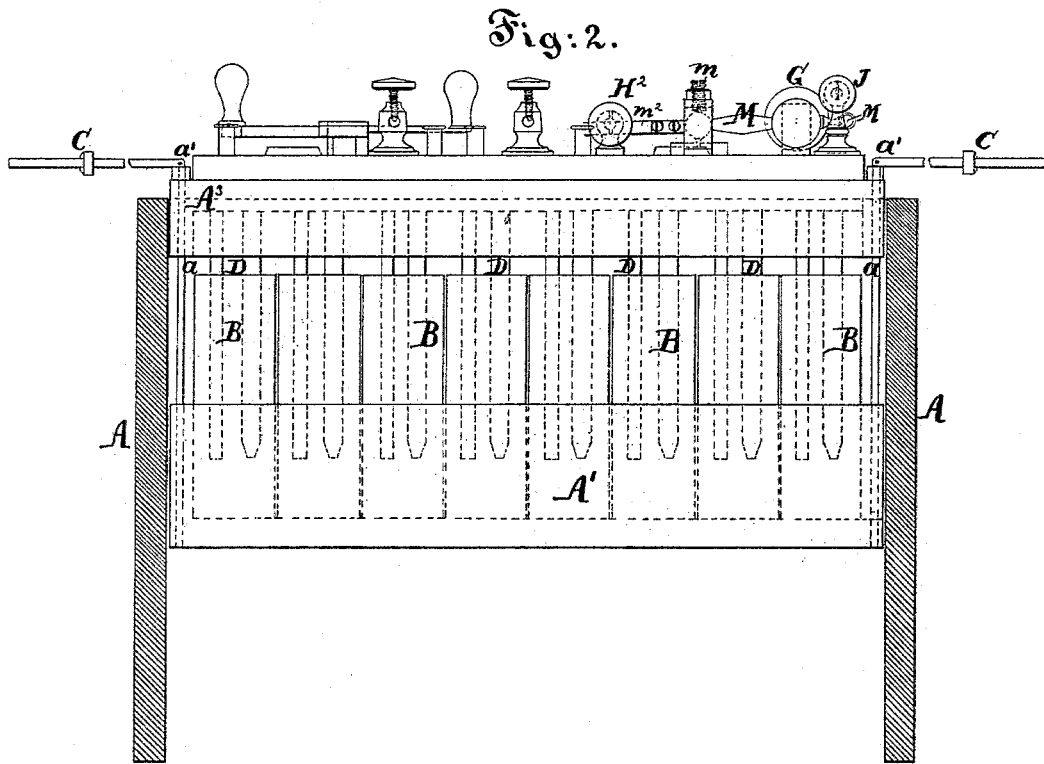
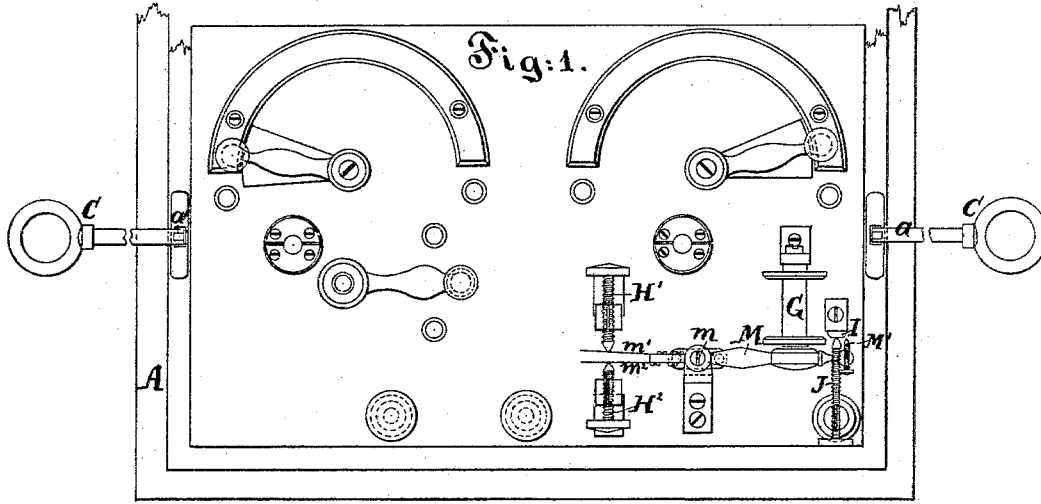


F. C. BARTLETT.
Galvanic-Batteries.

No. 210,835.

Patented Dec. 17, 1878.



