saw that there were six Memorial dedications ahead on his schedule, each involving ceremonies with speakers who would need a platform, he got out his pencil and wrote down some figures, like this:

To construct the stand	\$150.00
To dismantle and reassemble (\$50 x 6 dedications)	\$300.00
Total	\$450.00



So he checked around and discovered that a trailer with a 5 by 12-foot platform would seat seven people nicely, would cost from \$5 to \$8 per day, and could be towed easily to any location in the park. That's when he suggested the use of the trailer instead of a platform, and won himself an award for the money-saving idea. (NPS/SER 63-81)

A local dealer generously supplied a trailer without cost for all six events, so John saved not \$400 to \$420, but the whole \$450.

PAMPHLET DISPENSER FOR SELF-GUIDING TRAIL

When a self-guiding trail begins near a Visitor Center or Information-Contact Station, guide booklets can be handed out by park personnel, who can explain the cost of the books and the need to provide them on a "borrow or buy" basis. But Bobby L. Crisman, Park Ranger, Montezuma Castle National Monument, was looking for a satisfactory way to dispense the pamphlets where park personnel are not normally stationed or where it is desirable to leave a trail open at times when personnel are off duty.

The photographs show Bobby's solution, which brought him an award (NPS/SW 63-36.)



The all-metal dispensing stand is made from a disc 15 inches in diameter, an upright support post of 1 1/4-inch pipe 38 1/2 inches high, a 3 1/2-inch square sheet metal coin compartment, and a top plate of 1/8-inch sheet metal welded to a 1/2-inch angle iron frame 19 3/4 by 14 inches. The top plate is welded to the small locked coin box shown in the second photograph, on top of the post. A slot is cut in the plate for inserting coins. The coin box should be provided with an inner

container to catch coins, such as a frozen juice can.

The booklet compartment on the plate is 7 by 7 inches deep and holds about 30 of the standard size (6 by 9 inches) NPS guide books. (Only about 8 or 10 are found necessary at Montezuma during unmanned hours.)

The signs are routed plastic and may be attached by glue, rivets or bolts. The color of the plastic for the signs, and for the paint used on the metal, should be chosen to fit in well with the surroundings.

The top plate is constructed so that it may be tilted to the best angle for maximum visibility at the location chosen.

SELF-DUMPING SYSTEM

Digging for fossils can become a major quarrying operation in such a place as Dinosaur National Monument, and Museum Technicians James R. Adams and Floyd H. Wilkins do a lot of rock moving. Recently they came up with a method for saving time, muscle and money by making a couple of chains do the job of emptying skiploads of rock which formerly had to be pushed and shovelled out by hand. (NPS/M 63-49)

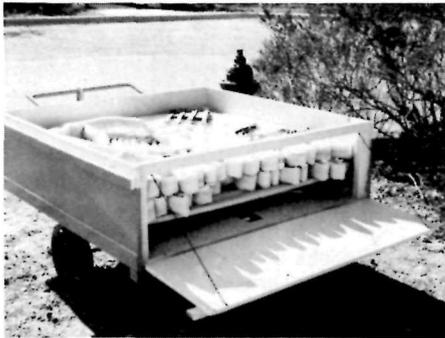
The "sterile over-burden" of rock is lowered from the quarry face on a hand-operated hoist platform boxed in on three sides by heavy steel mesh. This platform of skip is moved to the dumping location by a rolling crane. Jim and Floyd had a cross arm put on the steel uprights of the crane, and a brace on the cross arm. From the cross arm, they hung lengths of chain with hooks. When a skipload is brought to the dumping area, it is lowered almost to the point where the drop is to be made and then the hooks of the cross-arm chains are fastened underneath the platform near each end. Then the skip is lowered further, the extra chains tighten up and hold one side higher than the other, and the load slides off.



The two men formerly took half an hour to empty each skipload, but now the unloading is fast and almost automatic, saving a lot of manhours each week. With an estimate 17 or 18 more years of digging still ahead at Dinosaur, the total savings will be impressive.

FIRE HOSE HOUSE ON WHEELS

At Montezuma Castle National Monument, there are four major buildings to be protected against fire, and two fire hydrants within range of the buildings. The buildings are far enough apart so that an excessive amount of hose would be needed to reach to all of them from one hydrant; but there is really not enough need to have a hose house at each of the hydrants. So, not wanting a fixed hose house, Park Ranger Bobby L. Crisman designed a "mobile hose house" that can be quickly moved from one hydrant to the other yet serves as a semi-permanent outside hose storage place (NPS SW 63-37).



