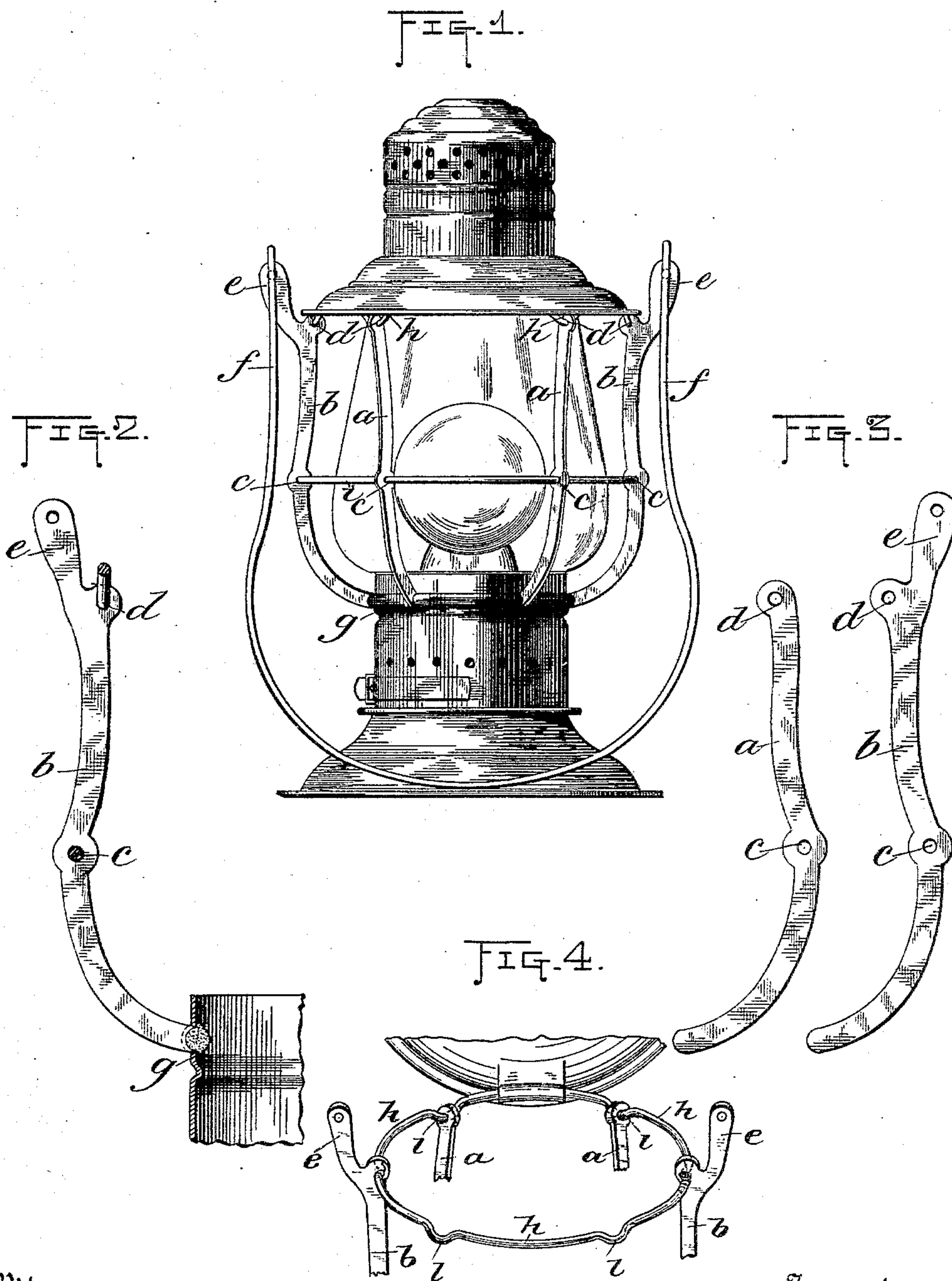


(No Model.)

A. W. PAULL.
LANTERN GUARD FRAME.

No. 411,676.

Patented Sept. 24, 1889.



Witnesses
H. D. Corwin
H. L. Gill

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UNITED STATES PATENT OFFICE.

ARCHIBALD W. PAULL, OF WHEELING, WEST VIRGINIA, ASSIGNOR TO
JAMES H. RAYMOND, TRUSTEE, OF CHICAGO, ILLINOIS.

LANTERN GUARD-FRAME.

SPECIFICATION forming part of Letters Patent No. 411,676, dated September 24, 1889.

Application filed December 23, 1886. Serial No. 222,372. (No model.)

To all whom it may concern:

Be it known that I, ARCHIBALD W. PAULL, of Wheeling, in the county of Ohio and State of West Virginia, have invented a new and useful Improvement in Lantern Guard-Frames; and I do hereby declare the following to be a full, clear, and exact description thereof.

