

GRIST

July/August 1978

Volume 22/Number 4

New Posters Step Up NPS Beverage Recycling Program

Bright blue and green posters are now being distributed to facilities and concessions across our nation's parks. These lively reminders will serve to alert visitors that beverage containers sold in certain federal areas should be returned for refundable deposits. In addition to reducing litter, this latest National Park Service campaign will conserve minerals, energy, and other resources . . . plus beef up the continuing recycling program.

National Park Service Director William J. Whalen said the posters will be placed at all facilities and concessions in parks where deposits are required on all beverage containers sold—under Environmental Protection Agency guidelines enacted last September.

"While the 1977 program was effective in most cases," said Whalen, "the poster will serve as another visual reminder that a deposit program is in effect."

During the 1977 season, 118 concessions at 75 parks reported that of 8 million containers sold, 4.5 million were returned. This resulted in saving more than 50 tons (45t) of aluminum, more than 42 tons (37.8t) of bi-metal (steel and tin), and over 487 tons (438.3t) of glass. Enough energy was saved to light over 2 million, 100-watt light bulbs for four hours.

Under the new regulations, all soft drinks and beer sold in any kind of container, including refillable and non-metal cans, must carry a deposit. Containers are marked with the deposit amount and include other information for return. It is hoped that the new posters will encourage an even greater return next year.



The National Park Service poster (Stock No. 024-005-00729-6, \$1.60 each) is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

For a similar free poster, write to: Ed Cox
EPA OSWMP
26 West St. Clair,
Cincinnati, OH 45268

Ingenuity

GRIST

A Publication of the Park Practice Program

The Park Practice Program is a cooperative effort of the National Park Service and the National Recreation and Park Association.

William J. Whalen, Director
National Park Service

John H. Davis, Executive Director
National Recreation and Park Association

The Park Practice Program includes: *Trends*, a quarterly publication on topics of general interest in park and recreation management and programming; *Grist*, a bimonthly publication on practical solutions to everyday problems in park and recreation operations including energy conservation, cost reduction, safety, maintenance, and designs for small structures; *Design*, a quarterly compendium of plans for park and recreation structures which demonstrate quality design and intelligent use of materials.

Membership in the Park Practice Program includes a subscription to all three publications and a library of back issues arranged in binders with indices and all publications for the remainder of the calendar year. The initial membership fee is \$80; annual renewal is \$20. A separate subscription to *Grist* is \$15 initially and \$7.50 on renewal. Subscription applications and fees, and membership inquiries should be sent only to: National Recreation and Park Association, 1601 North Kent Street, Arlington, VA 22209.

The information presented in any of the publications of the Park Practice Program does not reflect an endorsement by the agencies sponsoring the program or the editors.

Articles, suggestions, ideas, and comments are invited and should be sent to: Park Practice Program, Division of Federal and State Liaison, National Park Service, Washington, DC 20240.

Editorial Staff

Division of Federal and State Liaison
National Park Service

Frank C. Goodell, Managing Editor

James A. Burnett, Editor *Design* and *Grist*

Maureen Palmedo, Consulting Editor, *Trends*, *Grist* and *Design*

Maureen Finnerty, Editorial Assistant

For Safety's Sake

All ideas and suggestions shared in the pages of *GRIST* are presented as guidelines, not final working blueprints. Be sure to check any device or plan you want to adapt for compliance with national, state, and local safety codes.

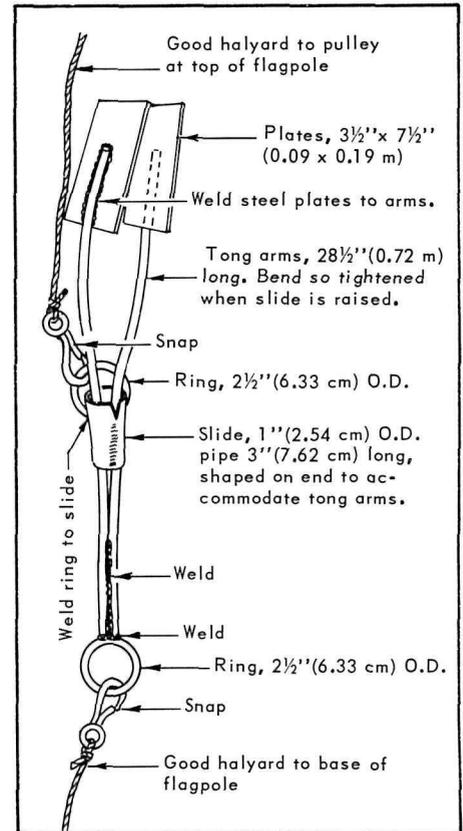
Halyard Retriever

A parted flag halyard—especially when it's at the top of the pole with the flag hoisted—can bring frustration, a loss of man-hours, even a safety hazard to park personnel.

Mark L. Hollomon, a park technician at Fort McHenry National Monument (MD), has designed a halyard retriever for a double halyard flagpole. With this device, a stranded halyard can be retrieved in five minutes, says the designer. It eliminates the need for a park employee to climb a ladder to the top of the pole or, as Hollomon has experienced, eliminates having to call on the local fire company's hook and ladder for help.

