



KEEPING FAME IN THE FAMILY

RADIO

## New Radiophone Expected To Increase Amateurs

Powerful Apparatus Can Now Be Built For Reasonable Sum And Operated By Anyone Possessing a License

ONE of the greatest wonders of radio is not the growth of broadcasting but the pioneering of short-pants amateurs that ushered in the era of radio. Long before those boom days of a decade ago, youngsters in age or spirit knew a kilocycle from an ohm. They were talking to each other over hundreds of miles in dots and dashes.

The wave bands that they once used have in part been preempted by commerce and government. Amateur communication channels are now out in that area where kilocycles are numbered in thousands and wavelengths have three digits or less. This has not subdued their enthusiasm, and the number of amateur radio stations increased 70 per cent. during the last two years in this country. There are some 50,000 amateur radio stations in all countries of the world. In code and by voice there are numerous interchanges of speech and code messages across international boundaries and oceans every night.

The increasing interest in amateur radio is due in part to the fact that it gives the opportunity of realizing the dream of having a private, personal radiophone. The American Radio Relay League has just worked out a simple and relatively powerful radiophone transmitter and receiver that can be built for less than a hundred dollars, which is a fraction of the cost of less modern equivalent sets.

It uses the newest radio tubes on the market, and it can be operated by anyone who is licensed to participate in

amateur radio. Its transmitter delivers 25 watts in the 1715 to 2000 kilocycle band (150 to 175 meters).

The new low-cost radiophone sets will undoubtedly be built by hundreds of radio amateurs in the next few months. Outside the range of the ordinary broadcast receiver there will be a flow of friendly conversations.

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MEDICINE

## Radio Fever Treatment Now Used For Boils and Arthritis

THE GROWTH of radiotherapy, the new method of treating disease by electrically inducing fever in patients, was described by Dr. Willis R. Whitney, director of research for the General Electric Co., before the International Electrical Congress in Paris.

It is not difficult to believe that within the radio range many invisible assets await only further research to disclose them, Dr. Whitney said.

The treatment of arthritis, boils and carbuncles by radiotherapy was named as an application of this method revealed by recent research. Radio heating has also been substituted for malaria, which was given paresis patients to induce a curative fever in them.

In the beginning of the research to find out what the high frequency waves

PHYSICS

## Partnerships in Science and Marriage

A PARTNERSHIP in science and marriage, consisting of Mme. Irene Curie-Joliot right and Monsieur F. Joliot (right center), is winning fame in researches upon atomic disintegration. Mme. Curie-Joliot is a daughter of famous Mme. Marie Curie (left center) and Pierre Curie (left), who isolated radium and polonium in 1898 and later contributed greatly to the knowledge of radioactivity. The Curies won high honors for their researches and the collaboration of their daughter and her husband promises to continue the tradition.

Mme. Marie Curie is today the active head of the Radium Institute of the University of Paris and her researches are continuing. Pierre Curie was run over by a dray and killed instantly in 1906. The Curies divided the 1903 Nobel prize for physics with Henri Becquerel who discovered the radioactive properties of uranium, and Mme. Curie was awarded the 1911 Nobel prize for chemistry.

Mme. Curie-Joliot and M. Joliot have studied the way in which radioactive radiations pass through matter and recently they confirmed the existence of the new particle of matter called the neutron. (*SNL, Apr. 9, '32, p. 230; July 16, '32, p. 41.*)

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could be used for, first liquids, then jellies and finally insects and animals were used instead of human patients.

"Small insects such as fruit flies, when submitted to fields of a few watts of radio energy, apparently died instantaneously," Dr. Whitney said, "and the deposition of moisture from their bodies on the walls of the tube near them indicated that death was due to overheating. When the same insects were exposed to the field in the dormant condition produced by a surrounding temperature of zero degrees Centigrade (32 degrees Fahrenheit), it was possible by careful manipulation to revive them and to make them fly about in zero air exactly as though midsummer temperatures prevailed."

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