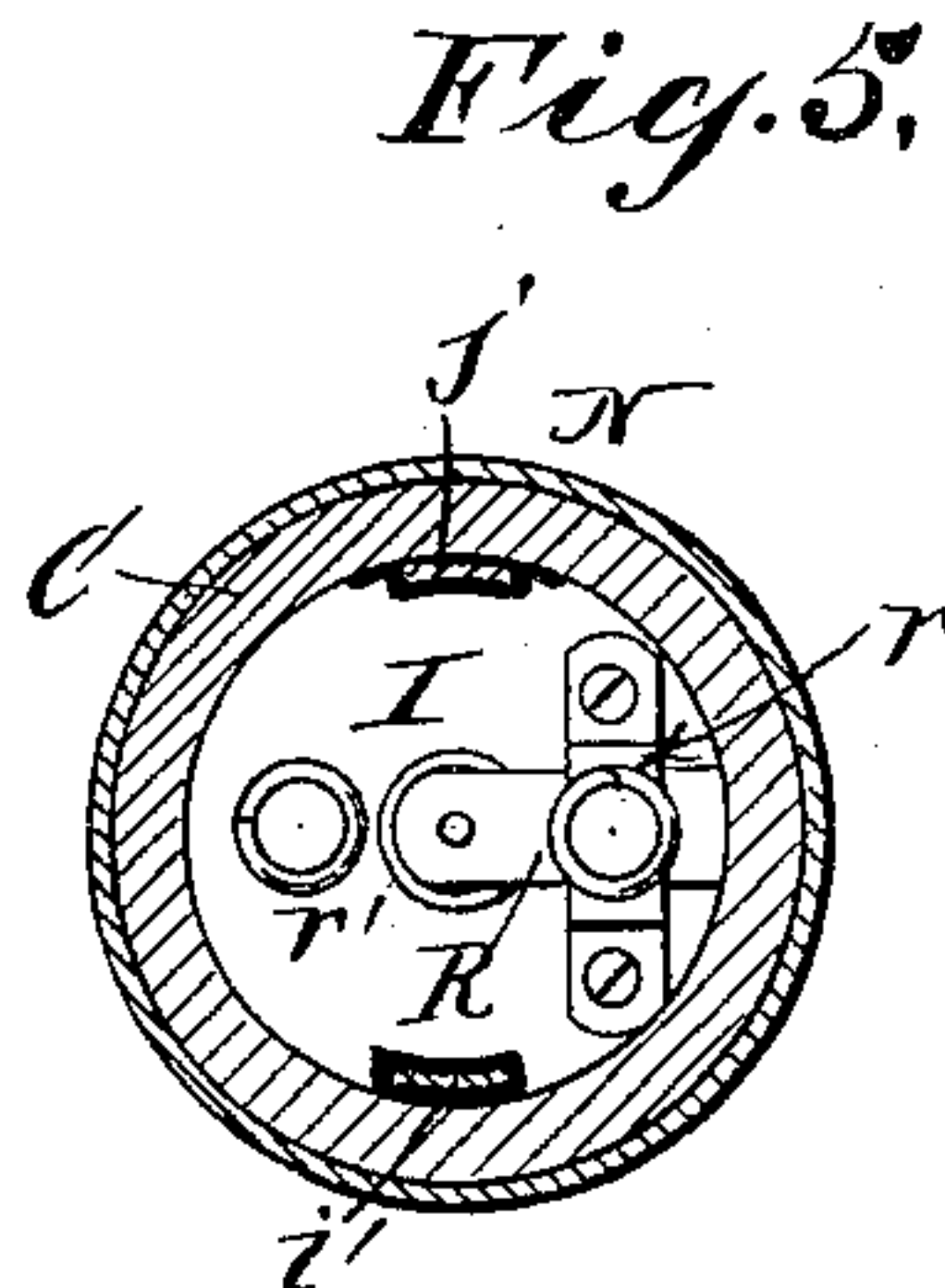
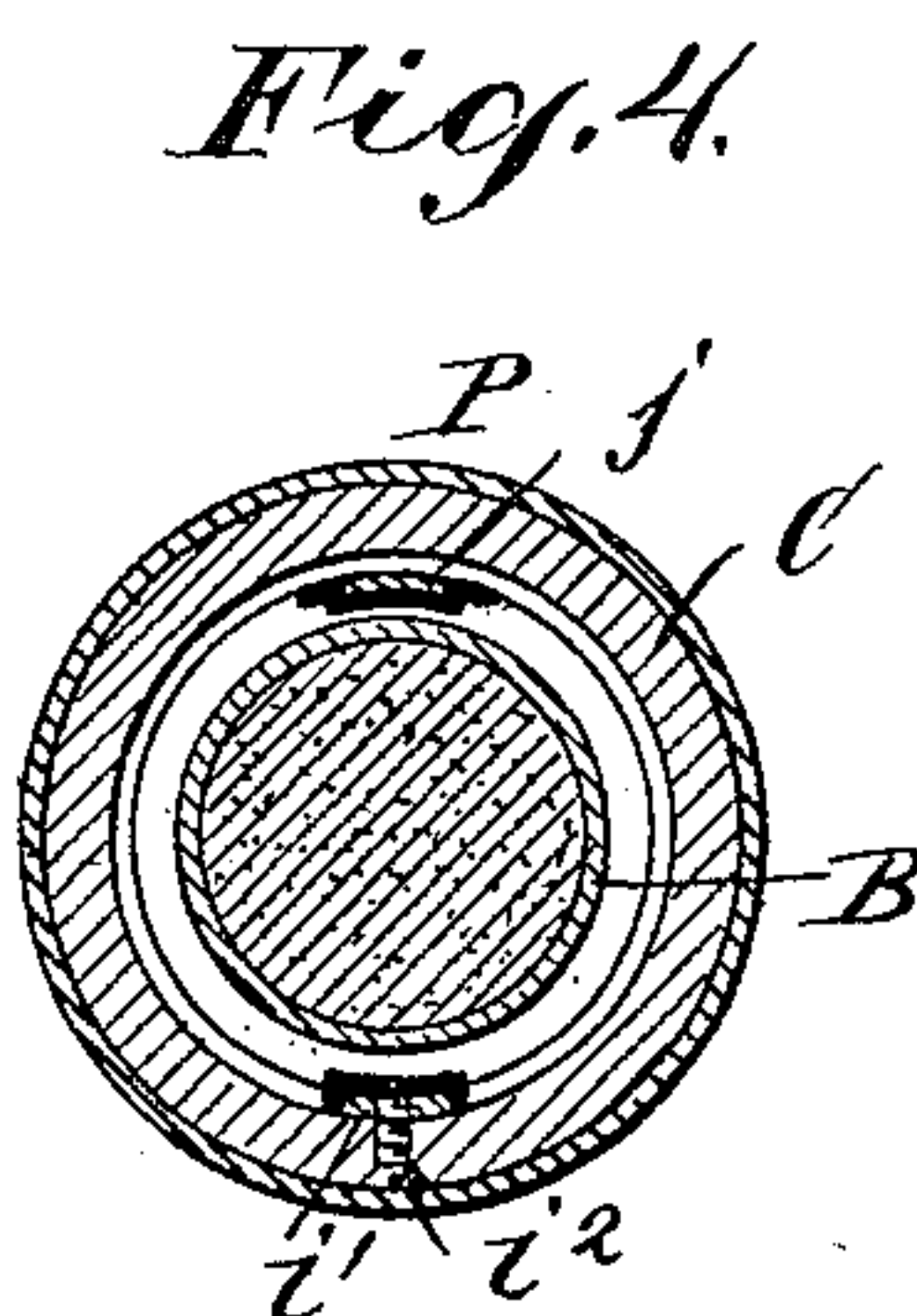
