

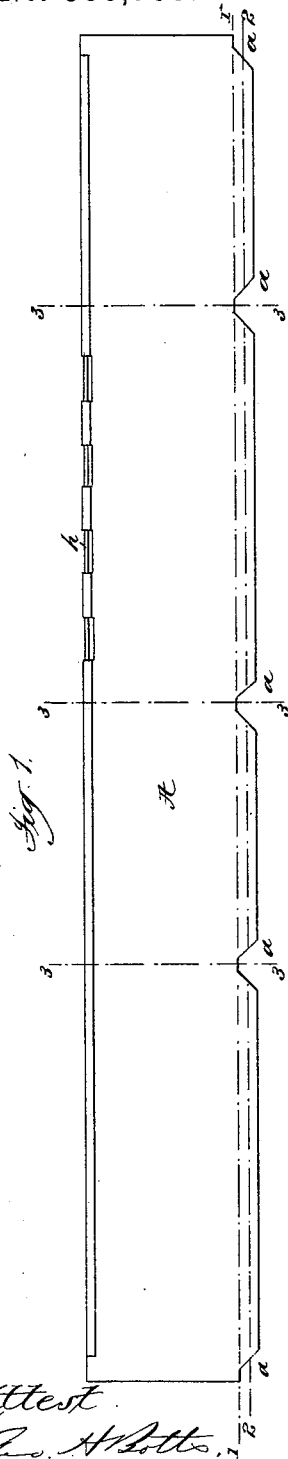
(No Model.)

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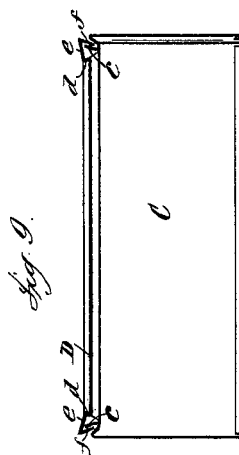
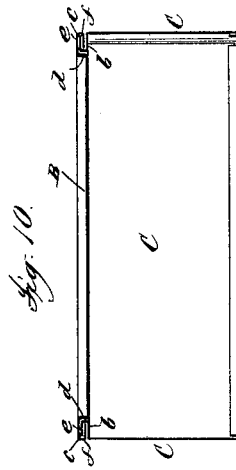
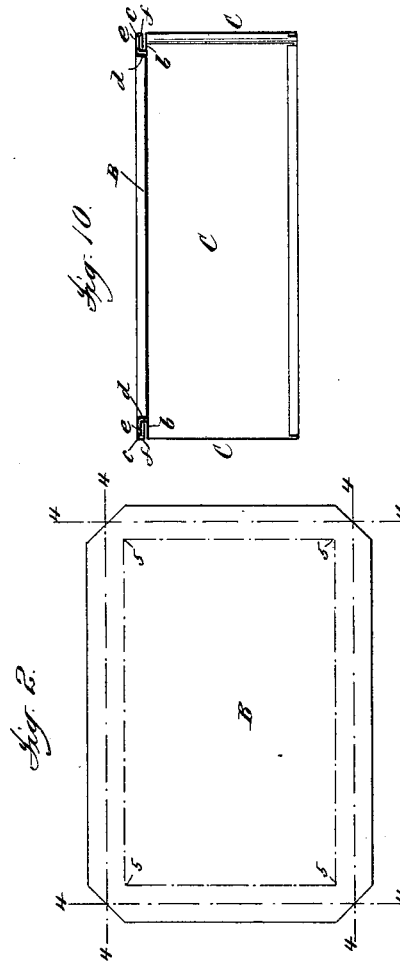
W. H. ATKINSON.
SHEET METAL BOX.

No. 386,765.

Patented July 24, 1888.



Attest.
Geo. H. Botte,
J. J. Kennedy.



