

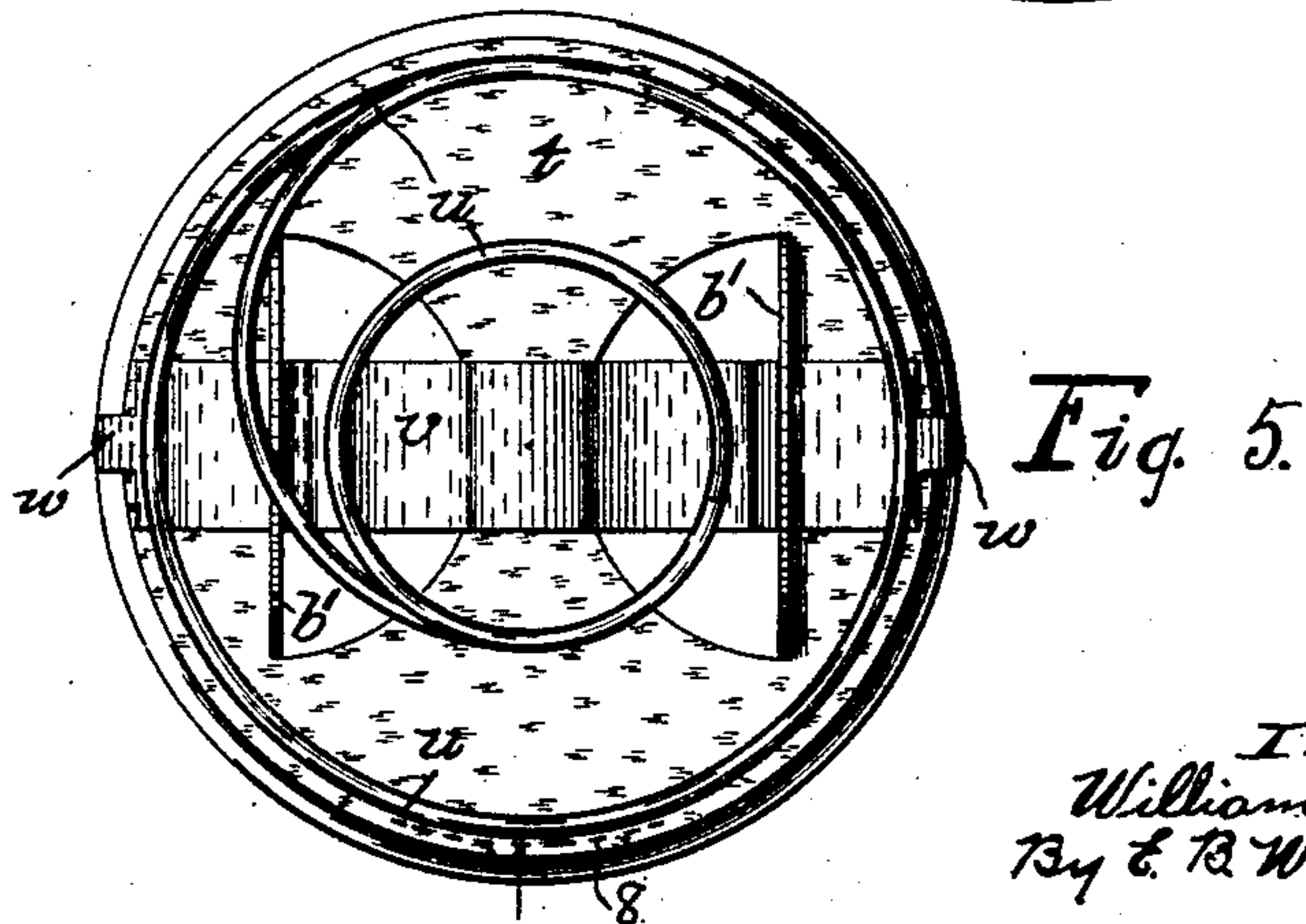
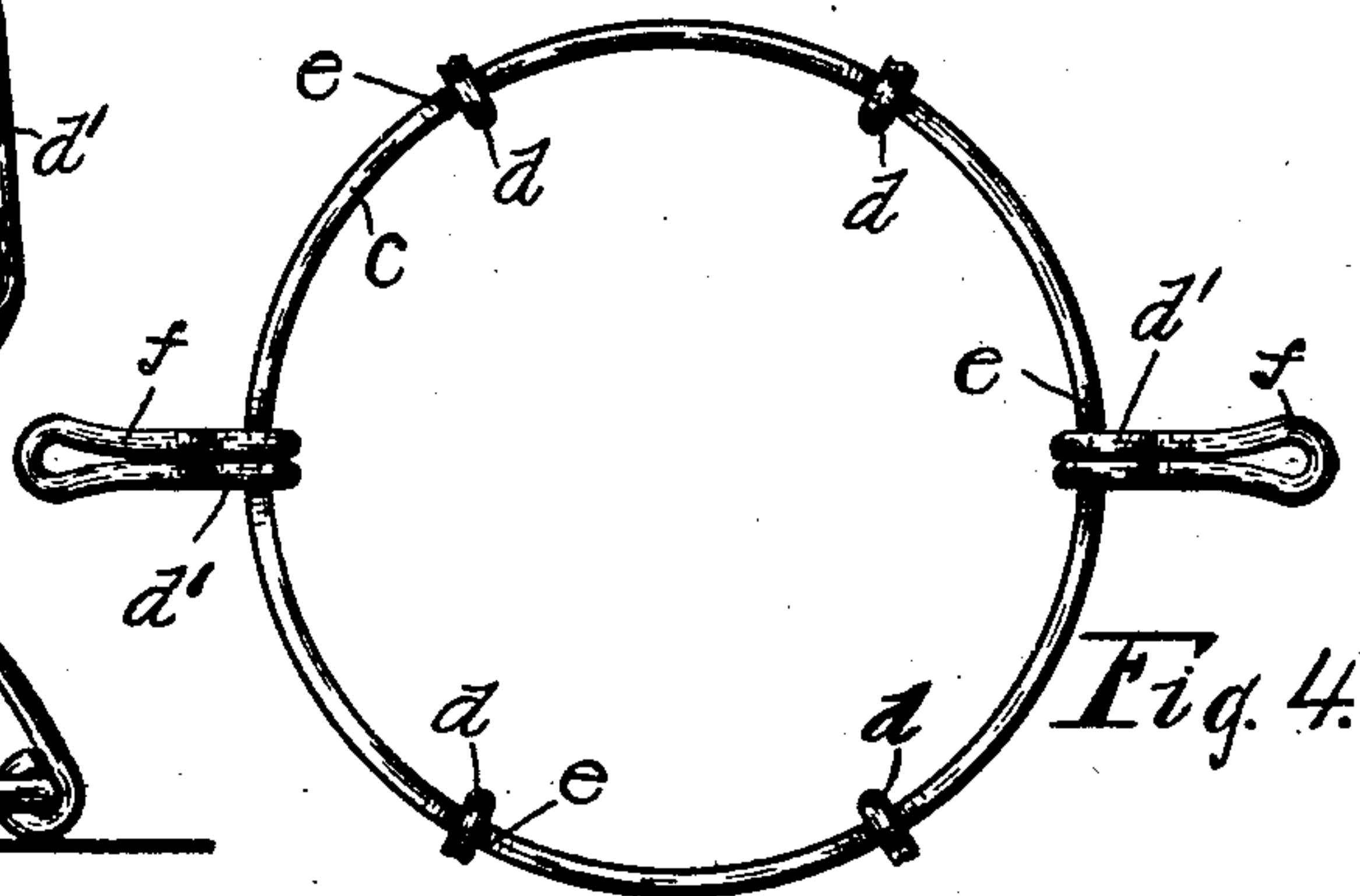
