

(No Model.)

2 Sheets—Sheet 1.

W. C. HOMAN.
LANTERN.

No. 573,148.

Patented Dec. 15, 1896.

Fig. 1.

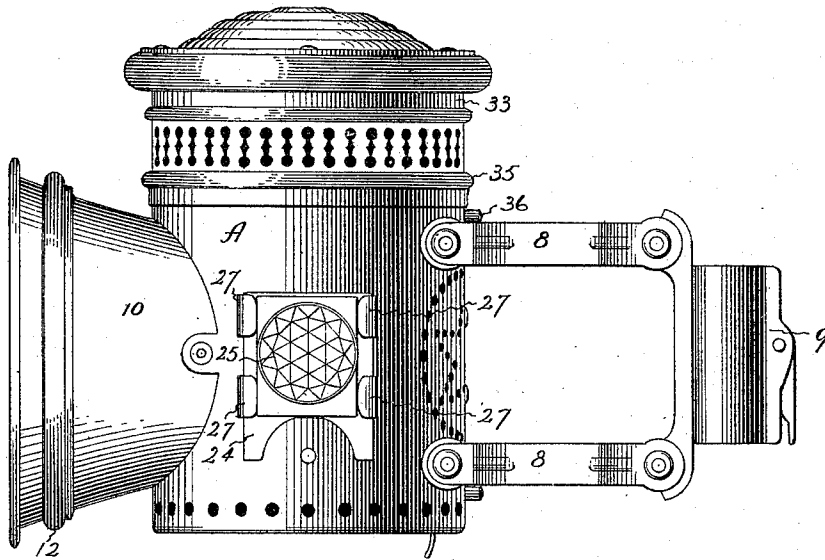


Fig. 2.

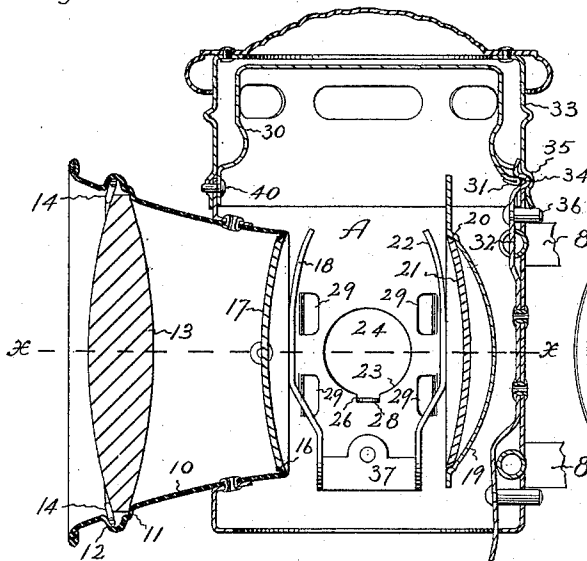
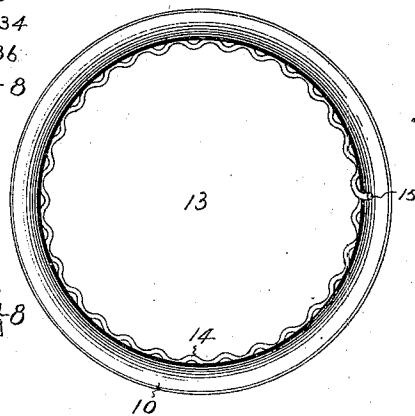


Fig. 3.



Witnesses

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Fig. 4.

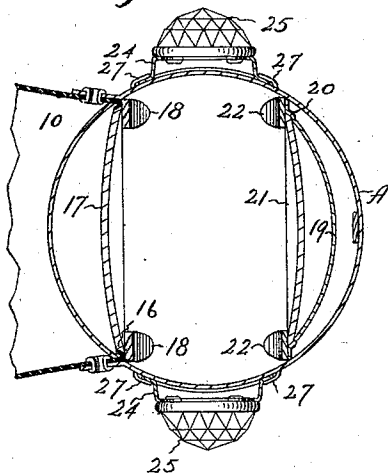


Fig. 5.

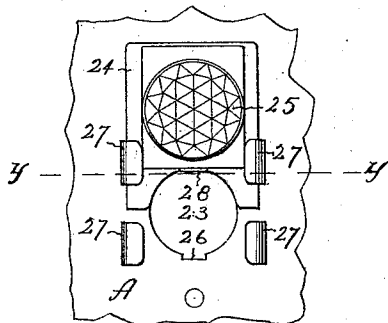


Fig. 6.

