

(No Model.)

J. B. WALLACE.
CARBON BATTERY.

No. 300,537.

Patented June 17, 1884.

Fig. 1.

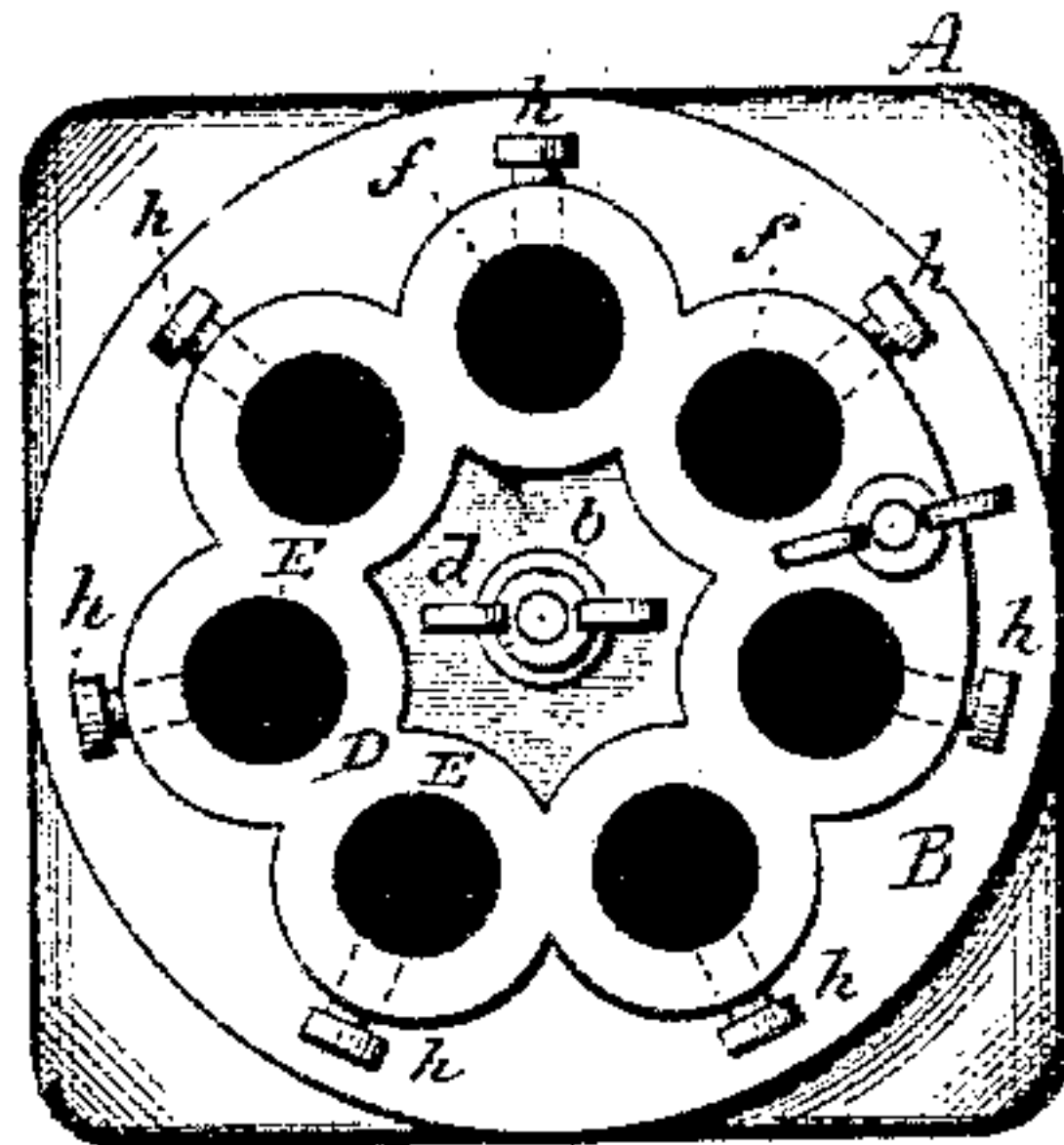
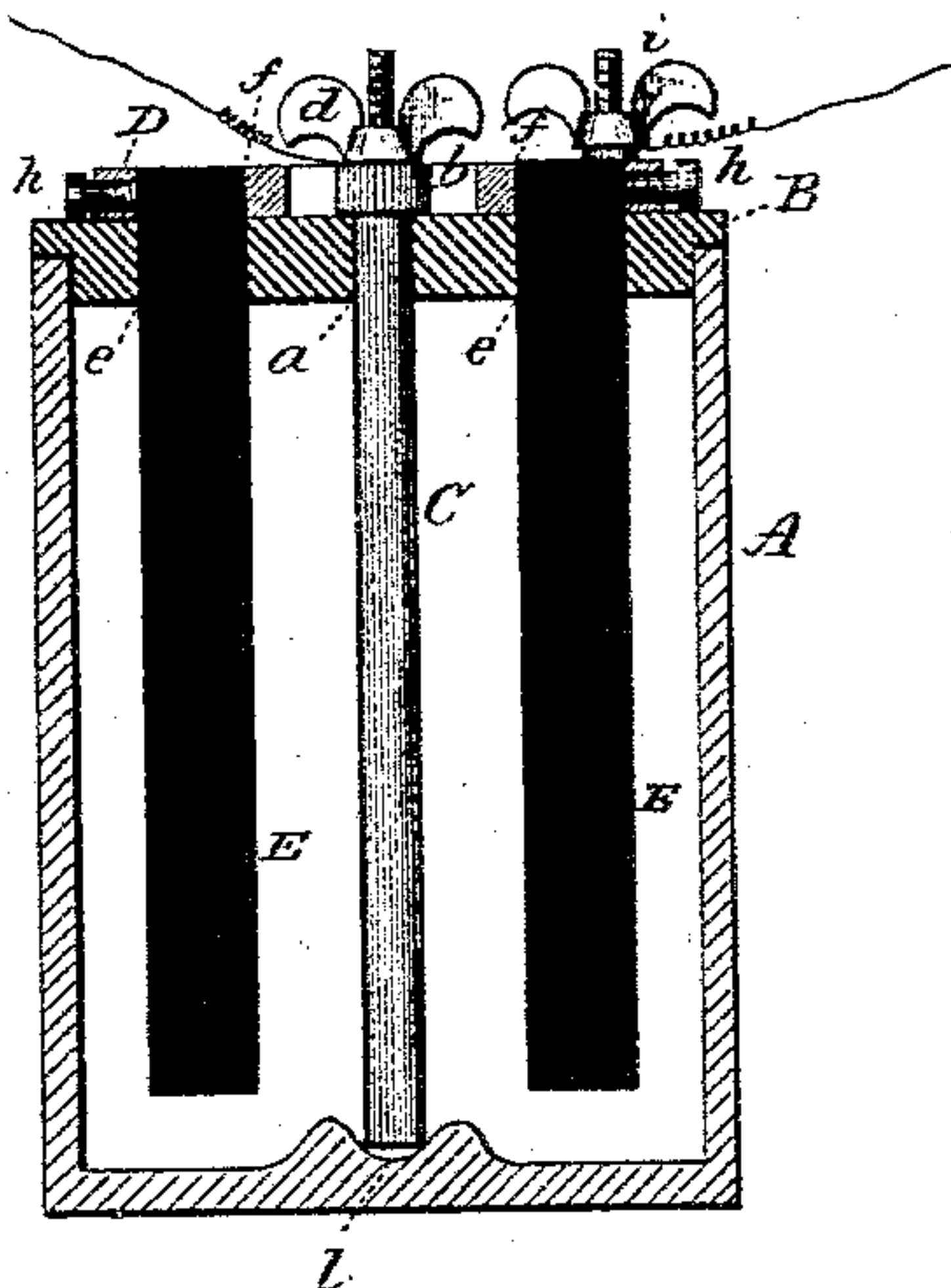


