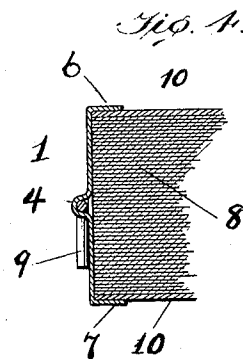
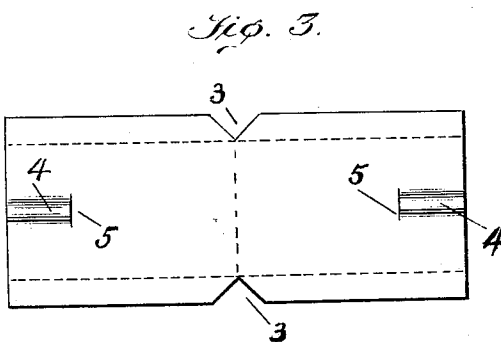
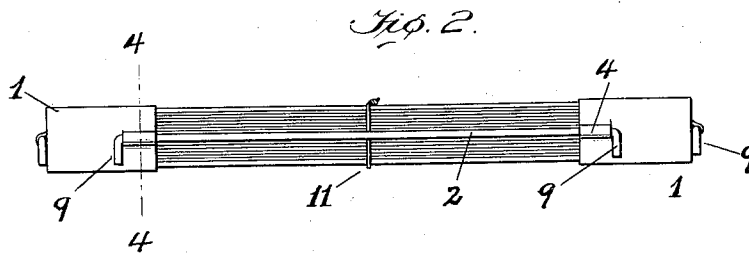
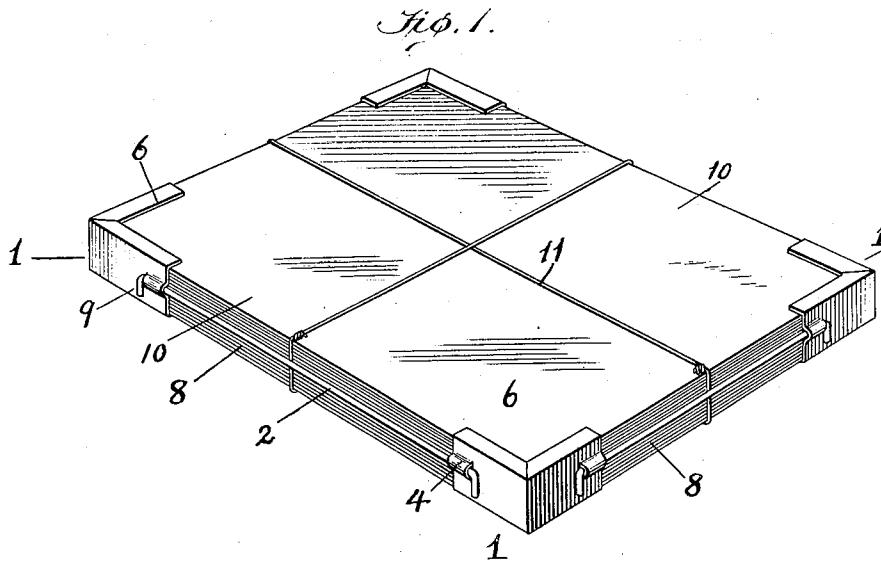


E. NORTON.
CRATE OR BINDER FOR TIN PLATES.
APPLICATION FILED FEB. 6, 1909.

933,105.

Patented Sept. 7, 1909



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By

UNITED STATES PATENT OFFICE.

EDWIN NORTON, OF LAKE PLACID, NEW YORK.

CRATE OR BINDER FOR TIN PLATES.

933,105.

Specification of Letters Patent.

Patented Sept. 7, 1909.

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To all whom it may concern:

Be it known that I, EDWIN NORTON, a citizen of the United States, residing at Lake Placid, in the county of Essex and State of New York, have invented certain new and useful Improvements in Crates or Binders for Tin Plates, of which the following is a specification.

This invention relates to an improved crate or binder for use in shipping or transporting tin-plates.

My invention has for its object to provide improved means for binding together or inclosing a pile of sheets of tin-plate for shipment from the factory to the consumer and thus to avoid using the more expensive wood boxes that are commonly employed for this purpose.

The accompanying drawings illustrate means constructed in accordance with the present invention, but it is to be understood that the claims hereinafter made are not restricted to the particular construction shown.

