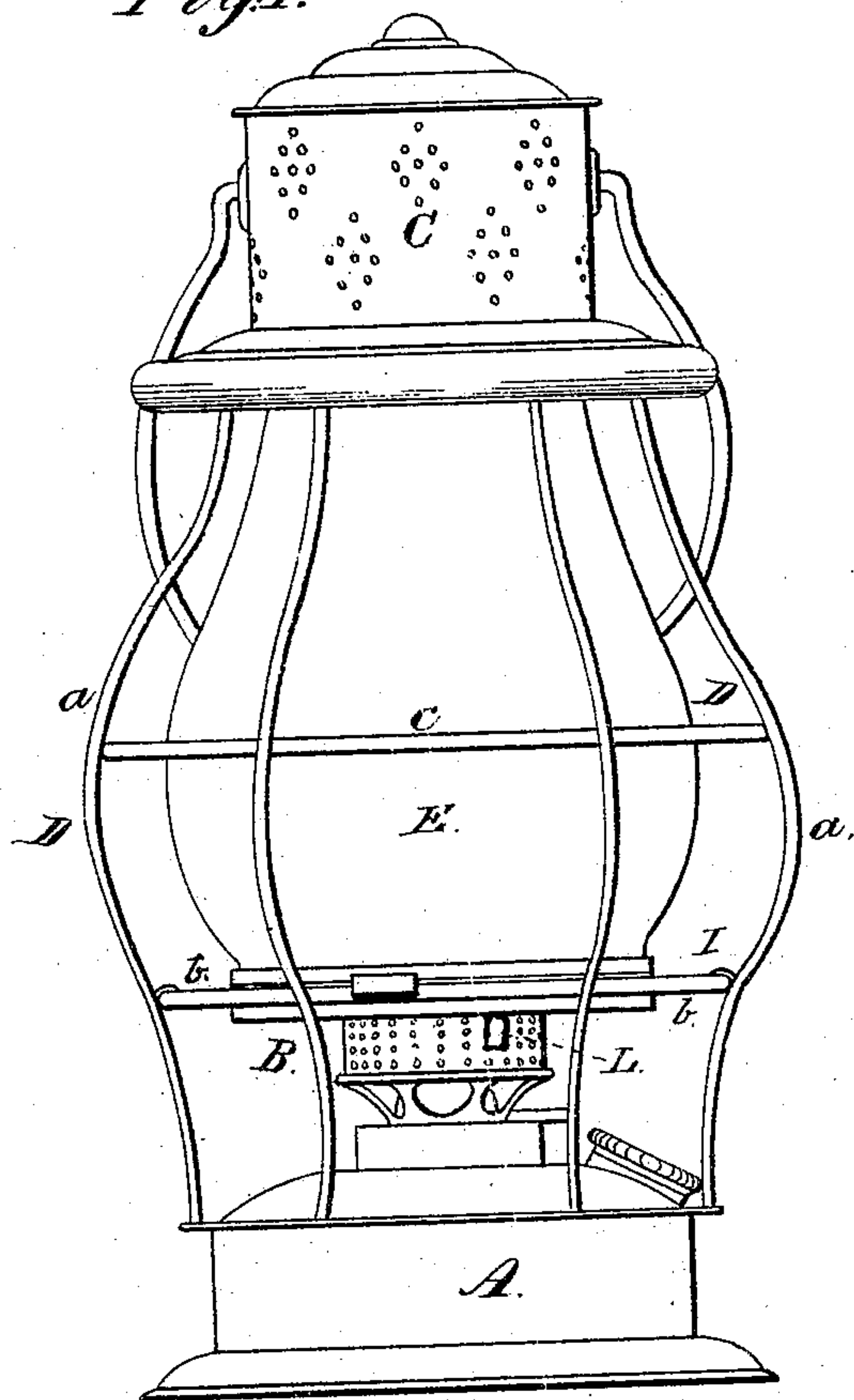


M. W. HOUSE.
Lanterns.

No. 152,493.

Patented June 30, 1874.

Fig. 1.



