

(No Model.)

4 Sheets—Sheet 1.

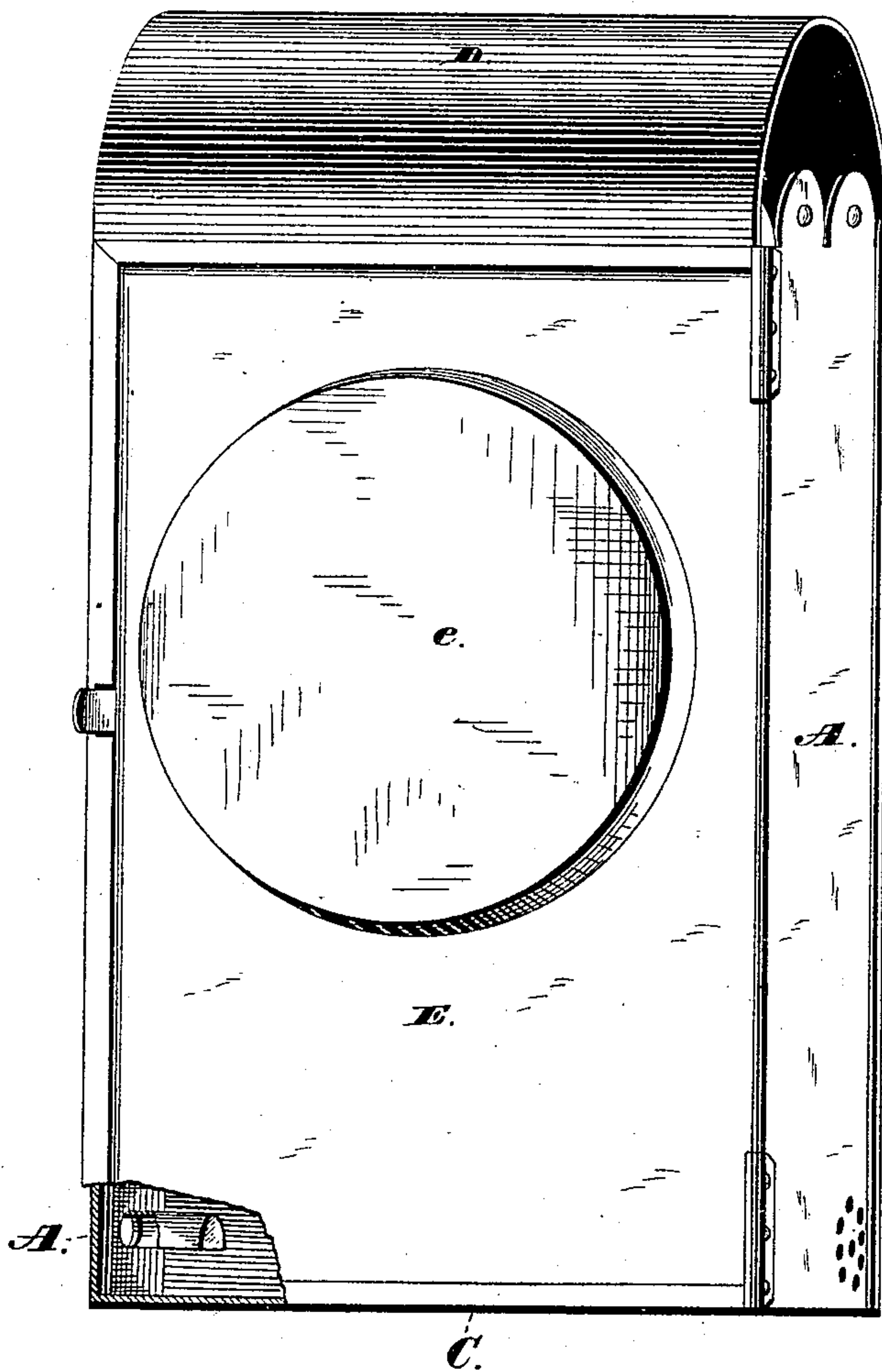
W. D. DOREMUS.

APPARATUS FOR LIGHTING AND EXTINGUISHING LAMPS.

No. 291,995.

Patented Jan. 15, 1884.

Fig. 1.



Witnesses:

*Jas. E. Hutchinson.
 Henry C. Hazard*

Inventor.

*W. D. Doremus, by
 Charles Russell, his Attys*

(No Model.)

