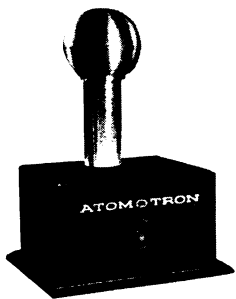


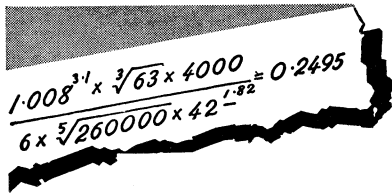
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GEOPHYSICS

Find Radio Waves Travel 4,700 Miles in One "Hop"

➤ SHORTWAVE radio signals have been found to travel 4,700 miles in one "hop" by two Canadian scientists.

Their discovery, reported in *Nature* (Jan. 4), may require a revision of the prediction method used to forecast the best frequencies for long-distance shortwave communications.

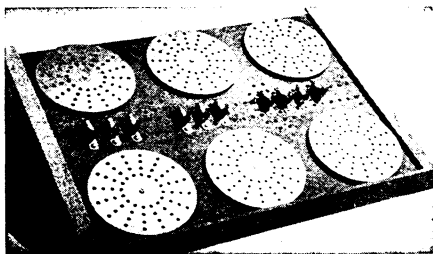
Drs. E. Warren and E. L. Hagg of the Defence Research Telecommunications Establishment, Shirley Bay, Ottawa, recorded the 4,700-mile, single-hop transmission on Sept. 11, 1957. The usual distance was agreed to be 2,400 miles at frequencies between 27 and 33 megacycles.

Shortwave radio waves are beamed at an angle to the ionosphere, where they are reflected back to the earth's surface, then back again to the ionosphere, a layer of ionized air some 100 to 300 miles up. Usually it takes two or three "bounces" or hops for shortwave radio signals to reach England from Canada.

The one-hop propagation mode is as reliable as the two- and three-hop modes between noon and 8:20 p.m., Universal Time, the Canadian scientists found.

Science News Letter, January 18, 1958

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OBSTETRICS

Baby Mix-Ups Ended By Metal Clamp

➤ A NEW METAL clamp to end the baby mix-ups that occur "more often than one would suspect" was demonstrated by Dr. J. Bay Jacobs, a Washington obstetrician, to the annual scientific assembly of the Medical Society of the District of Columbia.

The clamp is put on at the instant of delivery and bears the initials of the doctor and the mother. It is attached to the infant's umbilical cord even before the cord is severed.

It ends the chances of a mix-up when a baby is delivered in a busy delivery room where several babies are being born at the same time.

The clamp is put on with what looks like a large pair of pliers which stamp the initials on it. When put on close to the child's body the clamp usually drops off in a day.

Designed by Dr. Jacobs, the special clamps have already been used on about 50 babies. The necessary equipment for widespread use of the device is now being mass produced.

The method is more foolproof than any other since the baby is identified before it is separated from its mother, the obstetrician said. While holding the baby upside down in one hand, the doctor can put the clamp on with the other.

It is also cheap, he added, since the clamps only cost 15 cents while the presently used system of beads costs each mother as much as \$1.50.

Science News Letter, January 18, 1958

