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Making an Iodinator Work for Hand Pumps

People at the C & O National Historical Park in Washington, D.C., have been faced with a serious problem—how to make potable the water in the 50 systems within the park.

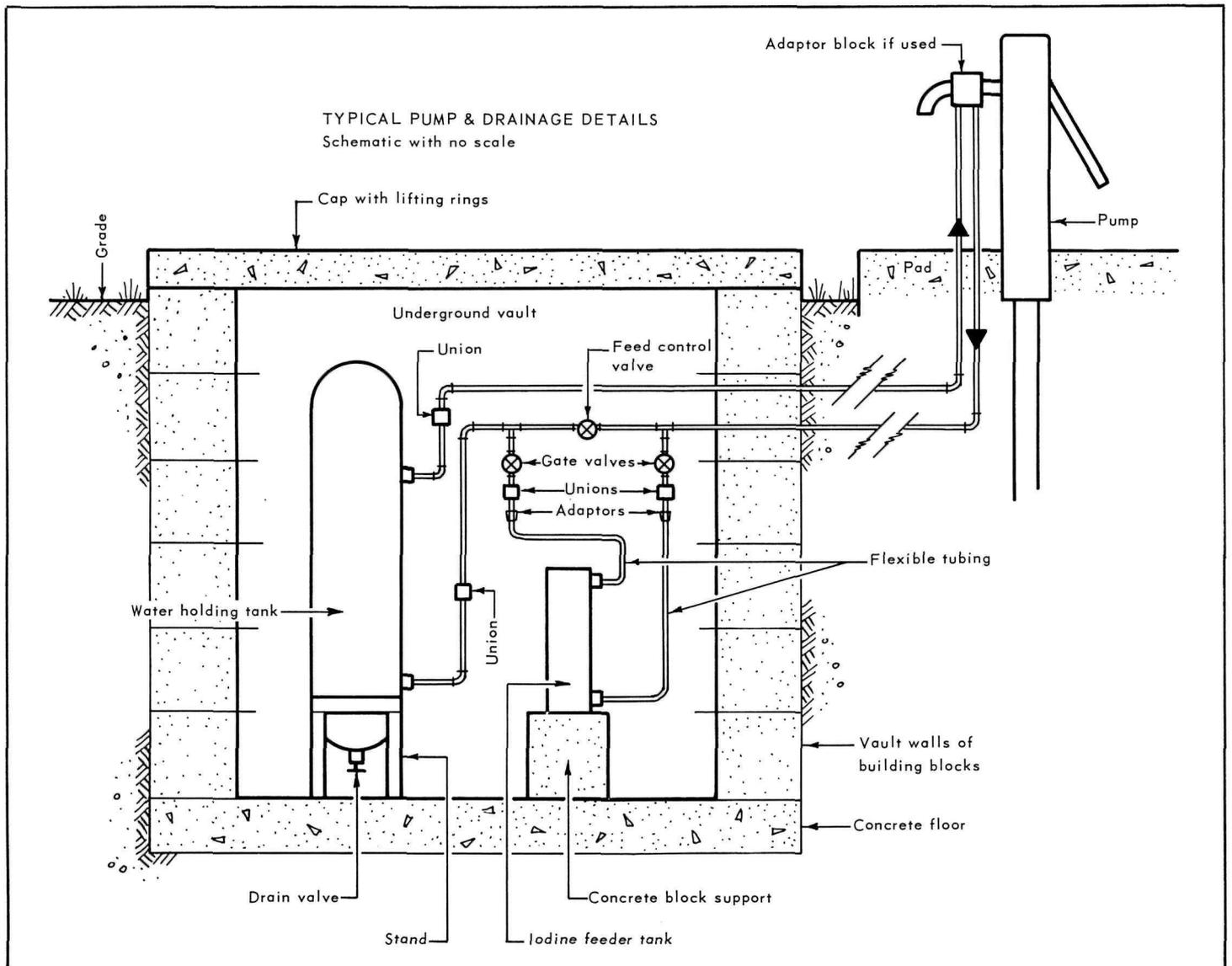
At one time, chlorinators were installed at two locations, but due to the design of the units, they did not work well on hand-pumped deep wells. Chlorinators, says the park's chief of maintenance Dale B. Sipes, work best on pressure systems.