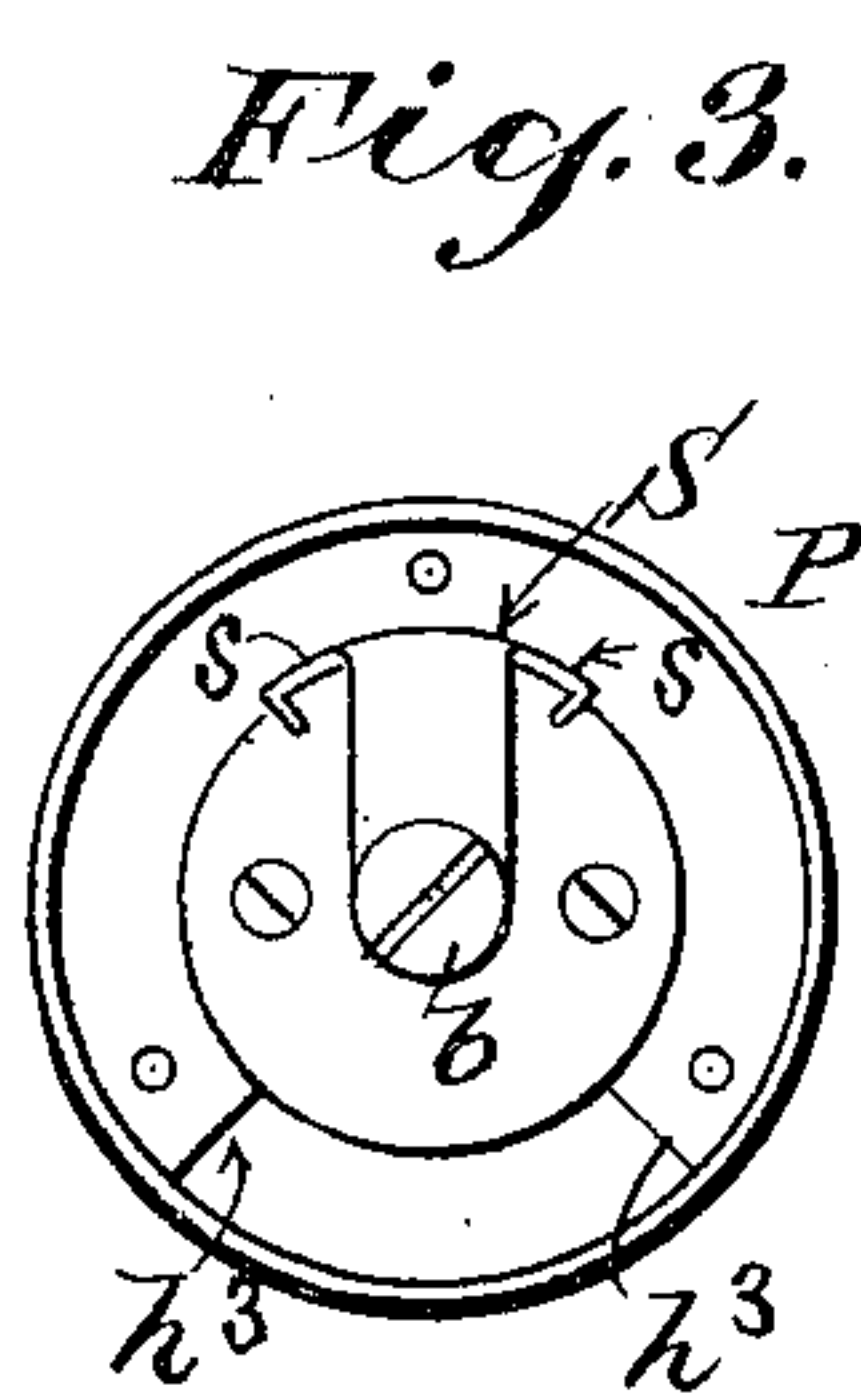