The cart, shown in the photographs, is relatively inexpensive to build. The box is made of plywood, 48 by 48 inches by 15 1/2 inches high (with 3/4-inch plywood on the sides and bottom, 1/4-inch on the top). The frame into which it fits is made of 1 1/2-inch angle iron, with half inch pipe used for the axle and handle. The top comes completely off and the back is hinged to drop down as a door. The hose feeds out the back when the cart is pulled with this door open. This back door is framed inside and weatherstripped to keep moisture out.

The top is also framed to fit down over the outside of the sides onto a 3/4-inch by 1 1/2-inch moulding and then edged with aluminum flashing to keep moisture from entering around the top. For greater durability, the top could be coated with fiberglass.

Two ventilation holes approximately 4-inches square should be cut in the bottom near the front and back, and screened.

A slat platform placed inside keeps the hose up off the floor about 4 inches to allow air to circulate around the hose and to prevent moisture damage in the event that a leak in the box should develop. The slats

are 3/4 by 1 1/2 inches and are spaced one inch apart. A strip at the front of this inside rack enables the hose to be folded so as to leave space between it and the front of the cart for air circulation.

The size of the box allows for up to 400 feet of 1 1/2-inch double jacket rubber-lined hose, spanner wrenches, nozzles, wire cutters, and repair sheathes.

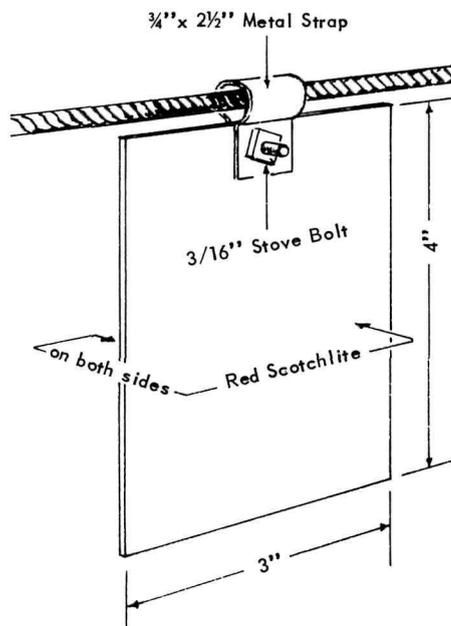
At the parking spot by one of the hydrants, two 4 by 4-inch posts are set in the ground the proper height to hold up the back of the cart; and either a notched board or a brace made out of half-inch rod with a U-bolt or short piece of angle iron welded on top of it is placed under the handle to hold up the front. The cart is then level and stable while the lid is thrown off, the back door dropped open and the hose attached; yet can be moved instantly by kicking the braces out from under the handle as the handle is grasped and the cart rolled forward.

A small chain holds the back door level with the bottom of the cart to make the hose feed better and to prevent the door from hitting the ground when bouncing over rough spots.

The wheels are 12-inches in diameter and are equipped with grease fittings.

SCOTCHLITE REFLECTOR FOR BARRICADE CHAIN

Because the glass reflectors often used on barricade chains and cables at closed entrances often get broken, John R. Miles, Jr., a Signmaker of the Bluff Maintenance



Area, Blue Ridge Parkway, suggests the use of less expensive reflectors made from scrap metal and corners of red Scotchlite tape not useable on parkway signs. (NPS SER 63-43).

John has made up a number of reflectors of 3 by 4-inch sheet metal, each with a mounting circle made from a 3/4 by 2 1/2-inch piece of metal scrap bent into a 1/2-inch circle and fastened to the reflector

with a stove bolt. The red Scotchlite is on both sides of the reflector, and if it is torn or scratched, the tape may easily be replaced without making a new reflector.

DEMOUNTABLE HEADLIGHTS

FOR SNOWPLOW

During the winter, many park dump trucks are used as snowplows, and for safe use at night or on dark days, must have headlights high enough above the plow blade to be seen by oncoming traffic and to help the truck driver see ahead. If mounted just above plow level, such lights often get covered with snow and therefore the best position is above the cab. James A. Sipe,



Maintenance Man at Craters of the Moon National Monument, noting that such high-mounted headlights become a nuisance in the summer when they may be damaged by tree limbs or by the scoops of motor shovels and loaders, suggests mounting them on one section of removable car-top carrier, as shown in the photograph. (NPSW 63-49).

