No. 778,533. PATENTED DEC. 27, 1904.

L. A. DUNBAR.

CORNER JOINT OR STAY FOR BOXES, TRAYS, CARTONS, OR OTHER STRUCTURES.

APPLICATION FILED JULY 15, 1904.

Fig. 1.

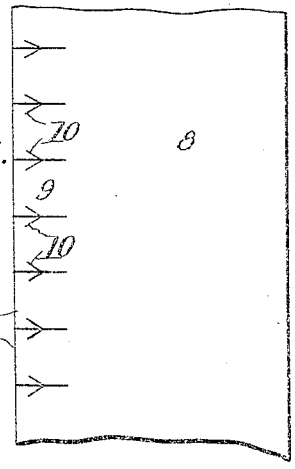


Fig. 7.

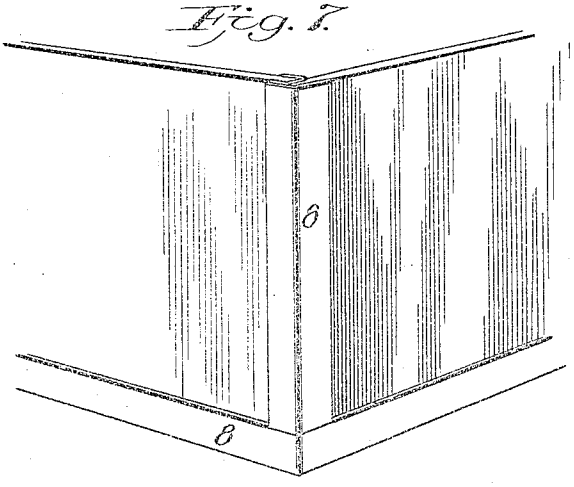


Fig. 5.

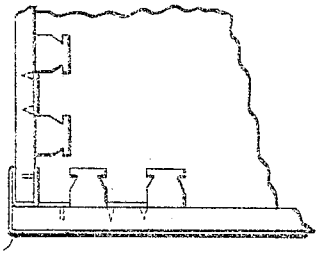


Fig. 3.

Fig. 2.

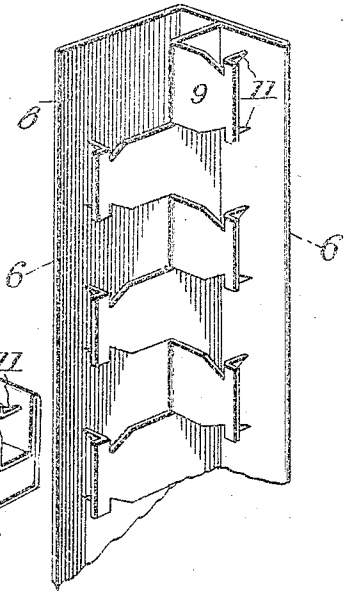


Fig. 6.

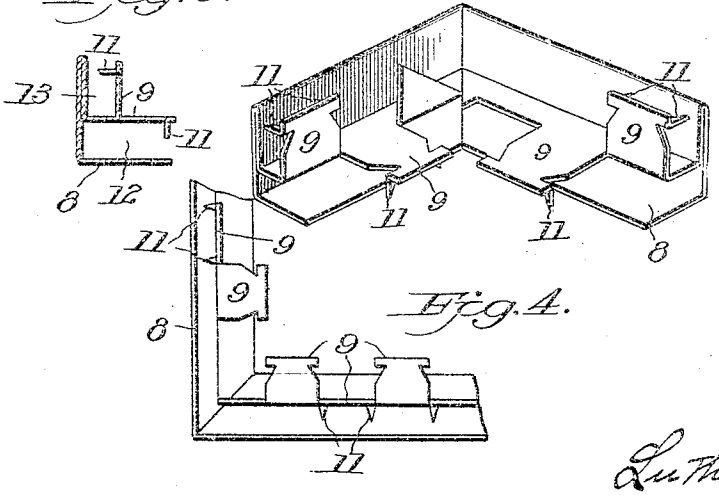


Fig. 4.

