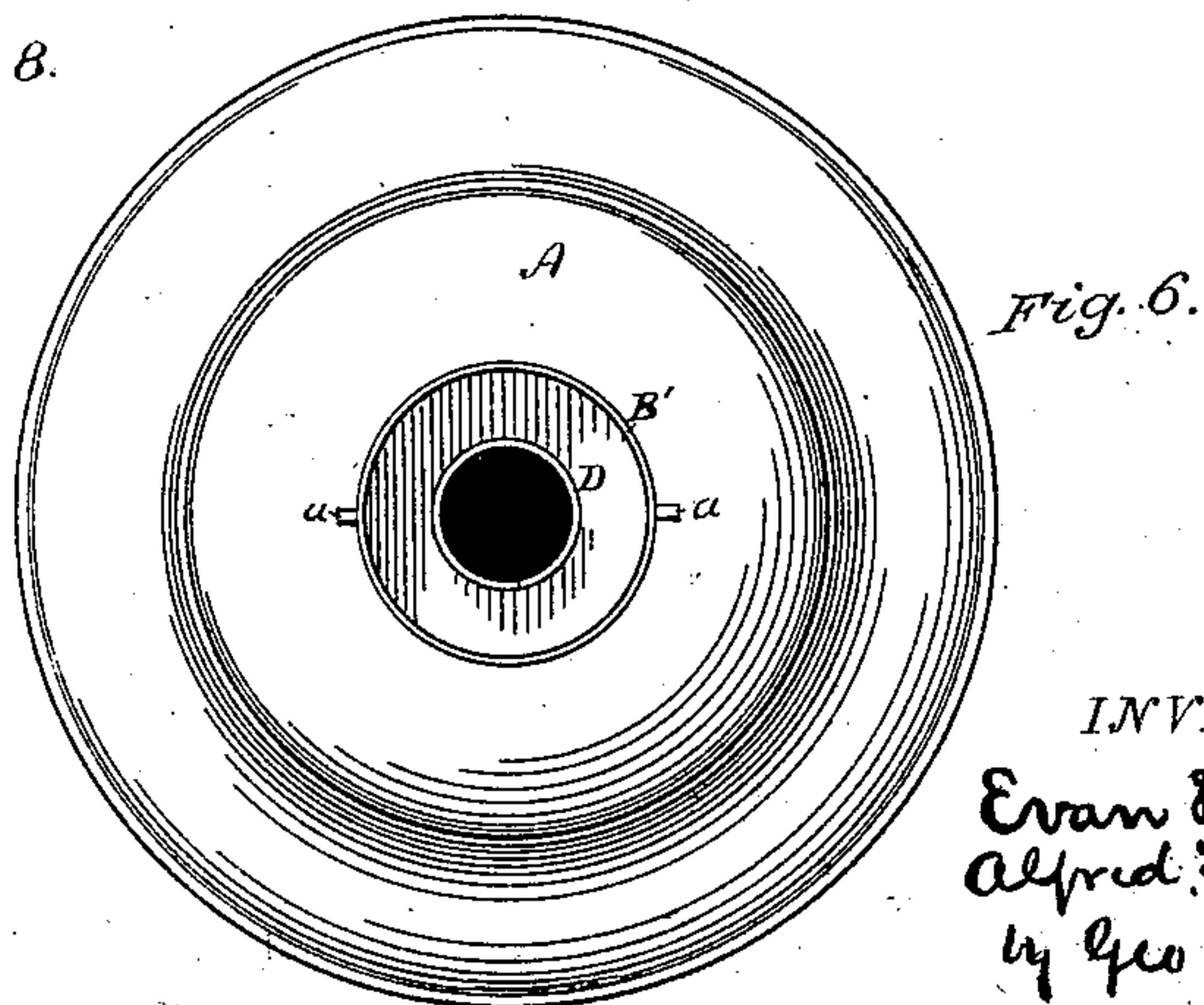
