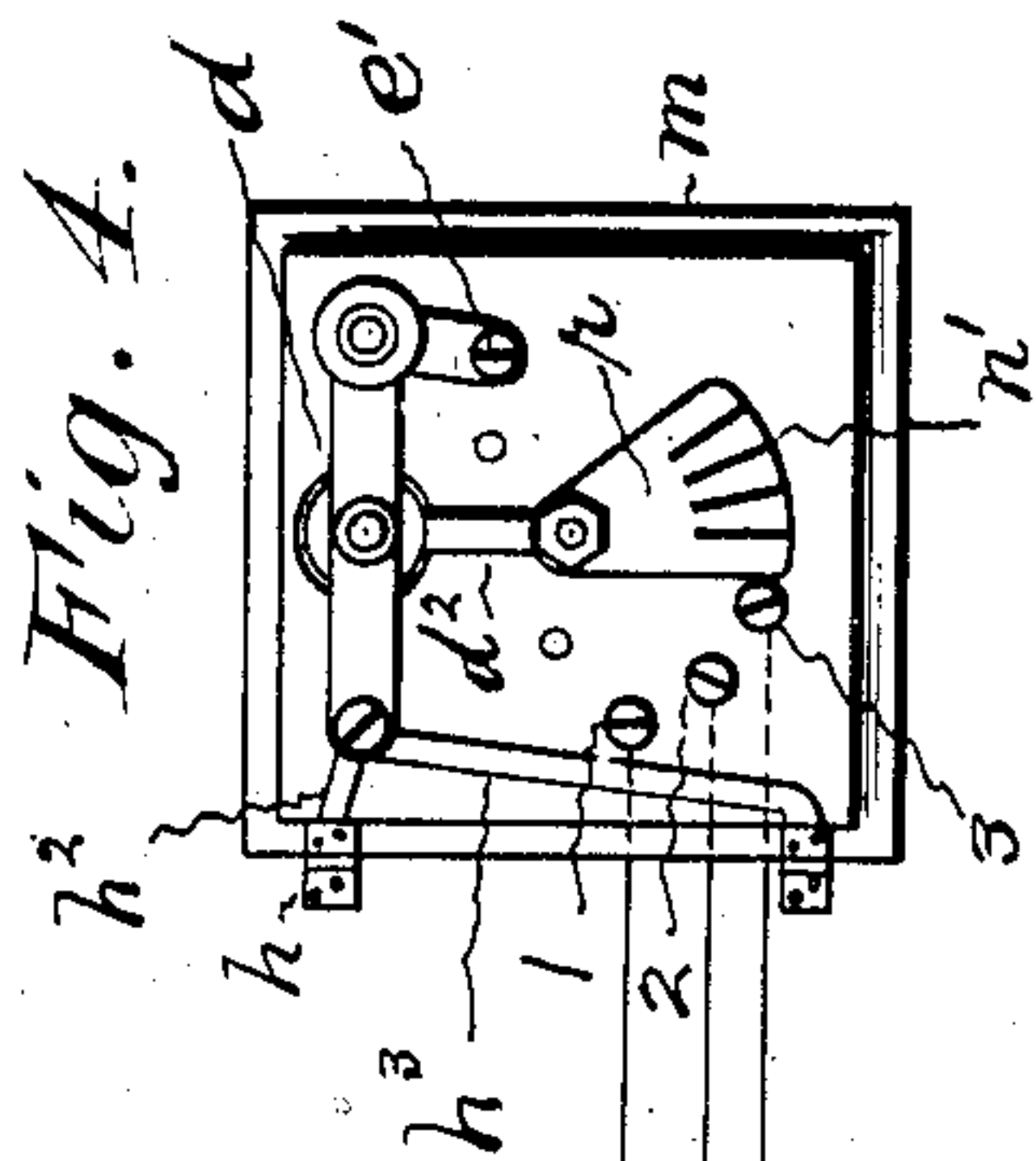
