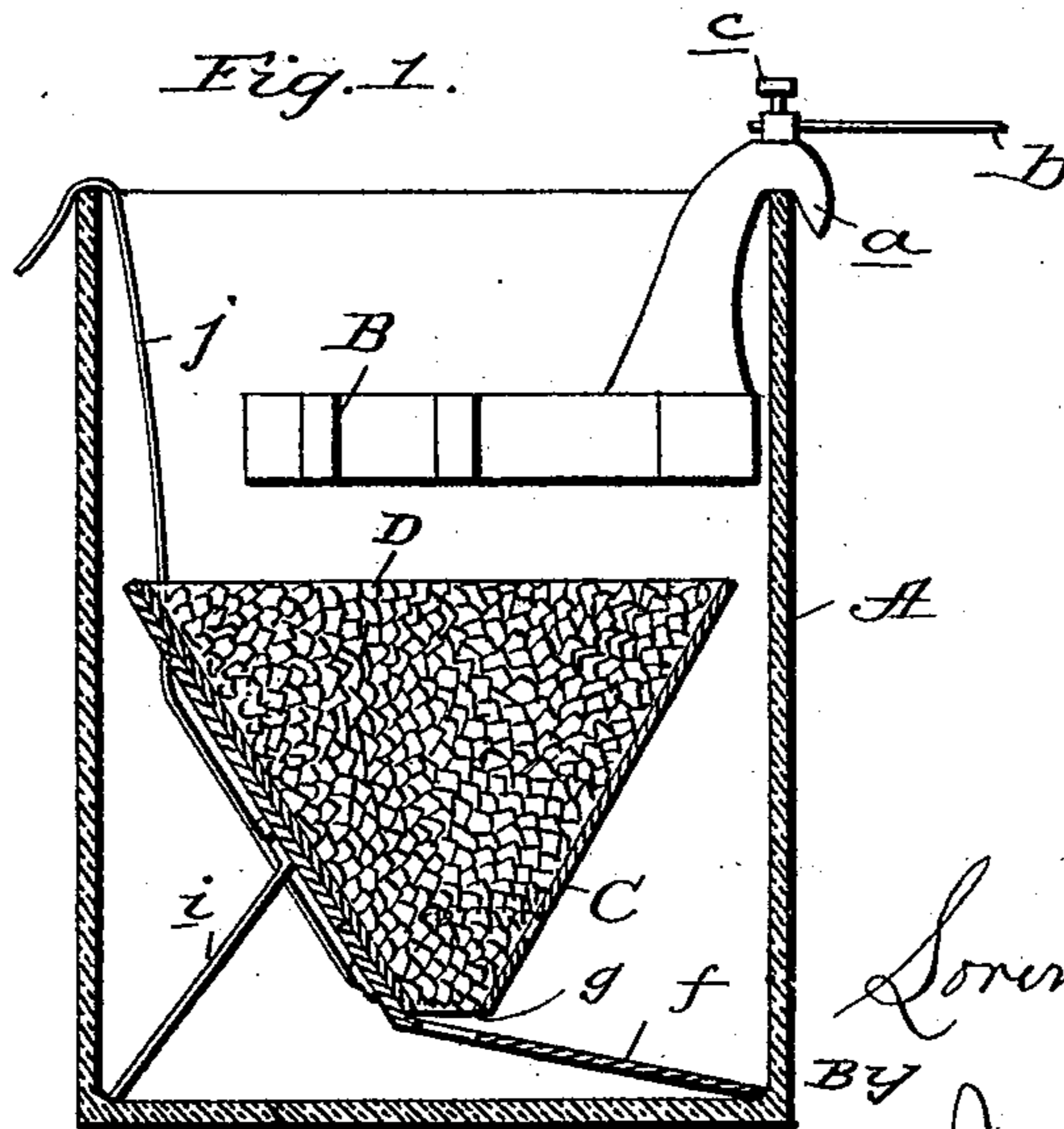
