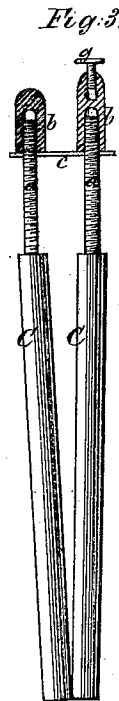
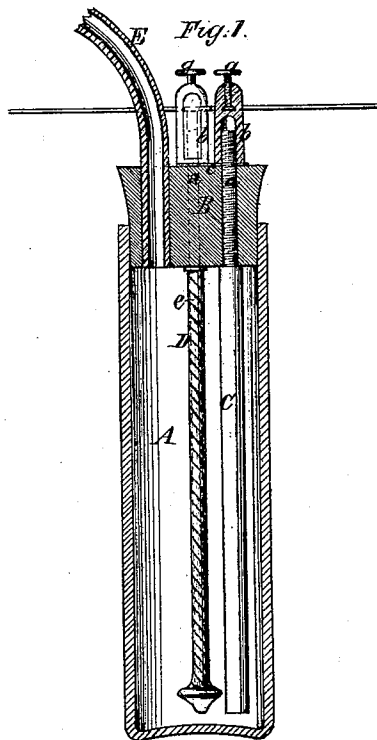
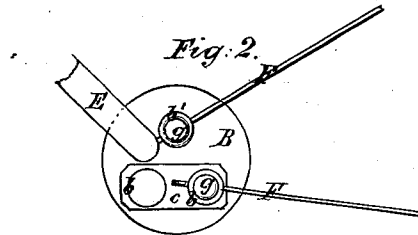


J. KIDDER.
GALVANIC BATTERY:

No. 108,602.

Patented Oct. 25, 1870.



Witnesses,
Fred. Haynes
R. W. Kibben

Inventor,
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United States Patent Office.

JEROME KIDDER, OF NEW YORK, N. Y.

Letters Patent No. 108,602, dated October 25, 1870.

IMPROVEMENT IN GALVANIC BATTERIES.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, JEROME KIDDER, M. D., 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 of the accompanying drawing forming part of this specification, in which—

Figure 1 is a vertical section of a galvanic battery, constructed in accordance with my invention;

Figure 2 is a top view of the same; and

Figure 3 is a partly sectional view of the two zincs, and their screw-caps detached.

Similar letters of reference indicate corresponding parts.

This invention consists in the novel construction and arrangement of a galvanic battery, whereby it is made very compact and so portable that it may be carried in the pocket, or packed with ordinary baggage for traveling.

It also consists in a tube attached to the cover or plug of the cell, for the purpose of providing for the escape of the gases, without allowing them to come in contact with and corrode the brass screw-caps, such tube being capable of being easily closed to prevent escape of liquid when the battery is being carried from place to place.

To enable others to construct galvanic batteries in accordance with my invention, I will proceed to describe the same with reference to the drawing.

A is a cup or cell, made, by preference, of glass, and of a size and form convenient to be carried in the pocket.

B is a plug of India rubber, or any other suitable material, tightly closing the mouth of said cup.

C C are the zinc rods which form the positive element and negative pole of the battery, and are made of a cylindrical shape, to present a large surface (near the platina) within a small compass. These zinc rods are arranged inside of the cup A, and extend from near the bottom of the cup, a certain distance apart from each other, to the under surface of the plug B, through which their ends, that are of a reduced size, and provided with a screw-thread, *a*, are passed to receive the screw-caps *b b*, which enable the zinc rods to be rigidly fastened to the elastic plug B, and be securely kept in position when carried about or packed away, and also form an air-tight connection with the plug.

Said zincs are connected at the upper surface of

the plug B by means of the plate *c*, which also serves as a washer for the screw-caps *b b*, connecting the zinc rods, to form one pole and aid in preventing leakage.

D is the platinum which forms the negative element and positive pole of the battery. To obtain a relatively large surface, thin ribbons of platinum are coiled loosely in spiral form around a central core or rod, *e*. These coils may be wound one over another, and in opposite directions, successively.

The rod *e* extends from near the bottom of the cup A through the plug B, and is securely held in place by the screw-cap, *b*, in a similar manner as the zinc rods.

E is a tube, preferably made of India rubber or other flexible material, connected with an opening, *f*, in the plug B, for the purpose of allowing the fumes or gases that are generated when the battery is in operation to pass off, and it is extended a certain length beyond the top of the plug B, to prevent said escaping fumes or gases from coming in contact with and corroding the brass screw-caps.

This tube, when made of India rubber or other suitable flexible material, also serves to close the battery entirely by tying it into a knot, or by using a clamp to close its opening, when it can be safely packed away or carried in the pocket.

F F are connecting-wires, which are firmly held by the binding-screws *g g*.

By this construction and arrangement a galvanic battery of a small compass, but of sufficient strength for practical purposes, is obtained, which may be conveniently packed away for traveling, or be carried in the pocket.

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

1. The platinum or other negative metal D, arranged within the battery in the form of a coil or coils around a central core, *e*, suspended from the cover, substantially as and for the purpose specified.

2. The zinc rods C C and the platinum or other negative metal coils D, rigidly attached with air-tight connections to the elastic plug B, substantially as herein described.

3. The tube E, in combination with the plug B, substantially as and for the purpose herein described.

JEROME KIDDER, M. D.

Witnesses:

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B. E. RABEAU.