Hollomon's design uses two 28½" (71.3 cm) long steel rods as tongs, welded together at one end and bent "bow legged" at the other. Two 3½" × 7½" (8.75 × 18.75 cm) steel plates are welded to the "fingers" of the tongs. A 3" (7.5 cm) section of one-inch (2.5 cm) outer diameter steel tube is used as a slide; the slide is notched and flattened at the end facing the tong "fingers." One 2½" (6.25 cm) O.D. ring is welded to the slide; another to the base of the tongs.

When one halyard parts, the retriever is hoisted up the pole using the second halyard. The weight of the bottom line, attached to the base of the tongs, keeps the retriever upright. When the retriever reaches the top of the pole and the parted halyard, pulling on the top line moves the

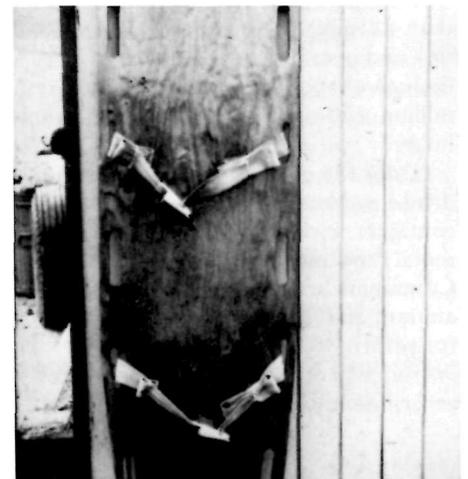


slide up the tongs causing them to close. With just a few tries, the tongs will close around the parted halyard!

This suggestion should be of special interest to park employees who have had—or thought about—the "thrill" of climbing the fire department's 90-foot (2700 cm) ladder.

New Use For Used Seatbelts

Douglas V. Hoehn, park superintendent of Crooked Creek State Park, Harrisburg, PA, really knows the meaning of recycling! To improve the serviceability of backboards, he has adapted used seatbelts taken from wrecked vehicles. These seatbelts are a practical and inexpensive way to equip backboards (stretchers) with effective restraining straps. It is interesting to note that the occupant-safety feature of seatbelts are retained even in this unusual recycling method!



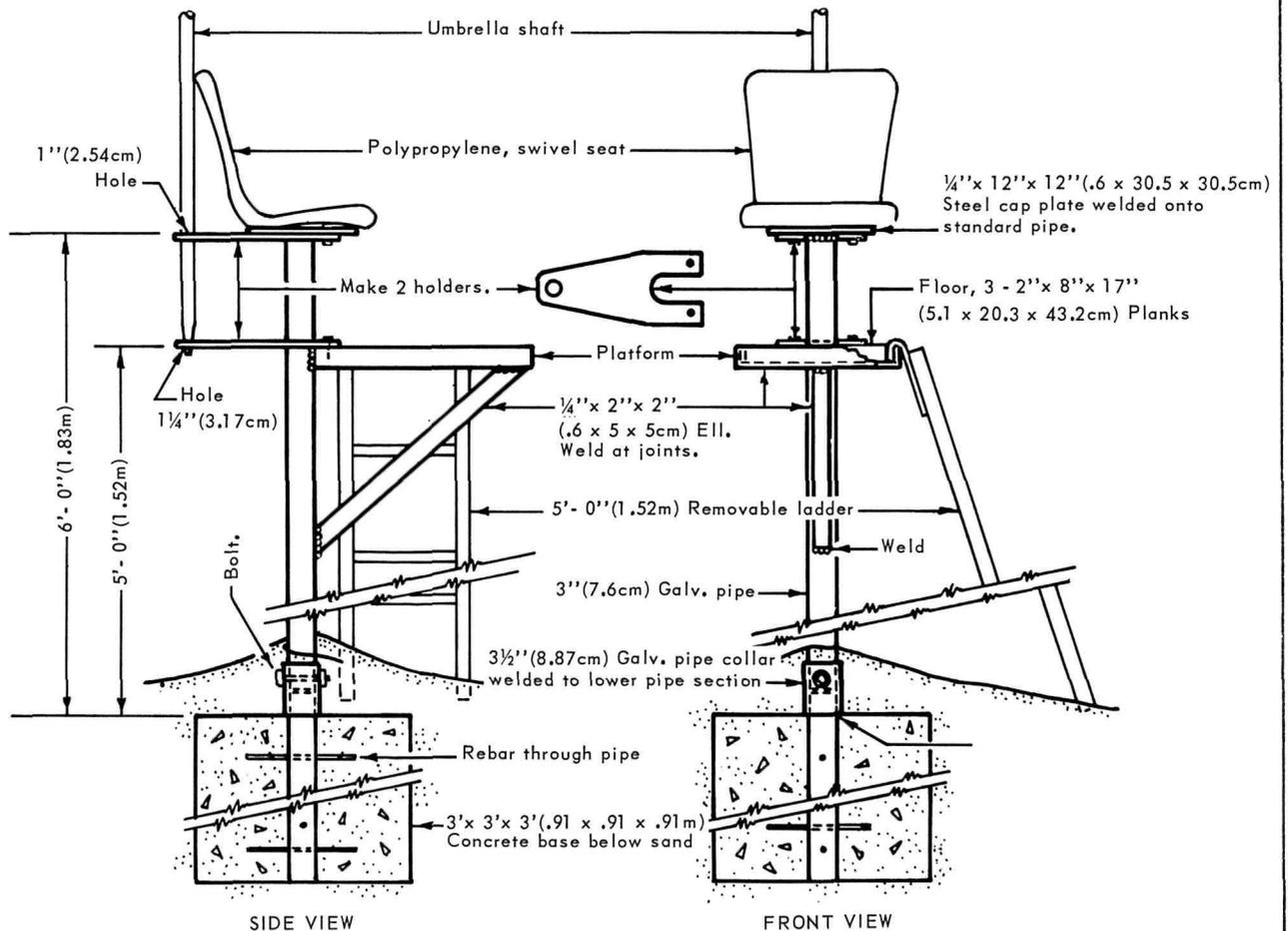
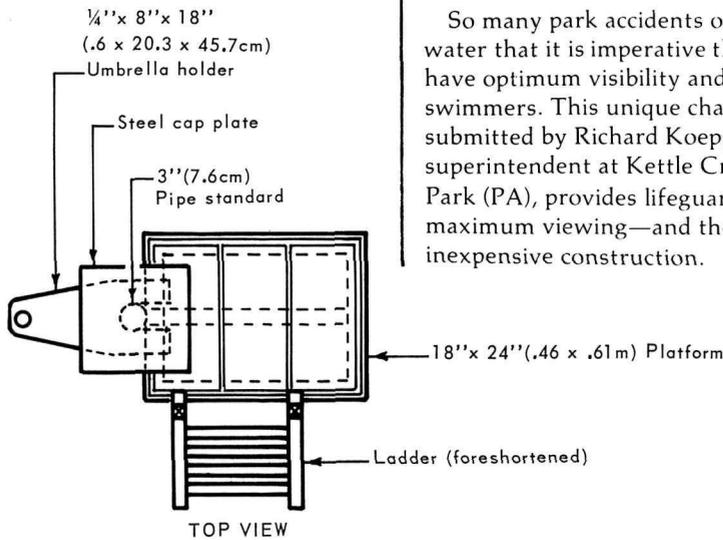
Swivel Seat For Lifeguard Chairs

