

MAY 1964

NUMBER 2

TEN CANDLES ON INCENTIVE AWARDS PROGRAM BIRTHDAY CAKE

On November 30, 1964, the Government's incentive awards program will be 10 years old. Long past its infancy, the program has already produced more than 818,000 adopted suggestions representing \$584,000,000 in measurable benefits.

However, as the President recently stated, "We cannot rest on past accomplishments...we must work hard to reduce the costs of Government, not only for the sake of the savings to be made, but also in the interest of vindicating the people's confidence in the institutions of democracy." The Secretary of the Interior responded to that

challenge by assuring the President that "every official and employee will be willing and will be given the opportunity to make his contribution toward the objectives which you have outlined." The incentive awards program is an opportunity to make contributions, and the Director of the National Park Service has urged all employees to "use your imagination and creative abilities to further the national aim of better, more efficient, and more economical Government activities. Every supervisor must assume full responsibility for making the incentive awards program work in the National Park Service."

We need good ideas. We need them now. Ask your supervisor to help you write your suggestions and send them forward for consideration. You may win an award. Better still, you will have the personal satisfaction of seeing your idea at work for your Government.



HELISPOT MARKERS

When a forest fire is raging, every minute counts for every worker, and this is particularly true for the helicopter pilot, who shouldn't have to waste precious time looking for helispots (landing spots) that are not well marked and identified.

Jerry B. Chilton, Fire Control Aid, Yosemite National Park, has come up with an award-winning suggestion (NPS W 64-33) for positive identification of the helispot designated for use and a clearly visible means of marking it.



A twelve yard roll of white oilcloth is marked off in three-foot squares. On each of the squares, a two-foot high

number (using numbers one to twelve) is painted in red fluorescent paint. The roll can easily be stored and the squares cut from it as needed.

Placed at the helispot and held down by rocks a square is clearly visible from the air and leaves no doubt in the pilot's mind about its being the right one.

EASIER SIGN REFINISHING

Much elbow grease can be saved by following the suggestion (NPS MW 64-44) of G. L. Turney, Sign Maker Helper, at Grand Teton National Park, for removing old paint and reflective beads from routed signs. Here's his system:

1. Lay the sign flat, with routed side up. Using a small pump type oil can, fill the routed letters with lacquer thinner. (Four ounces of thinner will treat about forty six-inch letters.)
2. Immediately cover the treated area with scraps of masonite or plywood and allow to stand overnight.
3. In the morning the old paint will be very soft and can easily be scraped off, at about a 75% saving of labor cost.

The thinner evaporates completely, leaving nothing to shorten the life of the sign. There is no danger of chipping or charring as in other methods; and letters come out clean and smooth, ready for a like-new refinishing job.

EVER-READY ONE-MAN TRAFFIC CONTROL KIT

One man can quickly and easily control traffic and take care of other necessary matters at the scene of an accident or road block until help arrives, with the aid of a kit suggested by Frank E. Hastings, Park Ranger, Grand Canyon National Park (NPS SW 64-11).

Take, or make, two portable signs (such as the usual MEN WORKING type shown on page 22 of the Sargent-Sowell catalogue) and have a sign shop reface and letter one side of each with the legend: STOP—wait for flagman. (See photograph).



Frank says they have found that white lettering on a red background is most readable. Provide two signs for each kit; one for each end of the blocked road. Also in each kit include two flags and two red lights.

FIREFINDER IMPROVEMENT

"Smoke or cloud?" the watcher asks himself. The answer is hard to find when the fire lookout station covers a vast area, and particularly if that area is cut by many deep canyons. Clouds and smoke coming out of the canyons are difficult to distinguish, and it is sometimes almost impossible to pinpoint the base of smoke (if smoke it is).

Chief Ranger Jack J. Wade, Mesa Verde National Park has been experimenting for a number of years with means of improving the methods of locating fire. He found his answer in a variable power (upto 50X) spotting scope mounted directly on the firefinder (see photograph). (Suggestion NPS SW 64-23).



The scope is oriented directly with the finder so that when the base of a smoke is in the scope the correct reading is given automatically.

The scope Jack used cost about \$75 at Montgomery Ward & Company.

"COME IN, K9-1"

The Dog Patrol Unit of the National Park Service, National Capital Region now has its own permanent call signal—"K9-1", appropriately enough.

This was the suggestion (NPS NCR 64-12) of Pvt. Carl C. Thomas of the U. S. Park Police. Carl sought to eliminate the confusion between calls from regular beat and Dog Patrol cruisers. Although the Dog Patrol is usually assigned only to special problems, until Carl came along with his idea the officer had to use the regular NCR call number of the cruiser, as for instance, "Car 20".

Now, even without a bark, all listeners know it's the canines calling.

SEALING CAR TRUNKS

To keep souvenir collectors from making off with large size "samples" of petrified wood, the people at Petrified Forest National Park seal car trunks and camper trailers when visitors enter.

The method first used (shown in the first photograph) was to place the seal so that it crossed a juncture point of the lid (or door) and body of the vehicle, so that the lid (or door) could not be opened without breaking the seal or removing it. This meant placing the seal on painted

surfaces. There were visitor complaints about damage to the paint when the seals were removed, and there was even one law suit.

Roland F. Nagel, Park Ranger, won an award for his suggestion (NPS SW 64-17) that the seal be placed on the trunk or door-lock (see second photograph) instead of on the body. This way the tape is placed on a chrome or steel surface which will not be damaged by the tape. Another advantage is that less tape is needed. The old method required about 4 inches and the new method about 1/2 an inch.



The same tape is used, Minnesota Mining and Manufacturing Company, Scotch Brand Label, Stock #7005, 1 inch wide, unprinted. One source is Universal Label Printers, 1531 So. Sunol Drive, Los Angeles 23, California. The price is about \$2.70 for a 360-inch roll.

