

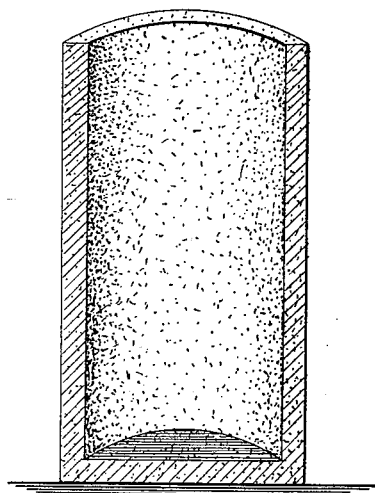
(No Model.)

B. J. & J. W. WHEELLOCK.

POROUS CUP FOR ELECTRIC BATTERIES.

No. 386,569.

Patented July 24, 1888.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

BLOOMFIELD J. WHEELOCK AND JAMES W. WHEELOCK, OF NEW YORK, N. Y.

## POROUS CUP FOR ELECTRIC BATTERIES.

SPECIFICATION forming part of Letters Patent No. 386,569, dated July 24, 1888.

Application filed September 19, 1887. Serial No. 250,055. (No model.)

*To all whom it may concern:*

Be it known that we, BLOOMFIELD J. WHEELOCK and JAMES W. WHEELOCK, citizens of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in the Process of Treating Porous Cups for Electric Batteries, of which the following is a specification.

Our invention relates to porous cups for electric batteries. The object is to provide a process of treating such cups whereby they may be brought to any degree of porosity required.

To this end the invention consists in treating the cup with paraffine or other wax, in the manner hereinafter set forth.

The drawing represents a sectional view of a porous cup.

It is commonly known that considerable difficulty and expense has accompanied the use of porous cups for battery purposes. The trouble lies principally in the fact that the cups are too porous and allow the fluids to pass through too easily. When the battery is not working, the acids pass from the inside of the cup to the outside, and attacking the zinc prematurely destroy it. The cup itself soon becomes brittle and wears out. In fact, the materials, generally, of the battery are exhausted very rapidly on account of this extreme porosity of the cup.

By our invention the cups may be brought to any desired degree of porosity, and by so doing the above-mentioned difficulties and expense are overcome.

The process of treatment is as follows:

First. The cup is heated to about 110° Fahrenheit, or to a heat sufficient to melt paraffine.

Second. A block of solid paraffine is rubbed over the surface of the cup. The heat thereof will melt the paraffine and cause a portion of it to adhere to the cup.

Third. The jar is again heated to about the same degree and the paraffine again applied.

The heating of the cup should be slow to insure its being heated throughout its entire body. This is essential, because otherwise the paraffine would not penetrate the walls of

the cup, but would remain on the outside as a coating. Such a result, in some instances, would defeat the purpose.

Each operation lowers the degree of porosity. Consequently the operations should be repeated as many times as is necessary to bring the cup to the proper degree of porosity for the work which it is to be put to.

The heating which occurs just before the last application of paraffine should be to a less degree than at other times, and, indeed, it in some instances may be entirely dispensed with. This is done in order that a very thin film of paraffine may be deposited on the outside of the cup. It is an optional matter, however, and should only be done when the battery conditions require it.

We do not confine ourselves to the particular process of application herein recited. The paraffine may be applied in any or the most convenient way—such, for instance, as dipping the cup into melted paraffine or applying the same with a brush; but whatever process is used the cup should first be heated entirely through to about the temperature named above, in order that the paraffine may penetrate the entire body of the cup. Neither do we confine ourselves to paraffine, as most any wax will serve the purpose with good results.

Having described our invention, we claim—

The herein-described process of treating porous cups so as to reduce to any desired extent their excess of porosity, which consists in first heating the cups to a degree sufficient to melt wax, then applying to the surface of the cups sufficient wax to reduce their porosity to a limited extent, and repeating these operations as many times as may be necessary to bring the cups to the desired degree of porosity.

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

BLOOMFIELD J. WHEELOCK.  
JAMES W. WHEELOCK.

Witnesses:

WALTER T. BLOOMFIELD,  
H. W. HALL.