

An even greater asset of the reflector was that it offered security from enemy listening stations since it did not transmit a signal. It has no moving parts, is sturdy, and requires few repairs.

Science News Letter, December 1, 1945

AERONAUTICS

First Twin-Fuselage Military Aircraft

➤ A NEW TYPE airplane, the world's first twin-fuselage military aircraft, is under contract, it is revealed by the Army Air Technical Service Command. The unique plane, a marked departure from the conventional single-fuselage craft, will have two fuselages joined by the wing and the horizontal stabilizer. It supplants the P-51 Mustang, and will be known as the P-82 Twin Mustang.

The Twin Mustang, it is expected, will have a speed of over 475 miles an hour, will operate efficiently up to 45,000 feet, and will climb at a rate over 5,000 feet per minute. With a 2,200 horsepower engine in each fuselage, the plane utilizes two opposite-rotating, full feathering four-bladed propellers. It will have two pilots, one in each fuselage, the one on the left being the "main" pilot who will ordinarily operate the controls.

Science News Letter, December 1, 1945

PHYSICS

Prof. D. W. Kerst Gets Comstock Prize

➤ FOR HIS development of the betatron, world's most powerful X-ray producing machine, Prof. Donald W. Kerst of the University of Illinois has been awarded the Cyrus B. Comstock prize of the National Academy of Sciences. The award was presented by President F. B. Jewett of the National Academy

at a joint meeting of the Academy and the American Philosophical Society.

Prof. Kerst was selected for the honor in 1943, but wartime secrecy on all work involving nuclear physics prevented the announcement until now. His betatron is valuable to science both in the enormous energies it produces and in the precise control of them. During the war, Prof. Kerst was on the staff of the secret atomic bomb laboratory at Los Alamos, N. M.

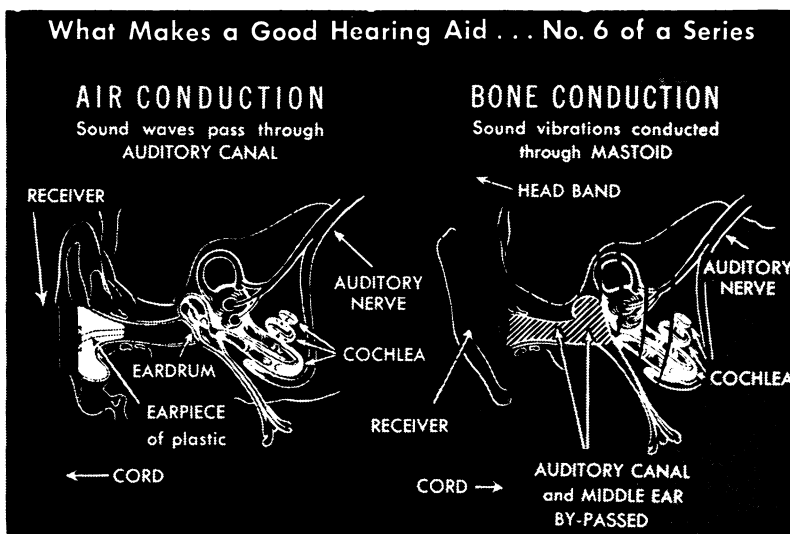
Science News Letter, December 1, 1945

India is reported to have vast *chromite* reserves.

The extinct *dodo*, long a symbol of stupidity, was a member of the pigeon family.

About 40% of the fresh *vegetables* used in the United States, and half the canned vegetables, are raised in home gardens.

Hexachlorocyclohexane, a newly announced British insecticide, is also called 666 because its molecule contains six atoms each of carbon, hydrogen and chlorine; it is new as an insecticide but is an old compound first made by Faraday in 1825.



RECEIVERS

● The microphone picks up sound waves and converts them into corresponding electrical impulses for amplification in the electronic hearing aid. It is the function of the receiver to convert this stepped-up energy into a form which can be conducted to the hearing mechanism. Depending upon the type of hearing impairment, this may be accomplished in two ways:

1. **Air conduction . . . through the auditory canal . . . to the inner ear.** A receiver for this application converts the amplified impulses into sound waves in the auditory canal via the usual hearing mechanism. It is a miniature version of a fine telephone receiver—with similar vibrating diaphragm, magnet and coil encased in a tiny and inconspicuous plastic housing. An earpiece, which fits into the contour of the ear, holds the air conduction receiver in place. (An individually molded earpiece offers the user advantages of comfort and reduction in possible leakage of sound.)
2. **Bone conduction . . . through the mastoid . . . direct to cochlea and auditory nerve.** The receiver

intended for this purpose converts the amplified impulses into mechanical vibrations which are transferred to the bone structure in the mastoid area. These vibrations are transmitted through the bones of the skull, by-passing an inoperative middle ear. Instead of an internal diaphragm, the whole case of a bone conduction receiver vibrates. A headband holds a bone conduction receiver firmly against the particular spot on the mastoid that gives the best hearing results to the individual user.

Subsequent advertisements in this series will discuss criteria for the selection of receivers that will give the best performance for varying degrees and types of hearing loss.

A selection of one of three types of air conduction receivers and one bone conduction receiver is available with the new Western Electric Model 63 Hearing Aid. All Western Electric receivers are manufactured to design and material standards of Bell Telephone Laboratories.

THIS SERIES, BASED UPON RESEARCH CONDUCTED BY BELL TELEPHONE LABORATORIES, IS PUBLISHED IN THE INTEREST OF THE HARD OF HEARING AND THEIR PHYSICIANS

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