



VOLUME 15/NUMBER 5

SEPTEMBER/OCTOBER 1971

## NCSP Makes Annual Awards

This year's awards committee from the National Conference on State Parks, comprised of Messrs. Barry Tindall, Bill Parr, and Ben Bolen, has reviewed the articles of inventive suggestions and has come up with the winners of a total of \$200 in cash awards.

"Hand-held Mini-display Cases" by Wendall C. Rickon, naturalist ranger, Mendocino Area, California, gives the park visitors the opportunity to see and handle small and fragile objects that normally would be damaged.

Rick's project, which netted him \$100 and first place, involves encasing insects, sea shells, seeds, etc., in appropriate sized containers, whether it be baby food jars, pill containers or Alka Seltzer bottles. The specimen is glued to a cardboard, labeled and lettered with the interpretive information so that the visitor will be able to read through the container.

Peggy Reynolds, "Gal of All Trades" of the Lewis and Clark Caverns State Park staff in Montana, knows of a city

dog's symbol for a comfort station and so to make certain that he'd feel right at home at Lewis and Clark.

On the sign, "Canine Comfort Area" is a picture of the familiar red fire plug and right out there beyond it is the real thing, with all the comforts of home! Peggy's innovation won for her the second place award of \$50.

There was tie for third place, each winner receiving \$25.

Bud Veine, supervisor at Charles Mears State Park in Michigan utilized the bottom of a plunger, to form an umbrella-like protector over a sanitation filler hose. This stopped unnecessary banging and prevented damages.

Sharing in third place honors was Jeremiah Hayes, resident ranger. His aesthetically pleasing feature, prevents trailers and campers from damaging overhanging eaves of the contact station at Grizzly Creek Redwoods State Park, California. These log planters provide an extra benefit of displaying plants common to the park.

### PRINT A RULER ON FISHING REGULATION SHEET

Is that just-caught fish legal length, or is it a little under? To take the guessing out of it for fishermen at Yellowstone National Park, George A. Algard, seasonal ranger naturalist, suggests putting a ruler on the fishing regulation sheet.

Some fishermen coming to Yellowstone are first timers, some come from areas where there are no restrictions in fish size, and in addition, fishing regulations are becoming more complex. So, George wants to provide anything which will encourage compliance with the regulations and make it easier.

### VEHICLE OPERATOR REQUIREMENT

John Hast, chief safety officer, Washington Office, National Park Service, has suggested that the Department of Interior revise form SF-46, U.S. Government Motor Vehicle Operator's Identification Card, to include the following or a similar statement: "Void unless accompanied by a valid State or Territory Driver's License."

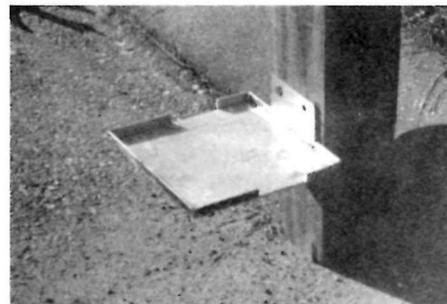
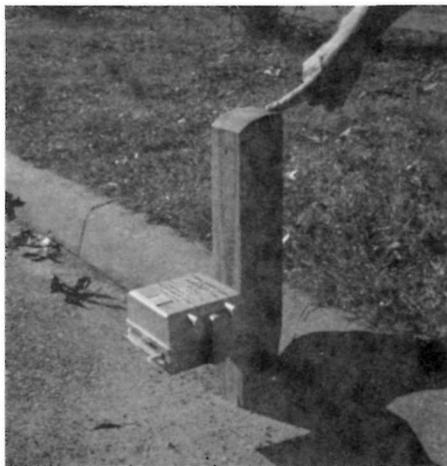
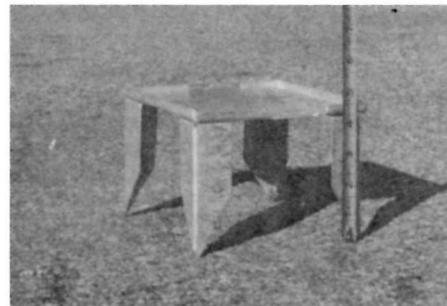
### PROTECTION FOR TRAFFIC COUNTERS

Traffic counters which rest on the ground are likely to be damaged by water. Repair of counters damaged in this way was a considerable item of expense at Natchez Trace Parkway where they had 80 in use and 3 spares for each sub-district to replace those taken out of service for repairs.

Fire Control Aide Vester E. Sample suggested that aluminum stands be made for all traffic counters. Two versions are shown in the photos: one has pointed legs which can be pushed into the ground; the other version can be attached to a post or tree.

Construction of the stands is simple, no special tools are needed, and scrap aluminum can be used.

Tested for a year in Tupelo Sub-district, they have proven to be durable, have reduced the amount of monitoring required for spotting weather/water damage, reduced the frequency of parts replacement, and decreased downtime for repairs. In addition to the savings in materials and labor, use of the stands has made it possible to reduce the number of spares



to two for each sub-district.

This suggestion is especially applicable where frequent and heavy precipitation is common, producing heavy runoff alongside the pavement.

GRIST

a bimonthly publication of the nonprofit, educational park practice program cooperatively conducted by the National Park Service, U.S.D.I., the National Conference on State Parks, and the National Recreation and Park Association.

**Material for Publication** should be sent ONLY to:

James A. Burnett  
GRIST Editor, Division of State and Private Assistance  
National Park Service, Washington, D.C. 20240

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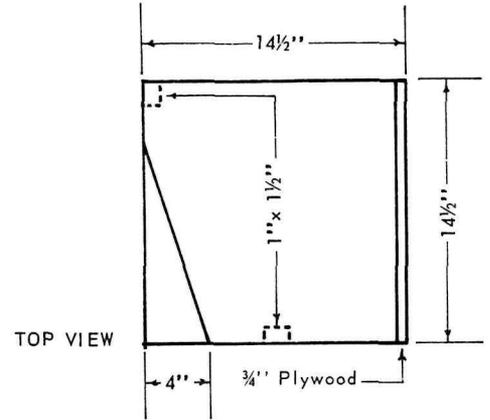
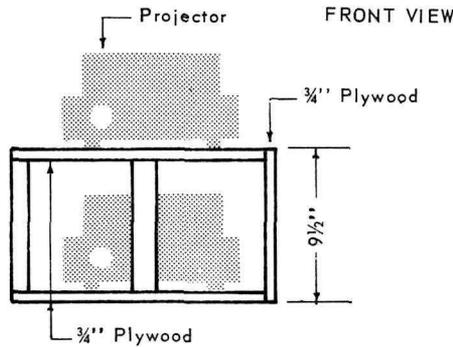
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**Speaking of Interpretation**

**DOUBLEDECKER SLIDE PROJECTOR RACK**

Save some space and save some money. Commercial racks for Kodak slide projectors using a dissolve control system are expensive, but you can have one for very little money by using the design of Richard R. Fields, Lassen Volcanic National Park and making it yourself.

The rack (see sketches), which is made of plywood, is light-weight, portable, and can be made in less than an hour. It holds one projector above the other for compactness. The top shelf has one corner cut off for easy access to the slide drum of the lower projector.



**QUICK POSTERS**

Quick posters can be made by even the most inexperienced person with the Dewey-Carter Sign Kit (Aerosol Spray Type). Any sign can be made in a matter of minutes. You can read the entire sign before you spray so layout is foolproof.