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN B. WALLACE, OF ANSONIA, CONN., ASSIGNOR TO THE ELECTRICAL
SUPPLY COMPANY, OF SAME PLACE.

CARBON-BATTERY.

SPECIFICATION forming part of Letters Patent No. 300,537, dated June 17, 1884.

Application filed May 10, 1882. (No model.) Patented in England May 27, 1882, No. 2,416.

To all whom it may concern:

Be it known that I, JOHN B. WALLACE, of Ansonia, in the county of New Haven and State of Connecticut, have invented a new Improvement in Carbon-Batteries, (patented in England May 27, 1882, No. 2,416;) and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a top or plan view; Fig. 2, a vertical central section.

This invention relates to an improvement in that class of batteries which employ carbons, and commonly called "carbon-batteries."

The object of my invention is to construct a battery in which the largest carbon surface may be attained in the smallest space, and in the nearest or most uniform relation to the zinc; and it consists in a glass or equivalent non-conducting covering-plate for the battery-jar, having a central opening to receive the zinc, and a series of openings in a circle around and concentric to the central opening, combined with a ring-shaped metallic plate resting on the top of the glass cover, and having a series of openings corresponding to the series of openings which surround the central opening, each of said openings in the metallic ring constructed to receive and hold a carbon, so as to be introduced through the openings in the glass cover, and so as to make an electrical connection between all the carbons, and a connection for one wire with the central zinc independent of the carbon-connecting plate, and the said carbon-connecting plate fitted for connection with the other wire, as more fully hereinafter described.

A represents the jar; B, the glass or equivalent cover constructed with a central opening, *a*, through which the zinc C is introduced, the zinc provided with a collar, *b*, at its upper end, to rest upon the glass, and provided with a post and usual set-screw, *d*, for attachment of the wire thereto. The glass cover is also constructed with a series of openings, *e*, surrounding the central opening, and in a circle substantially concentric therewith.

D is a ring-shaped metal plate arranged to lie upon the upper surface of the glass cover, and constructed with openings *f*, corresponding to a series of openings, *e*, in the glass plate. The best method of constructing this plate is in the form of a series of connected rings, which together form a ring around the central opening, as shown in Fig. 1, the openings in the rings corresponding to the openings in the glass cover, and the openings in the metal ring corresponding substantially to the size and shape of the carbons to be used.

E represents the carbons, each first introduced and secured in the metal ring by set-screws *h* or other clamping devices which will firmly secure them in the ring. The carbons E, which are by preference of cylindrical shape and as long as may be conveniently used in the jar, are secured in the respective openings in the metal ring, and, so secured, are passed through the corresponding openings in the glass cover, so as to hang suspended within the jar. After the carbons have been introduced through the cover and before placing the cover upon the jar, the cover and ring, with the carbons, are dipped in paraffine, so as to coat the cover and carbons to a short distance below the ring, which, while protecting the carbons and metal from the action of the acid at their point of connection, also aids in securing the carbons and the ring to the cover. By this arrangement the zinc stands in the center, and the several cylindrical carbons are arranged at equidistances around it—that is, in a circle of which the zinc forms the center. The cylindrical shape of the carbons presents a larger surface than can be done by any other shape of carbon, and all in the same relation to the zinc. The metal ring is fitted with a post, *i*, for the attachment of one wire, the other being secured to the zinc, as before described. This completes the battery.

Another advantage of this construction of battery arises from the fact that it enables me to utilize the waste which occurs in the manufacture of carbons for electric lighting.

In the manufacture of carbons for electric-lighting purposes only the best quality of carbons can be used to advantage. These carbons are long and slim, and in their manufac-

ture and use there is a very great loss because of breakage, it being impossible to work over the pieces. This loss adds materially to the expense of electric-lighting carbons. By my
5 new construction of battery I am enabled to use these pieces of carbon, which otherwise go to waste, and they being of the best quality produce a much better result than the cheaper
10 qualities, which are usually necessarily employed in carbon-batteries, because the same grade of carbons used for electric-lighting purposes would be too expensive for practical use in such batteries.

The zinc, arranged in the center and loosely
15 resting on the cover, is readily lifted from the jar when occasion requires.

I claim—

The herein-described improvement in carbon-batteries, consisting of the glass or insu-

lated material cover B, constructed with a 20 central opening, *a*, and with a series of openings, *e*, in a circle around said central opening, and substantially concentric therewith, combined with the ring D, constructed with a series of openings, *f*, corresponding to the se- 25 ries of openings *e* in the cover, a clamping device at each of the openings in said ring, a series of carbons, *E*, in the openings of said ring, and secured therein, and a zinc, *C*, suspended through the central opening in the cover, sub- 30 stantially as described, and so that said series of carbons stand in a circle around the zinc, substantially as specified.

JOHN B. WALLACE.

Witnesses:

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