"Numerous things seem to affect the wells," says Sipes, "such as extremely dry or wet periods, high water, high and

low visitor use, proper drainage. But there seemed to be no consistency or any particular situation we could really put our finger on for correction."

The park extends for 184.5 miles from the nation's capital to Cumberland, Maryland. It is popular for its historic structures, hiking, biking and camping. The

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Recycling

With a little effort and imagination, we can recycle all sorts of things we find around us. As a regular feature, *Grist* will present new ideas for recycling materials you find around you. Send your ideas to Jim Burnett, Editor, *Grist*, Division of Federal, State and Private Liaison, National Park Service, Washington, D.C. 20240.

GRIST

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Note:

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Clever Recycling Collector

Edward R. Krebs, area manager for Miramonte State Recreation Area in Colorado, suggests a recycling center made out of recycled materials!

Krebs took an 8-foot piece of snow fence, made a circle of 3/4-inch plywood, put the fence up around the plywood and painted in big letters on a piece of 12" x 20" galvanized tin in three-inch letters "Recyclable Cans Only." The container works well and can be placed beside a beach or picnic area trash can so that park visitors can separate their refuse for you.



Save Those Scraps!

Next time you start to crumple up a piece of perfectly good paper, think twice about this idea. Velena Dee Vincent, a clerk at Mammoth Cave National Park, suggests that a collection box be placed in a convenient location in offices to save surplus paper for rough drafts or for a recycling center.

Ms. Vincent received a \$37.50 incentive award for her suggestion.

Making Room for Big Trailers

Jack E. Chadwell, Facility Maintenance Manager at Mammoth Cave National Park, suggests that visitor center parking lots can be adapted easily for trailers by removing wheel stops in certain parking lanes. The double-length parking spaces created by removing the wheel stops are perfect pull-through space for cars pulling trailers.

Chadwell suggests painting directional arrows and signs at appropriate locations to determine the flow of traffic entering and leaving the lot. For his idea, Chadwell received a \$100 incentive award.

Ingenuity

The following helpful hints will make your job a little simpler, a little more efficient. Send in your bits of ingenuity to us at *Grist!*

Law Enforcement Equipment Carrier



A padded briefcase can be tailored easily to carry all the equipment law enforcement officers used to carry on their gun belts or in their cars, say park technicians Joe E. Neal and Lonnie Shaffer of Platt National Park – Arbuckle Recreation Area.

The briefcase, pictured here, has been fitted with 4-inch foam, cut to fit around a revolver, extra ammunition, cuffs, mace, fingerprint kit, camera, flash attachment and film. The foam can be cut to fit almost any piece of small equipment. One central location keeps the material safe and prevents damage although it is still accessible.

The men received \$25 incentive awards for their idea.

New Remedy for Dirty Showers

Soap and lime build-up on shower tiles can be difficult to remove. Norman R. Hersman, Ranger-in-Charge of Palisade Lake SRA, Utah, recommends using oven cleaner. "The type we used was an aerosol, but I'm sure that a brush-on type would work just as well," says Hersman. "Be sure to take all precautions as to the safe use of the product," he cautions.

Cleaning Rollers with a Spinner

Gary A. Thrash, a painter's helper at Rocky Mountain National Park, suggests using a hand operated mechanical spinner in a paint shop to spin fuel oil and water from roller skins.

By spinning the rollers, the fire hazard caused by fumes from solvents was eliminated and the oil left in the rollers diminished. Thrash won a \$50 incentive award for his idea.

