

# • New Machines and Gadgets •

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⚙️ **LEATHER WATERPROOFER** gives water-repellent protection to shoes, and also allows shoes to be polished. Its manufacturer claims the aerosol spray enters smooth leathers at every surface point, including the folds and indentations, and protects for as long as six months under ordinary weather conditions.

Science News Letter, December 1, 1956

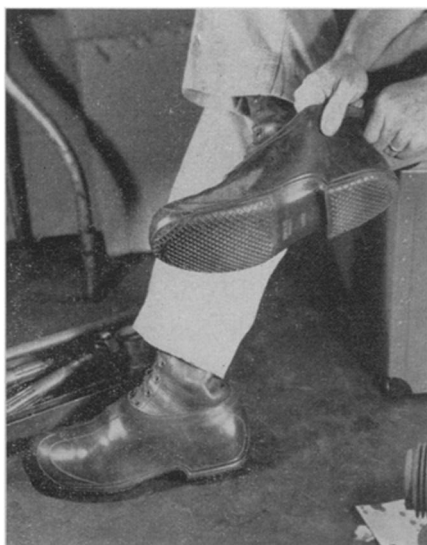
⚙️ **MICRO OPAQUE READER** can be used for every known type of card with micro data on it. The opaque reading screen is said to offer greater eye comfort than the conventional translucent screen. The portable device weighs 23 pounds and has a completely heat-free base.

Science News Letter, December 1, 1956

⚙️ **PIPE NIPPLES** made of a polyethylene plastic resist corrosion, the electrolytic action of soil and do not rust. Designed for use with lawn sprinkling equipment, the plastic nipples are resilient under impact. Instead of breaking, they pull out and can be threaded back in.

Science News Letter, December 1, 1956

⚙️ **WORK RUBBERS**, shown in the photograph, are designed to fit over wide-last safety shoes equipped with steel toe caps. Molded in one piece from either rubber or neoprene, the rubbers do not have a fabric



lining. High tops are provided for splash protection. They are available in black or safety yellow.

Science News Letter, December 1, 1956

⚙️ **GRILL-WAFFLE BAKER** combination has a sensitive thermostat that can be dialed to the proper heat to insure a constant level of heat over its surface. Its removable grids

are interchangeable, converting the unit from waffle baker to a grill with 200 square inches of heated area when opened flat.

Science News Letter, December 1, 1956

⚙️ **PAINT BRUSH** for both the amateur and professional painter is angled. The rhomboid shape, it is claimed, forms two sharp cutting edges for cutting in, and gives extra brush surface for flat application.

Science News Letter, December 1, 1956

⚙️ **SILICONE RUBBER CONDUCTOR** will carry an electric current without wires. Compounded with carbon black, the commercial product can be molded, rolled or extruded without changing its electrical properties, and is resistant to temperatures as high as 400 degrees Fahrenheit. The new rubber compound can be made into difficult or odd shapes, such as an electric heater.

Science News Letter, December 1, 1956

⚙️ **CLAY MASONRY** facing material can be attached to existing interior or exterior walls without structural remodeling. The slab of hard-burned, Norman-size brick, soon to be on the market nation-wide, is three-quarters of an inch thick, fire-resistant, insect-proof and an insulator in both warm and cold weather.

Science News Letter, December 1, 1956



## Nature Ramblings



By HORACE LOFTIN

➤ THE PRAIRIE DOGS fed fitfully, looking around with an extra air of caution, as the fierce black cloud swept over the plain. At the first peal of thunder the little animals dove precipitously into their burrows. Soon a hard, steady rain fell on the parched prairie earth.

With every passing minute, the water mounted higher and higher over the ground. The prairie dog burrows seemed safe enough at first, for the large mounds at the entrance of each hole stood high above the water.

However, this was a real prairie flood, and soon the water level lay above the mounds. Water began to pour into the burrows, filling up the tunnels where the prairie dogs were hidden.

For three hours the water stood over the prairie, changing it into a shallow lake and completely hiding beneath it the burrows of the prairie dogs. Then the rains stopped

### Engineering by Instinct



and the water receded, leaving a sodden, lifeless prairie behind it.

Suddenly, a spot of earth began to tremble and up popped a muddy but very much alive prairie dog. Another quickly followed him out of this hole. All over the old washed-away colony site, prairie dogs began emerging from the soggy ground.

Since their burrows were filled with water for three whole hours, why were the prairie dogs not drowned in the flood?

Those underground engineers, the prairie dogs, had made previous arrangements for just such an emergency. Besides their regular tunnels, the prairie dogs had constructed additional lateral tunnels off the vertical main passageway. These lateral tunnels went upward to within about six inches of the surface.

As the flood water began to pour into the burrows, the prairie dogs had hurried into the extreme ends of the emergency tunnels. Water rushing into the burrows had forced air up into the emergency tunnels, forming air pockets. These air pockets prevented the water from advancing farther in the tunnel, thus providing a place of safety for the prairie dogs.

This is just one of many examples of "engineering by instinct" to be found throughout the animal kingdom, instincts gained over millions of years in the continuous struggle for survival.

Science News Letter, December 1, 1956