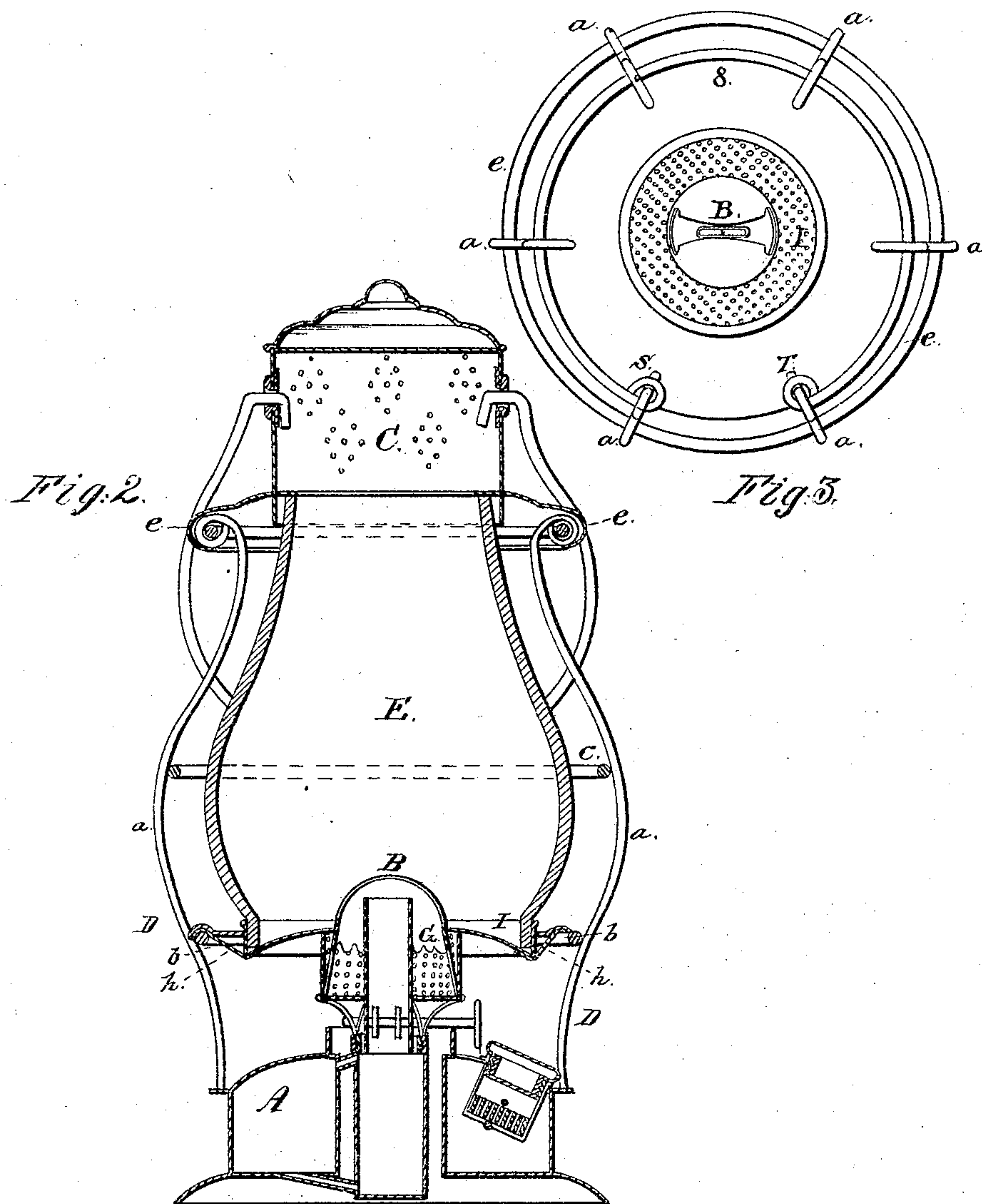
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UNITED STATES PATENT OFFICE.

MARK W. HOUSE, OF CLEVELAND, OHIO.

IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. **152,493**, dated June 30, 1874; application filed August 1, 1873.

To all whom it may concern:

Be it known that I, MARK WIGGINS HOUSE, of Cleveland, in the county of Cuyahoga and State of Ohio, have made an invention of certain new and useful Improvements in Lanterns; and that the following is a full, clear, and exact description and specification of the same.

The objects of this invention are to secure the glass globe to the lantern in such manner that it can be readily applied and removed, and also to secure rigidity in the various parts of the lantern, which are connected together with the capacity of disconnecting with facility. To these ends my invention consists, primarily, of the combination of the lantern-head and font by means of an expanding frame, which engages in a recess of the lantern-head, with the capacity of being contracted, so that it may be readily engaged and disengaged therefrom; or, if preferred, the expanding frame may be engaged and disengaged with and from the font in like manner. My invention consists, further, of the combination of the standards of the said expanding frame rigidly with the font, so that the expanding frame is indued with great lateral rigidity; and my invention consists, further, of the combination of the globe-gallery, (or support for the globe) with the font, through the intervention of the standards of the said expanding guard-frame, so that the burner is relieved from the strains incident to the globe, while the portion of the burner between the font and the flame-slot is exposed to the air.