4 Sheets—Sheet 2.

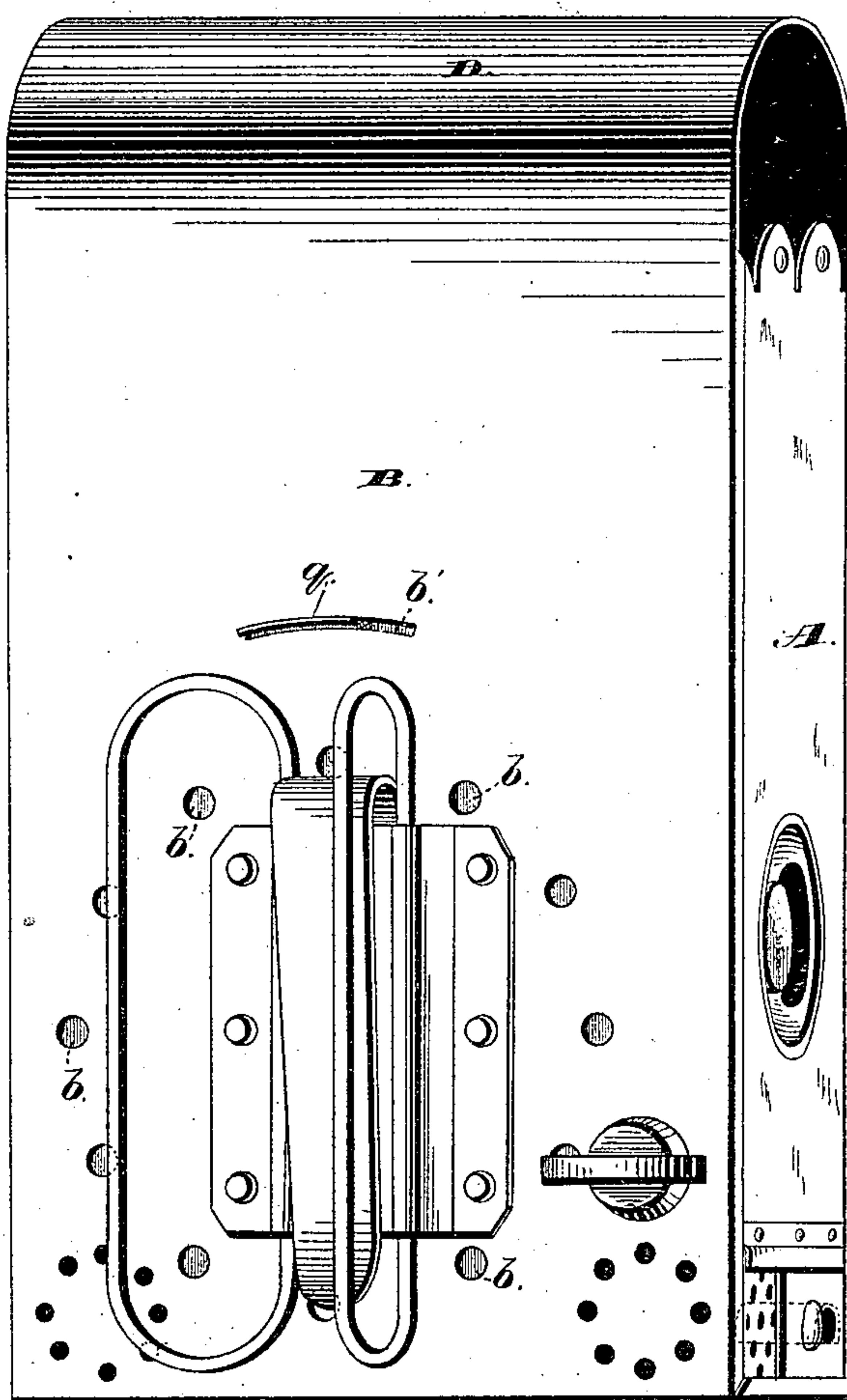
W. D. DOREMUS.

APPARATUS FOR LIGHTING AND EXTINGUISHING LAMPS.

No. 291,995.

Patented Jan. 15, 1884.

Fig. 2.



Witnesses:

Jas. E. Hutchinson.
Henry C. Hazard

Inventor.

W. D. Doremus, by
Quinlan & Russell, his Attys

(No Model.)

4 Sheets—Sheet 3.

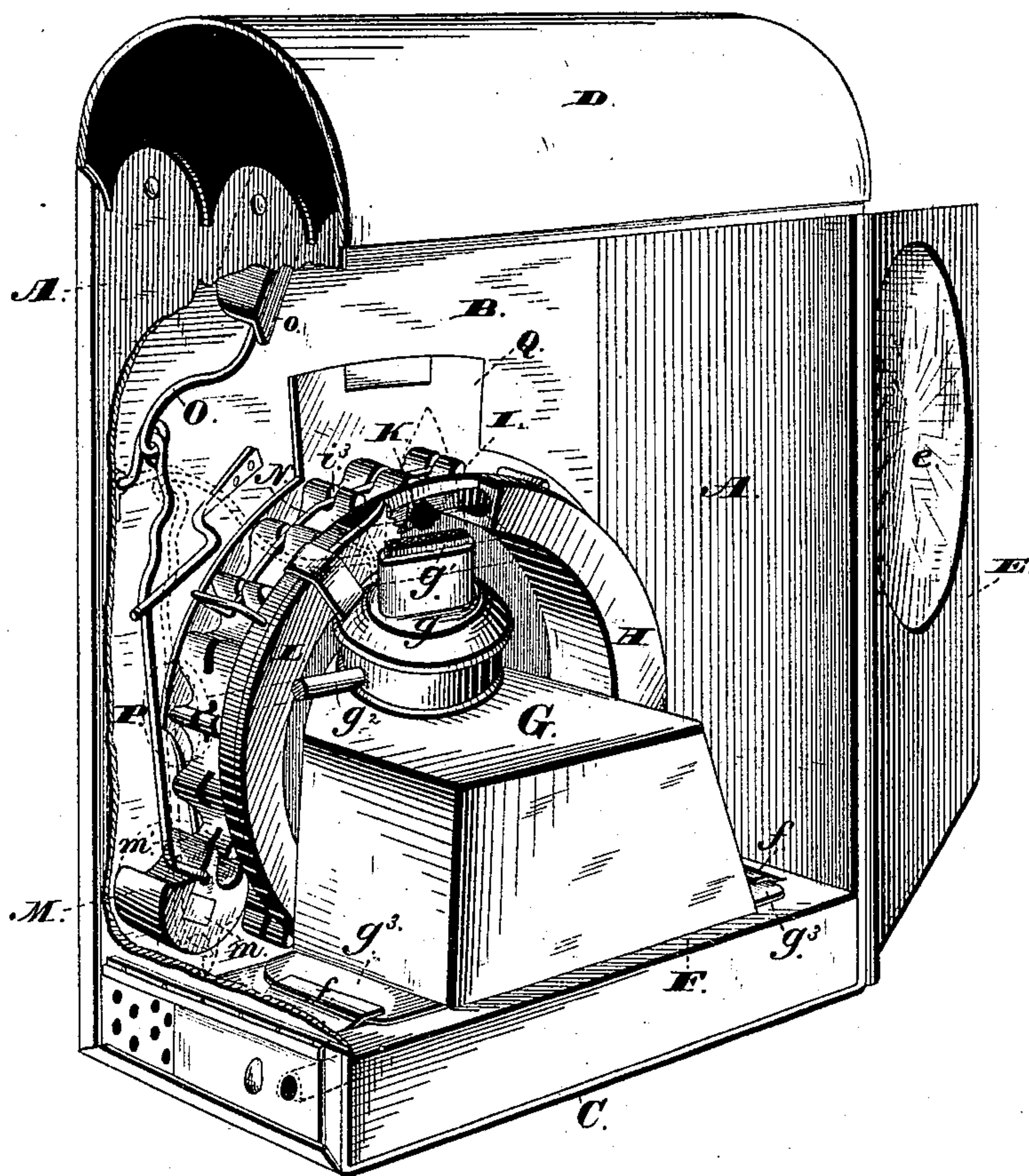
W. D. DOREMUS.

