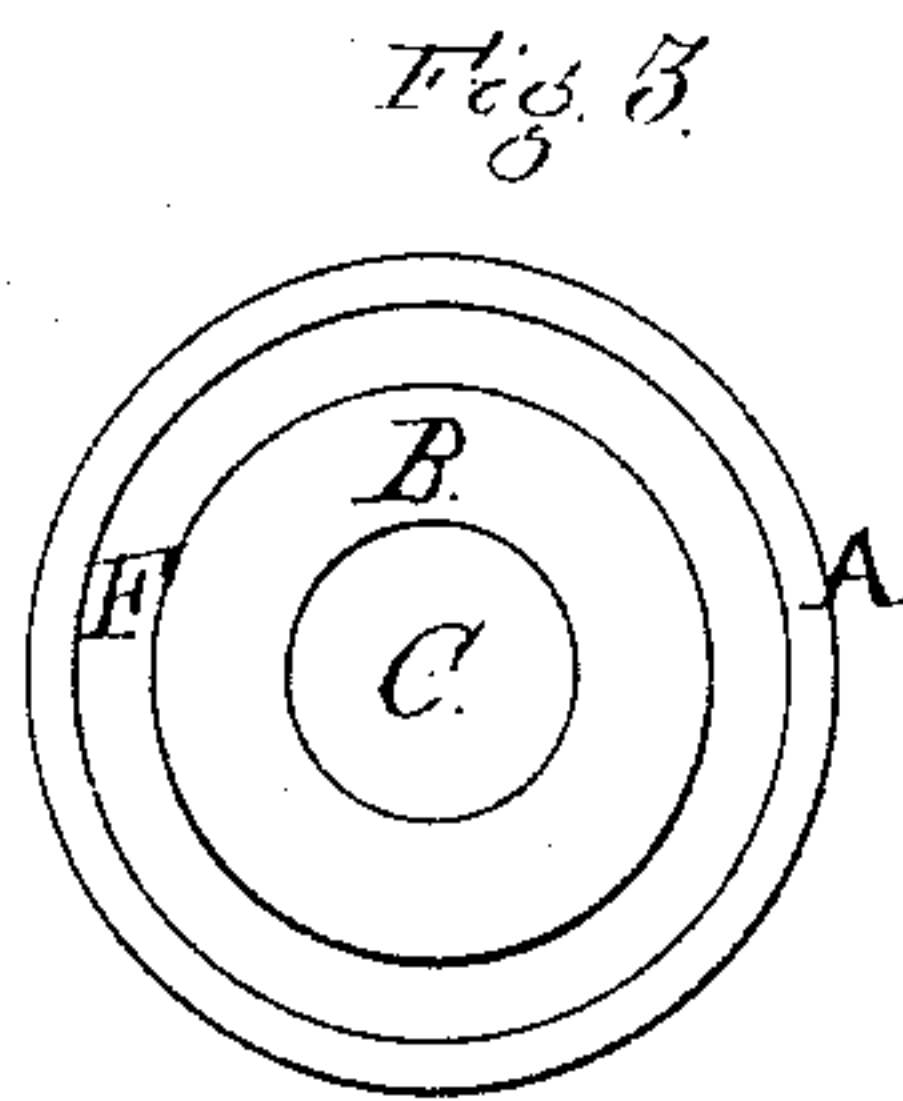
