

RADIO

Tiny Radio Transmitter Sends Voice Four Miles

DEVELOPMENT of the world's smallest micro-wave transmitter for use in broadcast circuits has been announced by O. B. Hanson, chief engineer of the National Broadcasting Company.

Distances up to four miles were attained by the midget "radio station," which can be held in the palm of the hand, in exhaustive tests recently made of the first working model completed by NBC's research laboratory.

The new device is not intended for broadcasts direct to listeners' radio sets, but for actual program service at any point of origin, to extend the scope of pick-up for present radio networks.

The new micro-wave unit, Hanson reveals, is the result of a two-year search for a "coat-pocket transmitter" to enable foot-loose announcers to carry a microphone to any desired point, or circulate at will among large assemblages, for purposes of broadcasting or to feed a public address system from the floor.

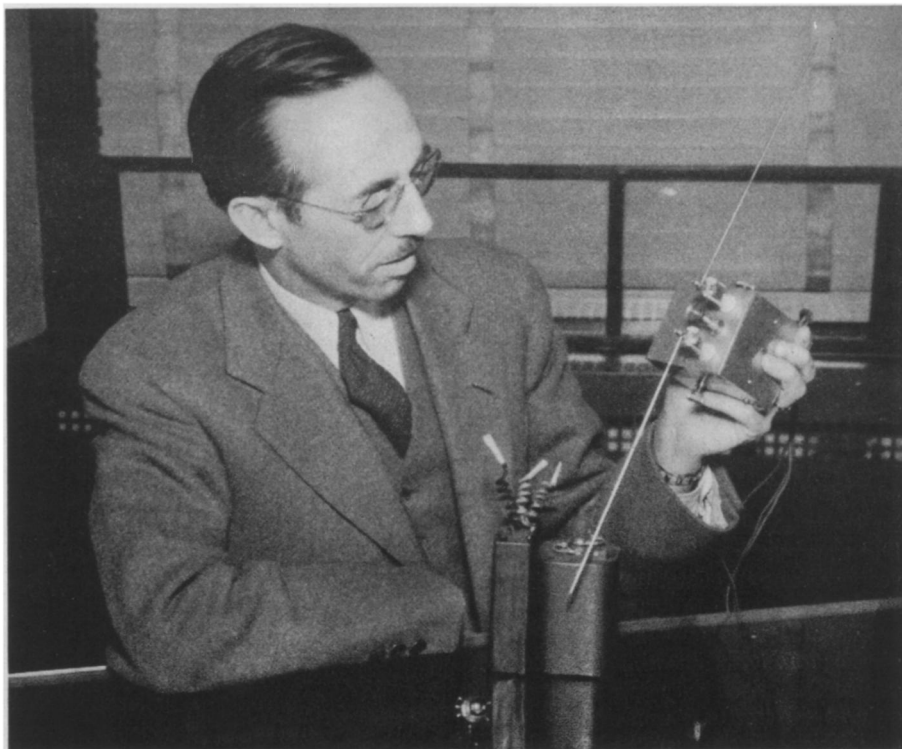
"Investigations in the micro-wave field," Mr. Hanson explained, "suggested that work in this band of 300,000,000 cycles and more would permit the midget antenna equipment necessary for the compactness we sought. Micro-waves also offered a phenomenal degree of penetration through intervening structures, so the tiny waves were employed in developing the new portable transmitter."

The new micro-wave transmitter proves the possibility of a practical "coat-pocket" size unit, and further laboratory work is now in progress to rush completion of the still smaller-size design.

In its present stage, the micro-wave set is a three-inch cube, with two ten-inch rods as antennae to release the tiny radio waves. It transmits at a power of two-tenths of a watt, employing the latest type of tiny "acorn" tube developed by RCA.

Current is fed to the midget set by an extremely small battery unit of 90 volts, also newly-developed in cooperation with NBC. The complete battery unit weighs less than four pounds, and the transmitter proper, less than a pound.

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TINY TRANSMITTER

This midget set, fitting in the hand of O. B. Hanson, chief engineer of the National Broadcasting Company, will send the voice for a distance of four miles. It is designed as a traveling transmitter to pick up programs from unusual places. With it are shown the special pocket-size batteries and the tiny "acorn tube" used in the set.

ARCHAEOLOGY

Rare St. Paul Epistles Of Bible Being Deciphered

DIVIDED between them, Britain and America now possess a large portion of the Epistles of Saint Paul from one of the rarest Bibles in the world.

Announcement was made in London by Sir Frederick Kenyon, noted Biblical authority, that he has been editing fifty-six Egyptian leaves of the Chester Beatty Biblical Papyrus acquired by A. Chester Beatty, American millionaire, now a British subject.

The 56 leaves in England, and 30 more that belong to the University of Michigan, constitute almost completely the letters of Saint Paul from Romans, fifth chapter, to the First Epistle to the Thessalonians, Sir Frederick announced.

The text is in Greek, easy to decipher, he said, except where the edges of the leaves are damaged. The ink is probably of vegetable origin, and the writing is in a fine hand. It dates from the third

century.

Portions of this extremely old and rare Bible have been coming to light as Arab dealers offer them for sale.

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PALEONTOLOGY

Tiny Motor-Driven Chisel Helps Clean Up Fossils

ATOM-THUMB edition of the noisy pavement-breaking chisel is aiding British museum workers to clear valuable fossil bones of their encrusting stony matrix, with a fraction of the tedious labor formerly required. The whole apparatus is about four times the size of a fountain pen, and is motor driven. A small emery wheel on the other end of the motor shaft makes re-sharpening of the chisel blades easy.

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