[Second Edition.]

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Date of Application, 10th May, 1913

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PROVISIONAL SPECIFICATION.

Improvements in Wireless Telegraphy.

We, MARCONI'S WIRELESS TELEGRAPH COMPANY, LIMITED, and CYRIL PERCY RYAN, Commander, R.N., all of Marconi House, Strand, London, W.C., do hereby declare the nature of this invention to be as follows:—

This invention relates to an improved method of and apparatus for giving alarms by means of wireless telegraphy.

According to this invention a series of signals is transmitted at regular intervals of time, preferably by means of a pendulum or metronome, and the received signals falling upon a detector actuate a relay which causes an electromagnet to attract a pendulum or balance wheel whose period of oscillation is equal to the intervals between the signals and to start it swinging. The successive signals increase the amplitude of oscillation of the pendulum or balance wheel and when this is sufficiently great it trips a contact which gives an alarm and preferably also starts an electric motor which resets the trip contact and may do other work.

The relay should be such that it will not be actuated by vibration or changes of temperature.

If an ordinary filings coherer be employed as the detector, a clock may be employed to tap it periodically, say three or four times an hour, to prevent it becoming inoperative through the filings jamming.

By employing different intervals between the signals of the series different alarms may be given.

Dated this 10th day of May, 1913.

CARPMAEL & Co.,
Agents for Applicants,
24, Southampton Buildings, London, W.C.

COMPLETE SPECIFICATION.

Improvements in Wireless Telegraphy.

We, MARCONI'S WIRELESS TELEGRAPH COMPANY, LIMITED, and CYRIL PERCY RYAN, Commander, R.N., all of Marconi House, Strand, London, W.C., do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improved apparatus for giving alarms by means of wireless telegraphy when a series of signals which have been transmitted at regular intervals of time, preferably by means of a pendulum or metronome, falls upon a detector.

[*Price 6d.*]

The invention relates to apparatus of the known type in which a relay actuated by these signals causes an electromagnet to attract a balance wheel whose period of oscillation is equal to the intervals between the signals and to start it swinging. The successive signals increase the amplitude of oscillation of the balance wheel and when this is sufficiently great it makes or trips a contact which gives an alarm and preferably also starts an electric motor which resets the trip contact and may do other work.

According to our invention we so mount a balance wheel which carries a strip of iron in proximity to an electromagnet that when the magnet is energized the wheel tends to rotate and to wind up a spiral spring by which it is connected to an adjustable support. The arbor of the wheel carries a contact finger adapted, when the wheel oscillates through an angle sufficiently great, to dip into mercury contained in a cup and so to complete a local circuit.

The accompanying drawings show by way of example an instrument constructed in accordance with our invention.

Figure 1 is a sectional elevation, Figure 2 a plan, and Figure 3 an elevation at right angles to Figure 1.

a is an electromagnet which is energized when the relay *b* is actuated by the incoming signals. *c* is a balance wheel on an arbor *d* mounted in bearings on brackets *e* and connected by a spiral spring *f* to a plate *g* which can be clamped in any desired position on one of the brackets *e* by means of a screw *h*. Let into the wheel *c* is a strip of iron *i*. The arbor also carries an arm *j* on one end of which is a contact finger *k* adapted, when the wheel comes into the position shown, to dip into mercury contained in a cup *l*, while the other end carries a counterbalancing nut *m*. The arbor brackets and bedplate *n* are connected to a battery *o* and relay *p* the other side of which is connected to the mercury in the cup *l*.

Ordinary signals do not affect the balance wheel sufficiently to cause the finger *k* to dip into the mercury and the relay *p* is therefore not actuated but when a number of signals arrives at intervals equal to the period of oscillation of the balance wheel, this wheel is set swinging and eventually the finger dips into the mercury and the circuit through the battery *o* is closed and the relay *p* is actuated. This relay may consist of a trip contact which gives an alarm and preferably also starts an electric motor which resets the contact and may do other work.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

In an instrument of the type described the combination of a wheel on an arbor, an iron strip carried by the wheel, an electromagnet tending when energized to rotate the strip about the axis of the arbor, a spring connecting the arbor to an adjustable support and a contact finger carried by the arbor and adapted to dip into mercury substantially as described and shown in the drawings.