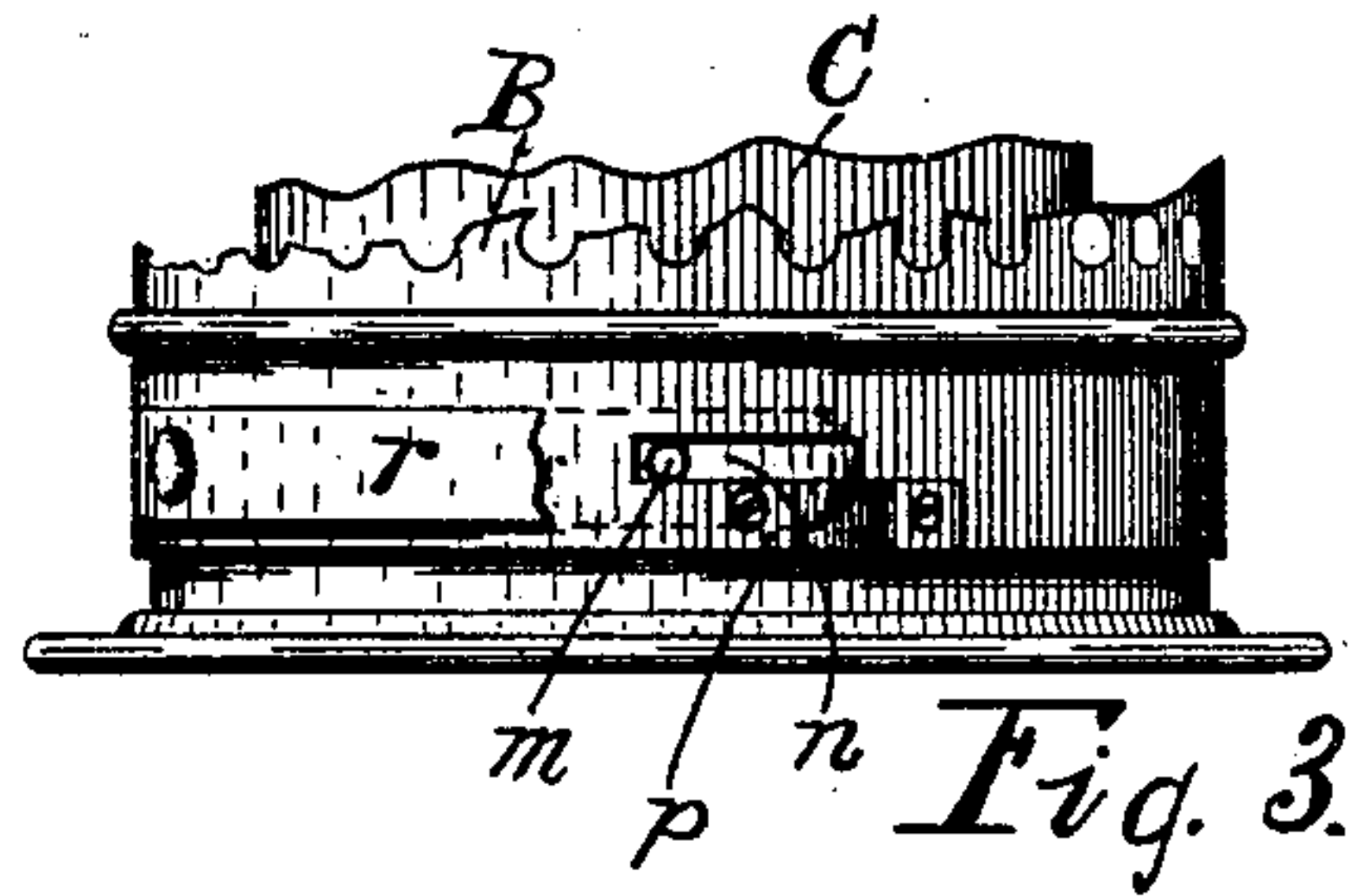
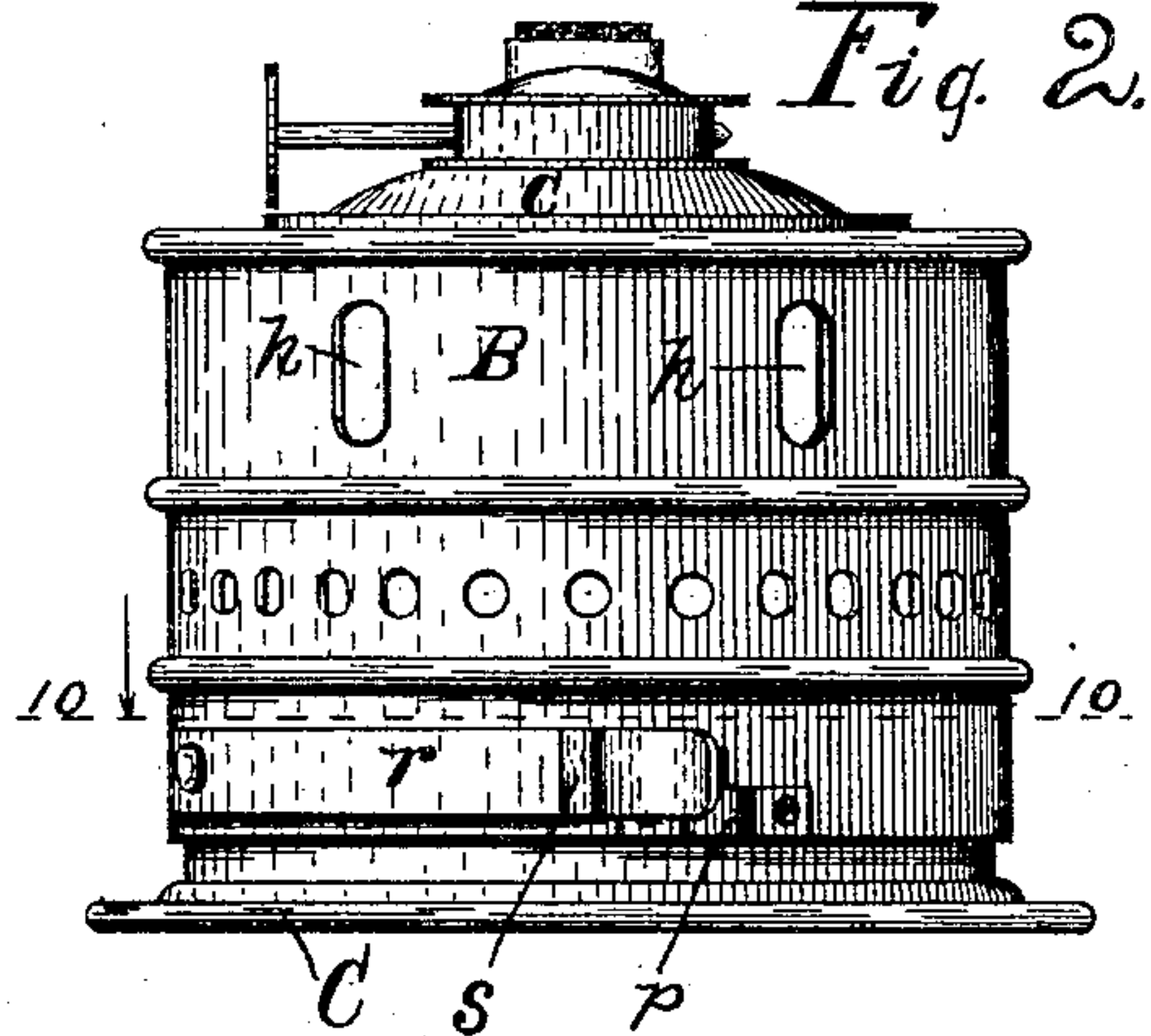
