

(No Model.)

H. J. BREWER.
GALVANIC BATTERY.

No. 323,903.

Patented Aug. 11, 1885.

Fig. 1.

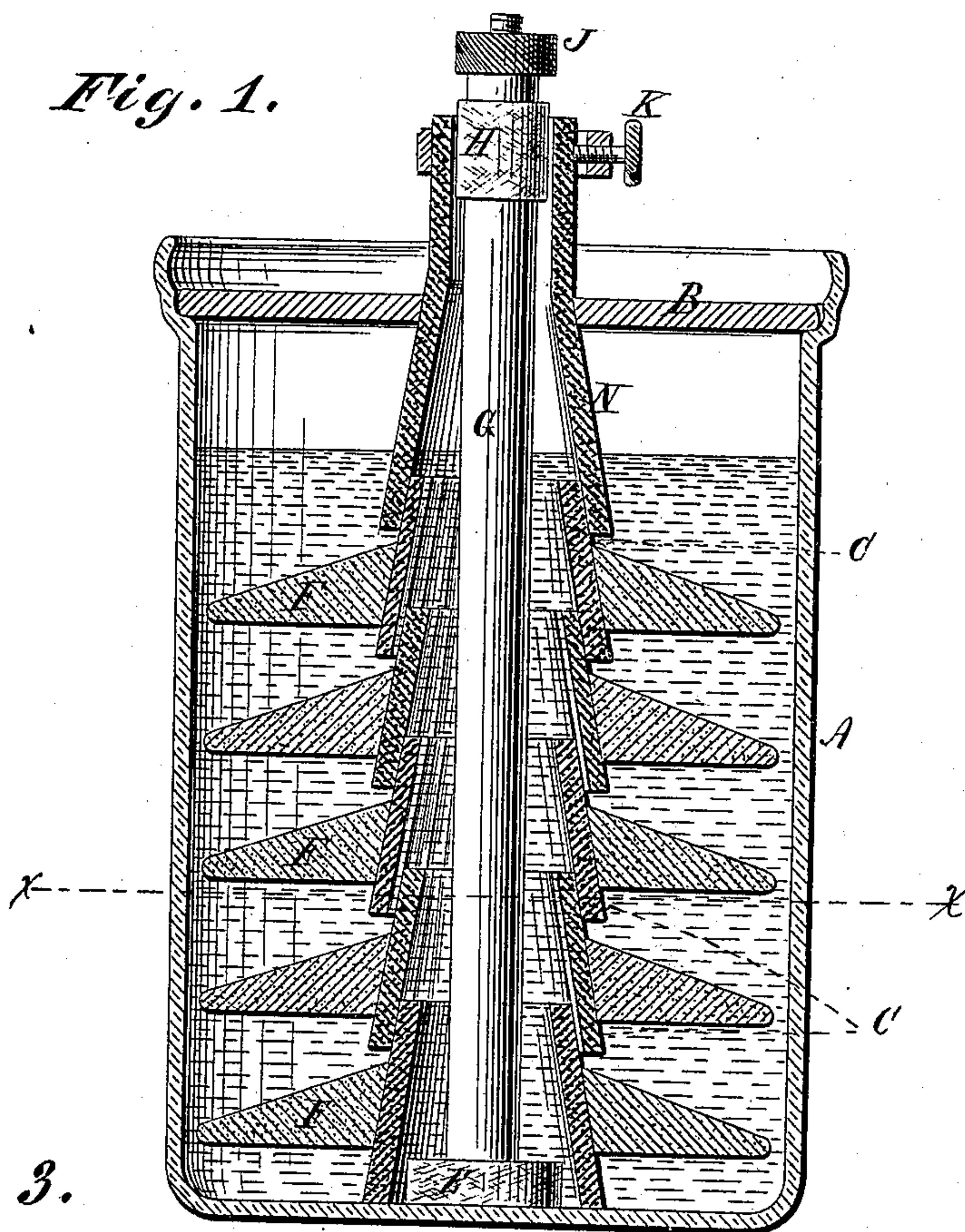


Fig. 3.