Dated this 10th day of November, 1913.

CARPMAEL & Co.,
Agents for Applicants,
24, Southampton Buildings, London, W.C.

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(2nd Edition)

SHEET 1.

Fig. 1.

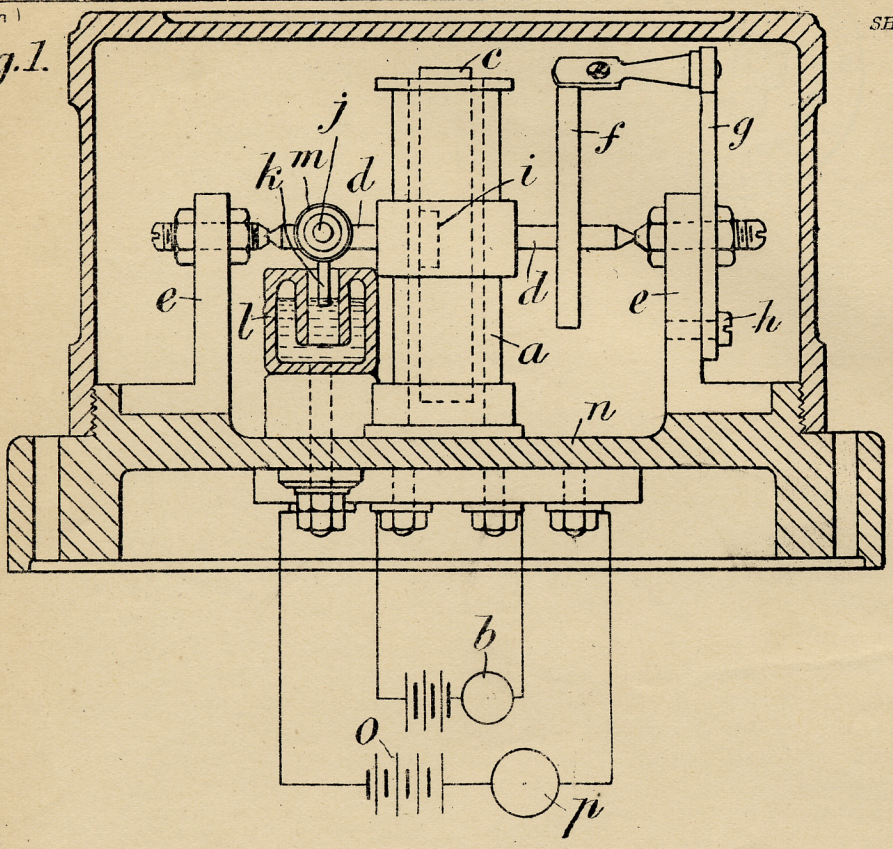