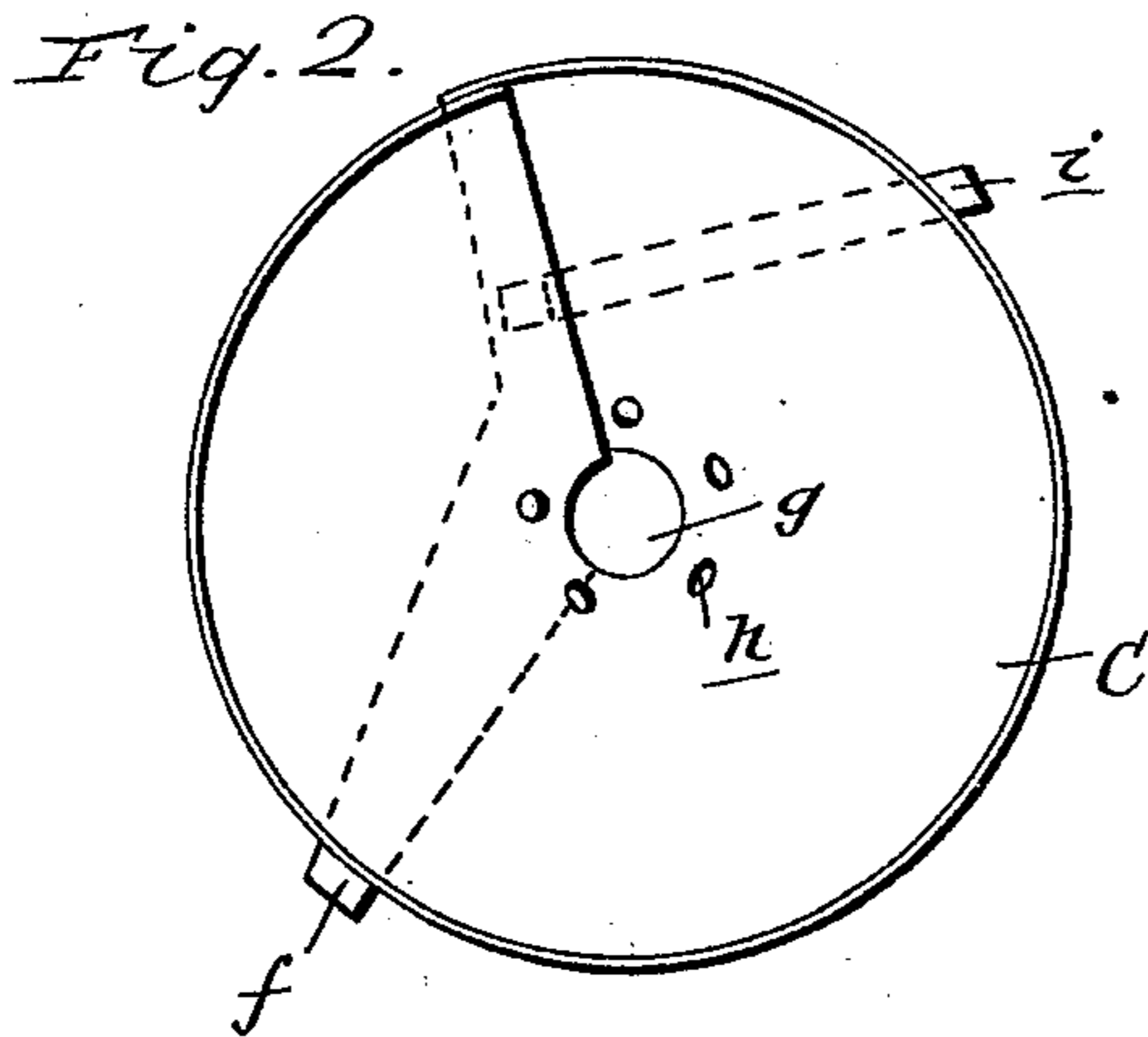