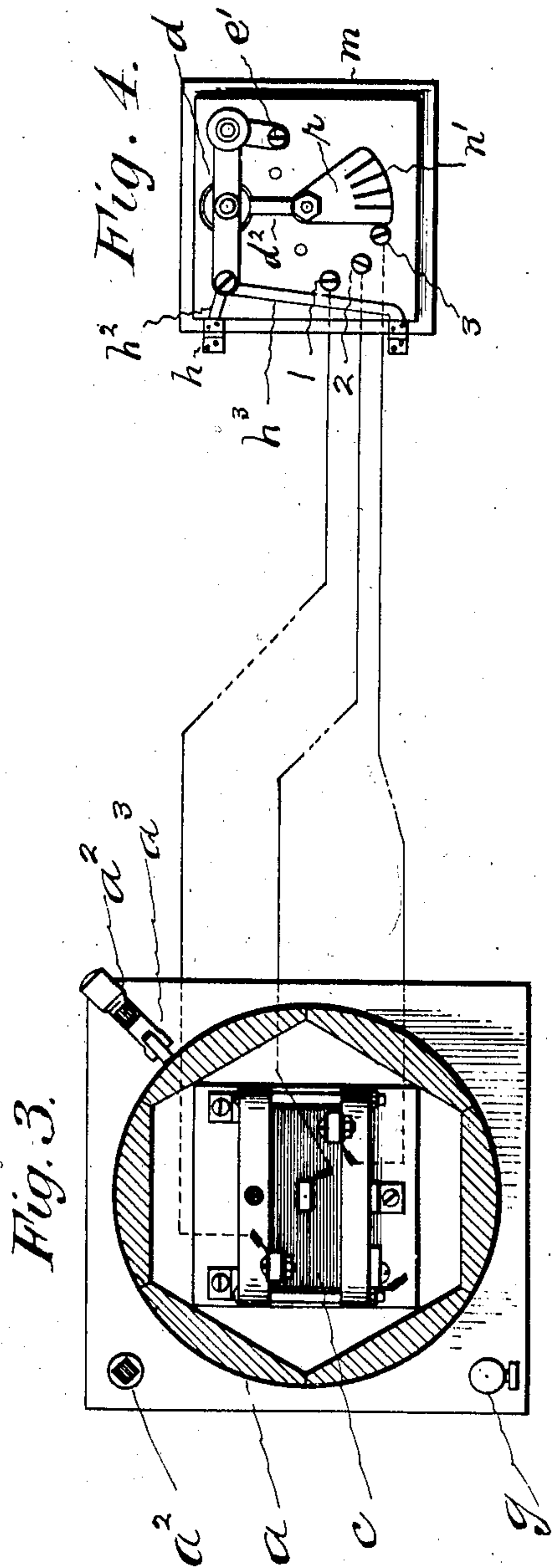


