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The Société Radio-Électrique System

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THE accompanying illustration, Fig. 1, shows the unique wireless receiving equipment developed at Paris and consists of a universal resonator, with electrolytic detectors and also another type of detector of the

Française Radio Electric including the switchboard, transformer, detectors and manipulating apparatus as well as the equipment for the instantaneous variation of the wave length. The transmission equipment also noted in this photograph is shown in Fig. 3, where this apparatus may be seen in greater detail, and particularly the high voltage tubular condensers, with the tuning inductances.

called a counterpoise, is used as our illustration shows. The antennae system consists of two distinct aeriels, apart from one another and each highly insulated. The aeriels on airships usually consist of a single copper cable about 60 to 100 yards long, one end of which is connected to the instruments; to the free end a weight is attached and then lowered over the side of the machine so that it hangs vertically below the machine when in flight. A winch is pro-



Fig. 2. The complete radio sending and receiving cabinet.

Fig. 3. A close view of the sending tuner.

Fig. 1. The receiving set of special design.

Societe Francaise Radio Electric type. A storage battery is used of 4 volts potential and capacity of 20 ampere hours. At the Eiffel tower wireless station, an equipment of 10 kilowatts capacity, has communicated with the Russique Dakar station at a distance of 4,000 kilometers. In Africa there is a wireless installation of the Société Francaise Radio Electric at Braxxville, capitol of Congo Francaise, which is capable of communicating with Stanleyville, a distance of 1,600 kilometers.

In the accompanying illustration, Fig. 2, may be seen a complete wireless sending and receiving station of the Société

transmission possible, comprises an alternator and transformer, the alternator being driven by the engine used for propelling the machine, or by means of an auxiliary engine or motor of some description, or in place of this alternator and transformer an induction coil may be used, the electric current being supplied to it from a battery of accumulators.

A key is also necessary to enable the operator to make and break the electric circuit at will, in order to produce dots and dashes for transmitting a message in the Morse or other pre-arranged code.

To surmount the difficulty of having no direct ground connection, a device

WIRELESS TELEGRAPHY FROM AEROPLANES.

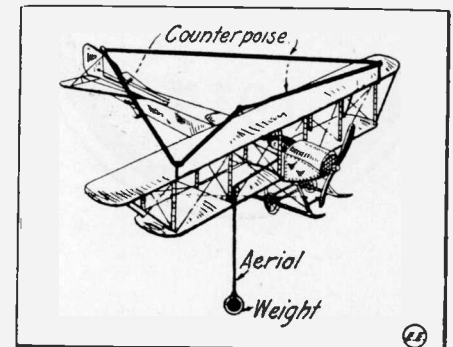
It is almost impossible in practice to send a wireless message to a man in an airship. Not that the wireless waves fail to reach him, but that the noise of the engine is so terrific that it makes the faint signals in the telephone receivers inaudible. Thus there exists a good opportunity for radio designers and experimenters to perfect a visible receptor, which will indicate the radio signals by short flashes in a lamp or bulls-eye.

It is, however, comparatively easy for an aviator to send wireless messages to the earth, says Marcus D. Manton, in Aircraft.

The apparatus required to make this wireless transmission possible, comprises an alternator and transformer, the alternator being driven by the engine used for propelling the machine, or by means of an auxiliary engine or motor of some description, or in place of this alternator and transformer an induction coil may be used, the electric current being supplied to it from a battery of accumulators.

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Showing the aerial arrangement on aeroplanes.

vided so that the aerial may be quickly wound up or down.

In the event of the machine having to make a forced landing and giving no time to wind up the aerial, the wire cable is severed by means of an aerial cutter which is fitted to the side of the winch, and the wire falls clear of the machine so that the aeroplane lands in the ordinary way without any danger of the aerial catching in trees or being tangled up by the propeller.

The counterpoise used in place of the ground connection consists of a system of wires running from the planes to the tail of an aeroplane or from end to end of the nacelle of a dirigible. The figure shows how a counterpoise and aerial are fitted to an aeroplane. Such machines take two men, pilot and operator.

WIRELESS RATES TO GERMANY.

It was announced recently by Acting Secretary of State, Robert Lansing, that when the Goldschmidt wireless station at Tuckerton, N. J., is reopened shortly, that the rate per word to Germany via the Tuckerton system will be 50 cents per word.

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