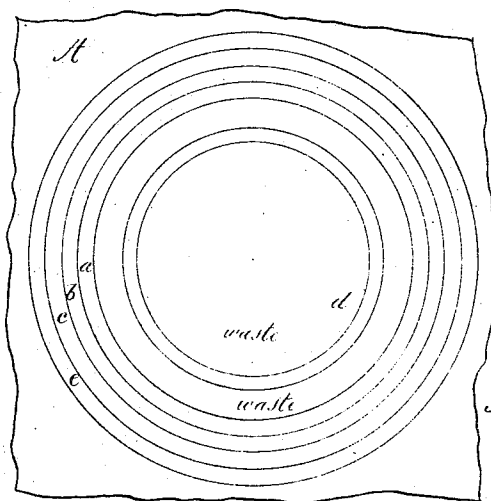
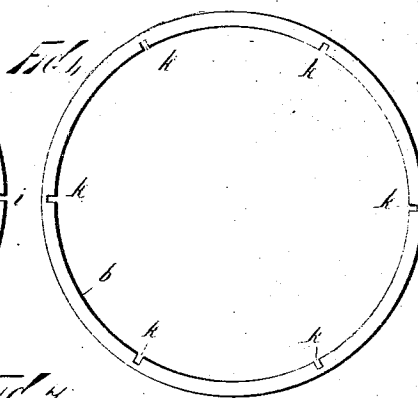
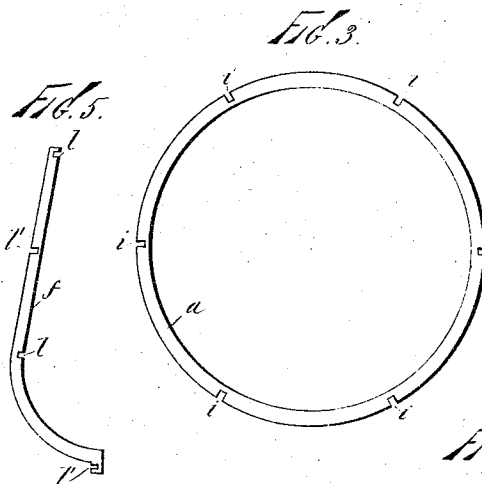
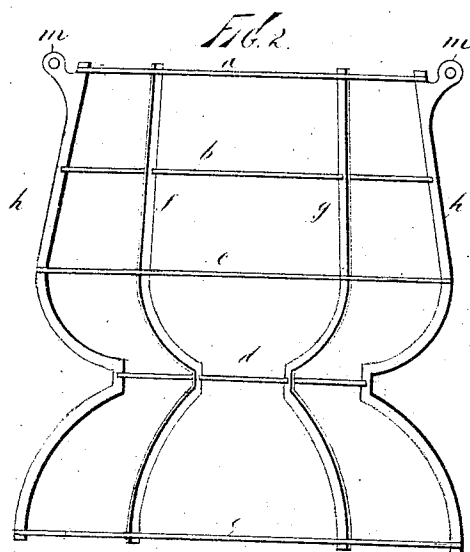
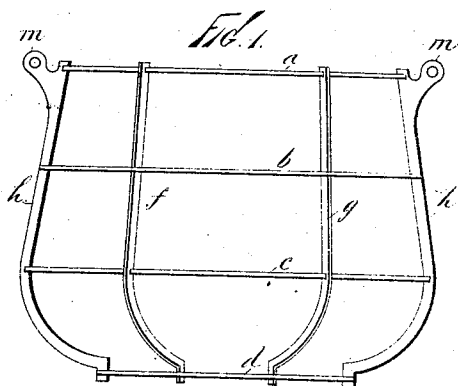


(No Model.)

F. D. SPEAR.  
LANTERN FRAME.

No. 399,944.

Patented Mar. 19, 1889.



Witnesses:  
John Bueckle,  
L. H. Osgood,

Inventor:  
Firman D. Spear,  
By L. H. Osgood  
Attorney.

# UNITED STATES PATENT OFFICE.

FURMAN D. SPEAR, OF BROOKLYN, NEW YORK.

