

(No Model.)

E. B. REQUA.

LAMP BURNER.

No. 246,200.

Patented Aug. 23, 1881.

Fig. 1.

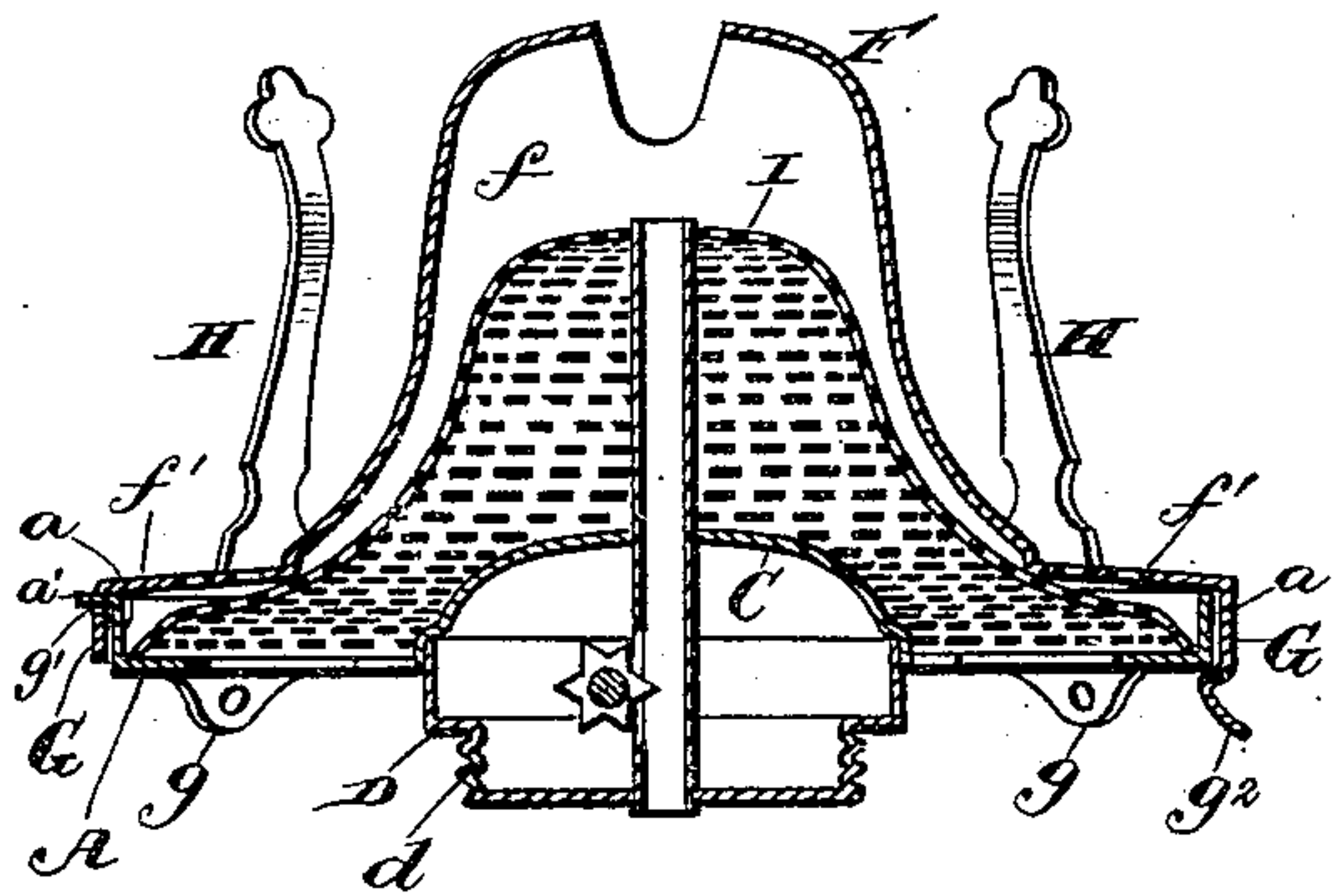


Fig. 2.