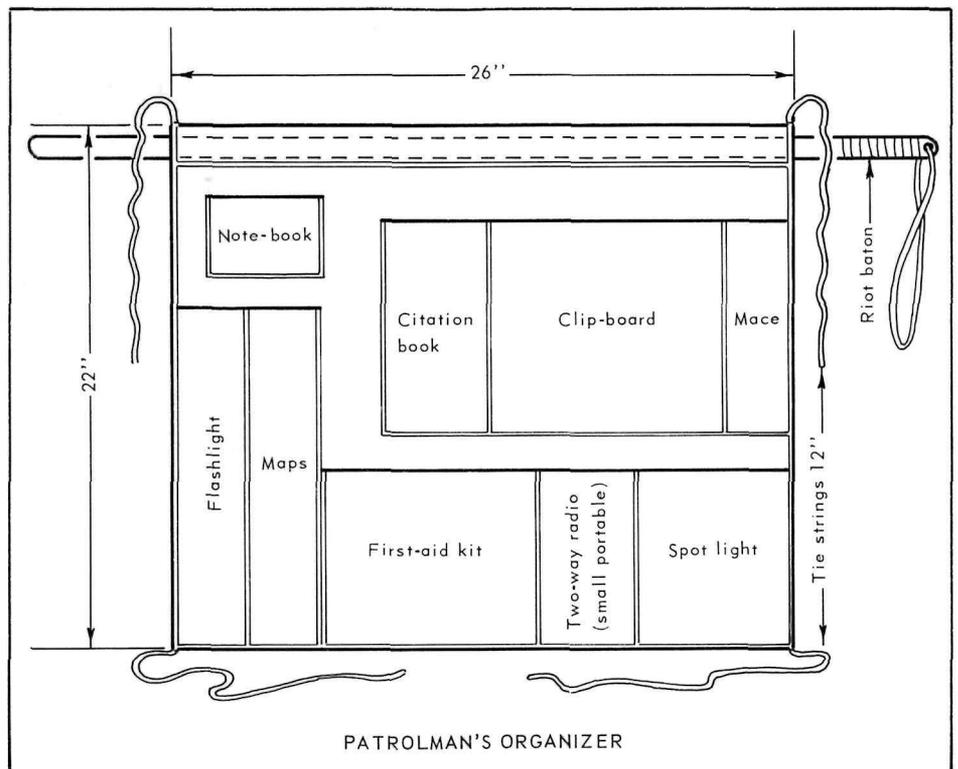
A Place for Everything

A sewing machine and a bit of scrap material can be fashioned into a useful patrol vehicle organizer, says Larry Widdifield of Buffalo National River, Harrison, Ark.

Widdifield has designed a carrier for items used by patrolmen which is made from muslin with pockets to carry notebooks, a baton, flashlight, maps, a first aid kit, a small two-way radio, spotlight, clipboard, citation book and mace.

The carrier is about 26 inches wide and 22 inches deep with strings attached to both top and bottom so that it can be tied to the back of the seat for easy access.

Widdifield, a park technician, says the organizer "will prevent items from falling off the seat and being damaged or distracting the driver" and that it will save the expense of replacing damaged items such as portable two-way radios, spots, etc.



Using DESIGN for Golf

Darrell Winslow of Northern Virginia's Regional Park Authority writes us that *Design* has come in handy in developing plans for the Authority's miniature golf courses.

"The staff used the *Design* portion of the Park Practice Program for basic design ideas and employed architect Brad de-Wolf, AIA, to design and coordinate the service building. He also designed the walkways, fountain and fence to blend with and augment the staff's plans," says Winslow.

"The small service building is used for storage of clubs and ticket sales and was designed to resemble a garden gazebo. It is built of redwood, glass and cedar shakes to blend into the wooded setting. The fence surrounding the course is of cedar, with a natural finish. Each slat of the fence was hand cut.

"All the walks are of brick laid in sand. Colored concrete was used around the putting greens to blend with the earth colors. No grading was done—the terrain was left natural. Flood lights were placed in existing trees rather than on poles. All wiring was placed underground," continues Winslow.

"The fountain is attractive to both eye and ear and offers the pleasant sound of splashing water. Thick carpet was installed on the fairways and also on the floor of the service building, adding to the comfort of the employees."

Winslow concludes by noting that circular storage slots in the formica-topped counter provide convenient storage for and access to golf clubs. On the 18th hole, the ball is automatically returned to a storage basket inside the building.



Planters to Make

The current plant craze has brought lots of leafy things into our environment, yet often we neglect to display plants attractively.

These two planter ideas are simple enough to make in any maintenance shop. The slat board planter, for use indoors or out, is simply made by cutting notches in the bottom of one board and the top of another to fit. Remember, if you are making this design for outside, make the notches large enough to account for the wood swelling due to rainfall. Treated wood is protected from fungus, mold and insects and will hold up better for long periods of time.