Using Jim's method, you can mount the lights or take them off in a matter of a few minutes, and the carrier will fit just about any truck made. Even though such a carrier holds steady under very rough conditions, it can easily be moved to adjust the headlights in any way desired. Such a car carrier section can be purchased for about \$3.25, Jim reports.

POWERFUL POINTER LIGHT

FOR CYCLORAMA

The great Cyclorama at Gettysburg National Military Park comes to life with 80,000 watts of illumination. To call attention to specific individuals and features during lectures, a powerful pointer light was needed. None of the companies which provide such equipment could offer any lighted pointer giving enough light intensity to compete with all of those watts.

Superintendent James B. Myers reports that Electrician Clyde M. Hippensteel came through with a solution to the problem by designing and building a pointer light which meets their need very effectively. (NPS NE 63-5).

Clyde's concentrated light was constructed from the following parts: lamp holder, 300-watt projection lamp, lamp housing, lens and lens housing from a Viewlex Model V-44 film strip projector, a standard size lens from a Bell & Howell

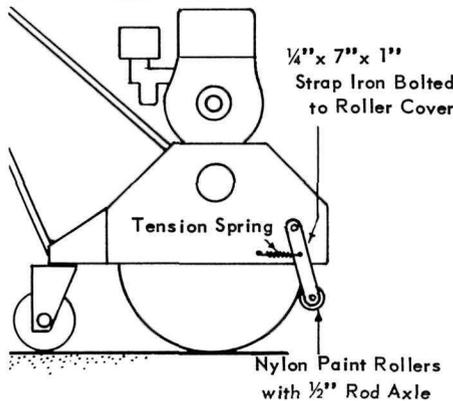
16mm. motion picture projector, a 7" E.F.L. f 3.5 size lens from a Buhl Optical Co. slide projector, a piece of paper tube, a toggle switch, a piece of power cord, two pieces of wood, eight screws, a piece of aluminum, a cable clamp, three wire nuts, and two large paper clamps.

The lamp and lens combination is compact, easy to operate, lightweight enough not to tire operators, and competes adequately with those 80,000 watts. The lack of a lamp-cooling motorized fan, usually required for projection lamps, has proved to be no problem as lectureers find they can turn current off and on often enough to prevent serious heat build-up.

ANTI-STICKING DEVICE FOR SMALL PAVEMENT ROLLER

The drum surface of a small (300 pound) power driven pavement roller must be kept lubricated to prevent hot bituminous material from sticking to the surface. There is not room on these small rollers to mount a water tank (of sufficient size to be effective) and cocoa mat device, such as is used on some larger rollers. So the small roller must be stopped at ten minute intervals and the drum surface wiped laboriously with an oily rag.

So it was at Shenandoah National Park until Leonard H. Pence, Laborer, constructed a device to abolish this hand operation. (NPS SER 63-36). By installing a nylon roller (made from three paint rollers) the job is now done mechanically.



The sketch shows the roller mounted on the drum cover with strap iron and a tension spring, so that the roller turns with the drum. Occasionally the roller is saturated with oil from a large squirt or spray type oil can.

Time saving of an hour a day adds up to about \$180 a year.

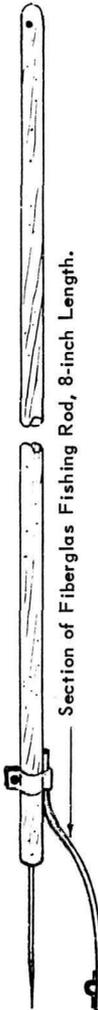
GREATER SAFETY WITH IMPROVED PAPER PICKER

Safety and convenience both were advanced when Frederick P. Ellis, a laborer on the George Washington Memorial Parkway, National Capital Region, designed an improvement for standard paper pickers which permits picking cans and bottles from shrubby beds and other hard-to-reach places. The excellent suggestion (NPS NCR 63-74) brought Fred a substantial cash award.

The improvement on the paper picker consists of a piece of spring steel or plastic 1/4-inch and 3 1/2-inches long fastened near the end of the picker as shown in the sketch. Either a hole-and-bolt or clamp method may be used to hold the flexible "finger" to the pole.

Three of the improved tools were made up and tested in Fred's area. They proved so good that now the Division of Facilities Maintenance is making up quantities of these can-grabbing pickers.