## LANTERN-FRAME.

SPECIFICATION forming part of Letters Patent No. 399,944, dated March 19, 1889.

Application filed July 21, 1888. Serial No. 280,632. (No model.)

*To all whom it may concern:*

Be it known that I, FURMAN D. SPEAR, of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Lantern-Frames, 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.

My invention relates to lantern-frames, especially such as are employed upon hand-lanterns, but is likewise applicable in the construction of frames for lamps and similar illuminating devices.

The object of my invention is to provide or produce a frame of the class named which shall be self-sustaining before soldering or tinning, which shall be rigid and durable, and at the same time as light as is consistent with its required strength, which may be made with much economy of labor and material, and of which the parts may be compactly shipped, ready to be afterward assembled.

To accomplish all of this and to secure other and further advantages in the matters of construction and assembling, my improvements involve certain new and useful arrangements or combinations of parts and peculiarities of construction, as will be herein first fully described, and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figures 1 and 2 are views in elevation showing lantern-frames, each completed in accordance with my invention and ready to receive any suitable appendages, the first view, Fig. 1, omitting the base part or foot, which is represented in the second view, Fig. 2. Figs. 3 and 4 are plan views of two of the horizontal ring-guards shown in previous figures. Figs. 5 and 6 are views in elevation each of one of the vertical ribs or upright guards shown, respectively, in Figs. 1 and 2. Fig. 7 is a plan of a fragment of sheet metal, showing the manner in which the ring-guards may be cut therefrom with economy of material.

In all the figures like letters of reference, wherever they occur, indicate corresponding parts.

The horizontal ring guards or bands of the frame are represented at *a, b, c, d,* and *e,* and the upright guards at *f g h h.* The number

of horizontal ring-guards and the number of upright guards may be varied according to circumstances; but of the ring-guards three or more should be employed, so that the parts may be braced and held in place to form a self-sustaining frame without the aid of other appliances. In the example chosen for illustration herein, which is a frame of ordinary size for hand-lanterns, I prefer to employ six upright guards and four horizontal ring-guards when the base or foot is not a part of the frame, as in Fig. 1, or five if it is, as in Fig. 2. These numbers make the frame abundantly stiff and strong to withstand the severest uses when assembled in accordance with my invention. The horizontal ring-guards are each notched to receive each upright guard at equal distances apart, the notches in one ring-guard being on or in the exterior thereof, as at *i i*, Fig. 3, and the notches in the next ring-guard being on or in the interior thereof, as at *k k*, Fig. 4. The upright guards are notched on each side, as at *l l'*, Figs. 5 and 6, at points where the ring-guards are to be located, the notches alternating from side to side. The upright guards and ring-guards are interlocked at the notched parts—"halved together," as such forms of joints are usually indicated.

It is apparent that the above arrangement of alternately locating the horizontal ring-guards on the inside and outside of the upright guards makes the strongest possible assemblage; yet other orders may be employed with good results—as example, one or more of the central horizontal ring-guards being located on the inside or outside of the upright guards and the next one or more above and below being located on the opposite side of the upright guards. So, also, may there be many variations in the orders of notching the ring-guards and the upright guards with good results. One or more notches may be omitted from one or more of the ring-guards, thereby depending upon the notches in the upright guards for holding them in place. Likewise one or more notches in one or more of the upright guards may be omitted, depending upon the notches in the ring-guards for support, but for uniformity of part, simplicity of assembling, and to procure the greatest possible strength in my construction, I prefer to em-

ploy the above-described method of notching both the upright guards and ring-guards at every joint, "halving" and interlocking them together.