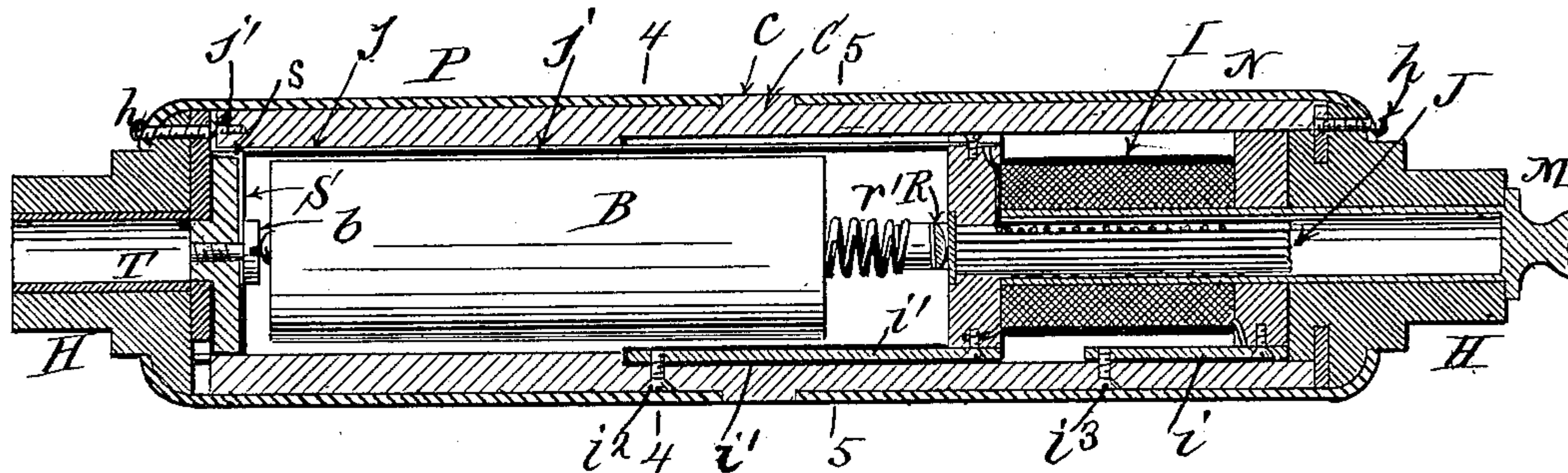
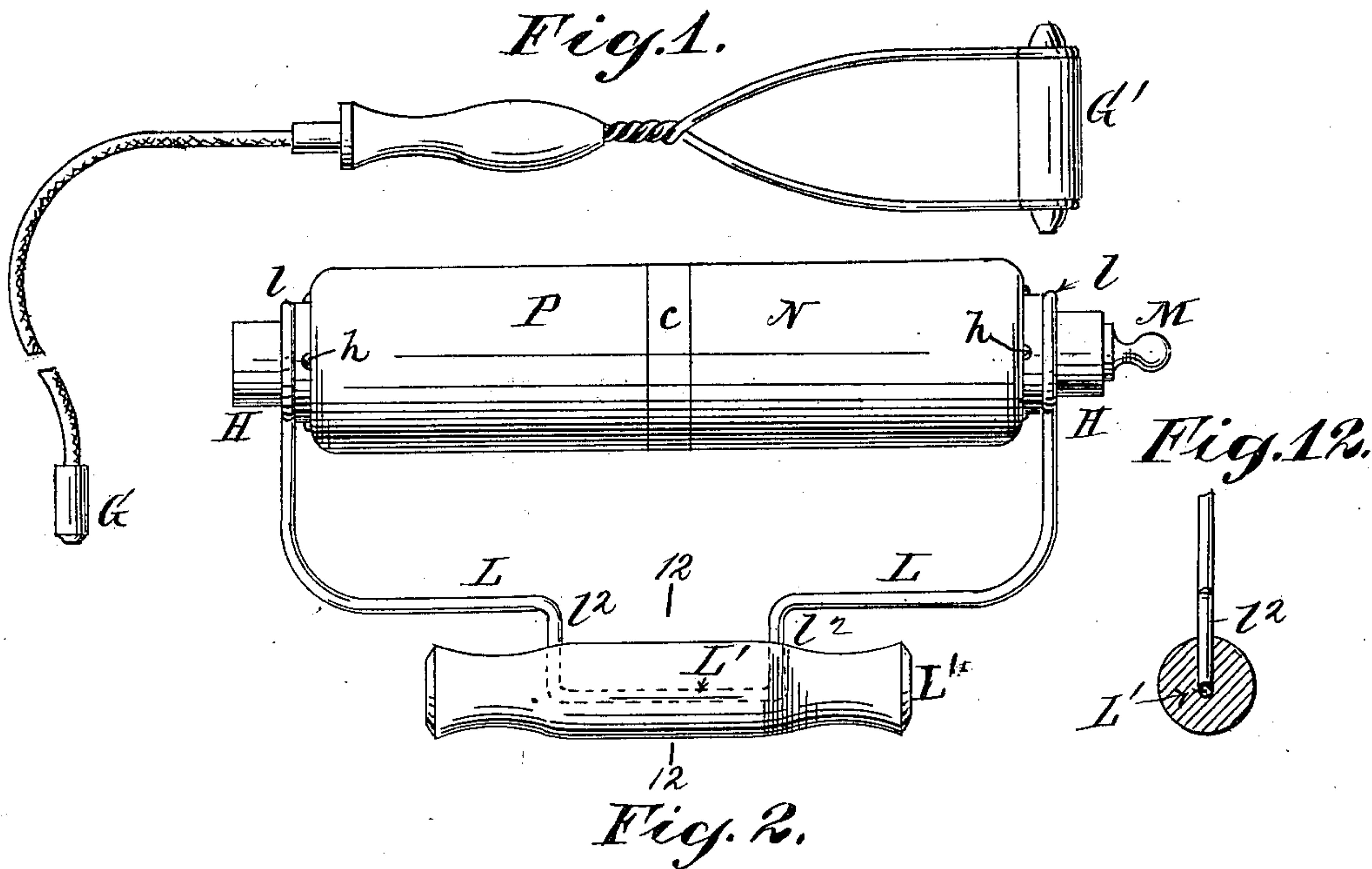


