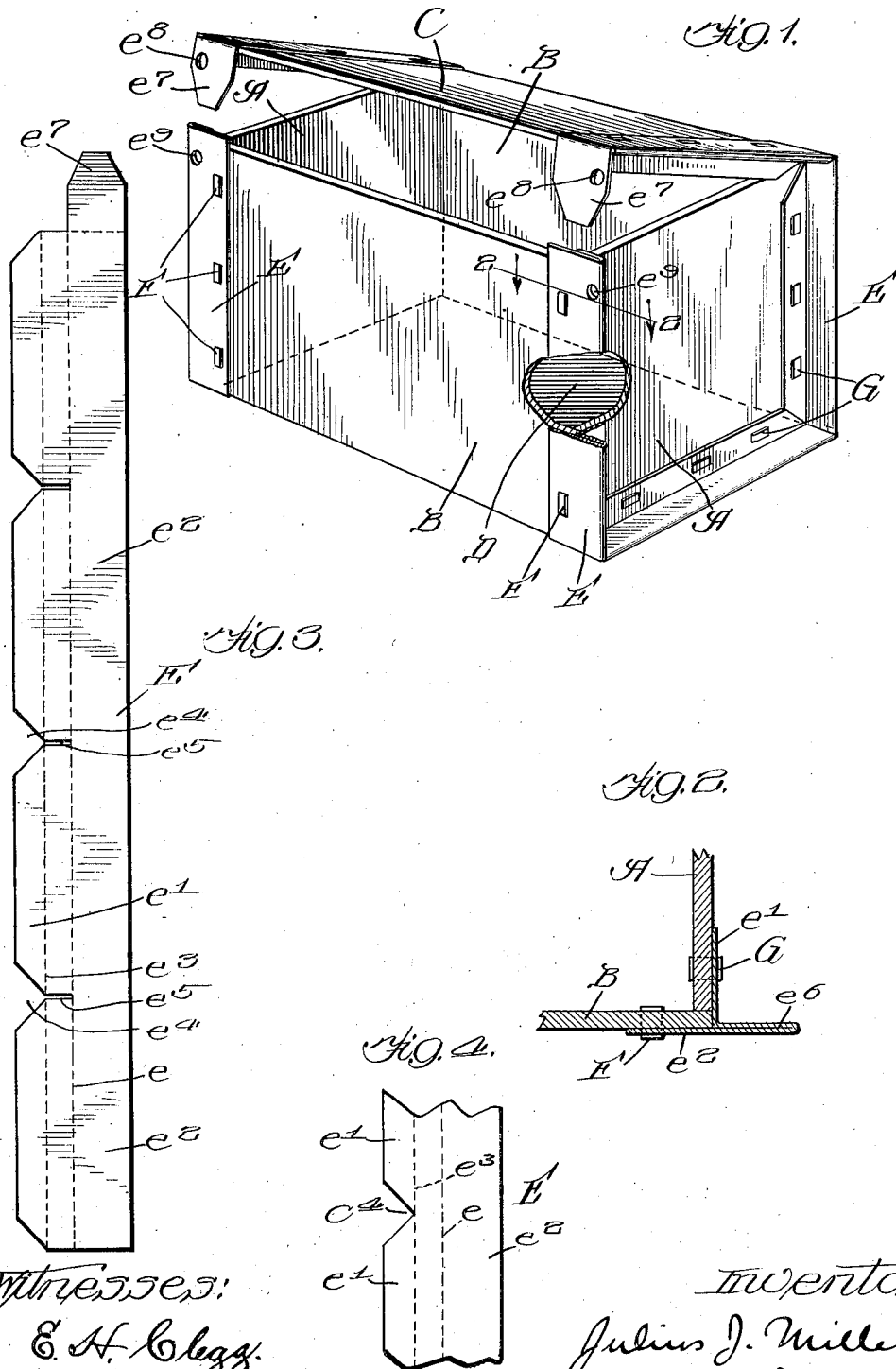


J. J. MILLER.
METAL BOUND BOX.
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1,053,198.

Patented Feb. 18, 1913.



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UNITED STATES PATENT OFFICE.

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METAL-BOUND BOX.

1,053,198.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JULIUS J. MILLER, a citizen of the United States of America, and resident of St. Joseph, Berrien county, Michigan, have invented a certain new and useful Improvement in Metal-Bound Boxes, of which the following is a specification.

My invention relates to metal bound boxes of the kind in which the ends of the box are reinforced by means of sheet metal applied to the corners to protect the same and hold the parts of the box together.

The object of my invention is to provide a box of this kind in which less wood or other sheet material is necessary than heretofore, for any given size of box, in which certain objectionable features heretofore considered necessary are dispensed with, and in which the construction is such that the cost of manufacture will be less than heretofore, the method of making the box being very much simplified, without in any way reducing the strength and efficiency of the box.