To make an attractive, professional looking sign, place the desired letters and numbers on white paper or card stock and spray over the copy with Dewey-Carter Sign Ink. The ink dries in 10 seconds. The letters are ready for use again and no cleaning is necessary. For more information write Dewey-Carter Co., Box 822, Doylestown, Pa. 18901.

**SLIDE FILING SYSTEM**

Shenandoah National Park has about 6,000 original 35mm color transparencies and such duplicates as are necessary to make the collection functional. The slides are used primarily to illustrate campfire talks and environmental awareness presentations, so an organization system was needed which would facilitate such use.

Mr. and Mrs. Hugh L. Crandall, park collaborator and seasonal ranger-naturalist designed the following system.

**Protection of original slides.** The strong light of projectors deteriorates the dyes in color slides, so originals are not projected, but are used only to make duplicates. Even though duplication increases contrast and alters color balance somewhat, this minor loss in quality is preferred to loss of the original slide. Originals, therefore, are kept separately in a cool place in a dust-proof file cabinet. Each is labeled by the contributor with the subject, location, contributor's name, and date of the photograph in such a way as to leave the upper corners free. When processed into the system, each slide is accessioned and the accession number is put on the upper right hand corner in red ink. An appropriate file index symbol is written in black ink on the upper left corner. All labeling is done on the cardboard binder on the acetate side of the slide and with the slide upright for naked-eye viewing. Accession date is recorded in a standard library accession list. Numbers are assigned in order of acceptance into the collection, without regard

**WILD FLOWERS CAPTURED FOREVER IN LIVING COLOR**

You can pick them up, turn them in your hands, examine them from all angles. They'll be just as colorful, just as fresh looking for the next visitor, tomorrow or a year from tomorrow. W.P. Crawford, superintendent, Ocmulgee National Monument, has found a way to display biological material with all its original appearance.

There were many tries and many fail-



ures, but now it is perfected -- a way to embed wild flowers (or any small object) in plastic. Labels too can be embedded right with the specimen. Most of the blocks are about 6" x 6" x 1", but some are round, cubes of different sizes, or smaller flat shapes. They are so attractive that even the casual visitor is interested (see photos).

If they become scratched or chipped, a few minutes on the buffing wheel will

restore them.

It costs about \$200 to get started and to make the first 50, but additional blocks cost about 50¢ each, plus plenty of time between visitors for polishing.

If you are interested in this process, contact Superintendent W.P. Crawford, Ocmulgee National Monument, P.O. Box 4186, Macon, Georgia 31208, and he will send the necessary instructions and techniques along with the sources of supply.

**Speaking of Interpretation**

for subject matter, and no number is ever reused. Original slides are filed numerically by accession number.

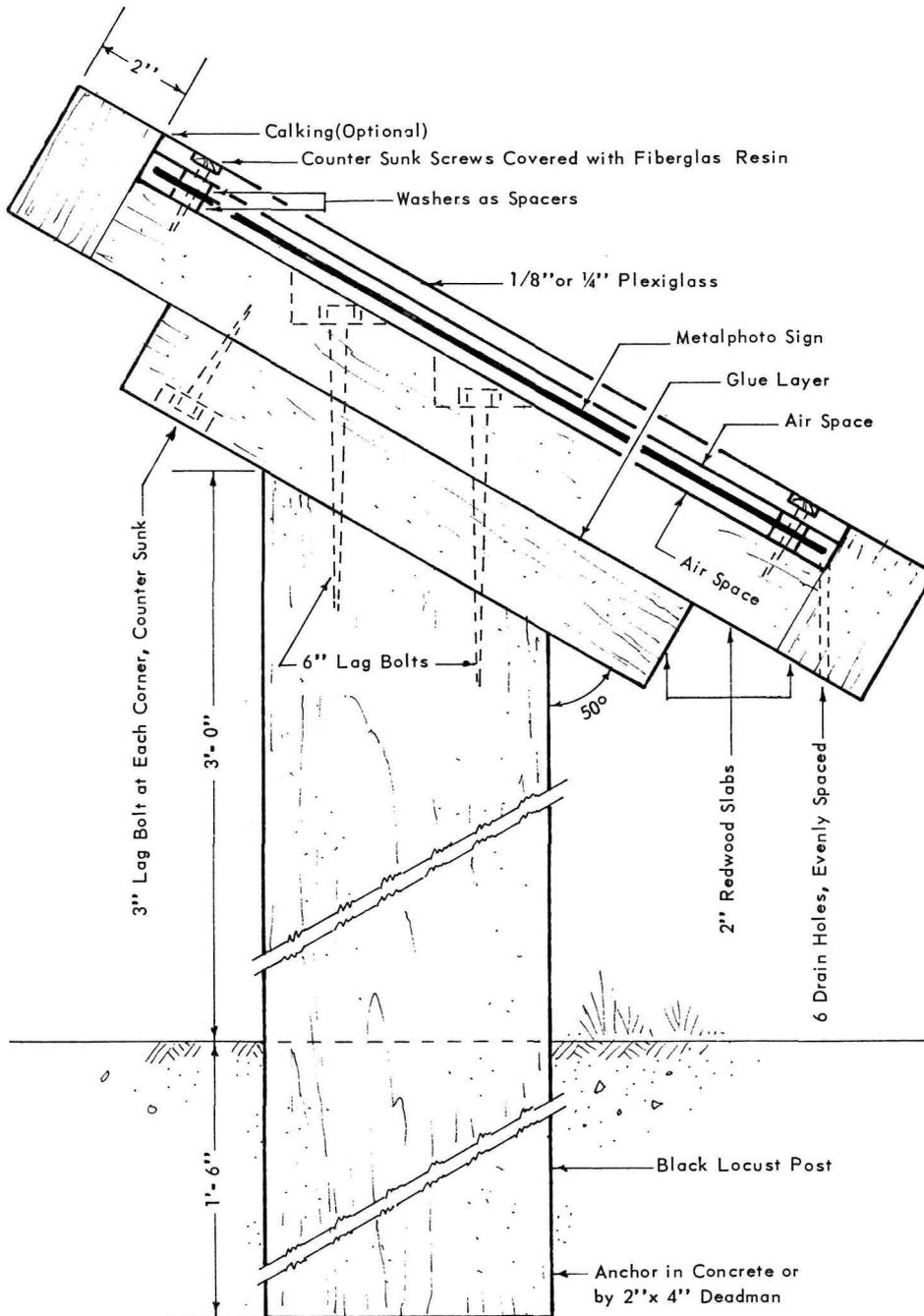
Duplicates. Upon acceptance into the collection, four duplicates are made of each slide. Three of these are labeled with accession number only and are filed numerically for use in shows. The fourth is labeled with all the data given on the original and is filed by index symbol in a viewer file. Slides in the viewer file constitute a visible catalog of the collection and are not used for any other purpose.

File index pattern. This is arbitrary and would vary from park to park. But,

in general, it should be no more detailed than the size and diversity of the collection warrants, and it must be hierarchical so as to allow for localized expansion as the volume of a particular section of the collection increases. At Shenandoah National Park it has been found convenient to arrange photos of living things in ascending taxonomic order and to arrange pictures of higher plants according to family-genus-specie numbers given in Gray's Manual of Botany.