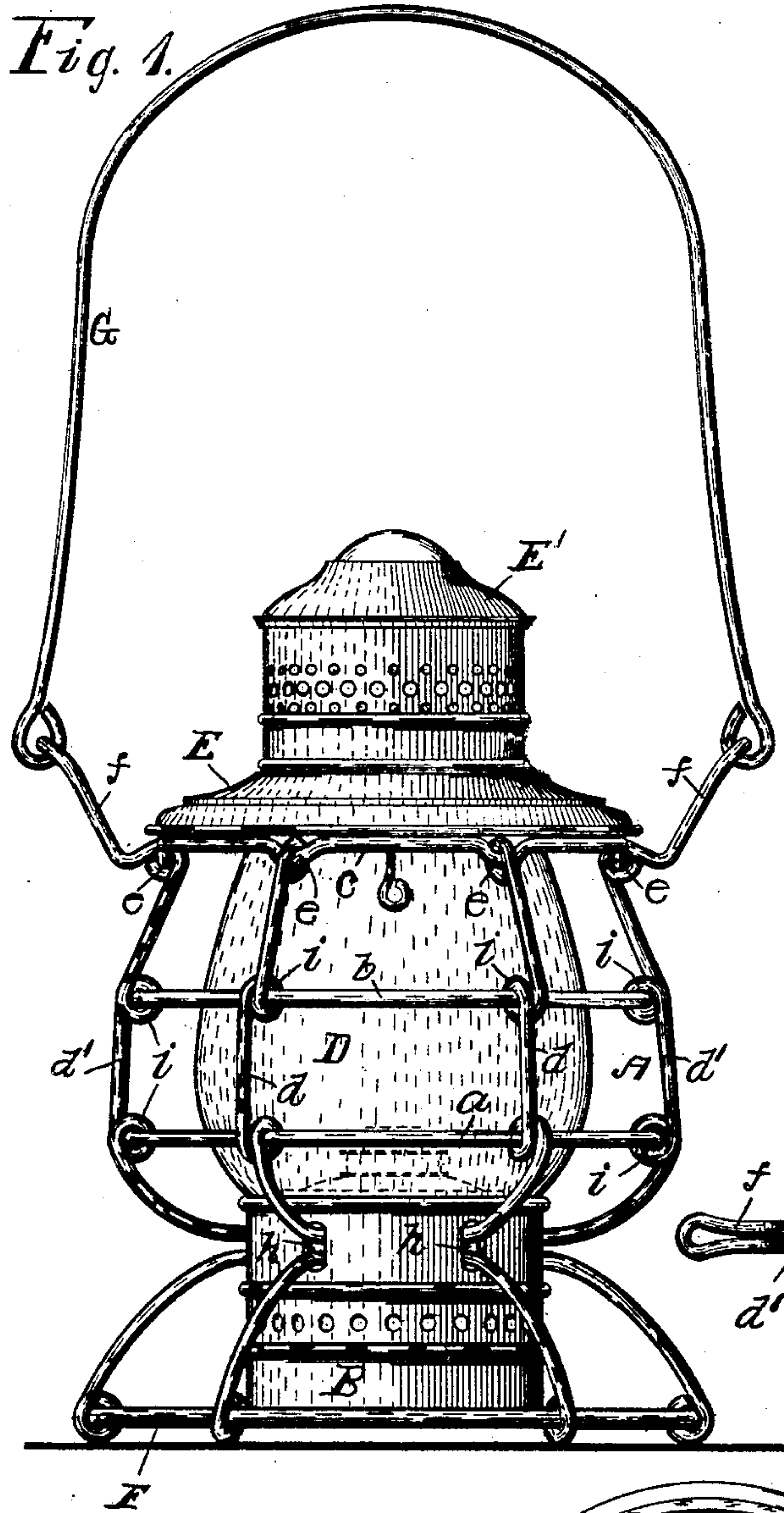
No. 778,651.

