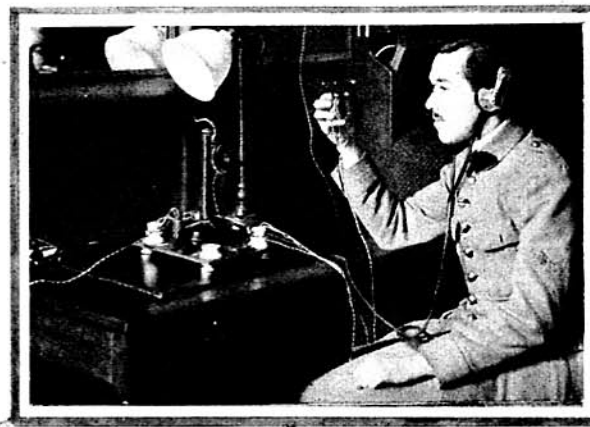
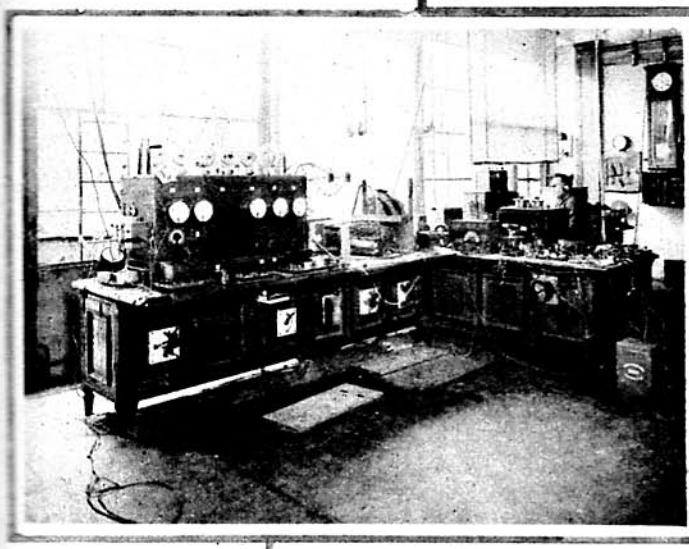
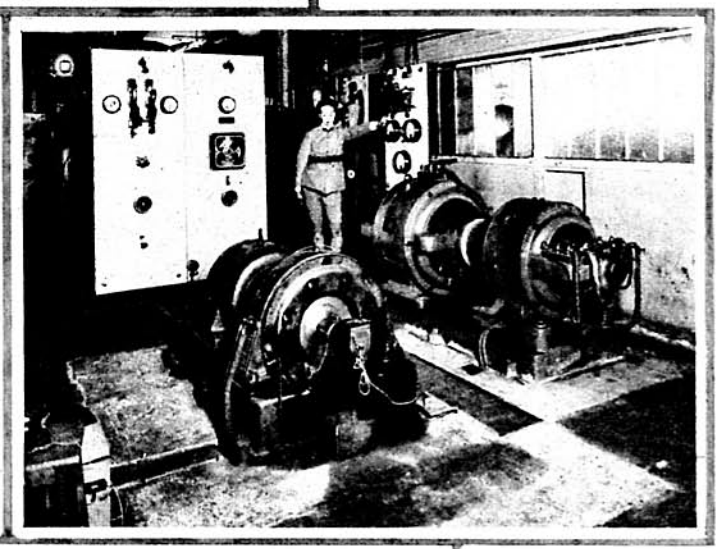
The Eiffel Tower Radiophone Broadcasting Station