Advantages. The hierarchical and taxonomic arrangement of the catalog permits rapid location. The visual nature of

the catalog, that is, using actual copies of the slides displayed in a viewer, permits rapid selection of a particular slide from among those of the same subject, and it also facilitates scanning to select a slide of general nature or one with a particular emotional impact. The simple numerical arrangement of the originals and duplicates increases speed and accuracy of location and refiling. Use of non-repeated accession numbers insures positive identification of each slide for reference, duplication, or for exact reconstruction of a slide show that has been disassembled.



**SIGNS THAT BLEND WITH SURROUNDINGS**

The most desirable trail sign is, of course, one which clearly presents information to the visitor yet intrudes as little as possible upon the natural state of the setting. Such a sign has been designed by Park Naturalist John J. Wagoner, Cumberland Gap National Historical Park (see photos).

A natural black locust log (or other equally durable) set in concrete, or anchored by a 2 x 4 board dead-man, holds the sign, easel style. The metal-photo sign is set in a redwood slab and protected with a 1/8-inch or 1/4-inch plexiglass cover. (See sketch.) Countersunk screws fasten the sign and cover to the slab, and a fiberglass filling over the screws discourages removal by vandals.

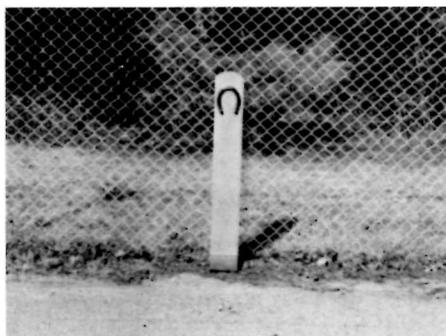
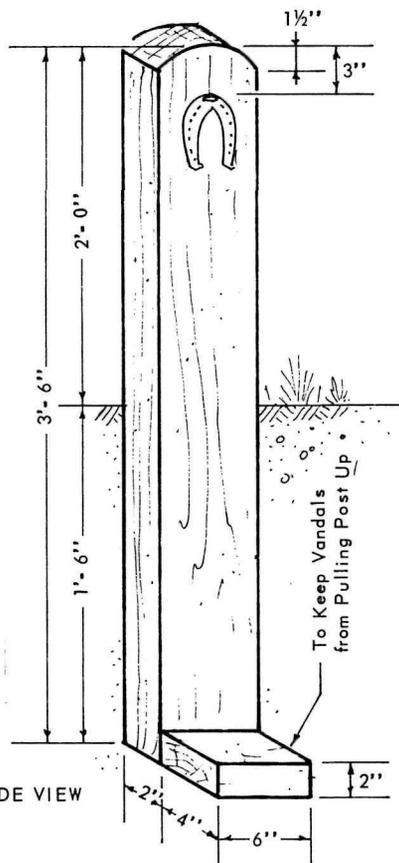
The sturdiness of the materials used protects the sign from both vandalism and the weather, and the naturalness blends inconspicuously with the surroundings.

## HORSE TRAIL MARKER

Signmaker Daniel C. Fitts, Natchez Trace Parkway, suggests the following method of making horse trail markers.

1. Use rough sawed lumber cut to the length and width shown in the accompanying sketch.

2. Round the top as shown.



3. Dip the lower fourth of the marker in "Penta" and paint the upper portion with silver grey creosote stain and let dry.

4. Dip an old horseshoe in black exterior enamel and allow to dry.

5. Nail horseshoe to marker with no. 6 horseshoe nails and paint the nail heads with black exterior enamel.

These markers cost only about \$1.50 to make and need restaining only about once in two or three years.

## LITTER OFF THE ICE

If anyone has ever had trouble with objects thrown into an ice skating rink (rocks, tin cans, etc.), this idea from Van F. Anderson, assistant superintendent, Consolidated Recreation Commission, Morgantown, W. Va., may be of some use.

He suggests a heavy-duty hand torch be used to heat the ice around the object, allowing for easy removal of the object. This method will eliminate cutting the object out with an axe, which often makes a larger hole than necessary and scatters ice chips over the area, requiring further conditioning.

The suggested torches can be purchased commercially or borrowed from street departments in many cities.

## RESTORING ANTIQUE GUN CARRIAGES

Old gun carriages, including wheels, can be rebuilt, if old iron parts are available, for a cost far less than the purchase price of a carriage and wheels, says Superintendent Sherman W. Perry, Stones

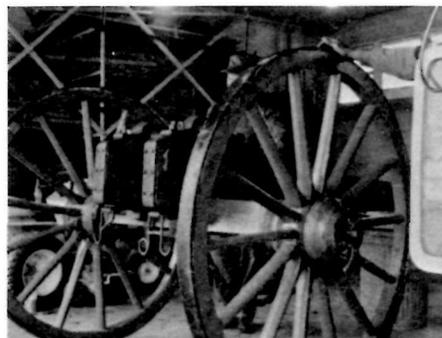
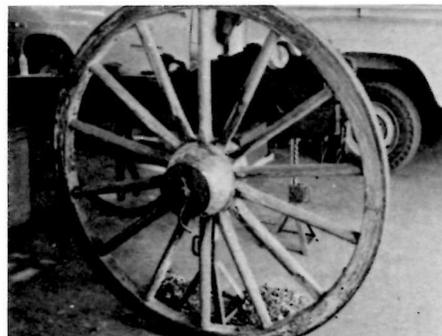
River National Battlefield. Here is how they do it.

1. Disassemble the gun carriage completely. Remove old paint from wooden parts by using a commercial paint remover then scraping and sanding.

2. Remove all rotten wood by digging and chiseling until only hard wood remains.

3. If impossible to repair a trail, wood for a new one can be purchased for about \$60.

4. Fill all cavities with automotive putty (epoxy) in small amounts to speed drying. Where large cavities exist, small blocks



of wood can be inserted to reduce the amount of putty used.

5. Sandpaper the hubs, spokes, rims, cheeks, and trail to shape after putty is dry.

6. Where strength is needed such as lower end of trail or at terminals of spokes, apply fiberglas cloth and resin. Apply enough coats of resin to form smooth surface.

7. Apply a minimum of two coats of resin to all wood parts.

8. Completely assemble carriage.

9. Paint desired color.

Cost for the restoration (assuming wood for a new trail is not needed) is figured at about \$30 plus 10 man days, in contrast to \$1500 for a replacement carriage and wheels.

**ONE-MAN VEHICLE ALIGNMENT ON HYDRAULIC LIFTS**

To prevent damage to vehicle underparts when raised on a hydraulic lift for repairs, it is normally necessary for the driver to be assisted by someone who will guide him to the correct alignment position over the front and rear lifts. Maintenance man Fred S. Young, Natchez Trace Parkway, devised a means whereby the driver can correctly align a vehicle without guidance from another person.

**POWER TOOL OPERATOR'S QUALIFICATION RECORD**

For safety's sake, every employee who is to use power tools should have had qualified instruction in their use, the hazards involved, and precautions which should be exercised. The training should include demonstrating to the instructor's satisfaction the employee's knowledge of and ability in operation and safe handling of the equipment.

Last summer some training in the use of power tools was given at Redwood National Park, but no formal record system was used. Park Ranger Gilbert Soper suggested that such training be extended and be mandatory for all employees who will be using power tools. It is obviously especially important in the case of sea-

sonal employees, most of whom will be using power tools for the first time, but Gilbert feels it is also essential for permanent employees, even though they may only occasionally be using such equipment.

