Oct. 9, 1923. 1,469,857

S. W. TREAT

BOX STRAPPING DEVICE

Filed Dec. 16, 1920

Fig. 1.

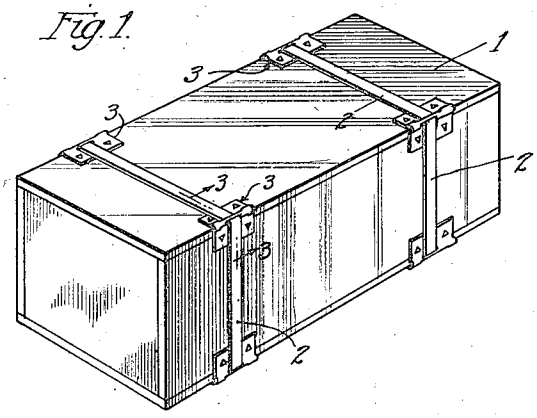


Fig. 2.

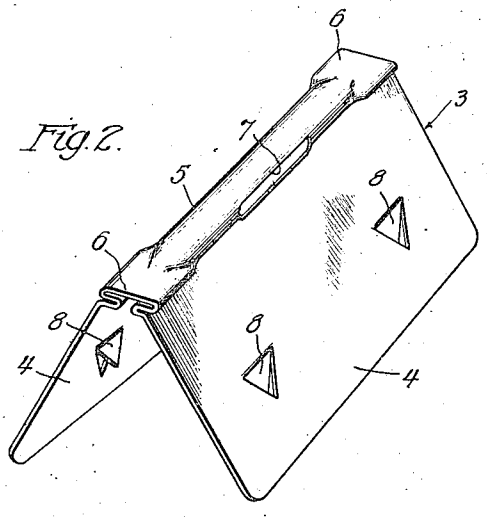
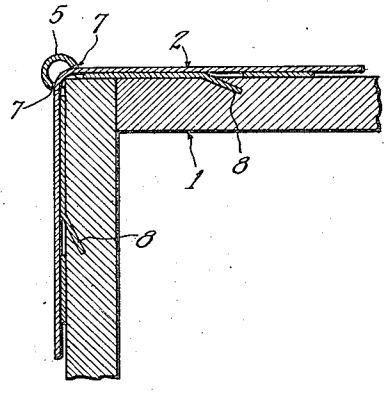


Fig. 3.



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UNITED STATES PATENT OFFICE.

SIDNEY W. TREAT, OF CHICAGO, ILLINOIS, ASSIGNOR TO SIGNODE SYSTEM, INC., OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE.

BOX-STRAPPING DEVICE.

Application filed December 16, 1920. Serial No. 431,072.

To all whom it may concern:

Be it known that I, SIDNEY W. TREAT, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Box-Strapping Devices, of which the following is a specification.

This invention relates generally to improvements in box strapping devices, and more particularly to an edge protector or box corner plate, adapted for use with metallic banding material such as is applied as a binder for the ordinary forms of boxes and packages used for shipping purposes. These banding materials may be in the form of flat metal strap or wire.

An edge protector of the character herein described is useful to protect the corners of a fibre carton or box against being crushed by the binder; also to protect the binder against being caught on nails or the like.

A preferred form of edge protector embodying the features and qualities indicated will now be described in detail, and in connection with the accompanying drawings, in which—

Fig. 1 is a perspective view of a box to which flat metallic box strapping is applied together with the edge protector,

Fig. 2 is an enlarged perspective view of a single corner piece showing the structure thereof, and

Fig. 3 is a detailed view in section taken on line 3—3 of Fig. 1.

As clearly shown in Fig. 1, the box 1 is bound by metallic straps 2—2 passing completely around the same. The straps may be connected under tension at their ends by means of any suitable joint.

Referring first to the structure of a single edge protector, the same is stamped from a blank of sheet metal in a form comprising in general two webs 4—4 arranged at right angles to each other, these webs meeting in a tubular bead 5 extending along the meeting edges of the webs, and arranged symmetrically with respect to the planes of said webs. As clearly shown in Fig. 3, the bead projects beyond the outer surfaces of both webs, its conformation being more accurately identified as an arc described about the line of intersection of the extended planes of said webs. As a preferable construction, however, the ends of the bead 5 are flattened as at 6—6 for the manifest purpose of eliminating the abrupt and sharpened ends, as will hereinafter be pointed out. Intermediate of, and preferably midway between the ends of the device, and formed on opposite sides of the bead are longitudinally extending slots 7—7 corresponding in length and width to the dimensions of the strapping. Each slot is positioned slightly above the surface of the adjacent web, and in alignment with the path of a binder in passing around the box corners, and in contact with the webs of the device. In each of the webs are formed prongs 8 arranged in any suitable manner, although preferably located on either side of the path of the strapping. The prongs are formed by striking pointed projections from the webs, these projections or prongs being bent inwardly with the points directed toward the intersection of the webs, and at an acute angle to the surfaces of said webs.

