F. RUDOLPH & E. W. CARNES.

HOLDER FOR SHIPMENT OF TIN PLATE.

APPLICATION FILED NOV. 11, 1907.

921,743. Patented May 18, 1909.

Fig. 1

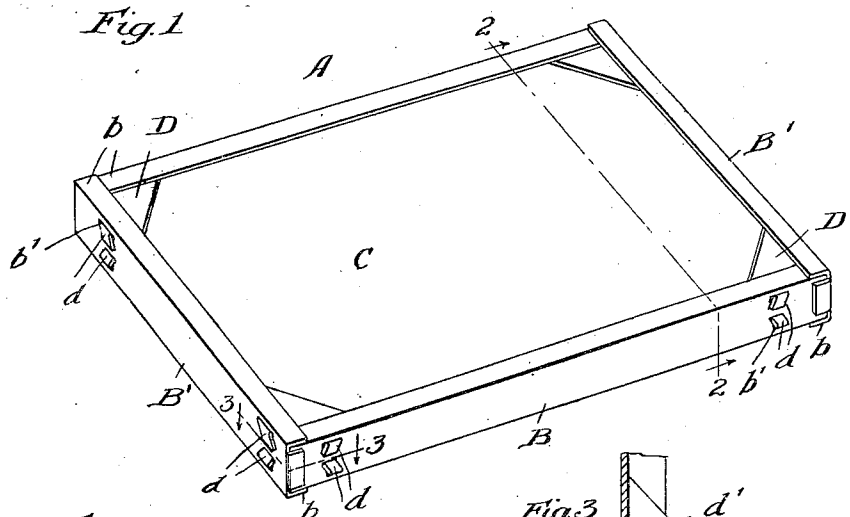


Fig. 2

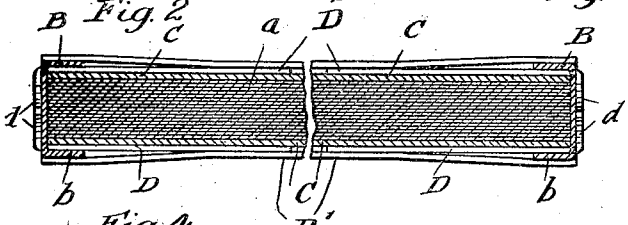


Fig. 3

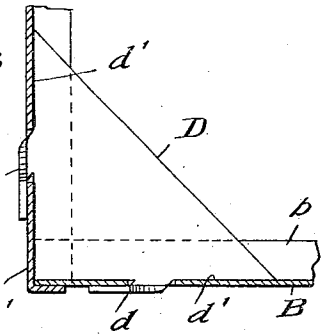


Fig. 4

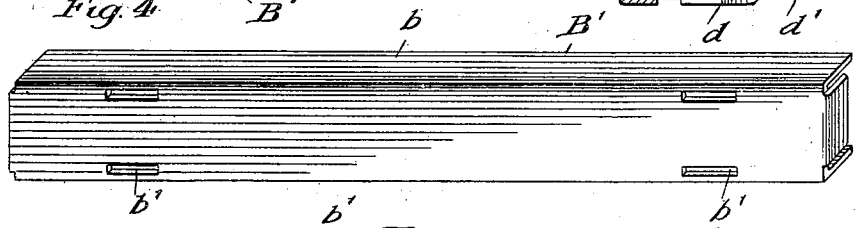


Fig 5

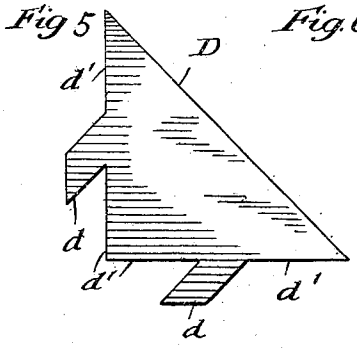


Fig. 6

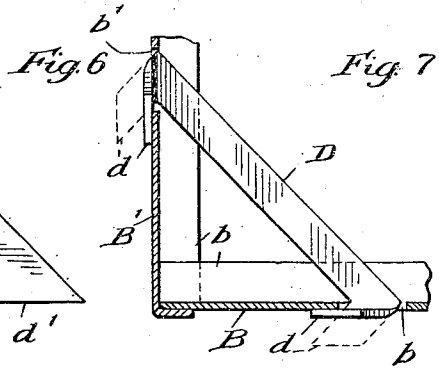
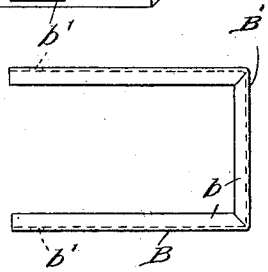


Fig. 7



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UNITED STATES PATENT OFFICE.

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HOLDER FOR SHIPMENT OF TIN-PLATE.

No. 921,743. Specification of Letters Patent. Patented May 18, 1909.

Application filed November 11, 1907. Serial No. 401,542.

To all whom it may concern:

Be it known that we, FRANKLIN RUDOLPH and EDWARD W. CARNES, citizens of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Holders for Shipment of Tin-Plate, of which the following is a specification.

Our invention relates to improvements in shipping packages or holders for tin plate.

The object of our invention is to provide a package or holder for shipment of tin plate in the customary sized packages or bundles, of say about 100 pounds weight and 112 sheets, which will be of a strong, simple and durable construction; which may be readily and conveniently applied; which will efficiently bind the numerous thin sheets of the package together so that they will mutually reinforce and strengthen each other as well as the package or holder itself; which will effectively protect the corners and edges of the sheets in the package from denting, bending or other injury; which will properly protect the outer surfaces of the upper and lower sheets from wet, dirt, scratching or other injury; and which at the same time will be a returnable package or holder and capable of being used over and over again.