In order that my invention may be fully understood, I have represented in the accompanying drawings, and will proceed to describe, a lantern embodying all my improvements in the best form at present devised by me.

Figure 1 represents a side view of said lantern. Fig. 2 represents a central longitudinal section of the same. Fig. 3 represents a horizontal section of the same at the line K K.

The principal members of the said lantern are the font A, the burner B, the glass globe E, the expanding frame D, and the lantern-head C. The expanding frame D is composed of a series of standards, *a*, and of rings *b c* S, by which they are connected. The lower two rings, *b c*, are complete, and are fixed solidly

to the standards. The upper ring, S, is divided, its ends, as seen in Fig. 3, being separated by a space, which permits the said two ends to be drawn together so as to contract the periphery of the divided ring. This divided ring is connected with the upper ends of the standards, and the frame is constructed of spring-wire, so that when it has been contracted by the drawing together of the ends of the ring S, it tends to re-expand and assume its original dimensions. The ends of the divided ring S are fastened to two of the standards, S T, so that the contraction of the frame is readily effected by pressing the upper ends of the said two standards toward each other. The lantern-head is constructed with a hollow rim, *e*, at its base, forming a ring-recess of a suitable area to receive the divided ring S and the upper ends of the standards which are connected with that ring. The diameter of the periphery of the recess is a little less than that of the divided ring when the upper end of the expanding frame (composed of the standards and rings) is expanded to its greatest extent; hence the lantern-head may be readily applied to the upper end of the expanding frame by pressing the ends of the divided ring toward each other, so as to contract the upper end of the frame sufficiently to permit it to be entered within the recess or cavity of the rim of the lantern-head; and the said head may then be firmly connected with the expanding frame, and with the font to which that frame is secured, by releasing the divided ring and permitting the upper end of the frame to expand into the said recess or cavity of the rim. The two standards of the frame, to which the ends of the divided ring are secured, afford a convenient means of applying force to contract the upper end of the frame. The expanding frame is arranged outside of the lantern-globe E, so that the expanding frame not only secures the head and font with the capacity of disconnection, but also forms a guard to protect the globe from injury. The burner B of the lantern may be of any approved variety. Its wick-tube is surrounded by a perforated screen, G, to prevent rapid currents from blowing out the flame; and a hole, L, of sufficient size to admit the lighted

end of a match, is made in this screen, so that the wick may be readily lighted without removing the globe. The expanding frame may be secured to the lantern-head and be arranged to connect and disconnect with the font A by expansion and contraction, the font in such case being fitted with a hollow rim, and the lower end of the frame being constructed with a divided ring; but it is deemed best to secure the standards *a a* of the expanding frame rigidly to the font, and to construct the upper end only of the expanding frame to expand and contract, because the frame is thereby rendered extremely strong to resist lateral strains. The lower end of the globe E is supported on a globe-gallery, I, which is perforated with small holes to admit air, and is also constructed with an opening at its center to fit upon the cone *g* of the burner. This globe-gallery is provided with arms *h*, whose outer ends rest upon the lower ring, *b*, of the expanding frame, so that the strain of the globe is borne by the standards which surround the burner, and not by the burner, which is thus relieved of the strains of the globe. This construction, while holding the globe rigidly, leaves an open space around the burner, so that the air has free access to it, and consequently the burner does not become as hot as it would if the portion between the flame-slot and the font were inclosed in a case or in the globe. The employment of the divided ring 8 to combine the several standards of the frame enables the spring force of all of them to be made available for the purpose of secur-

ing the font and lantern-head. Moreover, the engagement of the divided ring with a ring-recess in the rim of the font or head connects the frame simultaneously with the opposite sides of the periphery of the said rim, so that the necessity of using a hinge to connect one side of the frame with the head or font is dispensed with.

I am aware that lanterns have heretofore been constructed with guard-frames having spring-standards, and also that the heads and fonts of lanterns have been combined by means of spring guard-frames of some kind. Therefore, I do not claim, broadly, the combination of the lantern-head and font by a spring guard-frame of every description.

I claim as my invention—

1. The combination, substantially as before set forth, of the font, the lantern-head, the standards, and the divided ring which connects the ends of the standards and is engaged in the ring-recess of one of the first two.

2. The combination, substantially as before set forth, of the font, the globe-gallery above the font, the standards secured rigidly at their lower ends to the said font and supporting the globe-gallery, the divided ring by which the upper ends of the standards are connected, and the lantern-head having a ring-recess in which the said divided ring is engaged.

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