R. R. GOLDTHORP.  
RECEIVING APPARATUS FOR WIRELESS TELEGRAPHY.  
APPLICATION FILED OCT. 29, 1909.

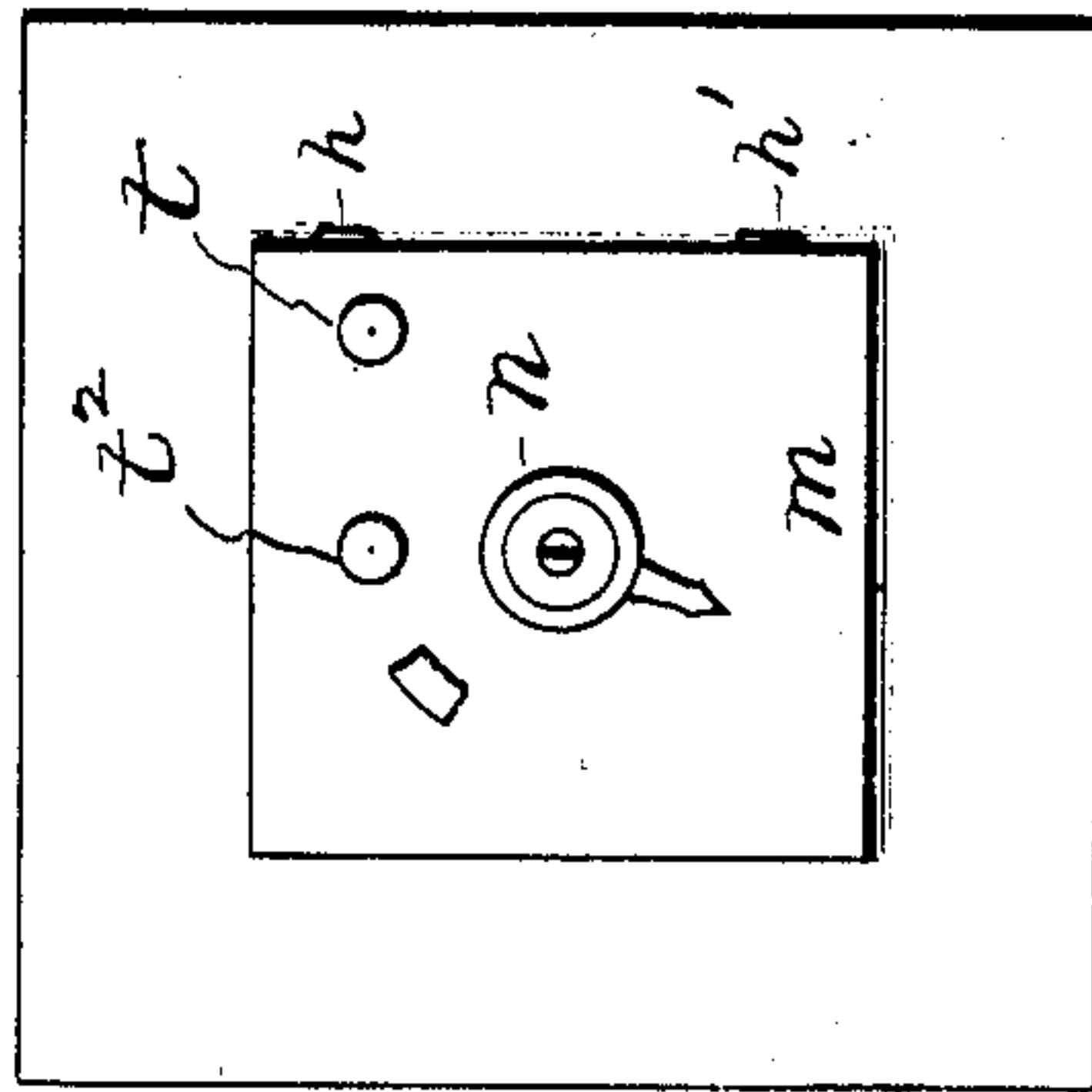
959,510.

Patented May 31, 1910.