As Everett N. Sawyer, Acting Assistant Regional Chief of the Division of Horticultural Maintenance pointed out when passing the suggestion along, by using this stick many cans and bottles will be removed from shrubby beds and off banks which might not be reached otherwise, thereby improving park appearance. Many eye injuries and facial scratches which occur while reaching under bushes to remove cans and bottles will be prevented. And the work of the trash collector will be made pleasanter.



NO CAN LIFTING IN GILLESPIE

Time and muscle power are saved in the Gillespie Gap Sub-district of the Blue Ridge Parkway because Virgil J. McKinney, Maintenance Foreman, sug-



gested use of a lightweight wire insert for trash cans (shown in the photograph) and it is the inserts which are lifted out to empty the big cans. (NPS SER 63-15).

When the McKinney system is used, the can is bolted to a concrete post. The can top is hinged in place so that it can't be lost or left on the ground to be run over. The insert, made from No. 6 galvanized wire welded at all joints, is easy for one man to lift, whereas when full cans had to be lifted the weight required the muscle power of two men. Virgil found that the trash-burner-type inserts can be bought for \$1.98 each but that the tapered top rim of each one had to be cut down two inches at a cost of 43¢ in labor time, making each insert cost \$2.41. The cost was quickly saved in reduction of can-emptying time.

NEW SIGN MAKING TECHNIQUE

Robert Jack Badarasco, Chief Park Naturalist, Haleakala National Park, has received an award for his suggestion (NPS W 63-30) to use metal letter dies instead of routing to make redwood park signs.

Bob drew light guidelines on his redwood, gathered up some iron branding letters and figures which he found in the shop, and went to work with a heavy hammer. Since redwood is a relatively soft, fine-grained wood, he found that placing each letter die in the desired place and striking a couple of stout blows produced a good impression each time. (See photographs).

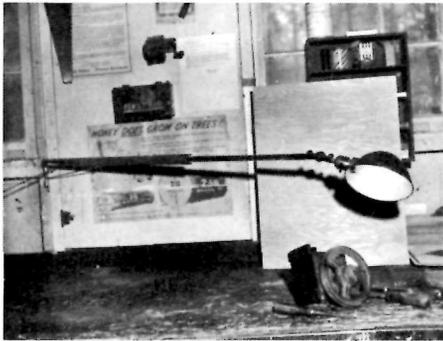


Although the branding letter dies were blunt-edged and crude, and the hammer blows uneven, the result was surprisingly good. However, Bob thinks a better product could be obtained if the dies were made of steel with sharp, V-shaped cutting edges and flat upper surfaces, and if uniform pressure were exerted with a screw-, lever-, or hydraulic-type press having sufficient mechanical advantage.

The technique is considerably faster than routing and thus could be a real money-saver.

BENCH LIGHT FROM SALVAGED PARTS

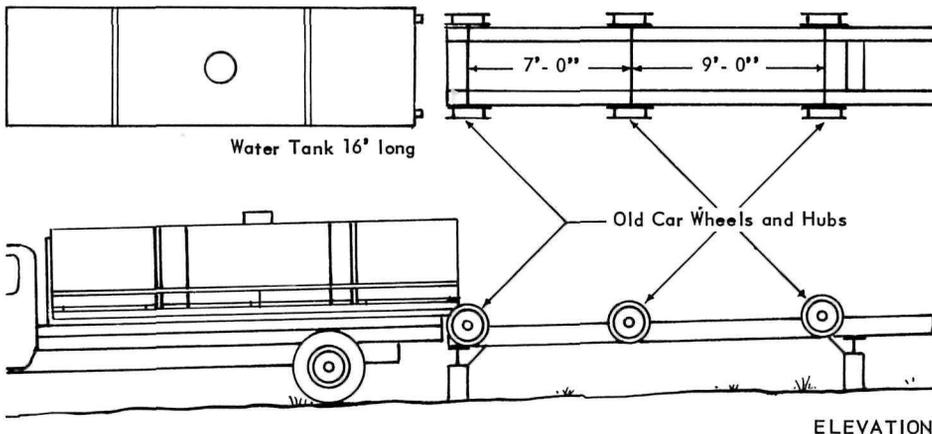
The metal channel from a discarded desk or file drawer can form the key part of a bench light which will swing back and forth, and extend or retract with great flexibility. John M. Moore, a carpenter at Mammoth Cave National Park modified a discarded old desk lamp by mounting it with such a channel hinged to the wall, as shown in the photographs, and finds that it makes a very useful shop accessory. (NPS SER 62-64).