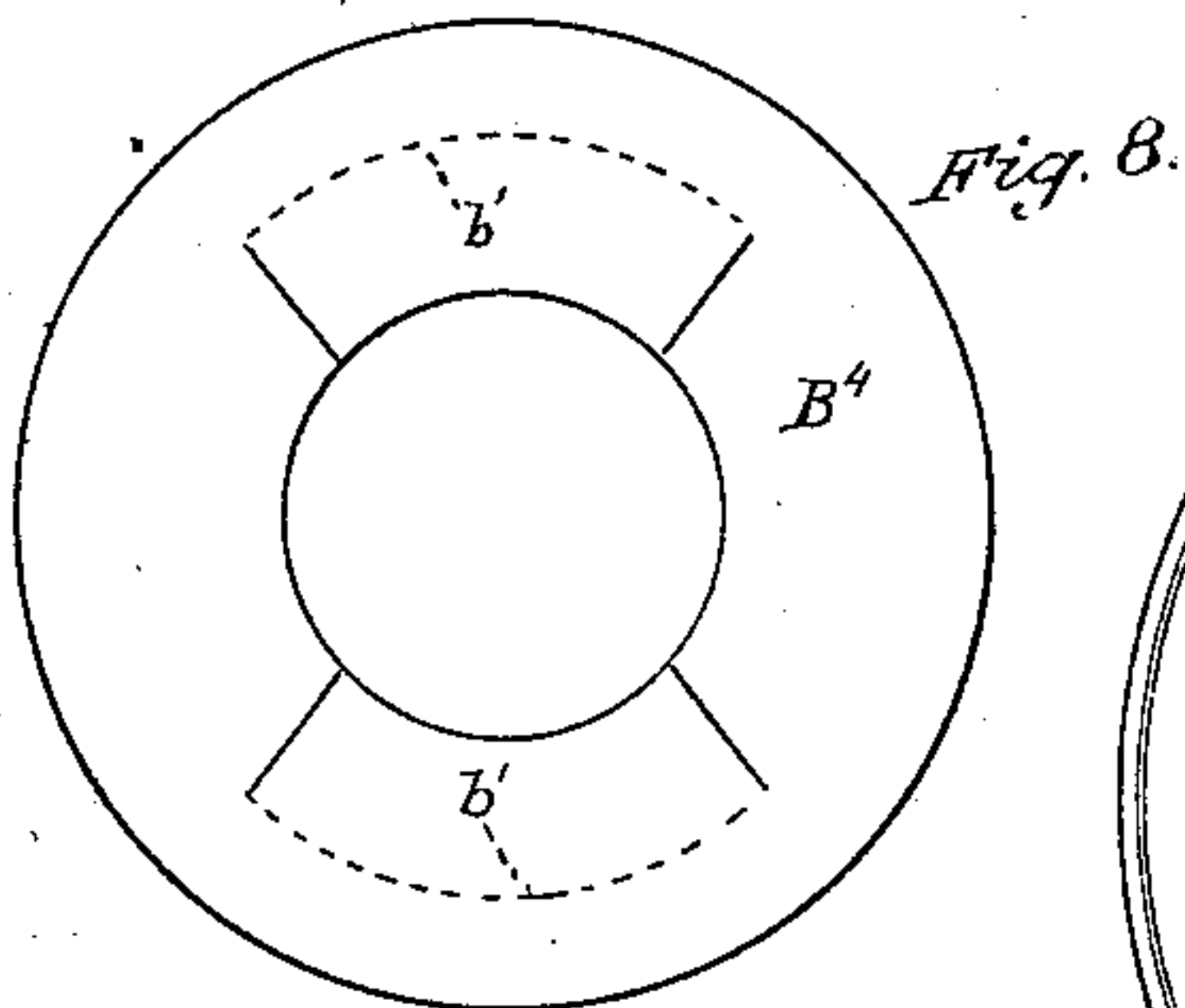
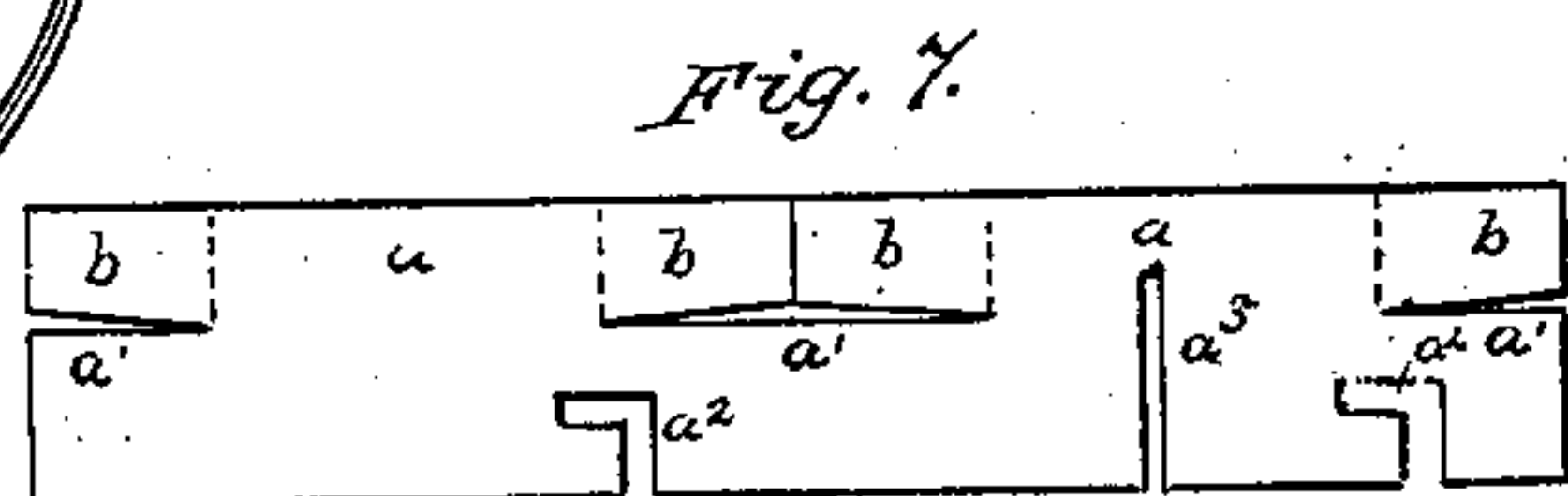