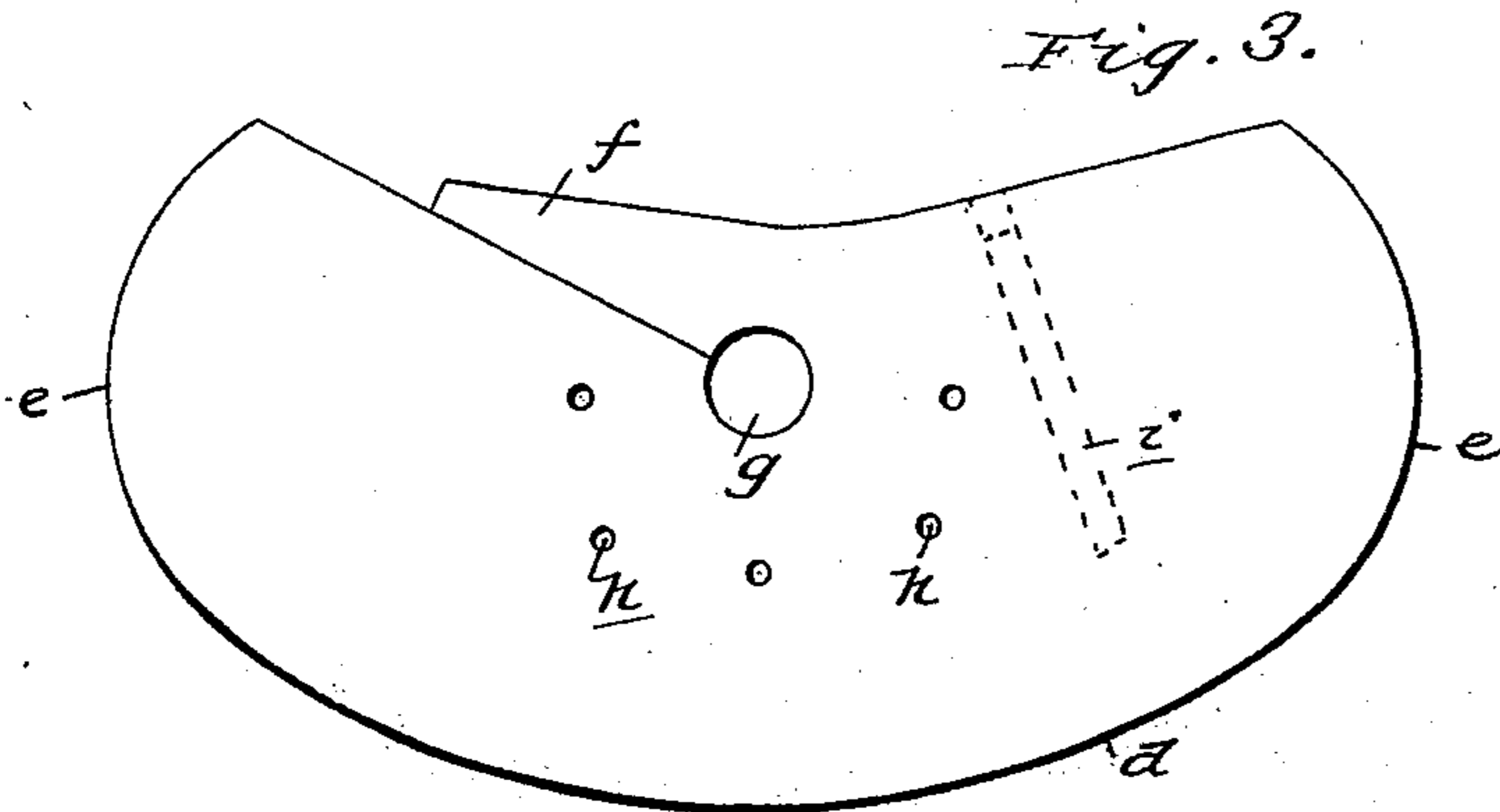


