

• New Machines and Gadgets •

For addresses where you can get more information on the new things described here, send a three-cent stamp to SCIENCE NEWS LETTER, 1719 N St., Washington 6, D. C., and ask for Gadget Bulletin 645. To receive this Gadget Bulletin without special request each week, remit \$1.50 for one year's subscription.

⚙️ **SOIL-SOAKING HOSE** looks like an old garden hose that is riddled full of tiny pin-sized holes. When in operation, water squirts from the holes and soaks the lawn evenly, allowing proper seepage into the ground. Made of vinyl resin tubing, the sprinkler has no moving parts and attaches to a standard garden hose.

Science News Letter, October 25, 1952

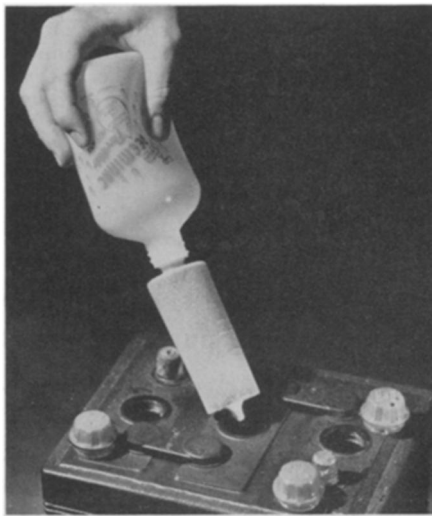
⚙️ **CAR VACUUM CLEANER** for automobiles attaches to the windshield-wiper vacuum line and picks up dust, dirt, sand, pebbles and lint from the floors or upholstery. Complete with 12 feet of rubber hose, the unit has a removable dust bag and an all-plastic case.

Science News Letter, October 25, 1952

⚙️ **HACK SAW-DRILL** combination hand tool operates on standard 110-120 volt electricity, and is converted from a saw to a drill at the flip of a switch after the proper tool has been inserted in the chuck. Accessories include drills in sizes up to 1/4-inch, and various wood and metal files.

Science News Letter, October 25, 1952

⚙️ **NEW CHECKS** have a built-in "burglar alarm" that operates when a "check artist" tries to change the payee's name or the amount of the check. Ink eradicators and forger's acids make visible hundreds of



tiny "voids" printed invisibly in the check paper to warn persons when the check has been tampered with.

Science News Letter, October 25, 1952

⚙️ **WATER FILTER** converts ordinary tap water into chemically pure, soft water satisfactory for automobile batteries, electric irons and other devices needing demineralized water. Fitting into the neck of a

squeezable, polyethylene plastic bottle, as shown in the photograph, the filter changes color when exhausted and can be replaced easily.

Science News Letter, October 25, 1952

⚙️ **KNIFE AND HAND-AXE** set for outdoorsmen features long-lasting cutlery steel blades fitted into rugged, knurled butyrate plastic handles. Leather sheaths for the knife and axe loop together so the instruments can be carried on a belt as a unit, or so that either can be carried separately.

Science News Letter, October 25, 1952

⚙️ **SYNTHETIC RUBBER** has been manufactured using fluorine as an ingredient to provide extreme resistance to oil and air attacks that deteriorate ordinary rubbers. The compound resists lubricants and hydraulic fluids of automobiles, ships and, particularly, of aircraft. It also shows "good stability" when hot.

Science News Letter, October 25, 1952

⚙️ **SNAPSHOT DATER** attaches easily inside of ordinary roll-film cameras, or any other kind, and prints the date on the upper left hand corner when the negative is exposed. The dater can be obtained to print the month and year or the season and year on the film. Location of the dateline permits easy cropping for special enlargements.

Science News Letter, October 25, 1952

• Nature Ramblings •

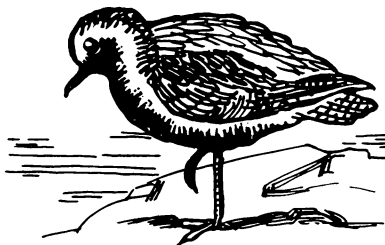
➤ AMONG THE many things that man has in common with the animals is a tendency to stay put. In some primitive human societies, tribes of nomads and hunters have been known to follow the seasons in limited migrations. Some animals make similar adjustments to seasonal changes.

But the great migrations over long distances are made by birds and fishes. Both perform prodigious feats of navigation and endurance, but the more spectacular, possibly because the evidence is more readily apparent, are the seasonal comings and goings of the birds.

The distances that birds go to find a climate that suits their tastes are simply staggering. Petrels, a kind of sea bird, nest on islands in the Antarctic region. For the winter, they fly to North America.

Golden plovers raise their young on the shores of the Arctic Ocean. Before the long winter freeze sets in, they take wing for the Argentine pampas. They do not cover this tremendous distance, as you might expect, in a straight line "as the crow flies."

Bird Migrations



The first leg of their journey is easterly, following the northern coastline of the continent. Not till Labrador do they start heading south. But once pointed in the direction of their winter home, they stay on course even though this means flying over the open sea for 2,400 miles.

Another great traveler, probably the greatest of all, is the Arctic tern. He travels from the Arctic to the Antarctic, covering more than 20,000 miles on the round trip.

The ducks, at which thousands of Ameri-

cans are blasting away from damp and chilly duck-blinds all over the country, are here for the winter from their nesting grounds in northern Canada.

What guides the birds on their lengthy migrations remains a mystery. The usual answer is "instinct," but that merely describes the phenomenon without explaining it. There are many arguments to disprove the theory that they follow familiar landmarks. The most convincing is the fact that the last birds to leave are the young birds born that year. The older birds who have made the flight before are gone. And yet the youngsters follow the traditional flyway unerringly.

Recently the explanation has been suggested that the birds are guided by the magnetic field of the earth. This theory has been neither proved or disproved. It would carry more conviction if all birds flew in direct north and south lines. On the contrary, each kind of bird has its own characteristic flight path.

Science News Letter, October 25, 1952