EYES IN THE SKIES

Each weekday, provided the weather is reasonably good, a helicopter flies above main traffic arteries during the morning and evening rush hours in the Washington, D.C. area. A Metropolitan Police Sergeant broadcasts information from the helicopter to the general public via Radio Station WMAL and to police cruisers serving the area. Accidents or other causes of traffic delay are quickly spotted so that they may be cleared up. Motorists are directed to routes where traffic is least congested.

In addition to the various streets and highways served by regular Metropolitan or adjacent county police patrols, Washington has an extensive series of streets and highways within the National Capital Parks system and adjacent National Park Service parkways under the control of the National Park Police. The radiofrequency of the Park Police equipment is different than that of the Metropolitan police, and until Sgt. Nick L. Prencipe thought of putting a National Park Service mobile unit aboard the helicopter for two-way communication, the Park Police could only talk with the helicopter by relay.

Now Sgt. Nick has been rewarded for his suggestion (NPS NCR 63-20), and the Park Police benefit daily from the ability to keep in touch with the "eyes in the skies." Traffic moves better, and lawbreakers have less chance of getting away by using park routes.

REMOTE CONTROL SIGN ROTATION

At Mesa Verde National Park the entrance station is so situated that at peak hours traffic backed up and impeded movement of vehicles on a highway. It became necessary at these periods to have two cash registers and run two lanes of traffic through the entrance. Continuing study of the situation showed that traffic flow could be further expedited if day visitors and those using the Lodge were directed into one lane and campers, to whom directions and explanations often had to be given, were in a separate lane. This was accomplished with a double-faced sign. At times when traffic could be handled by one cashier, vehicles coming into the park were directed by a sign to "Use center lane". At peak periods a ranger walked about 100 yards and turned the sign around so that it read "Campers use right lane".



Chief Park Ranger Jack J. Wade decided efficiency of the station could be further improved by the installation of a TV antenna rotator to reverse the double-faced sign by remote control when conditions call for it. The only special material used was heavier three-conductor wire required because of the distance between the control unit and the rotator. Cost of the installation was \$75. (NPS SW 64-22).

ELECTROCUTED? IT COULD BE YOU!

Every day each of us comes in contact with a potential killer—any one of the electric devices that are so much a part of our lives: lights, radios and TVs, machines, and all sorts of gadgets. Yet how many of us know the conditions which make killers of these devices?

Foreman Charles B. Barnhill, National Park Service, National Capital Region, has a deep concern for his fellow workers who are uninformed about the amount of voltage and amperage which will kill a person and the conditions under which it can happen. He would like to see strong safety campaigns conducted to inform workers of the hazards of electric equipment and encourage all to leave electrical repairs to the electrician. Chuck's suggestion (NPS NCR 64-6) would have the campaign begin with the electricians themselves and then go on to other park employees. Here are some statements he suggests putting on paper to circulate among all employees

as a "discussion-starter" for meetings to be held in the various shops.

SHOP

Standup Meeting for _____,
the _____ of _____, 19____

Today we will talk about shock hazard, or, to be brutally frank—ELECTROCUTION! Electricians usually regard 110 volts as minor or harmless, but the fact is that many workers are killed by 110 volts. They can be killed by less.

The amount of current flowing in a circuit is not the killer; it is the amount of current that flows through the body that kills. Only 46 volts have forced a killing amount of current through a person. That is the least amount of voltage known to have done so.

Ten thousand volts will not kill if the current or amps are sufficiently low; nor will 110,000 volts with sufficiently low amps kill one, but a mere 46, or that so-called "harmless" 110 volts, will drive a killing amperage through one's body if the two connections to the body are right. That is why people often get the killing jolt when standing in a bathtub.

Sweaty, salty hands and sweaty, salty shoes and socks are just-right conditions to head you for the ELECTROCUTION news. All you need to do now is to stand on a thoroughly wet surface or in a puddle and take hold of the wrong wire, or electrical gadget, or piece of equipment. Just how wet?—just how much wire in the hand will enable the 110 volts to drive a killing current through your body? Chancing it may get you somewhere—DEAD!

THE AMOUNT OF CURRENT USED BY A 5 OR 10-WATT LIGHT BULB IS MORE THAN ENOUGH TO KILL YOU! At 115 volts a 100-watt light bulb pulls 900 milliamperes of current; a 10-watt bulb pulls 90 milliamperes; and a 5-watt bulb pulls 50.

Should you be standing or sitting on a grounded metal surface wearing sweaty, damp clothes and grasp a live 115-volt circuit, whether it is a well-grounded machine or a bare line—be sure your insurance is paid up. If your wife doesn't miss you, she will surely appreciate the money.

DOUBLE DUTY SIGNS

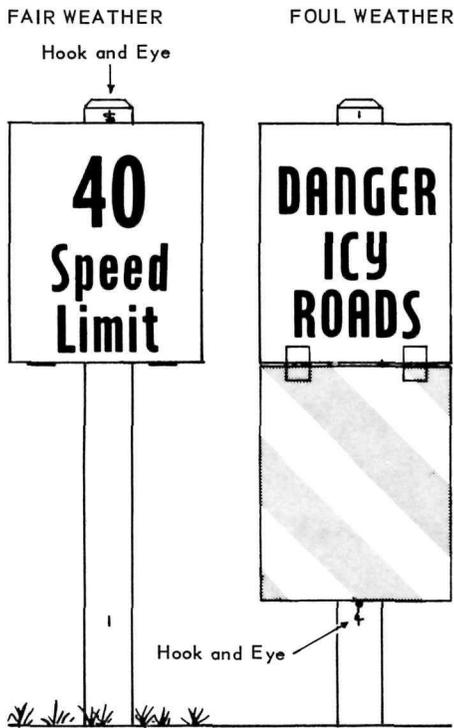
In many parks special purpose road signs are stored, distributed when and where needed, then gathered up and returned to storage when the special need has passed.