C. J. MARIUS.  
ELECTROMEDICAL BATTERY.

(Application filed July 7, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:

D. W. Gardner.

Louis Rowley

Inventor:

Casteran J. Marius

By his Attorney

George Williams Smith

No. 632,316.

Patented Sept. 5, 1899.

C. J. MARIUS.  
ELECTROMEDICAL BATTERY.

(Application filed July 7, 1899.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 6.

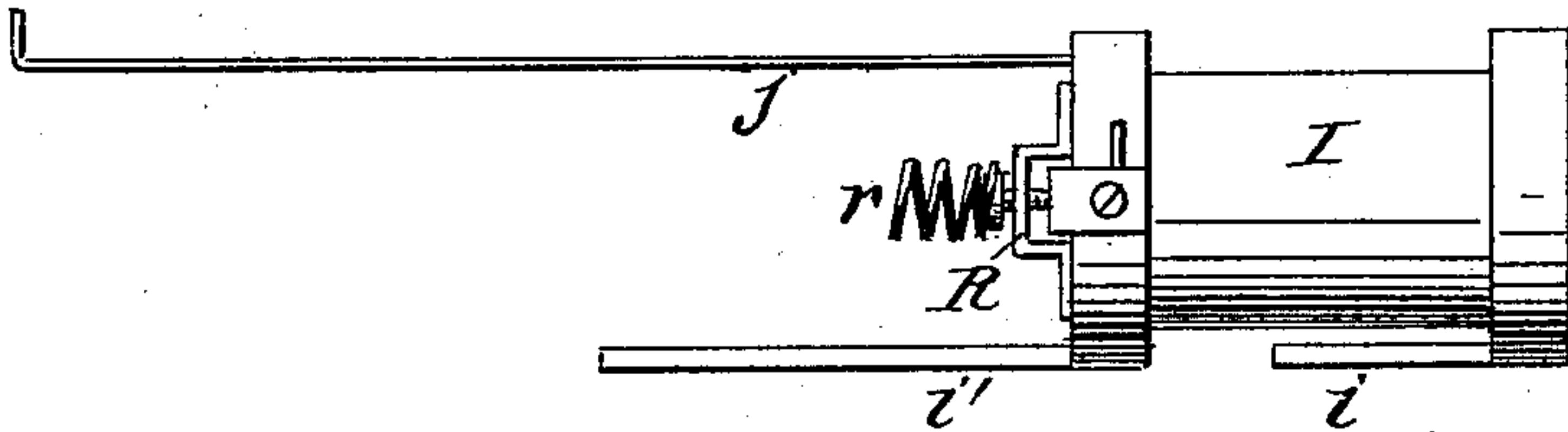


Fig. 7.