Luther A. Dunbar.
Inventor

Witnesses
C. M. Walker,
F. E. Rapp.

by Eugene F. Johnson
Attorney

No. 778,533. Patented December 27, 1904.

UNITED STATES PATENT OFFICE.

LUTHER A. DUNBAR, OF BARTLETT, NEW HAMPSHIRE.

CORNER JOINT OR STAY FOR BOXES, TRAYS, CARTONS, OR OTHER STRUCTURES.

SPECIFICATION forming part of Letters Patent No. 778,533, dated December 27, 1904.

Application filed July 15, 1904. Serial No. 216,694.

To all whom it may concern:

Be it known that I, LUTHER A. DUNBAR, a citizen of the United States of America, and a resident of Bartlett, in the county of Carroll and State of New Hampshire, have invented certain new and useful Improvements in Corner Joints or Stays for Boxes, Trays, Cartons, or other Structures; and I do hereby declare the following to be a full, clear, and exact description of my 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, which form a part of this specification.

This invention appertains to improvements in binding and connecting strips or corner fasteners and stays for boxes, trays, cartons, or other structures where two or more parts are connected and the joint covered by the connecting means.

The purpose of the invention is to provide a simple, cheap, and effective means for joining and bracing the parts, as panels or sections of boxes, trays, and other structures, the invention extending to connecting flat pieces of material on the same plane, as well as at angles, and in carrying my invention into effect the combined connecting means and brace is made from a strip of sheet metal, one edge thereof being slitted and then bent to provide recesses or sockets for the reception of the edges of the stock, the tongues forming one of the sides of the sockets having spurs which enter the stock and hold the same securely in the sockets. The binder and connecting-strip is adapted to be used in the construction of packages whether made of wood, cardboard, or other suitable material.

One of the purposes of my invention is to provide a corner-stay or binding-strip which will have a smooth and unbroken outer surface and which owing to the several bends will be of great rigidity.

In the accompanying drawings, Figure 1 is a plan view of a strip of sheet metal which has been slitted, but not bent, to form a joining and binding strip. Fig. 2 is a detail perspective view showing the inner side of one of the corner-strips. Fig. 3 is a perspective view showing the construction of a part of a strip constructed to connect the sides and bottom of a box. Fig. 4 is a plan view of the construction shown by Fig. 3. Fig. 5 is a sectional view taken horizontally through a corner-stay and through the sides of a box looking downward upon the bottom of the box. Fig. 6 is a section on the line 6 6 of Fig. 2, and Fig. 7 is a perspective view showing exteriorly the application of a joint and brace to the corner and to the sides and bottom of a box.

In practice the stay or joining-strip is made from a strip 8 of sheet metal, which is slitted along one edge to provide a series of tongues 9, each tongue at the sides near the ends having angular slits 10, the metal which is partially separated from the tongue being bent to form spurs 11. The spurs are formed by bending the metal on one tongue toward one side, and on the adjacent tongue the metal is bent in an opposite direction. The sheet-metal strip after being slitted to permit of the formation of the tongues 9 and the spurs 11 is folded upon itself along its longitudinal center, which provides a double thickness of metal, one part of the strip overlying the other part. After the strip has been folded each of the folds is bent along different lines, so the parts beyond the bends will be positioned at right angles to the doubled-over part and parallel with each other. The projecting or edge portions of the strip are separated by a space, which is practically the same as the thickness of the board or material which enters into the construction of the box or package.

The socket or recess 12 for the reception of one edge of the stock comprises one of the side portions of the strip 7 and a part of the other side, including the tongues, which project in line therewith, the base of the recess being formed by that portion of the strip which extends beyond the part which projects from the other edge of the doubled-over portion. The tongues being bent to lie substantially at right angles to the tongues forming a part of the recess 12 and parallel with the doubled-over portion of the strip provide with said doubled-over portion a socket or recess 13. The joint-

ing and binding strip produced by the construction shown locates the tongues and spurs on the inner side of the package, and on the exterior there is only visible the smooth unbroken faces of the strip.