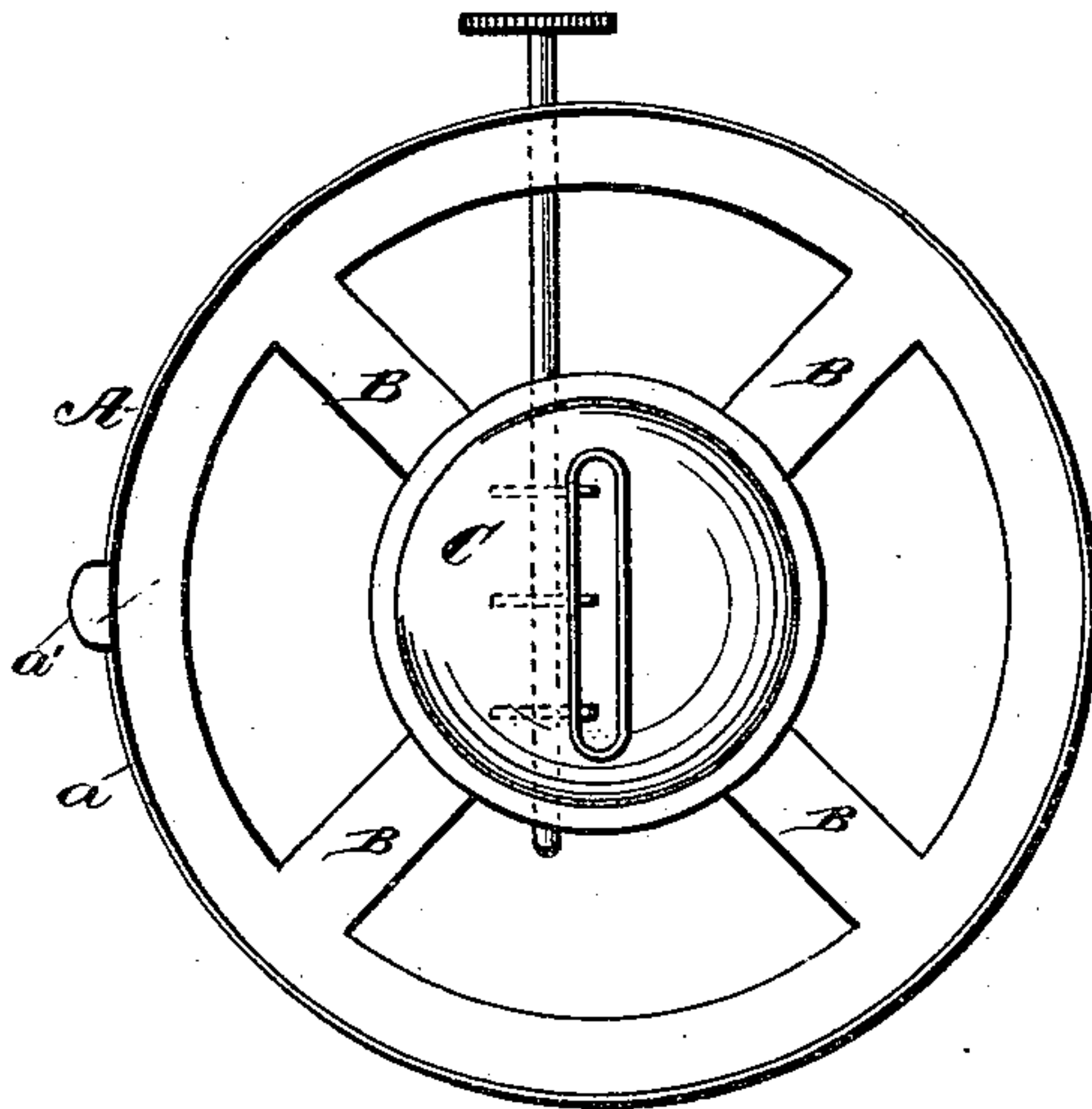


Fig. 3.