Earl L. McLane, Horticulturist, National Park Service, National Capital Region suggests two hinged signs as shown in the sketch (NPS NCR 63-57).

In bad weather the speed limit or radar sign can be unhooked and dropped (being hinged to the sign beneath) revealing the special purpose sign.

The wording shown here is, "Danger—

Icy Roads". It might be "Hazardous Road Conditions", making it applicable to wet slippery roads as well.



SWING THAT SIGN!

"For multi-purpose or intermittently used signs such as STOP signs at entrance stations, or SCHOOL signs used when school is in session, I recommend the use of a swinging sign with base in a permanent position," writes Lester L. Womack, Park Ranger in Grand Canyon National Park. His suggestion won an award as NPS No. SW-64-4).



As Lester explained: "In the past, signs of this type were mounted on heavy bases and moved in or out of position as needed.

Such signs took a lot of punishment. They were knocked over by passing vehicles, blown over by the wind, dropped by personnel in moving, frozen in place in winter, and had to be replaced frequently." By mounting such a sign in a permanent base and swinging it into place when needed, these hazards can be eliminated, as he pointed out.

Construction of the swinging-type sign is simple. Black iron pipe and fittings are used throughout in Lester's design. The accompanying photographs tell the story. Note that the base is set in concrete to prevent movement. Note also that where vandalism is a problem, the lower stem may be drilled along with the base, then a pin may be inserted and locked in place to hold the sign in the position desired.

In addition to suggesting the type of sign that swings around on an upright pipe base, Lester also sent photographs indicating that a "flop over" sign may be used in some locations. Such a sign has pivots in the center of each side, and moves within a metal frame, as shown.



"HOLD-ALL" STORAGE ARM-REST

Pvt. Thomas K. Baber, National Park Service, National Capital Region (U. S. Park Police), suggests that scout cars be equipped with a storage compartment arm-rest such as the "Hold-All" unit which he purchased for \$2 at a local outlet. (NPS NCR 63-79).

Now Tom has right where he needs them all the tools of his trade (traffic violation books, pens, pencils) and personal effects, such as cigarettes and lighter (or gum for non-smokers). It would even hold a lunch bag, if he carried one.

If you're inclined to construct such a storage compartment yourself, see GRIST, Vol. 7, No. 6, page 45.

TIGHTENER FOR CHAIN ROAD BARRIER

Man's ingenuity is sparked by his desire to lighten his burdens. Charles E. Blundell, Maintanenceman, Great Sand Dunes National Monument put his ingenuity to work and made a lever-and-lock device to reduce the effort required to raise a heavy chain road barrier and sign to a height sufficient to stop vehicles. The photographs show Charlie's invention, which may be used for either chain or cable barriers. (NPS SW 64-26).



COLLARS FOR CEMETERY HEADSTONES

Headstones stand in appropriate, straight military alignment at Stones River National Battlefield, Murfreesboro, Tenn., now that each stone has a concrete base collar. Lawrence W. Quist, Superintendent, shares this improved procedure with GRIST readers.

The base collars have several advantages. They hold the stones in alignment, almost completely eliminating the need for realignment. With the collars sunken flush with ground level, power equipment can cut the grass right to the edges, eliminating the need for grubbing and trimming grass around each stone, and yet providing a safety margin to prevent the equipment from damaging the marble markers. A hole into which a flag may be inserted is cast in the collar giving it still another advantage.

The collars are 4 inches thick and 4 inches wide (from headstone to outside edge) which has proved to be satisfactory in the clay soil at Stones Rives. A three

to one mixture was used for the concrete with scrap steel or steel wire used for reinforcement. Both precasting and casting in place were tried, and precasting is preferred because the mixer and materials are all in one place and no clean-up is necessary along the headstone row. Also the precasting can be done during inclement weather or slack time and a better job can be done on floating out the forms, resulting in a better looking collar. The precast collar allows for a little more space between the collar and the stone, giving room for the possibility of expansion and thus preventing cracking or splitting.

(NPS SER 63-65).

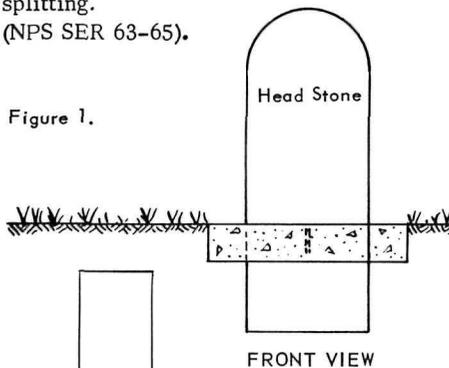


Figure 1.

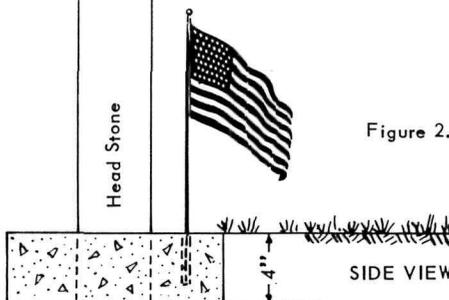


Figure 2.

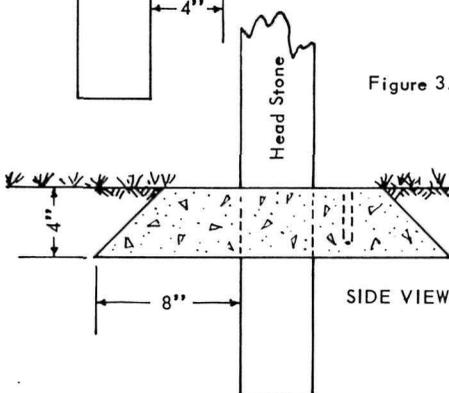


Figure 3.

