

JEROME KIDDER.

Improvement in Galvanic Batteries.

No. 119,855.

Patented Oct. 10, 1871.

Fig. 1.

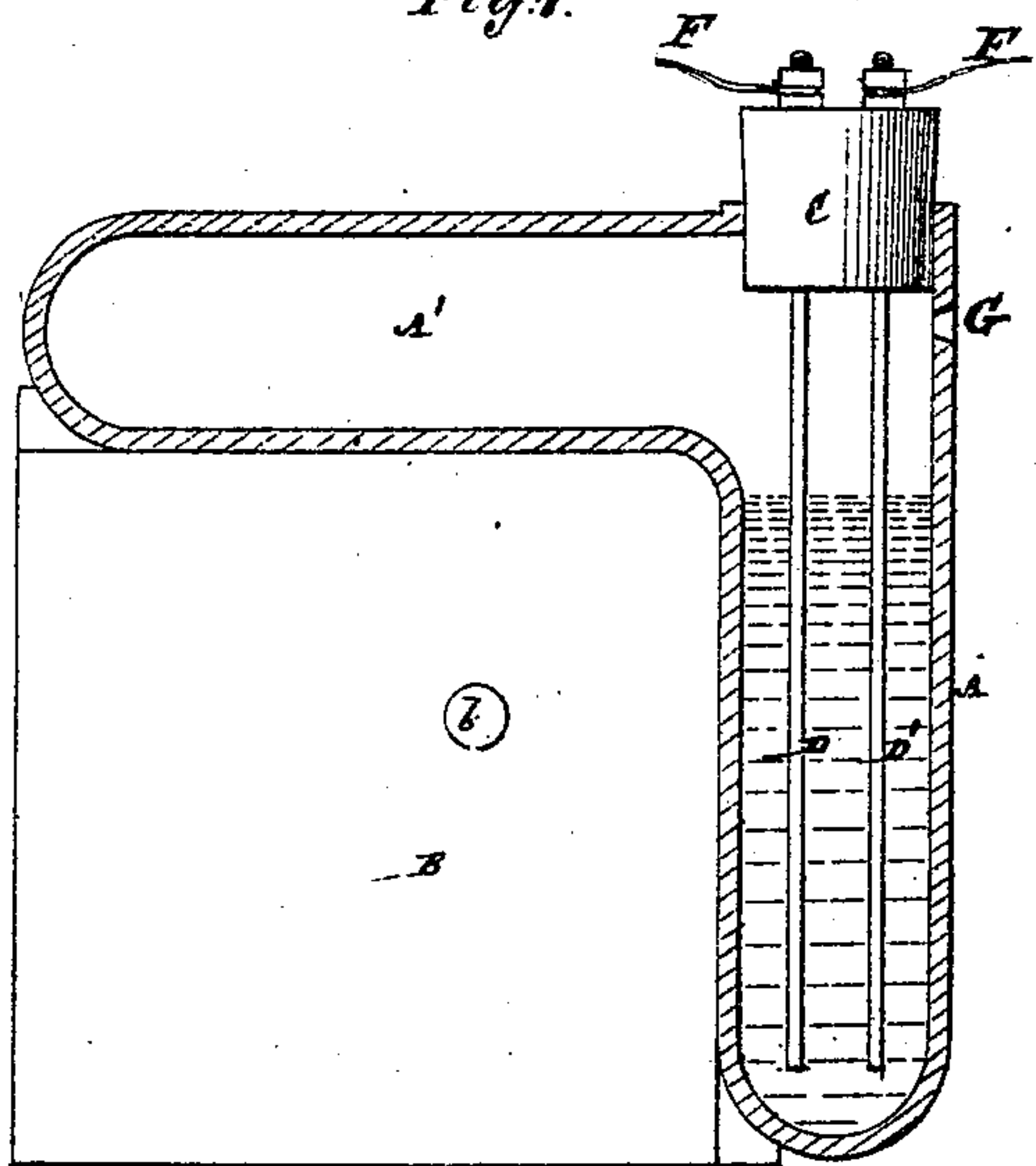


Fig. 2.

