

light reflected into the optical system of this instrument causes the handle to vibrate a warning. Eventually Prof. Benham wants to perfect a system using little pins in the detector's handle. The number and location of the vibrating pins would tell the user how near the obstacle is and whether it is in front or to one side of him.

When these two instruments, the step-down indicator and the obstacle detector, are combined into a single unit, the blind should have a new, marvelous tool at their command. Even so, the two scientists warn that it will have its limitations.

They both should know. Each has been blind virtually since birth.

Many Other Aids

Creating adequate travel aids for the blind is merely one aspect of the problem of equipping these handicapped persons for living in a world where over 95% of the information about a person's surroundings comes to him through his eyes.

Other aids have been created to help the sightless live as normal a life as possible. Some were modified from existing market products. Others were developed specifically for the blind. They range from kitchen utensils to technical tools.

There is, for instance, a flapjack flipper for the blind housewife. Its aluminum blade is slipped under the pancake and then the handle is squeezed. When held a few inches from the pan, the flapjack is turned expertly and deposited directly under the blade.

Elastic bands with clips also help the blind housewife identify canned food on her shelves. The bands and clips receive Brailled labels that distinguish cans of peaches from cans of tomatoes.

Tape measures, hem gauges, needle threaders and magnetic pin finders have been devised for the nimble-fingered seamstress. One five-foot cloth tape measure features paper staples which mark off the inches. Cross-staples divide the tape into feet. The first inch of the tape is marked in quarters.

For the blind electronics expert, an auditory multimeter has been created. Through earphone sounds and a raised-dot scale, it tells the user what current, voltages or resistance is in the circuit under test.

Blind men who enjoy drafting have been aided by a raised-line drawing set. Using

a ball-point pen and special cellophane "paper," the person can feel the lines he draws.

A circular slide rule has been created which can do multiplication, division and extract roots of numbers. The scale is embossed with large Arabic numerals which the blind can feel and read.

To measure air pressure in automobile tires, the blind can use a special, oversized gauge developed for the purpose. Notches on the sides of the plunger reveal the pressure in the tire to an accuracy of one pound.

For blind persons with an interest in weather, a special thermometer and an aneroid-type barometer can reveal the heat and atmospheric conditions. The thermometer has an extended pointer and a dial with dots at each ten degrees. The barometer has Braille dots at each inch. It can be adjusted to compensate for the altitude of the user's home town.

Bathroom scales also have been modified to tell the blind whether they are putting on too much weight. Braille dots are stamped at each five-pound interval on the dial, and the pointer makes three complete sweeps before the scale's capacity of 300 pounds is reached.

Talking Books Popular

An unusual alarm clock attachment has been devised for those who are both deaf and blind. Placed under the mattress of the bed, the device buzzes and shakes the springs when it is time to get up.

Games for the blind include chess sets with plastic pegged men; "goal," a sort of tic-tac-toe played by two persons with nine pegs each, and playing cards with Braille dots.

Five-o'clock shadow can be scraped away with a special razor that requires neither a face-lathering nor electricity. With a little patience and the proper technique, it also can be used for that tough-as-nails morning stubble.

And for the sportsman there is a fishing bob made of white plastic. When the fish bites, the bob whistles. The stronger the strike, the louder the bob squeals.

These devices are among many special and general-purpose aids available through the American Foundation for the Blind, Inc., New York.

Other devices that bring entertainment to the blind are talking books. The talking books are an early type of long-playing record. They spin on a phonograph turntable at 33 1/3 revolutions a minute while a trained speaker reads from popular works.

Currently scientists are experimenting with the "speech compressor" in hopes of improving talking books. The speech compressor is a new electronic device that "squeezes" recorded words so they come out faster but without the Donald Duck effect usually obtained when a record merely is played back at above-normal speed. Since normal speech is slower than most sighted persons can read, the speech compressor should help by permitting the reproduced words to skip along at a faster

pace. Now scientists are trying to find out whether listening to this speeded-up speech is too fatiguing.

And of course there are books in Braille. Although many persons read Braille, it is a slow process—so slow, in fact, that you would not expect a sighted person to learn to read it. But at least one such person has.

A doctor once told a sighted businessman that he could never learn to read Braille.

"It's far too much trouble to learn, and it's too slow to read," the doctor said. "That's why I doubt that you or any other sighted person can learn Braille."

This slur on the businessman's intellect and persistence was too much for the spirited man. He resolved he could—and by gosh he would—learn to read Braille.

And he did.

Science News Letter, March 20, 1954

WILDLIFE

Farm Swamp Drainage May Reduce Duck Flocks

► DUCK HUNTERS and waterfowl biologists wonder when extensive drainage of swamps, marshes and wetlands for farm use will begin to reduce the numbers of ducks and geese.

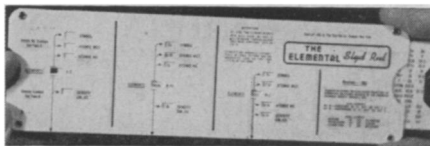
Work with waterfowl now is hampered by the fact that biologists do not know how much wetland habitat is available to birds and fur animals, C. Gordon Fredine, Fish and Wildlife Service, told the North American Wildlife Conference in Chicago.

The Service is conducting an extensive survey of wetlands in every state. By July, 90% of all the important wetlands in the nation will have been surveyed, Mr. Fredine said.

"We are fearful that continued drainage will come at the expense of waterfowl," he said. One object of the survey is to develop a multiple-use program for wetlands helping the farmer and protecting the ducks.

Science News Letter, March 20, 1954

AT YOUR FINGERTIPS — More than 800 Element Facts



The Elemental Sldy-Rul now completely up to date. Symbol, weight, density, number, valences, color, M & BP in °C for 98 elements plus recent name changes. In tough-check cardboard stock. \$1. postpaid. Student rate: 12 or more, 75c ea.

Other Data Ruls also available:

PHARMACEUTICAL Sldy-Rul . . .

For pharmacists, students, lab technicians

THE MEDIC-AID . . .

For medical and dentistry students.

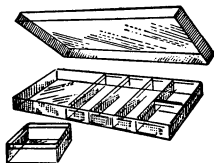
PHOTOGRAPHIC Sldy-Rul . . .

For all but the professional photographer

Price: \$1 each. Any 3 of above Ruls: \$2.50, postpaid
Send for descriptive folder.

The Sldy-Rul Co., Canaan, N. Y.

TRANSPARENT PLASTIC BOXES



Write for Data TPB-SNL

R. P. CARGILLE LABORATORIES, INC.
117 Liberty Street, New York, N. Y.