Cost of construction and installation of the collars is about \$1.50 each. If major realignment of the headstone is needed, add another \$1 to the cost of the job.

Larry suggests that in areas where sandy-loamy soil creates a particularly large problem of tipping or shifting out of alignment, that collars be made with a flare as shown in Figure 3 of the sketch. Widening the collar at the bottom gives it more anchorage and provides more resistance to any movement of the headstone.

READY-TO-GO EXHIBIT

Gale K. Zimmer, Park Guide, and Martin N. Benham, District Ranger, at Everglades National Park, Florida, have two-thirds of their show all ready to go when a call comes in for an exhibit at fairs and conventions.

Basic equipment for the exhibit is three white panels framed in black upon which high quality black and white pictures are mounted. Two of the panels are 4' x 8', and the picture layout on these is fixed, the pictures being keyed to the board and held in place by plastic tabs screwed into the board. The letters of the identifying title, "Everglades National Park", are glued to one of the panels.

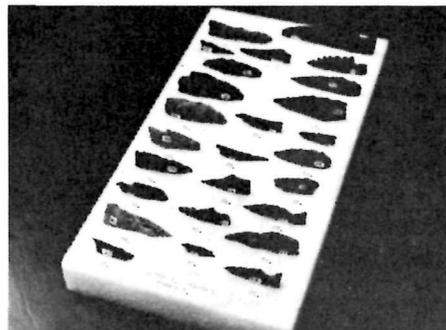
The third panel (not shown in photograph) is smaller and is made of peg board. Materials for this panel can be chosen to fit the theme of the particular show and can be secured to the panel with plastic pegs. (NPS SER 64-24).



Gale and Martin have found this exhibit scheme to be not only a tremendous time saver, but an effective way of telling the Park story in a good looking and interest-getting way.

USING STYROFOAM FOR DISPLAY OR STORAGE TRAYS

Slabs of styrofoam with indentations cut to fit the objects to be displayed or stored work out much better than the usual cardboard trays, as E. M. Lisle, chairman of the Southeast Region Incentive Awards Committee pointed out in announcing an award for the idea to Bert L. Speed, Supervisory Park Ranger at Russell Cave. Bert's interesting use of the No. 22-type Styrofoam is shown in the photograph. (NPS SE-63-82).



Small metal objects, stone artifacts, wine glass stems, fossils, minerals, and other such items may be laid out in the position desired and easily kept in order

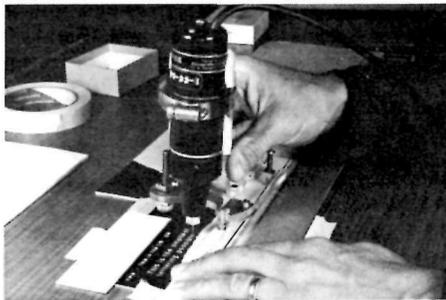
when the Styrofoam slabs are used. Where sherds are displayed, they may be loosely fitted into slots cut in the slab and thus may be picked up for close examination—something which is not feasible where sherds are pasted to a board as is often done in park museums.

DENTAL BITS FOR PLASTIC SIGN ROUTING

Using Leroy lettering templates and a high speed grinder equipped with high speed dental bits, Edmund J. Bucknall, Chief Park Ranger at Grand Portage National Monument, has developed an inexpensive and speedy system for routing lettering in plastic signs (NPS M 64-43).

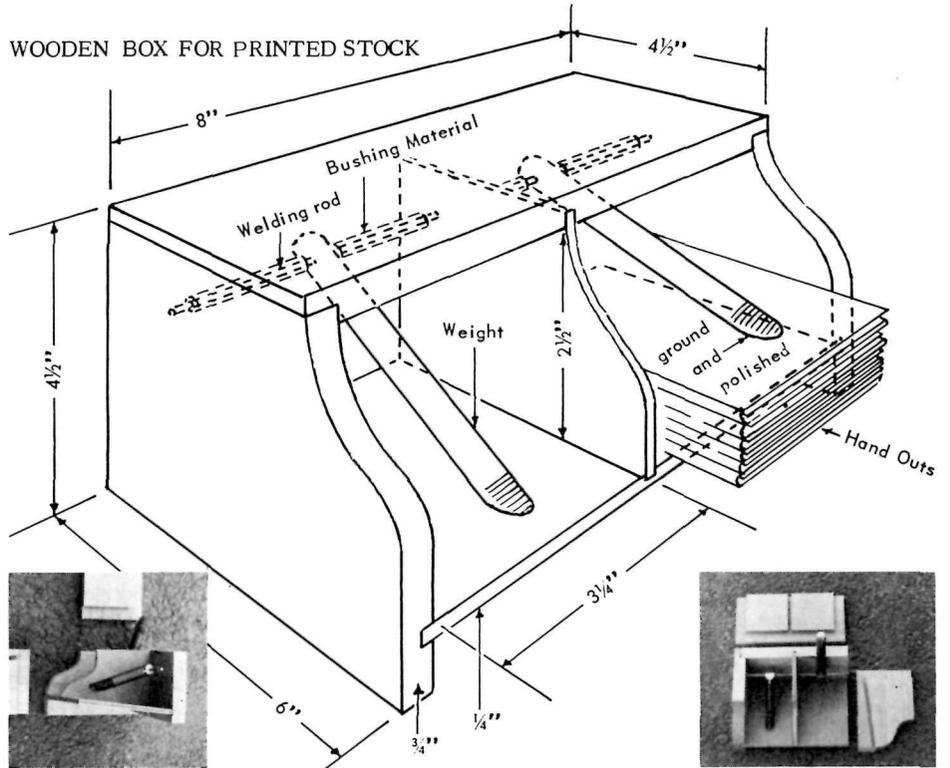
We tried Ed's system, using a couple of bits our dentist had thrown out as too dull for tooth grinding, and we got excellent results on the plastic.