APPARATUS FOR LIGHTING AND EXTINGUISHING LAMPS.

No. 291,995.

Patented Jan. 15, 1884.

Fig. 3.



Witnesses:

Gas. E. Hutchinson.
Henry L. Hazard.

Inventor.

W. D. Doremus, by
Prindle & Russell, his Attys

(No Model.)

4 Sheets—Sheet 4.

W. D. DOREMUS.

APPARATUS FOR LIGHTING AND EXTINGUISHING LAMPS.

No. 291,995.

Patented Jan. 15, 1884.

Fig. 4.

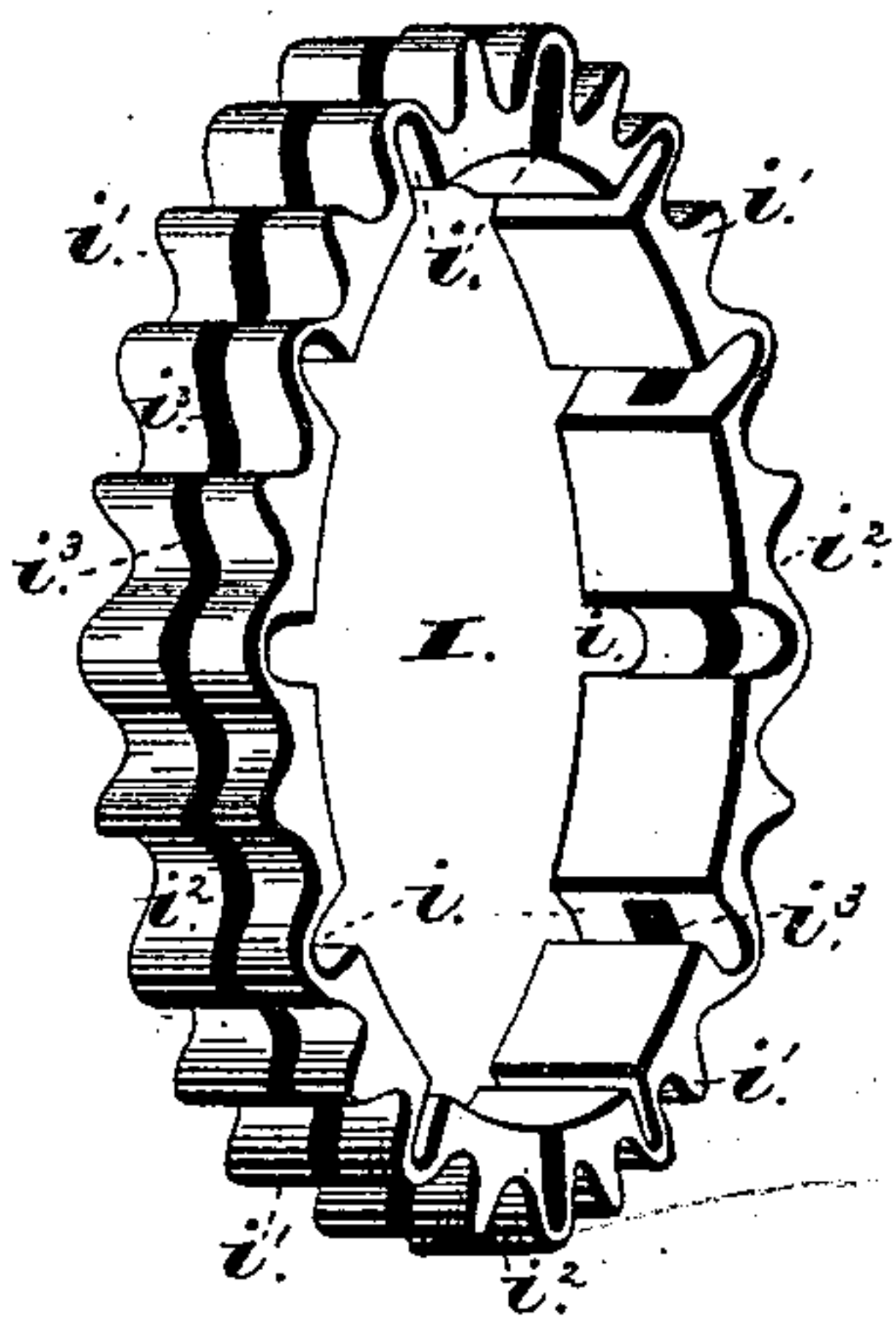


Fig. 5.