It is obvious that when it is desired to connect two parts on the same plane the parts may be bent to provide sockets or recesses in line with each other, and in the construction of packages other than rectangular the bends may be greater or less than a right angle.

A joining-strip constructed as shown by Fig. 2 is for the purpose of joining sections or panels at right angles, and by partially severing the strip and bending the same at right angles a construction is provided which will position the sockets or recesses to connect the bottom of a receptacle to the sides.

When the panels or parts of a package are placed in the sockets or recesses of the connecting and binding strip, the points of the spurs will lightly engage the parts sufficiently to hold them assembled, and by pressing a suitable tool over the tongues the spurs will be forced into the stock to firmly secure the parts in place. As the smooth exterior faces of the binding-strip are opposite the spurs, there is no liability of the points of the spurs being exposed even should they be of a length sufficient to extend through the stock. When the length of the spurs is greater than the thickness of the stock, the ends will be clenched by engaging the inner side of the wall of the socket.

The binding and connecting strip can be cheaply and readily manufactured, it may be quickly applied, and will securely hold and brace the connected parts. It is not necessary to prepare the panels or other parts of the package by punching or indenting, as the pointed spurs have sufficient strength, owing to their angular shape, to be forced into and through either paper or board, such as is used in the make-up of boxes, cartons, and other packages.

Having thus set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A binding and connecting strip, consisting of a strip of metal which is folded longitudinally upon itself and is bent to position the portions beyond the fold at right angles to the folded portion, slits in one of the edges to provide tongues which are bent substantially parallel to the folded-over part of the strip, whereby a binding and connecting strip with a smooth exterior and with sockets at right angles to each other is provided.

2. A binding and connecting strip, consisting of a metallic strip which is folded longitudinally to provide sockets which are formed in part by alternating tongues, the tongues having angularly-slitted edges which when bent provide spurs which extend toward the unbroken side of the sockets.

3. A metallic jointure consisting of a strip of sheet metal which is folded upon itself to provide sockets positioned at right angles to each other both sockets being formed in part by alternating tongues, the outer wall of one of the sockets being of double thickness and the other one of a single thickness of the strip.

4. A corner stay or fastening for boxes, &c., consisting of a strip of metal having at one edge inward-extending slits, each alternate partially-divided portion of the strip being bent at an angle to the unbent portion, a longitudinal fold and bends which provide with the slitted portion sockets for the reception of the edges of the box material.

5. A binding and connecting strip of sheet metal which is longitudinally bent and folded the bends being at an angle to the folded portion to locate the edges of the strip parallel to each other, the inner portion of the strip being partially slitted and bent to provide alternating tongues which are parallel to the outer portions of the strip and spurs which project from the tongues toward the outer portion of the strip.

6. A binder and connecting strip consisting of a strip of sheet metal, having a longitudinal fold and a plurality of bends which position the edges of the strip at right angles to the folded portion to provide a socket, a second socket formed by bending each alternate tongue parallel to the folded portion of the strip and spurs carried by the tongues.

7. A binder and connecting strip consisting of a strip of sheet metal having along one edge a series of inward-extending slits and between the inward-extending slits angular slits located near the outer margin of the strip to provide when bent pointed spurs.

8. A binder and connecting strip, having tongues positioned substantially parallel to the sides of the strip and providing sockets for the reception of the ends of the material to be joined, and spurs on the side edges of each tongue which project toward the inner side of the sockets.

9. A corner fastener or stay for boxes consisting of a metallic strip, a longitudinal fold and bends which position the edges of the strip at right angles to the folded portion, a plurality of slits in the edge of the inner portion of the strip, sockets formed by bending the metal between each alternate slits, and spurs on the inner walls of the sockets.

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

LUTHER A. DUNBAR.

Witnesses:
C. H. GEORGE,
E. A. STEVENS.