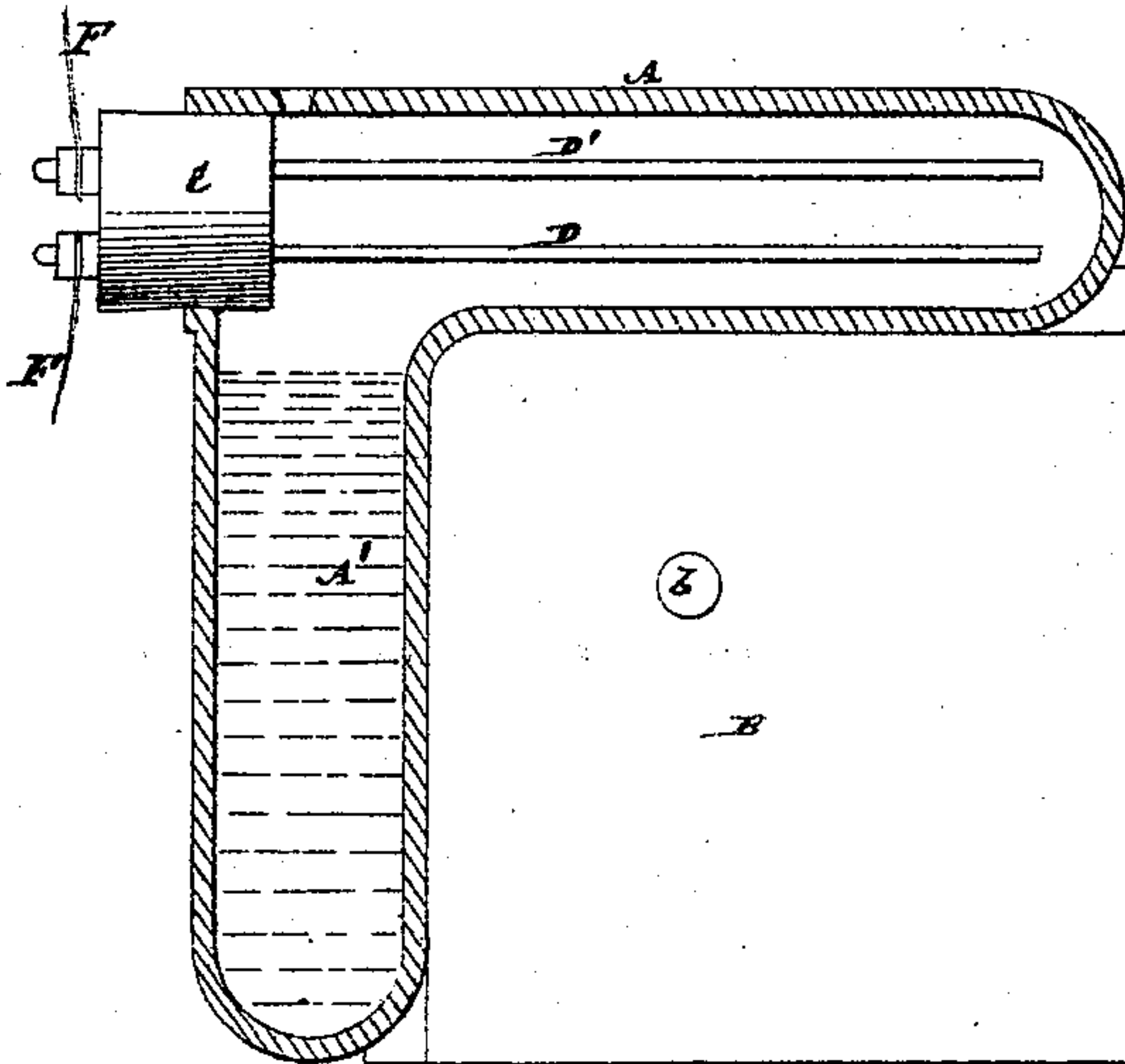


Fig. 3.