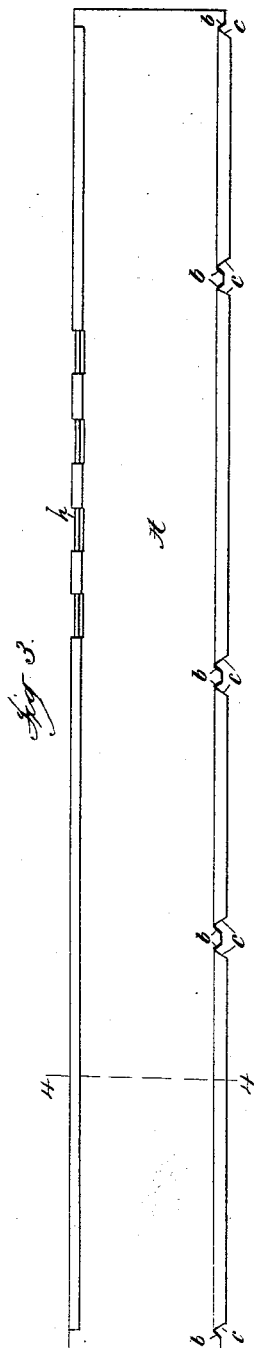
Inventor:
Wm. H. Atkinson,
by Alfred Phelps & Henry
Atty.

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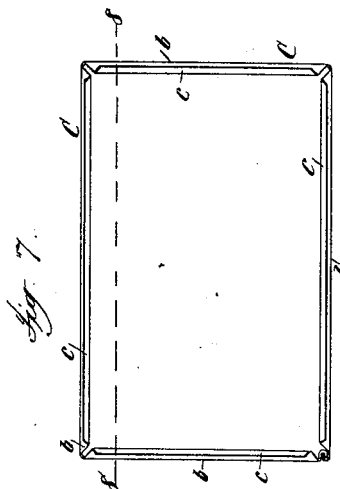
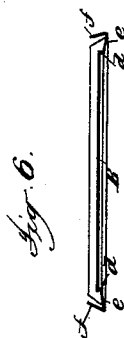
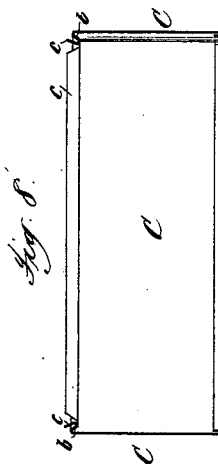
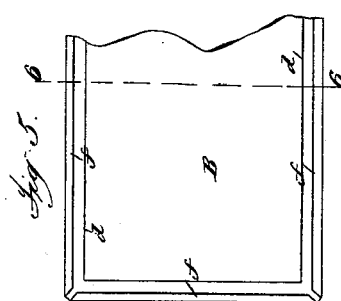
SHEET METAL BOX.

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Inventor:
Wm. H. Atkinson.
by
J. Phieff Phelps & Hovey,
Attys.

UNITED STATES PATENT OFFICE.

WILLIAM H. ATKINSON, OF BROOKLYN, NEW YORK, ASSIGNOR TO D. M. SOMERS, J. L. SOMERS, G. A. SOMERS, W. H. ATKINSON, AND E. E. SOMERS, ALL OF SAME PLACE.

SHEET-METAL BOX.

SPECIFICATION forming part of Letters Patent No. 386,765, dated July 24, 1888.

Application filed May 28, 1888. Serial No. 275,260. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. ATKINSON, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Sheet-Metal Boxes, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to the manufacture of that class of boxes which are made of tin or other thin sheet metal, the object of the invention being to provide a box of this class which shall have great strength and rigidity, and in which the seams shall be so formed as to provide a smooth exterior and interior for the box.

The improvements constituting the present invention consist of certain peculiar features in the formation of the seams and bottom of the box, by which I am enabled to obtain tight joints at the seams and a smooth exterior and interior without the use of solder or other cementing substance, and by which, also, great strength and rigidity are given to the box.