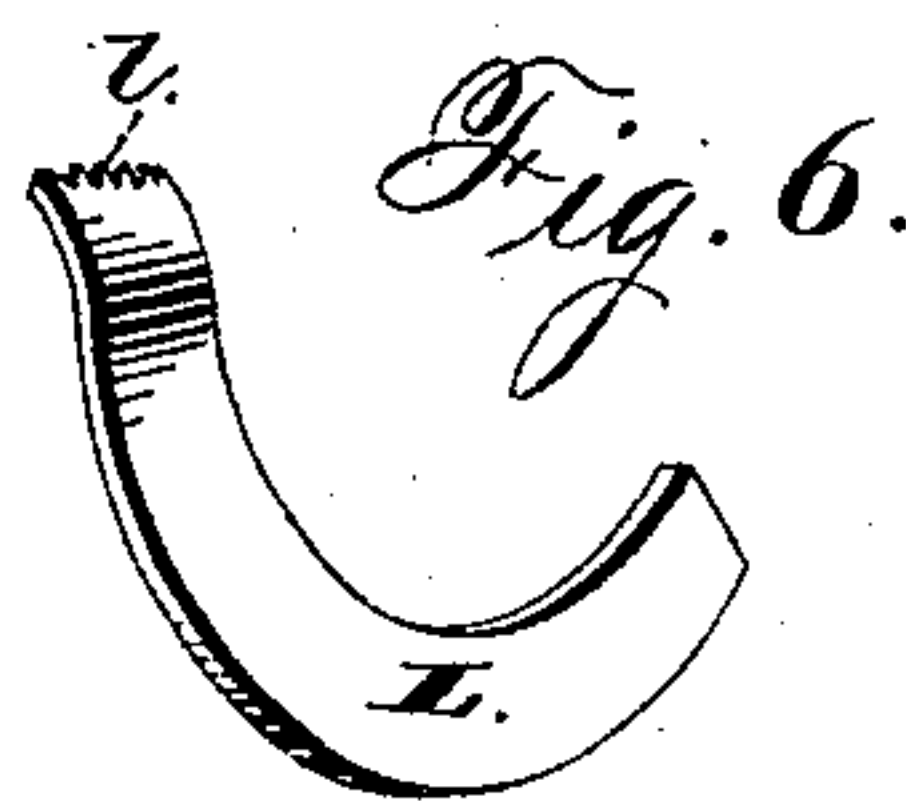
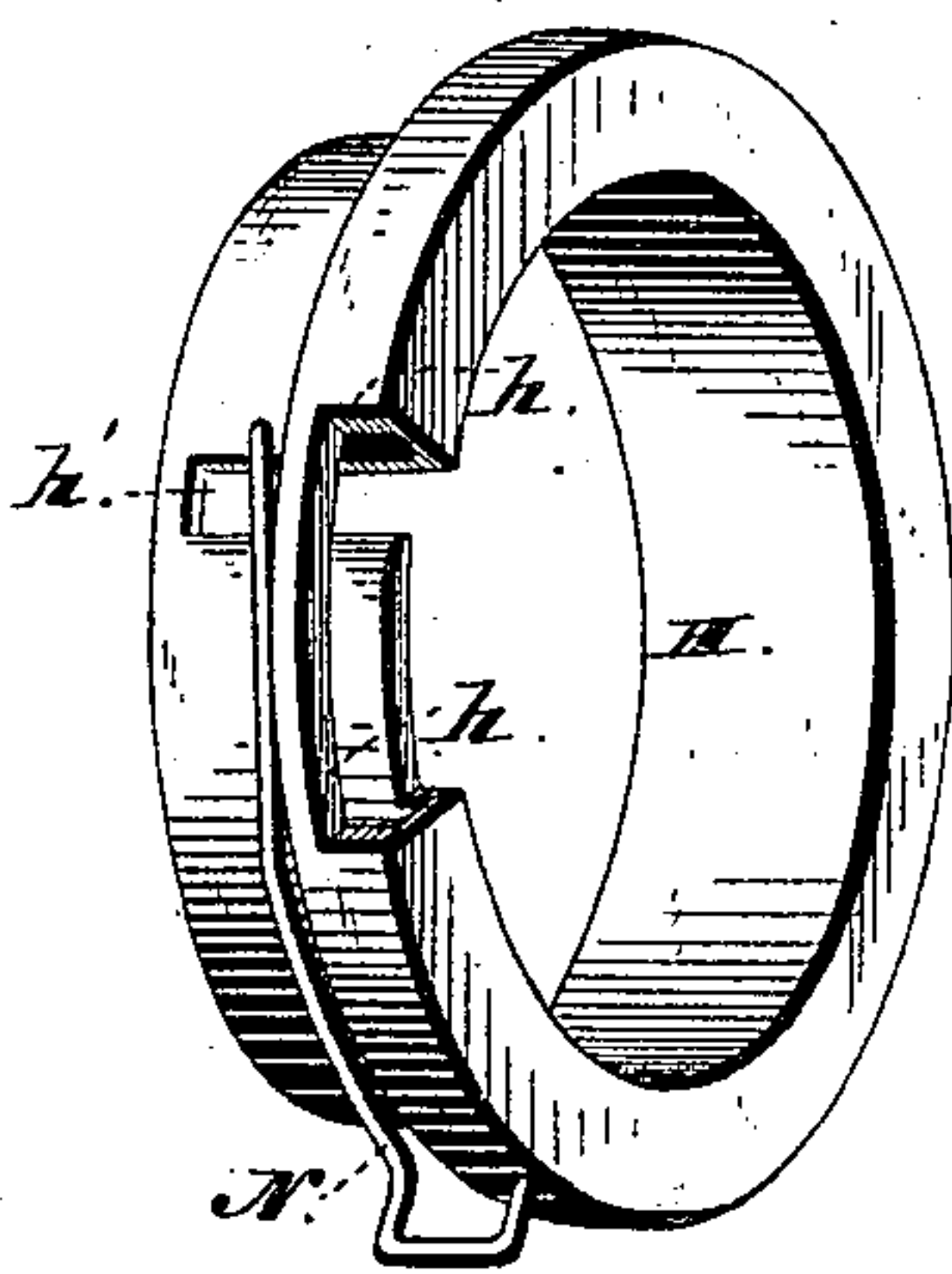