So many park accidents occur in the water that it is imperative that lifeguards have optimum visibility and access to the swimmers. This unique chair design, submitted by Richard Koepfel, park superintendent at Kettle Creek State Park (PA), provides lifeguards with maximum viewing—and the park with inexpensive construction.

All the materials used, except for the seat (a conventional boat swivel seat, approximately \$16.99) would generally be scrap. The swivel seat gives an unobstructed view of the swimming area. Arm rests have been deleted on purpose to make the chair comfortable, easy to get on and off, and very maneuverable. The seat is made of polypropylene and molds to each guard's back. The planking on the platform is cut $\frac{1}{4}$ " (.625 cm) shorter than required and the ladder is "hooked" over the platform. It can be removed, thereby reducing vandalism problems after swimming hours.

The unit has extremely low maintenance and can provide between \$80 and \$100 savings annually per chair.

One other practical comment . . . it is advisable to drill two $\frac{1}{4}$ " (.625 cm) holes in the bottom of the seat to permit water to drain.



Dock & Boating Aids

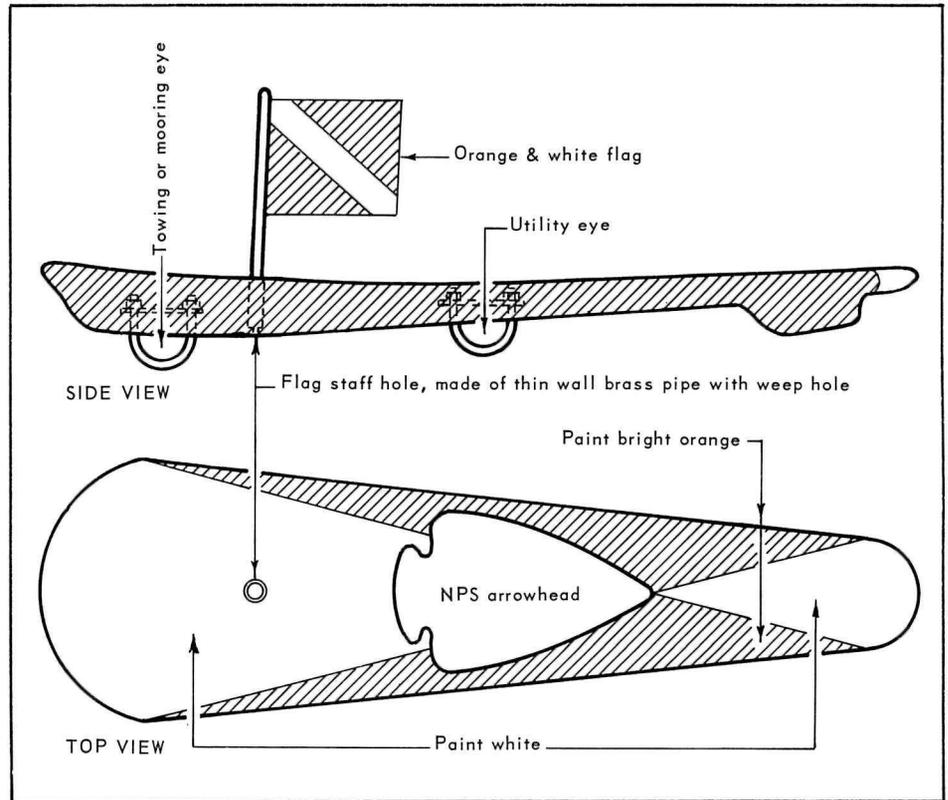
Float Board For Scuba Divers

Many parks are experiencing the need for better safety devices for divers. This fast-growing sport requires special attention from park personnel to assure participants of proper protection.

Aids to Navigation Mechanic James P. Koza, of Lake Mead National Recreation Area (NV, AZ), has designed a safety float board that far excels the automobile innertubes now being used in many locations. Utilizing a "lost and found" broken surfboard, Mr. Koza refiberglassed it, painted it bright orange and white, installed a bottom tow eye, a bottom utility bag eye, and a dive flag holder.

The surfboard is light and can easily be towed to dive sites where the flag identifies it to the diver as well as the boater. Made of styrofoam and fiberglass, the surfboard float is unsinkable as well as stable—opposed to innertubes which have a tendency to tip over and develop unsuspected leaks.

This versatile device provides a stable safety float for the diver in distress and can also serve as a work float to carry



