M. B. BECKER.

CRATE.

APPLICATION FILED AUG. 30, 1915.

1,216,270. Patented Feb. 20, 1917

Fig. 1.

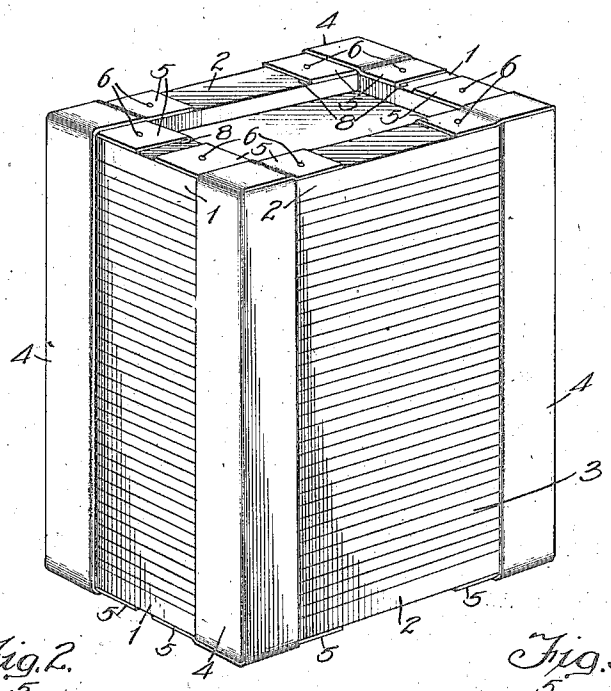


Fig. 2.

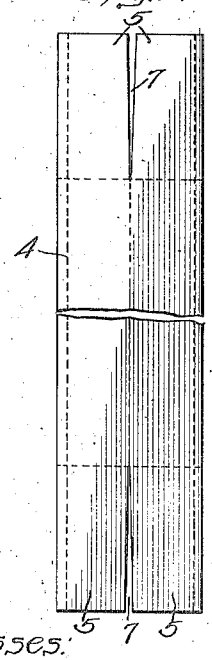


Fig. 4.

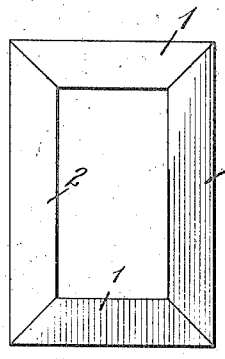
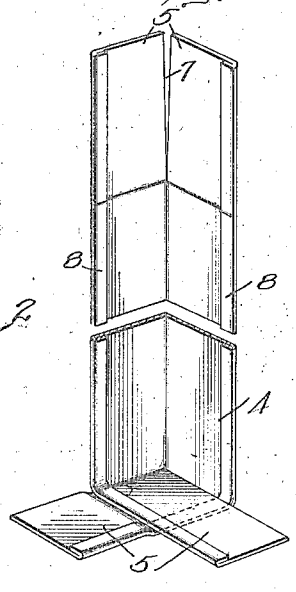


Fig. 3.



Witnesses:

Arthur W. Cutler

Robert H. Wear

Inventor:

Mathias B. Becker

By Rudolph Ivo Lee Atty.

UNITED STATES PATENT OFFICE.

MATHIAS B. BECKER, OF CHICAGO, ILLINOIS.

CRATE.

1,216,270. Specification of Letters Patent. Patented Feb. 20, 1917.

Application filed August 30, 1915. Serial No. 48,141.

To all whom it may concern:

Be it known that I, MATHIAS B. BECKER, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Crates; 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.

This invention has for its object to provide a crate particularly adapted to contain paper shingles and similar articles which are adapted to be packed closely and compactly together to constitute a substantially rigid or inelastic bundle in which the crate and contents protect each other against destruction or injury in the rough handling to which the same is subjected in shipment.

A further object of the invention is to provide a crate or package which is adapted to be very quickly and easily assembled about the contents thereof.

A further object of the invention is to provide a crate which will be variable in dimensions to accommodate itself to slight variations in height or thickness of the bundle of shingles or other devices contained therein due to slight variations in thickness thereof without additional labor.

Another object of the invention is to provide a crate of the character defined, the metallic parts of which constitute tension members capable of being made of a very light and soft sheet metal which are easily cut out of waste metal, such for example, as the bodies of cans or similar receptacles containing asphaltum.