In the drawing, Figure 1 is a perspective view illustrating a number of sheets of tin plate bound together according to my invention ready for shipment. Fig. 2 is an edge view of the crate or binder shown in Fig. 1. Fig. 3 shows the flat blank of sheet-metal from which the corner-protectors are formed. Fig. 4 is a section view taken on the line 4—4 of Fig. 2 but on a larger scale.

It is customary for the factories to pack about one hundred and twelve sheets of tin-plate in a wood box, and the market price quoted is a given figure per box. My invention does not propose to interfere, or make any change with this established custom.

I provide sheet-metal corner protectors—one for each side of the four corners, and a rod device which connect and tie together the four corner protectors. The corner protectors shown, are made of sheet-metal of sufficient thickness to afford the requisite stiffness for the service exacted of them. Primarily these protectors are in the form of a flat blank, shown in Fig. 3 of the drawing. This blank has a slit or V-notch, 3, at two opposite edges; it also has at each of the other two opposite edges a loop, 4, suitably formed in the metal. These loops may be formed by making near each edge a short slit, 5, in the metal, and also stamping up or raising the metal between the said edge and slit; this raised part, 4, constitutes the loops. The flat blank shown in Fig. 3 is

then bent by suitable means to the shape shown in Fig. 1 to produce the corner protector, 1. The three broken lines on the flat blank, shown in Fig. 3, indicate where the bends are to be made. The finished corner protector, 1, comprises two arms at right-angles to each other; each arm has one of the loops, 4, on its outer side and also has an upper flange, 6, and a lower flange, 7,—the V-notches which are open in the flat blank become closed in the finished article. It will be seen the finished corner protector, 1, is an angular clip that takes over and incloses the corner of all of the tin-plates, 8;—the edges of said plates are between the upper flanges, 6, and the lower flanges, 7, of the corner protector.

When the clips or corner protectors, 1, have been placed in position on the four corners of the pile of tin-plates, 8, the connecting rods, 2, are then applied. Primarily the rods, 2, are straight, that is their ends have not been bent. It is only necessary to slip the ends of a rod, 2, into the two loops, 4, which are exposed at each edge of the pile of tin-plates; the extreme ends of the rod must project beyond the loops, 4, far enough to permit said ends to be bent down, as at, 9, so as to form a hook that confines the rod to its position.

The paper, 10, at the top and bottom serves to protect the tin-plates from contacting with anything that might scratch or injure them. I also prefer to use a wire, 11, to bind all the tin-plate sheets, 8, of the pile together, as shown in Fig. 1, where a strand of wire extends entirely around the pile crosswise and another strand endwise, the two strands crossing each other at the center. These strands of wire are preferably, though not necessarily, put on before the corner protectors and rods have been applied.

When a number of tin-plates, or other plates of metal, are bundled or crated as herein described, they may be shipped and transported without injury, and the means here described for effecting the bundling or crating will be much more economical than the wood boxes that have heretofore been commonly used for this purpose.

Having thus described my invention what I claim and desire to secure by Letters Patent is,—

1. A crate or binder for a plural number of tin-plates, and comprising protectors for

the four corners of the plates—each protector having upper and lower flanges and on the outer side loops, and a rod extending between every two corners and connecting with said loops.

5 2. A crate or binder for a plural number of tin-plates, and comprising right-angle clips to inclose the corners of the tin-plates and a rod connection between the clips and
10 extending at the edges of the plates and by which the corner clips are tied together.

3. A crate or binder for a plural number of tin-plates, and comprising corner protectors each having two arms which are at
15 right angles one with respect to the other, and four rods each of which extends between two protectors and connect therewith.

4. A crate or binder for a plural number of tin-plates, and comprising corner pro-

20 tectors having right-angled sides and upper and lower flanges and provided on each of said sides with a loop, and a rod extending from one protector to another and connected with said loops.

5. A crate or binder for a plural number 25 of sheet-metal plates, and comprising right-angle clips which inclose the corners of all the plates; a rod extending at the edges of the plates and by which the corner clips are tied together, and one or more strands 30 of wire extending entirely around all the plates.

In testimony whereof I affix my signature in presence of two witnesses.

EDWIN NORTON.

Witnesses:

H. I. BOWNE,

FREDK. V. HAAS.