

(No Model.)

2 Sheets—Sheet 1.

W. MORISON.
BATTERY.

No. 601,042.

Patented Mar. 22, 1898.

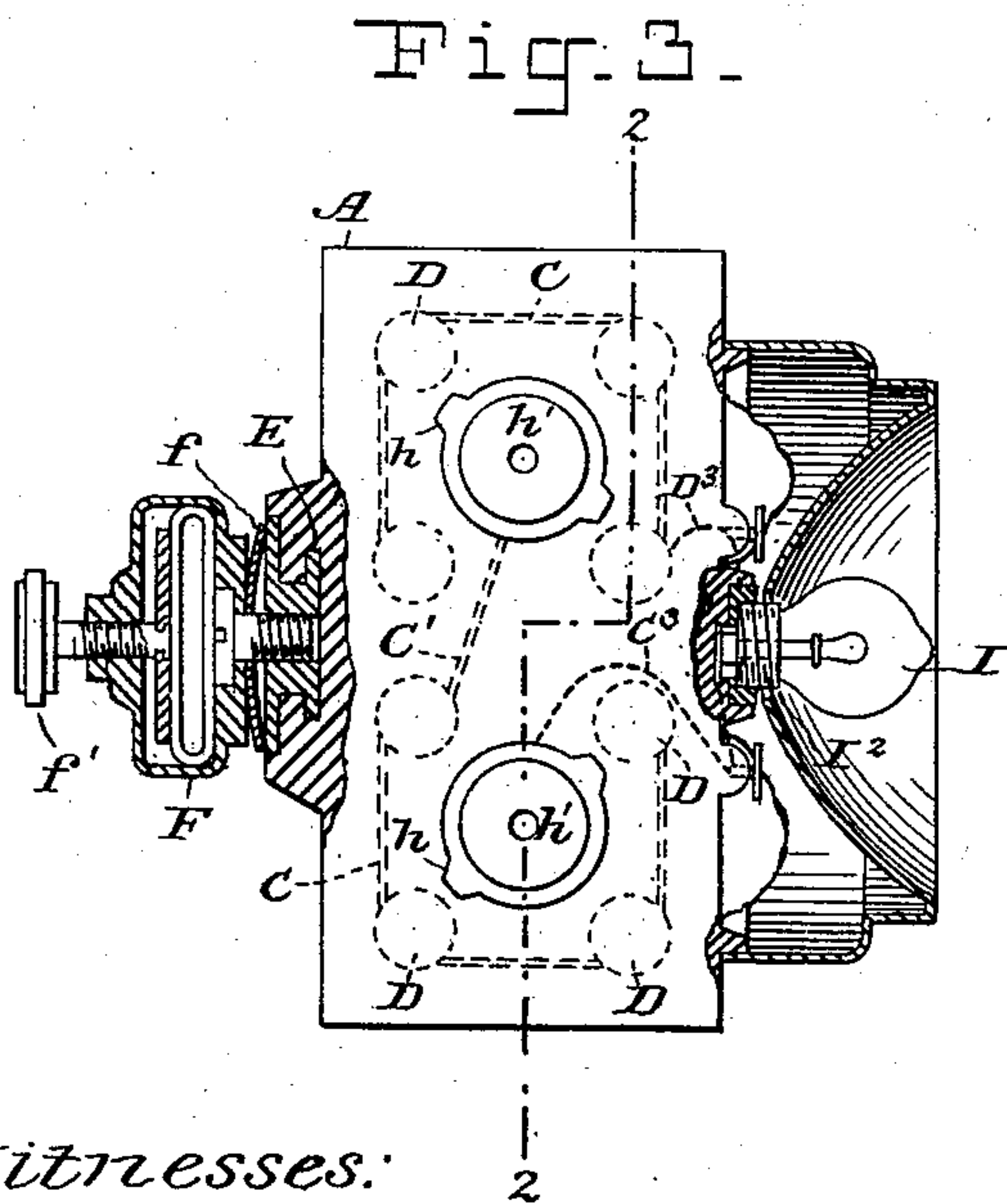