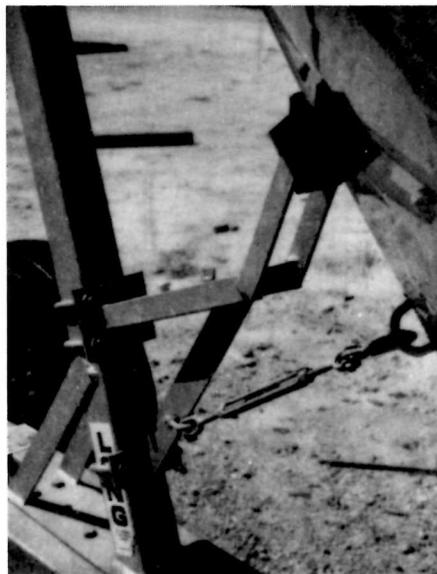
equipment and tools to dive sites. A valuable aid to all parks hosting scuba divers and snorkelers!

Not drawn to scale

Prevent Accidents on Boat Trailers

Boat trailers in general are not equipped with safety devices for preventing rolling and sliding during transport. Usually the boat winch itself is used for this purpose. However, boat winch gears become worn and tend to slip after a time.

This hazard can be avoided by installing a special safety device suggested by Robert K. Simpson, maintenance worker at Cape Lookout National Seashore (NC). Mr. Simpson has installed two of these devices with unqualified success. The device consists of a heavy-duty galvanized turnbuckle, hook and shackle. Simply drill a 1/4" (.625 cm) hole in the trailer frame (below the winch), and mount the turnbuckle semi-permanently on the trailers frame with the bolt and shackle. The other end is connected to the boat "eye" with the



hook, and the turnbuckle is tightened appropriately.

You will not only prevent accidents and eliminate existing hazards . . . but save money and materials on winches.

Self-Tightening Dock Anchors

Robert R. Davisson of Bighorn Canyon National Recreation Area (MT) shares an idea for making docks safer for boats and maintenance men. Davisson has suggested the installation of self-tightening cables on floating docks.

The cables should be set 5 feet (150 cm) under water at all times. This means boats can dock all around the area without hitting the cables. A counterweight hanging below the dock will keep tension on the cables regardless of the water level. This will eliminate the need for personnel to make daily adjustments of the winch to keep tension on the lines as the level changes. It will also save an estimated \$500 for the maintenance and repair of the dock every year.

Davisson estimates material and labor for construction to be about \$350.

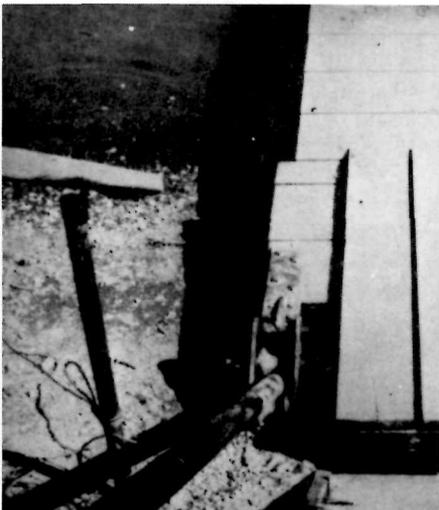
On Bears & Bees

Floating Dock For Fluctuating Water

Flood control and severe water level variances make standard, permanent docks obsolete in many parks. Park Superintendent Douglas V. Hoehn of Crooked Creek State Park (PA), has implemented a floating dock system that accommodates water fluctuations.

