(No Model.)

J. F. MEHREN.

GALVANIC BATTERY.

No. 421,081. Patented Feb. 11, 1890.

Fig. 1.

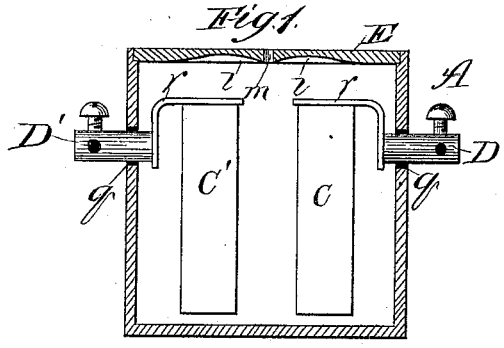


Fig. 5.

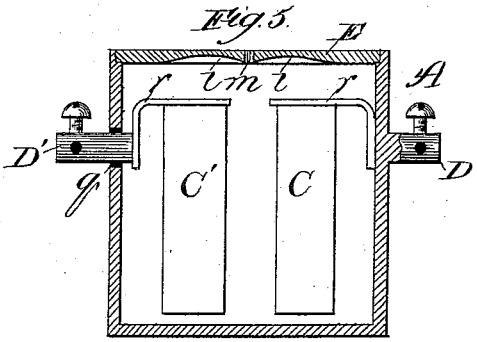


Fig. 2.

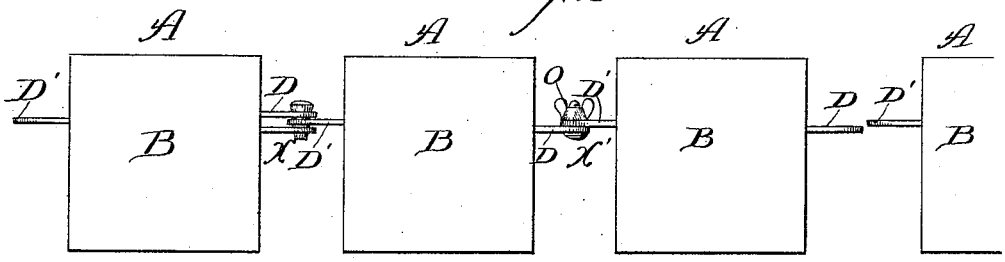


Fig. 3.

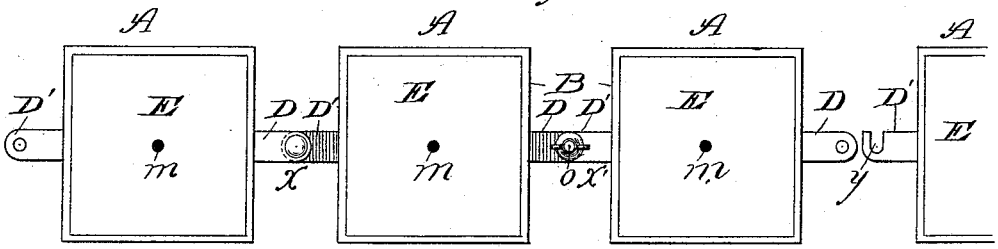
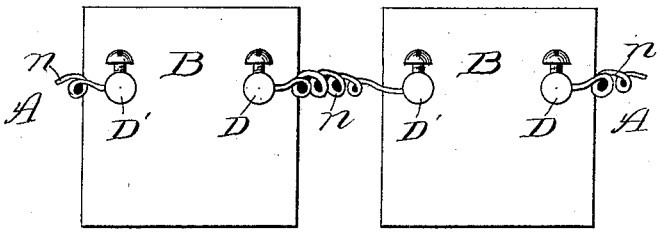


Fig. 4.



Witnesses:
Clifford G. White.
J. H. Dyrenforth.

Inventor:
Jacob F. Mehren.
By Dyrenforth & Dyrenforth,
Attys.

UNITED STATES PATENT OFFICE.

JACOB F. MEHREN, OF CHICAGO, ILLINOIS.

GALVANIC BATTERY.

