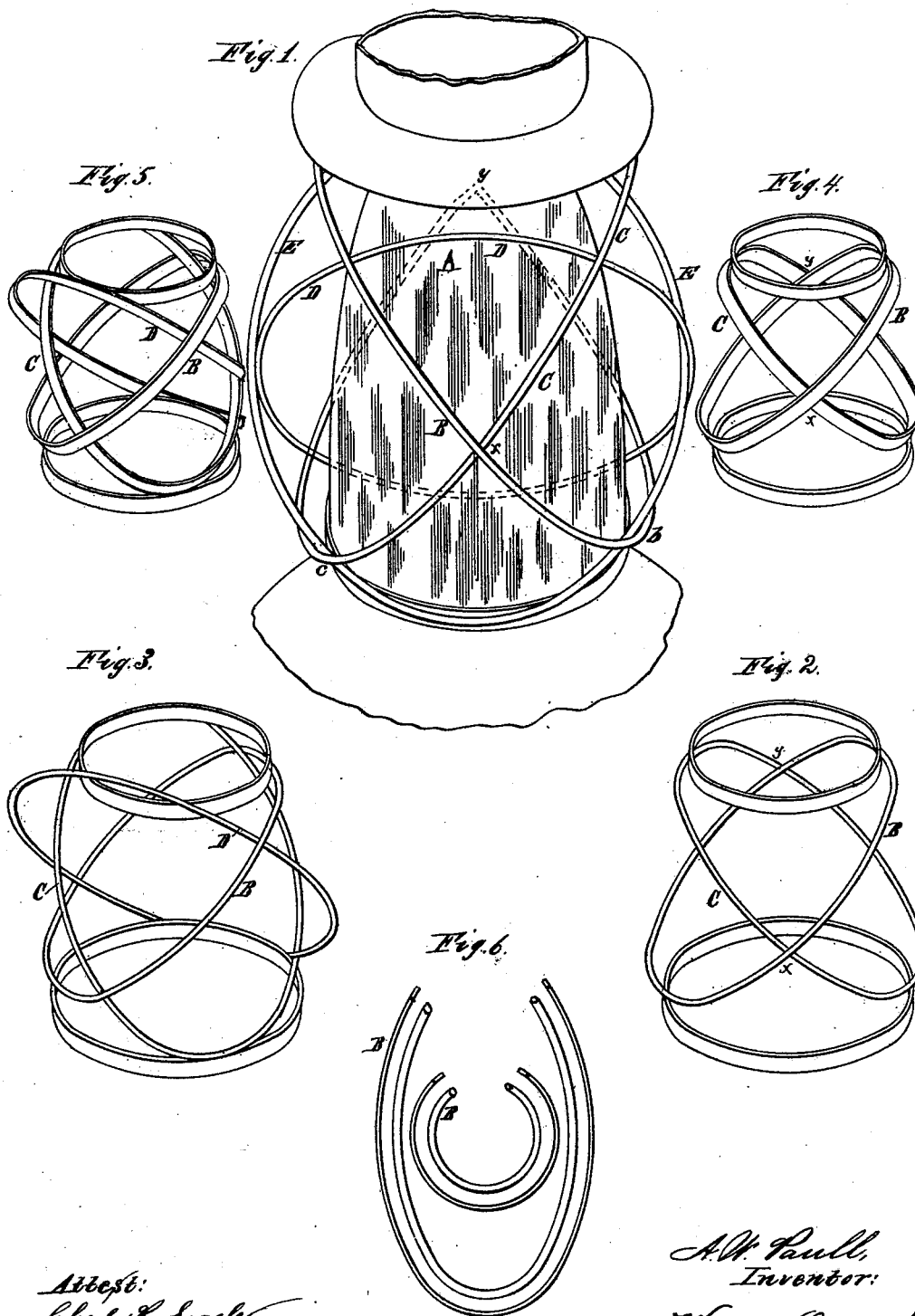


A. W. PAULL.
Lantern-Guard.

No. 221,698.

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UNITED STATES PATENT OFFICE.

ARCHIBALD W. PAULL, OF WHEELING, WEST VIRGINIA, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO CHARLES S. S. BARON, OF BELLAIRE, OHIO.

IMPROVEMENT IN LANTERN-GUARDS.

Specification forming part of Letters Patent No. **221,698**, dated November 18, 1879; application filed September 26, 1879.

To all whom it may concern:

Be it known that I, ARCHIBALD W. PAULL, of Wheeling, county of Ohio, and State of West Virginia, have invented certain new and useful Improvements in Lantern-Guards, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a perspective view, showing so much of a lantern as is necessary for purposes of the present description and the application thereto of my improved form of guard in its most approved shape. Figs. 2 and 3 are perspective views, showing the guard as composed of round wire and made up of two and three rings, respectively. Figs. 4 and 5 are perspective views, showing the improved guard as it appears when made of flat bands instead of round wire, and as composed of two and three bands, respectively. Fig. 6 is a plan of various styles of rings, either round or oval, which may be employed to construct the improved guard.

