

(No Model.)

2 Sheets—Sheet 1.

V. W. BLANCHARD.

SECONDARY BATTERY.

No. 267,137.

Patented Nov. 7, 1882.

Fig. 1.

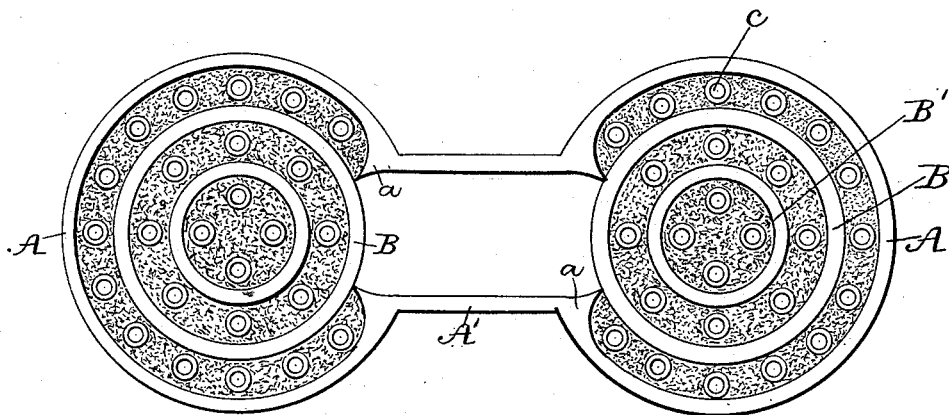
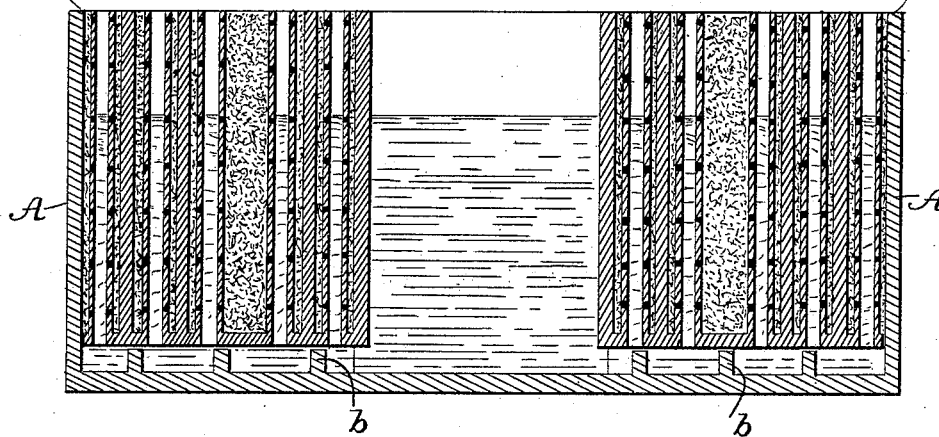


Fig. 2.



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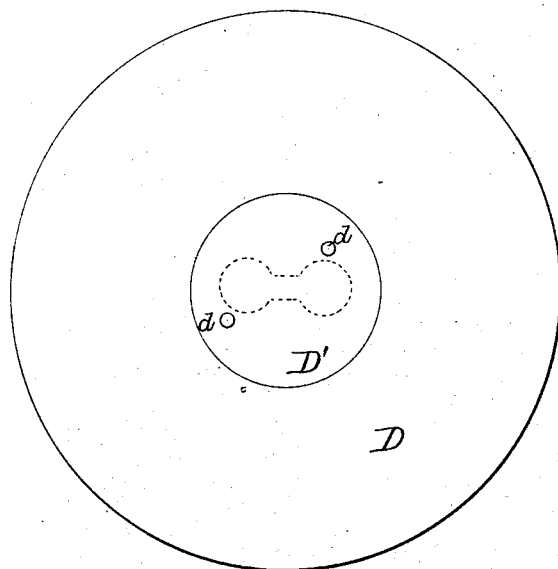


Fig. 3.