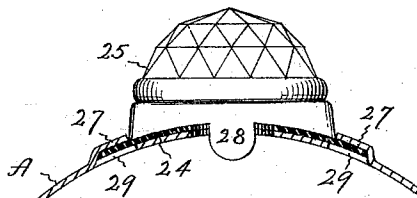


Fig. 7.

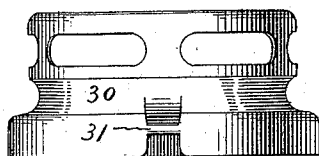


Fig. 8.

14 15 14
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UNITED STATES PATENT OFFICE.

WILLIAM C. HOMAN, OF MERIDEN, CONNECTICUT, ASSIGNOR TO THE
EDWARD MILLER & COMPANY, OF SAME PLACE.

LANTERN.

SPECIFICATION forming part of Letters Patent No. 573,148, dated December 15, 1896.

Application filed May 4, 1896. Serial No. 590,174. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. HOMAN, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Lanterns, of which the following is a specification.

My invention relates to improvements in lanterns for bicycles; and the main objects of my improvement are simplicity and economy in construction and general efficiency in use.

In the accompanying drawings, Figure 1 is a side elevation of my lantern. Fig. 2 is a central vertical section of the main portion of the same. Fig. 3 is a front view of the lens and its mounting. Fig. 4 is a horizontal section of the lantern-body and a portion of the lens-tube on the line *x x* of Fig. 2. Fig. 5 is an enlarged view of a portion of the lantern-body in side elevation, showing one of the side openings and its slide or cover. Fig. 6 is a horizontal section of the same on the line *y y* of Fig. 5, looking upwardly. Fig. 7 is a detached side elevation of the inner dome on the same scale as Figs. 1 to 4, and Fig. 8 is a front view of the ends of the lens-holding ring or wire.

A designates a cylindrical lantern-body having any suitable bracket 8 and clamp or holder 9 for attaching it to and supporting it upon a bicycle in any ordinary manner. Upon one side of said body is the lens-tube 10, which in the main may be of any desired form. I provide said tube near its outer end with a lens-seat or shoulder 11, Fig. 2, and immediately in front of said shoulder with a bead 12, the inside of which forms a groove. The lens 13 is inserted from the front and placed upon the lens-seat 11. It is then held in place by means of the lens-holding ring or wire 14, in the form of an open ring of corrugated, wavy, or zigzag wire, having one of its ends bent at right angles to the plane of the ring to serve as a handle 15. The corrugations or waves 16 are bent to lie flatly, substantially within the plane of the ring, while the distance from the extreme outer edge of the ring to its extreme inner edge, at one side, is considerably in excess of the diameter of the wire according to the depth of the waves or bends. When this ring is detached from the lens-tube, its ends

spring apart, as shown in Fig. 8. It is crowded into the lens-tube with its outer edge resting in the groove of the bead 12 and with its inner edge pressing upon the front of the lens. The front of the lens is rounded, and consequently the corrugations yield flatwise to accommodate this rounded face, thereby giving the ring a tendency to firmly press the lens to its seat, taking up all looseness of the parts, as well as holding the glass within its mount. The corrugations thus allow for variations in the thickness of the glass, and it is evident that this could not be the case in a ring formed of straight wire merely bent to the proper circle of the ring. It is thought that corrugated wire in the form of a flat ring will spring sufficiently into the dishing form necessary to accommodate the front of the rounded lens; but it may be struck in dies or otherwise given a somewhat dishing form, if desired, taking care, however, to leave it flat enough to press the lens firmly to its seat.

The metal at the inner end of the lens-tube is turned inwardly to form a seat 16, Figs. 2 and 4, for a second lens or protecting-glass 17. The edge of said glass is beveled to fit said seat, and said glass is held in place by means of springs 18 that bear upon it near the edge at diametrically opposite sides. The reflector 19 is formed in a plate-like slide, having a seat 20 for the cover-glass or lens 21. The opposite edges of this reflector-plate rest upon the inner wall of the lantern-body, as shown by the horizontal section, Fig. 4, and the combined reflector and cover-glass are held in place by two springs 22 in the same way that the protecting-glass 17 is held, as before described. I prefer to form the springs 18 and 22 in pairs with connecting-shanks 37, by which each pair of springs may be secured to the inside of the lantern-body, as shown in Fig. 2, with the springs 18 bearing on the glass 17 and the springs 22 on the combined reflector and cover-glass 19 and 21, as shown. These parts can readily be slipped out from under the springs when desired for cleaning or other purpose and then slipped back into place.