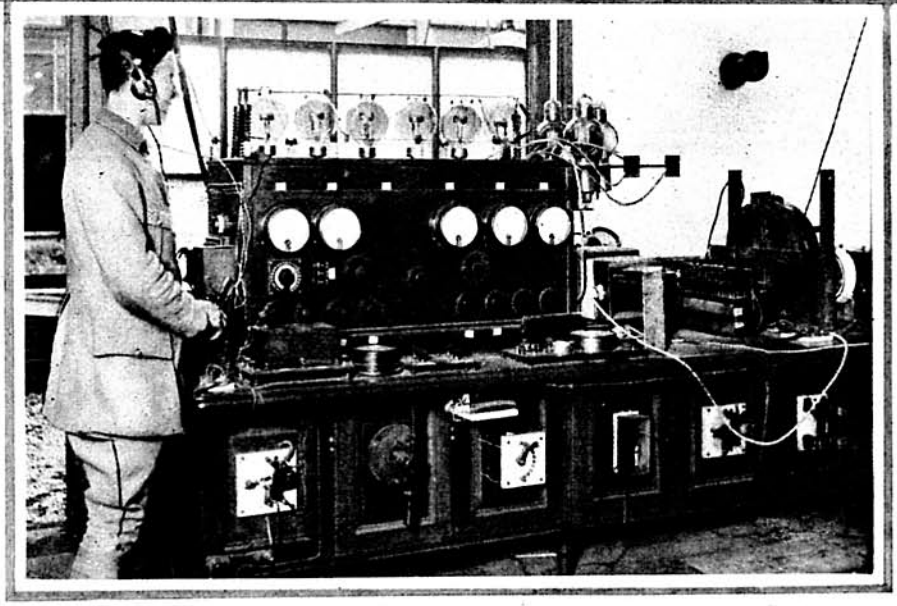
HAVING heard of the tremendous success of the radiophone broadcasting in this country, General Ferris, head of the French Army Signal Corps, recently decided to organize such a service for the benefit of the public within a radius of 1,500 miles from Paris. The same kind of information and entertainment as broadcasted here, is transmitted by the Eiffel Tower station every evening for a few hours, and at present the interests of the population for radio is growing as it did here a few months ago.

The transmitting set, which is shown in the photograph, makes use of several oscillator tubes in parallel, upon the grid of which the voice and music, previously amplified, is applied. The amplifier consists of six power tubes, which may be seen on the top of the cabinet, and the oscillator of









three high power tubes supplied with 2500 volts D.C. on the plates. The transmitting room, which is situated at a distance of about 60 ft. from the set, is equipped with the proper microphonic devices for the reproduction of voice and music. The efficiency of this radiophone transmitter was recently demonstrated when a North African station, receiving on a loop aerial, was able to entertain 35 people with a Parisian concert, thanks to a loud speaker. This station is exactly 1,450 miles from Paris.

Previous to this transmission of telephone by means of vacuum tubes, experiments were carried out with a high frequency alternator shown in one of the photographs. These were successful, but since the advent of the vacuum tube, the high frequency alternator was no longer used on account of the greater flexibility of the tubes when compared with it.

At the present time, the radiophone transmitter used for broadcasting purposes is only an experimental one, but it is the intention of the Signal Corps to erect a more powerful set for permanent service in order to be sure to reach all parts of France.

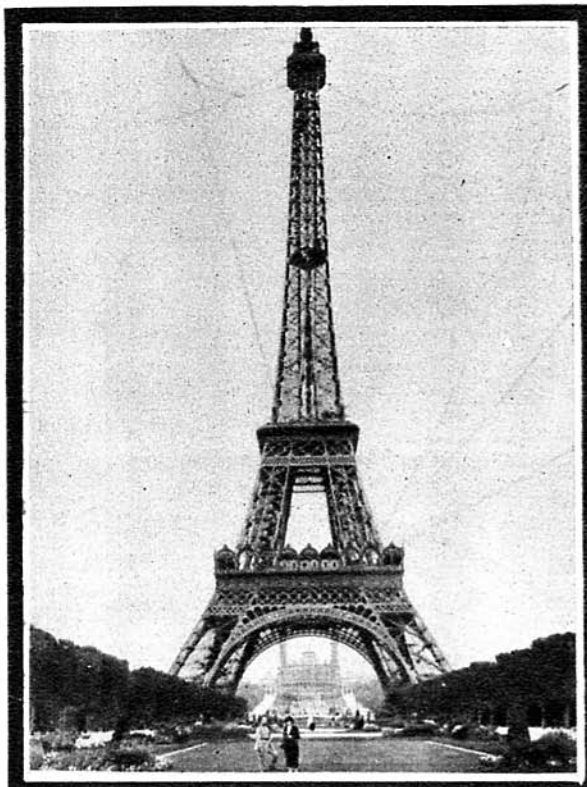
Anothe purpose for which the radiophone transmitting set may be used is for the direct communication between Paris and London. Arrangements have been made with the Post Office department to permit direct communication between a subscriber in Paris to a subscriber of the telephone service in London. At the present time experiments are being carried on to determine the practicability of this Duplex system, and it is expected to have a regular service installed very soon. Another transmitter will also be installed for the communication between a telephone subscriber in Paris and a ship at sea, or an airplane travelling between the two cities. This has already been accomplished by means of special stations installed at the aerodrome in both Paris and London, but the power used in the transmitting sets does not always permit a constant communication during the whole trip. As soon as an airplane is over the channel communication becomes difficult and it has to reach one of the coasts to obtain good communication with the nearest station.