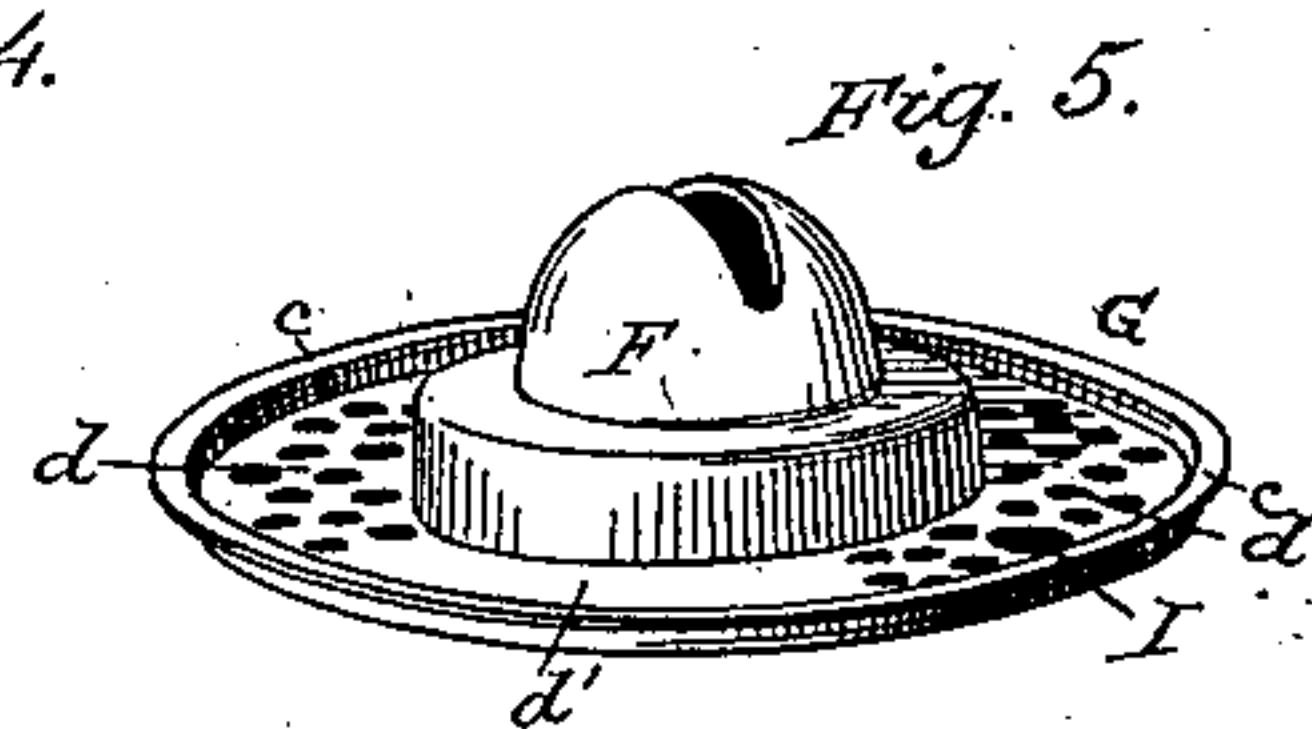
