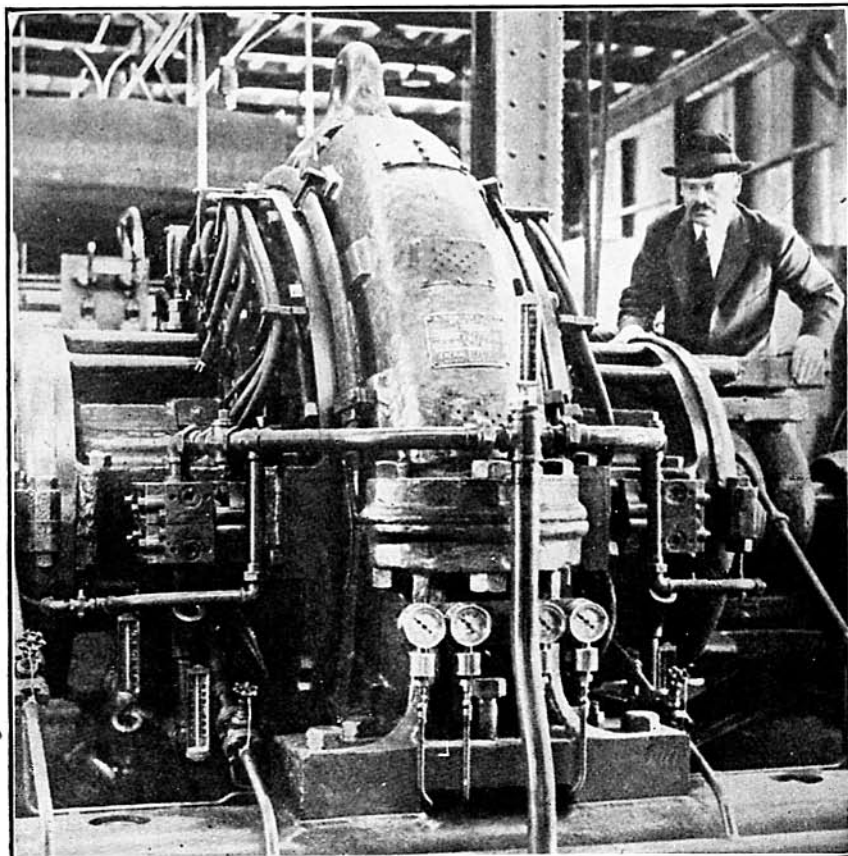


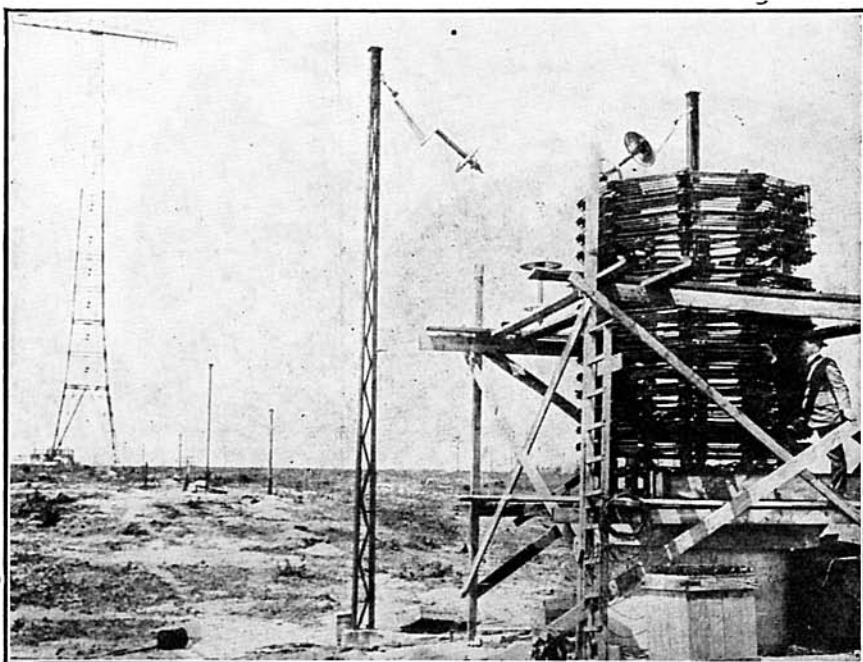
# Operating a Transatlantic Station

By Fred. Chas. Ehlert



(C. Underwood & Underwood, N. Y.)

Massive high-frequency alternator in one of the large stations at Rocky Point, Long Island. The photograph shows E. F. W. Alexanderson watching the operation of his own invention. This is the machine that makes transoceanic wireless possible. It is not used by other large transoceanic stations. These machines are specially built by the General Electric Company, Schenectady, New York



(C. Underwood & Underwood, N. Y.)