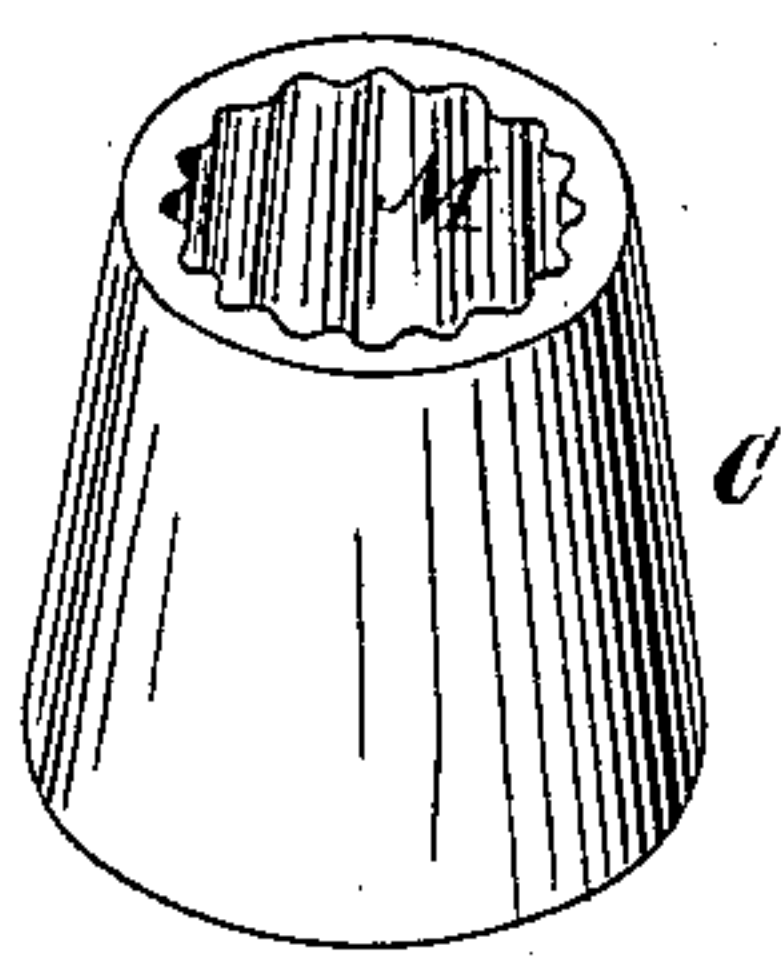
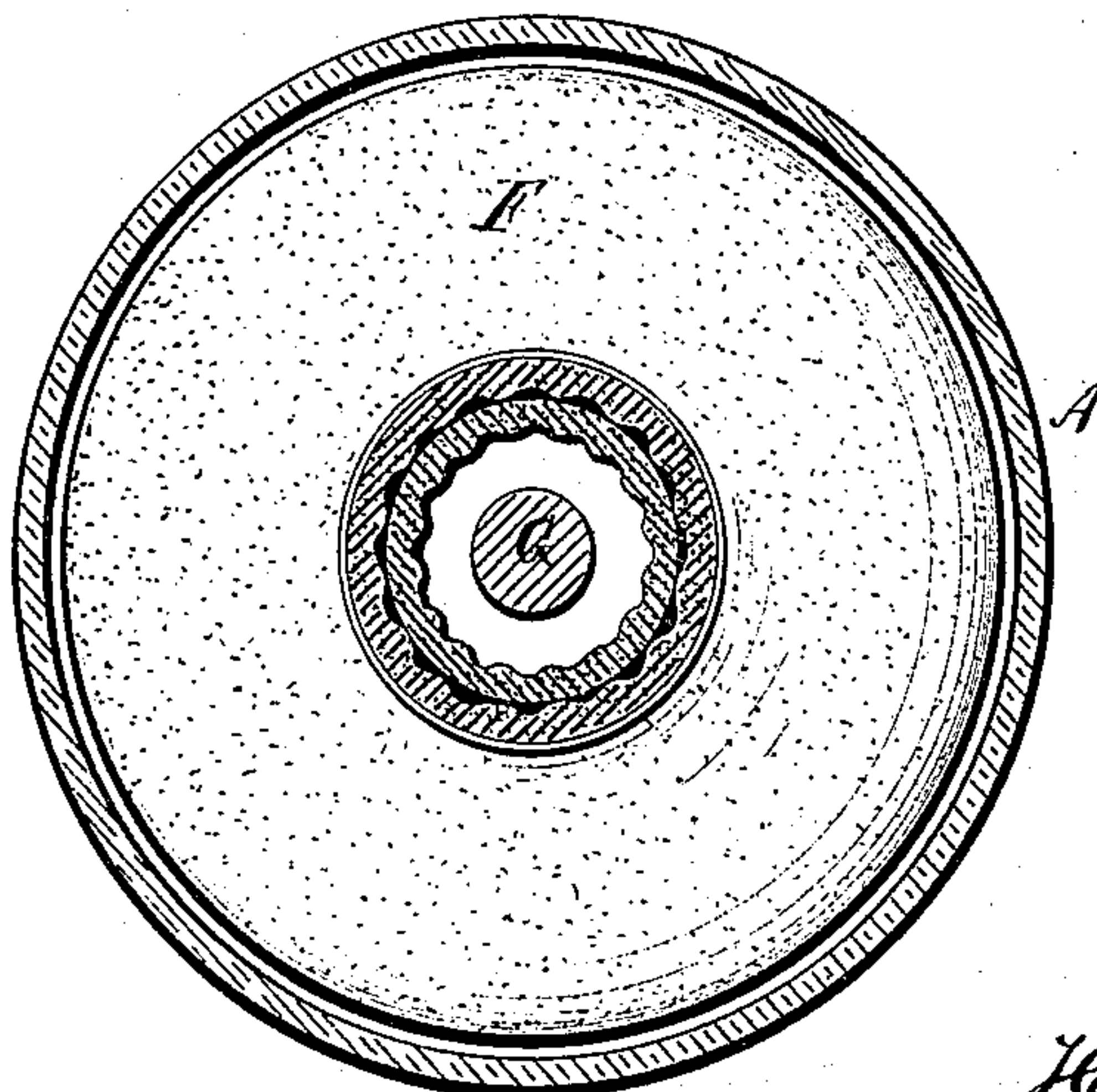


