E. NORTON.

CRATE OR BOX FOR SHEET METAL PLATES.

APPLICATION FILED OCT. 22, 1907.

902,900.

Patented Nov. 3, 1908

2 SHEETS—SHEET 1.

Fig. 1.

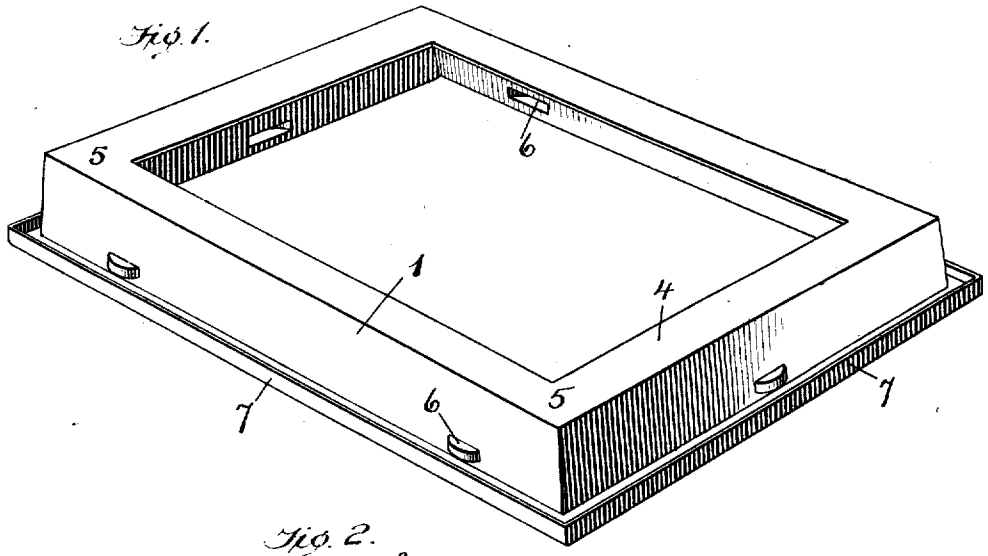


Fig. 2.

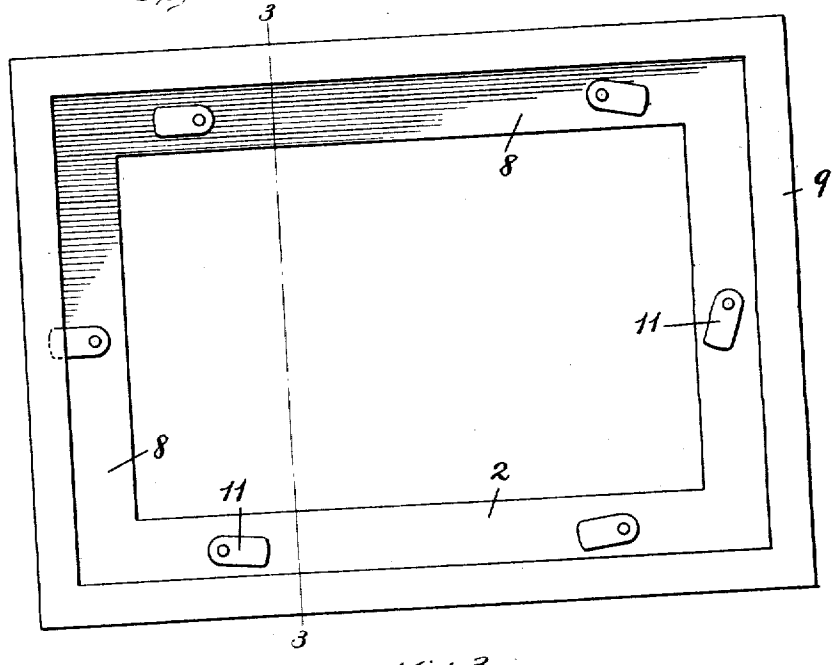
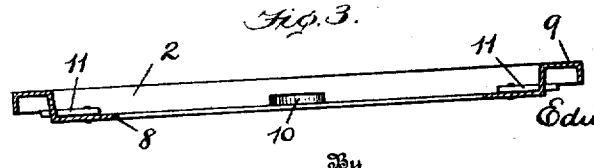


Fig. 3.



Witnesses

Edwin L. Bradford.

J. Ferdinand Vogt.

Inventor

Edwin Norton

By

Munn & Co.

Attorneys.

THE NORRIS PETERS CO., WASHINGTON, D. C.

E. NORTON.

CRATE OR BOX FOR SHEET METAL PLATES.

APPLICATION FILED OCT. 22, 1907.

902,900.

Patented Nov. 3, 1908.

2 SHEETS—SHEET 2.

Fig. 4.