Our invention consists in a holder for shipping packages of tin plate or other thin metal sheets, comprising flanged or channeled binding strips of heavy sheet metal, preferably galvanized sheet steel, fitting over and embracing the edges of the pile or package of tin plate sheets, and corner connecting plates or pieces fitting under the flanges of the binding strips and furnished with bent tongues or ends inserted through slots in the binding strips to connect the meeting ends of the binding strips together at the corners of the package, the corner connecting plates serving both as angular braces as well as angular ties.

It further consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described, and more particularly set forth in the claims.

In the accompanying drawing, forming a part of this specification, Figure 1 is a perspective view of a tin plate shipping package or holder embodying our invention; Fig. 2 is a vertical section on line 2—2 of Fig. 1; Fig. 3 is a detail horizontal section on line 3—3 of Fig. 1; Fig. 4 is a perspective view of one of the channel binding strips; Fig. 5 is a plan view of one of the corner connecting plates or pieces; Fig. 6 shows a modified form of the connecting plate or piece, and Fig. 7 illustrates a modification in which three of the binding strips are made integral with each other.

In the drawing A represents a shipping unit or package of tin plate or other thin sheet metal, ordinarily of about 100 pounds weight, and comprising about 112 sheets *a* of say 14 by 20 inches, or other customary dimensions. Our holder for the shipping unit or package A of sheets *a*, comprises a plurality of flanged or channeled side and end binding strips B B^1, the flanges *b* of which overlap and embrace the upper and lower edges of the shipping unit or package A at the sides and ends of the packages.

C C are the upper and lower protecting sheets for the shipping unit or package A of sheets *a*, and D are the right angle corner pieces or fastening devices for detachably securing the meeting ends of the channel strips B together at the corners of the package and for reinforcing the holder at the corners.

