

(No Model.)

A. A. WOOD.
BOX CORNER BINDING.

No. 515,310.

Patented Feb. 20, 1894.

Fig. 2.

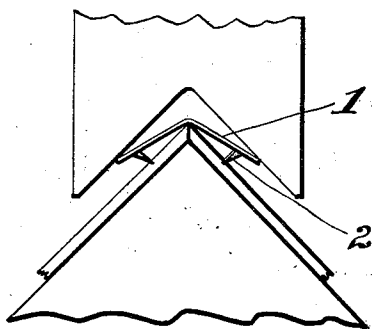


Fig. 1.

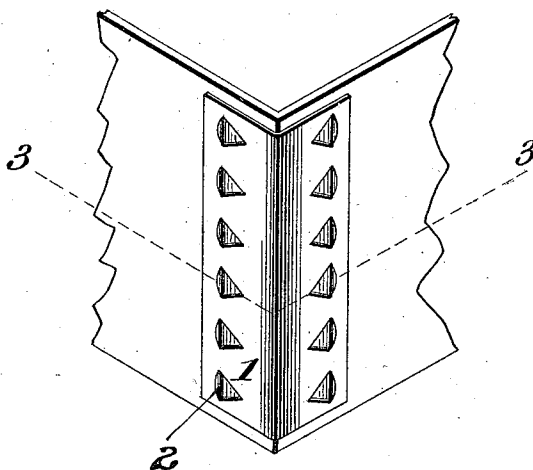


Fig. 4.

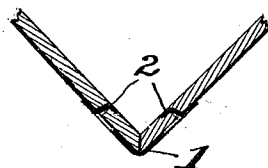
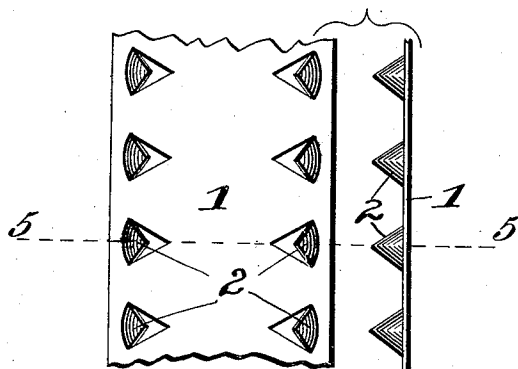
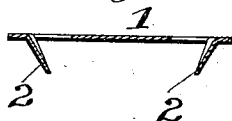


Fig. 3.

Fig. 5.



Attest:

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UNITED STATES PATENT OFFICE.

ALBERT A. WOOD, OF ATLANTA, GEORGIA.

BOX-CORNER BINDING.

SPECIFICATION forming part of Letters Patent No. 515,310, dated February 20, 1894.

Application filed December 6, 1892. Serial No. 454,290. (No model.)

To all whom it may concern:

Be it known that I, ALBERT A. WOOD, a citizen of the United States of America, and a resident of Atlanta, in the county of Fulton and State of Georgia, have made certain new and useful Improvements in Box-Corner Bindings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

The object of this invention is to so improve the construction of metallic corner-binding strips for boxes as to cause them to be more effective and easily applied, and to permit the use of thinner material than formerly.

To this end the invention consists of a metal strip having spurs that are cut up from the body of the strip and pressed to a curvature and angle of elevation that will be hereinafter described.

In the accompanying drawings: Figure 1 is a perspective view of a box-corner showing this device attached. Fig. 2 is a rudimentary view of the anvil and die for fixing the binders, one of which is shown as being bent over the corner of the box. Fig. 3 is a section of a box corner on the line 3—3, Fig. 1, showing the form to which the spurs are bent as they are entered and set. Fig. 4 shows respectively an inverted plan and an edge view of the strip. Fig. 5 is a cross-section on the line 5—5, Fig. 4, illustrating further the construction therein shown.

In the figures like reference characters are uniformly used in the designation of corresponding elements of construction in all the views.

By reference to several figures, especially 4 and 5, it will be observed that the metal forming the spurs 2 is cut from the triangular openings near the edges of the strip 1. It will also be observed that the corners of these triangular openings, from which the free ends of the spurs 2 are cut, point inwardly and that the spurs are bent outwardly. These spurs are pressed in the process of punch-

ing as near as is practicable into the form of a circumferential portion of the surface of a cone having a considerable outward curvature at the point of joinder with the body of the strip and the smallest possible radius at its point, or that the radius should gradually become less and disappear at the point; the object being a greater uniformity of strength throughout the spur and to cause it to enter a hard substance without bending any part. The angle of the spur to the strip will be hereinafter described.

After the spur 2 shall have been cut from the strip, curved and set up at the proper angle, the strip is bent, longitudinally, to the angle of a box corner to which it is applied in which operation the spurs are forced through the box sides, (usually card-board) as shown in Fig. 3.

The apparatus for attaching the strips consists of an anvil, Fig. 2, on which the box-corner is placed, and a die and operative mechanism, that bends the strip over the corner of the box, as shown in that figure and forces the spurs 2 through the box sides. In doing this it is obvious that the point and edges of each spur must cut the hole through which the spur passes. The contour of the spurs as seen in a cross-section through the strip, figure 5 for instance, is in the form of a wedge, one side being formed by the cutting edges and the other by the curved surface. It is also obvious that resistance to these cutting edges will tend to bend the spur backwardly; therefore the angle of the spur to the strip, in cross-section, should be such as will cause the outward or backward pressure of the spur to be balanced by the inward pressure against its outward circular side; by reason of which the angle of the strip should be such as to cause its line of motion, in entering the box side, to coincide with a central line through the wedge-shaped form above mentioned. On the spurs passing through the box-side and coming in contact with the anvil so much of the points will be bent down as would otherwise project through on the inside of the box. This bending will be in the direction shown in figure 5, and will tend, with any additional inclination that may be given the spur,

by the final pressure of the dies, to force the box-corner closer together, until the contact at said corner is such as will prevent further inclination of said spur.

5 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

A box-corner binder consisting of a strip of metal adapted to be bent longitudinally along
10 its middle, having integral spurs cut and bent up therefrom along its edges, said spurs being curved on decreasing radii from base to

point and leaning inwardly at such an angle that the median line of the curved spur will follow the point thereof through the box-side 15 as the strip is bent along its middle in affixing, substantially as and for the purpose specified.

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

ALBERT A. WOOD.

Witnesses:

A. P. WOOD,
HARDIE KEITH.