The photographs show how Ed mounted his grinder with an adapter to permit following the regular Leroy templates. He made the adapter from clear heavy plastic, although wood could be used. The grinder is fastened to the adapter with a standard hose clamp.



An adjustable rest is provided to control routing depth. This is made from a 1/4-inch stove bolt with a leather pad glued to the head to prevent scratching the plastic. The rear guide pin, which rides in the longitudinal guide groove of the template is made from a 1/8-inch stove bolt with the end ground down to fit the groove and polished with crocus cloth (or fine emery cloth) so it will ride smoothly. The front pin, which rides in the template letters, is the pin used in the Leroy pen. A small piece of 1/8-inch stock brass was fastened to the front end of the router base and a hole drilled and tapped in the brass to fit the threads on the barrel of the Leroy guide pin.

Care must be taken to see that all pins are positioned exactly as on the pen, or the routed letters will not slant correctly.



A sturdy box, equipped with weighted arms to keep each pile of literature neat and safe from the danger of blowing wind, was made by two Park Service men to hold leaflets and pamphlets conveniently. John C. O'Brien, Supervisory Park Ranger and Charles Webster, Seasonal Park Ranger at Colorado National Monument were the originators and won an award for their idea. (NPS MW 64-12).

The sketch and photographs here show details of the design. Materials needed are these:

- One piece 18 by 6-inches of 3/4-inch plywood or hardwood.
- One piece 11 by 6 inches of 1/4-inch plywood.
- A 10-inch length of welding rod.
- Bushing material to fit over the welding rod.
- Two bolts or pieces of reinforcing rod about 3/4-inch by 4 1/2-inches (to serve as weights).

BETTER AIR FOR MEN AND HORSES

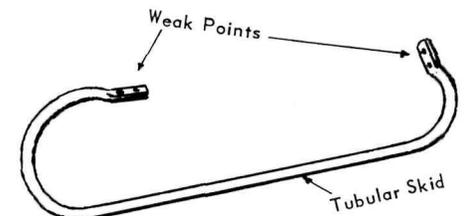
The United States Park Police Horse Mounted Patrol is a handsome unit often called upon to participate in impressive parades in the nation's capital. The show quality of the horses is so well known that out of town visitors to Washington often visit the stables.

To keep the animals healthy and in tip top appearance, their quarters ought to be as healthful as possible. The quarters were, however, hot, damp, and odiferous until a big exhaust fan was installed recently. It was almost impossible to clean a horse which was covered with sweat before the fan was put in.

Pvt. Francis William Kuntz made the suggestion (NPS NCR 64-17) that the ceiling exhaust fan be installed.

REPLACEMENT SKID FOR MOWER BETTER THAN ORIGINAL

Harold E. Appleby, Maintenceman at Richmond National Battlefield Park, found that on the otherwise satisfactory 50-inch Gravely mower, the side skid kept breaking down and had to be replaced every two or three weeks. The weak spots were at each end where the tubular skid was flattened out for the two mounting holes.



Harold took a piece of 1/4 by 1-inch strap iron, bent it to the shape of a skid and drilled the necessary mounting holes. With his handmade replacement skid he has had no more trouble, even after two seasons of use. (NPS SE 63-60).

BUGS DON'T LIKE YELLOW LIGHTS

Using yellow fluorescent lights in comfort stations along the Natchez Trace Parkway has lessened the job of cleaning up insects from floors and windows. In summer, particularly, insects swarm around white or daylight bulbs and smash against windows, making the comfort stations unpleasant for visitors and making work for the clean-up crews.

It was Archie L. Rogers, Foreman III, who suggested use of the yellow lights and thereby won an award (NPS SER 64-18).

NOW YOU SEE IT, NOW YOU DON'T

In the sandy country, the wind whips through the valley, dipping down to scoop up whole truck loads of sand from around one fence and roaring off to scatter it, partly or completely burying another. Downright deliberate, it sometimes seems to Charles E. Blundell, Maintenceman, Great Sand Dunes National Monument, and sometimes it gives him a backache just looking at all that sand around and over the fences.

If the wind scoops the sand away from a fence, you can just drive the posts down farther with a sledge hammer to stabilize them, but if it blows in and covers or nearly covers the fence there may be many hundreds of yards of it which cannot be raised by hand, and so new posts and wire must be put up. Such a waste!

That was before Charlie put his ingenuity to work to lighten the burden and save a lot of time and money (Suggestion NPS SW 64-25). The result is the flexible post puller shown in the photographs. Cost for materials and labor were about \$75, and the Electrolift motor from the snow plow does double duty by working on the post puller as well.



The puller operates at the side of the truck or in front of it. It will raise three posts a minute from six to fifteen inches. (It can easily raise a post as much as four feet.) Pulls stumps, too.

STOPPING MOTOR BURN-OUTS

Charles B. Barnhill, Foreman Electrician, National Park Service, National Capital Region, believes that most workers, when they understand why something goes wrong with a tool or piece of equipment and how to prevent it, will show interest, care, and concern.

Motor burn-outs and maintenance of Stanley electric grass shears and "Little Wonder" hedge trimmers were an expensive item until Charlie diagnosed the cause and suggested that each foreman and employee using the grass shears and hedge trimmers be given a copy of "History of a Burn-out" (See below), then at a meeting, discussion should take place about the chief cause of the burn-outs and means of prevention. Since the suggestion (NPS NCR 62-16 and 17) was put into effect, the first year savings as a result of reduction of burn-outs of shears was \$1515 and first-year savings on the "Little Wonder" was \$3131.