SPECIFICATION forming part of Letters Patent No. 421,081, dated February 11, 1890.

Application filed November 19, 1889. Serial No. 330,851. (No model.)

To all whom it may concern.

Be it known that I, JACOB F. MEHREN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Electric Batteries, of which the following is a specification.

The objects of my invention are to provide an improved construction of the class of covered battery-cells in which the terminals extend laterally from the receptacle forming the cell proper and to provide means for readily interlocking the terminals between cells.

In the accompanying drawings, Figure 1 shows a battery-cell of my improved construction in vertical sectional elevation. Fig. 2 shows several of the cells of my improved construction connected in series by means forming a feature of my improvement. Fig. 3 shows in a plan view the same as is represented in Fig. 2. Fig. 4 shows the terminals as extending laterally through the connected cells at points closer together than the diametrically-opposite points at which they are shown to protrude in the other figures; and Fig. 5 is a sectional view like that presented in Fig. 1, showing a modified construction of the cell.

A is a battery-cell having its receptacle portion B formed of insulating material, preferably hard rubber.

C and C′ represent, respectively, positive and negative elements contained in the receptacle B, each being provided with a metallic strip *r*, at which to secure it to its respective terminal, as by soldering or burning.

The terminals D and D′, which should be formed of non-oxidizable metal—such as a composition of lead and antimony—protrude through suitable openings in the sides of the receptacles B, and are firmly secured in place in a manner to effectually seal the openings containing them, as by means of asphaltum or soft rubber *q*, and they may involve any suitable form for adapting the cells to be readily connected together. The form shown in Fig. 1 is that of an ordinary kind of binding-post. In Fig. 2 two forms are shown, respectively, at *x* and *x′*, the former involving, respectively protruding from opposite points in the side of a receptacle B, a bifurcated terminal D, perforated at its extremity, and a single terminal D′, similarly perforated and adapted to be inserted between the bifurcated terminal of an adjacent cell, being connected by a tapering plug *p*, passed through the perforations in each terminal, the latter involving a terminal D, like the terminal D′, (shown at *x*,) but having a clamp-screw *o* in its perforated extremity, and a similar terminal D′, laterally slotted, as shown at *y*, toward its extremity to embrace the shank of the screw *o* of the terminal D of an adjacent cell.

In Fig. 4 the terminals D and D′, in the form of ordinary binding-posts, protrude from the same side of the body of each receptacle B, the latter being rectangular, or, if it be circular, from points closer together than would be the diametrically-opposite points at which the terminals are shown to protrude in the preceding figures, and the connections may be made by an ordinary form of conductor *n*.

The cover E fits closely in its place and should be provided with a vent-hole *m*, or with several vent-holes, through which to permit the escape of the gas generated in the cell, and to reduce the tendency of splashing, as by jolting of the cell, of the liquid contents through the opening or openings *m* the cover should be hollowed out at its under side, as shown at *l*, around such opening or openings. As will thus be seen, the cover may, without consideration of or reference to the terminals, be readily removed and replaced and may always be adjusted to fit closely, affording an effective seal to the liquid contents of the cell.

Removal of an element C or C′ may be effected by cutting its connecting medium *r* with the respective terminal, and when it is reinserted or replaced by another the connection may be reproduced by soldering or burning the separated ends of the said connecting medium.

If the receptacle B be formed, as it may, of conducting material, only one of the terminals D D′ need extend laterally through its body portion, requiring then, of course, to be care-

fully insulated from the latter, and the other terminal might form an integral part of the receptacle, extending from a side of its body portion. This last-named construction is represented in Fig. 5.

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

1. A receptacle B for a battery-cell, having the terminals D and D′, extending laterally from the body of the said receptacle and formed each into a part of an interlocking joint between cells, whereby the cells may be connected immediately by interlocking their opposite terminals, substantially as described.

2. In combination, a receptacle B for a battery-cell, having the terminals D and D′, extending laterally from the body of the receptacle, and a cover E, having one or more vent-openings *m* and hollowed on its under side around the vent, substantially as described.

JACOB F. MEHREN.

In presence of—
J. W. DYRENFORTH,
M. J. FROST.