The manner of applying the edge protector may be varied somewhat, although the ultimate result is the same; namely, the fastening of a plate along the edges of the box at the point where the strappings 2—2 pass around the same, said straps passing over one web through the slots 7—7 and over the other web. Clearly the device could be applied at the proper points by striking the same with a hammer, thereby driving the prongs into the walls of the box, and then passing the straps through the slots prior to the tightening and sealing of the latter, or the edge protector could be strung upon the straps and adjusted in proper positions in the operation of applying the straps, whereupon the edge protector would then be driven home and the straps tightened and sealed as before.

The edge protector serves as an additional box strengthening member, reinforcing the edges of the box as well as providing protective surfaces to resist the tension exerted by the straps, and tending to break the edges of the box.

Clearly the use of the edge protector is not limited to any particular type or shape of container, nor to any particular method of applying the metallic strapping, and for that reason I do not wish to be limited except in so far as the specific structure is set forth in the appended claims.

I claim as my invention:—

1. A box reinforcing member including integral metal flanges having the major portions thereof extending at substantially right angles to each other, said flanges being provided adjacent to their meeting edges with opposed openings adapted to receive a tensional binder.

2. A box reinforcing member formed of a metal plate having integral flanges, the major portions of which extend at substantially right angles to each other, said flanges being provided with opposed openings in their adjacent portions to receive a tensional binder

3. A box corner reinforcement comprising in combination a pair of flanges adapted to overlie a box corner, points struck out from said flanges to anchor the same on a box, a bead connecting the two flanges, said bead being cut away to permit a metallic box binder to pass around the box corner without going over the bead.

4. A box reinforcing member including integral metal flanges, the major portions of which extend at substantially right angles to each other, and means carried by said flanges for anchoring said member to a box, said flanges being provided with opposed openings adjacent to the line where said flanges are joined together to receive a tensional binder.

5. A box edge protector comprising webs arranged at an angle to each other and meeting in a bead, and slots formed in transverse alignment through said bead.

6. A box edge protector adapted to be secured to the surface of a box, and comprising a web, a projecting bead formed in the surface of said web, and a slot formed in said bead and adapted to admit a box strap.

7. A box edge protector adapted to be secured to the surface of a box comprising a web, a bead formed in said web and projecting beyond the surface thereof, there being slots in said bead forming a transverse passage therethrough adapted to receive a box binder.

8. The combination with a metallic box strap, of an edge protector, comprising webs arranged at an angle to each other, and a longitudinal bead at the junction of said webs, there being slots formed on opposite sides of said bead through which said strap extends.

9. The combination with a metallic box binder, of an edge protector comprising webs, a tubular bead intermediate said webs, and transeversely arranged openings in the wall of said bead through which said binder is adapted to extend.

10. The combination with a metallic binder, of an edge protector comprising a web adapted to engage flatwise the surfaces of a box, a bead extending transversely of said strap and apertures formed in said bead and adapted to receive said binder.

11. In a device of the character described, the combination of a metallic strap adapted to surround a box or the like, and an edge protector comprising webs bent at an angle to each other, a bead formed at the junction of said webs, and slots formed in opposite sides of said bead adjacent the surface of said webs.

12. In a device of the character described, the combination of a strap adapted to surround a box or the like, and an edge protector comprising webs arranged at right angles to each other, and a tubular bead formed at the junction of said webs, said bead being provided intermediate its ends with slots through which the strap extends.

13. In a device of the character described, the combination of a binder adapted to surround a box or the like, and an edge protector comprising webs, and a tubular bead at the junction of said webs, the ends of said bead being flattened, and slots in the wall of said bead intermediate said flattened ends, and providing a transverse passage for said binder.

14. In a device of the character described, the combination of a metallic strap adapted to surround a box or the like, and an edge protector comprising webs arranged at right angles to each other, and a bead at the junction of said webs, the ends of said bead being flattened, and slots formed in opposite sides thereof and intermediate said flattened ends.

In witness whereof, I hereunto subscribe my name this 16th day of November, A. D., 1920.

SIDNEY W. TREAT.