

# An Interview With Guglielmo Marconi

By Samuel Cohen

**W**HAT a wealth of meaning there is to the two words, "Marconi" and "wireless" to practically every educated person to-day! Undoubtedly for many years to come the name of Commendatore Guglielmo Marconi will be famous throughout the world and known in practically every household as that of one of the greatest benefactors of the age and as the pioneer inventor and perfecter of wireless telegraphy, as we know it to-day.

Dr. Marconi is well past middle age and looks in the best of health. He is rather tall and well set up, marking him, you perceive, a military man in more aspects than one. This is due, in a great measure, to the fact that he is a Lieutenant in the Italian Navy. He bears his 41 years well, indicating an uncommonly strong mind and body.

As the wireless telephone is one of the latest and most misunderstood apparatus, perhaps, of the present time, I asked him how this matter was progressing. Mr. Marconi stated that there was great hope for the future and, in fact, in the very near future, of greatly extending the range of wireless telephony. "It is being used on practically all warships of the Italian Navy," he stated, "and is being employed to a considerable extent in the British and other navies. Apparatus of the Arc and other types are being used and thoroughly tried out for this purpose, and the best grade sets, such as used in the Italian Navy, can transmit the spoken voice over distances up to 100 miles and more, which is very good, of course, considering that on shipboard it is difficult to erect a very large antenna. One of the later developments in

wireless telephone apparatus is that making use of a modification of the well-known *Fleming Valve*. By suitably combining an oscillatory circuit around this valve and also by means of other super-imposing circuits containing the microphones, we have made it possible to talk over quite considerable distances by this very simple and sure means. It is more stable and certain in its character by far than the Arc type of apparatus, generally speaking."

"These wireless telephone sets are provided with a simple switch by which the operator can change over from transmitting to receiving speech very quickly, and they are operated by means of an 80 ampere-hour storage battery which heats the vacuum valve filaments and also a 500 volt current is provided for actuating the trigger control circuit of the valve, as it is called."

"This current is produced by dry batteries, and these sets are not limited to the transmission of wireless telephone speech, but can very easily be converted into wireless telegraph transmitting sets by the substitution of a Morse key in the circuit, etc. These vacuum tube transmitters are able to work over ranges up to about 35 miles thus far."

I asked Dr. Marconi about the other forms of wireless telephone apparatus or undamped wave type generators, etc. He intimated that a great deal of experimental and research work was being carried out in England and in some of the other Marconi laboratories on the multiple spark frequency wireless generator which can produce practically undamped waves by al-

lowing several different sparks in the circuit to jump the gaps at slightly different periods. In this way there are not any long breaks between the sparks and the ordinary dead-time period between sparks of the common radio transmitter, are filled up with the waves from other sparks synchronously and critically timed.

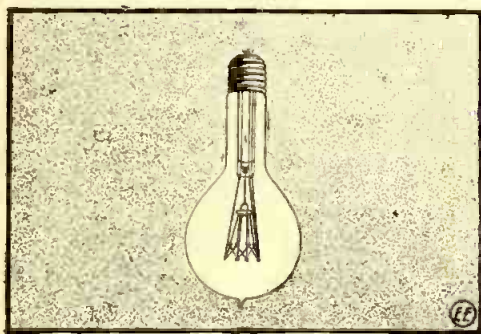
One of the latest branches of science Dr. Marconi is intensely interested in is that of seeing over a wire by electricity. He mentioned that a considerable amount of research work has been done in transmitting images by wireless and successful results were already obtained. Dr. Marconi is quite sure that the time will soon come when one will be able to see a friend in Europe by means of wireless television and at the same time speak to him.

Regarding the powerful and recently completed trans-Atlantic radio stations in England and the United States Dr. Marconi is hopeful the European war will soon cease so that these stations can be put into regular operation. These are at present tied up for the reason stated and particularly as the British Government has taken over the control of the Wales stations for official work of the War Department.