Fig. 7.

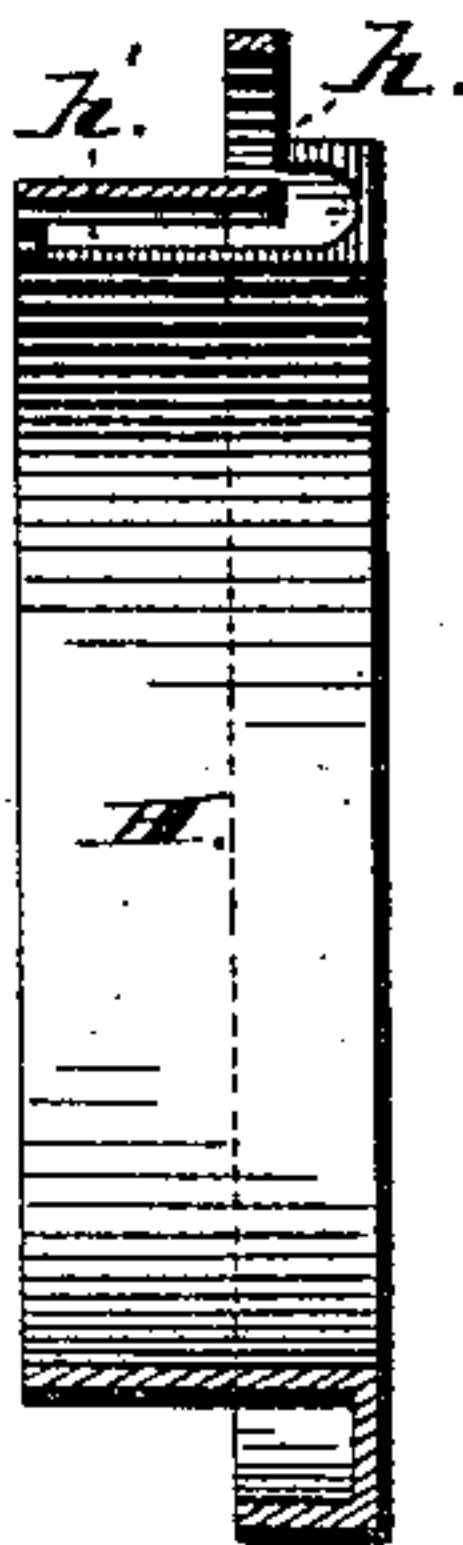


Fig. 9.