A record of the training and qualification for an operating certificate should rest with the district ranger and maintenance foreman. A copy of the record should remain at the district level and one should be given to the Safety Committee. Seasonal employees should be recertified each year. Permanent employees need be certified only once, but should receive refresher training periodically. The proposed form, "Qualification Record—Power Tools" is shown here.



QUALIFICATION RECORD - POWER TOOLS

Name: \_\_\_\_\_

Position: \_\_\_\_\_

The above named employee has received instruction and has satisfactorily demonstrated his knowledge in the operation and safe handling of the equipment checked below:

EQUIPMENT	DATE CERTIFIED	SIGNATURE:	
		QUALIFIED INSTRUCTOR	CONCURRED
Chain Saw			
Circular Saw			
Portable Drills			
Drill Press			
Jointer			
Grinder			
Radial Saw			
Table Saw			
Planer			
Wood Lathe			
Router			
Other -			

Paint a four-inch white line parallel to the left of the front and rear lift posts. The distance to the left of the posts is determined by the distance necessary for all underparts of the vehicle being lifted to clear the lift forks (see photo 1). In Fred's shop the line was extended beyond the lift to the doorway where vehicles enter the lift area (see photo 2). This permits the driver to align the vehicle before driving onto the lift by merely allowing the left tires to follow along inside the line (following just inside the line rather than on it extends the time required between repaintings).

The white guideline, in addition to reducing alignment to a one-man operation, saves time normally consumed by hit-and-miss tries for vehicle alignment and eliminates damage to tie rods, shock absorbers, and gas tank. A large factor is safety. The possibility of injury to the man formerly required to guide the vehicle onto the lift is eliminated as is the danger of damage to vehicle underparts which might go unnoticed and become a hazard on the highway.

## PREVENTING DAMAGE TO BUSH HOG

If a tractor pulling a bush hog suddenly drops a rear wheel into a hole, the weight of the tractor is placed on the bush hog through the solid stabilizer bar. That can mean trouble. At Shiloh National Military Park it had caused damage requiring repairs in excess of \$200. If parts break instead of bending there is also a safety hazard.

Technician John P. Barnett solved the problem inexpensively. He replaced the solid stabilizer bar, which is standard equipment, with a chain large enough to support the weight of the bush hog while it is being transported. The flexibility of the chain keeps the weight off the bush hog in case the tractor wheels drop into a ditch, rut, or other low place.

Since substituting the chain for the solid



stabilizer repairs on the bush hog have been reduced and safety of people has been enhanced.

## CAN'T HIDE IT? PAINT IT!

If a piece of culvert makes an ugly spot on the landscape, as does this one in the photo, instead of cutting it off or planting something to hide it—paint it. Choose a color that will blend with the scenery.

The tip comes from Ed Fahey, senior park manager, Cherry Creek Recreation Area, Denver, Colorado.



## IMPROVEMENTS FOR FIREFIGHTING WEASEL

The only seat provided on the piece of firefighting equipment called the weasel is the driver's, so there is no safe place to carry other personnel. Wallace J. Key, automotive mechanic, Everglades National Park remedied this situation by installing an additional seat as shown in photo 1.

The type of antenna used on the weasel sways with the motion of the vehicle and was a hazard to personnel in the passenger seat, so Wally installed the antenna guard shown in photo 2.

Another problem was the weasel's waterproof engine compartment which caused overheating and stalling at low speeds. This put the weasel out of service on the job for long periods until the engine cooled and water was replaced. Breakdown at a fire could happen and re-



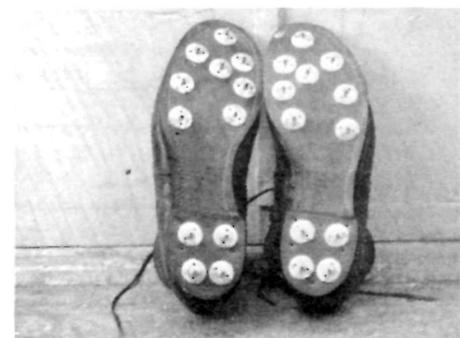
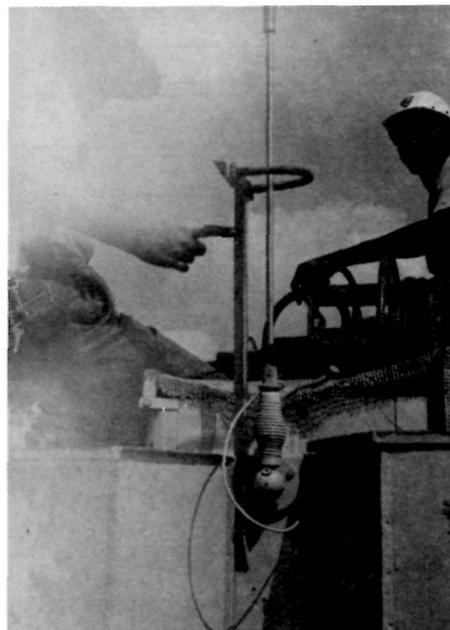
sult in loss of the unit. Installed ventilation grills (see photos 2 and 3) allow operation at low speed for sustained periods without overheating.

All of these improvements have been field and fire-duty tested for six months with no malfunctions (and no injuries from the antenna).

## CLEATED SHOES FOR SAFETY

Maintenance personnel involved in mowing, trimming, and other types of work on roads, trails, and lawns are especially vulnerable to foot injuries. Robert W. Hunt, Jr., administrative officer, Andrew Johnson National Historic Site, suggests that safety shoes be a required part of the maintenance uniform.

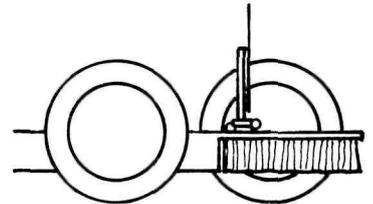
The shoes should be of two types: (1) the regular metal toe kind; and (2) the same shoe with golf cleats on soles and heels (affixed by a shoe repairman). The first type should be worn where there is any possibility of feet being injured by falling objects or by equipment, especially mowers. The second type should be worn by all personnel involved in mowing, trimming, or other operations on roads, trails, or lawns in situations where there could be slipping as on steep, slick, or grassy terrain.



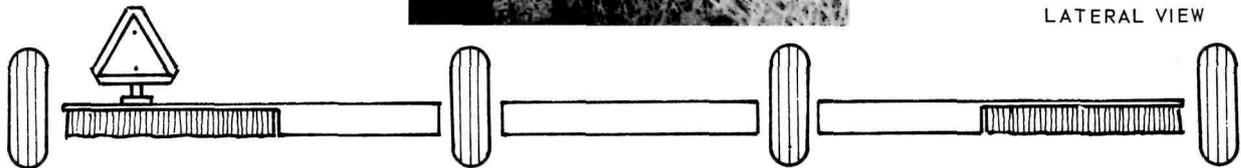
### DUAL ACTION HINGE SAVES SIGNS

At Natchez Trace Parkway signs mounted on 15-foot mowers warn motorists of a slow moving vehicle. The stationary mountings of these signs frequently broke when struck by a bush or low-hanging limb. Replacement was required about four times each season.