Any desired form of lamp may be secured within the base of the lantern-body, but I do not deem it necessary to illustrate the same.

In order to furnish access to the interior of the lantern without detaching the lamp therefrom, I provide side openings 23 and cover-slides 24, said slides being provided with any desired ornament 25, all substantially as in ordinary lanterns of this class. The side openings are of a circular form, and at the lower edge of each opening is the notch or recess 26. I hold said slides in place by means of elastic guide-lugs 27 and the stops 28. The lower end of the slide has a semi-circular recess, at the middle or top of which is the stop 28. Originally this stop was in the plane of the slide, but after the slide is in place it was bent into the position shown, so as to project into the side opening 23. The elastic lugs 27, which hold the slide, are cut from the body of the metal and offset therefrom to the form shown, the holes 29 from which said lugs were cut being shown in Figs. 2 and 6. This manner of forming the lugs is very cheap and simple, and the lugs being elastic hold the slide firmly without any rattle, and yet permit the slides to move easily and smoothly. The stop limits the downward movement of the slide when in its closed position, as in Figs. 1 and 2, and also in its upward or open position for uncovering the opening 23, as in Fig. 5.

The inner dome 30 has on one side, a little above its lower edge, a shelf or ledge 31, that serves as one member of a catch or latch, and diametrically opposite thereto is a latch-pin 40, fixedly secured and projecting outwardly. This pin passes through a hole in the upper end of the lantern-body to hold one side of the dome in place, while the inner face of the hollow cross-rib 34 on the spring catch or latch 32 engages the shelf or ledge 31 on the inner dome and holds the outer edge thereof. The outer dome 33 has a hole in it for engaging near its lower edge the projecting end of the pin 40 of the inner dome and holding that side of said outer dome, while the diametrically opposite side of said dome is engaged and held by the outer face of the hollow cross-rib 34 of the catch 32, said rib entering the hollow of the bead 35 near the lower edge of said outer dome.

A push-pin 36 on the body of the spring-catch enables said catch to be released by pressing inwardly on said push-pin. Said push-pin, although convenient, is not necessary, as the domes may be released from the spring-catch if sufficient force is applied to them in the direction to pull them off. In either event, however, the construction is such that the domes must be taken off separately, and if it is desired to remove the outer dome only there is no danger that the inner dome shall be removed in the act of removing the outer one.

From the construction before described it

will be observed that the hollow cross-rib of the spring-catch must be pressed or forced inwardly in order to withdraw it from the hollow of the bead 35. In thus moving inwardly it is of necessity forced toward the inner dome, so that the inner face of said hollow cross-rib receives the shelf or ledge 31 and locks the inner dome positively in place. In other words, the very act of disengaging the spring-catch from the outer dome necessitates a closer engagement of said latch on the inner dome, so that unlocking the former locks the latter. While the pin 40 is a convenient device to hold one side of the domes in place, any equivalent or ordinary device may be substituted therefor, as my improvement more particularly relates to the fastening devices on the catch side of said domes.

I do not wish to limit my claims to the precise details of construction shown, but wish it distinctly understood that I intend to cover all such modifications thereof as fairly fall within the spirit and scope of my invention.

I claim as my invention—

1. In a lantern, a lens-tube having the lens-seat and adjacent internal groove, and a spring-ring of wavy wire adapted to fit on the front face of the lens and inner side of said groove, substantially as described and for the purpose specified.

2. In a lantern, the body having a side opening for furnishing access to the interior of the lantern, and provided with the notch or recess 26 at its lower edge, elastic lugs cut from separate openings in the metal of said lantern-body by the sides of said side opening, and the cover-slide fitted within said lugs and having at its lower end a semi-circular recess and the stop 28 at the middle thereof, said stop being adapted to rest in the said notch or recess 26 when the said side opening is closed by said cover-slide, substantially as described.

3. In a lantern, the combination of the lantern-body having a spring-catch 32, with the inner and outer domes having catch-engaging portions, the inner dome being caught by the inner face of said spring-catch and the outer dome by its outer face, substantially as described and for the purpose specified.

4. In a lantern, the combination of a lantern-body, the spring-catch secured thereto, having a holding-recess on its inner face and a holding projection on its outer face, the inner and outer domes adapted to engage the said opposing holding-faces, substantially as described, whereby the act of unlocking the outer dome locks the inner one.

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Witnesses:

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