PATENTED DEC. 27, 1904.

W. H. FOULKES.  
LANTERN.

APPLICATION FILED JULY 15, 1904.

2 SHEETS—SHEET 1.



Attest:  
M. B. Smith.  
J. M. Deyo

Inventor:  
William H. Foulkes,  
By E. B. Whitmore, Atty.



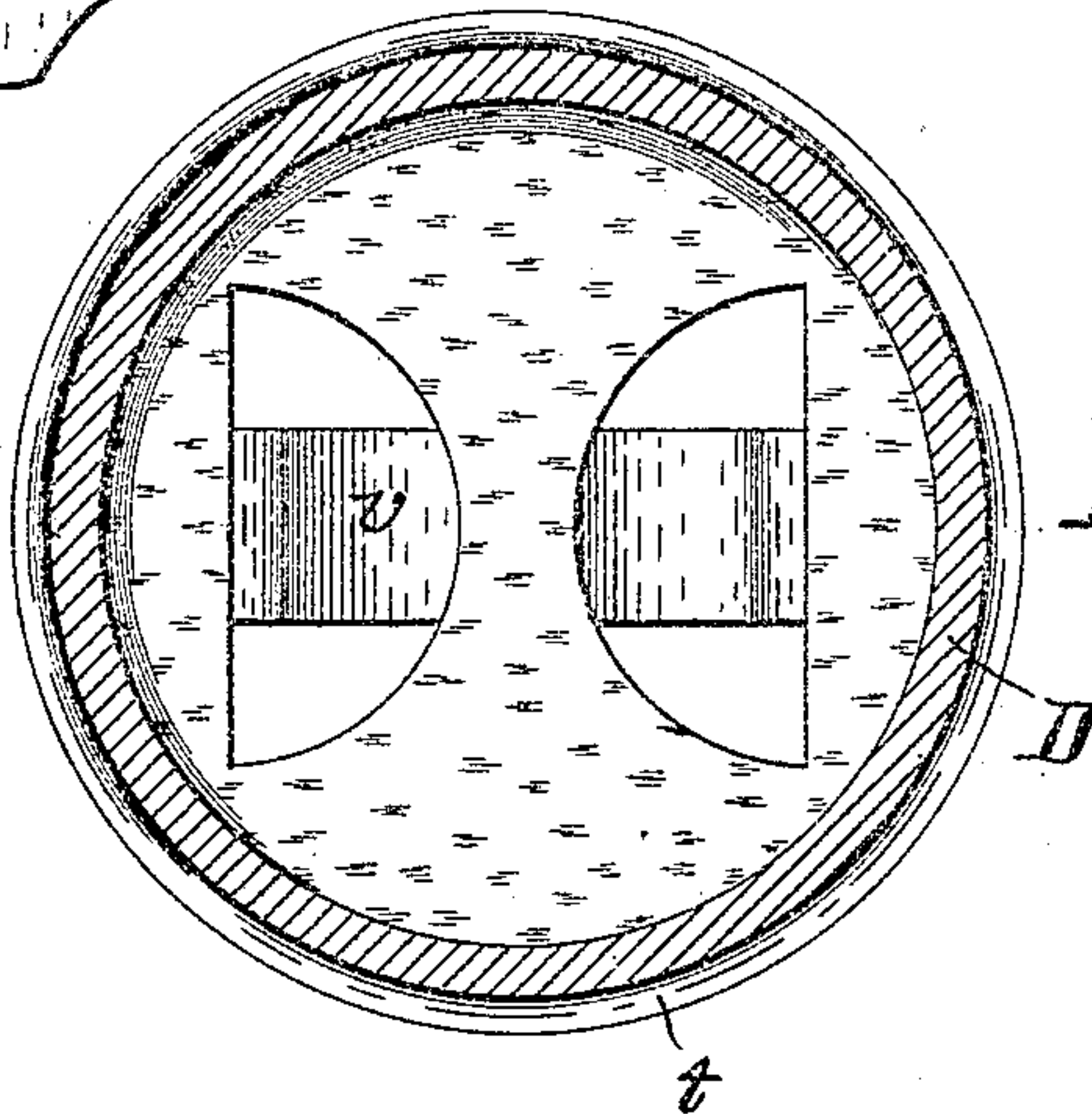
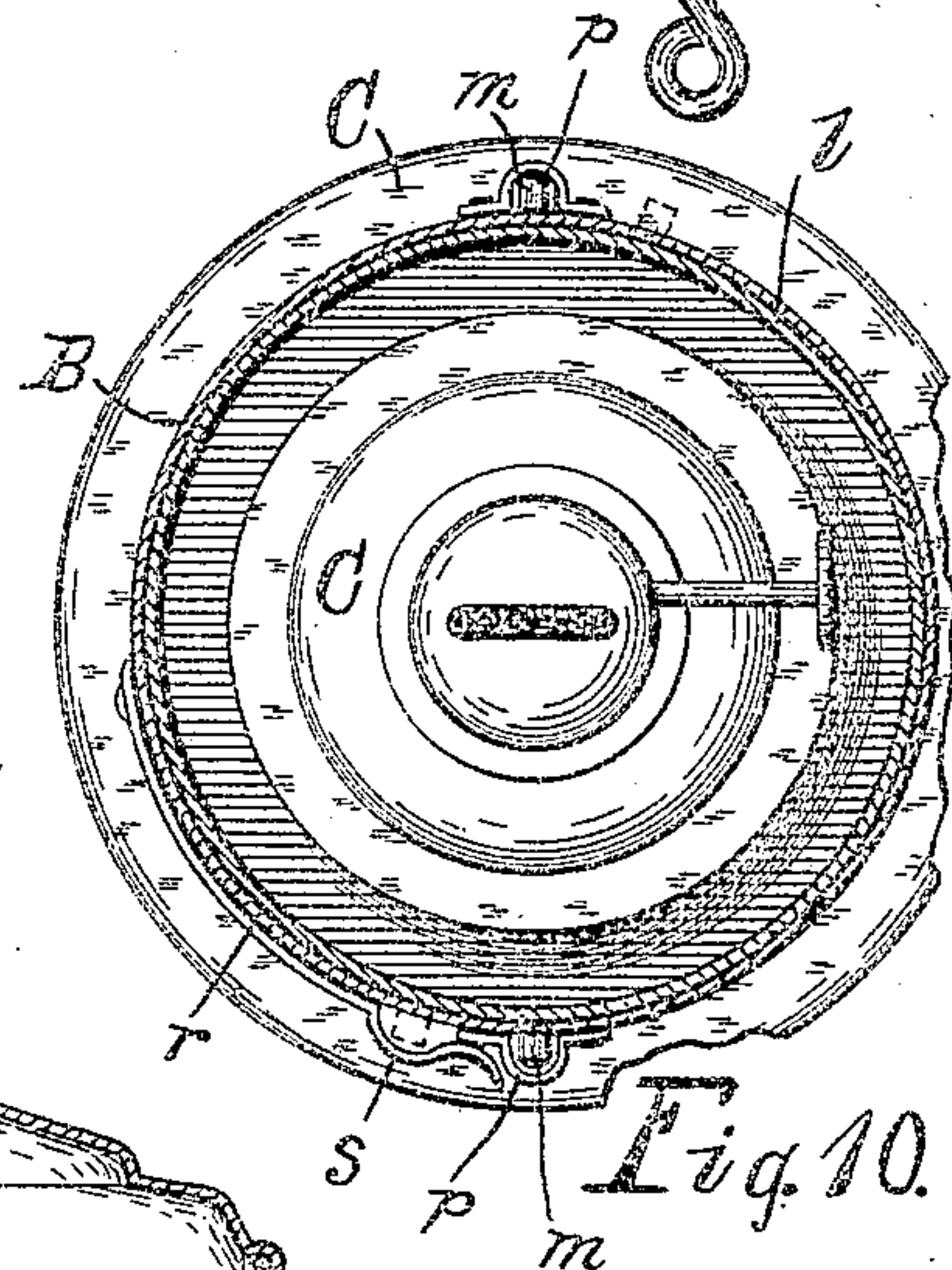
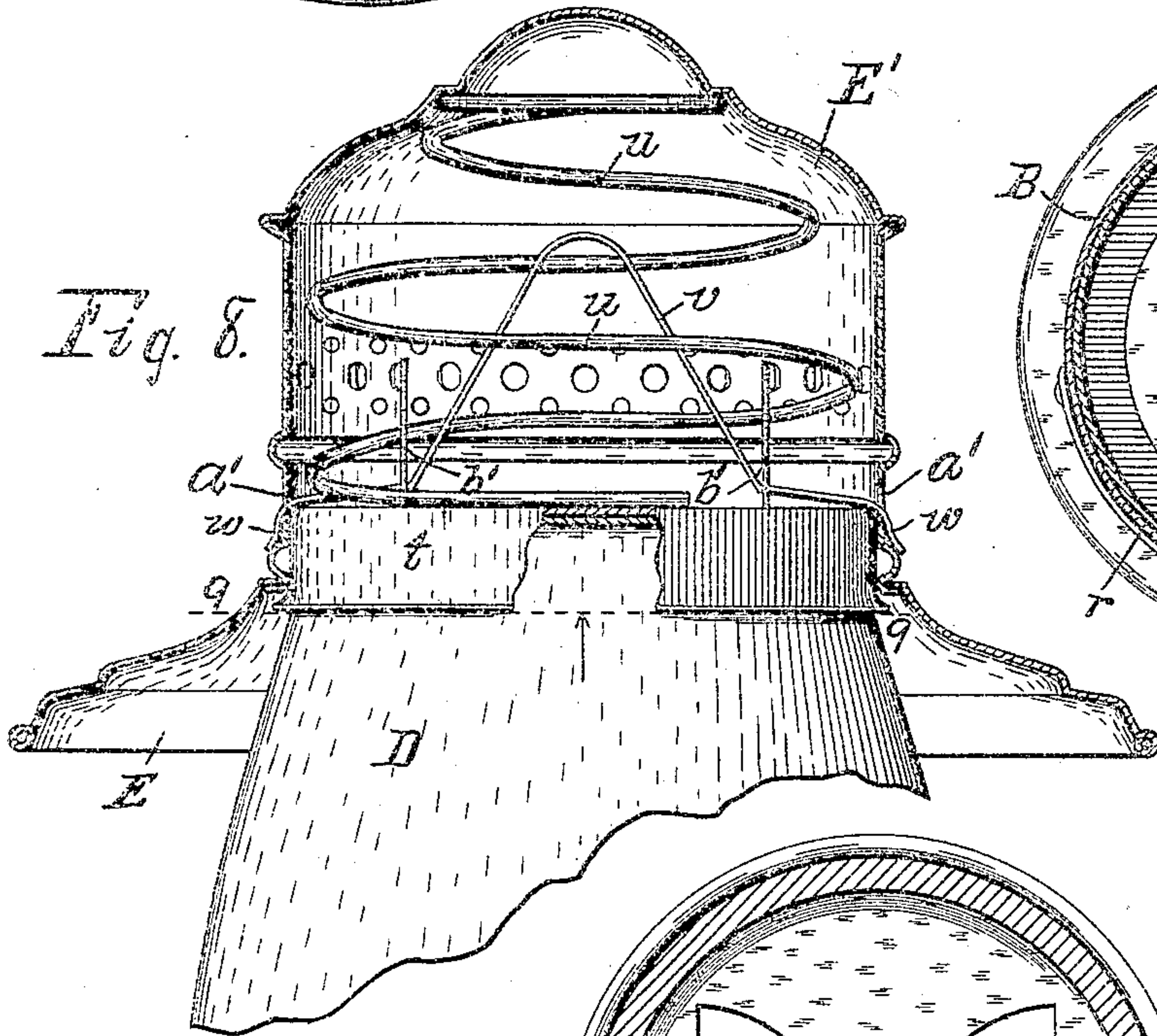
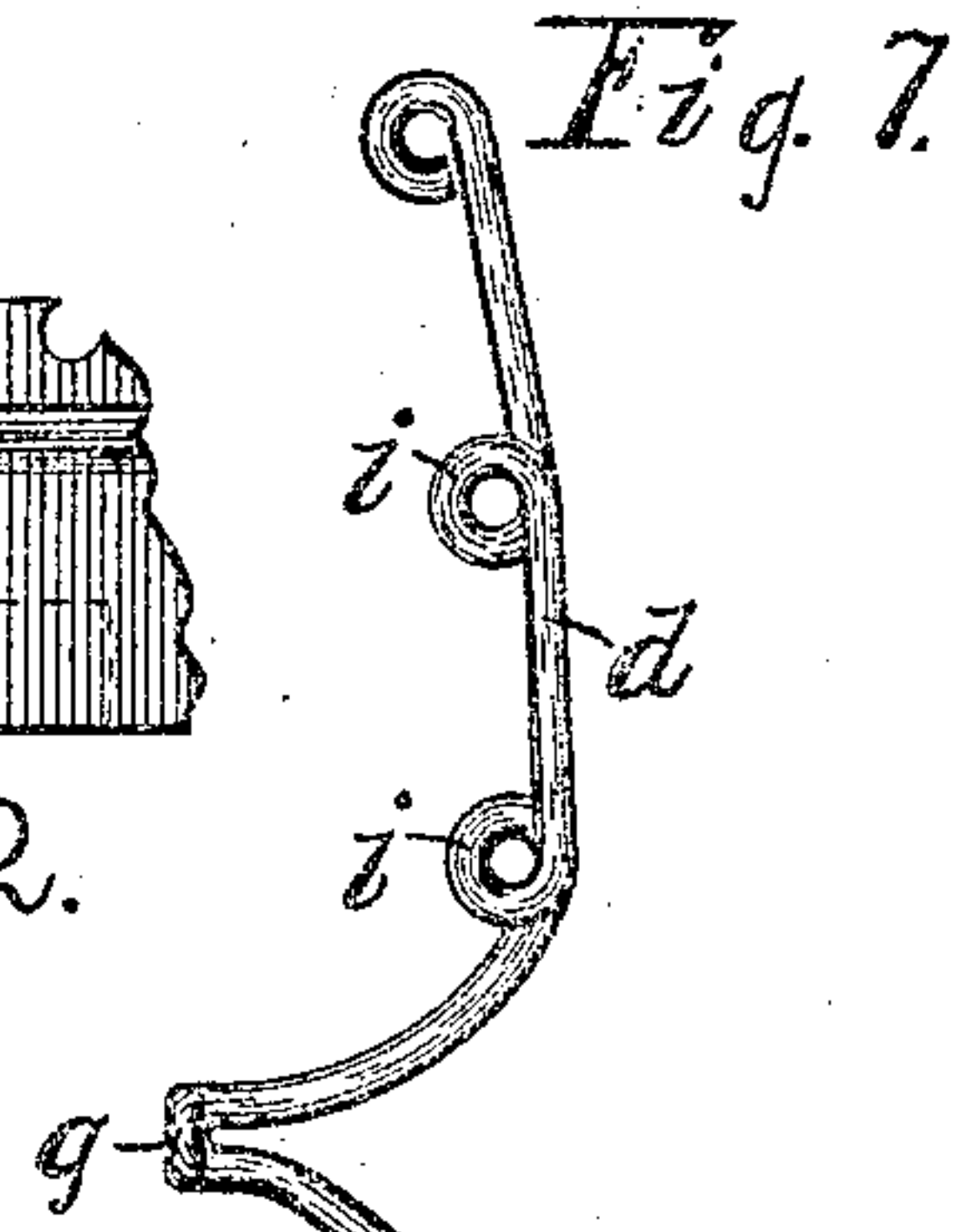