My present invention relates to that class of guard-frames for lanterns wherein the vertical bars or ribs are in plate form, with their edges outward or radially arranged, and with the horizontal guard-rings passing through the perforations or eyes in the vertical ribs or frame-pieces; and it consists in features of construction hereinafter described and claimed.

I will now proceed to describe my invention more specifically, so that others skilled in the art to which it appertains may apply the same.

Figure 1 is a view of a lantern provided with my improved guard-frame. Fig. 2 is a section of one side of the guard-frame, showing its attachment to the lantern. Fig. 3 is a view of two of the vertical ribs of the frame. Fig. 4 is a detail perspective view of the top ring of the guard-frame, together with portions of several of the vertical flat ribs of the guard-frame, and a portion of the cap or top turned back, showing the loops *l* integral with or forming part of the top ring *h*.

Like letters of reference indicate like parts in each.

I form the vertical ribs of thin sheet or plate steel or other suitable metal by stamping or cutting them out of the same in forms indicated in Fig. 3, or any other forms suitable to the particular form of lantern with which they are to be used, so that when arranged to form the frame their edges will be in radial lines with the globe and conform substantially to the shape thereof. These flat ribs *a b* are perforated at or near the middle, as at *c*, for the passage of the middle wire, and at or near the top, as at *d*, for the passage of the top ring or wire of the frame to which the top of the lantern is secured. The ribs *b*, of which there are two to each lantern-frame, have an upward extension *e*, perforated for the purpose of hinging the

bail or handle *f* thereto. The perforations at *c* and *d* may be made at the time of stamping or punching out the vertical rib, so as to complete the whole at one operation, or may be subsequently punched, if preferred. The lower ends of the ribs are soldered or otherwise fastened to the band *g* of the lantern-base, and the upper ends are secured together by means of the top ring *h* of the frame, the ring being bent down at the points of attachment to form loops *l*, integral with ring *h*, for that purpose. The middle ring *i* passes through perforations *c*, and is secured thereto by soldering or in any other desired way. The ribs, being wide and flat and radially arranged with relation to the globe, make an extremely strong and durable frame. The edge of each vertical rib is turned outward, so that any blows or shocks falling upon the vertical ribs are not liable to bend or break the frame. The ribs are very much stronger in the direction of their width than in the direction of their thickness, so that the arrangement is adapted to make a frame of very much greater strength than one in which the ribs are composed of wires, and at the same time the width of the ribs not only does not interfere with the dissemination of the light, but affords a means for a better and stronger attachment of the wire rings, the latter passing through the perforations *c d*, instead of being soldered or otherwise fastened to the outside of the ribs.

This frame is cheaper than the wire frame, because the ribs can be stamped or cut out of rolled sheets of steel or other suitable metal, which is considerably cheaper than wire, and the frame can be fitted up with less labor and cost than a wire frame. It is much handsomer in appearance and susceptible of a finer and better finish than a wire frame. The top ring *h* extends between the ribs flush with their upper ends, to support the lantern-top *i*, and at each rib is bent or looped downward to pass through the perforations *d*, and thereby fasten and brace the upper ends of the ribs, so as to constitute a part of the frame.

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

1. In a lantern, vertical plate-metal ribs of

rectangular cross-section arranged radially in the frame, two of said ribs being formed with ears for the reception of the bail, in combination with circular cross-ribs attached to said vertical ribs, and a lantern-top attached to the upper circular cross-rib, substantially as described.

2. In a lantern, the combination, with the bail, base-band, top ring, and an intermediate wire guard-ring, of a series of curved radially-arranged plate-metal ribs provided with perforations for the passage of the horizontal guard-frame wire, two of said ribs having upwardly-projecting bail-ears, substantially as and for the purposes specified.

3. The combination, in a lantern-frame, of a series of vertical plate-metal ribs having perforations at their upper ends for the top ring, and arranged radially in the frame, and a top ring having a series of loops at the points where it passes through the vertical guard-ribs, substantially as and for the purposes specified.

4. The combination, in a lantern-frame, of a series of vertical plate-metal ribs having perforations at their upper ends for the top ring, two of said ribs having upwardly-projecting bail-ears, said ribs arranged radially in the frame, a top ring having a series of loops at the points where it passes through the vertical guard-ribs, and a bail pivoted in the projecting bail-ears, substantially as and for the purposes specified.

5. The combination of a base-basket comprising ribs of oblong cross-section inserted edgewise to the burner, two ribs being formed with ears for the reception of the bail, the basket having horizontal or cross ribs, and a top attached to the upper cross-rib, substantially as and for the purposes specified.

In testimony whereof I have hereunto set my hand this 17th day of December, A. D. 1886.

ARCHIBALD W. PAULL.

Witnesses:

GEO. H. ROBINSON,
ALFD. PAULL.