To the foregoing and other useful ends, my invention consists in matters hereinafter set forth and claimed.

In the accompanying drawings—Figure 1 is a perspective of a metal bound box embodying the principles of my invention. Fig. 2 is an enlarged detail section on line 2—2 in Fig. 1. Fig. 3 is a plan view of the blank from which the metal binding is made. Fig. 4 is a fragmentary view showing another form of blank for the sheet metal binding.

As thus illustrated, my improved box comprises the usual transverse end walls A, the sides B, a cover C and a bottom D, the sides and bottom and cover being formed from a blank consisting of four flexibly connected sections or sheets of veneer or other similar material. The said box blank is made by stapling the sheet metal binding E to the four sheets of veneer while the latter are spread out flat with their edges together or slightly separated in a machine for that purpose. The said sheet metal binding is made from strips which are blanked up in the form shown in Fig. 3. Each box blank requires two of these strips, and they are applied as follows:—The strip E is first folded longitudinally upon itself along the line e , which line is about midway between the two side edges of the strip. Then the

four similarly formed portions e' are bent away from the body e^2 of the strip, along the line e^3 , so that they stand at a right angle to the surface of said body of the strip. See Fig. 2. This in effect makes a T-iron of the strip, the center web thereof having the notches e^4 that extend to the line e^3 , and which are then continued in the form of narrow slits e^5 to the line e , whereby the box blank can be folded around the rectangular end walls. One flange of each such T-iron is double, such as the flange e^6 shown in Fig. 2, and one end of each T-iron has a tongue e' for fastening the cover closed when the box is in use.

The sheets of veneer or other material are then spread out in position in a stapling machine, and the two T-irons are then placed parallel on top thereof, at the side edges of the blank thus formed, with the webs formed by the portions e' depending at the sides of said blank, and the edges of the veneer abutting against said portions, as shown in Fig. 2. Then the two T-irons are secured by staples F to the sheets of veneer. The metal bound box blank thus formed is then folded around the rectangular end walls A, with the web or portions e' bearing against the outer surface of said end walls, the folding being made possible by the notches e^4 in the sheet metal that forms the center web of the T-iron. Then the portions e' are stapled by another machine to the end walls of the box. Thus no assembling of the parts by hand or otherwise is necessary before the veneer and sheet metal are placed in the first or box blank stapling machine.

If the metal in blank or flat form is made as shown in Fig. 4, in which the slits e^5 of the previous construction are omitted, the flange e^6 will also be of double thickness where it bends at the corners of the box.

The ends of the sides and bottom and cover extend into pockets between the binding portions e^2 and the edges of the end walls, as shown in Fig. 2, and thus the box is strengthened against external pressure. The flanges e^6 do not contain the ends of the sheets of veneer, and thus a saving in material is obtained. These flanges e^6 are of double thickness, the two layers being pressed tightly together, and serve to in effect counter-sink the end walls of the box and protect the same. With this construc-

tion the box is strong and not liable to work loose at the end corners, as the flanges e^6 do not contain anything and are not liable to be sprung or opened up by strain on the box. Also, for the reason that the binding is stapled to the sides and bottom and cover of the box at points inside of the end walls, and that the flanges e^6 are imperforate and composed entirely of sheet metal.

10 The staples F, and also the staples G that hold the binding to the end walls, can be clenched in the regular or any suitable manner on the inside of the box, and in a way that will tend to insure against pulling out.

15 The tongues e^7 may have holes e^8 whereby rivets or other fastening means can be used for securing them to the flanges e^6 which have similar openings e^9 for this purpose.

The flanges, which are of double thickness, serve to countersink the ends of the box, as the sides of the box terminate inside of the webs of the T-iron, and in this way the said double flanges of the T-iron serve as guards for protecting the ends of the box. Any bending or mutilation of these double flanges will not injure the end walls, nor will such deformation of the said double flanges tend to split or in any way injure

the side walls, in view of the fact that the said walls terminate inside of the webs of the T-iron, whereby the points at which the T-iron is secured to the side walls are inside of the heads or end walls of the box. The said double flanges of the T-iron extend in continuation of the edges of the side walls of the box, but do not contain said edges, as the two layers of metal are compressed tightly together without space between them.

What I claim as my invention is:

A box blank comprising sheet material in sections, and a metal T-iron binding for each edge of the blank, to flexibly connect the said sections together, said T-iron having one flange secured to the sheet material, the web of the T-iron abutting against the edge of said material, and the other flange of the T-iron being composed of two superimposed thicknesses united at their outer edges.

Signed by me at St. Joseph, Michigan, this 16th day of January, 1911.

JULIUS J. MILLER.

Witnesses:

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