History of a Stanley Burn-Out

How and Why a Stanley Grass Shear Burns Its Motor Out

The Stanley never breaks down from friction overload. The Stanley's efficiency factor is so great one seldom suffers from overwork. But the Stanley does have a built-in handicap. When this is understood and steps are taken to overcome it, almost all time-loss and maintenance costs can be eliminated.

The Stanley's heat dissipation depends entirely on radiation from its aluminum underbody, and this considerable heat is carried off by the fan action of the high speed cutter blade. The cleaner the underbody and blade are kept, the faster the heat dissipation. Vegetable gum and dust coat the underbody, creating an insulation which causes heat build-up, eventually breaking down the motor winding and brushes.

REMEDY: Keep the underbody clean

and the fan action from the cutter blade will keep the motor cool and working for a long, long time. The blade will give the motor less load when clean and sharp.

Armature	\$12.97
Field coils	11.58
Brushes	1.00
Labor, 2-1/2 hrs.	6.92
Total	\$32.47
Plus machine time loss	

History of a "Little Wonder" Burn-Out

How and Why Your "Little Wonder" Hedge Trimmer Motor Burns Out

When the sickle bar blades load up with vegetable gum and dirt, the idling load on the little motor increases several times. The machine, under load, slows down causing more current to flow through the field and armature, thus more heat. The armature fan now turning slower allows more temperature build-up. The high temperature and additional arcing harden the brushes. Increased arcing heats the commutator; heat build-up, added to the field coil heat increase, causes the motor to burn out.

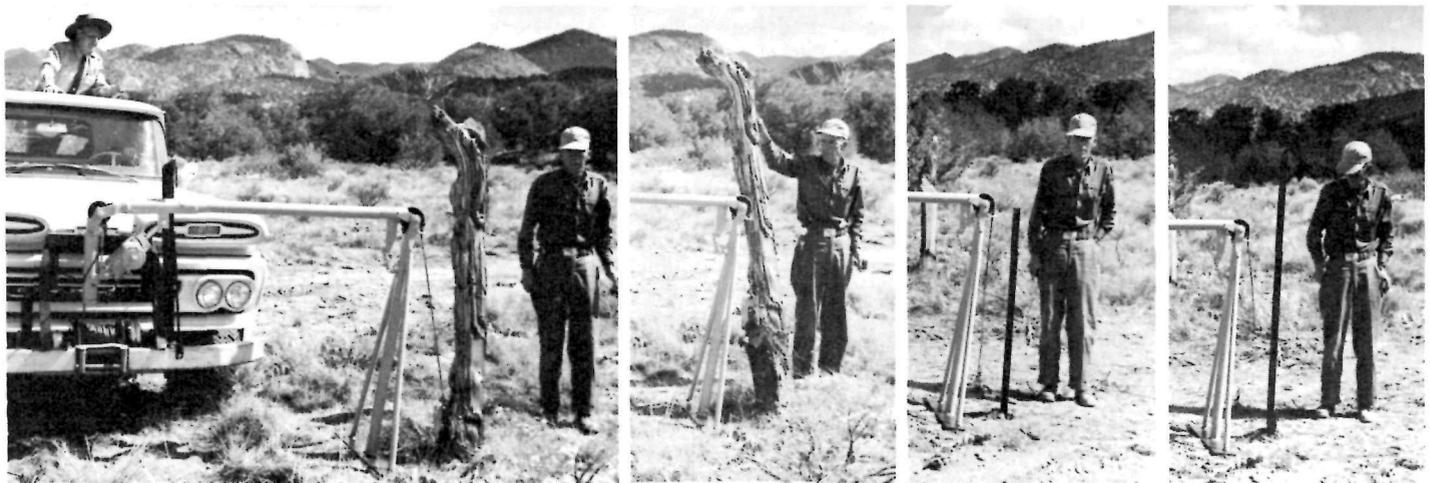
REMEDY: Apply a 50-50 mixture of kerosene and oil (as recommended by the factory) to the blades hourly during use. This reduces friction, cuts the vegetable gum, and gives a slick running cutter that will keep on working a long, long time.

Cost of a burn-out:

Armature	\$18.00
Field coils	8.20
Brushes	.80
Labor, 2-1/2 hrs.	6.92
Total	\$33.92
Plus machine time loss	

SHEAR GUIDE SAVES MONEY

By designing and installing a guide to assure true right angle cuts on the power shear used in the Blacksmith Shop of the National Capital Region, Thomas W. Conley, Foreman Welder, and William W. Cranford, Machinist, saved the Government considerable money and won an award



for their efforts (NPS NCR 64-35).

Because the power shear, like many such machines, did not have a guide, laborers and helpers who had to use it could seldom be sure to get a proper square cut, and therefore did such metal cutting on a power saw, taking five to nine times as long per operation. Sometimes shear cuts were attempted but came out wrong, requiring laborious grinding to correct the trouble and to assure good butt joints. This great time difference became an especially serious problem when the National Capital Parks required fabrication of over 400 new fireplaces and more than 400 new trash can holders.

USING SPRINGS TO HOLD TRASH CAN LIDS

Another good way to solve the pesky problem of loose trash can lids came to light recently when Harold W. Girvin, Caretaker in Everglades National Park, sent in his suggestion for using a chain and spring combination to hold down each top. (NPS SE-64-33).



Each spring-chain latch is made of a 6-inch length of 1/4-inch diameter door spring and an 8-inch length of brass plumbers chain. The end of each spring is attached to the can by a small bolt just above a handle. At the free end of the chain a piece of 1/8-inch aluminum wire is bent to form a finger grip. The chain is hooked to a slot on the lid made by use of a piece of 1 by 1 by 1/8-inch aluminum angle notched to receive the chain. This piece of aluminum angle is bolted to the lid on the side.

As Harold points out, his spring chain method of holding the can tops has prevented the spillage of trash from cans when overturned, and has kept animals such as raccoons out of the cans.