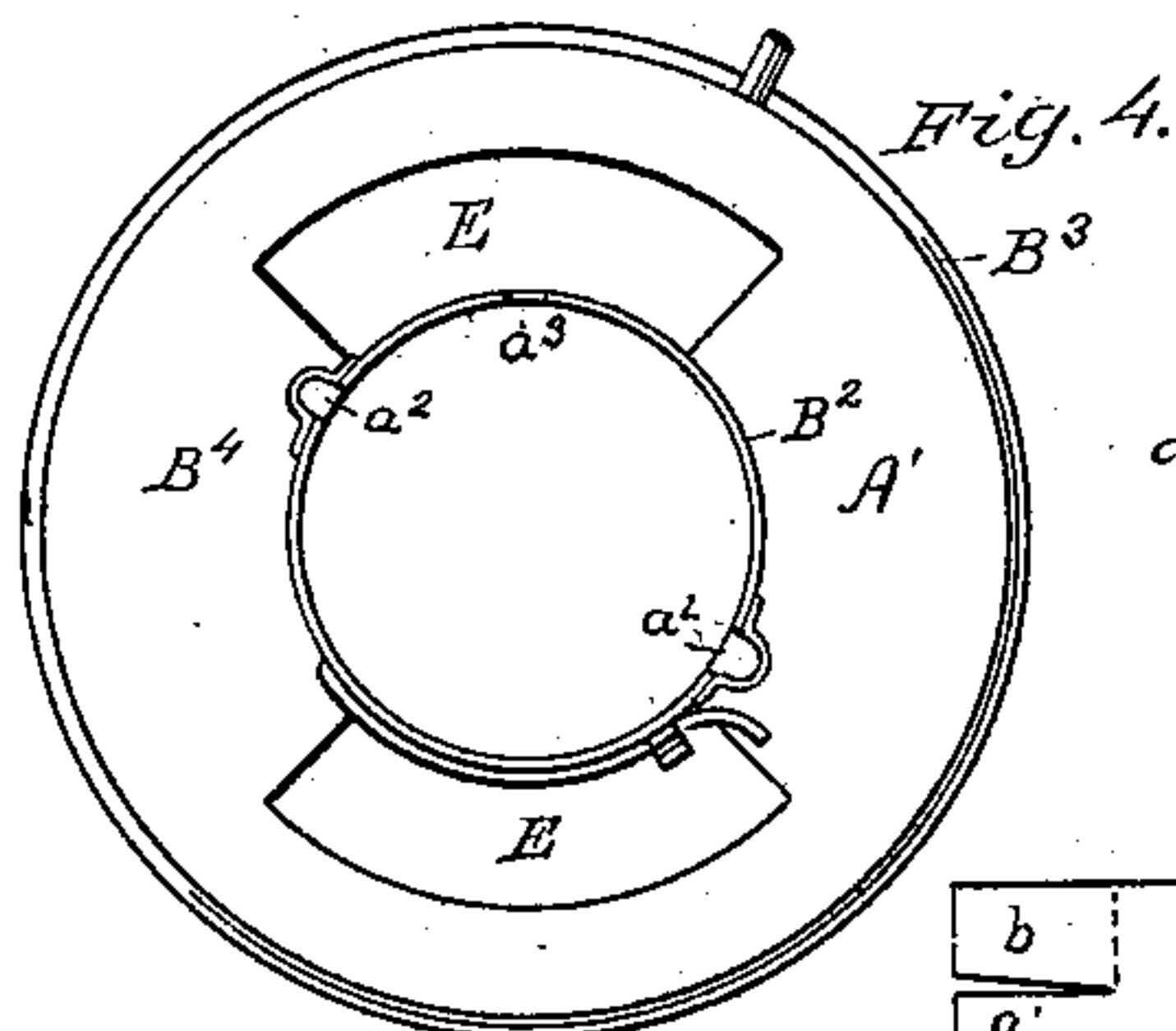