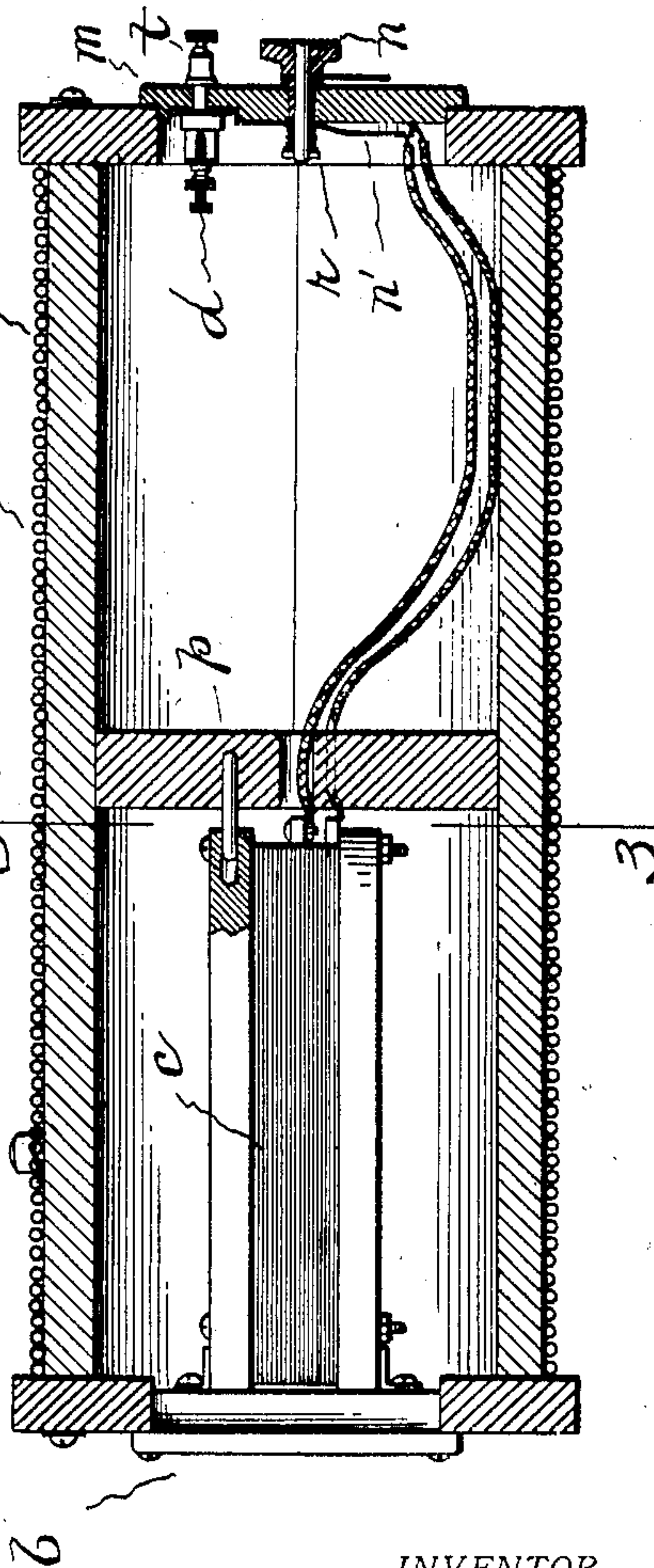
2 SHEETS—SHEET 1.



*Fig. 2.*



*Fig. 1.*



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2 SHEETS—SHEET 2.