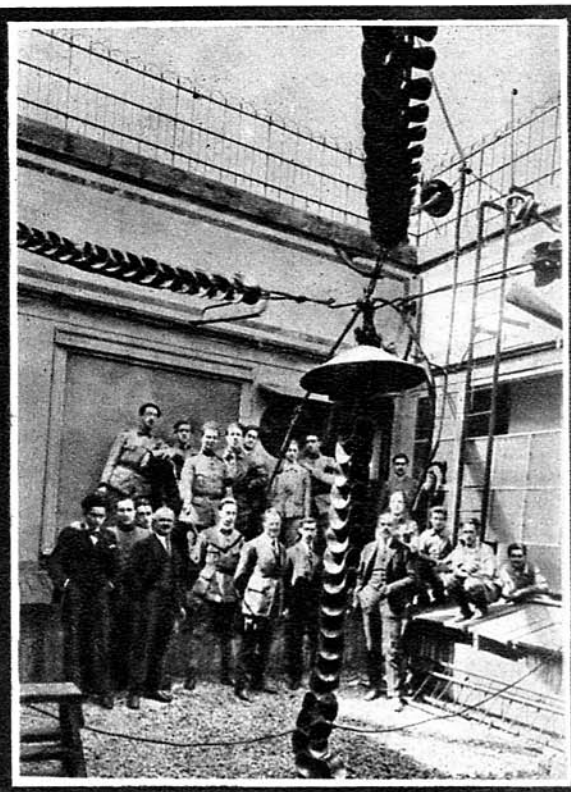
With a powerful set, which is to be installed in the Eiffel Tower, according to present plans, it will be possible to keep in touch with any of the persons travelling between Paris and other European cities.

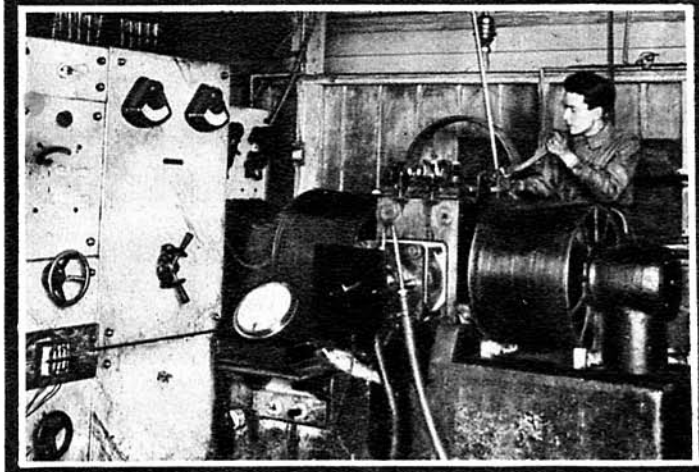
At the present time the airplanes and ships, travelling between England and France, enjoy the concerts sent every evening, while in the air or at sea. In every case the speech has been reported perfect from very distant points and this proves that the radiophone has reached a certain degree of perfection. When one remembers the old arc radio telephone, which produced beside the voice a series of noises, one appreciates the improvements made recently.