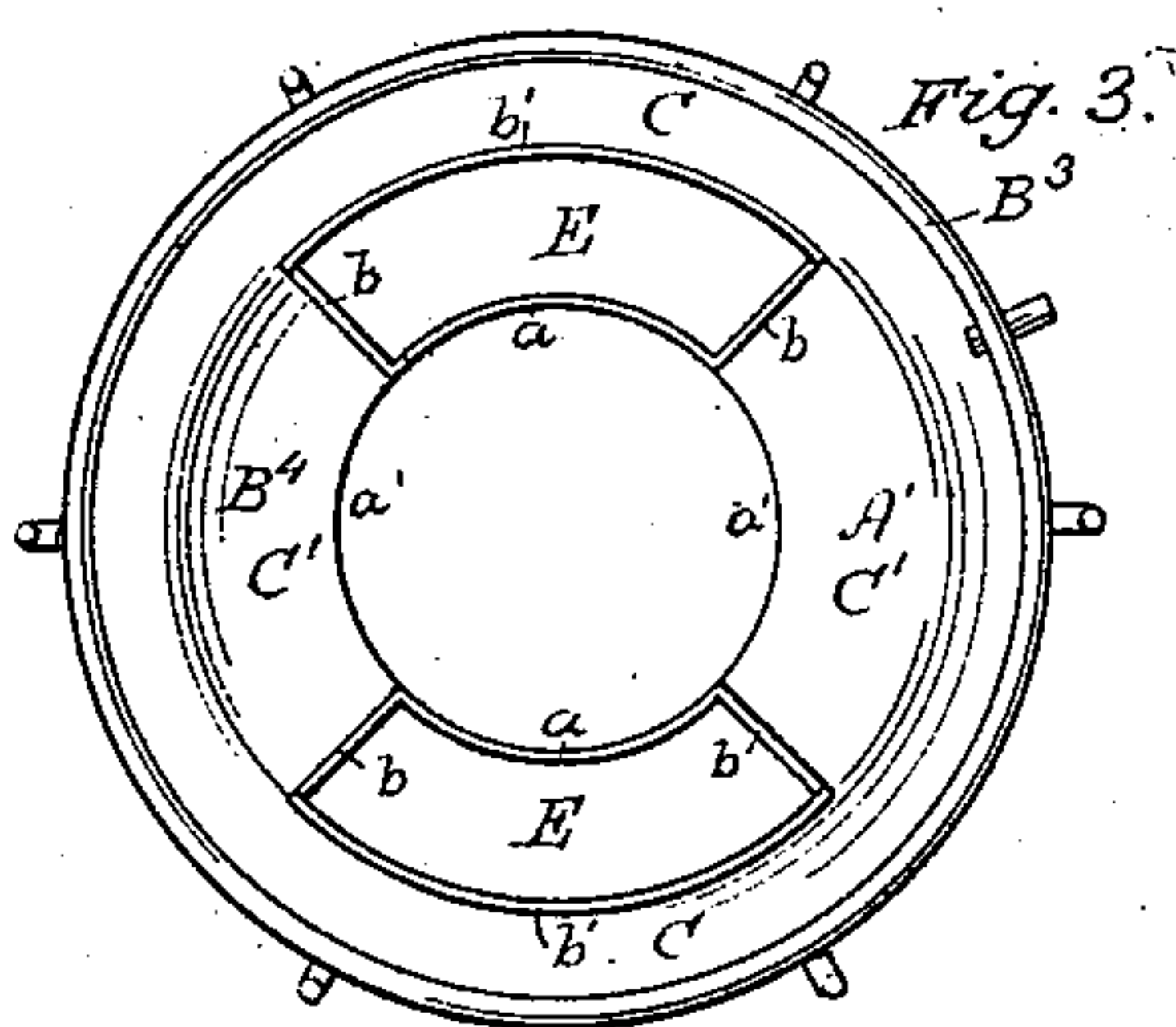
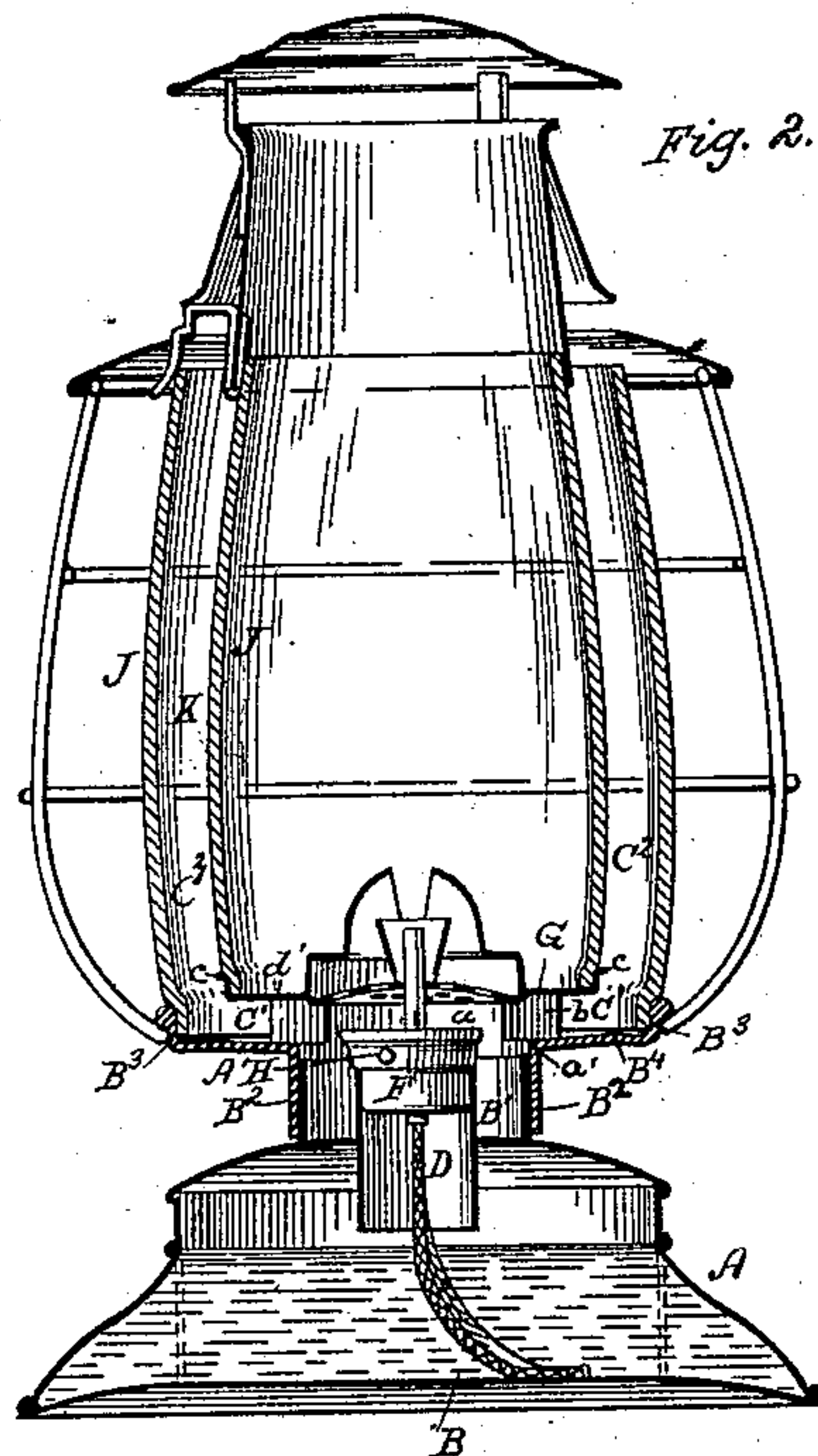