The construction allows about a 180 degree swing and extension to about 3 1/2 feet. It took John about an hour to re-construct the lamp.

ROLLER RACK EASES TRUCK LOADING

To load and unload large water tanks or other similar heavy objects from trucks, James B. Dunker, Laborer Foreman at Badlands National Monument sug-



gests use of a rack such as the one pictured here, in use at Badlands for a couple of years. Such a rack can be adapted to fit most sizes of tanks or other equipment mounted on stringers. (NPS M 63-23).

The tank (or other assembly) is held in place on the rack by a chain. When loading onto the truck, this chain is released and the tank will easily roll onto the truck bed about a third of the way. The truck is then moved ahead until the back end of the tank stringer barely rests on the lead roller wheels of the rack. Then a pusher block is placed behind the tank or a holding chain put temporarily in place and the truck is backed under the tank, letting the stringers slide further onto the stake body. The truck is then moved ahead until



the tank rolls free of the rack wheels and is resting fully on the truck bed. At this point, one short backing of the truck will push the tank into hauling position on the truck.

To unload, the reverse procedure is applied, except that the truck must be jacked up or be backed onto movable blocks to gain elevation, to start the stringers onto the rollers.

The rack shown was built of 10-inch "I" beams and salvaged car axles, wheels and bearings. Jim points out that heavy wooden timbers could be substituted for the

"I" beams. The rack is constructed with a 2 1/2-inch slope, and the top level of the wheels to receive the stringers is set about 2 inches higher than an average 1 1/2-ton stake body truck bed.

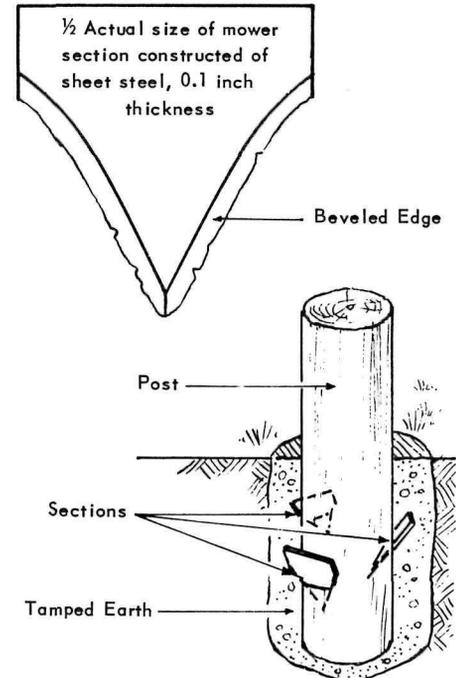
Most Forest Fires Can Be Prevented.

OLD MOWER BLADE

TEETH HOLD POSTS

Putting salvaged items to good use is an old National Park Service tradition, and Park Ranger James P. Fleetwood of the Natchez Trace Parkway recently won himself an award for thinking of a good way to use those discarded old mower blade teeth—sharpened pieces of triangular sheet steel. (NPS SER 63-37).

As the sketch shows, Jim has the sections driven into wood posts at an angle, near the bottom, before the posts are put into the ground. After earth is tamped down around the posts, the projecting sections hold the posts down much tighter than spikes or wooden blocks would do it. It takes only three of the discarded teeth to hold a post in place firmly, and they are easy to drive into almost any kind of wood.

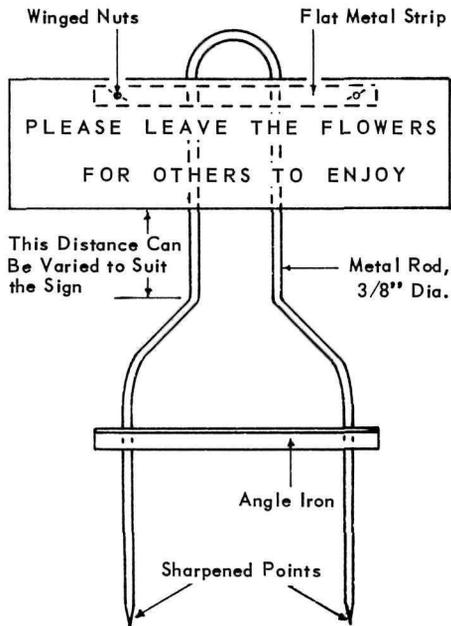


Vandals, or people who want to pull up sign posts or to move illegal access posts in order to get into forbidden territory will be mighty discouraged when they try their tricks where Jim's system has been used.