(No Model.)

L. F. LARY.
GRAVITY BATTERY.

No. 516,653.

Patented Mar. 20, 1894.



Witnesses:
C. H. Paider
H. P. Matthews.

Inventor
Lorenzo F. Lary
BY *James J. Sheehy*
Attorney

UNITED STATES PATENT OFFICE.

LORENZO FLOOD LARY, OF POTTERSBURG, OHIO.

GRAVITY-BATTERY.

SPECIFICATION forming part of Letters Patent No. 516,653, dated March 20, 1894.

Application filed May 23, 1893. Serial No. 475,289. (No model.)

To all whom it may concern:

Be it known that I, LORENZO FLOOD LARY, a citizen of the United States, residing at Pottersburg, in the county of Union and State of Ohio, have invented certain new and useful Improvements in Gravity-Batteries; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-
10 pertains to make and use the same.

My invention relates to improvements in that class of galvanic batteries, known as "gravity batteries," and it has for its general object to provide a battery embodying such
15 a construction that a space is afforded at the bottom of the cell for the sulphate of zinc so as to prevent the loss of copper by deposit on such particles and keep the copper solution free from foreign matter.

20 Another object of the invention is to provide a copper electrode adapted to serve as a receptacle for the blue vitriol, and embodying such a construction that it may be spread out flat when removed from the cell so as to fa-
25 cilitate the removal of copper formations.

Other objects and advantages of the invention will appear from the following description and claims when taken in connection with the accompanying drawings, in which—

30 Figure 1, is a vertical, diametrical section of a battery embodying my invention. Fig. 2, is a plan view of the copper electrode in the shape it assumes when placed in the cell, and Fig. 3, is a view illustrating the copper
35 electrode as spread out so as to facilitate the removal of copper formations.

Referring by letter to said drawings:—A, indicates a cell which may be of any approved form and construction, and B, indicates the
40 zinc or negative electrode which may be of the well known "crow's foot," or other pattern. This electrode is preferably provided with a hook *a*, as shown, whereby it is supported in the cell, and it is connected to
45 the circuit wire *b*, through the medium of the binding post *c*, or in any other approved manner.

C, indicates the copper or positive electrode of the battery which is designed to rest upon
50 the bottom of the cell and serve as a receptacle for the blue vitriol or equivalent exciting substance, indicated by D. In forming this

copper electrode C, I take a sheet of copper and cut it so as to form a generally elliptical figure, that is one having one of its longitudinal edges and its ends rounded as shown at
55 *d*, and *e*, and having a segment removed from its other longitudinal edge. I then provide the sheet with a large aperture *g*, and a series of comparatively small apertures *h*, after
60 which I slit it as illustrated to form the tongue support *f*. I then bend the sheet as shown in Fig. 2, so as to form the inverted cone (see Fig. 3,) having the aperture *g*, at its lower
65 end, and I also bend the tongue *f*, outwardly, as illustrated in the said figure, so that it serves to support the electrode above the bottom of the cell.

In addition to the tongue support *f*, I provide the cone shaped electrode with a prop
70 or support as *i*; and, if necessary, the said electrode may be further supported by bending the circuit wire *j*, over the upper edge of the cell.

In the practice of my invention, the cone
75 shaped electrode, charged with a sufficient quantity of blue vitriol, or other excitant, is placed in the cell as shown in Fig. 1, so as to form a chamber or space at the bottom of the same. The zinc or negative electrode is then
80 placed in position, after which the liquid is added.

In the practice of my invention, I prefer to employ a cone shaped copper electrode formed in the manner herein illustrated and de-
85 scribed, as the same is advantageous, but I do not desire to be understood as confining myself to an electrode formed in such manner, nor do I want to be confined to an electrode of cone shape as any approved shape of elec-
90 trode may be employed that will serve at once as a receptacle for the excitant and to form a chamber at the bottom of the cell.

Having described my invention, what I claim is—
95

1. The electrode C, formed by a sheet of material bent or furled into cone shape, and having an aperture in its bottom; said electrode being adapted to serve as a receptacle for an
100 excitant and being also adapted to be unfurled and flattened out so as to facilitate the removal of chemical formations, substantially as specified.

2. The combination with a cell and an zinc

2
or negative electrode arranged therein; of a
copper or positive electrode formed by bend-
ing a sheet of copper into cone shape; said
electrode having an aperture at its bottom
5 and also having the integral support *f*, and
the support *z*, substantially as and for the
purpose set forth.

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

LORENZO FLOOD LARY.

Witnesses:

ORLANDO BUEL EATON
LESTER WARE CLINE.