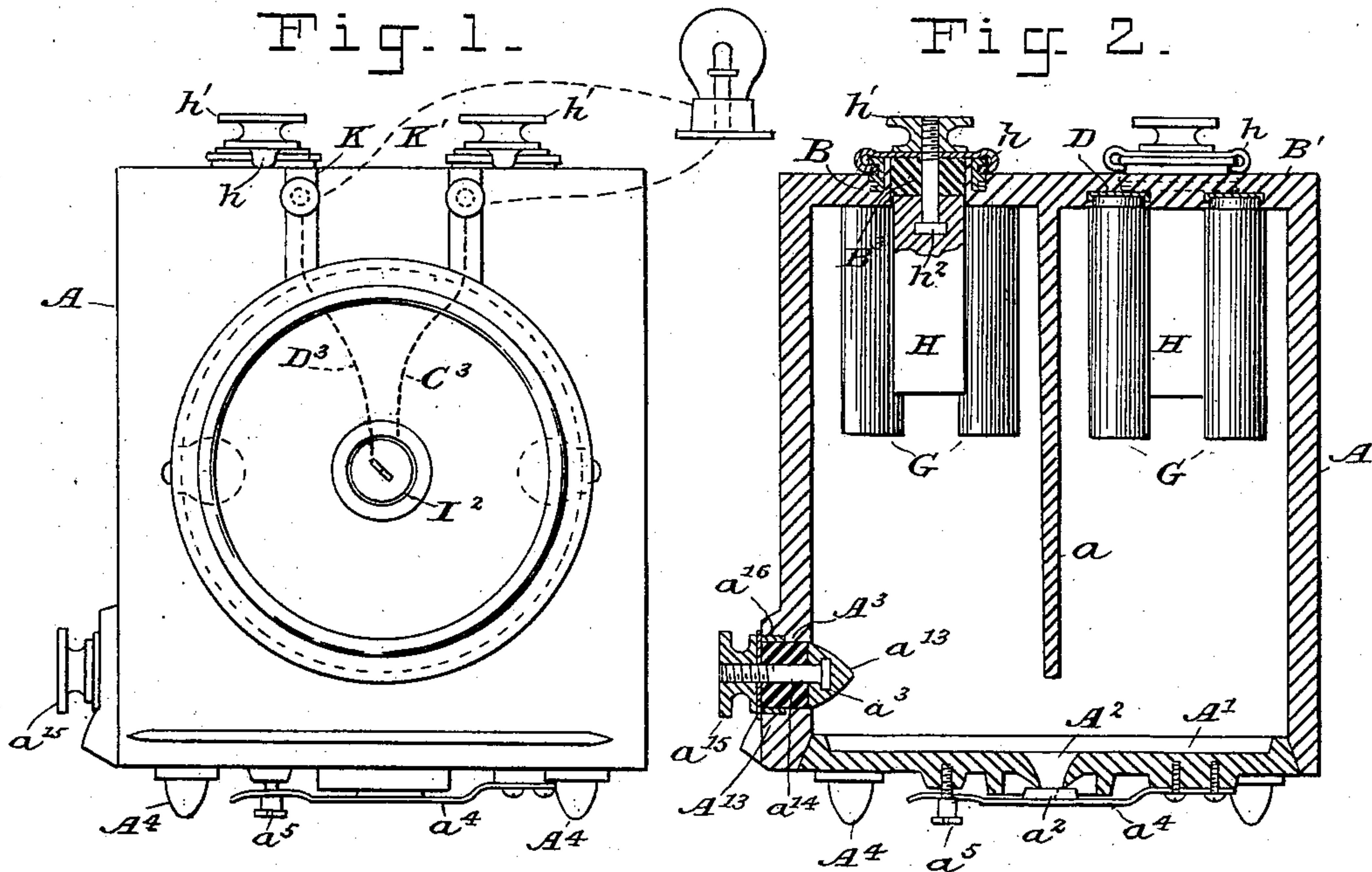
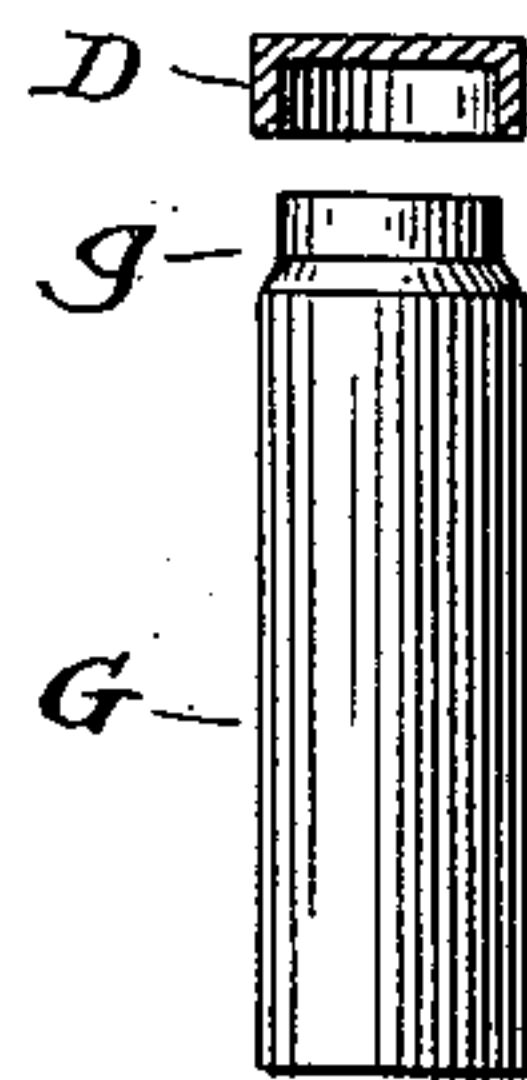


