

Dec. 16, 1941.

L. J. EPPS

2,266,181

PROTECTIVE CORNER PIECE

Filed Jan. 28, 1939

Fig. 1.

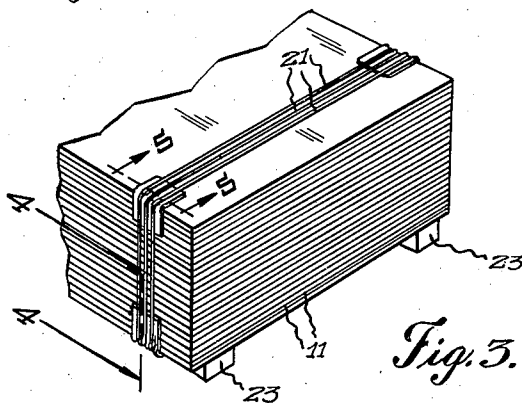


Fig. 2.

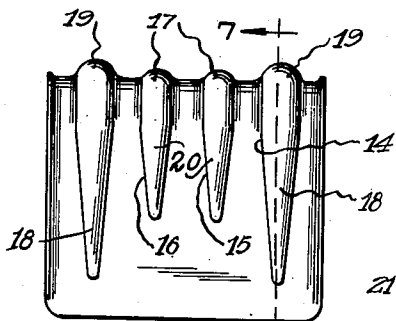


Fig. 3.

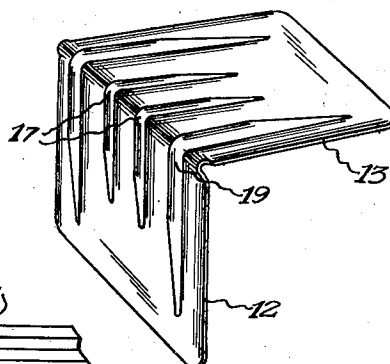


Fig. 4.

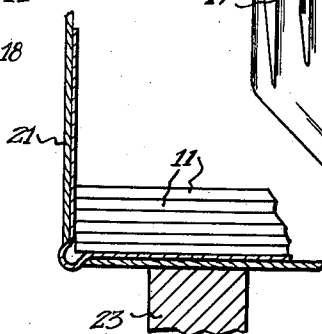


Fig. 5.

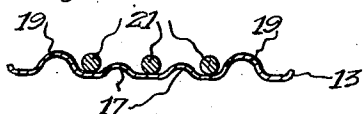


Fig. 7.

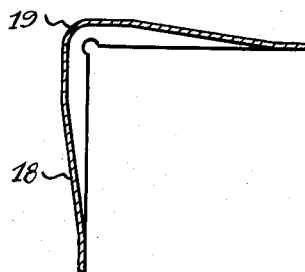
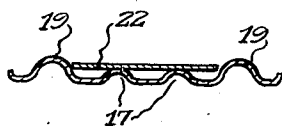


Fig. 6.



INVENTOR.
LOUIS J. EPPS.
BY *Thos. J. Donnelly*
ATTORNEY.

UNITED STATES PATENT OFFICE

2,266,181

PROTECTIVE CORNER PIECE

Louis J. Epps, Detroit, Mich., assignor of one-half to Dearborn Stamping Company, Dearborn, Mich., a corporation of Michigan

Application January 28, 1939, Serial No. 253,278

1 Claim. (Cl. 206—60)

My invention relates to a new and useful improvement in a protective corner piece or packaging clip adapted for use as a protective element on the edge of a package about which binding elements such as wire, cord and the like may be passed. The invention lends itself particularly to use on packages of sheet steel which are bound together in a bundle of superimposed sheets and secured by wire or other securing bands passed around the bundle. It is common practice at the present time in the steel industry to secure the bundles of superimposed sheets of steel together by passing wires, or bands around the bundle. In order to prevent the edges of the bundle from cutting the binding means a loose piece of steel is placed upon the bundle edge and bent around to size. This practice leaves the protecting member spaced outwardly from the meeting faces of the bundle and eventually the protecting sheet steel is bent into close engagement with the meeting faces with the result that the binding member becomes loose. Practical experience has also shown that frequently the piece of scrap which has been bent around the edge becomes dislodged from between the bundle and the binding means, thus leaving the binding means subject to the wear of the sharp edge. Another objectionable feature is that one end of the protective piece of metal may become dislodged from beneath the binding member and provide an outwardly projecting member which forms an element of danger when these bundles are packed in a shop. An object of the present invention is to provide a protective corner piece which will protect the binding member and avoid the objectionable features referred to.

Another object of the invention is the provision of a corner piece of this type having a pair of plates extended at substantially right angles to each other so that when placed on an edge of a bundle they will engage at their inner faces with one of the side faces of the bundle to permit the corner piece to lie snugly in position on the bundle.

Another object of this invention is the provision of a corner piece of this type having a plurality of grooves formed therein for the reception of the binding means and so constructed that at least one of the grooves is flanked on opposite sides by a similar groove so that should the securing member become dislodged from the groove in which it is positioned and be shifted laterally it will engage in the flanking groove.

Another object of the present invention is to provide a corner piece of this type having fas-

tener-receiving grooves formed in its outer faces and provided with bosses or outward projections on opposite sides of the outermost grooves so as to prevent the slipping of the fastening means clear of the corner piece.