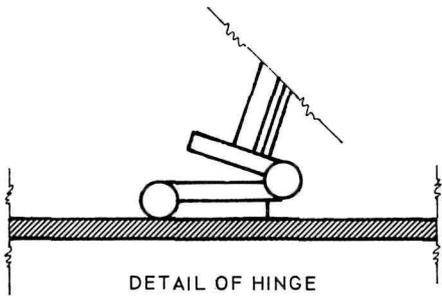
Maintenance Foreman William E. Hughes, replaced the permanent mounting with a double action hinge which allowed the sign to give in either direction if struck and thus avoid breakage. (See photos and sketch.) Changing over to double action hinges on all nine 15-foot mowers on the Parkway resulted in a total saving in labor and material of an impressive \$800.



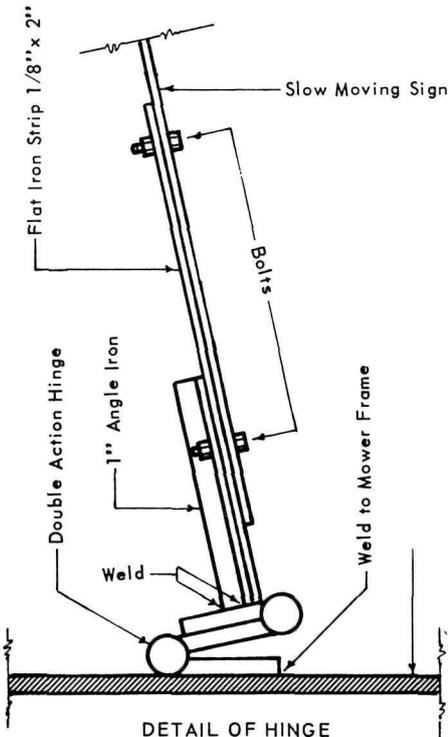
LATERAL VIEW



REAR VIEW



DETAIL OF HINGE



DETAIL OF HINGE

### SHELTERS FOR TRAILER HOUSING

At Yellowstone National Park it was the practice each spring to move to outlying districts a number of trailers to be used for housing and then to return them in the fall. It required for each move an operator, using a tractor truck, a light-duty truck driver with a pickup for a pilot car, a plumber, carpenter, electrician, and two laborers.

James H. Batzloff, special projects supervisor, suggested that the trailers remain on site and that sheltering roofs be constructed over them. Put into practice with Yellowstone's 18 trailers, the idea has worked well and saved a substantial amount of money.



## PROTECTIVE SCREEN FOR TRACTOR OPERATOR

National Capital Parks recently adopted the suggestion of Supervisory Horticulturist James W. Thorne and installed protective screens on tractor roll-bars (see photos).

In addition to providing protection for the operators the screens are a good place to install "Slow Moving Vehicle" signs, license plates, and lights.



## HOT POTATO-HAZARD!

A small can of potatoes placed on a charcoal grill or in a campfire could be almost as dangerous as a hand grenade—if you put it there without punching a hole in the lid, or worse still, without first removing the lid before placing the can on the fire. You, your family, or friends could easily be seriously hurt.

Such was the case on the Sunday before Labor Day at Timber Lake Park, near Antioch, Illinois. All seemed serene this hot and dusty day until the calmness was suddenly interrupted by a WHOMP—the sound of an explosion very near our trailer. Pushing our camping diary aside, we rushed in the direction the noise came from.

As we approached the scene we saw chicken pieces scattered over a 20 foot area, a badly twisted charcoal grill, three pieces of tin can (like shrapnel), not to mention the very badly shaken couple that owned the trailer at the campsite and their grandmother who was along for the weekend.

Fellow campers, it was only a simple, thoughtless moment when Grandma placed the can of potatoes on the grill to heat up while the chicken barbecued. The only real consequence was that the pieces of charcoal which had blown into the air, landed on top of the canvas ends of the tent-trailer and burned several holes in the canvas, the smallest being the size of a nickel. But the incident curtailed a beautiful holiday weekend for the whole family.

Fortunately no one was injured. But

bear in mind that not one little piece of the canned potatoes was to be found. One careless incident like this can turn a mere tin can into a very dangerous destructive instrument.

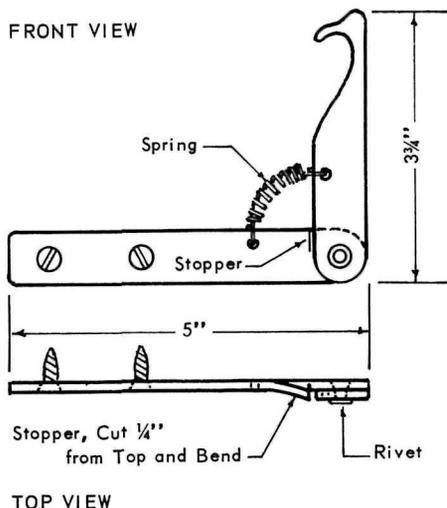
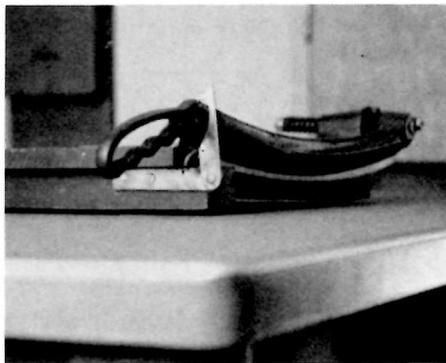
This safety tip is reprinted with permission from the author, Ronald R. Siegerdt and the magazine, *Camping Guide* where it appeared in the October 1970 issue.

## AUTOMATIC SAFETY CATCH FOR PAPER CUTTER

T. B. Taylor, administrative officer, Cumberland Gap National Historical Park designed this automatic safety catch to be installed on paper cutters.

Materials are inexpensive and include:

- Two strips of brass or other metal, one 1/8" x 3/4" x 5" and the other 1/8" x 3/4" x 3 3/4"
  - One 1/4" x 3/4" spring
  - One rivet and two wood screws
- Drill, shape, and assemble in accordance with the sketch and photos.



The paper cutter bar is locked automatically after each complete stroke of the cutter blade without any special effort on the part of the operator. Continuous cutting is possible by not completing a full stroke.

Safety at all times—the cutter bar is always left in locked position.

## MOUNTAIN RESCUE TECHNIQUE

Mountain rescue lowering operations usually employ a wooden brake drum with steel cable or running belay lines that pass through a karabiner brake assembly at the anchor point. One weakness of the latter system is the inability of the stretcher-men to control their own descent. This becomes critical on long descents when they are not in voice contact with their belayers. Another more obvious weakness is that the belay ropes are subjected to severe abrasion along their entire length when allowed to slide over rough or sharp rock surfaces. This cannot always be prevented, especially at Pinnacles National Monument where the volcanic breccia can ruin several climbing ropes in one operation.

Chief Park Ranger James M. Langford of Pinnacles has developed and tested a mountain rescue stretcher rappelling technique which overcomes these problems. Modern rappelling technique depends upon a karabiner brake assembly that slides down a static line. Applying this principle to a stretcher lowering operation would not be too practical were it not for one simple innovation.

