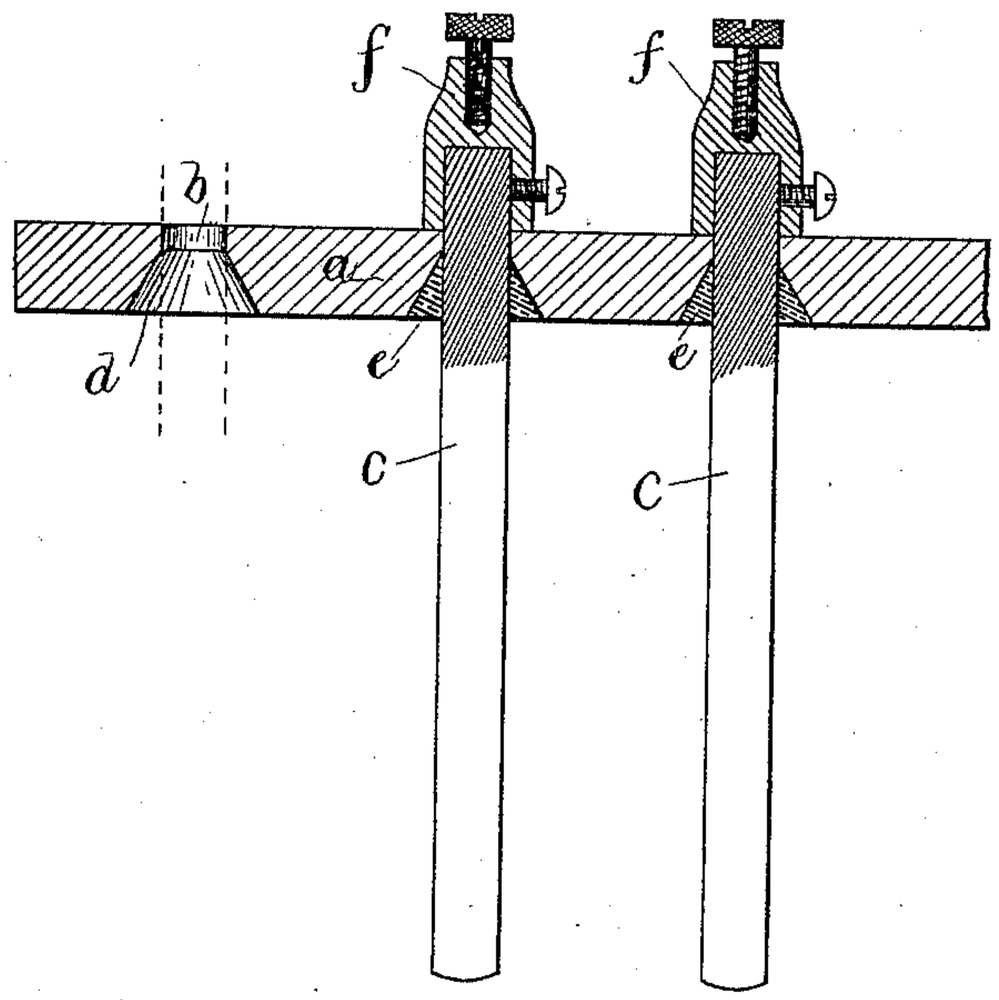
(No Model.)

E. M. G. HEWETT.

ELECTRIC BATTERY.

No. 421,169. Patented Feb. 11, 1890.



WITNESSES.
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UNITED STATES PATENT OFFICE.

ERNEST M. GARDNER HEWETT, OF NEWTON, MASSACHUSETTS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE SAFETY ELECTRIC LIGHT COMPANY, OF MAINE.

ELECTRIC BATTERY.

SPECIFICATION forming part of Letters Patent No. 421,169, dated February 11, 1890.

Application filed June 29, 1889. Serial No. 315,978. (No model.)

To all whom it may concern:

Be it known that I, ERNEST M. GARDNER HEWETT, of Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Electric Batteries, of which the following is a specification.

This invention has for its object to improve the connection of carbon rods or pencils to the covers of battery-jars in such manner as to prevent the chemicals used in the battery and the fumes thereof from acting on the metallic caps or fittings which are applied to the upper ends of said carbon rods.

The invention consists in enlarging the holes for the pencils at the under side of the cover, so as to form annular pockets around the pencils, said pockets being filled with any suitable cement which will resist the chemicals used in the battery and prevent them from working through the cover and around the pencils, thus protecting the metallic fittings on the upper ends of the pencils.

To prevent the fumes of the chemicals from passing through the pores of the carbon pencils I saturate the upper ends of the pencils with burned paraffine, by immersing said ends in a bath of melted paraffine which has been ignited and allowed to burn for a brief period. The pores of the carbon are filled with the paraffine, so that the ends of the pencils thus treated are impervious to the liquid chemicals and the fumes thereof. The electrical resistance caused by the paraffine is so reduced by the burning of the same previous to its application that the conductivity of the carbon rods is not materially affected by the paraffine.

The accompanying drawing represents a sectional view of a battery-cover *a*, which may be of wood or other non-conductor of electricity, and is provided with orifices *b* for the reception of the carbon rods or pencils *c*. Said holes are formed at the upper surface of the cover, so that they closely fit the pencils, and their lower portions are reamed out or enlarged to form annular pockets *d* around the carbon rods. Said pockets, which may be tapering, as here shown, or of any other suitable form, are closely packed with a filling *e* of any suitable cement which will resist the action of the chemicals used in the battery. Tight joints are thus produced around the carbon rods, whereby the chemicals are prevented from working through the cover around the carbon rods and attacking the metallic fittings *f* on the upper ends of said rods.

The carbon of the pencils is somewhat porous, so that the fumes of the chemicals would naturally be liable to work through the pencils and attack the metal fittings. To prevent this I saturate the portions of the pencils that pass through the cover with melted paraffine, thus closing the pores against the passage of the acid fumes.

As paraffine in its ordinary condition would affect the conductivity of the carbon, I ignite the melted paraffine and allow it to burn for a few seconds before immersing the pencils in it. I find that this treatment of the paraffine prevents it from materially affecting the conductivity of the carbon, so that the pencils are rendered impervious to the chemicals without being unfitted for their ordinary use.

I claim—

1. A battery-cover having a series of holes to receive carbon rods or pencils, said holes being formed to closely fit the pencils at the upper surface of the cover and enlarged at the lower surface to form pockets surrounding the pencils, combined with said pencils, and filling or packings inserted in said pockets, as set forth.

2. A battery-cover having holes for the reception of carbon rods or pencils, said holes being enlarged to form annular pockets around the pencils, combined with rods or pencils inserted in said orifices and treated with burned paraffine, and fillings or packings inserted in said pockets around the pencils.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 21st day of June, A. D. 1889.

ERNEST M. GARDNER HEWETT.

Witnesses:
C. F. BROWN,
A. D. HARRISON.