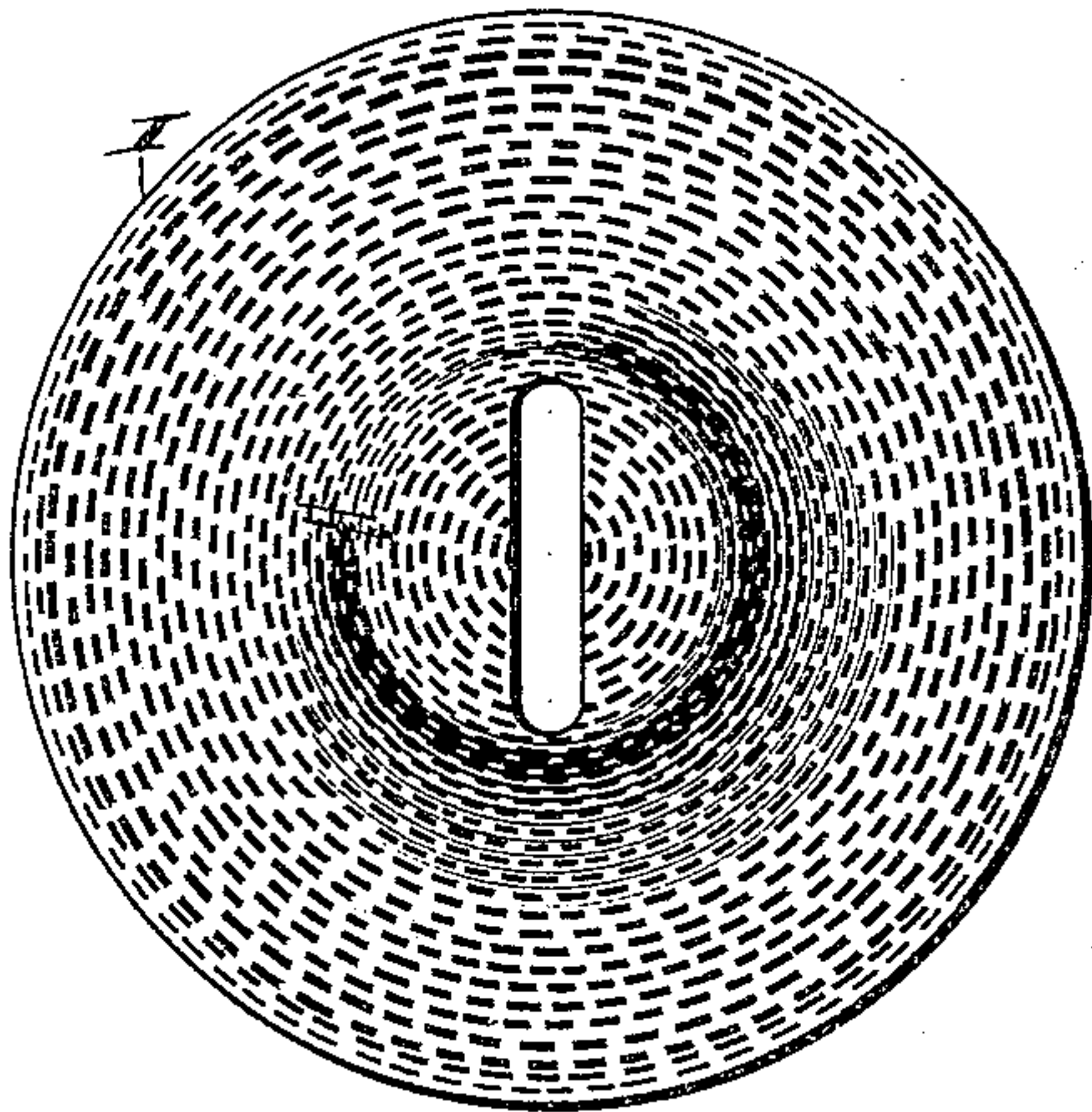


Fig. 4.