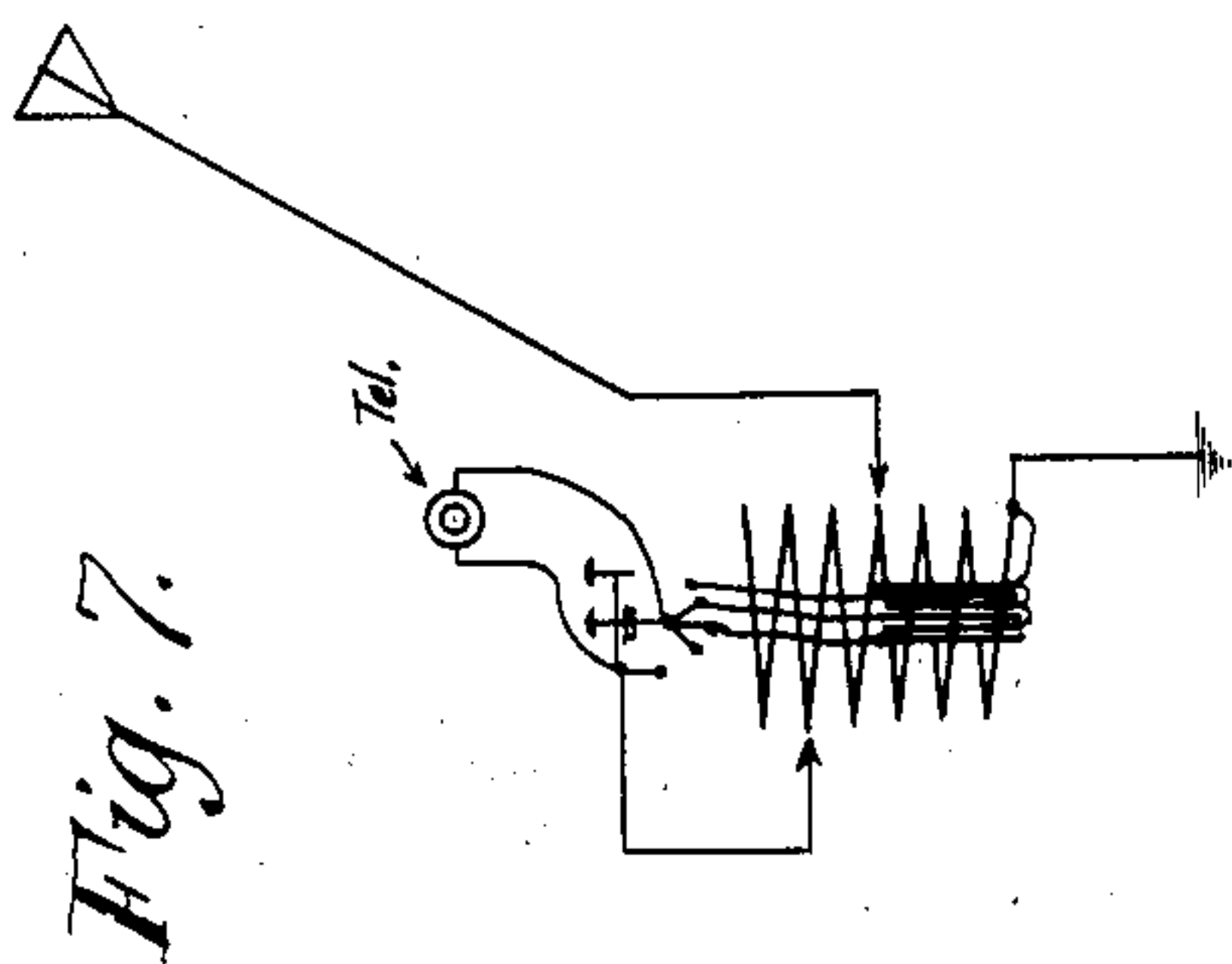


Fig. 7.