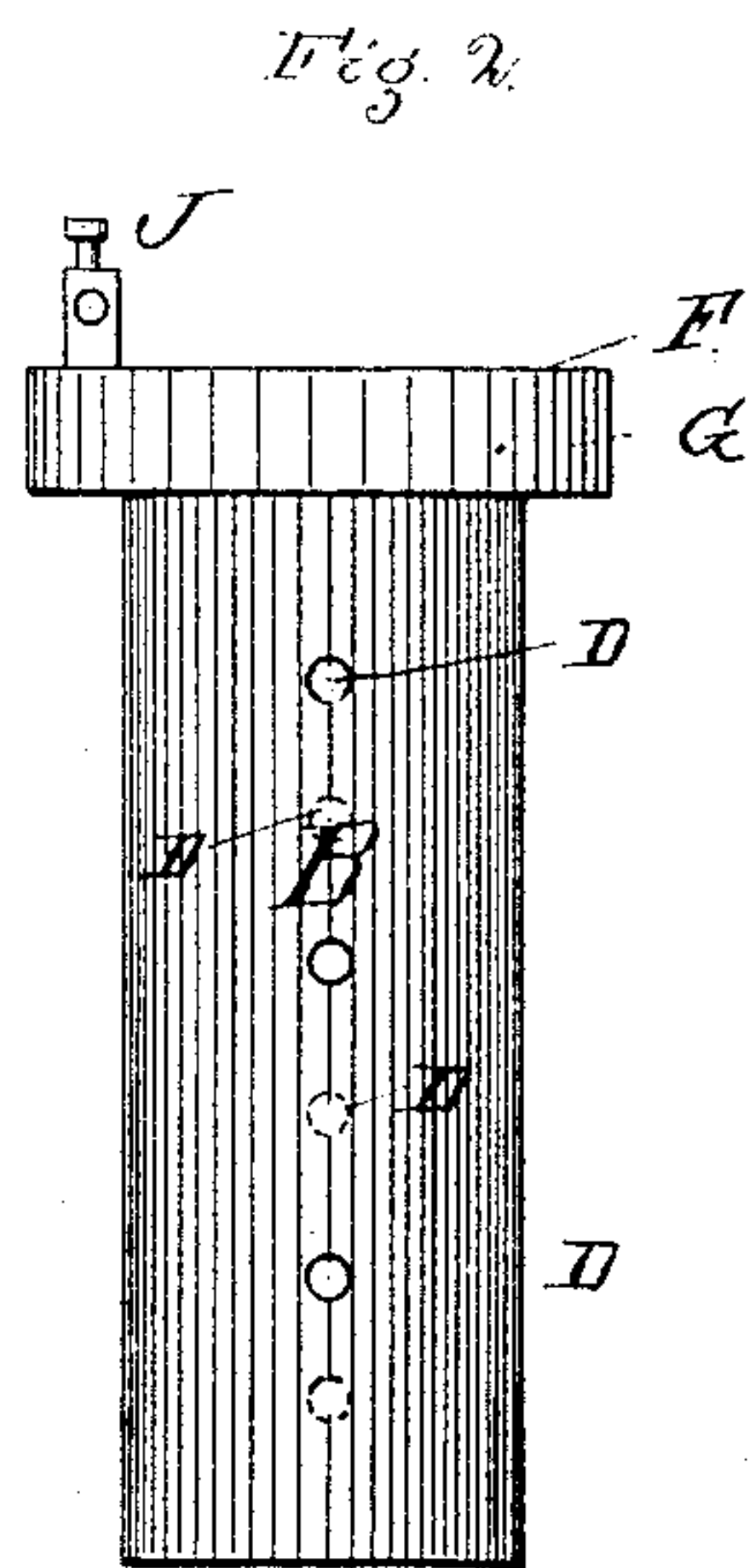