Large multiple tuning-coil, the invention of E. F. W. Alexanderson, is plainly shown in the above photograph. This tuning-coil is at the central station, Rocky Point, Long Island. The large towers show what the transmitting aerials are like, also their immense length and height

**T**HE leading nations of the world have fully realized the value of radio as the best means of long distance communication. The world war indicated that cables and telegraph lines can be destroyed, but the radio can not be interrupted. The nation with powerful radio stations is always assured of communication with the outside world. If one realizes that, only a few years ago, when a steamship left a certain port, it was completely cut off from the world. Today, a ship on the high seas is in the same position as a first-class hotel so far as communication is concerned. Radio Central is the name given to the high-power wireless installation erected by the Radio Corporation of America. The station is situated near Port Jefferson, Long Island, New York, about seventy miles from the heart of New York City. The station was designed to supplement the existing communication facilities from the United States, and to provide direct radio-service with Great Britain, France, Norway and other European countries, as well as South America. This important station occupies some 640 acres. The station, eventually will consist of a number of separate antenna systems, each provided with the necessary transmitting plant for simultaneous radio communication over a number of different routes. The large receiving antenna at Rocky Point, is shown in one of the accompanying photographs.

Some doubt may have been entertained by engineers as to the traffic-carrying capacity of the ether, for long-distance communication. The figures for long-distance telegraphy may be estimated. Let us assume continuous wave transmission, with an appropriate form of key modulation in sending the dots and dashes,—and without any tone modulation whatever. Under these conditions, and taking into account both side bands produced as the result of actual transmission, it has been determined that a speed of 100 words a minute corresponds to the occupation of a band of frequencies in the ether, roughly, 100 cycles wide.

This is on the basis that the radio-frequency generator maintains its frequency constant during transmission. An illustration herewith shows this high frequency generator, or alternator, designed by E. F. W. Alexanderson and built by the General Electric Company. Mr. Alexanderson is seen alongside his own invention, which made transoceanic wireless possible. This machine is automatically controlled by a central control-operator by

(Continued from preceding page)

which the dots and dashes are sent to the antenna for transmission. Each antenna is of the Alexanderson multiple tuned-type. It is provided with several earth connections along its length, each connection including a tuning coil. As may be seen from the photograph these coils are set up in the open air.

The final installation will include ten Alexanderson alternators, which, when operating, will give a total output of 2000 K. W.

## Grid Leaks

### Tiny - Tube Paragraphic Comment on Regenerative Radio Topics of the Week

By Thomas Marion

**B**IG things in radio happened during the past two weeks. One of them was Major E. H. Armstrong's demonstration of his super-regenerative receiver. But it is only one of the steps toward bigger things to follow. Radio is making the world look like a golf ball.

\* \* \*

I have received many letters from readers anxiously inquiring if they should discard their present apparatus in view of the major's invention. Emphatically, NO! It is a revolutionary invention, to be sure; but time must be taken for standardization, manufacturing, and merchandising.

\* \* \*

When such matters puzzle you, remember that it is best to reflect.

\* \* \*

Other readers want to know if the Armstrong system and apparatus will be made public. The editors of RADIO WORLD assure me that they will publish all such matter as fast as circumstances permit.

\* \* \*

Another big thing was Marconi's demonstration of flashing radio waves to a chosen point—just as sun rays are flashed back by a mirror. Easy enough! Since old Chris Columbus stodd his egg on end, many of his descendants have performed more wonderful stunts.

