J. T. Foster,

Sash Weight.

No. 108,994. Patented Nov. 8. 1870.

Fig. 1.

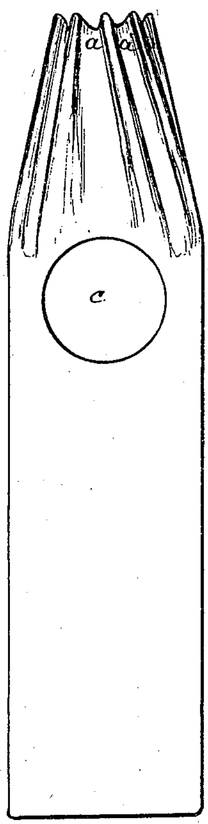


Fig. 3.

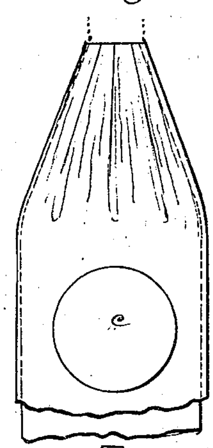
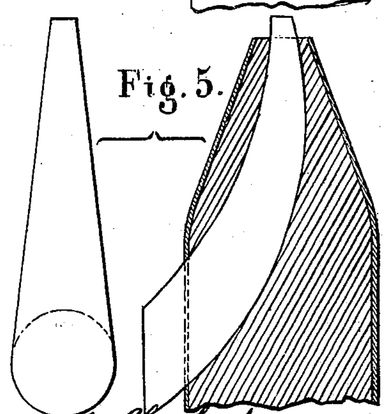


Fig. 5.



Witnesses.
A. Gurlitz
Henry Stanton.

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J. D. Law
atty.

Fig. 2.

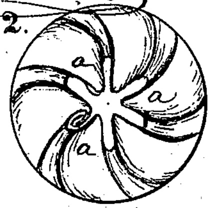
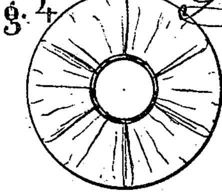


Fig. 4.



United States Patent Office.

JOHN T. FOSTER, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO WILLIAM STANLEY, OF ENGLEWOOD, NEW JERSEY.

Letters Patent No. 108,994, dated November 8, 1870.

IMPROVEMENT IN WINDOW-SASH WEIGHTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN T. FOSTER, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Window-Sash Weights; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and making a part of this specification.

My invention has relation to that kind of sash-weights which have a case made of sheet-iron or other metal, which is afterward filled with slag from furnaces, or other suitable material, and consists in an improved manner of forming or constructing such outer or metal case.

It has heretofore been the practice, in forming the upper end or conical portion of such case, to cut, with shears or otherwise, a number of slits in the end of the sheet-iron tube, of about the depth of the required cone, and then lap or press the several separated parts of the tube over each other, which are afterward hammered down over or upon a conical-shaped mandrel, so as to give the end of the tube the required tapering or conical form.

It is found that such cutting or dividing the tube weakens it at the part where the greatest strength is required.

My invention has for its object the forming the base with a conical swaged end, in combination with an orifice for introducing a core to form a hole for the cord.

Instead of slitting or dividing the end of the tube, I press or force inward, by a suitable machine with movable jaws, or by dies made for the purpose, the end of the tube at a number of points equally distant from each other, as shown in perspective in Figure 1, and in an end view in Figure 2, forming or making the parts or plaits *a*, thus pressed, of sufficient depth at the top or end to take up the quantity of metal necessary to reduce the opening at the end to the proper size to receive the eye-shank, or allow the cord to be passed through the same, and having such plaits or depressed portions tapering to a point at the base of the cone, as shown in fig. 1.

After the tube or case has been thus shaped, it is removed to another machine and placed over a mandrel, shown at *b*, in Figure 3, in dotted lines, standing perpendicularly, and made conical at the top, and having a part or stem projecting upward from the point, of a size proper for the orifice for the reception of the shank when a shank is used, or for the cord.

A heavy female die, fitting the head or top of the mandrel, and having a hole drilled in it to receive the stem of the mandrel, is then caused to drop drown upon the fluted end of the case or tube, which flattens down the plaits *a* upon and around the center of the mandrel, thus forming the end of the case into a conical shape, as shown in fig. 3, and at the same time forming in it, by means of the stem, an opening of a proper size to receive the shank or allow the cord to pass through it.

The cone is thus formed from the whole tube, and without dividing or cutting any part of it.

When formed in this manner the cone of the case is much stronger and more durable than when the metal is divided and the separate parts lapped upon each other, and, by reason of such additional strength thus secured to the case, the iron shank or eyes heretofore used in such sash-weights to receive the cord can be dispensed with, thus effecting a very considerable saving in the cost of manufacture.

To form a recess or eye in the weight itself to receive the cord when the shank is dispensed with, I cut a hole, *c*, in the side of the tube, just below the base of the cone, and of a size sufficient to receive the knotted end of the sash-cord.

When the case is to be filled with molten slag or other material, in this hole is inserted a cast-iron chill, of a curved form, as indicated by the dotted lines in Figure 5, of a size to fill such hole, and also the opening in the top of the cone.

The case having been filled with molten slag or other material, a slight blow with a hammer on the small end of the chill, as soon as the filling is set, causes the chill to drop out, leaving the cone perfectly hard and solid.

A further advantage is secured by making the cone in the manner described, that when the case is filled with any molten matter, the filling cannot leak out from the sides of the cone and adhere to the case, as it sometimes does when the cone is made in the old manner.

The case is thus left smoother and handsomer, and requires less labor and expense to finish for market.

The advantage of being enabled to form a recess or solid eye in the body of the weight for the reception of the cord is also very considerable in this style of weights, as it is difficult, in filling the case, to prevent the shank-eyes projecting too far, and such projecting eyes are also liable to be broken off or bent in transportation.

Such projecting eyes also lengthen the weight, and require more cord in hanging, which are serious disadvantages.

A further advantage is secured by making the cone in the manner described, and that is that the weights can be made more rapidly, and at less cost, than when made as heretofore.

I do not claim the invention of a weight with an exterior metallic case, and an interior filling for the same, or making such a case conical at the upper end; but

What I claim as my invention is—

A sash-weight case of thin metal, furnished with a conical swaged end with an orifice in the top thereof, and having an orifice beneath said end for introducing a core to form a hole in the cast weight for inserting the cord, as described.

JOHN T. FOSTER.

Witnesses:

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J. F. MCGEE.