PAPER VS. CLOTH ROLLER TOWELS

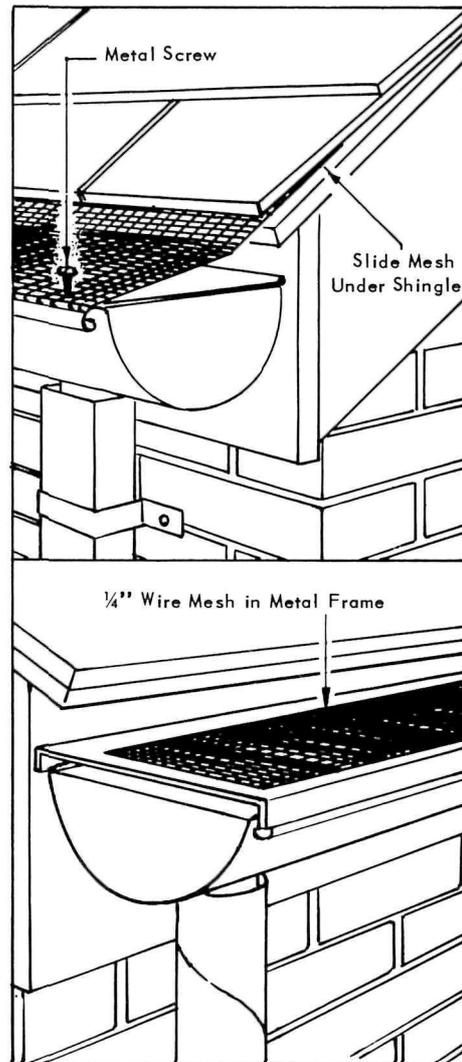
The cost of cloth roller towels used at Everglades National Park was high and going higher. Jack E. Lewis, Foreman II, Everglades National Park, decided to make a comparative study. The principal reason

for not converting to paper towels had been the possibility of sewage system stoppages due to putting paper towels in the toilets.

Jack installed paper towels in a number of restrooms and compared costs: price of paper towels against that of roller cloth towels, labor costs of servicing both, and sewer stoppage repair costs. The results showed a savings of \$2000 a year or more by using paper towels, and there was no greater number of sewer stoppages in restrooms using paper towels than where cloth roller towels were used. Park change-over to paper towels resulted and Jack received an award (NPS SER 63-80).

TREE LEAF STRAINER

Until the time when gutters come equipped with wire mesh covering to strain out leaves, twigs, and other matter that cause rust and clog up gutters and downspouts, Morris Blanton, Painter, Mammoth Cave National Park, suggests a do-it-yourself job. Morris' award-winning suggestion was adopted at Mammoth (NPS SER 64-28).



Wire mesh (1/4-inch) can be cut in strips and fastened to the top of the gutters with metal screws, or removable frames can be made as shown in the sketch.

AZTEC HOUSEKEEPING WAS NEVER LIKE THIS

The original inhabitants of the dwellings at Aztec Ruins National Monument may not have had even a broom, but today the cleaning is done with a gasoline powered vacuum cleaner.



Litter Vac, a product of Clarke Floor Company, Muskegon, Michigan, is the basic equipment. When Jack R. Williams, Superintendent at Aztec, acquired the cleaner, no converter arrangement for attaching a long pickup hose was available, so he decided to build one.

With the conventional sweeper head removed, a plate with a 4-inch pipe sleeve was made to fit the opening. A 17-ft. section of 4-inch laundry dryer nylon hose reinforced with steel wire was used. To prevent damage to the hose when it is dragged over asphalt or walls of the ruins, it was wrapped with 4-inch Polyken tape (the type used on underground natural gas lines). A pickup nozzle was made from a 24-inch section of 4-inch stove pipe (See photographs).

The conversion works splendidly, Jack says, and cuts the clean-up cost by two-thirds where it can be used. It will handle large leaves and all sorts of trash and dirt. Two bags reduce trash handling to a minimum. (Suggestion No. NPSW 64-21)

Here is a breakdown of the conversion costs:

Converter Unit	\$11.00
Hose, 4' x 17'	6.10
Two 4' clamps	.50
Two rolls of Polyken tape	4.54
One 4' x 2' section of stove pipe	.55
	<u>\$22.69</u>

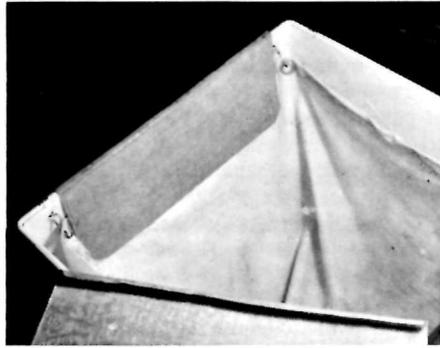
IMPROVEMENT FOR CLOTH- INSERT TRASH RECEPTACLES

Trash thrown into the type of receptacle containing a cloth or plastic bag often goes between the bag and the sides of the container. This adds extra time to trash removal and makes necessary frequent cleaning of the receptacle.



Thomas E. Sims, Maintenance man, Lehman Caves National Monument, has remedied the problem quite simply (NPS SW 64-34). With scrap sheet metal, tin snips, and heavy pliers, Tom made the devices shown here which clip over the edges of the container, holding the bag

close to the sides, and assuring that all trash goes into the bag.



STANDARD POSITION FOR SPECIAL
EQUIPMENT SWITCH PANEL

Park personnel frequently have to drive various vehicles, therefore standardizing the position for special equipment switch panels becomes important. This is particularly true for ranger personnel engaged in traffic control or operation of pursuit vehicles. Driving at high speed, the operator cannot be searching for switches which may be located under the dashboard. His eyes must be constantly on the road, and he may be attempting at

the same time to determine the speed and identity of the vehicle being pursued.