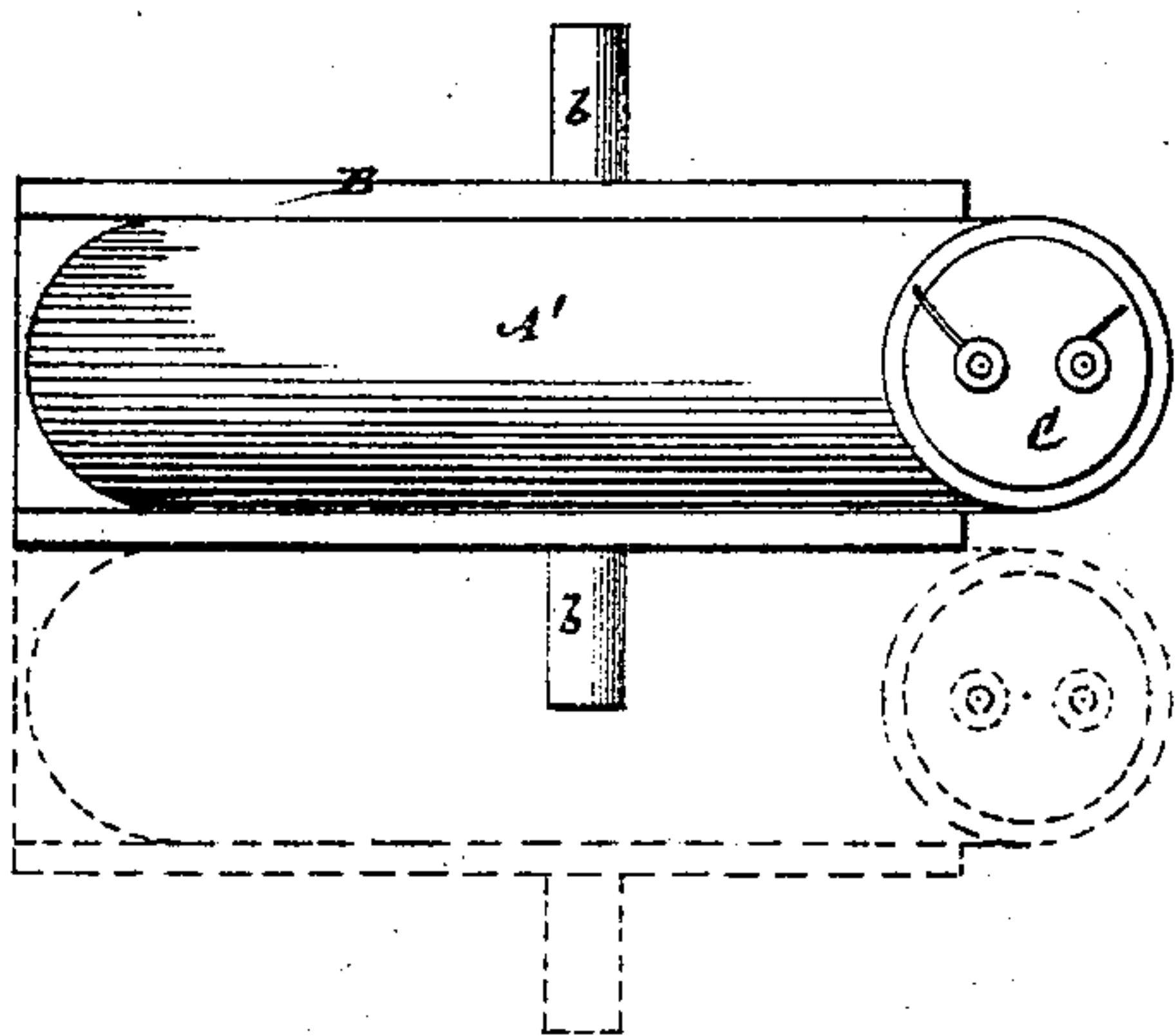


Fig. 4.