Witnesses:

A. Henry
Chas. C. Stetson

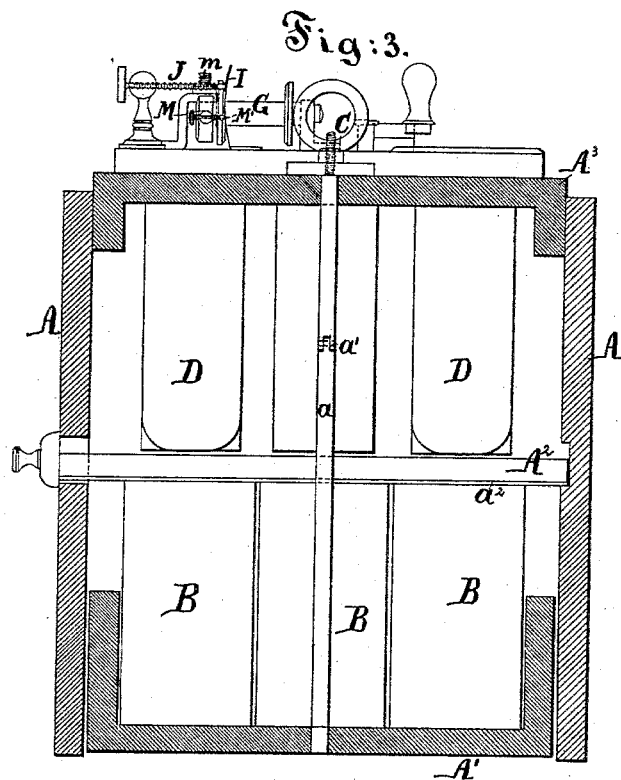
Inventor:

F. C. Bartlett
by his attorney
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UNITED STATES PATENT OFFICE

FREDERIC C. BARTLETT, OF NEW YORK, N. Y.

IMPROVEMENT IN GALVANIC BATTERIES.

Specification forming part of Letters Patent No. **210,835**, dated December 17, 1878; application filed January 30, 1878.

To all whom it may concern:

Be it known that I, FREDERIC C. BARTLETT, of New York city, in the State of New York, have invented certain Improvements relating to Galvanic Batteries, of which the following is a specification:

The improved apparatus is intended for use on all the varieties of galvanic batteries used for medical purposes.

The invention relates to provisions for regulating the vibrations of the lever which interrupts the circuit, and to provisions for conveniently and tightly covering the cups and uncovering them at will.

It relates, also, to an improved construction by which the bottom of the case is movable, and serves as the tray for containing and lifting the cups.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a top view of the case and its contents with the cover removed. Fig. 2 is a longitudinal vertical section of the outer case with an elevation of the contents. In this figure the cups are represented as lifted to immerse the elements in the acid. Fig. 3 is a transverse section with the cups lowered, and a peculiarly-arranged plate or board introduced to serve as a cover therefor.

Similar letters of reference indicate like parts in all the figures.

A is the external case. A¹ is the movable bottom, which serves also as a tray to contain the cups B, and A² is a removable board having a facing of rubber on its under surface, as indicated by a². This board is thrust in through an aperture in the side of the casing A, and the end of the board containing this surface slides into a groove in the back of the box, in a line with the tops of the cells, and, on lifting the tray A¹ a little, forms a tight-fitting cover to the cups, the rims of the cups being pressed against the soft-rubber surface a².

When the board A² is removed the tray may be lifted as high as is necessary to properly immerse the elements D therein, which may

be the ordinary plates of zinc and carbon set in a fixed top board, A³.

Rods a are provided for the lifting of the cups, and they are jointed at a¹, to allow the tray and its contents to be held in the proper elevated position for work, by simply drawing up the rods and bending them at the joints a¹. The bearing for these rods, after being bent down, is so close to the axis of the hinge-joint therein that the slight weight of the bent parts and the friction are sufficient to hold them bent, and thus to sustain the weight of the whole array of cups and the fluid contained therein without other fastening. The reverse of the lifting operation lowers the cups, and thus again throws the battery out of action.

For the slight lifting of the tray and its contents required to induce a pressure against the board A² a² when the instrument is out of use, I turn the ring-nuts C, which are threaded upon the upper ends of the rods a, and lift the tray by the action on the screw-threads.

The top of the box is marked A³, and is firmly secured to the sides A. It need be removed only when it is necessary to repair or exchange some of the parts.

By making the tray form the bottom for the box or casing, I do away with the necessity of a separate tray, and make the instrument smaller and lighter, and avoid expensive and complicated accessories.

By my manner of covering the cells when out of use, I prevent the possibility of spilling the battery-fluid.

By drawing up and holding the cups against the board A² in the box by the jointed rods a a¹, I secure great firmness in the position of the parts when in condition for use, and am able to secure the zinc and carbon elements and the delicate mechanism above them to a single thickness of firm wood, A³.

By employing screw-rings C on the top of the rods, I secure convenient handles for the great movement into and out of use, and efficient means of powerfully straining the cups into contact with their cover when the apparatus is out of use, and it is desired to move it about.

Instead of india-rubber for the facing a² on

the board A², I can, if preferred, employ any other suitable elastic material which is not affected by the acid, and which will form a tight covering on receiving the pressure of the top of the cups.

The upper edges or rims of the cups should be smoothly finished. I prefer glass for the material; but india-rubber, gutta-percha, or various other materials may be used, including wood saturated with paraffine.

I claim as my invention—

1. The removable soft-surfaced cover A² a², arranged, as shown, in an opening in the case A, and adapted to serve as a cover to the cups B when out of use, as herein specified.

2. The threaded rings or nuts C on the lifting-rods *a*, in combination with the tray A¹, containing the cups B, the casing A, and the removable cover A² a², as and for the purposes specified.

In testimony whereof I have hereunto set my hand this 16th day of December, 1874, in the presence of two subscribing witnesses.

FREDERIC C. BARTLETT.

Witnesses:

WM. C. DEY,

M. A. VAN NAMEE.