MODERN TEMPORARY SIGN POST

James E. Jones, District Ranger, Blue Ridge Parkway has designed a simple, sturdy, and easily installed temporary signpost (see sketch) on which to mount such signs as "Please Leave the Flowers", "Fire Danger", "No Parking During Weekend", and others which must often be moved. (NPS SER 63-42).

The post is constructed from a 3/8-inch metal rod bent to the shape shown, a short section of angle iron, and a piece of flat metal to which a standard wooden sign can be attached with bolts.



The ends of the metal rod are sharpened to points, and the post is forced into the ground by foot pressure on the angle iron which also serves as a ground stop.

PRECAUTION AGAINST UNDER-THE-HOOD FIRE

If you have any pre-1959 vehicles in service, you might well take a safety suggestion made by John V. Reed, Mechanic, and Lawrence E. White, Clerk, of Blue Ridge Parkway. After two instances of damage to vehicles (with 12 volt ignition systems) by generator overcharging, John and Larry were impressed with the fact that somebody might have been seriously hurt and the vehicles destroyed. As a precautionary measure, they installed a special type fuse designed to blow out when a malfunction of generator or voltage regulator occurs. Fuses were placed on the "B" terminals of the voltage regulators. (NPS SE/RO 63-14)

FIFTY CIRCLED FLAGS AT HALFMAST

Getting fifty flags all even when official mourning required halfmasting used to be a "guess and by golly" task, the results of which sometimes brought snide remarks from visitors to the Washington Monument in the District of Columbia.

That was before Oscar C. Livingston, Horticulturist, National Capital Region made his suggestion (NPS NCR 63-58). Now each of the flag poles at the base of the Monument has a mark midway which enables park personnel to put each flag at exactly the same height when halfmast position is wanted. This not only saves time, but eliminates the visitor complaints.

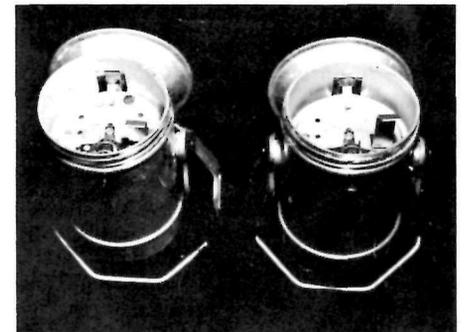
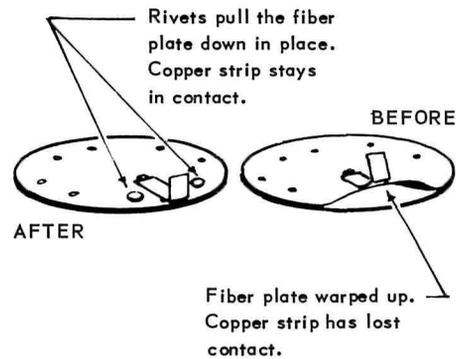
If the Army takes over the flag raising as a ceremony, as provided in a bill which is before Congress as this is written, the soldiers performing the duty will find halfmasting easier than usual because of Oscar's idea.

While he was thinking about the flags, Oscar also came up with a suggestion to use improved halyard snaps. He noted that the old type caused trouble by freezing in winter and getting clogged with debris at other times, frequently requiring the service of a truck with thirty-foot ladder and two men to get the halyards loose. Oscar made a tour of hardware stores, found the improved snaps, and arranged to have them stocked by NPS.



IMPROVING ELECTRIC LANTERNS FOR DAMP CAVE SERVICE

The sturdy Ecolite electric lantern, much used in parks and in railroad service, was found to have one weakness in the very damp conditions of Mammoth Cave National Park. The dampness (87% humidity) caused the fiber insulation plate at the top of the interior of the lantern to warp, and the resulting bulge separated the front contacts so that the light would not go on. With some 400 of the lanterns in use, many being in the hands of inexperienced visitors, personnel at Mammoth Cave needed to have this problem corrected for safety reasons. Park Guide William L. Hunt came through with a suggestion which has taken care of the matter nicely (NPS SER 63-46).



Using Bill's suggestion, the maintenance man drills two holes through the fiber plate and the aluminum plate underneath it (being careful to avoid the busbar connections underneath), pulls the fiber plate down and fastens it in place permanently by inserting two rivets and bradding them. The adoption of this suggestion has approximately doubled the service life formerly recorded for the Ecolite lanterns at Mammoth Cave. (The lantern is designated as Catalog No. 101, Economy Electric Lantern Co., Sturgeon Bay, Wisconsin).

