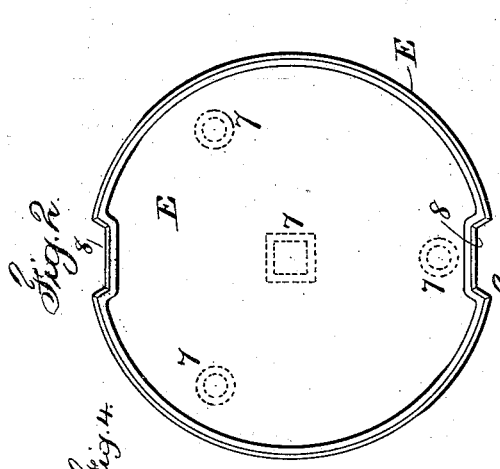
No. 647,797. Patented Apr. 17, 1900.

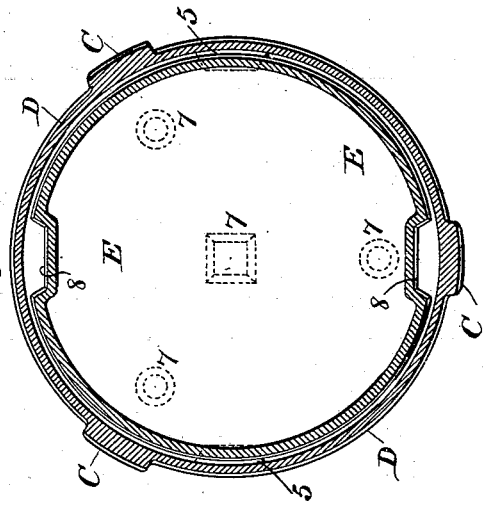
H. BLUMENBERG, Jr. & F. C. OVERBURY.

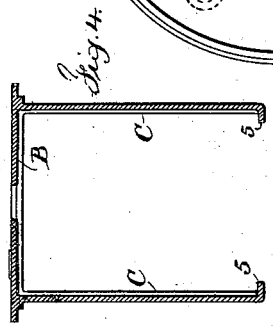
GALVANIC BATTERY.

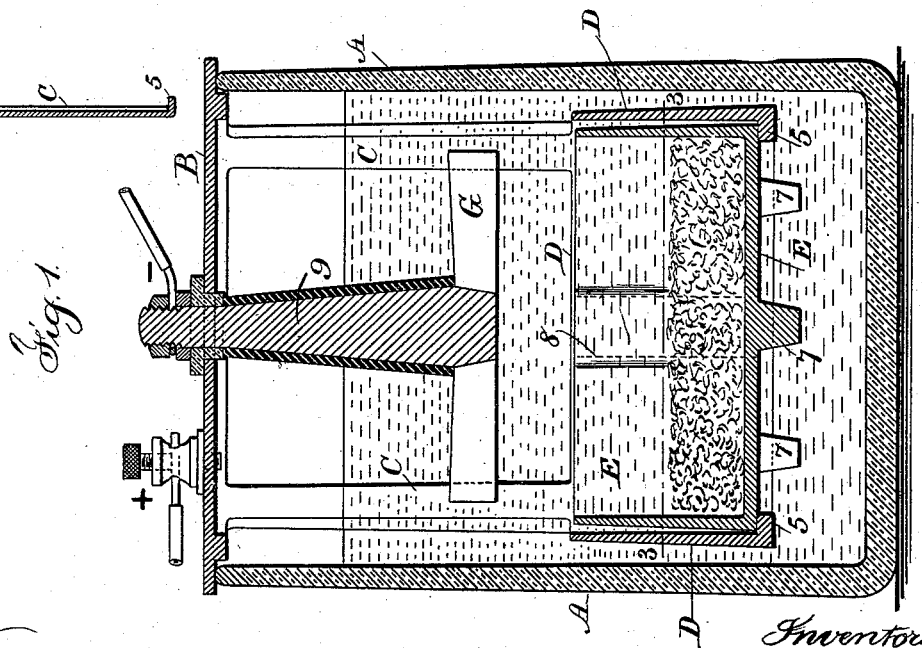
(Application filed Apr. 24, 1899.)

(No Model.)









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UNITED STATES PATENT OFFICE.

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GALVANIC BATTERY.

SPECIFICATION forming part of Letters Patent No. 647,797, dated April 17, 1900.

Application filed April 24, 1899. Serial No. 714,164. (No model.)

To all whom it may concern:

Be it known that we, HENRY BLUMENBERG, Jr., residing at Wakefield, in the borough of Bronx, in the city of New York, and FREDERICK C. OVERBURY, residing at New York city, in the county of New York, State of New York, citizens of the United States, have invented an Improvement in Galvanic Batteries, of which the following is a specification.