- 5 The upright guards and ring-guards, having been previously prepared, are easily assembled by any person upon a bench without any special tools or any frame being required in the operation.
- 10 It is customary to commence with the smallest ring-guard of the series, with the notched parts of which the upright guards are all interlocked at the proper points. Then the next ring-guard is located and interlocked, and so on until all are in place, the notches and ring-
- 15 guards forming all the guides and gages that are necessary, and the frame being self-sustaining from the start. When thus completed, it will be observed that the uncut portion of any upright guard is located first on the inside of one ring-guard and then on the outside of the next, being thus in a manner woven in and out of the series of ring-guards, by which all the parts are most effectively
- 20 braced and held in proper relation. This interlocking of the parts together and weaving of the upright guards in and out may be accomplished whether the parts be made of flat metal or round, either form being intended to be used in this part of my invention. After the frame is assembled substantially as above indicated it is intended to be trimmed and all joints securely closed or soldered together at one single operation by dipping in molten
- 25 tin, or by equivalent process. By making the parts of flat metal, each considerably broader than it is thick, and locating the ring-guards horizontally and the upright guards in planes passing through the vertical axis of the frame, it is plain that the metal is best opposed to any damaging strains. The ring-guards may be cut from a sheet of metal, as A, Fig. 7.
- 30 Lantern frames occupy considerable space in shipping. With my improved form of frame the parts may be very closely packed, to be assembled on reaching their destination. Thus the saving in shipping-space, freight, &c., will be very considerable. Aside from this, no skilled labor whatever is required in the manufacture of this frame, and no hand-labor other than that required to feed
- 35 the blanks into the cutting-tools and afterward to place the parts in proper relative positions, the parts being ready for use as they leave the dies or cutters. Two of the upright guards, as *h h*, may have perforated ears, as *m m*, to receive the bail or handle.
- 40
- 45
- 50
- 55

So far as this frame is concerned, the lamp or lantern fittings may be applied in any way, and are not claimed herein.

When the parts are constructed and assembled substantially in accordance with the foregoing explanations, the improved frame has been found to admirably answer the pur-

pose or object of the invention as previously set forth.

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

1. In a lantern-frame, a series of three or more horizontal ring-guards, combined with a series of upright guards, the upright guards being locked in place by the ring-guards to form a self-sustaining frame, substantially as set forth.

2. In a lantern-frame, a series of three or more notched horizontal ring-guards, combined with a series of upright guards, and the parts being interlocked and arranged or woven together, substantially as and for the purposes set forth.

3. In a lantern-frame, a series of three or more horizontal ring-guards, combined with a series of notched upright guards, and the parts being interlocked and arranged or woven together, substantially as and for the purposes set forth.

4. In a lantern-frame, a series of three or more horizontal ring-guards, combined with a series of upright guards, both being notched and the parts being interlocked and arranged or woven together, substantially as and for the purposes set forth.

5. In a lantern-frame, a series of three or more horizontal ring-guards, of which series the rings are alternately notched on the interior and exterior, combined with a series of upright guards notched on opposite faces, the parts being interlocked and arranged or woven together, substantially as and for the purposes set forth.

6. In a lantern-frame, the combination of three or more flat metal ring-guards and flat metal upright guards, the ring-guards being notched or halved into or upon the upright guards, which are also notched, the parts being interlocked and interwoven, substantially as and for the purposes set forth.

7. In a lantern-frame, the combination of three or more continuous flat metal ring-guards and flat metal upright guards, the ring-guards being notched or halved into or upon the upright guards, the parts being interlocked and interwoven, substantially as and for the purposes set forth.

8. In a lantern-frame, the combination, with three or more horizontal flat metal rings or bands, of flat metal uprights connected with said rings and arranged in planes passing through the axis of the frame, substantially as and for the purposes set forth.

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

FURMAN D. SPEAR.

Witnesses:

W. J. MORGAN,  
WORTH OSGOOD.

It is hereby certified that in Letters Patent No. 399,944, granted March 19, 1889, upon the application of Furman D. Spear, of Brooklyn, N. Y., for an improvement in "Lantern-Frames," an error appears in the printed specification requiring the following correction, viz: In line 32, page 2; the word "trimmed" should read *tinned*; and that the Letters Patent should be read with this correction therein to make it conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 26th day of March, A. D. 1889.

[SEAL.]

CYRUS BUSSEY,  
*Assistant Secretary of the Interior.*

Countersigned:

BENTON J. HALL,  
*Commissioner of Patents.*