Like letters of reference wherever they occur indicate corresponding parts in all the figures.

My invention has relation to that part of a lantern or lamp or other illuminating apparatus commonly known as the "guard" or "guard-wire," and serving to protect the globe or chimney from damage during use.

The invention has for its object the production of a simple, strong, and efficient guard, which may be constructed without special tools and machinery, and applied easily and cheaply to all forms of illuminating devices.

To accomplish this object it (the invention) consists, essentially, in making the guard of two, three, or more separate rings or bands, the same crossing each other diagonally about the chimney or globe, being secured in a suitable way to the frame-work of the device to which it is applied, and suitably connected with each other at the points where they cross, so as to prevent displacement, and to insure a sufficient rigidity of the whole, all of which will be hereinafter first fully described, and then pointed out in the claims.

A may be any form of globe or chimney which it is desired should be protected by a guard-wire or guard. It is shown as mounted upon a ring for a base, and having a dome at top, as in the case of an ordinary hand-lantern, which style of illuminating apparatus is most commonly supplied with a protector; but the ring and dome are no essential parts of the present invention, and either or both may be omitted, or their places supplied by other elements, at pleasure.

In its most approved form the improved guard is constructed substantially after the manner indicated in Fig. 1—that is, of four separate and distinct rings or bands of wire, B, C, D, and E. The wire B, for instance, is secured to some convenient part of the lamp or lantern structure, as at *b*, and carried diagonally across the globe A. The opposite wire or ring, C, is secured at a point, *c*, opposite *b*, and made to cross B, as at *x* and *y*, lying inside of B at *x* and outside of it at *y*. The remaining two rings, D and E, are similarly secured, located, and crossed, being so disposed about their support as that the several points of tangency will be about equally distant from each other. At the several points of crossing above the points nearest the support the rings are joined by fine wire or by solder in any approved way. This method of crossing the rings of the guard makes it convenient to employ rings of like diameter, so that they may be made of wires of equal length, and by joining them at the crossing-points a firm and efficient cage is formed about the globe.

The dome, if one be used, may be conveniently secured at the uppermost parts of the rings; or these upper parts may be left free.

For most styles of lanterns the circular rings are preferable, since they are easier made and give a better appearance when in place; but oval or other shaped rings might be employed, as indicated in Fig. 6.

The four rings shown in Fig. 1 are preferred, because they afford a convenient number of crossing-points, and a guard capable of protecting the globe under all circumstances of

ordinary usage; but the invention contemplates also the use of two rings, as indicated in Fig. 2, or three rings, as in Fig. 3, or any number greater than three, according to the circumstances of the case. If two or three rings be used, it may be deemed desirable to place one or more additional rings around the whole in a horizontal direction.

Instead of the round wire, which is most commonly used for similar purposes, a flat band may be employed, as indicated in Fig. 6, and this braided or woven with others in sets of two or three, as indicated in Figs. 4 and 5, or in sets of any other number, at pleasure, and in round, oval, or other figure in plan.

Though the disposition of the rings or bands in such manner that they may be made of equal diameters is much preferred, both on account of the cheapness of manufacture and the uniform appearance of the cage, such disposition is not essential, inasmuch as, if desired, the rings may obviously be made of varying diameters. In some instances the securing of the rings at the crossing-points might be omitted.

When constructed and arranged substantially in accordance with the foregoing explanations, the improved guard will be found to admirably answer the several purposes and objects of the invention, as previously stated.

I am aware of previous forms of guards made of wire and composed of horizontal and vertical pieces, united in various ways, and also that guards have been constructed of one continuous wire. To these old forms I desire it understood that I make no claim; but,

Having now fully described my invention, what I do claim as new, and desire to secure by Letters Patent, is—

1. The herein-described guard or guard-wire, composed of two or more rings or bands, inclined diagonally across the globe, and secured substantially in the manner shown and described.

2. The combination of two or more separate rings or bands, made to cross each other, and secured to each other at the crossing-points, forming an open guard or cage for a lamp or lantern globe, substantially as shown and described.

3. The combination of two or more separate rings or bands of equal diameter, made to cross each other, and secured to each other at the crossing-points, forming an open guard or cage for a lamp or lantern globe, substantially as shown and described.

4. The combination of two or more separate rings or bands of equal diameter, made to cross each other in the manner explained, so that one will lie within the other on one side of the globe and without it on the opposite side, forming a guard or cage for the globe, substantially as explained.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

A. W. PAULL.

Witnesses:

HARRY YOUNG,
JNO. MORGAN.