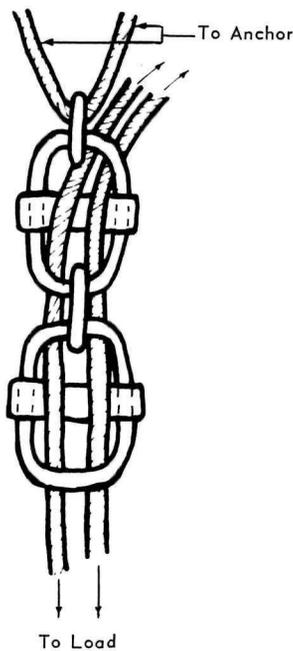
The stretcher and its two attendants are suspended from a double karabiner brake which is attached to the static rappel lines. The rappel lines are passed through a karabiner that is secured by a triangular tie just above the mid-point of the stretcher. The lines are then passed up through another karabiner that hangs suspended from the brake assembly. From there the rappel lines hang free. These secondary karabiners provide the key to this descent method. The descent is controlled by merely applying slight tension on the rappel lines. The bind created in the lines neutralizes the brake system, preventing its movement. It is as effective as tying a knot in the ropes to halt downward progress.

Efficiency of the system is influenced by several factors: number of stretcher attendants, number of rappel lines, number and type of brakes, and possible introduction of pulleys in place of the secondary karabiners. Different combinations of these ingredients will produce different effects. For instance, if only one stretcher-man is used with the double brake system, descent is impossible unless slack is hand fed through the two lower secondary karabiners. This provides a very desirable automatic stopping feature, but it makes the attendant's job very difficult. On vertical walls or overhangs, however, this method should be quite practical.

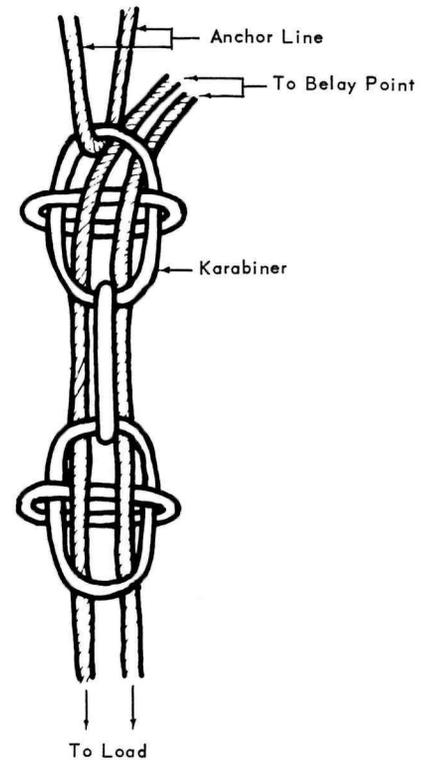
The method illustrated produces desired results with a minimum of effort. Use of two men makes the job less strenuous, especially when some lifting or carrying is anticipated. One man can handle the stretcher while the other belays. On long

descents the roles can be alternated or combined. Lowering operations exceeding 300 feet could occur at Pinnacles, and there seems no reason why longer drops could not be performed.

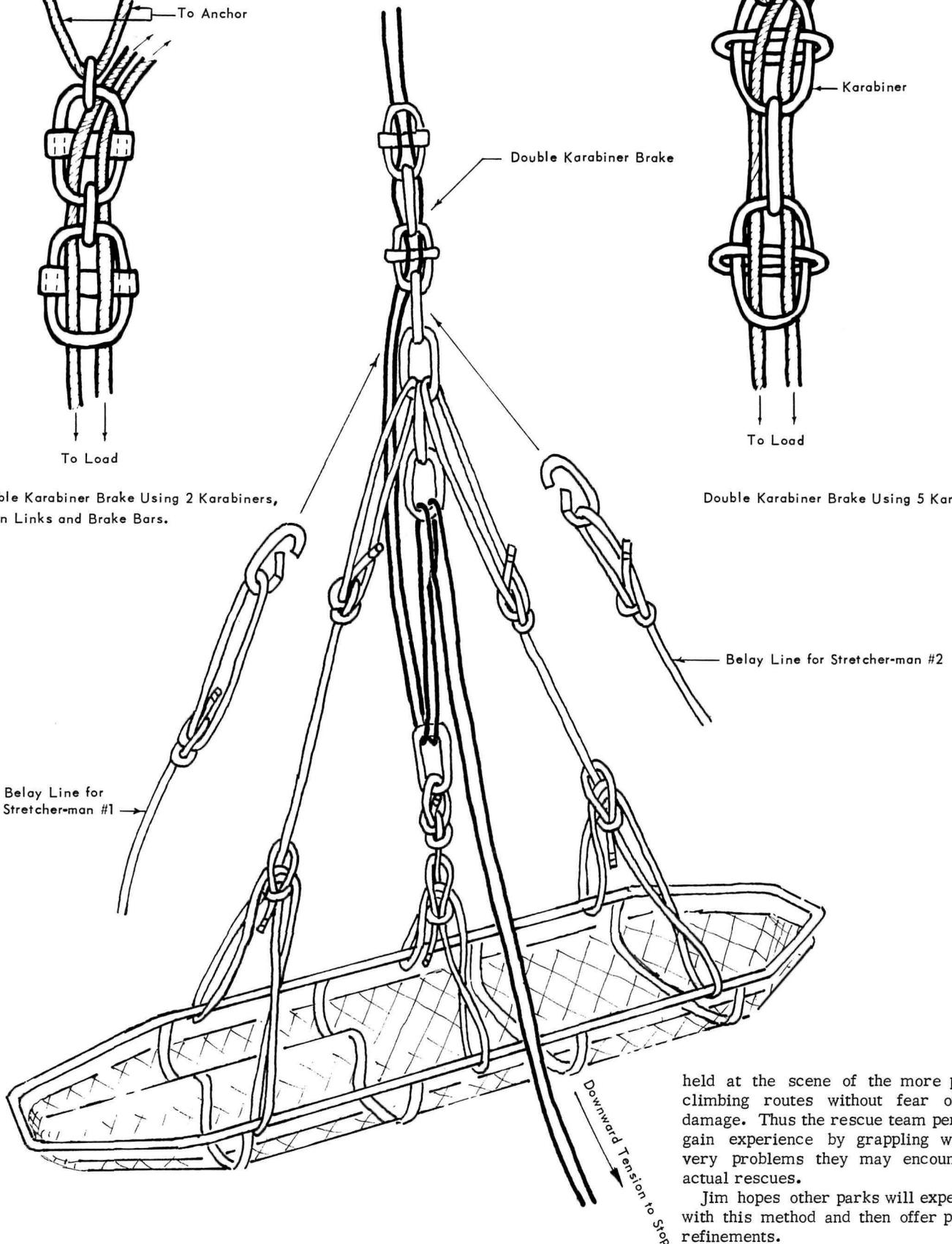
Heretofore, climbing ropes used in training sessions at Pinnacles have been retired after only one season due to excessive abrasion. Using this new method, ropes should be safe for several years. Also, practice rescue sessions are being



Double Karabiner Brake Using 2 Karabiners, Chain Links and Brake Bars.



Double Karabiner Brake Using 5 Karabiners.



held at the scene of the more popular climbing routes without fear of rope damage. Thus the rescue team personnel gain experience by grappling with the very problems they may encounter on actual rescues.

Jim hopes other parks will experiment with this method and then offer possible refinements.

## NEW PEOPLE-COUNTER FOUND

The pedestrian counter at Shiloh National Cemetery, Shiloh, Tennessee, which cost \$174 was designed to operate by pressure on a rubber mat causing an electrical contact to be made inside the mat and the electrical switch, in turn, activated a 6-volt traffic counter. The electrical mat switch was constantly out of order due to extreme moisture conditions caused by heavy rainfall and the location of the counters near the Tennessee River. Maintenance man Eathel Jeffreys decided a new method of counting pedestrians was needed.