Rollers attached on either side of the dock and around two pipes, which run parallel to the slope of the bank, allow the dock to progress up the set of steps located between the pipe as the water rises. In like manner, this system allows the dock to progress down the pipe as the water level in the lake is lowered.

This simple, yet effective, system allows for easy access to the lake and prevents both personal and boating accidents.



Taking the Sting Out of Yellow Jackets

Yellow jackets cannot only be an annoyance to park visitors . . . but a health peril as well. Park Technician James L. Buchanan, Jr., of Kennesaw Mountain National Battlefield Park (GA), has provided a method for eliminating their danger to both park personnel and visitors.

You can locate those yellow jacket nests close to heavy-use areas during the early and mid-morning hours by

observing yellow jackets gathered at water sources (drinking fountain, etc.) or food sources. Watch the direction of flight toward the nest and if sight is lost, simply wait at the last point of sighting and look for the next yellow jacket to come by. Most nests are located quickly within 25-50 yards (22.5 to 40 cm) of water or food source, but some have been found up to 150 yards (135 m) distance. Upon finding the nest, carefully mark it with surveyor's tape; then immobilize the nest at night—without danger.

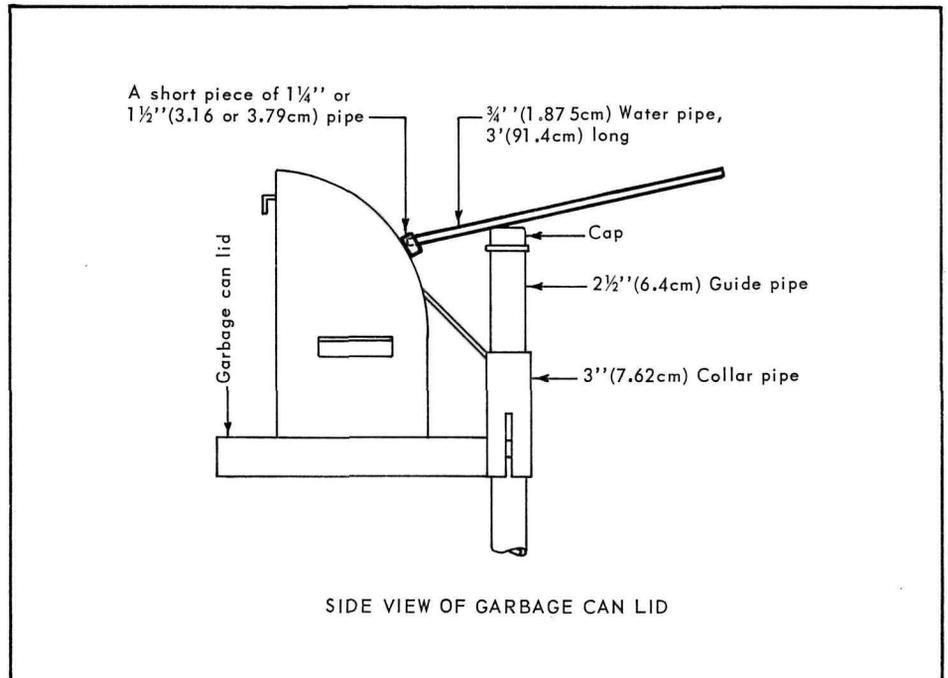
Opening Bear-Proof Garbage Cans

Once you bear-proof garbage cans to prevent these powerful creatures from breaking into them, you have another problem—how do you empty your secured cans?

Ted Palmer and Jim Shields, maintenance mechanics at Pinnacles National Monument (NM), have designed a special lever that takes the backaches out of this job.

Weld a short piece of pipe $1\frac{1}{4}$ or $1\frac{1}{2}$ " (3

or 4 cm) to the curved part of the bear-proof garbage can, $1\frac{1}{2}$ " (4 cm) below the level of the pipe cap screwed on the guide pipe. Buy a 3-foot (90 cm) length of $\frac{3}{4}$ " (1.9 cm) water pipe; insert one end into the short pipe welded on the lid. Then lay the $\frac{3}{4}$ " (1.9 cm) pipe across the top of the guide pipe cap and press down on the outer end of the pipe until it raises the garbage can lid past the lug. Pull the lid towards you 3 inches (7.5 cm) and remove the $\frac{3}{4}$ " (1.9 cm) pipe. Swing the lid far enough to remove the garbage and then push the lid back and let it drop into place.

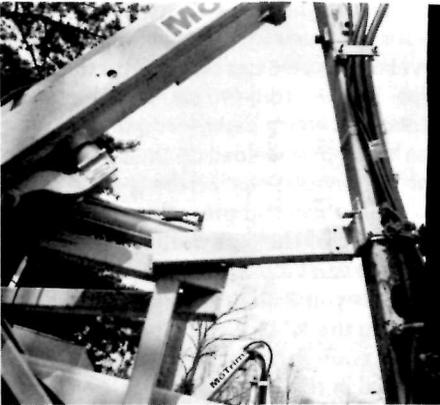


Safety . . .