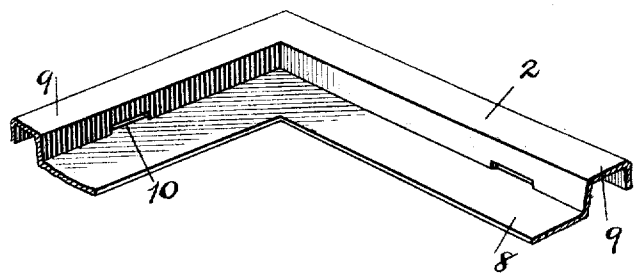


Fig. 5.

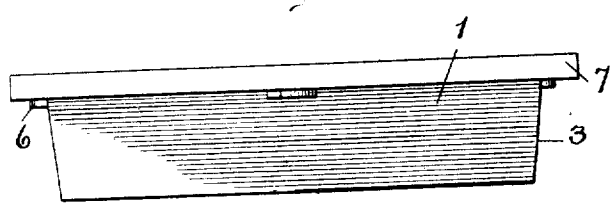


Fig. 6.

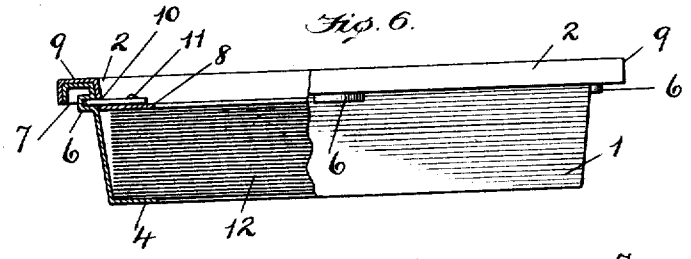
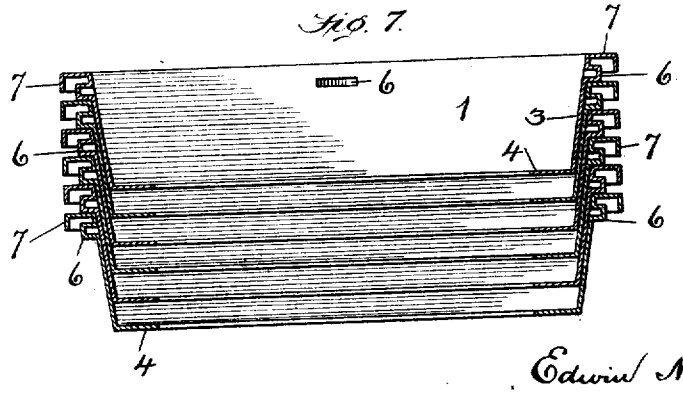


Fig. 7.



Witnesses

Edwin L. Bradford.

G. Ferdinand Vogt.

Inventor

Edwin Norton

By

Munn & Co,

Attorneys.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWIN NORTON, OF NEW YORK, N. Y.

CRATE OR BOX FOR SHEET-METAL PLATES.

No. 902,900. Specification of Letters Patent. Patented Nov. 3, 1908.

Application filed October 22, 1907. Serial No. 398,574.

To all whom it may concern:

Be it known that I, EDWIN NORTON, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Crates or Boxes for Sheet-Metal Plates, of which the following is a specification.

This invention relates to a crate or box for the reception and shipment of sheet-metal plates, such as tin-plates.

It has been the custom heretofore for manufacturers to pack tin-plate in boxes made of wood. Boxes made of this material for packing tin-plate are objectionable for various reasons, one of which is the additional cost they entail on the tin-plate. Owing to the fact that they are bulky as well as frail in structure, the wood boxes can not be economically returned by the consumer of the tin-plate to the manufacturer as the freight charges would nearly if not quite equal the value of the boxes. The wood boxes therefore, are used only once, and as they are unsuitable for any other use they have no appreciable value and the cost of the box must be added to the price of the tin-plate.

The crate or box which is the subject of the present invention, is designed expressly for the packing and shipment of tin-plate, is so constructed as to admit, after the box has been emptied, of its parts being "nested" or packed in compact form, which reduction of bulk lessens the cost of transportation, and renders it economically practicable for the consumer to return to the manufacturer of the tin-plate, the empty boxes which may be used another time.

The invention is illustrated in the accompanying drawing, but it is to be understood the invention is not limited to the precise construction shown.

In the drawing, Figure 1 is a bottom perspective view of the improved shipping crate. Fig. 2 is a top plan view of the cover. Fig. 3 is a cross-section of the cover. Fig. 4 a perspective view of one corner of the frame constituting the cover. Fig. 5 is an end-view of the crate. Fig. 6 is a partial cross-section of the crate showing the tin-plate therein and also the parts united together. Fig. 7 illustrates the manner of "nesting" a number of the empty receptacles in form for return shipment to the tin-plate manufacturer.