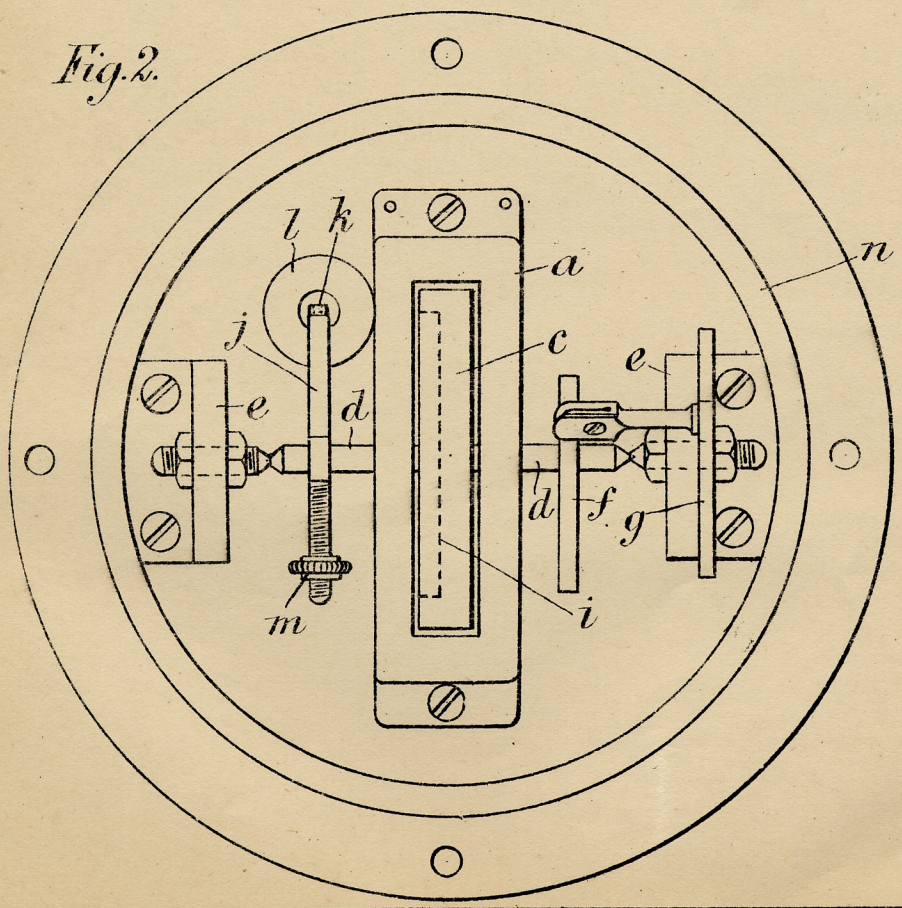
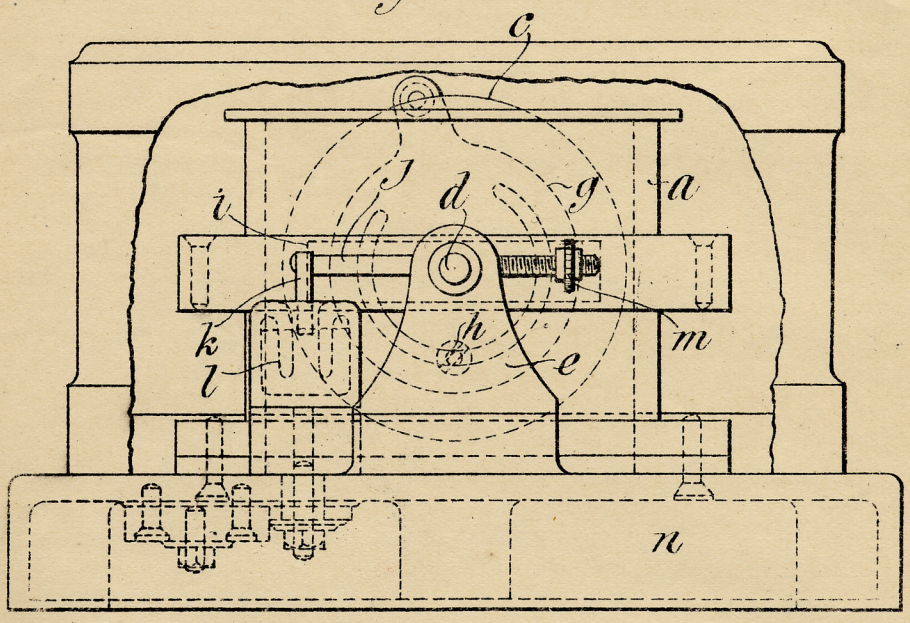


Fig. 2.



[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 3.



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