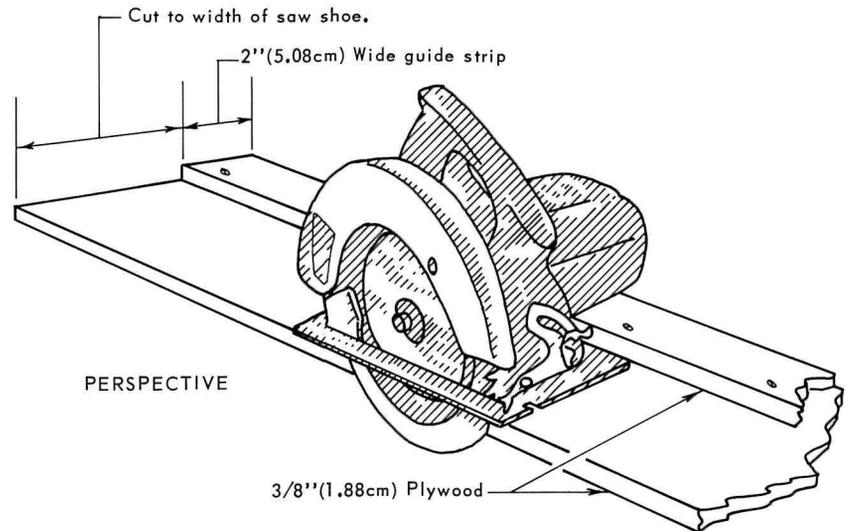
Fail-Safe Device For Cutting Bar

The Massey Ferguson tractors equipped with Mo-Trim mowers delivered to the Shenandoah National Park (VA) had no safety device to keep the cutting bar from dropping to the ground in case a hose or hydraulic fitting burst. This was especially hazardous when the tractor—which has a highway speed of about 20 miles per hour—was being driven from job to job along park roadways.

Blacksmith Joseph W. Foltz and Motor Vehicle Operator Robert W. Beahm constructed the device shown here. Simple to make, it helps avoid serious accidents.



Saw Guide



Here is a simple, inexpensive device for cutting large pieces of plywood in a safe, accurate manner with a portable power saw.

David R. Milner, recreation forester at Umpqua National Forest (OR), has sent *GRIST* a great design. Cut two 8-foot (240 cm) strips of $\frac{3}{8}$ -inch (.9 cm) plywood as accurately as you can on a table saw. Cut one strip 2 inches (5 cm) wide and tack it on top of the wider one with both pieces flush on one side. Place your

portable saw on the wide piece, with the left edge of the shoe against the edge of the 2-inch (5 cm) guide strip, and cut the wider bottom piece of plywood to the proper width.

You now have a handy straight edge for making accurate cuts regardless of the angle. Use two "clothes pin" type wood clamps to hold it in place while cutting. Tack it lightly in place for trimming the edge of a roof.

Wired For Safety

Slow moving maintenance vehicles can constitute a menace to park visitors and personnel alike if not properly marked. And the standard method for highlighting these trucks and tractors is with strobes.

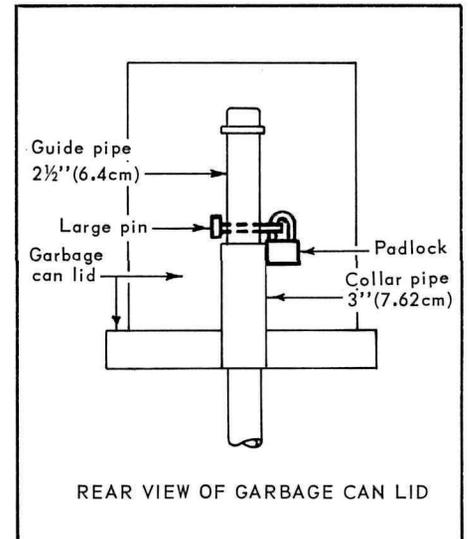
Richard Slonaker, park ranger at Death Valley National Monument (CA), has noted that drivers often forget to turn on these safety lights, and thereby present a real danger. His suggestion is to wire the strobe lights mounted on the top of slow moving vehicles directly into the ignition switch. This way, the hazard lights are operating as soon as the ignition is started—eliminating the threat of operator forgetfulness. A simple rewiring of the contact point accomplishes this solution.

Locking Garbage Cans

Ever since the deposit on cans and bottles was levied, children and grownups alike have been lifting the lids on bear-proof garbage cans to retrieve the containers. The lids are usually left in the raised position, allowing animals to scatter refuse and tear bags . . . and presenting a safety hazard, since sooner or later someone is going to be hurt by a falling lid.

Harold V. Lambert, transfer station operator at Yosemite National Park (CA), has submitted his idea for preventing two- and four-legged pilferers from opening these cans.

Lambert has installed a pin through the pipe with a lock so the lid cannot be raised. A simple yet effective deterrent that would cost less than \$5 per can and save hours on clean-up time! The major



value, of course, is in preventing accidents—a value no one can put a dollar sign on.