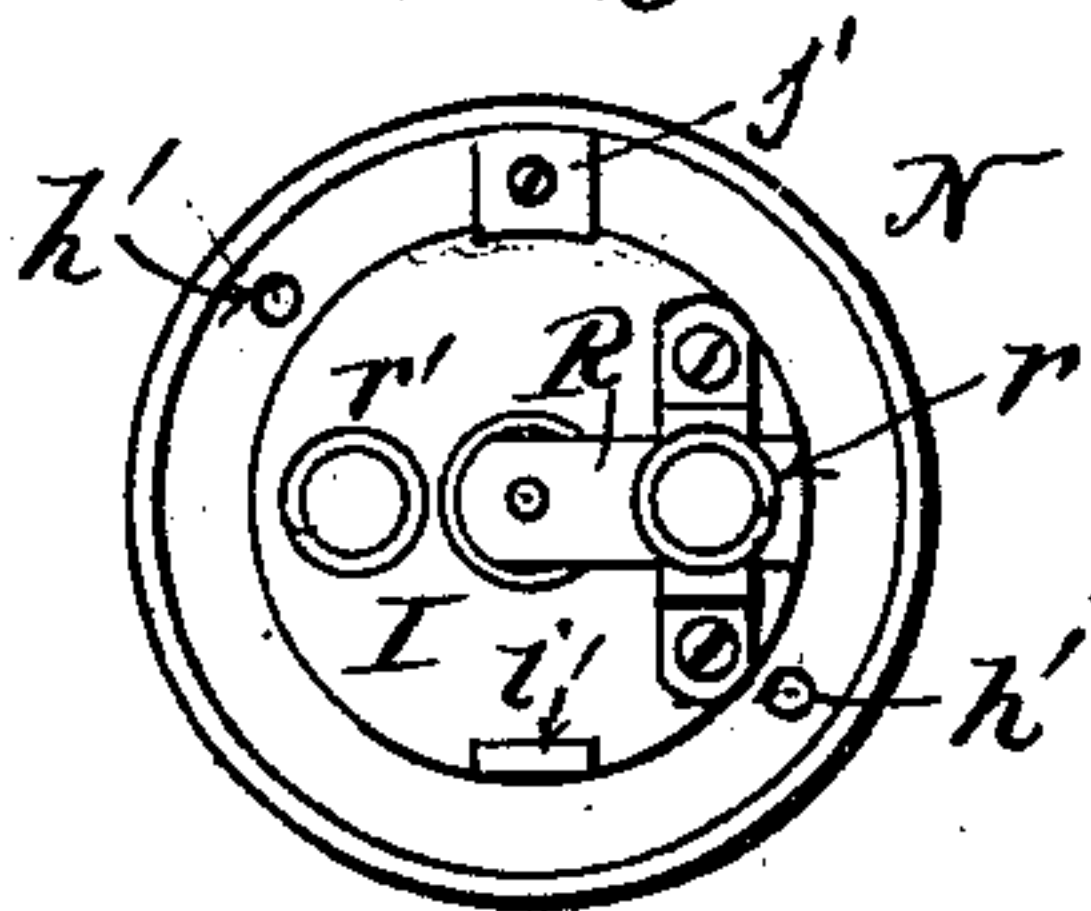


Fig. 8.

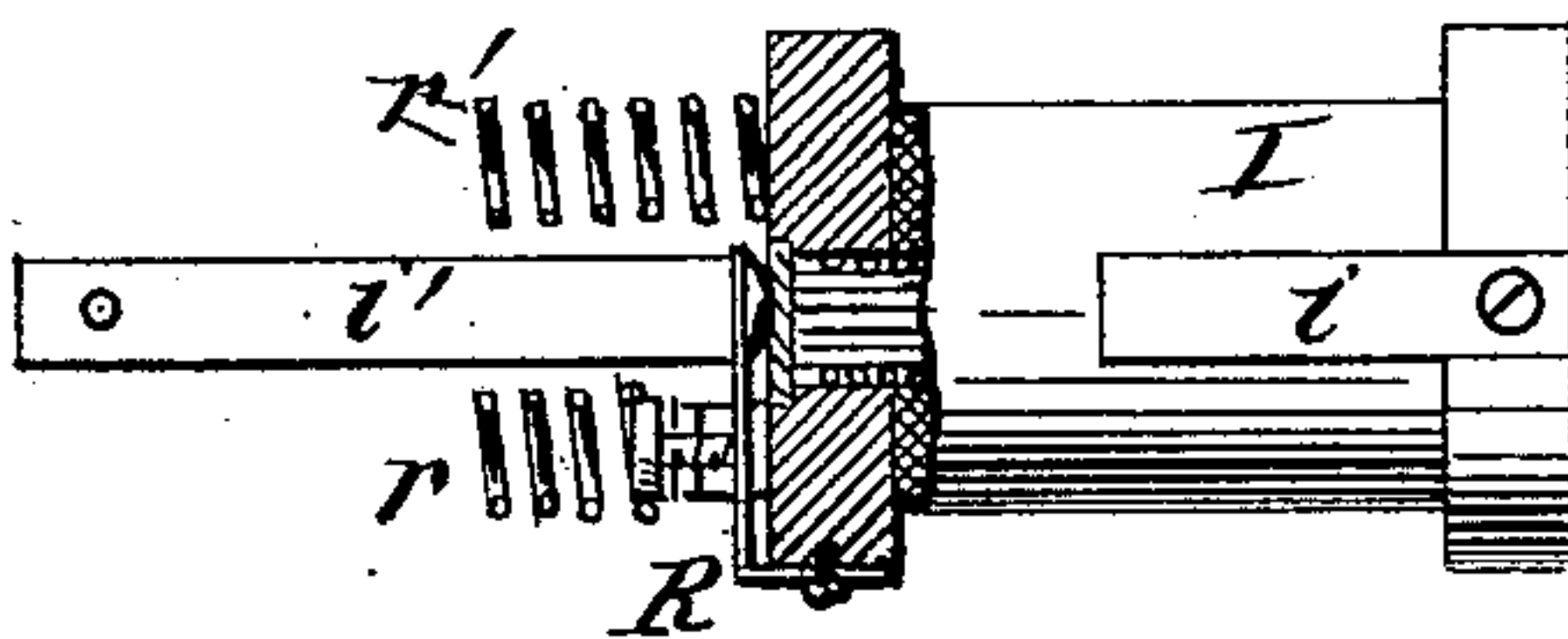


Fig. 9.