He constructed one with a standard air pressure type traffic counter. The counter, rubber hose, and mat cost a total of \$65.

A length of hose is run beneath the mat. The mat is then secured in the gateway or doorway using metal strips around the edges. The hose leads out of one end of the mat to the counter which is anchored a short distance from the walk.

The Park Service at Shiloh has found this method more reliable and requiring less maintenance than the standard pedestrian counters.

## A FITTING CHANGE FOR EASIER GREASING

After 55 hours of use the new Ferguson Model 3-5 ton asphalt roller at Natchez Trace Parkway had a burned out forward clutch cone and collar assembly due to failure to grease. Replacement cost, \$46.32. Less than a month later, after 42 hours of operation, the assembly was burned out again.

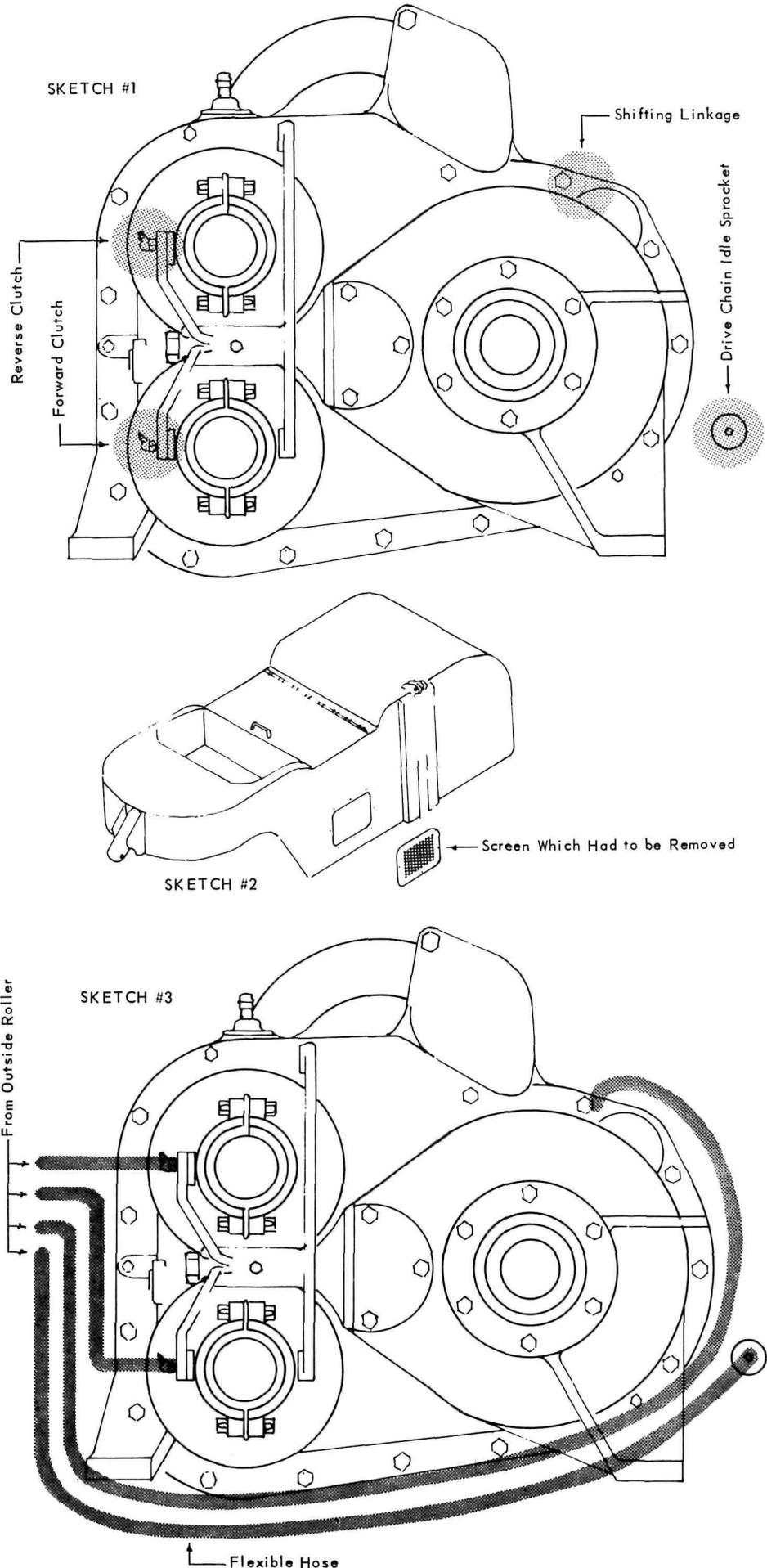
Hammond E. Skeen, automotive mechanic, noted that the manufacturer suggested weekly greasing, and he guessed that failure to grease as often as suggested was because it required about thirty minutes to remove eight screws from the compartment screen, grease the fittings, and then replace the screen. So, he devised a means of simplifying and speeding up the greasing.

Sketch No. 1 shows location of grease fittings.

Sketch No. 2 shows screen which had to be removed from engine compartment to grease clutches, drive chain sprocket, and shifting linkage. It also shows the outside location of grease fittings installed in the hose that greases the parts requiring grease weekly.

Sketch No. 3 shows inside engine compartment and the flexible grease lines that were installed at each point to be greased.

Now it takes only a few seconds to lubricate through the outside fittings.



### NARROW-TRACKED TRAIL WORK TOTER

*Equip Tips*, a publication of USDA Forest Service Equipment Development Center, notes the availability of a narrow-track model of the Mark VI Toter, designed especially for Forest Service trails. Only 25 inches wide overall, the vehicle should be useful for jobs like supplying remote lookouts and maintaining trails, carrying tools, camping equipment, and supplies.

Up to 500 pounds of gear can be hauled at a top speed of 2 1/2 miles per hour. Since the controls are easily mastered, seasonal employees can safely use the Toter with just a few hours of training. Since the trail crew must walk, there is little tendency to miss spots needing repair. The vehicle itself demands a good standard of trail maintenance, because it is difficult to drive it through areas badly eroded or blocked by downfalls.

Although Toter is designed and built to be used on rough, steep terrain, its narrow width does render it unstable when

contouring steep slopes, especially with a heavy load. It should not be overloaded, and the center of gravity of the load should be kept as low as possible.

Occasional breakdowns and the need for minor adjustments and tuneups can be expected. Since the vehicle is sold through one distributor, each user must be prepared to provide his own service. Most parts are stock items and can be purchased locally. Minor repairs can be made with a few hand tools, even in backcountry, and major repairs can be handled in any good machine or automotive shop. Toter can be carried in a standard pickup truck or slung under a helicopter.

Labor savings can quickly make up the cost of the Toter (\$1250, with bulk rack). The distributor is T & G Company, Box 2515, Yakima, Washington, 98902.

Acknowledgement is made to *Equip Tips* for adaptation of their article in May 1971 issue.



### PROPERTY OF U.S. NATIONAL PARK SERVICE

Disappearing nature trail labels and traffic and directional signs at Natchez Trace Parkway reached such proportions that Ranger Henry Hughlett of Kosciusko Subdistrict did some "what-to-do-about it" thinking. Any way to stop the stealing or recover the stolen signs?