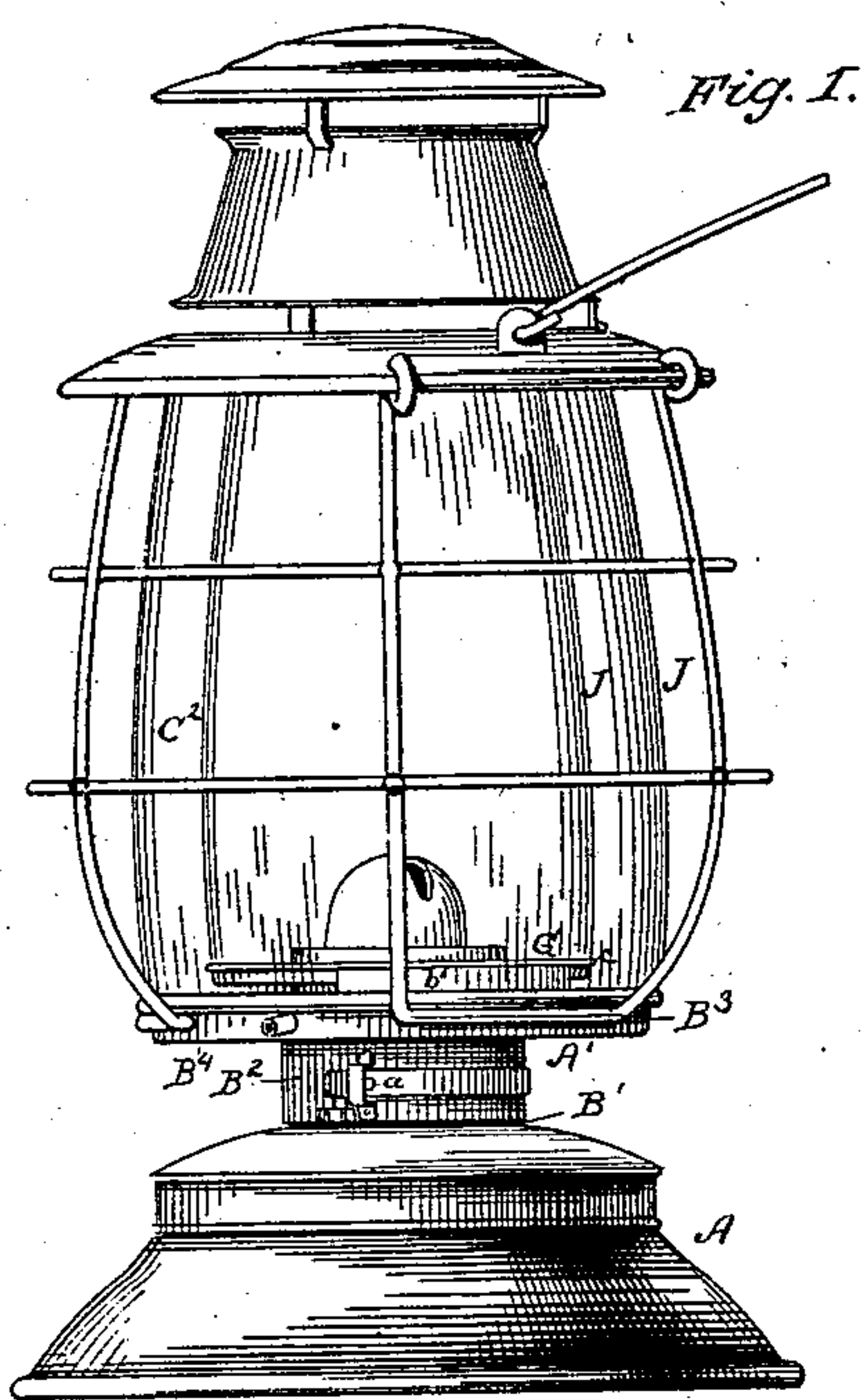