Park Ranger William F. Donati, Blue Ridge Parkway (NPS SER 64-45) has found a simple way to standardize the location of switch panels for sirens, red lights, emergency flashers, etc. All vehicles purchased for use by park personnel are provided with openings in the dashboards for accessory equipment such as clocks, radios and/or performance instruments. These are covered by blanks or filler plates (sometimes bearing the manufacturer's emblem) affixed by sheetmetal screws or friction. These can be removed and stored at a central maintenance area. A thin sheet of aluminum can be cut to match the blank and then drilled or otherwise prepared to hold the switches required to operate any specialized equipment. Drivers would know that on any specific model or make vehicle the special switch panel would always be in the same place, and he could locate them by touch.

After a vehicle reached its allotted age or mileage and was ready for auction, the special switch panel could be removed, the original blank could be replaced, and the dash would be free of holes or marks.

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 January 1, 1964 will be reported or listed in subsequent issues of PLOWBACK.

Appleby, Harold E. (NPS SER 63-60) Replacement Skid for Mower Better Than Original. See p.13.
Baker, Thomas K. (NPS NCR 62-79) Storage Arm Rest. See p.11.
Baker, William H. (NPS NCR 64-42) Tool for Checking Balance of Rotary Blades.
Baker, William H. (NPS NCR 64-41) Guard for Gravely Tractors.
Barnes, Frank (NPS NE 64-3) Paint Top Step Yellow.
Barnhill, Charles B. (NPS NCR 64-6) Safety Campaign. See p.10.
Barnhill, Charles B. (NPS NCR 64-17) Stanley Grass Shears. See p. 14.
Benham, Martin N. (NPS SER 64-24) Portable Exhibit. See p.12.
Blanton, Morris (NPS SER 64-28) Tree Leaf Strainer. See p.15.
Blundell, Charles E. (NPS SW 64-26) Tightener for Chain Road Barrier See p. 12.
Blundell, Charles E. (NPS SW 64-25) A Flexible Post Puller. See p.14.
Bucknall, Edmund J. (NPS M 64-43) Routing Plastic Signs. See p.13.
Bouche, Elinor M. (NPS SW 63-68) Concession Operation Detailed Check Lists.

Chilton, Jerry B. (NPS W 64-33) Helispot Markers for Use in Forest Fires. See p.9.
Conley, Thomas W. (NPS NCR 64-35) Shear Guide. See p.14.
Cranford, William W. (NPS NCR 64-35) Shear Guide. See p.14.
De Kozan, Paul (NPS SER 63-85) Format of Cover or Transmittal Letters.
Donati, William F. (NPS SE 64-45) Replacement Switch Panel. See p. 16.
Ferguson, Alice (NPS SER 64-34) Revised Correspondence Procedures Handbook.
Girvin, Harold W. (NPS SER 64-33) Garbage Can Lid. See p.15.
Harbord, William J. (NPS NE 64-22) Mirror on Left Side of Elevator.
Hastings, Frank E. (NPS SW 64-11) Portable Traffic Control Signs. See p.9.
Kohajda, Anthony M. (NPS NE 63-19) Uniform Method of Recording Operation of Equipment Requiring Periodic Servicing.
Kozel, John F. (NPS EO 63-14) Name Tags.
Kuntz, Francis W. (NPS NCR 64-17) Exhaust Fan in Stable. See p.13.
Lawrence, Harold E. (NPS NCR 60-38) Communication Equipment in Official Car of the Chief, U. S. Park Police.
Lewis, Jack E. (NPS NP 63-80) Paper Towels Substituted for Linen Towels. See p.15.
Mauro, Vincent N. (NPS EO 62-20) Change Format of Monthly Progress Report.
Mauro, Vincent N. (NPS EO 63-10) Change in Distribution of EODC Newsletter.
McCoy, Thomas P. (NPS NE 64-17) Filled Gasoline Tanks on Motorized Equipment.
McLane, Earl L. (NPS NCR 63-57) Warning Signs. See p.11.

Nagel, Roland F. (NPS SW 64-17) Sealing Car Trunks. See p.10.
Negus, Herbert (NPS NCR 63-70) Sanitary Method of Washing Ice.
O'Brien, John C. (NPS MW 64-12) Wooden Box for Printed Stock. See p.13.
Prencipe, Nick L. (NPS NCR 63-20) Radio Equipment in Privately Owned Aircraft. See p.10.
Quist, Larry (NPS SER 63-65) Concrete Collars for Cemetery Headstones. See p.12.
Rogers, Archie L. (NPS SE 64-18) Use of Yellow Lights in Comfort Stations. See p.13.
Senires, Roseanne C. (NPS NE 64-23) Method of Typing Master Plans for Reproduction.
Sims, Thomas E. (NPS SW 64-34) Holder for Trash Receptacle Inserts. See p.16.
Speed, Bert L. (NPS SE 63-82) Styrofoam #22. See p.12.
Thomas, Carl C. (NPS NCR 64-12) Permanent Call Signal. See p.10.
Thomas, Kay (NPS WASO 60-75) Placing of Addressed Envelopes in Assembly.
Turney, George L. (NPS M 64-44) Method for Cleaning Signs to be Refinished. See p.9.
Wade, Jack J. (NPS SW 64-23) Variable Power Spotting Scope. See p.10.
Wheeler, Lucy P. (NPS SW 63-71) Method for Packing Photographic Print Cards.
Williams, Jack R. (NPS SW 64-21) Converter Unit for a Power Vacuum. See p.15.
Womack, Lester L. (NPS SW 64-4) Swing That Sign! See p.11.
Woodward, Norman J. (NPS NCR 64-25) New Kind of Forms.
Zimmer, Gale (NPS SER 64-24) Portable Exhibit. See p.12.