In the United States the best of our natural scenery and our most interesting scientific and historic places are retained in public ownership, for the benefit and use of all the people. In the Old World, before our national park idea was imported there, the reverse condition obtained.

-Isabelle F. Story

STATIC CAUSES DIRTY REST ROOMS

Raymond J. Barteau, Caretaker of the Painted Desert Visitor Center, Petrified Forest National Park, probably deserves the title of "Amateur Detective" as well as Award Winner for his suggestion NPS/SW 63-42. To make the suggestion, he had to puzzle out what had caused the trouble he was faced with—strange black staining on all the toilet seats of the restrooms. The staining had not been noticed in warm weather, but as soon as the heating plant was operating, the black marks began to appear, and nobody knew why.

At first, there was a suspicion that some cleaning agent in use had reacted unfavorably with the plastic surface of the toilet seats, causing the black stains to develop. Study showed, however, that for some reason the seats used by women showed far more staining than those used by men, and therefore Raymond figured out that nylon and rayon garments, rubbed against the plastic were setting up a static charge which attracted dust—in this case fine soot particles—and these black dust particles were causing the peculiar staining.

Using an anti-static cleaning compound which was provided by the Western Museum Laboratory for use on plexiglass exhibits, Raymond found that the seats could be kept in the desired sparkling clean condition. The cleaner used is known as an emulsified bacteriostatic liquid cleaner and is produced by James Varley & Sons, Inc., distributed by Paul Koss Supply Co., 900 Folsom Street, San Francisco, California.

The following is a partial listing of individuals who have received National Park Service suggestion awards to date. Following the listed award 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 August 1, 1963 will be reported or listed in subsequent issues of PLOWBACK.

Adams, James R. and Wilkins, Floyd H. (NPS/M 63-49) Self-Dumping System. See p. 11.

Albright, Virginia S. (NPS/NCR 63-72) Change type of telephone directory.

Badaracco, Robert Jack (NPS/W 63-30) New Sign Making Technique. See p. 13.

Barteau, Raymond J. (NPS/SW 63-42) Static Causes Dirty Restrooms. See p. 16.

Bentley, James L. (NPS/W 63-33) Animal Proof Garbage Can. See Vol. 6, No. 6.

Bishop, Norman A. (NPS/M 63-40) Cut Side-Glare from Snow. See Vol. 6, No. 6.

Black, Donald M. (NPS/SER 63-50) New Use for an Old Lid. See Vol. 7, No. 2.

Boenesh, Fred (NPS/EO 63-6) Another glass door.

Boucher, Jack E. (NPS 63-28) Plastic Page Holds Slides. See Vol. 7, No. 2.

Bradberry, Freeman M. (NPS/NCR 62-70) Automatic dialing device.

Clancy, James N. (NPS/SW 63-31) Discouraging theft from display cases.

Cleary, Vincent W. (NPS/NCR 62-51) Language training at no cost.

Conlon, Edwin S. (NPS/NCR 63-71) Comfort station facilities open full time.

Cook, John O. (NPS/SER 63-81) Flatbed Trailer as Mobile Speaker's Stand. See p. 11.

Cook, Milford M. (NPS/W 63-34) Washing Machine for Paint Brushes. See Vol. 6, No. 6.

Cook, Milford M. (NPS/W 63-32) Can Smasher. See Vol. 6, No. 2.

Crisman, Bobby L. (NPS/SW 63-36) Pamphlet Dispenser for Self-Guiding Trail. See p. 11.

Crisman, Bobby L. (NPS/SW 63-37) Fire Hose House on Wheels. See p. 12.

DeMoss, Everett (NPS/W 63-35) Pack Saddle Boxes for 5-Gallon Cans. See Vol. 6, No. 2.

Downes, George A. (NPS/W 63-55) Tool for Installing Valve Guide in Engine Blocks. See p. 9.

Dunker, James B. (NPS/W 63-23) Roller Rack Eases Truck Loading. See p. 14.

Dunning, J. L. (NPS/WO 63-20) Contract drawings are rolled for shipment.

Ellis, Frederick P. (NPS/NCR 63-74) Greater Safety with Improved Paper Picker. See p. 13.

Fleetwood, James P. (NPS/SER 63-37) Old Mower Blade Teeth Hold Posts. See p. 14.

Greer, Marie F. (NPS/SER 63-55) Leaflet made available with additional information.