E. F. CASH & A. L. BARON.
Lantern.

No. 207,713.

Patented Sept. 3, 1878.



WITNESSES:
C. Clarence Poole
L. H. Seely

INVENTOR:
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by Geo W. Dyer
attys.

UNITED STATES PATENT OFFICE.

EVAN F. CASH AND ALFRED L. BARON, OF BELLAIRE, OHIO, ASSIGNORS
TO DAVID RANKIN, OF SAME PLACE.

IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. **207,713**, dated September 3, 1878; application filed
January 31, 1878.

To all whom it may concern:

Be it known that we, EVAN F. CASH and ALFRED L. BARON, of Bellaire, in the county of Belmont and State of Ohio, have invented a new and useful Improvement in Lanterns; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The lantern described in this specification is one of the kind intended for burning mineral oil, wherein counterbalancing currents of air are used to establish and maintain an equilibrium of combustion under all circumstances of changed position of the lantern and of exposure to wind and air-currents; and it is intended as an improvement upon the lantern described in Letters Patent No. 191,401, granted to Cash and Baron May 29, 1877, as well as upon a lantern for which application for Letters Patent was filed December 19, 1877, in the names of Baron, Cash, and Rankin, which application is now pending.

The improvements above referred to as made by us, and to be presently described, are with a view to a greater economy in construction, greater efficiency in use, and greater attractiveness in appearance; and consist in the peculiar construction and arrangement of the air-chambers, of the supporting-plate, of the base-plate, of the neck, and in the various new combinations of the several operative parts.

In order that those skilled in the art may know how to make and use our lantern, we now proceed to describe the same, having reference to the drawings, in which—

Figure 1 is an elevation of our lantern; Fig. 2, a central vertical section of the same; Fig. 3, a plan view from above, the supporting-plate being removed; Fig. 4, a view from below of the bottom of the upper base; Fig. 5, a separate view of the supporting-plate; Fig. 6, a view from above of the base; Fig. 7, a view of the blank for the neck, and Fig. 8 a view of the blank for the base-plate.

Like letters denote corresponding parts.

In the drawings, A represents the lower

base, which may also be the oil-reservoir, preferably made quite flaring and large at the bottom, so that the lantern may stand firmly and not be top-heavy and liable to tip over, which result is also aided largely by the size of this oil-reservoir and by its capacity to hold a large quantity of oil; or there may be a separate oil-reservoir, B, within the base, as shown in dotted lines in Fig. 2. This base, as shown, is preferably detachable from the upper base, but may be permanently secured to it. Springing from the center of this base is a neck, B¹, which is carried directly up, of the same size throughout, from one-half inch to one inch in height. Within this neck B¹ is a proper nozzle, D, which rises from the center of the oil-reservoir, which nozzle is adapted for filling the oil-reservoir, and is also adapted to receive the bottom of the burner F, which fills the nozzle tightly without screw-threads. In this neck B¹ are proper pins *a* for holding the upper base, A', of the lantern upon the lower base by a bayonet-joint.

The upper base, A', is composed of a neck, B², a little longer than the neck B¹, and adapted to fit closely over it, which neck B² rises in two places, *a a*, to the extent of one-half of its exterior about half an inch above the base-plate, presently to be described, and in the remaining half of its exterior, *a¹ a¹*, rises just as high as that portion of the said base-plate to which it is secured. This neck B² has in its lower part suitable slots *a² a²* for the bayonet-joint, and another slot, *a³*, for the ratchet.

In the construction of this neck, which is preferably struck out in a blank, as shown in Fig. 7, it will be observed that the portions *b b b* can be turned back, so as to become the end walls of the air-openings E E, presently to be described, of which the highest portions, *a a*, of the neck B² form the inner side walls.

B³ is the ring or band of the upper base, and B⁴ the base-plate, which may be stamped out of a single piece of sheet metal; and in the blank which is shown in Fig. 8, this portion *b' b'*, which forms the outer side walls of the opening, may be cut, so that by turning them up they become such walls, ready to be secured to the ends of the portions *b b b*. It

should be observed that these outer side walls $b' b'$ rise a little above the other walls, $b b b b$ and $a a$, whereby an elastic lateral support is given to the flanges of the supporting-plate G, and that there is an open air-chamber, C, between these side walls $b' b'$ and the inner walls of the ring or band B³. This supporting-plate has the burner F secured to its center, and has an upturned flange, c , flaring outwardly, so that said plate, when placed in position, is pressed firmly within the walls $b' b'$, and is there held tightly by the spring of the metal. This supporting-plate is perforated in the portions $d d$, which cover the air-openings E E, and in the other portions, $d' d'$, which are over the solid portions of the base-plate, is made preferably without openings or perforations.