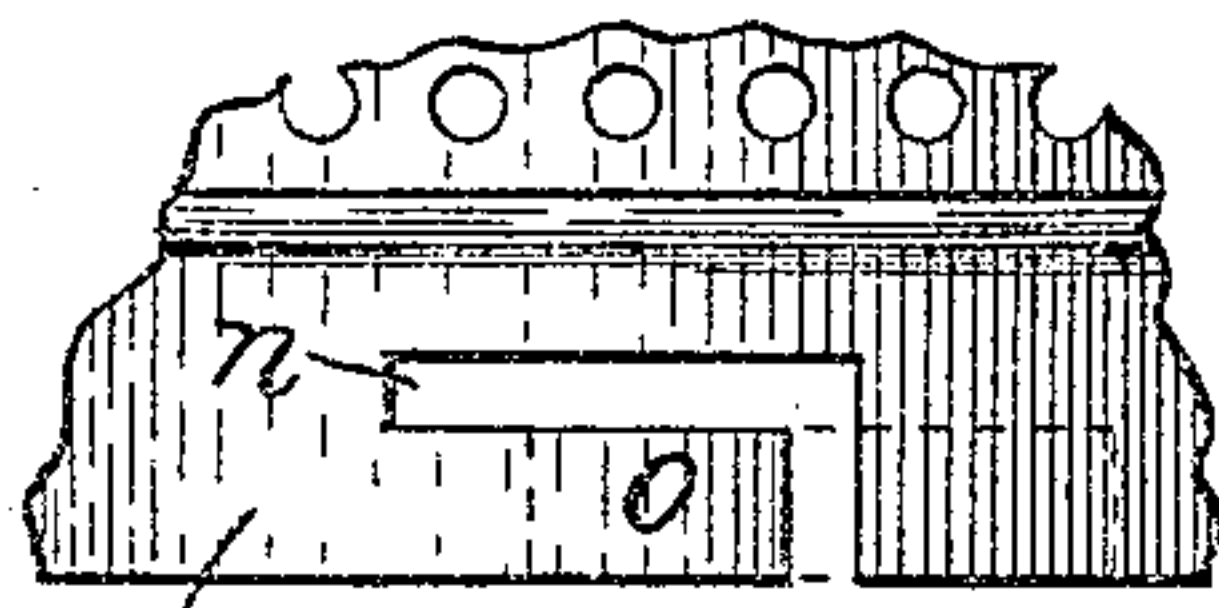
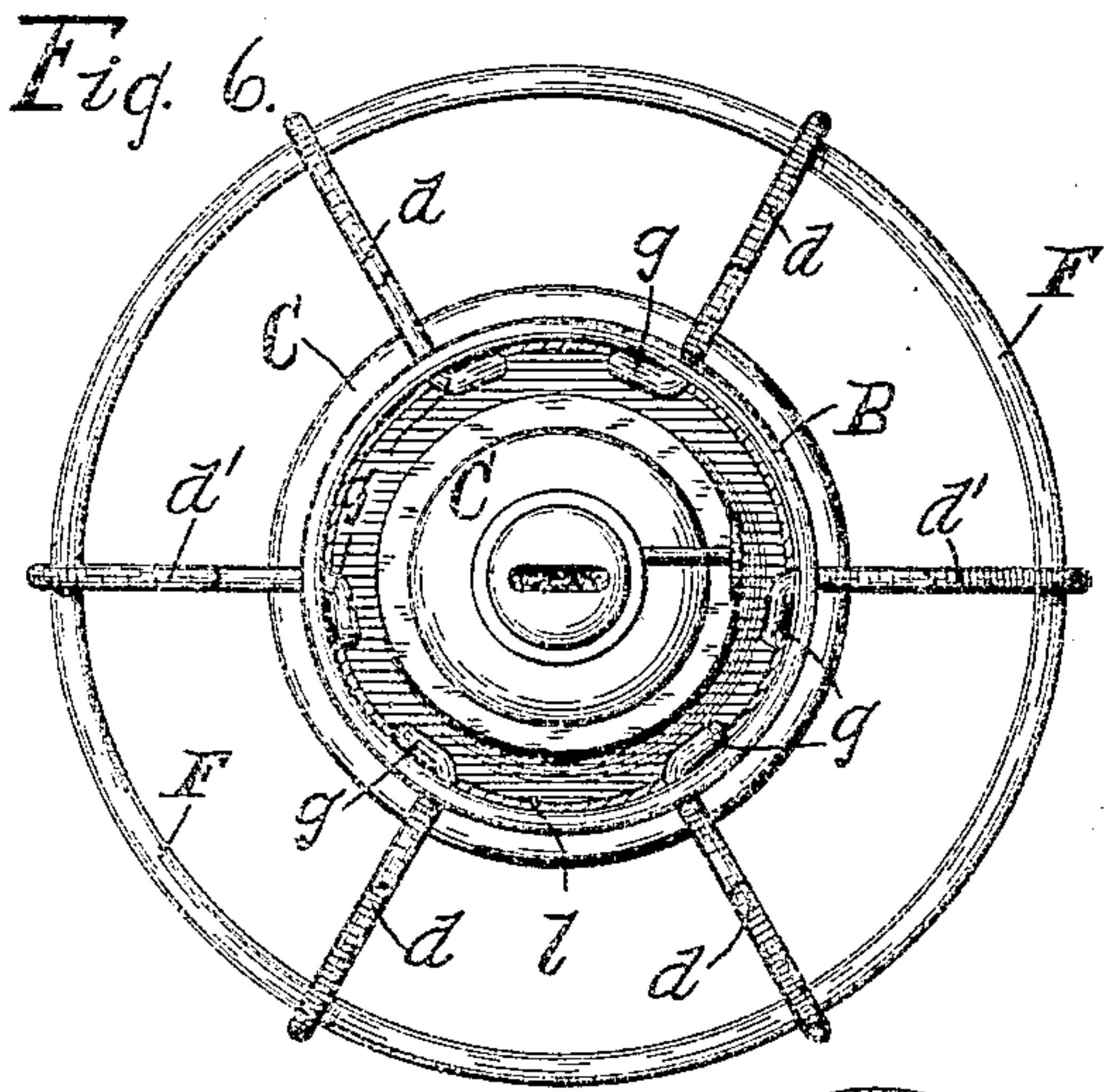
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2 SHEETS—SHEET 2.