Mist Blower Helps Fight Fires

Fast, effective construction of fire lines is essential for fighting fires in every park. Usually these are cleared by sheer manpower—up to ten men per line. Slow and very dangerous work!

Michael C. Warren, park ranger, Cumberland Gap National Historical Park (KY, TN, VA) has an idea that makes for fast and efficient construction of these lines—using two men instead of ten—with the mist blower.

The mist blower is designed to discharge large volumes of air through a flexible tube and nozzle. Normally this air also carries chemicals, but the chemical tank may be removed for fire line use, or a similar piece of equipment

called an air broom can be used. For the fire line, use a longer discharge tube and a crew of just two men. One man will assist the operator in starting the blower and in clearing vines and other materials which the blower does not remove. Due to the extremely high volume of air that these machines produce, they will leave a cleared fire break of up to two feet (60 cm) wide in heavy leaf litter at about the same rate as a man can walk.

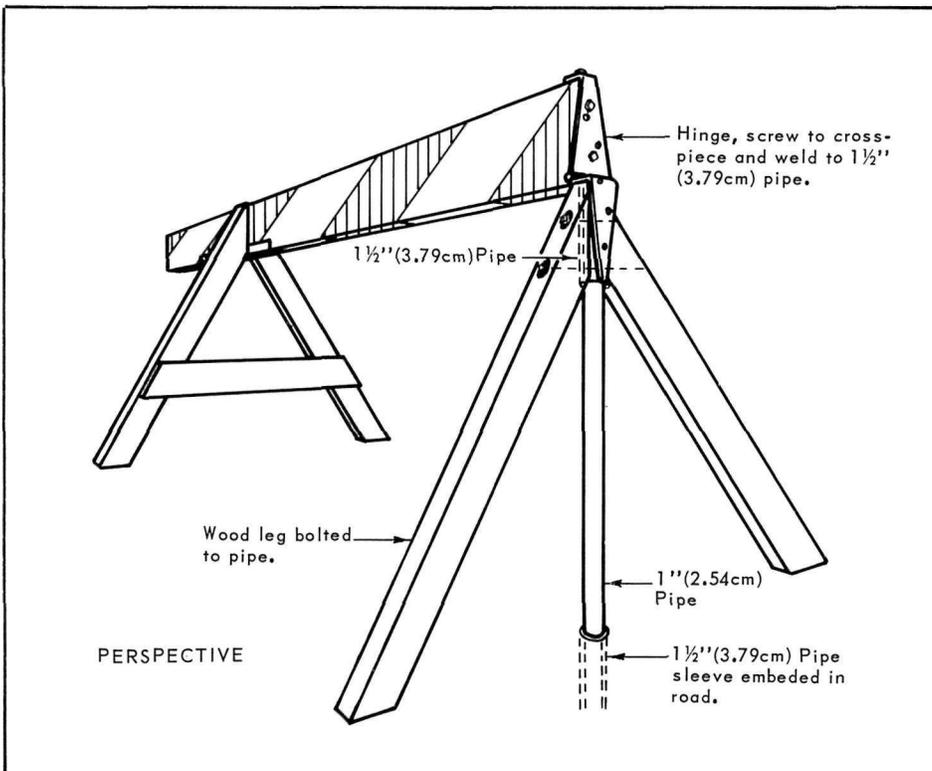
The area where these machines show their greatest potential is in rough, rocky country where construction of fire lines with normal hand tools is extremely difficult.

Additionally, these machines may be used during the off-season for clearing ditch lines, parking lots, walks, amphitheaters and campsites of debris.

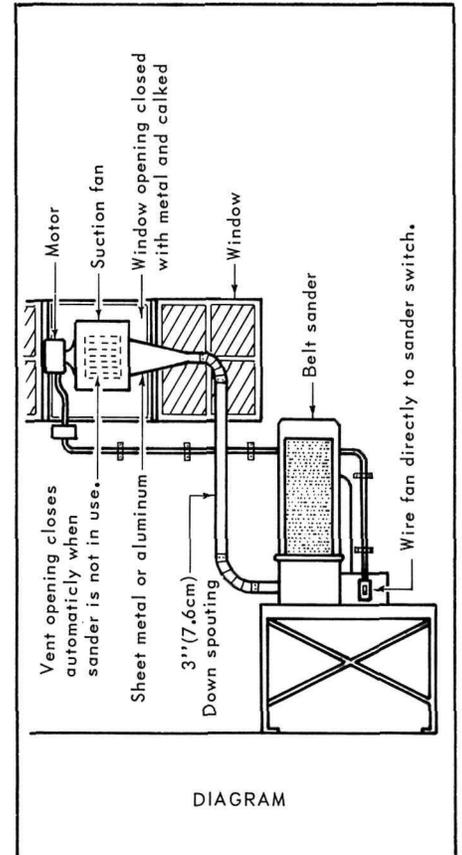
Easy-Open Barricades

“Road Closed” barricades are necessary in almost every park and recreation area. Unfortunately these barriers are often very unwieldy, break easily, and are difficult for one man to open.