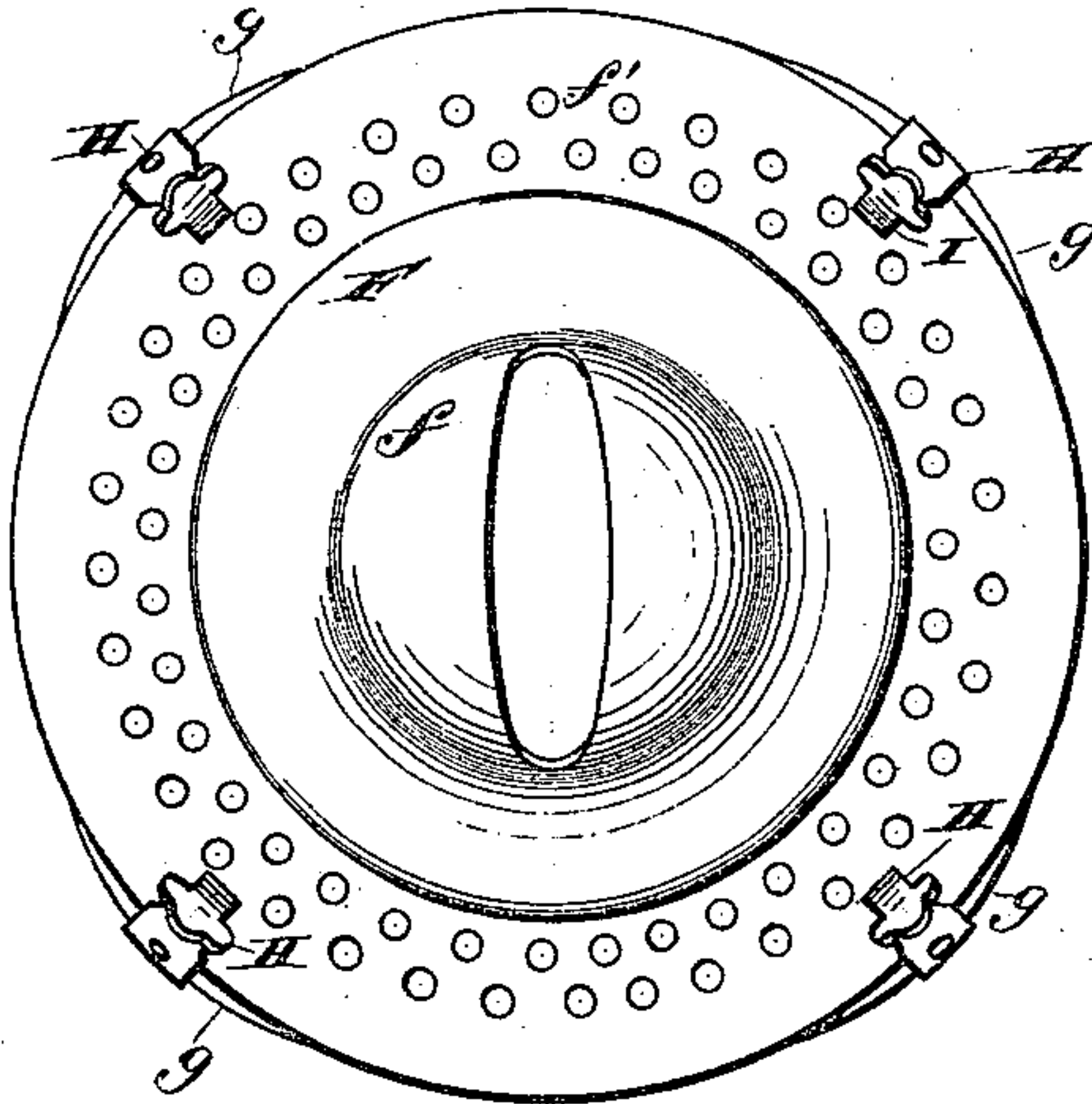