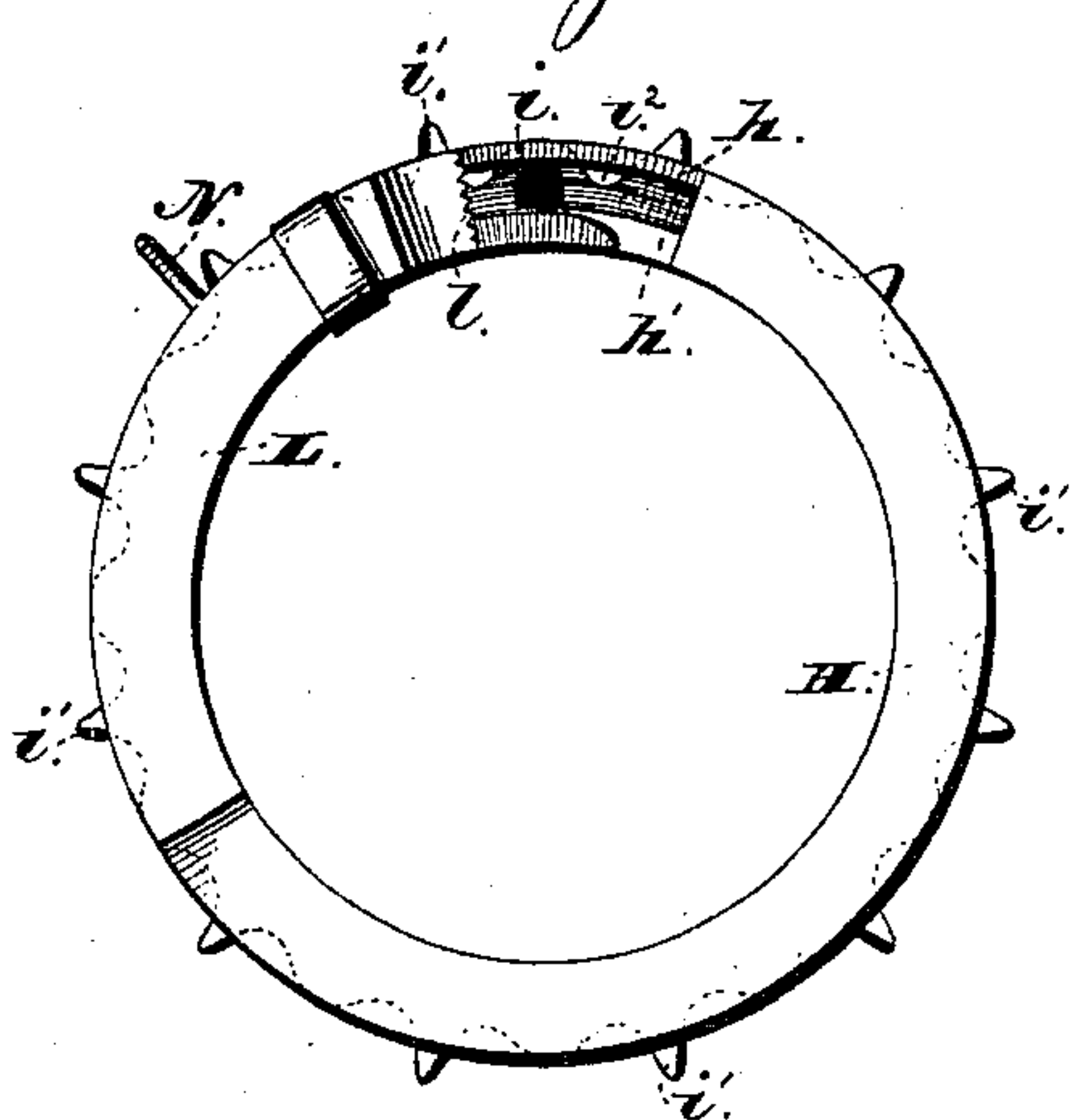
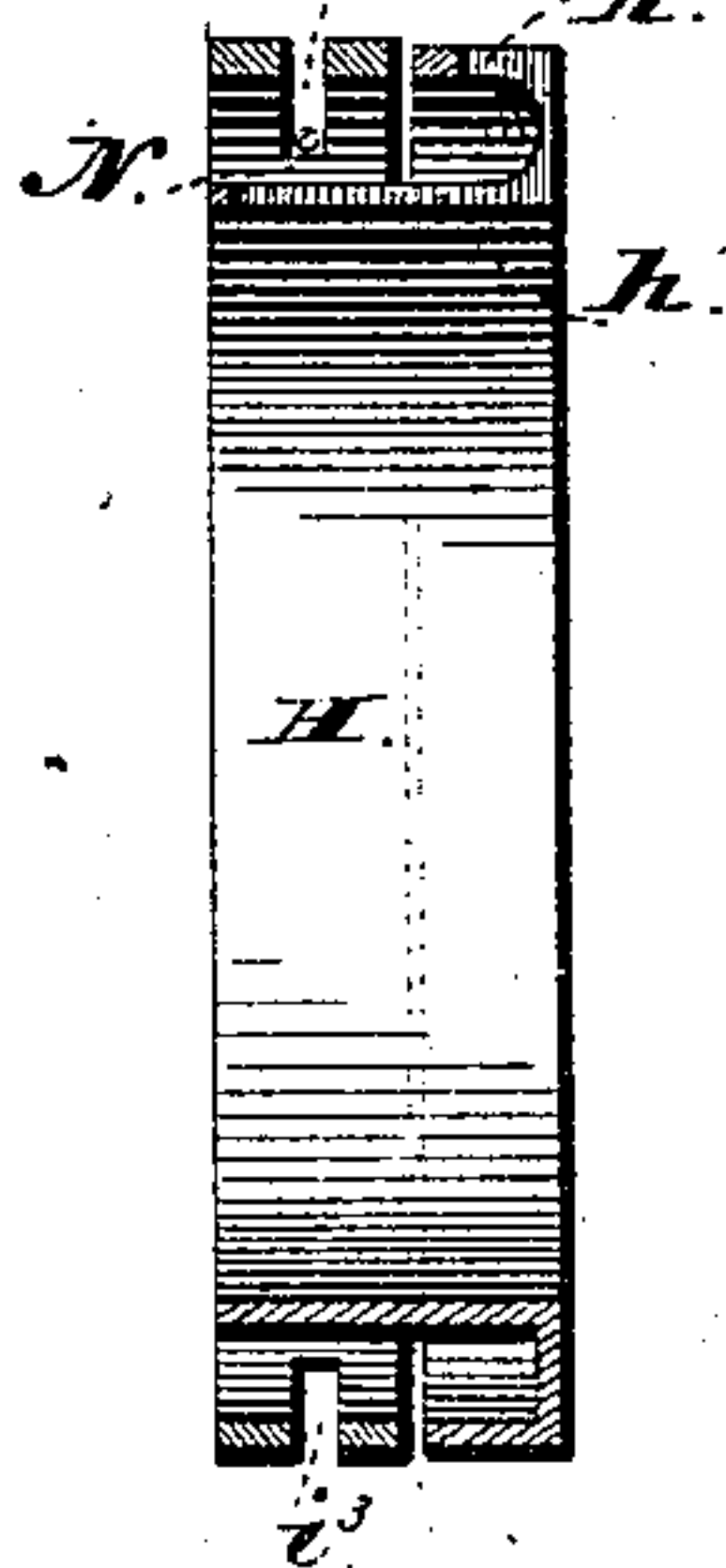


Fig. 8.