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By E. B. Whitmore, Atty.



# UNITED STATES PATENT OFFICE.

WILLIAM H. FOULKES, OF ROCHESTER, NEW YORK.

## LANTERN.

SPECIFICATION forming part of Letters Patent No. 778,651, dated December 27, 1904.

Application filed July 15, 1904. Serial No. 216,739.

*To all whom it may concern:*

Be it known that I, WILLIAM H. FOULKES, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Lanterns, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention relates to hand-lanterns generally, but more particularly to the class known and understood as "railroad-lanterns."

The main object of my invention is to so construct the lantern that the parts or sections of wire crossing one another to form the frame shall directly engage and lock together of themselves in rigid joints and without the aid of other joint-pieces or the use of solder.

Another object of the invention is to produce a lantern that shall be stronger and more durable than those heretofore used and one having fewer soldered joints and being less expensive to construct and lighter in weight.

A further object of my invention is to improve and simplify the upper parts of the lantern, including the means for holding the upper end of the globe, and render the same more convenient and easily operated.

Other objects and advantages of the invention will be brought out and made to appear in the following specification, and the structure more particularly pointed out in the appended claims, reference being had to the accompanying drawings, which, with the reference characters marked thereon, form a part of the specification.

Figure 1 shows the invention in side elevation. Fig. 2 is a side elevation of the inclosing band and inclosed lamp detached. Fig. 3 is a side elevation of the lower parts of the inclosing band and oil-pot, showing an angular opening for a catch-pin, and other parts, a part of the spring-holder being broken away. Fig. 4 is a plan of the upper horizontal guard-ring and other adjacent parts of the frame. Fig. 5 is a plan of the top-holder for the globe detached. Fig. 6 is a plan of the lower parts of the lantern, the upper parts being broken away and omitted. Fig. 7 shows a vertical guard in side elevation detached. Fig. 8 is a central longitudinal section of the cover,

showing the globe-holder within, a part of the cap for the globe being broken away and vertically sectioned on the curved dotted line 8 in Fig. 5. Fig. 9 is a view of the inner or nether surface of the globe-cap, the globe being horizontally sectioned on the dotted line 9 9 in Fig. 8. Fig. 10 is a horizontal section of parts on the dotted line 10 10 in Fig. 2, further showing the strengthening-loops and the spring-holder for the catch-pin. Fig. 11 is a plan of parts of a guard-ring, showing the manner of joining the ends, the connecting-sleeve being in longitudinal section. Fig. 12 is a side elevation of a part of the inclosing band, showing an angular opening therein. Figs. 1, 4, 6, and 7 are drawn to a scale smaller than those of the remaining figures.

Referring to the parts shown, A is the open wire frame of the lantern; B, the inclosing band; C, the lamp or oil pot, and D the globe.

Upon the frame A is mounted a circular sheet-metal domed cover or top E, connected in a hinge-joint with the upper part of the frame in a manner to permit it to swing in vertical directions thereon.