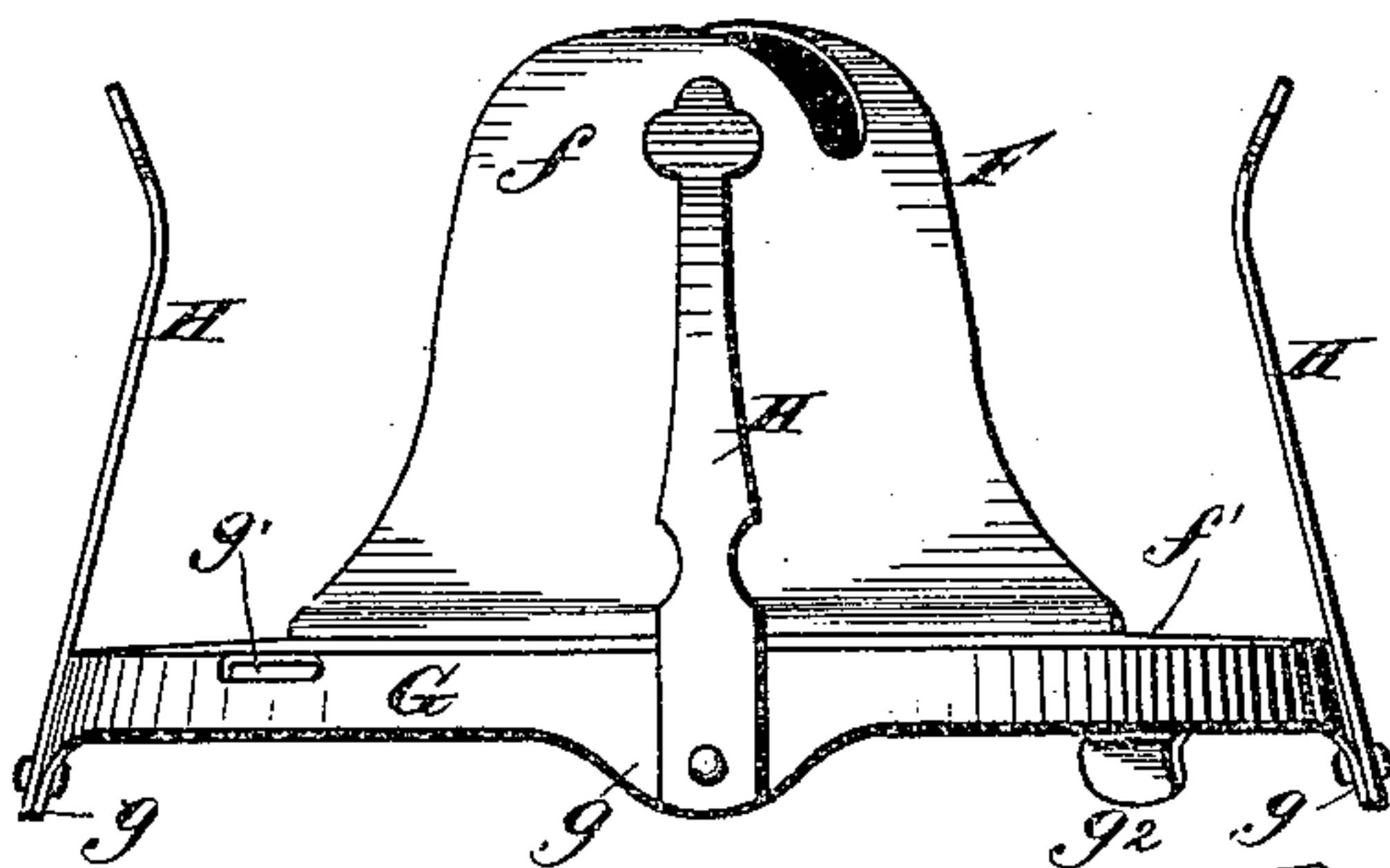


Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

ELIAS B. REQUA, OF JERSEY CITY, NEW JERSEY.

LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 246,200, dated August 23, 1881.

Application filed June 30, 1881. (No model.)

To all whom it may concern:

Be it known that I, ELIAS B. REQUA, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Lamp-Burners, of which the following is a specification.

This invention relates to improvements upon the lamp-burner forming the subject-matter of Letters Patent No. 241,417, issued to me on the 10th day of May, 1881.

The objects of my present improvement are to increase the strength and durability of the spring-fingers for holding the lamp-chimney in place upon the chimney-holder; to obviate the necessity of perforating the ring and radial arms of the base portion of the burner; to construct the foraminous air-distributor in such manner as to maintain the burner in a comparatively cool condition and prevent eddies in the currents of air passing through the air-distributor to the flame; and to improve the general construction and arrangement of certain parts of the burner, as will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a section taken on a vertical plane through the burner. Fig. 2 is a top or plan view of the base portion thereof. Fig. 3 is a top or plan view of the foraminous plate or air-distributor. Fig. 4 is a top or plan view of the upper cone-section of the burner, and Fig. 5 is a side elevation of Fig. 4.

In the burner constructed in accordance with my present invention the flanged ring A and the radial arms B, connecting the same with the cap-plate C of the ratchet-wheel case and housing, are made imperforate, whereby the base of the burner comprising these elements can be readily cleaned, and dirt will not be liable to collect thereon.

The ratchet-wheel case or housing D is provided with the usual screw-neck, *d*, for securing it to the collar of the oil-fount, and the wick-tube passes through it and the cap and is firmly secured to both the housing and the cap.

The upper cone-section, F, of the burner, which also constitutes the chimney-support, comprises the cone *f*, which surrounds the wick-tube, and an annular flange or base, *f'*, extending laterally from the base of the cone, and pro-

vided with a series of perforations which serve to admit air into the chimney that is supported upon the said flange. This annular perforated flange *f'* of the upper or cone-section of the burner is provided at its outer portion with a downwardly-projecting flange, G, which is inclined or flares outwardly, and is widened or enlarged at intervals at the points where the chimney-holding spring-fingers H are riveted to it. These widened portions of said flange constitute depending spring-ears *g*, the resilience of which, combined with the spring action of the fingers H, adds considerably to the efficiency of the latter and tend to prevent them from being weakened by usage before the burner has become worn out. The inward inclination given to the spring-fingers by reason of the outward flare of the flange to which they are attached also increases their spring action and durability, and by forming the said fingers separate from the upper or cone section of the burner they can be made thicker and heavier than if they were formed integral with the same. The base of the chimney rests upon the annular perforated flange of this part of the burner, outside of the outer line of perforations, so that the air can pass upward through the perforations into the interior of the chimney to supply the vacuum necessarily caused therein by combustion.

The flange G of the upper section of the burner is adapted to fit upon the annular vertical flange *a* of the ring comprised in the base of the burner, and it is provided at one side with a slot, *g'*, which receives a lip, *a'*, projecting laterally outward from the flange *a* of the base, and at its opposite side formed with a depending spring-clip, *g''*, which, when the two sections of the burner are fitted together, presses upon the vertical flange of the base, and thereby prevents any accidental disconnection of the said parts.

In forming the base of the burner I propose making the flanged ring with its lip and the cap of the ratchet-wheel housing or case connected with the flanged ring by the hereinbefore-described radial arms all in one piece, which cheapens the construction and renders the same more durable than if made in several parts.