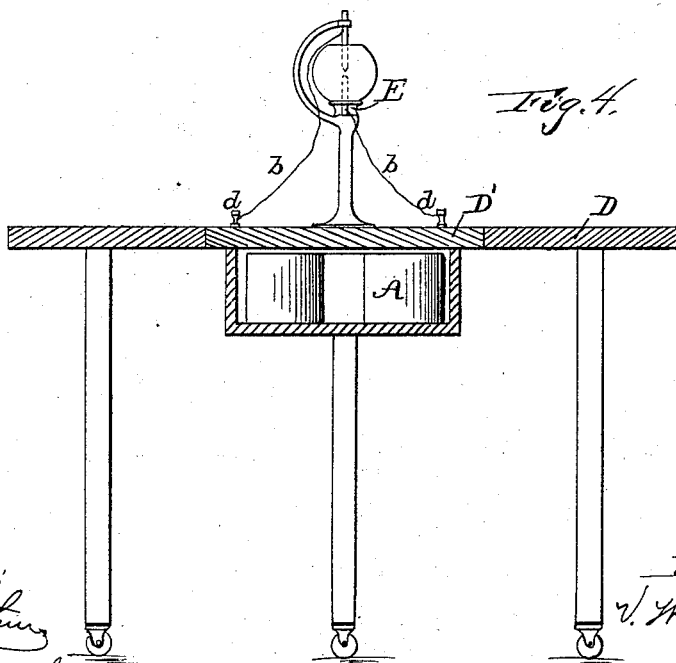


Fig. 4.

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UNITED STATES PATENT OFFICE.

VIRGIL W. BLANCHARD, OF NEW YORK, N. Y.

SECONDARY BATTERY.

SPECIFICATION forming part of Letters Patent No. 267,137, dated November 7, 1882.

Application filed July 24, 1882. (No model.)

To all whom it may concern:

Be it known that I, VIRGIL W. BLANCHARD, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Secondary Batteries; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a plan view, and Fig. 2 is a vertical longitudinal section, of my accumulator. Fig. 3 is a plan view, and Fig. 4 a central vertical section, of a table having an electric lamp fed by this battery mounted thereon.

This invention relates to improvements in the construction of electric accumulators or secondary batteries; and it consists in the combination, with a glass or earthenware vessel, of two or more series of concentric leaden cylinders, an intermediate chamber for the electrolytic liquid, a number of finely-perforated tubes placed vertically in the annular spaces between the said cylinders, and a packing of granulated lead or lead oxide.

It consists, further, in the combination, with the above-described accumulator, of a suitable electric lamp and a box or case adapted to be placed in a suitable recess or receptacle provided in an ordinary table, as hereinafter described.

A A are cylindrical cups, connected by the trough-shaped part A', which is provided with the projecting angular edges *a*. The cups and connecting-receptacle are made of glass or earthenware, and the cups are provided with ribs or projections extending across their lower sides.

B B' are leaden cylinders, which rise from and are secured to a common bottom; or they may be made separate and otherwise connected. They are arranged concentrically, and preferably at equal distances apart. The said cylinders rest upon the ribs *b*, thereby allowing free circulation of the electrolytic liquid from the receptacle A'.

In the annular spaces between the electrodes, and between them and the cups, I arrange a number of thickly-perforated tubes C, which

at their lower ends communicate with the cups, so as to receive and distribute the electrolytic liquid, as shown in Fig. 2. These tubes C are placed vertically in the said annular spaces, and between and around them is packed a powder composed of granulated lead, lead oxide, or peroxide of lead, which granulated substance will be saturated with the electrolytic liquid rising from the chambers below the electrodes by way of the perforated tubes.

Figs. 3 and 4 show the means for applying my device to a table or other movable support.

D' is a box or case, within which is secured my accumulator. On the outside of the case D' is secured an ordinary electric lamp, E, of either type.

d d are binding-posts for the necessary line-wires *b b*.

D is a table of any desired style, having a suitable recess or opening to contain the case D' and contents, which as constructed may be moved about considerably without injury.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the concentric leaden cylinders, the perforated tubes located in the annular spaces between and having an outlet below said cylinders, and a filling of granulated lead, oxide of lead, or peroxide of lead packed into the said annular spaces, substantially as described.

2. In an electric accumulator, the cells A A, connected by the fluid-receptacle A', provided with the angular projections *a*, in combination with the concentric cylinders, the perforated tubes, and granular packing, as described.

3. In an electric accumulator, the cup formed of two or more communicating sections provided with internally-extending ribs on their lower side, whereby, the electrodes being raised from the bottom, circulation of the electrolytic liquid is promoted, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

VIRGIL W. BLANCHARD.

Witnesses:

W. C. MCARTHUR,
BERNARD J. KELLY.