The frame A is of novel construction, and it constitutes the essential part of the present invention, the construction of the frame herein shown being important in the matter of the manufacture of lanterns, particularly those intended for use in railroad work. The frame shown is composed of a series of wire sections or separate pieces crossing one another and so formed and joined or connected as to form tight and rigid joints one part with another without the employment of auxiliary straps or joining pieces and the use of solder. This frame consists of a firm horizontal base-ring F and a series of lighter horizontal upper guard-rings *a b c*, one above another, as clearly shown in Fig. 1. The rings from the lowest to the highest vary in diameter, the upper one being the smallest and all being crossed and connected by a series of equally-spaced vertical guards or curved standards *d d'*, as shown. The lower ends of all the vertical guards *d d'* are bent closely and rigidly around the base-ring F, and the upper ends of the guards *d* are similarly bent rigidly around the upper guard-ring *c*, this ring being formed



with slight downward bends or depressions *e*, in which to receive the bent ends of the guards *d*. The vertical guards are preferably equal in number, as six, and equally spaced horizontally around the series of horizontal rings, as shown in Figs. 4 and 6. Two of the vertical guards *d'* *d'* opposite each other are carried primarily inside of the ring *c* and thence obliquely outward in opposite directions and upward and again bent back downward or doubled, with the extreme ends carried around the ring *c* in depressions *e e* and made rigid, as shown in Figs. 1 and 4. These upwardly-extended doubled parts of the two guards *d'* *d'* form looped ears *f f* for receiving the ends of the carrying-bail G. Near their lower ends the vertical guards are bent inward, giving to each approximately a V shape or angular form, as shown in Fig. 7. The inclosing band B is formed with a series of vertical slots or openings *h* in a horizontal row, Figs. 1 and 2, inwardly through which in assembling the parts of the lantern the points of the V's of the vertical guards are passed. The extreme ends or points are bent laterally to form lugs *g*, resting against the inner surface of the band, as clearly shown in Fig. 6, the lugs being secured rigidly to the band by means of solder. The vertical guards are further formed with short circular loops or quick turns *i*, Fig. 7, encircling the guard-rings *a b*, clearly shown in Fig. 1. The top and bottom rings *c* *F* are continuous and solid, but the intermediate rings *a b* are each divided at one side with abutting ends, and after the other parts or sections of the frame are assembled and joined, as described, these rings are added to complete the structure by being run endwise successively through the short loops *i* of the vertical guards, the abutting ends of the rings being subsequently joined and covered by short tubes or sleeves *h*, as shown in Fig. 11. Subsequently the wire frame, including the band B, is dipped bodily into molten tin to give the whole both a finished appearance and rigidity of joints and rendering it as if of a single piece.

The oil-pot C is formed with a low circular concentric flange *l*, Figs. 6 and 10, fitted to telescope within the inclosing band B. This flange is provided with two diametrically opposite pins *m m*, Figs. 3 and 10, projecting radially through branched slots or openings *n* (see Fig. 12) in opposite sides of the band B, the coacting parts constituting what is known and understood as a "bayonet-catch" for the oil-pot and the band. In using this form of opening *n* it is found that while the catch as a whole is convenient and desirable the tongues *o* of the openings unsupported are weak and liable to become bent out of place or broken, and I aim in this invention to remedy this difficulty by providing reinforcers for the tongues. These reinforcers or strengtheners for the tongues consist of bowed parts

or bridges *p*, Figs. 2, 3, and 10, secured to the outer surface of the band B by some simple means in positions to span or cross the vertical branches of the openings *n*, as shown. One end of each bridge being secured rigidly to a tongue *o* stiffens the latter and makes it strong, while the bowing of the bridges outward makes way for the projecting ends of the catch-pins *m* to move downward or upward along the vertical branches of the openings *n* when the oil-pot is being removed from or replaced in the lantern.

I also employ a spring-holder *r*, Figs. 2, 3, and 10, secured to the band B in position to cover one opening *n* and the projecting end of the pin *m* when the oil-pot is in place in the band. This holder *r* is formed with a bowed part *s* in position to receive and hold the pin, and so normally prevent the oil-pot from turning in the band B in a manner to become detached therefrom.

The holder for the upper end of the glass globe D within the dome E' of the cover E of the lantern comprises an inverted pan or cap *t*, Figs. 5, 8, and 9, to directly receive the globe fitted to telescope upward into the lower end of the dome. Above the cap *t* is placed a coiled spring *u*, reaching to the top of the dome, which tends to press the cap downward against the adjacent end of the globe. A bowed catch *v* has its ends bent substantially horizontally outward through upturned guides *b' b'* of the cap *t*, its extreme ends *w w* reaching through vertical openings *a' a'* in opposite sides of the dome E'. These ends *w w*, bending downward against the outer adjacent surface of the cover at the lower ends of the openings *a' a'*, hold the cap *t* from being forced out of the cover or displaced by the action of the spiral spring *u* or otherwise. When the globe is put into the lantern, its upper end is primarily pressed upward into the cap *t*, pushing the latter temporarily upward against the action of the spring *u*, the latter pressing the globe down against its seat on the band B when in place in the lantern.

It will be observed in this construction of the wire frame that the upper ring *c* does not support the whole weight of the lantern when carried by the bail G, as is the case with other lanterns in use. The two vertical standards *d' d'*, that form the bail-ears *f f*, extend unbroken downward to and take hold of the base-ring F, and being also rigidly connected with the rings *a b* the strain resulting from the weight of the lantern when being carried is distributed throughout the frame. The short loops or bends *i* of the vertical guards holding the guard-rings *a b* are originally formed of such internal diameter as to permit the rings being passed snugly through them, as stated. After the rings are in place the loops are closed rigidly onto the rings by being either tapped with a hammer or compressed



by a pair of pincers. This being done and the vertical guards being also joined rigidly onto the upper and lower rings *c* and *F* gives rigidity to the whole wire frame without additional parts or pieces at the joints, as commonly employed in other lanterns, and without solder or other similar devices or means.

As seen clearly in Fig. 6, the lugs *g* of adjacent wires are oppositely disposed within the band, so as to better brace the parts and prevent lateral movement and displacement of the wire sections.

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

15 1. A lantern having a frame, a globe within the frame, a domed cover formed with openings at opposite sides, a holder for the globe within the dome comprising an inverted cap for the globe, a spring to actuate the cap, a catch-piece carried by the cap with its ends engaging in the openings in the dome to control the spring and guides struck up from the cap and apertured for the passage of the ends of the said catch.

25 2. A lantern having a frame, a globe within the frame, a cover with dome having openings at opposite sides, a holding-cap for the

globe, a spring to actuate the cap, a catch-piece over the cap and held thereon, having its ends projecting through said openings and pressing the outer surface of the dome to control the cap, and upturned guides on said cap for guiding the end portions of said catch-piece, said guides being formed integral with and struck up from the cap.

3. In a lantern, a frame, a dome, a globe, and a cover, combined with an inverted cap, a coiled spring above the cap reaching to the top of the dome, a bowed catch having substantially horizontal ends extended outward through guides on the cap and through openings in the opposite sides of the dome and bent downward against the outer adjacent surface of the cover at the lower ends of the openings in the dome, substantially as and for the purpose specified.

In witness whereof I have hereunto set my hand, this 13th day of July, 1904, in the presence of two subscribing witnesses.

WILLIAM H. FOULKES.

Witnesses:

ENOS B. WHITMORE,  
MINNIE SMITH.