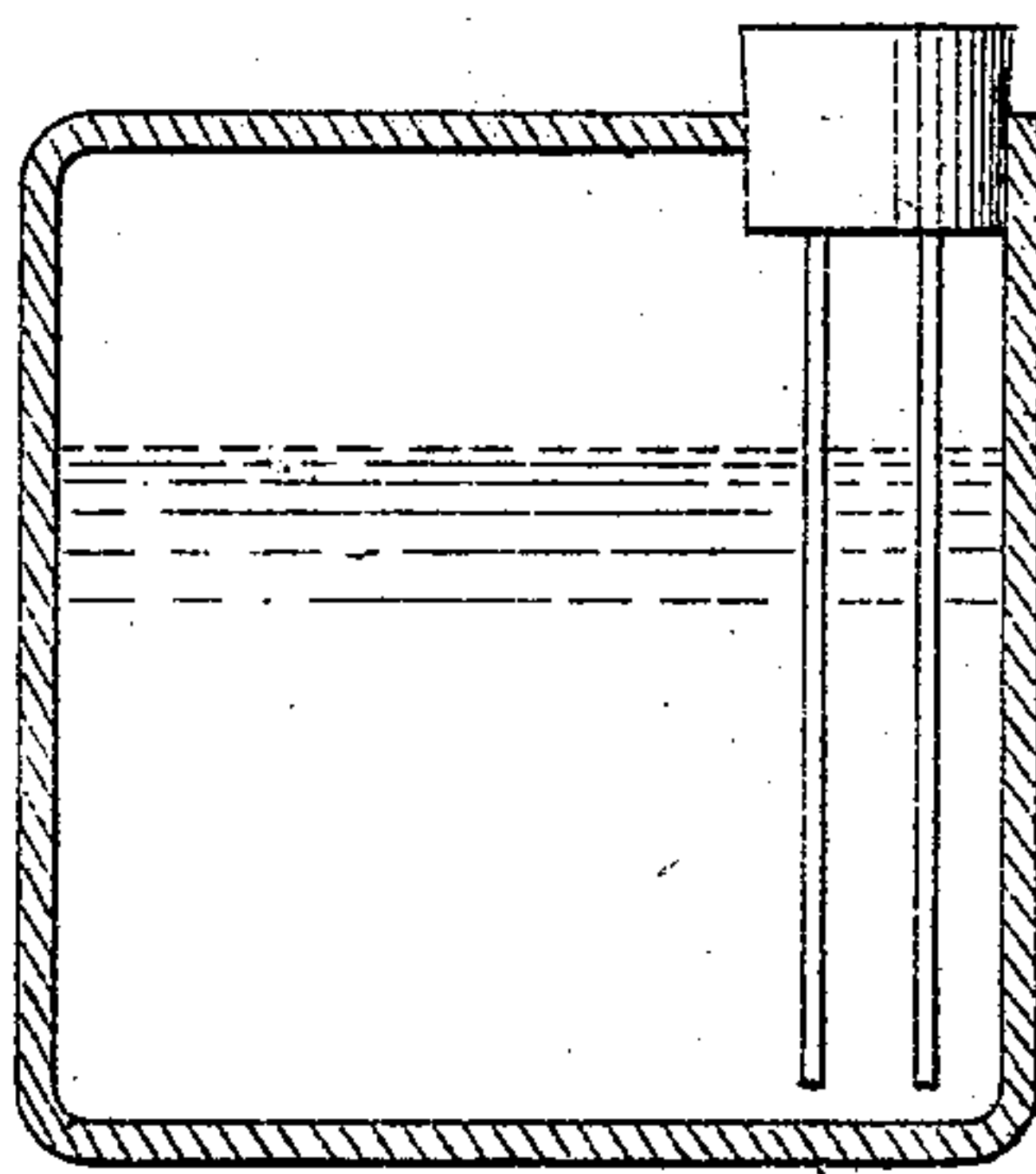
