(No Model.)

C. F. ERB.

METALLIC TUBE.

No. 426,000. Patented Apr. 22, 1890.

Fig. 1.

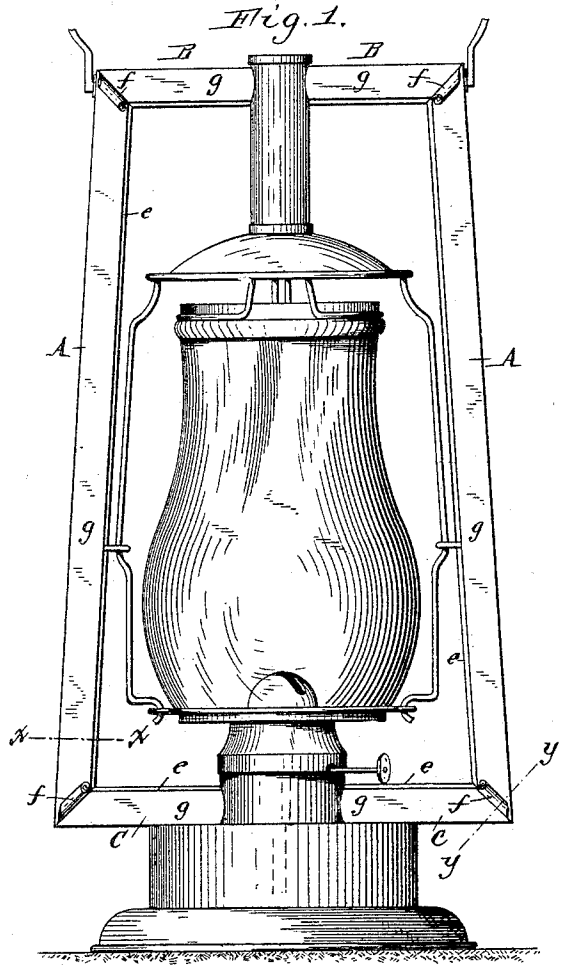


Fig. 5.

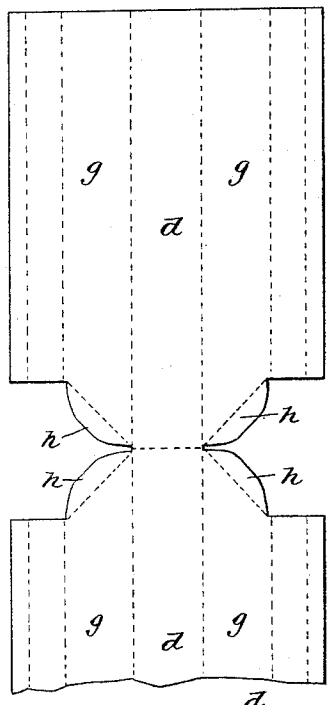


Fig. 2.

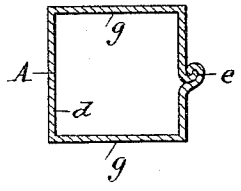


Fig. 3.

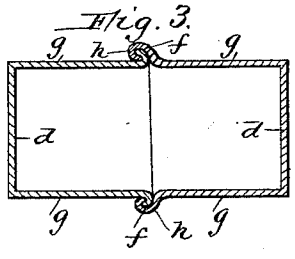
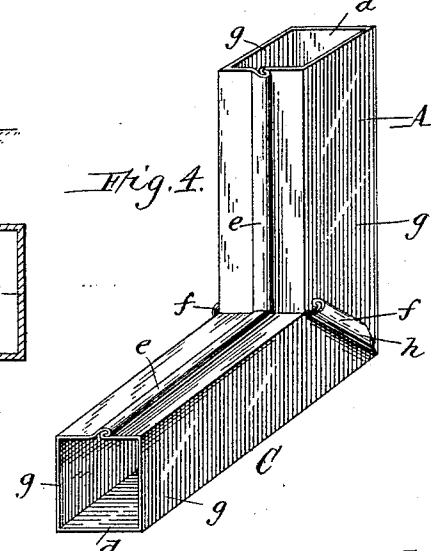


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES FREDERICK ERB, OF NEW YORK, N. Y., ASSIGNOR TO THE R. E. DIETZ COMPANY, OF SAME PLACE, AND THE STEAM GAUGE AND LANTERN COMPANY, OF SYRACUSE, NEW YORK.

METALLIC TUBE.

SPECIFICATION forming part of Letters Patent No. 426,000, dated April 22, 1890.

Application filed December 30, 1889. Serial No. 335,345. (No model.)

To all whom it may concern:

Be it known that I, CHARLES FREDERICK ERB, 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 Metallic Tubes, of which the following is a specification.

This invention relates to that class of metallic tubes which are constructed of thin sheet metal—for instance, tin—and which have flat sides. Tubes of this kind are extensively used in tubular lamps and lanterns. In these flat-sided lantern-tubes the upright main portion of the tube and the horizontal top and bottom branches thereof are usually formed of a single blank, which is bent at the elbows at a right angle, or nearly so. A tube of this construction is described and shown in Letters Patent No. 390,553, granted to L. F. Betts, dated October 2, 1888. In the tube of this patent the flat back of the tube is continuous, and the diagonal edges of the side portions overlap each other at the elbows and are soldered together. The rigidity of the elbows therefore depends upon the strength of these solder-joints, and as a square or flat-sided tube is not as stiff as a round tube, and the elbows are often imperfectly soldered, a lamp or lantern provided with these tubes, although cheaper of construction, is not usually as strong and rigid as one provided with round tubes.

The object of my invention is to overcome this difficulty and to connect the main portion of the tube more rigidly with its branches.

In the accompanying drawings, Figure 1 represents a tubular lantern provided with my improved tube. Fig. 2 is a cross-section of the tube in line *x x*, Fig. 1, on an enlarged scale. Fig. 3 is a cross-section of the elbow in line *y y*, Fig. 1, on an enlarged scale. Fig. 4 is a perspective view of the lower elbow portion of the tube. Fig. 5 is a fragmentary view of the blank of sheet metal from which the tube is formed.

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

A represents the upright main portion of a lantern-tube, B the upper branch, and C the lower branch, thereof. The main portion of the tube and the branches are square, or nearly so, in cross-section and connected by the continuous flat back *d*. The longitudinal edges of the blank are seamed together on the inner side of the tube, as shown at *e*. The adjacent diagonal side portions of the tube, which extend inwardly from the bend or elbow, are interlocked or seamed together, as shown at *f*. For this purpose the diagonal edges *g* of the blank, which extend from the continuous back *d* outwardly in the notches formed in both sides of the blank, are provided with flanges *h*, of sufficient width to be interlocked with each other or seamed together when the tube has been bent. The diagonal seams *f* on both sides of the elbow form a rigid and durable connection, which retains the two parts of the elbow-tube in their proper relative position and materially increases the strength and durability of the lamp, lantern, or other structure in which the tube is used, while the expense of soldering is saved.

I claim as my invention—

1. An elbow-tube having diagonal side seams at the elbow, substantially as set forth.

2. An elbow-tube constructed with a flat back and having the diagonal edges of its side portions interlocked with each other, substantially as set forth.

3. An elbow-tube having a continuous flat back and having the edges of its side portions connected by diagonal seams, substantially as set forth.

Witness my hand this 26th day of December, 1889.

CHARLES FREDERICK ERB.

Witnesses:

I. J. ALLEN,

NEIL J. CONSIDINE.