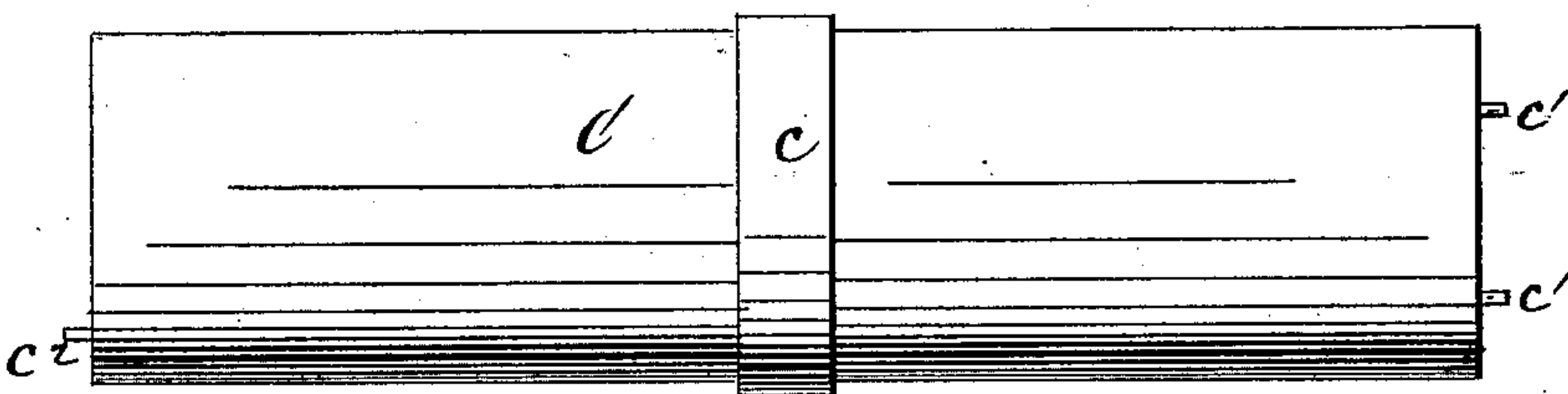


Fig. 10.