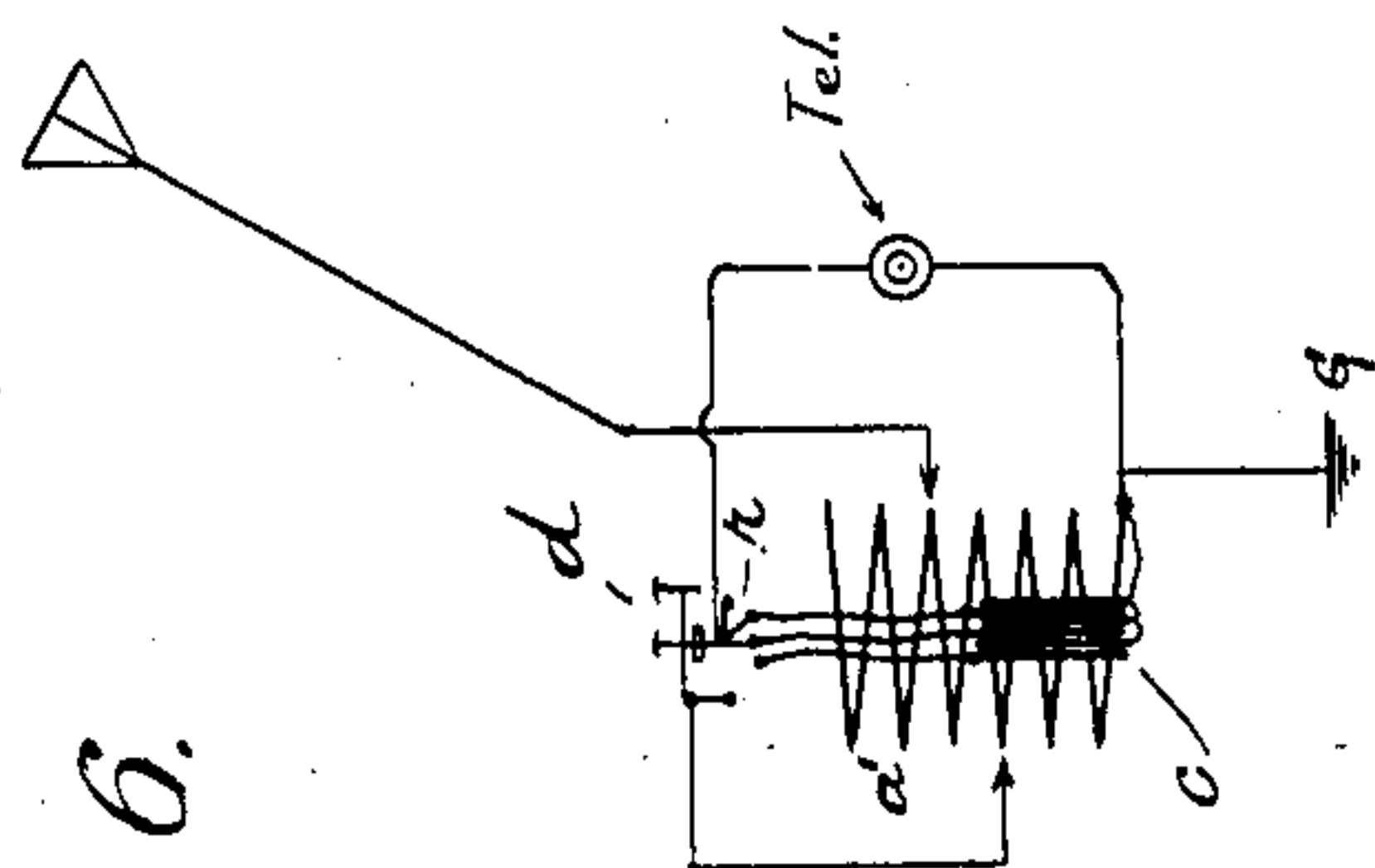


Fig. 6.

