B. F. DAWSON.

Galvanic-Battery.

No. 167,510. Patented Sept. 7, 1875.

Fig. 1.

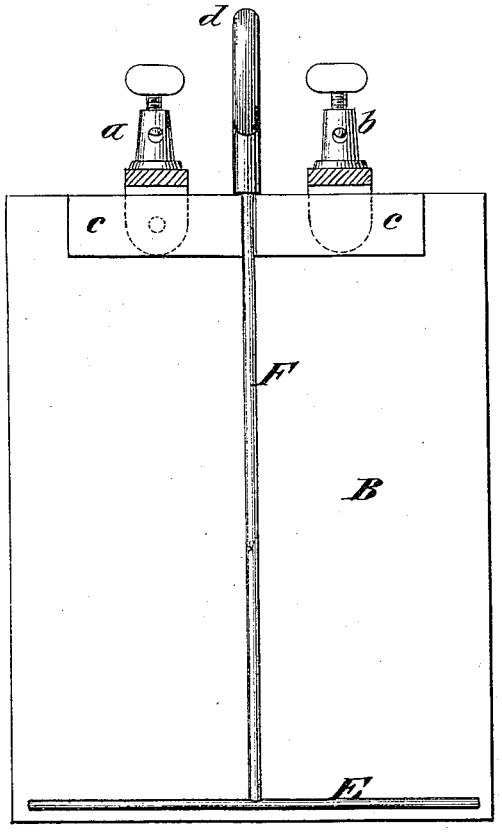


Fig. 2.

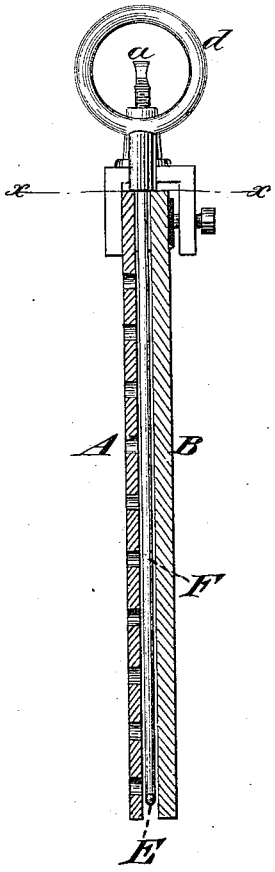
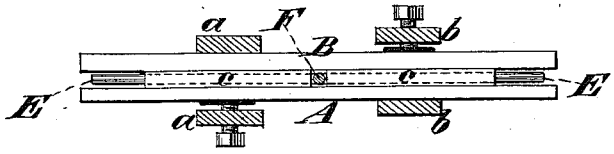


Fig. 3.



Witnesses
John Becker.
Fred Haynes

B. F. Dawson
by his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

BENJAMIN F. DAWSON, OF NEW YORK, N. Y.

IMPROVEMENT IN GALVANIC BATTERIES.

Specification forming part of Letters Patent No. **167,510**, dated September 7, 1875; application filed July 24, 1875.

To all whom it may concern:

Be it known that I, BENJAMIN F. DAWSON, of New York, in the county and State of New York, have invented an 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, which forms part of this specification.

My invention relates to an improvement which is applicable more especially to batteries in which chromic acid is the oxidizing agent, the great difficulty in which is the collection of effete matter on the negative plate and the exhaustion of the fluid between the plates; and the object of the invention is to keep fresh fluid constantly in contact with the plate, and thus render the action of the battery constant.

My invention consists in the combination, with a perforated positive plate and the negative plate of a battery, of an agitator arranged between said plates and in such manner that by moving said agitator the fluid is drawn through and forced out of the perforations in the positive plate, and thereby the collection of the effete matter on the negative plate is prevented.

In the accompanying drawing, Figure 1 is a vertical sectional view of a battery provided with my improvement. Fig. 2 is a section at right angles to Fig. 1. Fig. 3 is a horizontal section taken in the line *x x* of Fig. 2.

A represents the positive plate of a battery, and B the negative plate, which latter may be of carbon or any suitable metal. These plates are connected in the usual manner, with insulating material *c* between them, and are provided with screw-cups *a b*. The agitating device consists of a cross head, E, and stem F, the upper end of which is provided with a ring or handle, *d*, for operating it, the cross-head E being attached to the lower end. The stem F works in a bearing in the insulating substance *c*. The agitator is made of vulcanized rubber or other suitable non-conducting material. A vertical reciprocating or other motion is imparted to the stem F, so as to cause the cross-head E to travel up and down, or to swing or oscillate as a pendulum in close proximity to the negative plate, either in actual contact with the surface thereof, or only near enough to enable it to accomplish the desired purpose. By this means the fluid is kept in a state of agitation in the immediate vicinity of the negative plate sufficient to prevent the collection of effete matter on said plate, and thus the intensity, regularity, and duration of the battery are increased, and for some purposes a small battery provided with the agitating device is rendered as useful as a larger one which is not provided with such appliances, thereby securing economy of material, bulk, and expense, together with simplicity of construction. The positive plate is perforated, and the agitators fit between the plates and operate to draw the liquid through and force it out of the perforations, thereby facilitating the circulation of the fluid. Such perforation of the positive plate performs the important function of my invention.

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

The combination of the perforated positive plate A, negative plate B, and agitating device arranged between the same, substantially as described, whereby, when the agitator is operated, it will act to draw the fluid through and force it out of the perforations in the positive plate, as and for the purpose specified.

B. F. DAWSON.

Witnesses:
VERNON H. HARRIS,
FRED. HAYNES.