(No Model.)

C. L. BETTS.

WIRE FRAME.

No. 445,155. Patented Jan. 27, 1891.

Fig. 1.

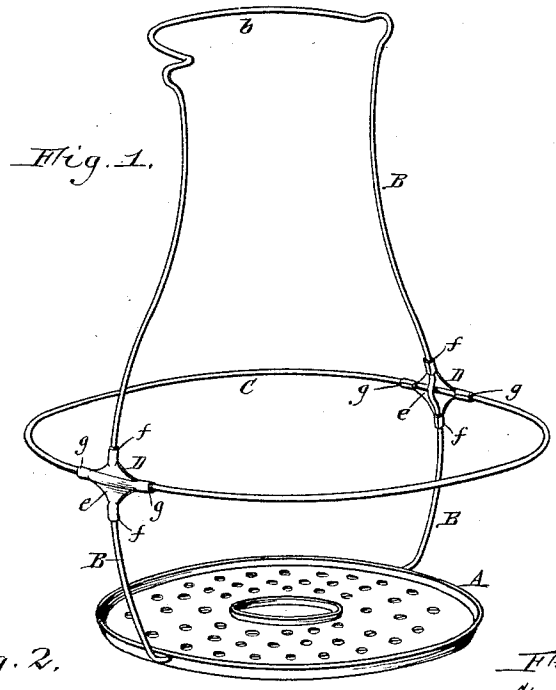


Fig. 2.

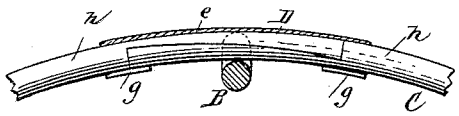


Fig. 4.

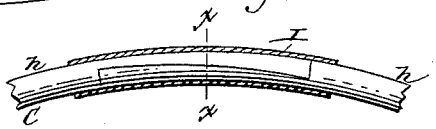


Fig. 5.

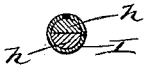


Fig. 3.

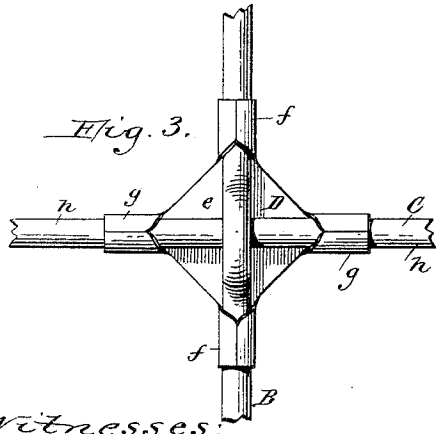
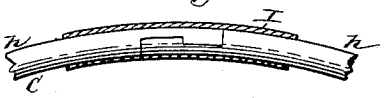


Fig. 6.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES L. BETTS, OF NEW YORK, ASSIGNOR TO THE STEAM GAUGE AND LANTERN COMPANY, OF SYRACUSE, AND THE R. E. DIETZ COMPANY, OF NEW YORK, N. Y.

WIRE FRAME.

SPECIFICATION forming part of Letters Patent No. 445,155, dated January 27, 1891.

Application filed August 22, 1890. Serial No. 362,739. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. BETTS, a citizen of the United States, residing at New York, in the county and State of New York, have invented a new and useful Improvement in Wire Frames, of which the following is a specification.

This invention relates to wire frames or cages which are composed of horizontal rings and upright wires—such, for instance, as the frames and guards of lanterns, bird-cages, &c.

The object of my invention is to securely fasten the two ends of the bent wire which forms a ring together without soldering and to connect the rings to the upright wires in a simple, durable, and neat manner.

In the accompanying drawings, Figure 1 is a perspective view of a lantern-guard containing my improvement. Fig. 2 is a horizontal section, on an enlarged scale, of the meeting ends of the horizontal wire and connecting parts. Fig. 3 is an inside elevation thereof. Fig. 4 is a horizontal section of the meeting ends of the horizontal wire secured together by a simple sleeve. Fig. 5 is a cross-section thereof in line *x x*, Fig. 4. Fig. 6 is a horizontal section showing a modified construction of the meeting ends.

Like letters of reference refer to like parts in the several figures.

A represents the perforated globe-supporting plate of a tubular lantern.

B represents the upright side wires of the guards secured with their lower ends to the globe-supporting plate, and connected at their upper ends by a bow *b*.

C represents the horizontal ring of the guard, which rests against the outer sides of the side wires and is secured thereto by clips D. The latter are each composed of a body or plate *e* and upright sleeves or clasps *f* and horizontal clasps *g*. These clips are stamped of tin with their sleeves or clasps open, and are then placed against the outer sides of the intersecting wires, and closed so that the upright sleeves *f* become attached to the upright wire and the horizontal sleeves *g* to the horizontal ring, whereby the latter is secured to the upright wire.

h h represent the meeting ends of the wire, which is bent to form the horizontal ring. These meeting ends rest one against the other or overlap each other, and are made larger at their ends than at their junction with the body of the wire, while the aggregate size of both meeting ends is the same at all points as that of the wire. This enlargement can be formed by beveled under-cuts, as represented in Figs. 2 and 4, or by rectangular under-cuts, as represented in Fig. 6. When the horizontal ring is attached to an upright wire, as shown in Figs. 1, 2, and 3, the joint of the horizontal ring is located adjacent to the upright wire, so that the horizontal sleeves *g* of the clip embrace the meeting ends and secure them together. In this case the clip serves both as a means of securing the meeting ends together and of securing the ring to the upright wire. As the meeting ends of the ring are undercut, they cannot become separated after the clip is applied, and the employment of solder for securing the ends together is thereby obviated. When the joint of the ring is not located adjacent to an upright wire, or when no upright wire is employed, the undercut meeting ends can be secured together by a simple sleeve I, as represented in Figs. 4, 5, and 6.

I claim as my invention—

The combination, with a wire ring constructed with undercut overlapping end portions, whereby the end portions are interlocked against longitudinal movement on each other, of a sleeve or clasp which embraces the overlapping ends and whereby the latter are firmly secured together without solder, substantially as set forth.

Witness my hand this 19th day of August, 1890.

CHARLES L. BETTS.

Witnesses:
I. J. ALLEN,
J. F. HEANEY.