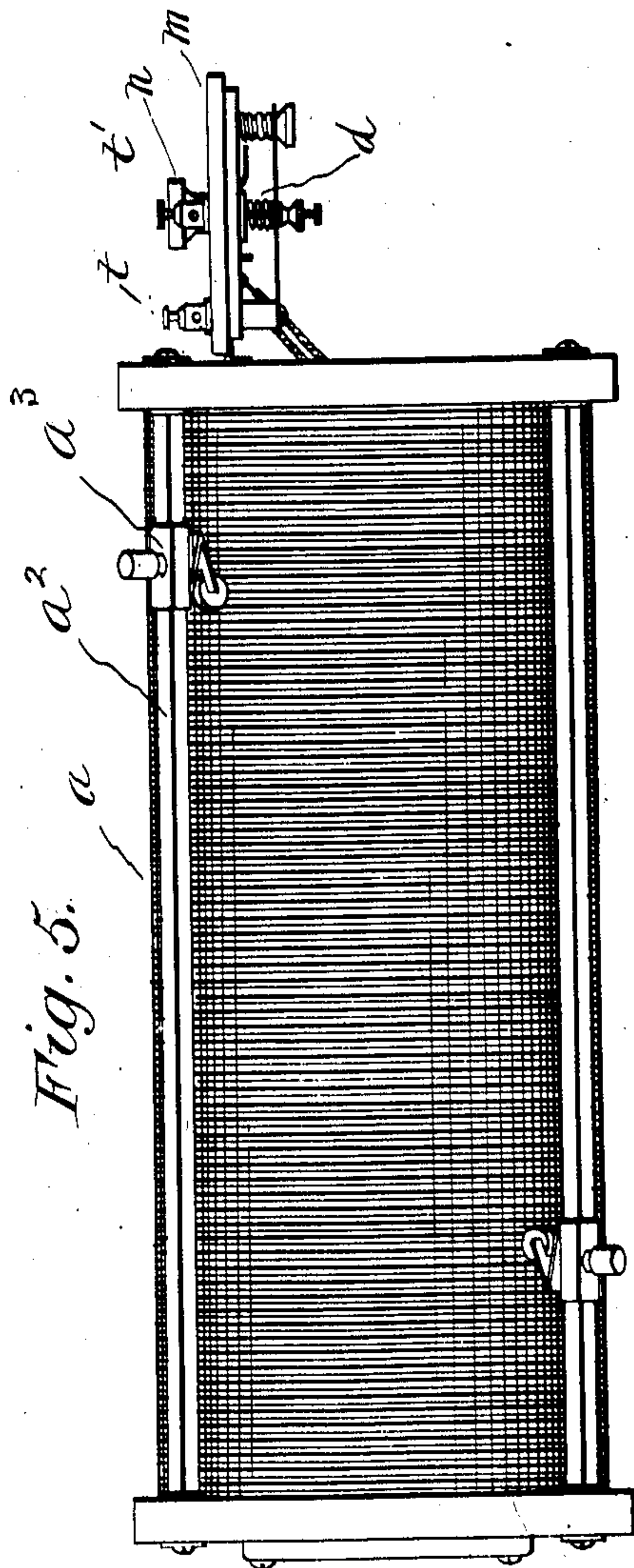


Fig. 5.

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# UNITED STATES PATENT OFFICE.

ROBERT R. GOLDTHORP, OF HARTFORD, CONNECTICUT.

RECEIVING APPARATUS FOR WIRELESS TELEGRAPHY.

959,510.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed October 29, 1909. Serial No. 525,254.

To all whom it may concern:

Be it known that I, ROBERT R. GOLDTHORP, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Receiving Apparatus for Wireless Telegraphy, of which the following is a specification.

10 The object of my invention is to provide a set of receiving instruments for use in wireless telegraphy which is simple, compact and self-contained and all parts of which are readily accessible.

15 My invention is illustrated in the drawings in which—

Figure 1 is a side view of the apparatus with some parts in central vertical section. Fig. 2 is an end view at the right hand end of Fig. 1. Fig. 3 is a transverse section on the lines 3—3 of Fig. 1. Fig. 4 is a view of the inner side of the hinged mounting plate. Fig. 5 is a top view showing the mounting plate open. Fig. 6 shows diagrammatically one way of connecting the parts of the apparatus. Fig. 7 shows diagrammatically another way of connecting the parts of the apparatus.

As is well known the essential parts of the receiving apparatus for wireless telegraphy comprise a tuning coil, a condenser, an adjusting and regulating device for the condenser, a detector and a telephone receiver. Heretofore these various elements have been built up as independent structures and grouped together where they will be easily accessible; such apparatus is well designed for the larger commercial stations. The use of wireless telegraphy has grown very rapidly of late creating demands for a small compact and portable set of receiving instruments and by the herein described invention such a compact and readily portable set of receiving instruments is provided.

Referring to the drawings  $a$  denotes the tuning coil, which, so far as its functions are concerned, may be of any well known type in the form of a hollow cylindrical shell open at both ends. The tuning coil illustrated is wound with a single layer of wire  $a'$  attached at the front end to the shell and at the rear end connected to ground, a double binding post  $g$  being provided for this purpose. Slide-rods  $a^2$  extend lengthwise of the core and carry slides  $a^3$  which contact with the wire of the coil. At the

front end of the tuning coil these slide-rods are connected with the aerial wire. Fitting closely in the rear end of the shell is the condenser supporting plate  $b$  carrying the condenser  $c$ , the inner end of which may be supported by a partition  $p$ , which as shown is arranged transversely of the shell. To the opposite (front) end of the shell is fitted a mounting plate  $m$  supported on hinges  $h h'$  so that it can be opened to permit access to the parts mounted on it. On this mounting plate is a condenser regulator  $r$  and a detector  $d$ . The regulator comprises a handle in the form of a thumb nut  $n$  rotatably mounted in the supporting plate and connected with arms  $n'$  on the inner side of said plate, the ends of which overlie and are adapted to contact with terminals 1, 2, 3, connected with the condenser so that any number of sections of the condenser can be utilized. The detector is mounted on the inner side of the supporting plate with a binding post  $t$  on the outside of the plate. This detector may be of any type desired. The electrical connection between the detector and the rod  $a^2$  of the tuning coil is made through the hinges  $h h'$  and strips of conducting material  $h^2 h^3$ , as clearly indicated in Fig. 4.