As a full understanding of the invention can be best given by an illustration and a detailed description of the different steps in the construction of a box containing the same, all preliminary description will be omitted and a full description given, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of the blank from which the sides of the box are formed, and Fig. 2 is a similar view of the blank for forming the bottom of the box. Fig. 3 is a view illustrating the first step in the formation of the sides from the blank shown in Fig. 1. Fig. 4 is a section taken on the line 4 4 of Fig. 3. Fig. 5 is a plan view of a portion of the box-bottom, illustrating the first step in the formation of the same from the blank shown in Fig. 2. Fig. 6 is a section of the same, taken on the line 6 6 of Fig. 5. Fig. 7 is a plan view of the lower edges of the sides when they are ready to receive the bottom. Fig. 8 is a section of the same, taken on the line 8 8 of Fig. 7. Fig. 9 is a vertical section showing the sides and bottom of the box in position for the last step in the formation of the box; and Fig.

10 is a vertical section illustrating the last step in the formation of the box—viz., that of sewing the side and bottom portions together.

Referring to said drawings, the several steps in forming the box will now be described. The blank A, (see Fig. 1,) of a length and width suitable for the production of a box of the desired size, is first provided with the cuts *a*, as shown in Fig. 1, at what, when the box is completed, will be its lower corners. The lower portion of the blank is then bent upward on the line 1 1 and then outward on the line 2 2 to form the inwardly-extending flanges *b* and outwardly-extending flanges *c*. The blank will then be in the form shown in Figs. 3 and 4. After this has been done the sides of the box are formed by bending the blank on the lines 3 3 (see Fig. 1) and uniting its ends, as shown in Fig. 7. The sides of the box will then be ready for receiving the bottom.

The formation of the bottom of the box is accomplished as follows: A blank, B, (see Fig. 2,) of suitable size and form and having its corners cut away to a suitable extent, is employed. The central portion of the blank is preferably inset on the lines 5, so as to form shoulders *d*, and its edges are bent over on the lines 4, so as to form the inwardly-inclined locking-flanges *f*, as shown in Figs. 5 and 6. The portions *e* between the shoulders *d* and flanges *f* will also be caused to incline outward slightly, as also shown. The shoulders *d*, when the bottom is inset, will be made of a height equal to the thickness of the seam in the completed box, so that the inset portion of the bottom, when joined to the sides, will be on a level with the upper side of the seam, and the locking-flanges *f* will be so formed and of such size as to engage with the locking-flanges *e* of the sides C, as hereinafter described. The bottom B, when in the form shown in Figs. 5 and 6, will be ready for attachment to the sides of the box. When the sides and bottom of the box have been thus prepared, the flanges *f* of the bottom will be entered between the flanges *b* and *c* of the sides, as shown in Fig. 9, and will be ready for the last step in the formation of the box—namely, that of

seaming together the flanges of the bottom and sides to unite the two. This can be done by means of dies above and below said flanges, by which they will be pressed together, so as to form the seam, as shown in Fig. 10. After the seam has been thus formed the bottom B will, by reason of the shoulder *d*, be raised, so as to be on a level, as before stated, with the upper edge of the seam, and the shoulder *d* will be pressed tightly against the edge of said seam. This form of seam gives great strength and rigidity to the box, and also provides a smooth interior and exterior. Still greater strength is given to the box by providing the bottom with the shoulder *d*, which, abutting against the seam, enables the sides of the box to withstand great pressure from the outside without danger of opening the seam.

In order to give still further strength to the sides of the box, the sides may be doubled or beaded at their upper edges, as shown.

The box may be supplied with a cover of any suitable form. If it is to be provided with a hinged cover, one member of the hinge will preferably be provided in the blank A, as shown at *h*, before the box is formed.

As herein illustrated, the box is of rectan-

gular form; but it is to be understood, however, that the box may be of other forms, and that I do not limit myself to the particular form shown and described.

What I claim is--

1. A sheet-metal box having its sides provided with inwardly-extending flanges *b* and outwardly-extending locking-flanges *c*, and its bottom provided with inwardly-extending locking-flanges *f*, which interlock with the flanges *c* to form a seam, substantially as described.

2. A sheet-metal box having its sides provided with inwardly-extending flanges *b* and outwardly-extending locking-flanges *c*, and its bottom inset to form shoulders *d*, and provided with locking-flanges *f*, which interlock with the flanges *c* to form a seam, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

W. H. ATKINSON.

Witnesses:

J. J. KENNEDY,

G. M. BORST.