Instead of forming the foraminous cap or air-distributor I of a semi-spherical shape, and of

such height that a considerable portion of the wick-tube which passes through a slot in the upper end of the same will extend above it, I extend said foraminous air-distributor upward
 5 almost to the top end of the wick-tube, and form the same so as to approximate closely to the shape of the whole of the upper or cone section of the burner. The lower portion of this foraminous plate or air-distributor flares
 10 outwardly to an extent which will give to its base or lowest portion a diameter about equal to the diameter of the space bounded by the vertical flange *a* of the base, so that the rim of the foraminous plate or air-distributor will seat
 15 in the angle formed between the ring A and its marginal flange.

The annular corner formed at the juncture of the cone and its lateral perforated base flange rests upon the upper or outer side of the foraminous plate or air-distributor, so as to divide
 20 the draft or current of air passing through the base of the burner, whereby one current will be caused to pass to the wick and the other into the chimney. By thus extending upward the foraminous air-distributor nearly to the top of
 25 the wick-tube, it will be seen that a considerable portion of the air within said device will pass up alongside of the wick-tube to within a short distance of its top before passing out
 30 through the perforations into the space between the wick-tube and the cone-deflector, thereby keeping the former comparatively cool along the greater part of its length, and also providing space for a large body of cool air, the upper
 35 portion of which will be in close proximity to the flame. I have also found that by this construction the upward current of air will not form small eddies between the perforations, as is the case of depressed or flat perforated air-distributing plates, this avoidance of such objectionable eddies being chiefly due to the subdivided lateral currents passing through the side perforations of the elevated air-distributor into the small space or air-passage between
 40 the same and the cone, and also the steadiness of the flame will not be affected by currents of air. The air between this perforated plate or air-distributor and the upper or cone section of the burner will rise rapidly and keep the
 45 entire upper section of the burner comparatively cool, and by extending the perforated plate to such height above the radial arms of the base portion of the burner the said arms

and the ring with which they are formed will not require perforations for the air to pass
 55 through, the spaces between said arms being sufficient for such purpose.

What I claim is—

1. The combination, in a lamp-burner, of the spring-fingers for holding the chimney with
 60 the upper cone-section of the burner, comprising a horizontal annular flange, extending laterally from the base of the deflecting-cone, and an annular flange projecting downward from the rim of the horizontal flange, and widened
 65 at intervals to form springs, the spring-fingers being riveted to these widened spring portions of the said flange, substantially as described.

2. In a lamp-burner, the combination of the upper cone-section, laterally extended at its
 70 base, and provided with the depending flange, formed at intervals into outwardly-flaring widened spring portions, to which the spring-fingers are riveted in an inclined position, substantially as and for the purposes described. 75

3. In a lamp-burner, the upper cone-section, F, provided with the laterally-extended perforated flange *f'*, and the ring A, provided with the upward-projecting flange *a* and the wick-tube, in combination with the detachable cone-shaped foraminous air-distributor I, extending
 80 into the upper cone-section to a point at or adjacent to the upper end of the wick-tube, and having its lower portion extended laterally under the perforated flange of the upper cone-section and loosely resting on the flanged base-ring of the burner adjacent to the flange on the latter, substantially as described. 85

4. A lamp-burner consisting of the upper cone-section, F, laterally extended at its base, and provided with the depending flange G, having the slot *g'* and spring-clip *g''*, in combination with the base-ring A, having the upward-projecting flange *a*, arranged within the depending flange of the upper cone-section,
 90 and provided with the lateral lip *a'*, the said spring-clip being adapted to engage beneath the flanged base-ring, all substantially as and for the purposes described. 95

In testimony whereof I have hereunto set my
 100 hand in the presence of two subscribing witnesses.

ELIAS B. REQUA.

Witnesses:

EDWARD SCHEEL,
 ROBERT D. WYNKOOP.