In one of the perforated portions $d d$ we have a match or lighting hole, I, which is readily accessible through one of the openings E E.

It will be observed that in this construction, when the supporting-plate G is in position, there is an air-duct, C¹, formed between the base-plate B⁴, the solid portions $d' d'$ of the supporting-plate G and the end walls $b b b b$ extending into the interior of the neck B², and to the perforated central portion of the supporting-plate, directly under the burner F. With these air-ducts C¹ C¹, and with the air-chamber C, there is a direct communication with the air-chamber C², which occupies the entire space K between the outer globe J and the inner globe J.

Instead of using the supporting-plate G as the sole covering to the duct C¹, it may be essential, in some instances, to give greater strength, to first cover said duct with a separate plate in addition to the supporting-plate.

The ratchet H is placed directly under the base-plate, and passes through the slot a^3 before mentioned.

The remaining portions of the lantern have no novelties, in view of the patent and pending application referred to, and therefore need no additional description.

It will be observed that this construction is equally applicable to hand-lamps, carriage-lamps, or street-lamps as to lanterns.

The advantages of this construction in respect to cheapness of construction over the lanterns upon which it is an improvement consist in its greater simplicity and in its smaller number of different parts. Its greater efficiency in use arises from the increased size of the lower base and its peculiar form, and the greater capacity of the oil-reservoir, whereby it will stand more firmly when it is set down. By dispensing with the upper base as constructed in the lantern upon which this is an improvement, which base formed a continuous portion with the lower base, with large openings through from side to side of such upper base, we avoid openings into the interior, where dust and dirt constantly accumulated, which it was very difficult to remove, and

which choked to some extent these passages, and prevented the free inflow of air for combustion.

By our improved construction of parts we are enabled to carry our burner higher up in the inner globe, and thereby get a more brilliant light. By having the air-openings directly under the upper base we get a more direct and unobstructed inflow for combustion, while the broad base, when the lantern is suddenly dropped, cuts off direct currents of air from immediate unbroken entrance into the interior of the lantern.

The arrangement of the ratchet and the lighting-holes is most convenient, and the openings E E, if need be, may be used for blowing out the light. The attractiveness of appearance due to separating the upper and lower bases is apparent upon inspection.

The operation of this lantern, having been described in patents for those upon which it is an improvement, needs no further explanation.

It may be remarked, however, that this lantern may be used and will operate very successfully without an outer globe in places not exposed to the wind; and it is also remarked that, the distance between the air-chamber C² and the interior of the burner being less than in the lanterns named upon which this is an improvement, the heated air passing down through such chamber reaches the interior of the burner with a more decided current by reason of the smaller distance, and also because it loses less of its heat in the passage.

We are aware that air has heretofore been supplied to the burner of a lantern through the space between two globes, and by means of passages connecting such space with the interior of the cone, and to the outside of the cone by means of openings in the bottom or sides of the lantern body or frame, the same having been described and shown in the patent and application upon which this is an improvement.

We are also aware that a perforated diaphragm surrounding the cone has been heretofore used, and that horizontal air-passages communicating with tubes for receiving air from above have been heretofore used; but in our lantern the diaphragm is made in one piece, and that part over the air-ducts is imperforate, and it is made to support the inner globe.

Having thus described our lantern and enumerated some of its advantages, what we claim as new therein and our invention is—

1. In a lantern, the combination of two globes, supporting-plate G, and the ducts C¹, substantially as described and shown.

2. In a lantern, the combination of the supporting-plate G, the cone F, and the ducts C¹, substantially as described and shown.

3. In a lantern, the combination of the supporting-plate G and the base-plate B⁴, substantially as described and shown.

4. In a lantern, the combination of the sup-

porting-plate G, the base-plate B⁴, the air-ducts C¹, and the air-space C², substantially as described and shown.

5. In a lantern or lamp, the base-plate B⁴, made in a single piece of metal and provided with the openings E E and walls *b b b b*, *b' b'*, and *a a*, constructed and arranged substantially as described.

6. In a lantern or lamp, the combination of the openings E E with the supporting-plate

G, the several parts constructed and arranged substantially as described.

This specification signed and witnessed this 24th day of January, 1878.

EVAN F. CASH.
ALFRED L. BARON.

Witnesses:

JOHN GILL,
CHAS. H. CRATTY.