The “swivel” barricade idea will solve these problems. Motor Vehicle Operator C. Wayne Rote of Grand Teton National Park (WY), designed barricades that work on a pivot stand. This enables one person to walk the barricade around for easy access and egress.



Suction Fan For Cleaner Sanding



Anyone who has worked in a shop with a sander knows the problems of saw dust. This fine dust can float around in the air up to four or five hours after a sander has been used, causing health hazards, reducing production, and interfering with work quality.

Usually dust is collected simply by gravity, using a bag mounted on the bottom of the sander housing, but Henry E. Lovejoy, carpenter at Death Valley National Monument (CA), has sent in a design that will eliminate all of the dust quickly and effectively.

The design pictured here uses a suction fan on a stationary belt sander. All materials were salvaged from around the shop and the only cost was in the installation hours. With proper care, this device should last for ten years.

And More Safety



Keeping Heads Above Water

Safety helmets are a must for employees in parks . . . but they often seem cumbersome and uncomfortable.

At a safety meeting held at the Tobyhanna State Park (PA), Joseph Kovich, park foreman, led a discussion on how helmets could be improved and what their present value was.

At this time, standard helmets are very hot to wear during the summer months. They often fall off during the performance of certain jobs, and they are much too heavy. But after some discussion, it was learned that even the helmets now in use have a certain amount of buoyancy and can be of valuable assistance in a drowning situation. The employees recommend that parks look into this factor and design a safety helmet manufactured with styrofoam sealed into the dome which would not only make the helmet cooler to wear, but would also add to its buoyancy.

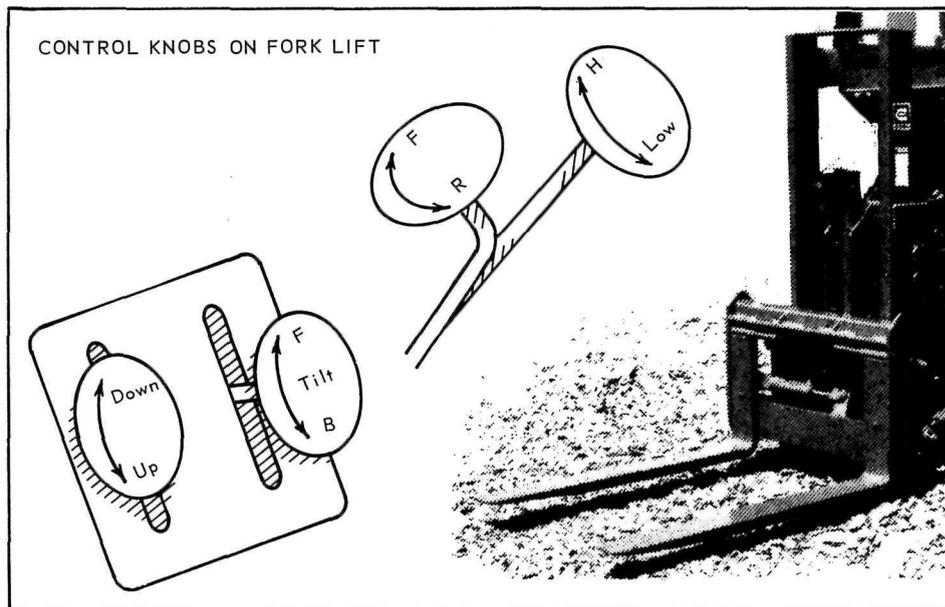
Preventing Forklift Accidents

Operating an unfamiliar forklift can present not only awkward problems in maneuvering, but safety hazards to both the driver and other park employees.

Harold L. Scoble, building repairman at

Lake Mead NRA (NV, AZ), has found a simple solution to this multiple use menace.

Etch the tops of the control levers of the forklift with identifying markings and fill with white paint for easy visibility and understanding. This will protect both people and equipment from possible damage.



Publications of Note

Accessibility

Here are two how-to books that provide invaluable aid to park personnel trying to meet the needs of the handicapped. Information is offered not only on how to make your facilities accessible to the disabled, but also how wheel chairs, crutches, and braces affect their users and their mobility.

These publications contain scores of practical suggestions based on thorough studies. Ramps, restrooms, drinking fountains, signage, telephones, walking surface treatments, doors and stairs, are among the many subjects discussed.

Park practitioners, managers, and planners everywhere will benefit from these timely books.

Architectural Accessibility for the Disabled of College Campuses by Stephen R. Cotler, R.A., and Alfred H. De Graff. State University Construction Fund, 194 Washington Avenue, Albany, New York 12210. 133 pages.



Interpretation for Handicapped Persons by Jacque Beechel. National Park Service, Pacific Northwest Region, Cooperative Park Studies Unit, Seattle, Washington 98195. 59 pages.



Continuing Education

This authoritative guide lists and describes those courses and degrees offered by schools around the country in recreation and park education. Compiled by the Society of Park and Recreation Educators, this biennial directory is of pertinent interest and use to all who have made or plan to make their careers in park-related positions.

SPRE Recreation and Park Education Curriculum Catalogue. Edited by Arlene Epperson. Society of Park and Recreation Educators, NRPA, 1601 North Kent Street, Arlington, VA 22209.