The channeled binding strips B for the sides of the package and B^1 for the ends thereof, are preferably all of the same construction, and each is furnished at each end with a slot b^1 through which the bent tongues or ends *d* of the connecting plates or pieces D is inserted and then folded or clenched down, as illustrated in the drawing, so as to securely connect the channel binding strips B B^1 together. The corner connecting plates D are preferably eight in number, and each of a right angle triangle shape, so that their right angle edges d^1 d^1 may abut snugly against the side and end binding strips B B^1 at each corner of the package and serve as braces as well as ties for the binding strips B B^1, and thus to materially strengthen and reinforce the holder at the corners thereof. The connecting plates D fit just beneath the flanges *b* of the channel binding strips B B^1, and may be forced or driven tightly as wedges between the tin plate package or the protecting sheet C thereof and the overlapping flanges of the channel binding strips, and thus serve to securely lock the channel binding strips on the edges of the package. The bendable tongues *d* of the corner con-

necting plate D preferably project at an angle to the edges d^1 of the connecting plate D, so that when the connecting plate is driven in a diagonal or cornerwise direction into place the tongues d d will properly enter and fit the slots b^1 in the binding strips B. After the corner connecting plates are inserted the tongues d are bent or clenched down so as to firmly secure the parts together.

In the modification illustrated in Fig. 6, the connecting plate D is made in the form of a narrow strip extending diagonally across the corner of the package, and having its ends projecting through the slots b^1 in the channel binding strips B B^1.

In the modification illustrated in Fig. 7 a plurality of the binding strips B B^1 are illustrated as being made integral with each other, thus reducing the number of the connecting plates D. One pair of the binding strips, preferably the end binding strip B^1, are slightly wider than the other pair, the side binding strips B, so that the flanges of the former may overlap those of the other at their meeting ends or corners. One pair of the binding strips, preferably the end binding strip B^1, are furnished with flanges b^2 at the ends thereof as well as flanges b at the side edges thereof, so that the side binding strips B may fit within or against these end flanges b^2, thus affording additional reinforcement at the corners of the holder.

We claim:

1. A holder consisting in flanged side and end binding strips, one pair of said strips having flanges at the ends thereof for the other pair to abut against, one pair of said flanged binding strips fitting within and abutting against the ends of the other pair and means for connecting the meeting ends of the binding strips at the corners, substantially as specified.

2. A holder for shipment of thin sheets, consisting in channel binding strips, the flanges of one binding strip embracing and overlapping the flanges of the adjacent strip at the corner, and means for connecting the meeting ends of the binding strips, one of said binding strips having flanges at the ends thereof as well as at the sides, one pair of said flanged binding strips fitting within and abutting against the ends of the other pair, substantially as specified.

3. A holder for shipment of thin sheets, consisting in two pair of channel binding strips, one pair having flanges at the side edges only and the other having flanges at the side and end edges, one pair of said flanged binding strips fitting within and abutting against the ends of the other pair, substantially as specified.

4. A holder for shipment of thin sheets, consisting in two pair of channel binding strips, one pair having flanges at the side edges only and the other pair having flanges at the side and end edges, and means for connecting the binding strips at the corners, one pair of said flanged binding strips fitting within and abutting against the ends of the other pair, substantially as specified.

5. A holder for shipment of thin sheets, consisting in two pair of channel binding strips, one pair having flanges at the side edges only and the other having flanges at the side and end edges, and corner connecting plates, one pair of said flanged binding strips fitting within and abutting against the ends of the other pair, substantially as specified.

6. A holder for shipment of thin sheets, consisting in two pair of channel binding strips, one pair having flanges at the side edges only and the other having flanges at the side and end edges, one pair of said flanged binding strips fitting within and abutting against the ends of the other pair, means for connecting the binding strips at the corners, and upper and lower corner connecting plates furnished with tongues passing through slots in the binding strips, substantially as specified.

7. A holder for shipment of thin sheets, consisting in two pair of channel binding strips, one pair having flanges at the side edges only and the other having flanges at the side and end edges, one pair of said flanged binding strips fitting within and abutting against the ends of the other pair and means for connecting the binding strips at the corners, said binding strips and connecting plates having interengaging detachable fastening devices, substantially as specified.

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