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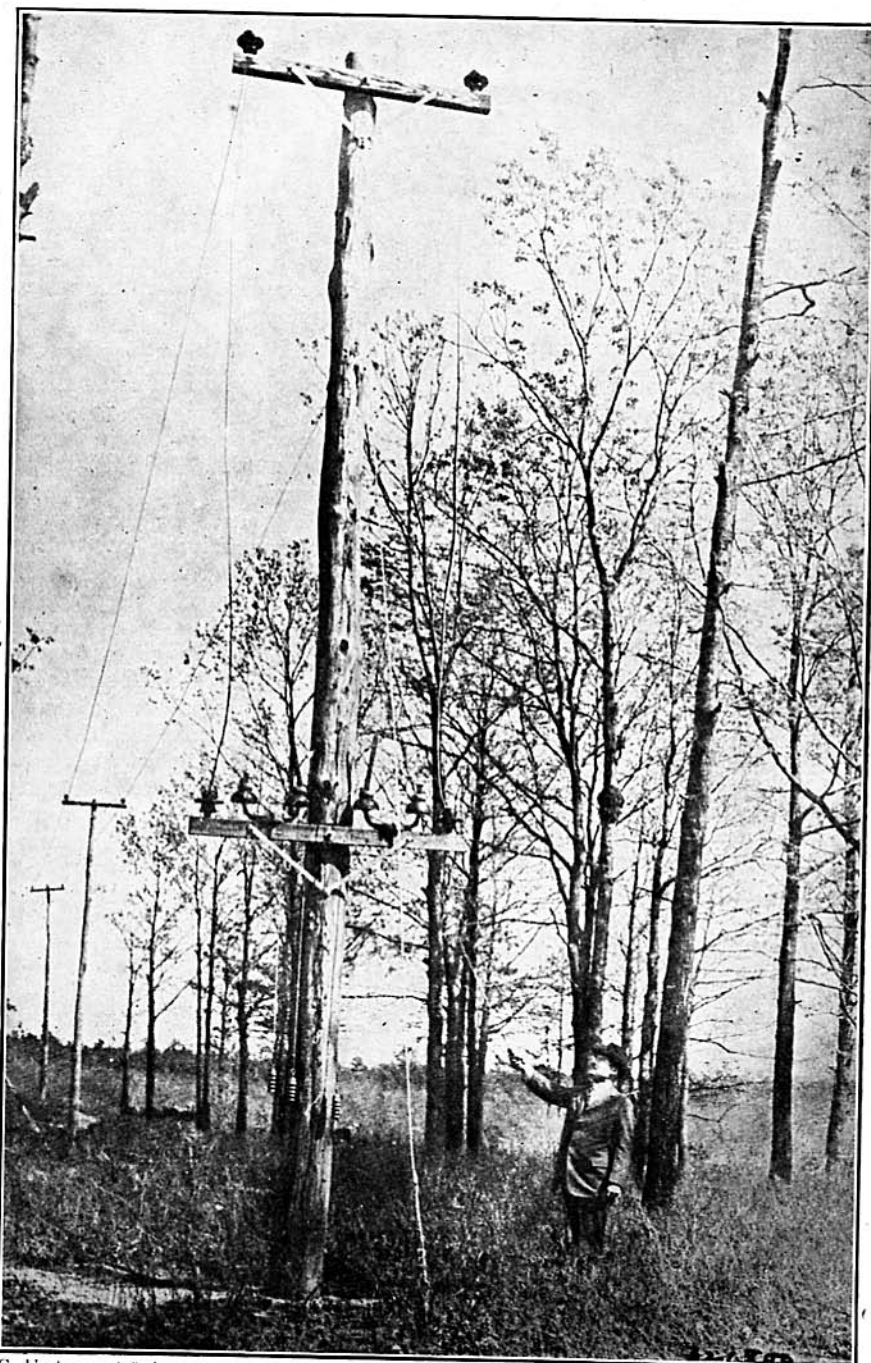
I hear that the old-timers' dinner is to be a fact this fall. Some of the pioneers were willing to make it a summer event; but we all know what it means to doll up in a suit with a southern exposure and a collar like the rear wall of a battery cabinet, when the temperature is trying to ooze out of the thermometer.

\* \* \*

George W. May tells us, in RADIO WORLD, No. 14, that the crystal detector is limited to about twenty miles range. I have often wondered what might be the range limit of my colleague, Miss Crystal D. Tector, who keeps us posted on what women are doing to radio. She seems to be a vacuum-tube detector of some voltage.

\* \* \*

Herbert R. Hoover is to be the czar of American radio. His job will not be a sinecure. No doubt he will be needed to



(C. Underwood & Underwood, N. Y.)

The above illustration shows E. F. W. Alexanderson, chief engineer of the Radio Corporation of America, throwing the ground switch on the receiving antenna at the Riverhead Station, New York, which receives all radio messages from Europe. The aerial is only thirty feet high, but it is nine miles long. The height is not essential as the aerial would work just as well on the ground and is elevated only as a matter of protection. Nine miles is the approximate length of the radio waves from European stations.

keep us all in order; for we are fast beginning to crowd one another in our enthusiasm.

\* \* \*

And, in the face of this, they tell me, radio has not even scratched the surface of the country—meaning by that, it has yet to be adopted by millions. Outside the larger cities, it has many fields to conquer. A good sign—taking into account the vast business in radio equipment that is being handled.

\* \* \*

I was tuned in when Dr. Copeland, New York City's health commissioner, gave some pointed chatter on keeping your body clean as well as your mind. The

advice was good but what pleased me most was the doctor's fine clear radio voice. They say that a "movie" actor "screens well." Let me say that Doc Copeland "radios well."

\* \* \*

"The spirit world may be reached by wireless." Right here we have a hunch. Let Washington put Conan Doyle, Hereward Carrington, and Thomas Edison in charge of the prohibition enforcement, so as to locate the spirits of the bootleggers. Whether all the spirits would tune in or not we can't say.

\* \* \*

Watch for big news in radio! Things are moving fast.