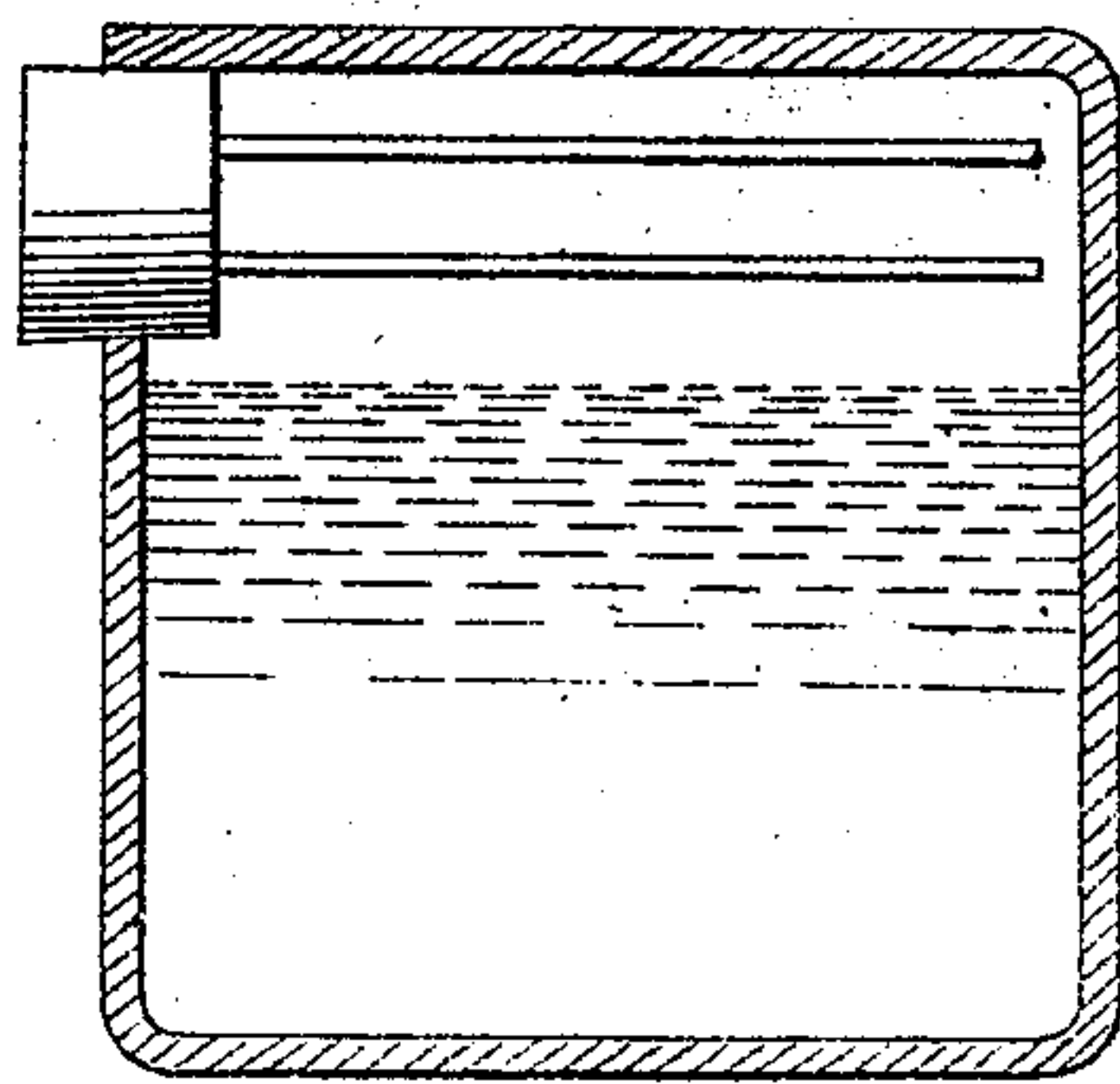