Before departing I suggested to Dr. Marconi that thousands of young experimenters in this country would highly welcome a picture of himself to adorn their dens and laboratories. Dr. Marconi then graciously autographed a photograph for the especial benefit of the readers of *The Electrical Experimenter*. It is this photograph which forms a supplement to this number.

## NEW DOUBLE-FILAMENT GAS-FILLED LAMP.

A "two-in-one" incandescent lamp, as it is called, has recently been put on the market and it should find a wide sale. The filament is made in two sections, one of which can be operated while the other is out of service, or both may be burned at the same time. Thus, if the lamp is rated at 200 watts, each side takes 100 watts. Either or both sections are placed in circuit



Latest Double Filament Gas-Filled Incandescent Lamp.

by a screw attachment in the base. The lamp is filled with nitrogen, argon and other gases. The specific consumption, the manufacturer asserts, is 0.6 watt per C.P. or less. The average life with the filament sections burning separately is 2,000 hours, and with both burning together 1,000 hours.

## ELECTRIC SMOKE RECORDER.

By Frank C. Perkins.

The accompanying illustration shows a novel and interesting smoke recorder, electric motor driven, as recently developed at Chicago, Ill. It is held that war was declared against the smoke nuisance in the

reign of Queen Elizabeth and has been going on ever since.

The problem therefore is to find the means of making the careless and negligent fireman careful. It is in the nature of every man to be more attentive to business when he is under inspection.

Recording apparatus of every kind is coming more and more into use, particularly in power plants. It is maintained that the most effective remedy for the smoke nuisance that has ever been produced is the smoke recorder. It proves itself if one admits that careless firing is the one great cause of smoke, because the smoke recorder is a check, both upon the chimney and the fireman. Smoke can always be greatly reduced and sometimes completely eliminated by careful management of the fires. No matter what kind of "smokeless furnace" one may have, it cannot live up to its title and make steam unless it is managed with care and intelligence.

This new electric-driven smoke recorder originated in the brain of Ray L. Eddy, who has devoted many years to the study of smoke, its causes, effects and remedies.

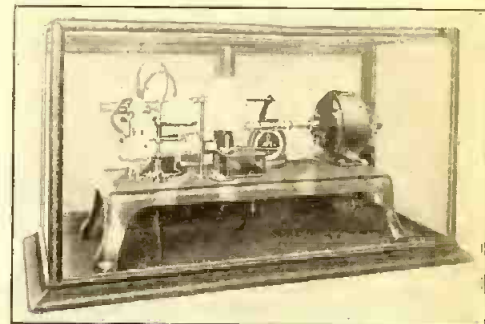
This electric recorder is the "watchman" that informs the fireman immediately if the stack begins smoking. He can at once adjust the dampers or apply any other remedy that is recommended by this observation and experience. He can stop smoke within the time limit named by the city ordinances, and in all probability before a smoke inspector or some complaining citizen can get his eyes upon the chimney.

In order to fight smoke it is necessary to know what causes it. Smoke is usually caused by lack of air, improper mixture of the air with the gases or lack of temperature. Improper furnace design often has much to do with it.

The electric smoke recorder is built like a watch and, entering into the theory of

the principles involved in the smoke recorder, it may be stated that if one drives a jet of smoke against porous paper the soot and other coloring matter will adhere to the paper and form a permanent record. It will be permanent because the soot particles will be driven into the pores of the paper. The record upon the paper will correspond with the color of the smoke, irrespective of what that color may be.

There are two things necessary in the



Electrically Operated Smoke Recorder.

construction of a smoke recording apparatus. To provide means to draw a sample of the gas from the stack and force it through a small orifice and also to provide a sheet of the proper paper and a clock or other mechanism to move it. Reduced to its primary elements, a smoke recorder consists of a pump and a clock and a piece of paper.

It may be stated that the chart is sectionally ruled in hours and minutes, each chart covering a period in excess of 12 hours, and one can tell almost to the second when the chimney began to smoke and also when the fireman stopped it by proper firing.