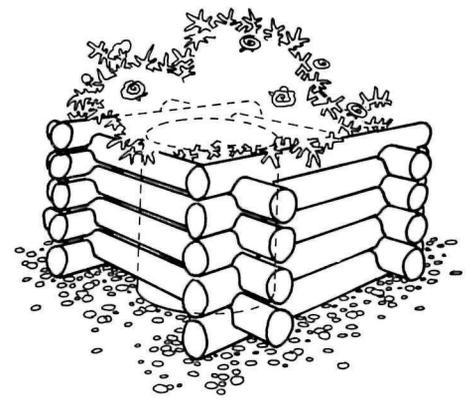
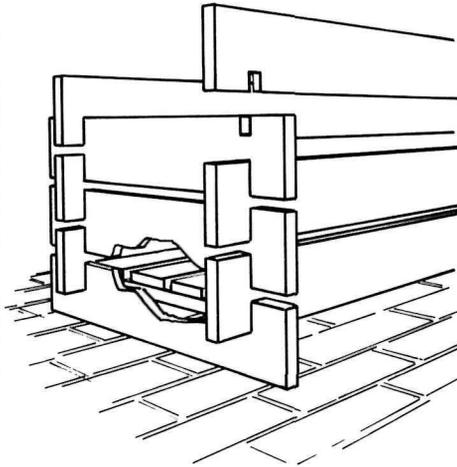
For interior use, the same wood can be stained or painted and serve as a simple rustic container for plants. Care should be taken to waterproof the interior of the planters (for example, a metal liner made

from discarded air conditioning ducts), or planters should be used only as holders for potted plants.

The second design uses rounds of wood—large dowels or half-rounds could be used, or even very straight sticks of pine, with the bark on them. Again the

design calls for shallow notches in the wood, very similar in construction to a log cabin.

Both designs are most effective if set low off the ground. The dowels can be glued together if the planter is in a heavy traffic area. If not, they can simply rest on one another, ready to be moved to another spot and reassembled.



(Continued from p. 9)

heavy use of the park demanded a quick and effective solution to the water problem before all drinking water was banned.

The park people worked closely with Iodinamics Corporation, 322 Willow Street Pike, Willow Street, PA 17584, to provide the park with eight iodinator systems to be installed at various locations over a distance of 118 miles. Underground vaults were constructed for each system, reports Sipes, and on-site instructions from a company representative were followed. The systems were installed within two weeks and with some adjustment, have been working well. As a result of the initial success with the system, a total of 23 units have now been installed.

"The iodimators are practically maintenance free," reports Sipes, "and installation costs vary from \$750 to \$1000 for deep wells with hand pumps complete with iodinator and underground vault to house the unit." The system can be installed on pressure systems where no vault is required for less than \$300.

"The only maintenance," says Sipes, "is the replacement of the iodine crystals every 900,000 gallons of water passing through the system."

Here is a listing of parts and costs for an iodinator system, *not including* labor and transportation:

Description	Unit	Quantity	Amount
Special Adapter Block	ea.	1	\$ 18.25
3/4" Roll Plastic NT 100 Cresline	ft.	25	2.58
3/4" Plastic to make nylon adapters	ea.	4	.60
3/4" Galv. Street ells	ea.	1	.47
3/4" x 8" Galv. Nipples	ea.	2	1.88
3/4" Galv. Close Nipples	ea.	2	.54
3/4" Close Brass Nipples	ea.	2	.96
3/4" x 3/4" x 3/4" Brass Tees N.P.T.	ea.	2	2.62
3/4" Brass Gate Valve N.P.T. T-180	ea.	1	3.72
3/4" x 1/2" Brass Bushing	ea.	2	1.14
3/4" Plastic Pipe Hose Clamp	ea.	4	1.04
3" Hose Clamp	ea.	2	1.54
2" x 4" Galv. Nipples	ea.	1	1.37
2" Galv. Caps	ea.	1	1.02
1" Cable (Greenfield)	ea.	10	5.40
42 Gal. Galv. Extra Heavy Range Boilers (14" x 10")	ea.	1	57.90
Model #123 Iodinator-Chemical-Fittings	set	1	160.00
8" x 16" Cement Blocks	ea.	90	28.80
Blue Bond Cement	bag	3	7.50
20' Length #4 Rebar	ea.	3	11.55
Sand, Stone, Cement for concrete pad & vault			20.00
Form Lumber			15.00
Total			\$ 343.88

Maintenance and Safety

A Sign For Equestrians

Signmaker Richard Jackson, along with Dick Engle, Park Engineer, and Don Cameron, Chief of Maintenance, came up with some new signs for Point Reyes National Seashore in California especially for the visitors on horse back.