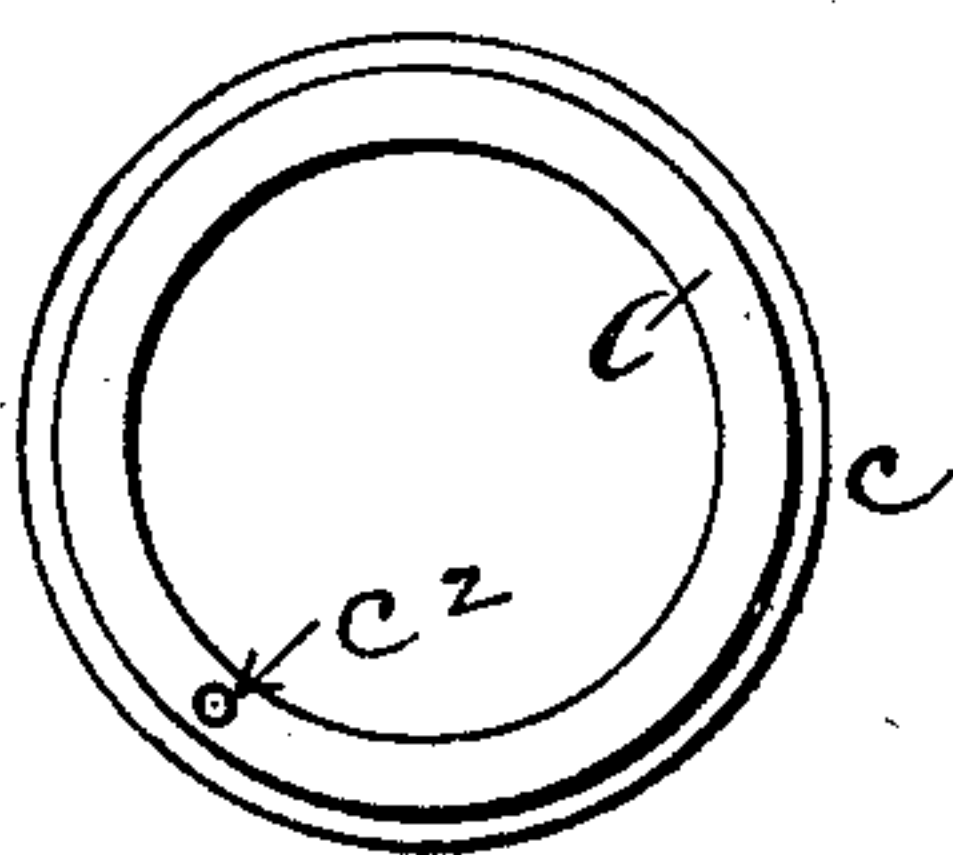
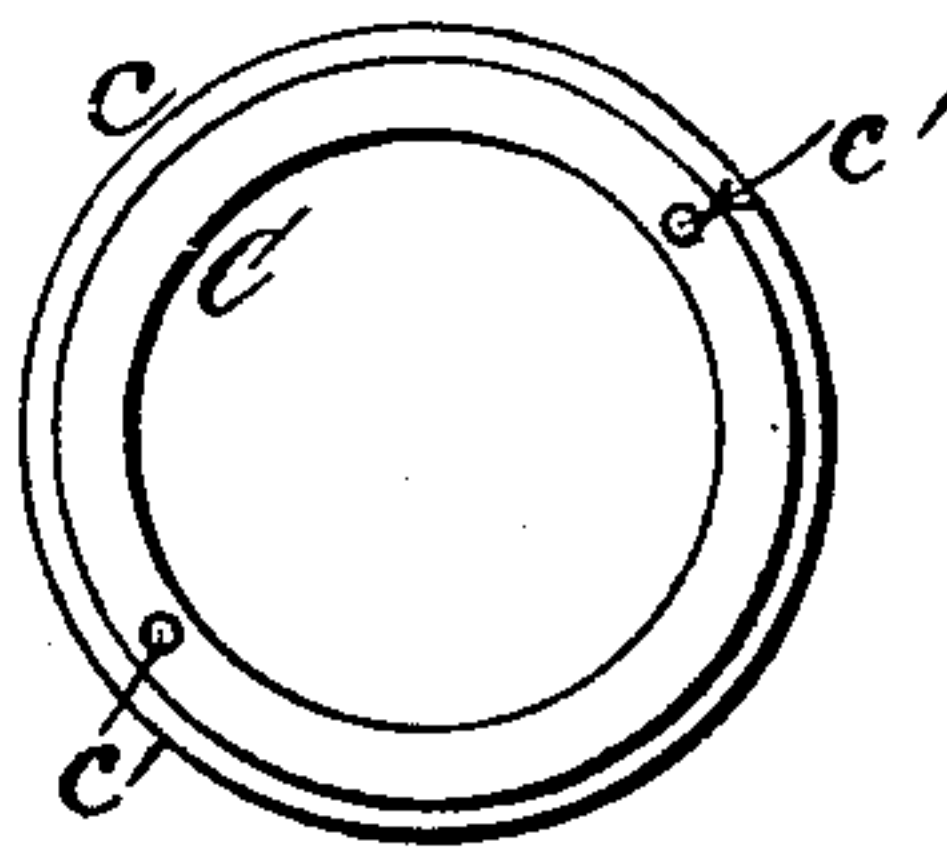


Fig. 11.



Witnesses:

O. Gardner.  
Louis Rowley

Inventor:

Casteran J. Marius  
By his Attorney  
George William Smith



# UNITED STATES PATENT OFFICE.

CASTERAN J. MARIUS, OF WEST HOBOKEN, NEW JERSEY.

## ELECTROMEDICAL BATTERY.

SPECIFICATION forming part of Letters Patent No. 632,316, dated September 5, 1899.

Application filed July 7, 1899. Serial No. 723,092. (No model.)

*To all whom it may concern:*

Be it known that I, CASTERAN J. MARIUS, a citizen of the United States, and a resident of West Hoboken, Hudson county, and State of New Jersey, have invented certain new and useful Improvements in Electromedical Batteries, of which the following is a specification sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

My invention relates to electromedical batteries, and is designed to be adapted for use as a roller for massage treatment or as a hand-battery for use in connection with other implements, as smaller rollers, combs, and other appliances.

The invention consists in the special construction and arrangement of parts hereinafter shown and described.

In the accompanying drawings, Figure 1 is an elevation of the exterior of my improved device, together with one of its attachments. Fig. 2 is a longitudinal sectional elevation. Fig. 3 is an elevation of the inner end of the positive electrode detached. Fig. 4 is a cross-section upon plane of line 4 4, Fig. 2. Fig. 5 is a transverse section upon plane of line 5 5, Fig. 2. Fig. 6 is an elevation of an induction-coil and connections removed from the core. Fig. 7 is an end view of the negative electrode. Fig. 8 is a sectional elevation of the induction-coil. Fig. 9 is an elevation of the cylindrical core. Figs. 10 and 11 are respectively elevations of opposite terminals of the core; Fig. 12, a cross-section upon plane of line 12 12, Fig. 1.

The cylindrical core C is made of any suitable non-conducting material with the central annular flange *c*, against which the opposed ends of the positive and negative electrodes abut.

I is the induction-coil, connected with the terminals *i i'*, by which it is secured in position in the core by set-screws *i<sup>2</sup> i<sup>3</sup>*, which also connect the opposite ends of the coil electrically with the positive electrode P and the negative electrode N.

J is the primary or exciting coil, one end of which is connected through the medium of the strip *j* with the switch S (when the latter is in proper position) and the other end of which is connected through the regulator R and the

spring *r* with one extremity of the battery B, the other extremity of this battery being connected with the switch S.

