J. KIDDER.

Galvanic Battery.

No. 166,012. Patented July 27, 1875.

Fig: 1.

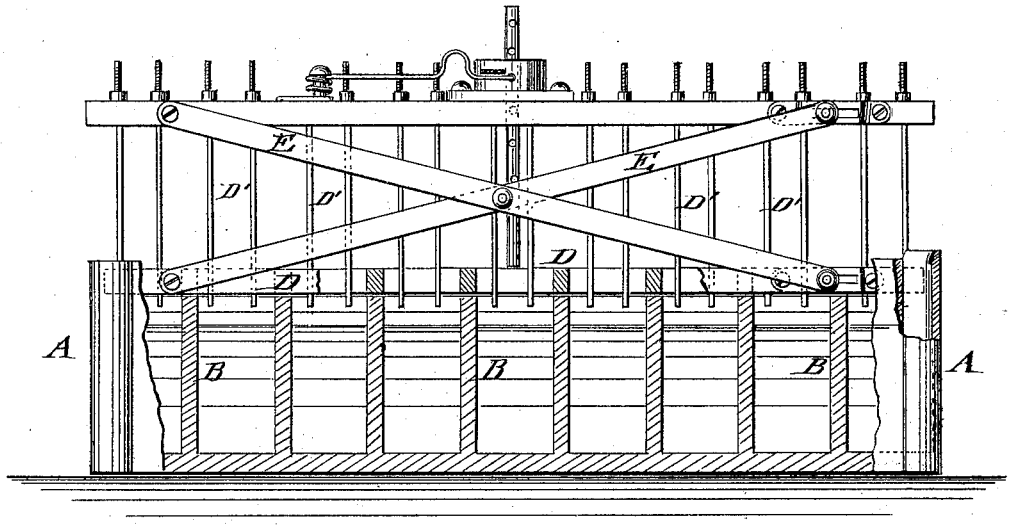


Fig: 2.

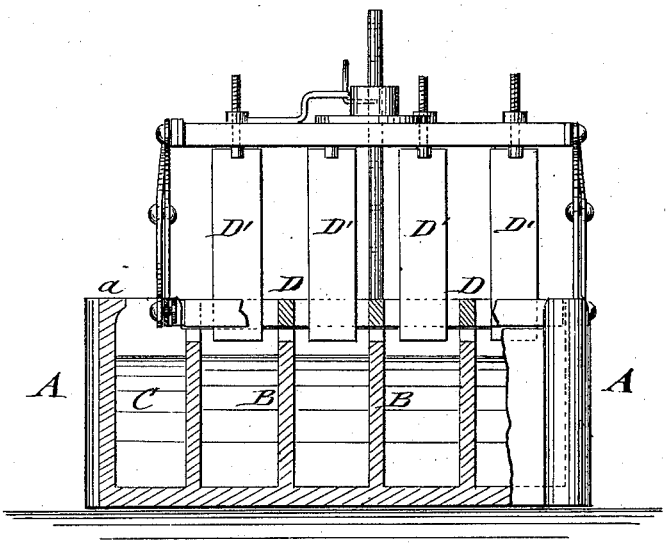
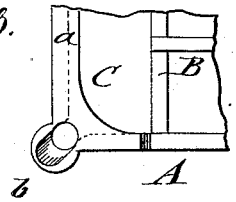


Fig: 3.



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. **166,012**, dated July 27, 1875; application filed April 24, 1875.

To all whom it may concern:

Be it known that I, JEROME KIDDER, of New York city, in the county and State of New York, have invented a new and Improved Galvanic Battery, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a sectional front elevation of my improved galvanic battery; Fig. 2, a sectional side elevation of the same, and Fig. 3 a detail top view of the corner-spout of the battery-casing.

Similar letters of reference indicate corresponding parts.

My invention relates to an improved galvanic battery with a series of cells in which the fluid is quickly and easily distributed to and emptied from all the cells, and also the action of the same on the elements in an instant interrupted and established, the same being guided reliably and securely to their proper positions in the cells. My invention also relates to a battery-casing with a number of longitudinal and lateral partitions forming the cells and with outer higher walls. A longitudinal end reservoir, with horizontal gutter-flange and corner-spout assists the filling and emptying of the cells, while a detachable top guide-frame with corresponding subdivisions, guides the vertically-moving elements, applied to a common supporting-plate to their respective cells.

In the drawing, A represents a battery frame or casing, which is divided by interlocking portions B into any required series or cluster of cells, according to the size and power of the battery required. The outer walls are made higher than the partition-walls to enable, by the overflow of the fluid, the rapid filling and emptying of the cells. This may be still more facilitated by a reservoir, C, running along the full length of the cells into which the fluid is filled, until, by the overflow, all the cells are filled with the required quantity. This can be quickly obtained to any height of fluid by holding the casing at suitable inclination, so that the supply-reservoir can readily convey the fluid to the cells. The outer wall of the reservoir C is of greater height than the inside wall, and provided with a horizontal flange, *a*, and corner-spout, *b*, for facilitating the emptying of the cells by tipping the casing in the direction of the reservoir.

The partitions either in one or in both directions, are to be lower than the outside walls, and the partition-walls may be inclined to facilitate the emptying of the fluid, and the series may be made without the reservoir. A guide-frame, D, with as many and equal subdivisions as the battery-casing, is placed on the top of casing A and attached by spring-catches or otherwise if desired, so that it can easily be taken off at any moment. The guide-frame D serves to conduct the elements D′ securely to their proper cells, without catching at any of the partition-walls when being raised or lowered. The elements are applied to a supporting top plate, which may be guided by a central post and pivoted diagonal guide-straps E at the sides in vertical direction, so as to allow the instant throwing in and out of use of the battery by lowering or raising the elements into or out of the fluid in the cells. The position of the supporting top plate may be rigidly secured by a spring-hook entering perforations of the guide-post. The facility for preparing the battery for use, by the rapid filling of the cells and the instant contact of fluid and elements, economizes time and renders the battery useful for varied applications in electricity.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A cell-casing for galvanic batteries having interior cell forming partition-walls, made at less height than outer walls, for enabling rapid filling and emptying of cells substantially as and for the purpose specified.

2. A cell-casing for galvanic batteries provided with outer walls of greater height than the interior partition-walls, and having a supply-reservoir with flanged gutter and spout for the more rapid emptying and filling of the cells with the fluid, substantially as and for the purpose set forth.

3. The subdivided guide-frame seated in main

cell-case, and connected with vertically-moving element carrying top plate, as shown and described, thus admitting of the lateral removal of cells and insuring the insertion of each element in its proper cell when depressed, substantially as set forth.

4. The diagonal pivoted straps E E, to command the parallel immersion of the elements into the solution of the cells, substantially as and for the purpose specified.

JEROME KIDDER, M. D.

Witnesses:

T. B. MOSHER,

ALEXANDER F. ROBERTS.