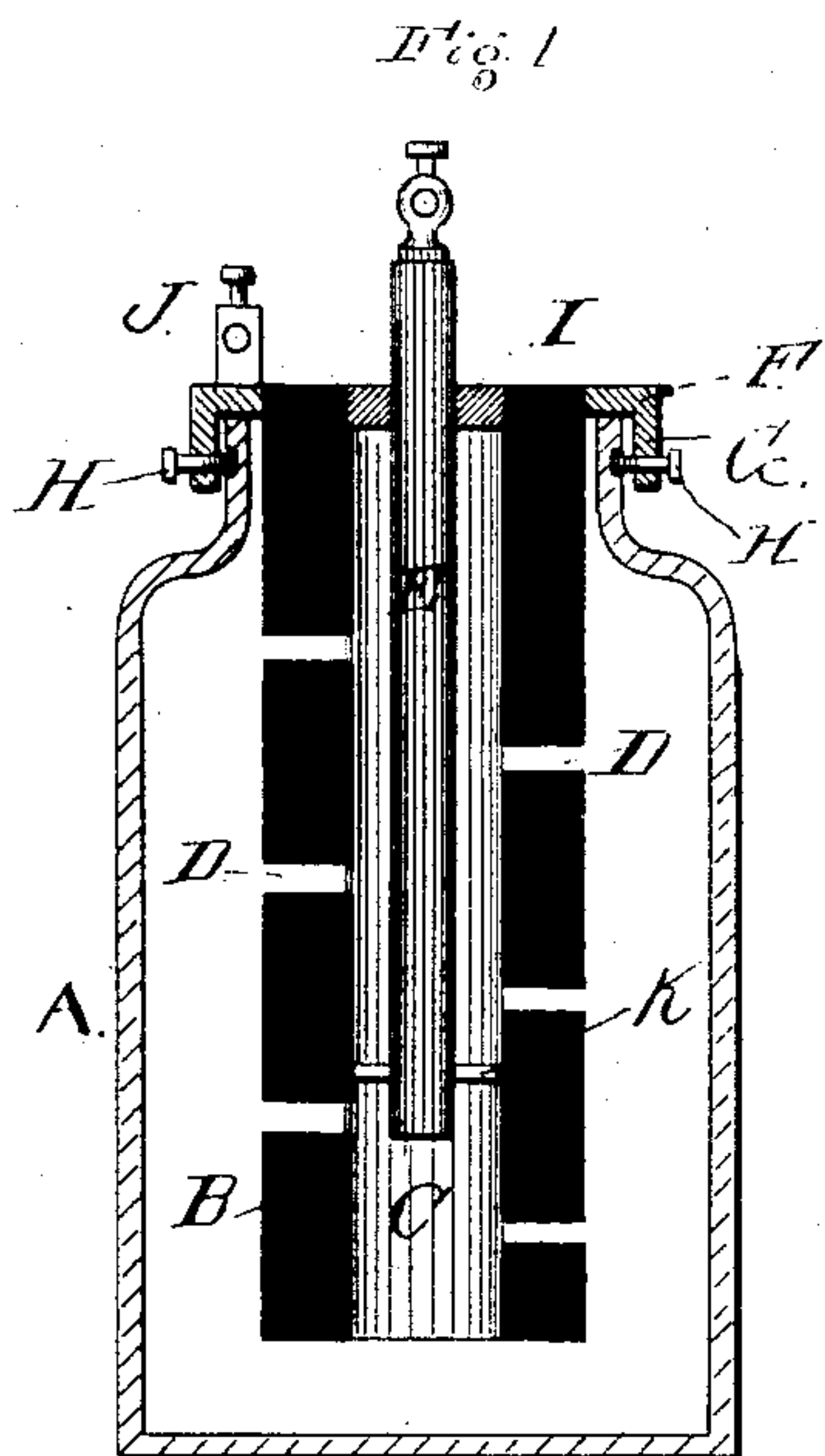