Batteries are extensively used in railway signaling, and the materials employed are very objectionable to handle, and where the battery has to be recharged frequently considerable time is lost in manipulating screws and other devices which have been employed for connecting together the parts of the battery that hold the depolarizing or active material, and the connecting devices are very liable to destruction, so that the battery-cell quickly becomes useless. In the present invention a cup is made use of for holding the oxid of copper or other active material, and this cup is separable from the other parts of the cell, so that the attendant can remove the cover and the cup that holds the depolarizing or active material, and by removing the cover of the cell the cup is also taken out, so that it can be reversed, by the action of the foot or otherwise, to empty the contents thereof, and another charge can be put in the cup and the parts of the cell connected again and replaced by simply handling the cover, which, of course, being in a dry condition can be manipulated without objectionable material coming into contact with the hands.

In the drawings, Figure 1 is a vertical section of the improved cell. Fig. 2 is a plan view of the cup detached. Fig. 3 is a section below the line 3 3 of the supports for the cup and the cup in position; and Fig. 4 is a separate view, on a smaller scale, of the cover and hangers in a modified form.

The cell or jar A is to be of any desired size and character. Usually it is round and the cover B to the cell is large enough to set upon and cover the jar, and depending from the cover are the hangers C, which are preferably three in number; but this number is not limited, and it is advantageous to connect the lower ends of these hangers C by a band D, so as to obtain the required strength, and the fingers or projections 5 extend inward from the band D and usually at the lower ends of the hangers C.

The cup E is usually integral and made with sides and a bottom, and it is of a size to receive the proper quantity of depolarizing or active material, such as copper pyrites, and the projections 5, similar to bayonet-lugs upon the band D or at or near the lower ends of the hangers C, are adapted to connect the hangers and the cup, and it is advantageous to provide legs 7 to the cup, so as to hold the bottom of such cup above the ground, so that the lugs or projections 5 may pass freely in beneath the bottom of the cup, and with this object in view vertical channels 8 are provided in the sides of the cup for allowing the bayonet lugs or projections to pass down and be turned in beneath the bottom of the cup when the cup is being connected to the hangers or for the lugs to pass up as the cover and hangers are lifted to disconnect the same from the cup, which at this time may be standing upon the floor, ground, or other support. Hence when the battery is to be recharged it is only necessary to lift the cover and the connected parts away from the cell, allow the cup to rest down upon a support, turn the cover and the hangers so that the bayonet lugs or projections separate from the cup, and then the cover can be raised, leaving the cup separate from the rest of the parts, to be emptied in any convenient manner and recharged with copper pyrites or other suitable material, after which the hangers are returned to position around the cup and a partial turning movement given to bring the lugs of the hangers into position for supporting the cup. It will be apparent that the same object will be attained whether the bayonet-lugs come beneath the bottom of the cup or beneath a notched annular support around the cup. The other element in the battery is usually zinc, as illustrated at G, the same being suspended from the cover by the column or rod 9, and this element of the battery is to be held in the proper position in relation to the material in the cup, the size and shape of the zinc and of the hangers in relation to the cup being such that

the necessary distances will be obtained between the respective electrodes.

The cover, the hangers, and the ring may be all cast in one, if desired, and the cup may be of iron; but we do not limit ourselves to any particular material of which the parts are to be made.

In Fig. 4 we have represented the cover and hangers in section, there being two hangers and no connecting-band.

The preferred electrolyte is a solution containing alkaline hydrate.

We claim as our invention—

1. A battery-cell having a cover and one electrode suspended therefrom, and hangers connected at their upper ends with the removable cover, a cup between the hangers and a bayonet-lock connecting the hangers and the cup and allowing for the easy removal or separation of such cup, substantially as set forth.

2. A battery-cell having a removable cover and one electrode suspended therefrom, and conducting-hangers connected at their upper ends with the removable cover and having lugs at their lower ends, a conducting-cup between the hangers and a means for connecting the hangers and the cup to support the cup and thereby form the other electrode, the cup being readily separated and removed from the hangers and lugs, substantially as set forth.

3. The combination with the cover and the zinc or similar elements suspended therefrom, of hangers extending down from the under side of the cover, a band connecting the hangers near their lower ends, a cup adapted to pass within the band and connections between the hangers and the cup that allow such cup to be easily separated from the hangers by a partial turning movement to allow the contents of the cup to be discharged, substantially as set forth.

Signed by us this 13th day of April, 1899.

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Witnesses:
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