Gumm, Ruth M. and Williams, Constance B. (NPS 63-22) Methods for saving typists' time.

Gwyn, Charles E. (NPS/NCR 62-71) Identification cards bearing photographs.

Havluy, Fern A. (NPS/M 63-32) Mimeograph the bulk of Memoranda of Agreement.

Hippensteel, Clyde M. (NPS/NE 63-5) Powerful Pointer Light for Cyclorama. See p. 12.

Hunt, Herbert W., Jr. (NPS/SW 62-28) Boundary Signs. See Vol. 7, No. 3.

Hunt, William L. (NPS/SER 63-46) Improving Electric Lanterns for Damp Cave Service. See p. 15.

Jones, Howard B. (NPS/WO 63-1) Improve printing & collation of specifications.

Jones, James E. (NPS/SER 63-42) Modern Temporary Sign Post. See p. 14.

Keranen, Joe A. (NPS/NCR 63-50) Preparation of detailed drawings of most accident-prone intersections in NCR.

Lange, Walter W. (NPS/NCR 63-66) Traffic Regulation by Portable Light. See Vol. 6, No. 6.

Light, Richard J. (NPS/NCR 63-65) Form for notifying time & attendance clerks of corrections.

Livingston, Oscar C. (NPS/NCR 63-59) Fifty Circled Flags at Halfmast. See p. 15.

Livingston, Oscar C. (NPS/NCR 63-59) Installation of different type of halyard snap. Included with above. See p. 15.

Magda, Stephanie (NPS/NE 63-6) Independence foreign language folders be printed in different colors.

May, Charles V. (NPS/W 63-36) Relief from Heat. See Vol. 6, No. 6.

McCullough, Dorothy E. (NPS/SW 63-32) Adoption by field areas of condensed version of CPH.

McKinney, Virgil J. (NPS/SER 63-15) No Can Lifting in Gillespie. See p. 13.

Miles, John R. (NPS/SER 63-43) Scotchlite Reflector for Barricade Chain. See p. 12.

Moore, John M. (NPS/SER 63-84) Safety Guide for Table Saw. See p. 10.

Moore, John M. (NPS/SER 62-64) Bench Light from Salvaged Parts. See p. 14.

Negus, Herbert (NPS/NCR 63-64) Lowering sign to eye-level.

Nelligan, Murray H. (NPS/NE 63-11) Conventional electric sign.

Nichols, Carroll L. (NPS/SER 63-11) Improved Spraying Procedure. See p. 10.

Ortiz, Stella (NPS/SW 63-18) Installation of buzzers.

Patton, Millis P. (NPS/ 59-60) Form for nomination of valor awards.

Pence, Leonard H. (NPS/SER 63-36) Anti-Sticking Device for Small Pavement Roller. See p. 13.

Peters, Robert W. (NPS/SER 63-41) Hose Draining Device. See p. 10.

Petrella, Michael L. (NPS/NCR 63-51) Erection of wall or fence at seawall.

Qualls, Albert P. (NPS/NCR 62-49) Use of xerox copier.

Redmond, James J. (NPS/NCR 63-25) The Government Personnel System.

Reed, John V. and White, Lawrence (NPS/SER 63-14) Precaution Against Under-the-Hood Fire. See p. 15.

Richey, Charles A. (NPS/SW 63-39) Lake Mead Litter Carts. See Vol. 6, No. 2.

Robinson, Vernon O. (NPS/SW 63-72) Better Bite for Loader Bucket. See p. 10.

Sanders, Claude (NPS/W 63-31) Culvert Prot. & Thawing Dev. See Vol. 6, No. 2.

Saylor, William H. (NPS/SER 63-28) New Mail Rack.

Sipe, James A. (NPS/W 63-49) Demountable Headlights for Snowplow. See p. 12.

Sleznick, James, Jr. (NPS/SW 63-34) Transp. for carrying 5-gal. cans of gas.

Smathers, Garrett A. (NPS/W 63-39) Symbol Marker.

Smith, Pervy R. (NPS/SW 63-30) Faster Repair of Oiled Road Mat Edges. See p. 9.

Sondket, Adolph L. (NPS/M 63-33) Placing appropriate exit signs.

Stewart, Eleanore L. (NPS/W 63-52) Improving correspondence procedure.

Swartz, Paul C. (NPS/NCR 62-40) Form for recording repairs and pres. treatment.

Wauer, Roland H. (NPS/SW 63-67) Auto Door Camera Tripod. See p. 9.