(No Model.)

H. A. BURNS.
ELECTRIC BATTERY.

No. 284,605.

Patented Sept. 11, 1883.



Witnesses.

E. P. Hough
C. E. Jones

Inventor.
Hugh A. Burns
By *A. C. Neill* and
Chas. Gooch
Attorneys

UNITED STATES PATENT OFFICE.

HUGH A. BURNS, OF ANSONIA, CONNECTICUT.

ELECTRIC BATTERY.

SPECIFICATION forming part of Letters Patent No. 284,605, dated September 11, 1883.

Application filed May 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, HUGH A. BURNS, a citizen of the United States, residing at Ansonia, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Electric Batteries, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention consists in certain improvements in the construction of carbon batteries for electrical purposes, as will be hereinafter described and claimed.

In the drawings, Figure 1 represents a vertical section of my improved battery, showing the several parts in position; Fig. 2, a side elevation of the carbon cylinder separately. Fig. 3 represents a top plan view of the carbon cylinder and of parts connected therewith, as will be presently explained.

It is the design of my invention to produce a battery capable of use in the various and numerous branches of the electric art; and it consists, essentially, in constructing a hollow carbon cylinder of about six inches in length and having a series of holes or perforations at suitable intervals in its length, a disk or cap soldered or otherwise attached to the outer circumference of said carbon cylinder, at its upper end, for the double purpose of forming a means whereby said carbon cylinder may be suspended within and attached to the inclosing jar or bottle, and also affording a support for the positive pole of the battery, and in suspending the positive zinc electrode within said carbon cylinder by means of a rubber disk or washer, which rests within the top of the central orifice of the carbon cylinder.

A represents the jar or bottle, which may be constructed of any well-known or desirable material and of any suitable form. Within this jar is contained the solution of sal-ammoniac, such as is commonly employed in electric batteries.

45 B represents a carbon cylinder, having a central perforation or bore, C, extending throughout its length, and a series of holes or perforations, D, extending through the walls thereof, by means of which the ammoniacal solution can freely pass to the interior of the

carbon cylinder and into contact with the positive electrode or strip of zinc E.

F represents a ring or disk, of brass, wood, or other suitable or convenient material, wood being preferred on account of its cheapness, 55 which is centrally bored to fit tightly around the top of and rest upon the top edge of the carbon cylinder, and has a depending flange, G, which, when the mouth of the jar is of corresponding circumference, engages with and is held thereon by friction. It is, however, 60 designed that this flange G shall be provided with suitable slots or holes, through which clamps H may be passed, in order that such ring or disk F, which forms a cap for the jar, 65 may be applied to the carbon cylinder, suspended within jars having mouths of different sizes, the disk or cap in such cases being securely clamped to the top of the jar by the clamps H, in the manner shown in Fig. 1. 70 When the disk or cover F is constructed of wood, the positive pole J is either placed in direct contact with the carbon or else in metallic contact with a conductor leading to said carbon cylinder. This disk F and the upper 75 end of the carbon cylinder are securely attached together by soldering or other means, in order that when the disk rests upon the top of the jar said carbon cylinder shall be properly suspended within said jar, without 80 necessitating any of the usual special means for attaching said cylinder to or adjusting the same in position within the jar. Furthermore, by reason of thus attaching the carbon cylinder to the disk F, said cylinder can be very 85 readily removed whenever desired and replaced in position with great ease without appreciable loss of time.

I represents a disk or washer, of rubber or other elastic insulating material, which is inserted within the central bore of the carbon cylinder, at its upper end, being held firmly therein by its own elasticity. This elastic disk has a central opening which is of slightly 95 less circumference than the circumference of the zinc strip or pole E, in order that when the zinc strip is passed through such central opening in the disk I said zinc strip will be securely and rigidly held thereby suspended within the central bore, C, of the 100

carbon cylinder. The zinc pole or strip E has at or near its lower end one or more pins, K, of insulating material, passing therethrough, by means of which contact between the zinc and the carbon is prevented.

J represents the positive pole, which is connected with the disk or cap F, and it and the zinc strip are provided at their upper ends with a suitable connection for the current-transmitting wires.

A battery constructed as above described will hold a longer and a stronger current than will other batteries of greatly-increased size, and the shape and construction of the cylinder B secure a great advantage to the positive and negative poles.

Having thus described my invention, what I claim therein is—

1. The combination of the carbon cylinder B, having central bore, C, and perforations D in the walls thereof, and the zinc pole or strip

E, having pin K, substantially as and for the purpose set forth.

2. The combination of the carbon cylinder B, having central bore, C, elastic disk I, having central opening, and the zinc pole or strip E, having pin K, substantially as and for the purpose set forth.

3. In an electric battery, the combination, with jar A, of disk F, positive pole J, and hollow carbon cylinder B, attached to said disk F, elastic disk I, adapted to rest within the central bore of said carbon cylinder; and the positive electrode E, suspended by said elastic disk within the carbon cylinder, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HUGH A. BURNS.

Witnesses:

ROBERT R. WARD,
W. O. WALLACE.