Fig. 8.



Witnesses:

E. B. Bolton

E. L. Gile

Inventor:

Wm. Morison

By

J. O. Fowler Jr.

his Attorney.

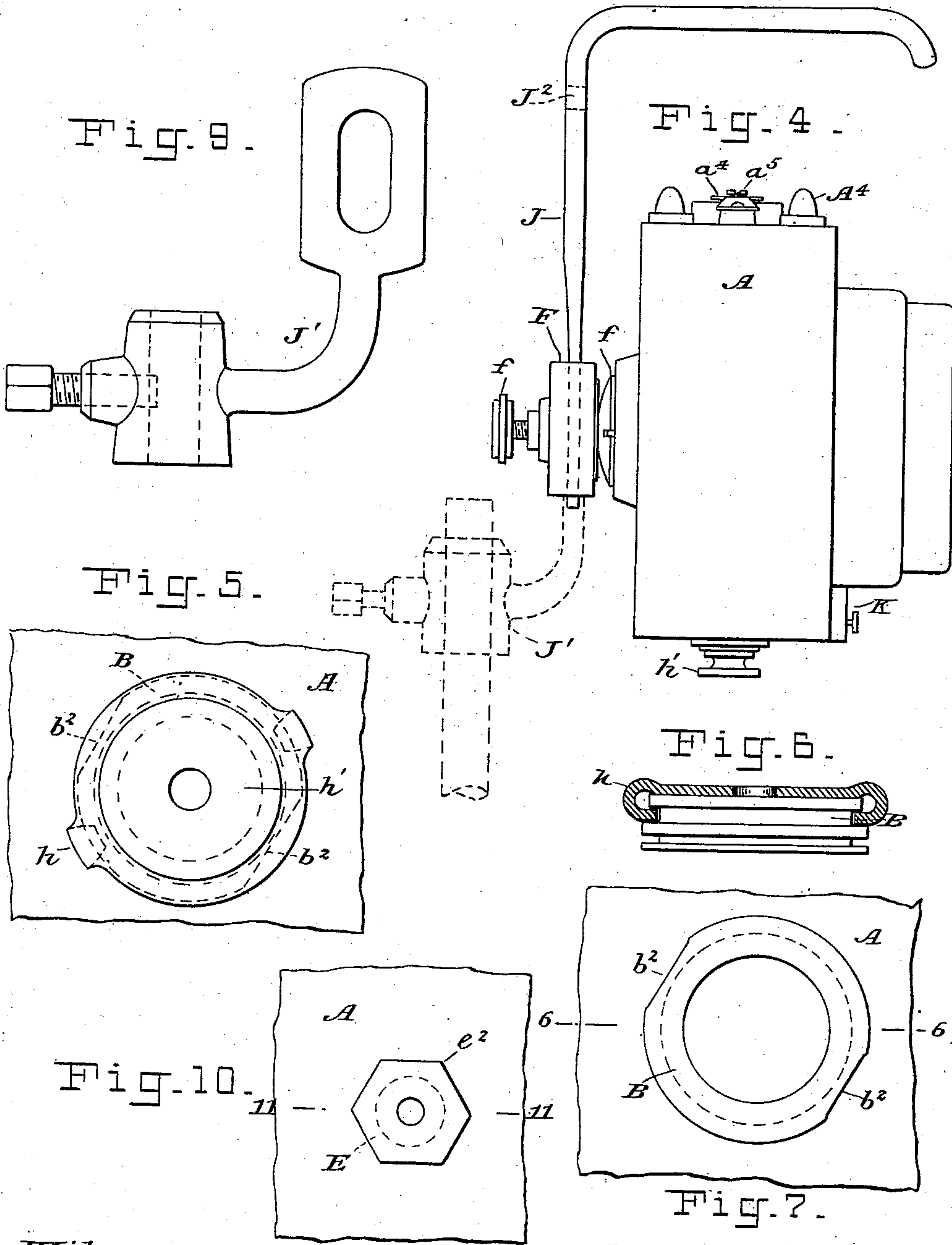
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W. MORISON.
BATTERY.

2 Sheets—Sheet 2.

No. 601,042.

Patented Mar. 22, 1898.

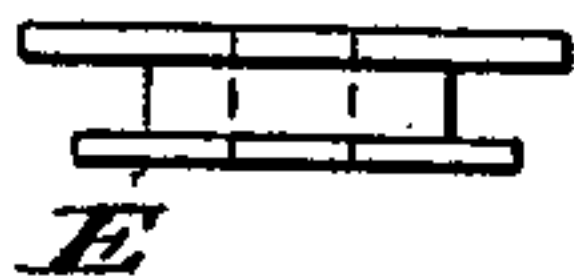


Witnesses:

E. B. Bolton

E. L. Giler

Fig. 11.



By

Inventor:

Wm Morison

J. O. Fowler

his Attorney

UNITED STATES PATENT OFFICE.

WILLIAM MORISON, OF MONTCLAIR, NEW JERSEY.

BATTERY.

SPECIFICATION forming part of Letters Patent No. 601,042, dated March 22, 1898.

Application filed January 20, 1896. Serial No. 576,231. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MORISON, a subject of the Queen of Great Britain, and a resident of Montclair, county of Essex, and State of New Jersey, have invented a certain new and useful Battery, of which the following is a specification.

My invention relates to batteries and lamps used in connection therewith, and has for its object the provision of devices simple in construction, inexpensive in manufacture, and efficient in practical use.

To attain the desired end, my invention consists in the construction, arrangement, and operation of parts hereinafter set forth.

