

• New Machines and Gadgets •

For sources of more information on new things described, send a self-addressed stamped envelope to SCIENCE SERVICE, 1719 N St., N.W., Washington 6, D. C., and ask for Gadget Bulletin 871. To receive this Gadget Bulletin without special request each week, remit \$1.50 for one year's subscription.

⚙️ **MICROSCOPE ATTACHMENT** permits viewing and photographing transparent and semi-transparent specimens with a three-dimensional effect. The device can be used with standard microscopes and with still cameras from 35mm to large view size and motion picture cameras of any size.

Science News Letter, February 23, 1957

⚙️ **FOCUSING PISTOL-GRIP** on a telephoto lens mount keeps near-by or distant scenes on target. The pistol-grip connects with a spiral-loaded lens mount instead of the standard focusing ring. It is available with 240mm f4.5 lens; 300mm f5.6 and 400mm f5.6 lenses.

Science News Letter, February 23, 1957

⚙️ **ANGLE HEAD ATTACHMENT** for power drills converts one-half inch tools for drilling, sanding and polishing. The two-speed angle head swivels to any position in a full circle. Operating at low or high speed, it will fit any one-half inch drill having a one-half inch by 20 threaded spindle.

Science News Letter, February 23, 1957

⚙️ **MOBILE RADIO TRANSMITTER** and receiver set, shown in the photograph, designed for military and commercial use, has a 30-mile range. Transistorized, the set



weighs eight pounds, and operates while immersed in water. The set works from a rechargeable battery for ten continuous hours. A hand crank is also provided for emergency use.

Science News Letter, February 23, 1957

⚙️ **TRANSISTOR CIRCUITS KIT** for beginners and experimenters in radio and electronics include two transistors, all parts and plug-in leads. With the kit, 10 different electronic circuits can be made. An instruction manual and guide cards are included.

Science News Letter, February 23, 1957

⚙️ **BUILDING COATING** provides protection against chemical and weather exposure. Based on a chlorosulfonated polyethylene, the coating is said to form a tough, resilient face that resists abrasion, weathering and chemical corrosion, even salt spray.

Science News Letter, February 23, 1957

⚙️ **PICTURE SCALER** for cropping photographs eliminates slide rules, computations and drawing diagonals. The scaler is set to proportion and enlarges or reduces automatically. It is made of translucent vinyl plastic, steel and aluminum.

Science News Letter, February 23, 1957

⚙️ **TIP-PROOF SCALE** can be used for recipes, home freezing, canning, checking meat roasting time or laundry loads. The weigher has a measurement chart and dial lock to hold weight in calibration for later reading. It can be stored on its side.

Science News Letter, February 23, 1957



Nature Ramblings



By HORACE LOFTIN

➤ YOU MAY NOT realize it from the weather, but Old Man Winter is on his way out. Spring is just around the corner, and you can tell because every day the sun shines just a little bit longer. Before long the seven o'clock risers will shave by pleasant sunlight instead of the glow of an electric light bulb.

Soon the trees will put forth new shoots, early-blossoming flowers will appear, and the birds will return north from their winter homes. The sun will call forth all these things.

But just a minute. The temperature is relatively constant in the tropics. How do the birds wintering down there know things are warming up back home? What triggers off their spring flights northward?

Look for the sun again for an answer. It is not necessarily the amount of heat received from the sun at the change of seasons that acts as the trigger. The length

Commanded by the Sun



of daylight—the hours of day as opposed to the hours of night—has been proven in many cases to be the signal for a change in the pace of life. Experiments have shown that changes in the length of daylight of only 15 minutes have resulted in the start of migration in several species of birds.

We can look to the length of day as the trigger mechanism behind other seasonal phenomena of life: molting, ovulation, seasonal fattening and growth in animals;

spring awakening, flowering, fruiting and dormancy in plants.

The first clear-cut recognition of the effect of varying length of day—photoperiodicity—under laboratory conditions came in 1920, with the discovery that a tobacco variety, Maryland Mammoth, would not flower until the days had grown shorter. By putting the tobacco plants in a greenhouse and artificially shortening their daily exposure to light, the tobacco was forced to bloom much earlier than it would in nature.

From that start, the effect of varying length of daylight has been investigated on a host of plants and animals. "Short-day" plants, like sugar cane, were found that will not flower until the daily dose of sunlight is decreased. "Long-day" plants, like wheat, need more sunlight for flowering. But then there are the "day-neutrals" that seem to remain independent of the length of sunlight for flowering—showing that all the answers are far from being in yet.

Science News Letter, February 23, 1957