

• New Ideas and Gadgets •

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⚙️ **DRUM SHOES** for factories make moving drums up to 1000 pounds easy and safe, using only one worker. Consisting of a single wheel ball-bearing swivel caster encased in a protective skirt, each drum shoe has an inner groove that clamps to the drum rim. A locking device permits parking of the load. The set includes three drum shoes and a lifter.

• Science News Letter, 82:408 December 22, 1962

⚙️ **MICROSCOPE SLIDE PREPARATION KIT** for teachers and students is a compact steel cabinet about the size of a brief case containing all necessary instruments, reagents, stains, dyes and blank slides. The kit has a hinged cover that becomes a work area and a removable tray of labelled bottles that fits onto the lowered work area. An illustrated manual is included.

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⚙️ **NEW DIAMOND PASTE COMPOUND** for polishing and lapping of semiconductor and exotic materials consists of selectively sized and uniformly shaped cubical diamond particles that eliminate scratched surfaces due to oversized particles and waste from undersized particles. The compound is available in eight grades ranging in size from $\frac{1}{4}$ to 30 microns.

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⚙️ **PERMANENT GAS CANDLES**, shown in the photograph, never burn down or drip wax. Utilizing butane fuel contained in a



transparent chamber with the removable outer colored sleeve, the candles will burn for four hours on one filling. Fingertip ad-

justment turns them on and off and regulates the flame height. Available in five colors, the 15½-inch candles are packaged in pairs with candleholders and fuel injector.

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⚙️ **UNDERGROUND WATERING SYSTEM** for the homeowner allows mowing and watering grass at the same time. Perforated plastic pipes are laid in gravel six to eight inches below the surface of the turf and water is fed directly to the grass roots, eliminating run-off and evaporation. Automatic controls are available.

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⚙️ **SPACE SAVER** for home and workshop is a completely fabricated drawer made of hardwood that can be attached to the underside of tables, cabinets, desks, shelves and other convenient places. The unit, available in four sizes, consists of a ready-to-paint drawer, two slides and necessary screws.

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⚙️ **FLOATING BAIT BUCKET** for fishermen is made of light polyethylene plastic. Holding eight quarts, it will float even when full. The absence of sharp edges protects the minnows from injury, keeping them fresh longer than in other types of bait pails, according to the company. The bright orange bucket is easy to see and clean and will not corrode in salt water.

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• Doctors Are Reading •

Protect Spacemen With Hibernation

➤ A STATE resembling hibernation, which in animals reaches a temperature of 39.2 degrees Fahrenheit, may be feasible for the protection of spacemen.

In a space vehicle with a three-man crew, one man could be cooled, with resulting lowering of metabolic processes, protection from shock and increased radiation tolerance.

Body cooling (hypothermia) has been used successfully in surgery involving the heart, kidney and brain, but long-time hibernation over a period of many months required for a trip to Mars would require drugs not yet synthesized.

Capt. T. K. Cockett and Capt. Cecil C. Beehler reported the findings at Brooks Air Force Base, Texas, and at Harbor General Hospital, Torrance, Calif., in the Journal of the American Medical Association, 182:977, 1962.

Biting Fingernails May Be Neurotic

Neurotic symptoms of nail-biting appear when there is conflict between a need to satisfy an aggressive impulse and at the same time a need to deny it, a Stanford University psychiatrist said.

At the same time, biting the fingernails "continues to represent a form of gratification to relieve tension," Dr. Thomas A. Gonda said in reply to a query in the questions and answers section of JAMA (p. 1066).

In addition to the discharge of tension from the act itself, Dr. Gonda said there seems to be an element of restitution because, unlike other mutilations, the nails grow back.

Changing Disease

Acute rheumatic fever is becoming a changing disease, an editorial says in JAMA (p. 1035). Lowered incidence and decreasing severity characterize this disease in the 20th century, partly due to new drugs and antibiotics, but possibly a natural mutation of the disease enters into the picture.

Before specific treatment was available, protection of patients and isolation of carriers were primary factors in the decline, but rheumatic fever is by no means harmless because of the danger of resulting rheumatic heart disease. More Negroes than whites now have rheumatic fever, partly because of the widespread move to cities.

Vitamin A Intoxication

Vitamin A in excessive amounts may arrest the growth of bones in children. Dr. Charles N. Pease of The Children's Memorial Hospital, Chicago, reported seven cases in JAMA (p. 980), three of which resulted in serious alteration of skeletal development.

Dr. Pease said the degree and rate of absorption of vitamin A varies with the individual child. "The statement that 200,000 units of vitamin A may be given to a child each day with impunity appears to be erroneous," he said.

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