Another object of the invention is the provision of a protective corner piece of this type comprising a pair of plate portions extended at substantially right angles to each other and having on their outer faces grooves for the reception of fastening means, these grooves terminating inwardly from the ends of the plates so as to provide a portion of the plates free from projections.

Other objects will appear hereinafter.

The invention consists in the combination and arrangement of parts hereinafter described and claimed.

The invention may be best understood by a reference to the accompanying drawing which forms a part of this specification and in which,

Fig. 1 is a fragmentary perspective view of a bundle showing the invention applied,

Fig. 2 is an elevational side view of the invention,

Fig. 3 is a perspective view of the invention,

Fig. 4 is a fragmentary enlarged sectional view taken on line 4—4 of Fig. 1,

Fig. 5 is a sectional view taken on line 5—5 of Fig. 1,

Fig. 6 is a view similar to Fig. 5 showing a different form of fastener,

Fig. 7 is a sectional view taken on line 7—7 of Fig. 2.

In Fig. 1 I have illustrated a bundle comprising a plurality of sheets 11 of metal arranged in superimposed relation. The corner piece embodying the invention is illustrated in use in Fig. 1. This corner piece is preferably formed from a single piece of metal which is bent intermediate its ends to provide the plates 12 and 13 extending at substantially right angles to each other. Formed in each of these plates, extending longitudinally thereof, is a plurality of fastener-receiving grooves 14, 15 and 16, these grooves on the two plates registering with each other so as to pass around the bend of the body and provide the humps or projections 17. In the drawing I have illustrated three of these grooves.

In order that one feature of the invention may be present the grooves should number at least three so that there is a groove, such as the groove 15, flanked on its opposite sides by similar grooves, such as the grooves 14 and 16. A longitudinally extending rib 18 is pressed outwardly

from the outer face of each of the plates, adjacent opposite edges, to provide outwardly from the outermost groove, the elevated or enlarged boss 19. Each end boss 19 and end rib 18 extend outwardly beyond the bosses 17 and the ribs 20 which lie between the grooves.

It will be noted that these ribs 20 and the ribs 18 terminate inwardly from the outer edge of the plate on which they are formed, the ribs 18 extending beyond the ends of the ribs 20 and therefore beyond the end of the grooves so that on each of the plates there is a terminal portion free from any surface projections.

When placed in position on a bundle as illustrated in Fig. 1 the wire 21, or other fastening means, is tied around the bundle, this fastening means resting in one of the fastener-receiving grooves, as clearly appears in Fig. 1 and Fig. 5. Should the fastening member which is engaged in the groove 15 become dislodged and shifted to either side it would then engage in either the groove 14 or the groove 16. A lateral outer shifting of the fastener from the outermost groove 14 or 16 is prevented by the elevated boss 19 and rib 18 so that dislodgement of the fastening means from engagement with the corner piece is thus prevented. Should the outermost strand of the fastener shift inwardly it would engage in the inwardly positioned groove.

Thus I have provided a protective corner piece so arranged and constructed that the advantages referred to are obtained and the disadvantages avoided.

In Fig. 6 I have shown the wires 21 replaced by a band 22 and in this form the band would lie against the outer faces of the ribs 20 and engage at its side edges the elevated or larger ribs 18 which serve to prevent the lateral shifting of the binding band 22.

When a number of these bundles are placed in stock it is customary to place each bundle upon spaced rails 23 which generally constitute spacing bars so that each succeeding bundle placed in a pile is spaced from the bundle below by these spacing bars or rails to permit the attachment of lifting members to the bundle. As shown in Fig. 4, when the invention is used on a bundle, the bundle is placed in engagement with the spacing rail 23 so that the flat terminal portion of the plate 12 or 13 engages with spacing rail or bar

23. If the ribs 18 and 20 extended outwardly to the end of the plate on which formed so that the spacing rail or bar 23 would then engage these ribs, under the weight of the bundle the ribs would cause an indentation to be made on the outermost sheets of metal and particularly would this be true when a large number of bundles are placed in superimposed relation. Consequently, the forming of the plates with flat terminal portions free from projections is a very desirable feature of the invention.

It will be noted that the line of bend of the plates 12 and 13 is a round one so that a curvilinear surface is presented to the fastening member which is drawn around this corner or line of bend.

With a corner piece such as described, it becomes possible to more securely and compactly bind a bundle of separate flat pieces and in such a manner that the binding member will not become dislodged and will not be subjected to the wearing action of the sharp edges of the bundle, the round corner of the corner piece serving to provide the desired protection.

While I have illustrated and described the preferred form of construction, I do not wish to limit myself to the precise details of structure shown but desire to avail myself of such variations and modifications as come within the scope of the appended claim.

What I claim as new is:

A packaging clip of the class described, comprising a strip of metal bent to form a pair of diverging plates connected by a bent portion, a pair of spaced and parallel longitudinally extending ribs formed on the outer surface of said clip, one rib extending along each side edge of each plate and said bent portion, said ribs providing a relatively wide space therebetween adapted to receive a relatively broad tie member, and at least two longitudinally extending ribs formed on the outer surface of each plate and said bent portion intermediate said first ribs and parallel thereto, said last ribs being substantially lower than said first ribs and adapted to support said broad tie member thereon, said last named ribs dividing said space into at least three parallel grooves, each of said grooves being adapted to seat a relatively narrow tie member therein.

LOUIS J. EPPS.