In the drawings which accompany and form a part of this specification, Figure 1 represents a front view of a battery and lamp constructed according to my invention. Fig. 2 is a central vertical section thereof. Fig. 3 is a plan, and Fig. 4 a side elevation, of the same, taken on the line 2 2, Fig. 3. Figs. 5, 6, 7, 8, 9, 10, and 11 are views in detail, respectively, of my zinc cap and ring-holder, carbon cap, battery-support, and battery-holding plate.

Like letters indicate like parts in all the views.

The shell A of my battery consists, preferably, of a homogeneous plastic material hardened under pressure formed of electrically non-conducting material and is provided with openings in the top (in which are molded rings B and B') and with a discharge-orifice A³ in one side. A plate E and caps D and wires C, C', C², D², C³, and D³, and lamp-socket I² are also molded in the same with or without the carbons G being in the caps D.

The rings B and B' are double-grooved rings provided with a cut-away portion b², through which the hooks h of the zinc H pass and engage with the upper of said grooves. The lower grooves serve to hold the said rings firmly in the insulating material of the case, which also extends up inside the said rings, thus entirely protecting the rings B and B' from the action of the excitant.

My case has an interior partition a, extending from the top almost to the bottom. The independent bottom or cover A' is provided with a truncated cone-shaped sharp-

edged orifice or vent A², serving to allow gas to escape, and with feet A⁴, and with a vent-closer consisting of a spring a⁴, cushion a², and adjustable guard or screw a⁵.

The carbon blocks G are provided with a shoulder g and are preferably driven in the caps D, and the bottom or cover A' then cemented in the shell A and the openings A² and A³ temporarily closed, after which preferably hot insulating material is poured in ordinarily through the ring B and the shell turned sidewise several times, so as to seal the corners of the cover, the joints being thus hermetically sealed. My zincs H have screws h² cast in them, passing through plugs B³, and are provided with hooked disks h and nuts h'. The zinc electrodes H are inserted in the orifices in the shell, which are concentric with but somewhat smaller than the rings B and B', and the hooks h passed through recesses b² in the top of the rings B and B' and engaged with the flanged tops of said rings, and by screwing up the nuts h' the elastic plugs B³ are compressed and the zincs are hermetically sealed in the openings in the shell surrounding the rings B and B', forming a lining for the openings in the shell, the washers B³ serving to protect the said rings from the action of the battery-excitant. Preferably horizontal binding-posts K K' are used and respectively connected with the wires C² D², running to cap D and ring B'. Wires C connect caps D, and wires C' connect caps D with rings B B'. A lamp I is preferably connected by wires C³ and D³ with binding-posts K K' by being screwed into the socket I², the threaded socket being immovably molded in the shell connected with the concealed wire C³, the lamp resting against the insulated wire D³. The opening A³ is, after the battery-charging fluid is inserted, hermetically sealed by stopper a³.

It is manifest that various omissions of some particulars could be made without materially affecting the essential features of my invention or the operation of the remaining parts, and I do not therefore wish to be limited to the specific structural details of the organization herein set forth. Obviously the elements of the structure described may be located at an angle to the plane in which they

are shown, or they may be inverted, if desired. I accordingly use the words "lateral," "vertical," and the like in a relative sense.

When the battery stands on the feet A^4 , the same will be inoperative; but upon reversing the battery the anodes and cathodes are immersed in the exciting fluid and the lamp will burn. I provide a swivel-joint for my battery by securing a strap or plate-holder F (or clamp for handles J or J') to battery-case by a screw f' . A spring f serves to create sufficient friction in the joint to retain the battery in any position in which it may be placed. By means of a handle J , provided with an orifice J^2 for suspension purposes, my battery-lamp may be used as a hand-lantern, or by use of the support J it may be utilized as a carriage-lamp. The plate E is also molded in my shell, as stated. It is provided with a lateral groove e and angular face e^2 , in order that the same may be rigidly held in position in said shell or cast.

