

P. O. PEDERSEN.
TRANSMITTING APPARATUS FOR WIRELESS TELEGRAPHY.
APPLICATION FILED MAR. 6, 1907.

986,405.

Patented Mar. 7, 1911.

Fig. 1.

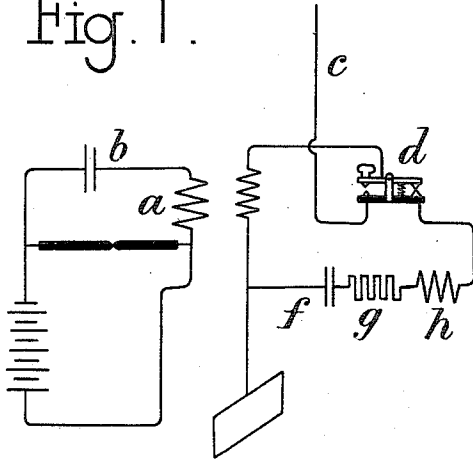


Fig. 2.

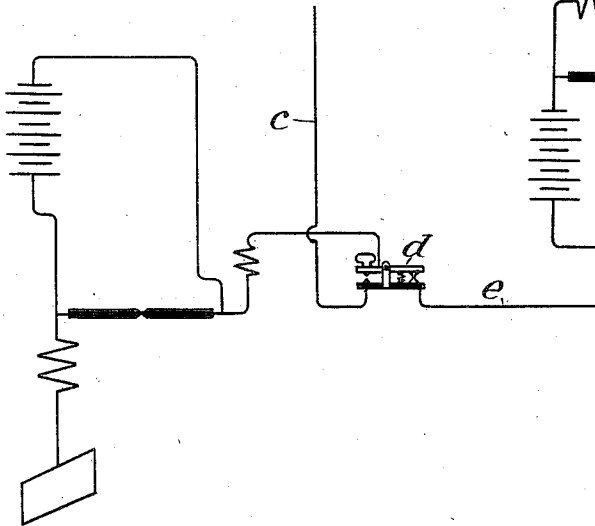
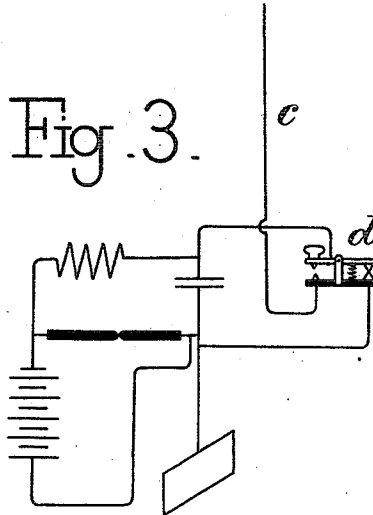


Fig. 3.



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UNITED STATES PATENT OFFICE.

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TRANSMITTING APPARATUS FOR WIRELESS TELEGRAPHY.

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Specification of Letters Patent.

Patented Mar. 7, 1911.

Application filed March 6, 1907. Serial No. 360,899.

To all whom it may concern:

Be it known that I, PEDER OLUF PEDERSEN, a subject of the King of Denmark, residing at Copenhagen, Denmark, have invented certain new and useful Improvements in Transmitting Apparatus for Wireless Telegraphy, of which the following is a full, clear, and exact description.

My invention relates to wireless telegraphy, and particularly that class of apparatus in which continuous oscillations are produced in a suitable circuit, and either inductively or directly impressed on the antenna. In this class of apparatus, the usual operation has been to control the oscillation generator, so that its action is intermittent or interrupted, thus producing the successive signalings. This method has certain objections, particularly that the generator does not work as well as when operated intermittently in this way.

By the present invention, I aim to obtain quick and reliable telegraphy by operating the generator to produce continuous oscillations during the whole time of the signaling, by intermittently changing the circuits so that the property of emanating electric waves is intermittently cut off. This may be accomplished in different ways, for example, by coupling and uncoupling the antenna from the rest of the vibration circuit by means of an operating key; also by connecting and disconnecting the earth, or an artificial earth to and from the antenna. A third plan consists in intermittently substituting for the antenna another organ or device having a very slight or no property of radiating waves, or which only radiates waves in such a manner that they do not affect the receiver at the distant station.

Examples of practical arrangements are illustrated in the drawings, in which,

Figure 1 shows an oscillation circuit having an inductive coupling with the antenna circuit. Fig. 2 illustrates an oscillation circuit having a direct coupling with the antenna circuit. Fig. 3 shows a further modification of the apparatus.

Referring to Fig. 1, an oscillation circuit is shown including an inductance a and ca-

capacity b . c indicates the antenna, and d is a key by which the antenna may be intermittently connected and disconnected from the rest of the circuit thereby practically reducing the radiating power of the system to zero. I prefer also to provide in connection with the above, a partial circuit having the same resistance, capacity and self inductance, as the antenna circuit; this latter being connected with the oscillation circuit when the antenna c is disconnected. This artificial antenna includes capacity f , resistance g and a self inductance h .

In the diagram shown in Fig. 2, the antenna c is directly connected to the oscillation circuit. Signaling is effected by replacing through the use of the key d , the antenna c by another antenna e which is in a horizontal position, and the waves from which, therefore, do not affect the vertical antenna at the receiving station. This form of the invention possesses the advantage that the oscillation periodicity and the damping conditions in the transmitting apparatus are maintained practically unchanged, thereby securing for the generator the best possible conditions for acting in the manner required.

The arrangement shown in Fig. 3 differs from Fig. 1, in that a direct rather than an inductive coupling is employed between the primary oscillation circuit and the antenna circuit. In this form of the invention the use of artificial resistance and inductance may be dispensed with when the antenna is disconnected.

What I claim is:

In a transmitting apparatus for wireless telegraphy, an oscillation circuit adapted to produce oscillations continuously, an antenna circuit, a compensation circuit and a key adapted to alternately connect the antenna and the compensating circuit to the oscillating circuit.

In witness whereof, I subscribe my signature, in the presence of two witnesses.

PEDER OLUF PEDERSEN.

Witnesses:

VALDEMAR PAULSEN,
VIGGO BLUM.