To the outer end of each cylindrical electrode P and N is secured a hub H, of insulating material, over which fit the loops *l* of an elastic handle L, preferably provided with a wooden handle L'. Both of the hubs are perforated centrally, the one adjoining the induction-coil I for the reception of the magnetic shield M, the other for the reception of the cylindrical terminal T.

The battery is held in position by the springs *r r'*, one of which, *r*, forms a connection with the primary coil J, as hereinbefore stated, while the other, *r'*, simply acts in conjunction to steady the battery in position. The electrodes P and N are secured to the hubs H by screws *h* or equivalent means. The electrode N, with its hub, is prevented from turning upon the cylindrical core C by reason of one or more pins *c'* upon the end of the core fitting in corresponding perforations *h'* in the hub. The other electrode P is partially rotatable upon the core C, its motion being limited by the pin *c<sup>2</sup>*, which is restricted by shoulders *h<sup>3</sup> h<sup>3</sup>* upon the inner side of the hub of the electrode P. By reference to Fig. 3 it will be seen that the switch S projects from the screw *b* and extends peripherally and segmentally inside the core, so as to form a bearing *s* for contact with the end *j'* of the strip *j* when the positive electrode P is turned to bring the two into coincidence. It will be seen that the distance between the shoulders *h<sup>3</sup> h<sup>3</sup>* is greater than the peripheral extension of the bearing-surface *s*, so that obviously the end *j'* of the strip *j* may be turned out of contact with the switch S when it is desired to cut off the battery.

The cylindrical terminal T, it will be seen by reference to Fig. 2, is in constant electrical contact with the positive electrode P, so that if a plug G be inserted therein, said plug being connected electrically with a special appliance, as the small roller G', (shown by way of illustration in Fig. 1,) electrical connection may be established between said small roller G' and the negative electrode N by the imposition of any suitable conductor, as any portion of the human body. Thus if the negative electrode N be held in the hand and the



small roller G' be applied to the face or to any portion of the human body a current will be established, the electrical effect being applied and felt at G', that being the positive terminal. It is to be understood that any auxiliary device may be substituted for the roller G', as a comb, brush, or sponge or other convenient means for applying the electricity locally, without departing from the spirit and intent of my invention, which consists, essentially, in the provision of the socket or terminal T in electrical connection with the induction-coil I in such manner that an auxiliary device may be connected and substituted for the positive cylindrical electrode P on the core C.

It will be seen that a partial turn of the positive electrode P is sufficient to throw the battery into or out of connection, so that there need be no waste of energy. Furthermore, the magnetic shield M affords means of regulating the intensity of the current applied in a practical and well-known manner. A distinguishing feature of my invention also consists in the use of the hubs H H, of insulating material, especially in connection with elastic handles L, which may be readily sprung into or out of position. In this connection it will be seen that the wooden handle L' when applied to the metallic handle L does not interfere with the elasticity of the latter, since it simply fits over a lateral extension  $l^2$  of the handle L, as shown in cross-section at Fig. 12.

It will be seen that my cylindrical core C of insulating material affords means of coupling the whole device integrally and compactly, the frictional contact with the electrodes P and N being sufficient to hold them in place unless intentionally pulled off longitudinally by the exertion of considerable force, while at the same time the positive electrode P is allowed partial rotation upon the core C for the purpose of making or breaking connection with the switch S.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an electromedical battery the combination of the battery B, an induction-coil I, and connections, a cylindrical core C, positive and negative electrodes P, N, insulating-hubs H, the whole arranged and operating substantially in the manner and for the purpose described.

2. The combination of the battery B, induction-coil I, and connections, the cylindrical core C, the negative pole N, held periph-

erally thereon and the positive pole P, capable of partial rotation on the core C, and carrying the switch S, for the purpose and substantially in the manner described.

3. The combination of the battery B, induction-coil I, and connections, the negative electrode N, the positive electrode P, and the socket-terminal T, in electrical connection therewith, together with a plug G, for forming electrical connection with an auxiliary device for applying the electricity substantially in the manner and for the purpose described.

4. The combination of the battery B, the induction-coil I and connections, secured by its terminals  $i, i'$ , to the core C, said terminals  $i, i'$ , being electrically connected with the inner surfaces respectively of the positive and negative electrodes P and N, said cylindrical core C, and said positive and negative electrodes arranged peripherally upon the said core, substantially in the manner and for the purpose set forth.

5. The combination of the battery B, induction-coil I and connections, the cylindrical core C, peripheral electrodes P and N, insulating-hubs H and elastic handle L, arranged to engage with said hubs, substantially in the manner and for the purpose described.

6. The combination of the battery B, induction-coil I, cylindrical core C, electrodes P and N, spring-contact  $r'$ , and switch S, the whole arranged and operating substantially in the manner and for the purpose described.

7. An electromedical roller consisting of a core containing a battery, an induction-coil and connections and a positive and negative electrode connected therewith and fitting peripherally upon the core for direct contact with the purpose and substantially in the manner described.

8. In an electromedical roller the combination of a core of insulating material, a battery connected with the primary coil of an induction-coil, said induction-coil electrically connected with positive and negative electrodes, and said positive and negative electrodes consisting of cylindrical sleeves of metal fitting peripherally upon the said core of insulating material for the purpose and substantially in the manner set forth.

CASTERAN J. MARIUS.

Witnesses:

D. W. GARDNER,  
GEO. WM. MIATT.