Those trail labels were removed with such care; was somebody taking them to use for the same purpose at another location? If so, a permanent identification as National Park Service property would make them less attractive.

And those traffic signs—who were the thieves and what did they do with the signs? Henry talked with some college students and confirmed what he believed, that it is "camp" for a student to decorate his room with the signs. He also learned that these signs are usually left in the rooms at the end of the term. Cleaning crews pick them up and eventually they are turned over to the state or county highway department. Since most traffic signs are similar, the State gets those which were stolen from the Park Service along with their own.

If the Park Service signs bore an identification, there might be a possibility of getting at least some of them back, Henry reasoned. So, now all metal signs along the Parkway are impressed with a metal stamp in large letters—PROPERTY OF USNPS—then painted, using a paint stencil. If paint is scraped off, identification still remains.

### SAVE THAT STETSON

"Hat Saver" is the name of a chrome wire device purchased by Bob Schumerth, management assistant, Wilson's Creek National Battlefield. It is designed to hold a hat upside down to the inside roof of a vehicle. It works fine for his NPS Stetson, Bob says, and mounts in a minute with the one screw on the vehicle rearview mirror mount. Held in this position the hat stays out of harm's way, stays cleaner longer, and the brim remains flat.

The device, which cost \$3.95, was obtained from HAT SAVER CO., Inc. P.O. Box 307, Rosenberg, Texas 77471.

### EASY DECAL REMOVER

At Natchez Trace Parkway they were paying a private autobody paint shop \$20 to \$27.50 to remove Government markings from surplus and exchange vehicles before delivery to GSA sales center. Removal is required by Federal Property Management regulations.

Hammond E. Skeen, automotive mechanic, built a wooden stand and attached a

heat bulb (Industrial Infrared Reflector 250 W) to it. With the light turned on, he moved it across the decals until they were soft. Using a putty knife which he had sharpened to about a 5° angle and with corners slightly rounded, he removed the legends without damage to the paint. He then used a rubbing compound and blended the paint that had been under the decals to match the faded paint on the panel. Little or no touchup was needed.

Materials enough for innumerable cars cost less than \$5: bulb, \$1.72, rubbing compound, \$1.35 (quart), touchup paint (16 oz. can), \$1.40. Two hours of labor (@\$3.63, or \$7.26 per car) did the job.

So, at not more than \$8.00 per car an average saving of about \$315 a year was achieved on the (approximately) 20 vehicles replaced each year.

## GRAFFITI REMOVAL

One morning last spring the staff at Independence National Historical Park discovered to their disgust that the Second United States Bank, a marble structure in the Park, had been defaced with graffiti.

Lynch H.D. Boykin, Jr., horticulturist, placed a call to Ralph Palaia of the Madison Chemical Company. During the hour and a half before the call was returned, three members of the custodial staff tried in vain to remove the paint from two panels. When Mr. Palaia arrived he removed most of the paint in fifteen minutes with D-Mark.

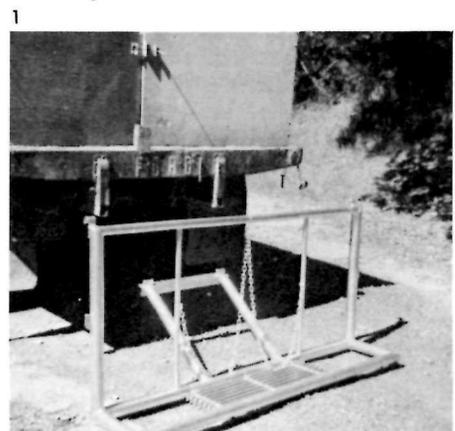
D-Mark, which sells for \$97.50 for a 36-quart case, is a product of Madison Chemical Company, 161 W. Burns St., Philadelphia, Pa. 19106. The telephone is 215 (area code) 567-0795.

## GARBAGE CAN CLEANING RACK

A sweet-smelling, pine-scented garbage can in two and a half minutes; Ranger Earl Wilder, Bothe-Napa Valley State Park in California, does it.

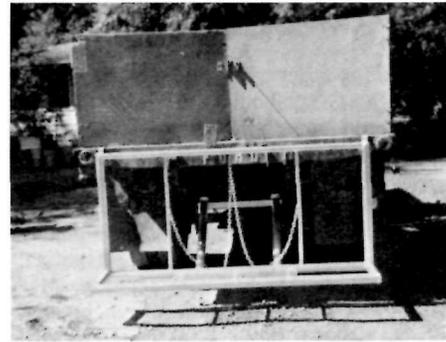
Photos 1, 2, and 3 show the garbage can cleaning rack designed to be hooked onto the rear of the truck (a one-man operation).

Two clean cans placed on the rack and held by light chains are used to hold wash and rinse water (photo 3). Both cans are filled with hot water. Detergent is added to the wash can on the right and a little pine oil to the rinse can.



As the full cans are brought up, the garbage is dumped into the truck, hot detergent water is dipped into the dirty can, sides and bottom are scrubbed with a short handled broom or a brush, and water is emptied back into the wash can (photo 4). Water is dipped from the rinse can, poured around the sides of the can being washed, and then returned to the rinse can. The cleaned can is then turned upside down and allowed to drain while the next can is being washed (photo 5). (Photo 6 shows clean can.)

2



3



4



5



The cans (which had been thoroughly cleaned and painted with epoxy paint before seasonal operation started) after each wash smell fresh as a pine woods.

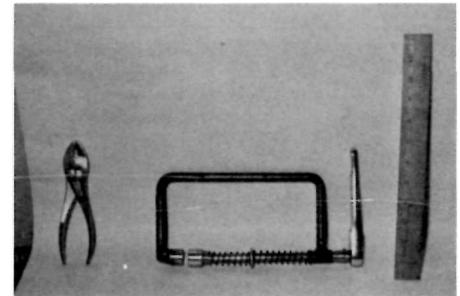
6



## EASIER REPLACEMENT OF ROTARY SNOWPLOW SHEAR BOLTS

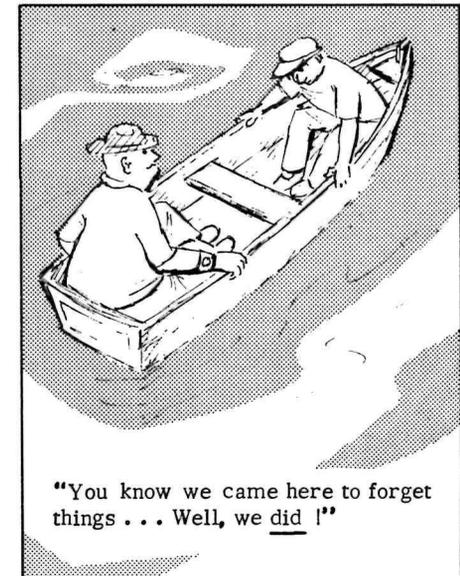
Foreman Robert M. Keller, Lassen Volcanic National Park, uses a spring-type ratchet wrench when replacing shear bolts on rotary snowplows. The job formerly was done with two wrenches, open end, box, or crescent.

Use of only one wrench speeds up the operation and avoids the possibility of slipping off and cutting hands. It makes possible replacement of the shear bolt



on the back without turning augers (a process which sometimes means shoveling out the box, getting back into the cab, and starting the engine).

## THE SURVIVAL KIT



"You know we came here to forget things . . . Well, we did!"

By Jim Burnett