Witnesses:

Gas. E. Hutchinson.

Henry C. Hazard.

Inventor.

W. D. Doremus, by

Prindle & Russell, his Attys.

UNITED STATES PATENT OFFICE.

WILLARD D. DOREMUS, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO HIMSELF, AND THEODORE F. SWAYZE, OF SAME PLACE, AND SAMUEL R. STRATTON AND JOHN T. STRATTON, BOTH OF STRATTONVILLE, PENNSYLVANIA.

APPARATUS FOR LIGHTING AND EXTINGUISHING LAMPS.

SPECIFICATION forming part of Letters Patent No. 291,995, dated January 15, 1884.

Application filed April 11, 1883. Renewed December 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLARD D. DOREMUS, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Apparatus for Lighting and Extinguishing Lamps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view from the front of my lantern as arranged for use. Fig. 2 is a like view of the same from the rear. Fig. 3 is a perspective view of said lantern from the front, the door being opened and a portion of the side wall broken away to show the operative parts of the lighting and extinguishing mechanism. Figs. 4, 5, and 6 are respectively perspective views of the match-carrier, the housing for the same, and the igniting-spring, separated from each other. Fig. 7 is a cross-section of said housing separated from said carrier. Fig. 8 is a like view of said parts combined, and Fig. 9 is a front elevation of the latter.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to furnish in a simple, compact, and convenient form a lantern which may be easily ignited and extinguished from without; and to this end said invention consists, principally, in a lantern in which are combined the following elements, to wit: a lamp provided with a wick or other flame-producing equivalent, a carrier adapted to receive and contain friction-matches, means whereby said carrier may be moved to bring each match successively into contact with or position near to said wick, means whereby each match is ignited as it moves to position near said wick, and means whereby each burned match is automatically expelled from said carrier as the succeeding match is ignited and moved into position for lighting said wick, substantially as and for the purpose hereinafter specified.

It consists, further, in a lantern in which are combined, with the lamp, means whereby

the burner-wick may be automatically ignited and then extinguished by one rotation of the operating-shaft, substantially as and for the purpose hereinafter shown.

It consists, further, in the means employed for moving the matches into position for lighting the burner-wick and for igniting said matches, substantially as hereinafter set forth.

It consists, further, in the means employed for expelling the burned matches from the holder, substantially as hereinafter shown and described.

It consists, further, in combining with a lantern a match holder or carrier adapted to be filled through the back of the casing of said lantern without opening the same, substantially as and for the purpose hereinafter specified.

It consists, finally, in the construction and combination of parts, substantially as and for the purpose hereinafter shown.

In the annexed drawings, A and A represent the sides, B the back, C the bottom, D the top, and E the front, of the casing of my lantern, which casing is constructed from sheet metal, and has preferably the general form shown. Said front E is hinged, and capable of being opened, and at a suitable point within the same is a glazed opening, e, through which light from a lamp may pass outward from said casing.

Within the lower portion of the interior of the casing is a false bottom, F, which extends from the front E nearly to the back B, and upon the same is placed a lamp, G, that is provided with a burner, g, which has a wick, g', that is raised or lowered by any usual means, the mechanism used for such purpose being operated by an ordinary wick-wheel shaft, g². Said lamp is held in place upon said false bottom by means of two raised strips, f, which are secured to or formed from the latter, and engage with two flanges, g³, that project from the sides at the bottom of said lamp, as shown in Fig. 3.

Secured to the back B is an annular housing, H, which has the form in cross-section shown in Fig. 7, and receives and contains a ring, I,

that loosely fills the space between said back and the front wall of said housing, and has such diameter of interior as to enable it to revolve easily upon the central cylindrical portion of the latter. The arrangement of said parts with relation to the lamp G is such as to bring the radial center of said ring opposite to the wick g' as it projects from the burner-tube. At suitable points within the ring I are provided grooves i , which extend in a line with the axis from side to side, and transversely have such dimensions as to enable each to receive and loosely contain the prepared end of a friction-match, K, which latter are inserted through a series of openings, b , that are provided in the back B, and are relatively arranged, so that when said ring is properly placed each will coincide with one of said grooves. At the upper center of the housing H its front wall is cut away, and at one side of such opening h a flat spring, L, is secured to said housing with one end, l , which is serrated or toothed, projecting into said opening. If, now, the spaces or grooves i of the ring I are each provided with a friction-match, K, that has such length as to permit its prepared end to just clear the front wall of the housing H, and said ring or holder is rotated in the direction necessary to cause said matches to pass outward from beneath the spring L, it will be found that each match will be ignited as it passes from beneath the serrated end l of said spring, and will burn with a flame sufficient to ignite the wick g' .

Motion is imparted to the ring or carrier I by a cam, M, which is rotated by means of a rod, m , that projects through the back B of the casing, and is provided with a single radial spur, m' , which at each revolution engages with one of a series of teeth, i' , that are provided upon the periphery of said carrier. The body of said cam is cylindrical, and, after said spur m' has passed out of engagement with said carrier, the body of said cam engages with and loosely fills a corresponding concavity, i^2 , that is provided within the periphery of the same, and, operating in the same manner as the ordinary stop mechanism of watches, prevents motion of said carrier in either direction until said cam has rotated sufficiently to bring said spur into engagement with another tooth, i' .