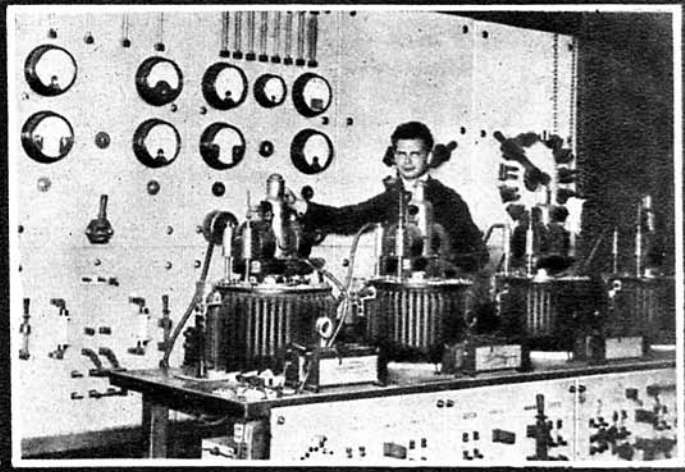
The Top Photograph Shows the Operator Announcing the Program in the Special Transmitting Room. Below Are, on the Left, a General View of the Complete Transmitting Room and on the Right the High Frequency Alternator Used in Early Tests. The Lower Picture is a Close-up of the Radiophone Set Which Radiates Over 800 Watts in the Aerial. On Top of the Cabinet Are the Amplifier Tubes and on the Right the Oscillators.

Eiffel Tower Station at Paris



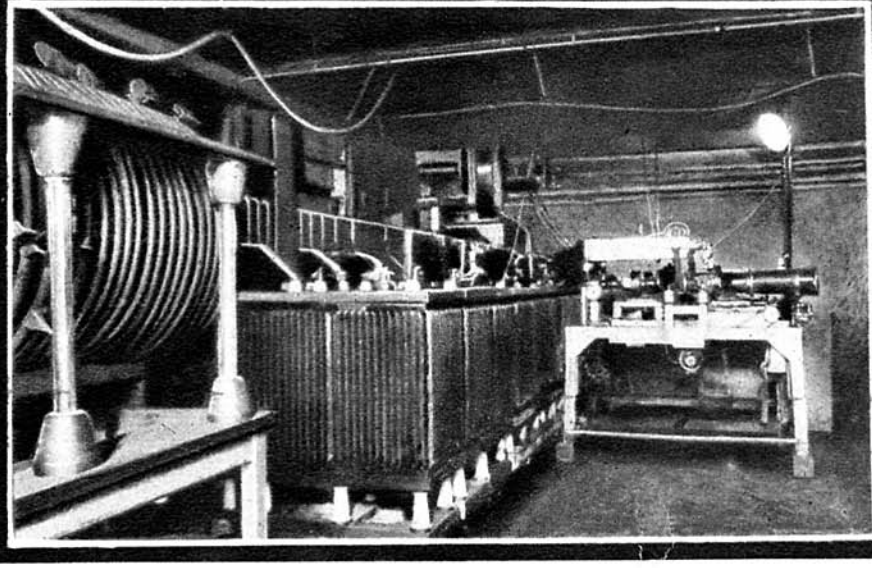






Above—View of the Eiffel Tower, at the Base of Which is the Radio Station. The Antenna is Suspended from the Top of the Famous 1,000-Foot Tower.

Above—The Poulsen Arc Used at "L for Undamped Wave Transmission.



Above—The Station Personnel Are Grouped Near the Huge Lead-in Wire and Insulators.

Above—The Mercury Turbines for Manipulating the Arc. Behind is the Control Switchboard of the Arc Transmitter.

Left—The High Tension Room of the Old Spark Transmitter. In the Foreground is the Inductance Installed When FL was First Opened.