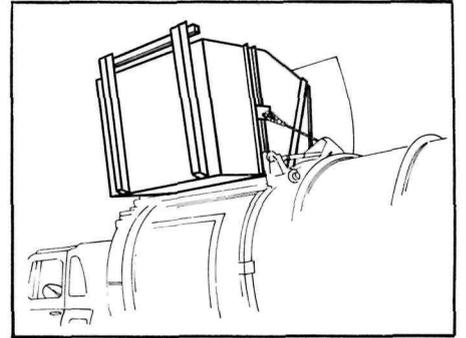
A horse trail crossing a main road inevitably causes conflicts between auto and horse traffic. Part of the problem is persuading horse riders to stop and watch for traffic before crossing. The modified "stop" sign as shown is being used to caution horse riders. By use of the symbolic shape and color of a "stop" sign coupled with the horse rider symbol and word "whoa," the sign quickly gets attention. The written message, "watch for traffic," explains the need for caution to the rider.

This sign must be located so as to be visible to horse riders only and set safely off to the side of the horse trail.



Sand Resistant Trash Cans

Sand and salt can be very damaging to trash receptacles, particularly if they must be dragged to their dumping areas. To prevent rapid deterioration, Hershel E. Fowler, building and utilities foreman at The Padre Island National Seashore, recommends drilling holes in the bottoms of the cans to allow moisture to escape. He then suggests that the insides and exteriors be sanded or sandblasted, painted with a rust inhibitor, and wooden skids be bolted in place at the bottom to keep the



cans off the alkali ground.

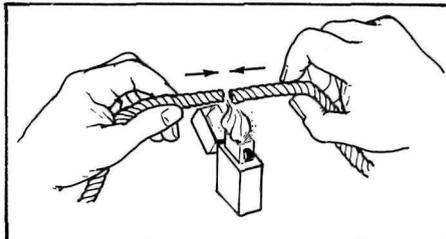
Fowler estimates that each receptacle will be used at least 50 percent longer and provide the park with substantial savings.

Replacing Flagpole Halyards

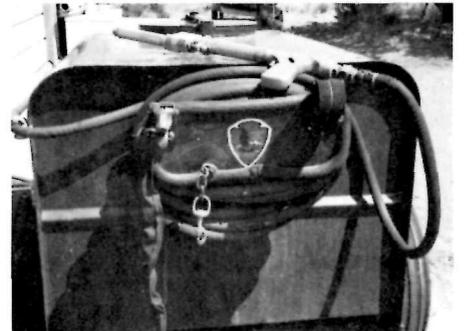
Robert I. Standish, editor of *World Parks*, says, "When faced with the problem of reeving a new halyard on a flagpole, the solution can be easy if both old and new lines are made of nylon or Dacron (Terylene). Simply join the ends of the old and new lines temporarily by melting end fibres together in a small flame (a little heat goes a long way). Rotate the two lines slowly as the fibres melt. Withdraw them from the flame before a ball of molten material forms, and if the lines ignite, blow out the flame at once. Hold the joint together until it is cool and firm.

"The new line can now be hoisted aloft on the end of the old one, which can be broken off when the new halyard is in place. If both lines are of about the same size the joint will freely pass over the sheave or through a block. If one is smaller, haul the thinner line through on the end of the larger.

"If you've any doubt about the method, practice joining a few odd bits together first."



Don't Lose Your Nozzle



In 1973, a nozzle vibrated loose from a Bean fire pumper that was being hauled to a fire and was dragged for miles. Damage was beyond repair. To get this important fire fighting equipment working again, \$146 was paid to replace the nozzle.

Now, this mishap will not reoccur and the pumper is ready for emergencies, thanks to Ward V. Tucker, maintenance man at Canyonlands National Park. He bolted a length of covered chain and a snap link to the old holder to secure the new nozzle and its hose.