My battery-case is, as stated, provided with means for filling or emptying the same, consisting of an opening or orifice A^3 , preferably lined with a metal ring a^{16} , to close which I use a pointed stopper a^3 , made of the same material of which my case is constructed. A screw a^{13} is cast in the same, on which works a nut a^{15} , which serves to compress and laterally expand the flexible cushion a^{14} , thus enabling me to secure a tight joint. By the use of a pointed stopper I avoid drippings falling from the same.

As it is evident that many changes in the construction and relative arrangement of parts might be resorted to without departing from the spirit and scope of my invention, I would have it understood that I do not restrict myself to the particular construction and arrangement of parts shown and described, but that I reserve the right to make such changes, and that

What I claim is—

1. A battery-case consisting of an electrically-non-conducting material provided with an orifice having an insulated metallic ring molded in the same, the said ring being insulated from the interior of the case and having a flange extending outside the case, in combination with an electrode provided with an elastic plug to seal the case, and with means to engage the flange of the ring, whereby electric connection may be established through the ring and electrode outside the case or shell.

2. A double-grooved ring provided with a peripheral recessed portion, in combination with an electrode consisting of a body provided with a screw molded within it, and an elastic plug, and a disk provided with raised lateral adjusting, and actuating wings, the extremities being curved upward and then turned down so as to form hooks to engage a groove of the ring.

3. A double-grooved ring provided with a

peripheral recessed portion, in combination with an engaging disk provided with raised lateral wings the extremities being turned down so as to form hooks to engage a groove of the ring.

4. A battery-case consisting of a non-conducting material and having an independent cap, as D , molded in the same and insulated from the top and opening into the interior of the case or shell, and a carbon, as G , provided with a shoulder, as g , driven in said cap.

5. A battery-case consisting of a non-conducting material and having an independent cap, as D , molded in the same and insulated from the top and opening into the interior of the case or shell, and a carbon, as G , driven in said cap, and also a ring B , and connecting-wires also molded in the shell or case.

6. A battery-case consisting of a non-conducting material and provided with a holding-plate, as E , molded in the same, in combination with a friction spring-holder, as the clamp P , and spring f , and means as a screw to hold the parts together.

7. A battery-case composed of a non-conducting material, and provided at one end with anodes and cathodes, and at the other with a vent-orifice consisting interiorly of a truncated cone located within a ring or guard integral with the case and provided with a sharp edge, in combination with a vent-stopper consisting of a cushion a^2 , supported by a spring a^4 , and an adjustable guard consisting of a screw to control the same, the case being provided with raised portions to support the said spring and adjustable screw.

8. The combination with a battery-case composed of a non-conducting material and provided with metal caps D , embedded in the case and opening into the interior thereof, and rings h , set in the top of the said case, and a lamp screw-socket I^2 , located in the front of the case about the center thereof, and with wires attached to electric connections for said caps, and for said rings which are insulated from the interior of the case, said wires being also attached to said lamp screw-socket I^2 , which is practically flush with the box-face.

9. A box provided with an opening in the top having a concentric larger metal ring B , molded in the same, and a plurality of metal caps D , opening into the interior of the box, the said box also having a recess in the front in which is a wire D^3 , connected with the metal caps and around which is a ring I^2 , immovably molded in the box-case, and being connected by a concealed wire C^3 , with the top ring.

10. A box molded with two openings in the top having larger projecting concentric metal rings B , and caps D , molded in and opening to the interior of the same, and with a partition extending nearly to the bottom of the box, and a discharge-opening at one side lined with a metal ring a^{16} , molded in said side.

11. A box molded with a recess in the front
and a recess in the rear, the first surrounded
by a metal socket-ring I², and the other by a
metal plate E, both, being immovably molded
5 in the box and each having interior screw-
threaded openings.

In testimony of the foregoing specification

I do hereby sign the same, in the city of New
York, county and State of New York, this
12th day of December, A. D. 1895.

WILLIAM MORISON.

Witnesses:

THOS. F. CREAN,

J. ODELL FOWLER, Jr.