In order that the matches K may be removed from the carrier I after they have been used, the inner wall of the housing H is removed to form an opening, h' , at a point slightly beyond that where each match rests after ignition, as seen in Fig. 9. When, now, said carrier is rotated to ignite and bring into position a fresh match, the match last before used will pass over said opening h' , and will usually fall through the same into the lower portion of the casing. As, however, a match may occasionally stick to said carrier, and not of its own motion fall from the same, a groove, i^3 , is provided within the periphery of said carrier, and has such depth as to cause it to intersect each transverse

groove i . Into said groove i^3 is fitted a spring, N, which is arranged so that its free end will come into engagement with the burned match and press the same downward out of its recess i at the instant that the latter coincides with the opening h' , by which means the removal of a match after use is certain and automatic.

The igniting devices described render unnecessary the opening of the door of the casing for the purpose of lighting the lamp, and in order that the latter may be as readily extinguished, I pivot one end of a rod, O, to or upon one of the sides A, and to its opposite free end secure a cap, o , that is adapted to fit over the wick g' when said rod is turned downward to the position shown by the dotted lines of Fig. 3. A rod, P, having one end pivoted to said rod O, near the pivotal bearing of the latter, and its opposite end journaled eccentrically within one end of the cam M, connects said parts, so that the rotation of the latter to bring into position and ignite a match will cause said cap or extinguisher o to be raised to the position shown by the full lines of Fig. 3, while a farther partial rotation of said cam will cause said extinguisher to be turned downward over the wick, as seen by dotted lines of said figure.

It will be seen that by use of the mechanism described a partial rotation of the operating cam will cause the wick to be uncovered and ignited and the match last burned to be removed, while by the completion of one full rotation of said cam the light will be extinguished and the lantern restored to its normal condition.

The openings b within the back B, through which matches are placed within the carrier I, are closed when not in use by means of a plate, Q, which is placed between said back and carrier, is adapted to be partially rotated upon or around the axial center of the latter, and is provided with openings that correspond in number, size, and relative position to the like features of said openings b , and may be caused to coincide therewith; or the solid portions of said plate may be moved over said openings b , and the same closed, as desired. When it is desired to fill said carrier, said register-plate Q is (by means of a lug, q , that projects from its upper end outward through an opening, b' , in said back B) moved until its openings coincide with said openings b . A match, K, is then passed through each of the latter and said register closed.

In order that matches may be easily broken to length for use in the carrier or holder, and may be conveniently stored until required, the space between the real and false bottoms C and F is partitioned off at one end to form a box, R, which is inclosed by means of a slide, e , as shown in Figs. 2 and 3. Said box has a depth from said slide inward just equal to the desired length of match, and within said slide is provided a round opening, e' , that has such diameter as to permit of the insertion of a match, which match is pushed inward until

its inner prepared end touches the rear side of said box, when by a sidewise movement of its outer portion, the latter outside of said slide is broken off, leaving the necessary part 5 within the box, where it is safely stored until needed for use.

The lantern thus constructed can be easily and quickly lighted or extinguished without opening, whereby it is available in any kind 10 of weather, while its operative mechanism is simple, efficient, and inexpensive, and not liable to get out of order, and requires no other care than to occasionally supply the match-holder with matches.

15 Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. A lantern in which are combined the following elements, to wit: a lamp provided with 20 a wick or other flame-producing equivalent, a carrier adapted to receive and contain friction-matches, means whereby said carrier may be moved to bring each match successively into contact with or position near to said wick, 25 means whereby each match is ignited as it moves to position near said wick, and means whereby each burned match is automatically expelled from said carrier as the succeeding match is ignited and moved into position for 30 lighting said wick, substantially as and for the purpose specified.

2. A lantern in which are combined with the lamp means whereby the burner-wick may be 35 automatically ignited and extinguished by one rotation of the operating-shaft, substantially as and for the purpose shown.

3. In combination with the wick g' , the carrier or holder I, contained within the housing H, and provided with the grooves i , teeth i' , and concavities i'' , the spring L, having the 40 serrated end l , and the cam M, provided with the spur m' , substantially as and for the purpose set forth.

4. The combination of the housing H, provided with the opening h' , the carrier I, having the transverse grooves i and peripheral 45 intersecting groove i^3 , and the spring N, with mechanism, substantially as described, whereby said carrier may be rotated, substantially as and for the purpose described. 50

5. In combination with a lantern, a match holder or carrier adapted to be filled through the back of the casing of said lantern without opening the same, substantially as and for the 55 purpose specified.

6. The hereinbefore-described lantern, in which are combined with the casing and lamp the annular rotating match-holder, the friction-spring, the expelling-spring, the carrier-housing, the extinguisher, and means whereby 60 said match holder and extinguisher may be operated, said parts being constructed to operate substantially as and for the purpose shown.

In testimony that I claim the foregoing I 65 have hereunto set my hand this 6th day of April, 1883.

W. D. DOREMUS.

Witnesses:

GEO. S. PRINDLE,
PHILIP G. RUSSELL.

It is hereby certified that in Letters Patent No. 291,995, granted January 15, 1884, upon the application of Willard D. Doremus, of Washington, District of Columbia for an improvement in "Apparatus for Lighting and Extinguishing Lamps," the names of two of the assignees of said invention were written and printed "Samuel R. Stratton and John T. Stratton; that said names should have been written and printed *Samuel R. Strattan* and *John T. Strattan*; and that the proper corrections have been made in the files and records of the case in the Patent Office, and should be read in the patent to make it conform thereto.

Signed, countersigned, and sealed this 22d day of January, A. D. 1884.

[SEAL.]

M. L. JOSLYN,
Acting Secretary of the Interior.

Countersigned:

BENJ. BUTTERWORTH,
Commissioner of Patents.