A contact pin  $e'$  is connected with the detector on the inside of the mounting plate  $m$  at a point where it will underlie and contact with one of the arms  $n'$  of the condenser regulator  $r$  when it is in its "off" position. The condenser regulator is electrically connected with the detector as by the conductor  $d^2$  and it will be seen that when the regulator is moved to its "off" position the detector is short circuited.

The telephone receiver may be connected in one of two circuits. In one case the circuit extends between the detector binding post  $t$  and the double binding post  $g$  which connects the receiver around the condenser, as illustrated diagrammatically in Fig. 6. In the other case the receiver circuit extends from the detector binding post  $t$  (which as above stated is electrically connected with the condenser regulator  $r$ ) to a second binding post  $t^2$  on the mounting plate which is connected with the support for the adjustable part of the detector, thus connecting the receiver around the detector as illustrated diagrammatically in Fig. 7.

It is to be understood that my herein described invention may be utilized in connec-



tion with other styles of apparatus; for instance, the loose coupled system, the balanced tuning system, etc.

By this invention I produce a compact and light set of portable receiving instruments, complete and self-contained, capable of all the accurate adjustments necessary for apparatus of this sort, a set which can be used in any position and in which the various parts are conveniently arranged and ready of access.

I claim:—

1. A receiving apparatus for wireless telegraphy comprising a hollow tuning coil, a condenser located within said coil and supported from one end thereof, a condenser regulator mounted at the opposite end of said coil, electrical connections between said condenser and said regulator, and a detector mounted within said coil, substantially as described.

2. A receiving apparatus for wireless telegraphy comprising a hollow tuning coil, a condenser located within said coil and supported from one end thereof, a condenser regulator mounted at the opposite end of said coil, electrical connections between said condenser and said regulator, a detector mounted within said coil adjacent to said regulator, electrical connections between said detector and said regulator, a contact pin located in the circuit of said detector and adapted to make electrical connections with said regulator when the latter is in its "off" position to short circuit said detector.

3. A receiving apparatus for wireless telegraphy comprising a hollow tuning coil, a condenser located within said coil and supported from one end thereof, a mounting plate hinged to the opposite end of said coil and adapted to close the opening therein, a condenser regulator rotatably mounted on the outside of said mounting plate, electrical connections between said condenser and said regulator, a detector secured to the inside of said mounting plate and connected with the binding post on the outside thereof, substantially as described.

4. A receiving apparatus for wireless telegraphy comprising a hollow tuning coil, a sectional condenser located within said coil

and supported from one end thereof, a mounting plate hinged to the opposite end of said coil and adapted to close the opening therein, a detector rotatably mounted on said mounting plate, terminals on said mounting plate corresponding in number to the sections of said condenser, electrical connections between the sections of said condenser and said terminals, a regulator rotatably mounted on said mounting plate and having fingers adapted to be moved into operative relation with said terminals, a detector secured to said mounting plate, electrical connections between said tuning coil and said detector, electrical connections between said detector and said regulator, a terminal in said mounting plate connected into the circuit of said detector and adapted to be engaged by one of the fingers of said regulator when in its "off" position.

5. A receiving apparatus for wireless telegraphy comprising a hollow tuning coil, a sectional condenser located within said coil and supported from one end thereof, a mounting plate hinged to the opposite end of said coil and closing the opening therein, a detector mounted on the inside of said mounting plate, electrical connections from said coil to said detector through said hinges, condenser terminals on said mounting plate corresponding in number to the number of sections of said condenser, electrical connections between each section of said condenser and one of said terminals, a regulator rotatably mounted in said mounting plate and having a plurality of fingers corresponding in number to the number of condenser terminals and adapted to cooperate therewith for the purpose of determining the number of condenser sections in circuit, electrical connections between said detector and said regulator, a terminal in said detector circuit adapted to be engaged by one of the fingers of said regulator when in its "off" position, substantially as described.

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