Fig. 5.



Witnesses:

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# UNITED STATES PATENT OFFICE.

JEROME KIDDER, OF NEW YORK, N. Y.

## IMPROVEMENT IN GALVANIC BATTERIES.

Specification forming part of Letters Patent No. 119,855, dated October 10, 1871.

*To all whom it may concern:*

Be it known that I, JEROME KIDDER, of the city, county, and State of New York, have invented a new and useful Improvement in Galvanic Batteries; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figures 1 and 2 represent vertical sections of a battery constructed in accordance with my invention and in different positions, whereby it is put in and out of action. Fig. 3 is a plan of the same with parts in the position represented in Fig. 1. Figs. 4 and 5 show a modified construction of the battery in and out of action.

Similar letters of reference indicate corresponding parts.

My invention consists in a battery for electro-surgical and other purposes, in which a close vessel or bath is used, and in which the pairs or plates that constitute the poles are arranged to occupy a lateral position within the bath, so that accordingly as the latter is turned to present a changed side for its base the acid or other solution is brought in contact with or removed from action on the plates. The invention also includes a lateral arrangement of stopper carrying the metals or pairs of the battery; likewise a pivoted construction of battery, arranged to operate as hereinbefore mentioned; and further, in provision for changing the solution without disturbing the elements of the battery.

Referring to Figs. 1, 2, and 3 of the drawing, A A' represent two close arms or legs arranged to lie at right angles to each other or thereabout, and in communication with each other at their adjacent ends, the same, as thus combined, forming the bath or vessel which contains the solution and pairs or metals of the battery. Such vessel or legs A A' constitute two adjacent sides of the battery, the body or remainder of which may be composed of a block or frame, B, forming other two or opposite sides. The one, A, of the legs is provided with a stopper, C, to allow of the introduction of the solution and of the metals or pairs D D, which pass through the stopper and connect on the outside thereof with the wires by which the current is transmitted

from the battery; this stopper, with the metals carried by it, to occupy a lateral position relatively to the whole battery, said metals being restricted to the leg A. But the solution passes from the leg A to the leg B, or vice versa, according to the position of the battery. Thus, when set to stand as represented in Fig. 1, it fills the leg A, and, by the immersion of the plates D D', the battery becomes charged; but on turning it to the position shown in Fig. 2, then the solution passes into the leg A', and the elements D D' are removed from the solution and the battery thrown out of action. In this way the mere turning or reversing of the battery puts it in or out of action, which makes the battery a most simple and easy one to operate. F F are flexible metallic cords attached to the poles of the battery. G is an orifice to let out the gases and to change the solution without removing the stopper C which supports the elements D D'.

To facilitate the turning of the battery it may be hung by face pivots *b b* in suitable bearings, and any number of batteries, if desired, be arranged side by side, as shown by dotted lines in Fig. 3, for action in concert or separately, as required.

In Figs. 4 and 5 is shown the same lateral arrangement of stopper and pairs or plates, but the bath, instead of being restricted to two sides of the body, is made to include the whole of the latter. By properly proportioning the quantity of solution, however, in said body, the battery is charged or thrown out of action by simply turning it as in the previous modification.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The close bath or vessel containing the solution, having its plates or pairs arranged in relation to the one side of the battery, as described, whereby on turning it so as to present one or other of its adjacent sides uppermost the battery becomes charged or thrown out of action, substantially as specified.

2. The cork or stopper C carrying the pairs or plates D D', arranged to occupy a position relatively to the side or sides of the battery or vessel containing the solution, essentially as described.

3. The combination of the pivots *b b* with the

body of the battery, having its pairs or plates arranged to occupy a lateral position relatively to said body, substantially as specified.

4. The combination of the bath or legs A A', composing the same, the body B, the stopper C, and the pairs or plates D D', the whole arranged in relation with each other for operation, essentially as described.

5. The orifice G, arranged substantially as herein described, for the escape of gases and for charging the solution without removing the stopper C to which the elements are attached.

DR. JEROME KIDDER.

Witnesses:

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