The shipping crate is preferably made of sheet-metal galvanized and comprises two parts—the receptacle, 1, and cover, 2. The receptacle may be formed by stamping it up by means of dies. It is rectangular and as shown in Figs. 5 and 6 its upright sides are flaring instead of straight; this flaring shape permits a number of the receptacles when empty to be set one within the other and nest for the purpose of transportation. The flaring or spreading of the sides, 3, exists at the interior from the bottom upward; at the bottom the sides have an inturned flange, 4, which is substantially in a horizontal plane; at the corners, 5, of the receptacle these bottom flanges of the sides are united.

The receptacles have outward depressions, slots or recesses, 6, in the sides near their top. These depressions are at intervals along the sides, and as many may be made in each side as are deemed necessary; in the present instance two are in each of the long sides and one in each of the short sides. The top of the four sides has a horizontal flange whose outer rim is bent downward and thus forms an outward-turned roll, 7, which adds to the strength of the receptacle and also covers the outward-projecting depressions, 6, and protects them.

The cover, 2, has a shape and size to fit the receptacle, 1. It is a rectangular frame and comprises a horizontal flange, 8, which takes position down within the top of the receptacle, and in operation this flange, 8, rests upon the uppermost sheet of tin-plate.

As the box or crate and its cover are to be used repeatedly it is important that they have the requisite strength and stiffness to withstand the handling they will receive when these two parts are separated. To give this desired stiffness the cover is provided with an outward-turned roll, 9, which will give it individual stiffness; this roll is so constructed as to closely overlap and contact with the like-shaped roll, 7, at the top of the receptacle. The inner side vertical wall of the roll, 9, has one or more slots, 10, in each of its four straight sides; the slots have position flush with the top surface of the flange, 8, as seen in Fig. 4. The slots, 10, in the cover are positioned so as to coincide with the depressions or recesses, 6, in the receptacle. A turn-button, 11, or other locking device, is attached to the top surface of the flange, 8, of the cover. In the present instance the turn-button is attached by a rivet or pivot-pin; this allows a swiveling motion to the button,

and enables its end to swing through the slot, 10, and project into the depression slot or recess, 6, in the side of the receptacle and thus the turn-buttons, 11, lock the cover, 2, in its position upon the receptacle, 1, which contains the tin-plates.

The position of the cover, 2, when locked upon the top of the receptacle, 1, is plainly shown in Fig. 6. It will be seen that while the two outward-turned rolls, 7, and, 9, on the receptacle and cover, respectively, have the same form they are made of sizes to exactly admit of the one fitting snugly and closely within the other; thus when these two rolls are interlocked together, as shown in Fig. 6, the effect is that they reinforce each other and give great strength to the crate or box. When the crate or box is packed full the tin-plates, 12, within the receptacle rest upon the inturned flange, 4, at the bottom, and said tin-plates are clamped on top by the flange, 8, of the cover.

The crate or box, with the tin-plates packed therein, as in Fig. 6, show the position of all the parts when ready for shipment.

The crate has a rectangular or other shaped opening at the center of its bottom, and a similar opening at its top.

If desired a sheet of thick packing paper may be placed on the flange, 4, of the bottom before placing the tin-plates in position, and another sheet of paper placed upon the top-most tin-plate. These paper sheets would close the center openings and protect the tin-plates from dirt.

When the tin-plates have been removed from the receptacle, and a large number of empty crates or boxes have accumulated, the consumer of the tin-plates may return the empties to the tin-plate factory for the purpose of being refilled with tin-plate. For this reshipment of the empty crates, the receptacles, 1, are now "nested" or placed one within another, as seen in Fig. 7, and formed into bundles of convenient size.

It will be seen that when "nested" the depressions, 6, of one receptacle which projects on the outer sides, will rest upon the roll or flange, 7, at the top of the receptacle next below, and thereby said depressions, 6, serve as stops to prevent the receptacles from wedging together tightly. The covers, 2, are also bundled in a similar manner. When packed in this form the crates may be transported at low rates.

It is obvious that certain of the constructions and combinations of parts shown and described, afford useful results and desirable advantages in a crate or box without regard to the sides of the receptacle being flared or not, such features of the invention are therefore not limited to use in a device where the receptacle has flaring sides.

Having thus described my invention what I claim is,—

A crate or box for receiving and shipping sheet-metal plates, comprising a rectangular receptacle having sides which are provided with outward depressions located at intervals; a cover comprising a rectangular frame open at the center and having a surrounding wall projecting upward and which takes position down within the said sides of the receptacle and said upward-projecting wall having slots at intervals coincident in position with said outward depressions in the receptacle, and movable locking devices which project through said slots and engage said outward depressions.

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

EDWIN NORTON.

Witnesses:
FREDK. V. HAAS,
G. FERDINAND VOGT.