Fig. 2.



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UNITED STATES PATENT OFFICE.

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GALVANIC BATTERY.

SPECIFICATION forming part of Letters Patent No. 323,903, dated August 11, 1885.

Application filed March 16, 1885. (No model.)

To all whom it may concern:

Be it known that I, HORATIO J. BREWER, of the city, county, and State of New York, have invented a new and useful Improvement in Galvanic Batteries, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

This invention relates to an improvement on the carbon-zinc battery, and is especially designed for a battery in which a strong electro-negative element is employed in combination with carbon, though this is not essential to my invention. In this battery the zinc is placed within a hollow carbon.

My invention will be readily understood from the accompanying drawings, in which Figure 1 represents a vertical section; Fig. 2, a horizontal section through Fig. 1 on the line *xx*; Fig. 3, a view of one of the sections of my hollow carbon.

A represents the cell, provided with cover B, which I prefer to use to support my carbon element; but it is not essential. My zinc is placed in the center of the battery, and is shown at G, and is provided with a suitable connecting-screw, J. It is prevented from contact with the surrounding carbon by washers E H, of any suitable material.

The carbon element consists of a number of hollow conical sections adapted to fit into each other, as shown at C. These sections are made corrugated on their interior surface, as shown at M, Fig. 3, thereby allowing the passage of the exciting-liquid between them. The upper section, N, is made longer than the others and somewhat different in shape, and projects above the cover, as shown.

Attached to and surrounding the sections C are the electro-negative plates or disks F, which may be made of the well-known Leclanche compound of carbon and peroxide of manganese, or they may be made of carbon

alone, or of any other suitable electro-negative element. Being made conical inside, they fit firmly on the outer surfaces of sections C, making firm contact therewith. The battery is readily made up by placing the sections C one upon the other in the manner shown, when, with the exercise of a little pressure, a firm contact is insured. The zinc, being placed in the center of this battery, is in immediate proximity to the carbon, and hence the internal resistance is low. The zinc likewise communicates with the external liquid at sufficient intervals by reason of the corrugations described. The parts of this battery are readily replaced, and if the disks F become worn out in use they are readily replaced by others without destroying the entire battery.

It is apparent that my battery would be operative without the disks F; but I prefer to use them.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The improved electro-negative element shown, which consists of a series of hollow conical bodies placed one upon the other to form a single element, substantially as described.

2. The improved electro-negative element shown, which consists of the hollow conical bodies C, provided with the electro-negative disks F, substantially as described.

3. The combination of two or more tubular carbon bodies, C, having interior corrugated surfaces, substantially as described.

4. The combination of the separable annular carbon bodies C C C, forming a single element, with the internal centrally-located zinc G, substantially as described.

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Witnesses:

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