Other objects of the invention will appear from the following specification.

In the drawings illustrating the invention:

Figure —1— is a perspective view of a crate constructed in accordance with my invention showing the same housing a bundle of shingles or similar flat articles.

Fig. —2— is a view in elevation of one of the metallic tension members of the crate in its blank form, that is, prior to its being bent to angle shape and having its end tongues bent to overlap each other.

Fig. —3— is a perspective view of one of the metallic tension members of the crate, showing one end portion thereof bent to receive the end members of the crate.

Fig. —4— is a top plan view of the crate showing the component elements for the end portions of the same which are secured together and held to confine the crate contents.

The crate comprises two end portions each consisting of four strips 1 and 2 of wood, said strips being preferably of equal width and having mitered ends so that when set together in the relation shown in Fig. —4— with their mitered ends abutting against each other they will form a rectangular frame. One of said frames thus composed of the strips 1 and 2 loosely set together is placed on a suitable support which preferably is provided with a central projection of the dimensions of the central opening in the frame and the bundle 3 of shingles or the like is then set upon said frame composed of said strips 1 and 2. The said frame members 1 and 2 are then secured to each other by means of the angular corner tension members 4, each of which consists of a strip of sheet metal bent midway between its side edges to provide an angle strip having its flanges extending substantially perpendicular to each other. The said strip is split at its ends along the line of the junction of the flanges to form tongues 5 which may be bent, as shown in Fig. —3—, to overlap each other and to extend at right angles to the respective flanges with which they are integral and to the companion flanges, each of said tongues being of greater length than width so that when overlapped each will extend beyond the farthest side edge of the other and overlap the strips 1 and 2 at a considerable distance from their mitered edges.

After the frame consisting of the said strips 1 and 2 has been assembled loosely, as aforesaid, the four corner strips such as are shown in Fig. —3— are applied to the corners of the bundle and so that the said tongues 5 at the lower ends of said strips constitute supports for the end portions of said strips 1 and 2. These tongues 5 are then secured to the strips 1 and 2 by driving nails 6 through the free end portions of said tongues beyond the overlapped areas thereof. Thus the tongue 5 of a flange of the strip 4 abutting against the outer edge of a strip 2 will be secured to a contiguous portion of the strip 1 and vice versa. The nails 6 thus not only serve to secure the strips 1 and 2 to the angle strips or corner

members 4, but also coact with the flanges of said corner strips to hold said strips 1 and 2 firmly in position relatively to each other thereby preventing displacement thereof. The corners of the shingles 3, or similar contents of the crate are, of course, housed in the angle strips 4 and coöperate to hold said corner strips 4 in proper position relatively to each other so that the crate and the contents thereof coact with each other to form a package which is practically indestructible.

It will be obvious, of course, that after one of the frames consisting of the strips 1 and 2 has been connected with the corner pieces 4 the other end frame composed of said strips 1 and 2 is formed on top of the bundle of shingles 3 and the tongues 5 at the upper ends of the strips are then bent over and secured as shown in Fig. —1—, thereby completing the crate. The incisions 7 separating contiguous tongues 5 from each other are preferably cut of a little greater length than the average depth of the bundle 3 consisting of a given number of shingles or the like, so as to adapt the crate to accommodate itself to bundles of slightly less as well as of slightly greater depth without additional labor.

The said strips 4 are preferably cut from waste metal, as above suggested, this being readily flattened, cut and formed, and as such metal is relatively very thin and soft it is preferable to fold the same over along the free edges of the flanges of the strips 4 to form reinforcing flanges 8 along said edges, said flanges 8 serving also to present smooth edges to the touch instead of burred or ragged edges which might result from cutting the metal into such strips by means of dull shears or the like.

My said crate is particularly intended and adapted for use in packing and shipping so-called asphaltum shingles which consist of a paper base coated with asphaltum and which are packed in lots of a given number usually sufficient to cover a given number of square feet of roof, but the same may obviously be utilized for packing any other materials or articles which will readily submit to pressure without injury. The angle strips may obviously be made of a heavy metal or reinforced to resist compression and the crate thus adapted for packing fragile articles.

It will be obvious, of course, that the outer faces of the bundle 3 of shingles or the like which are exposed between the opposing flanges of the strips or corner pieces 4 may be protected by means of suitable sheets of material confined between the exposed faces of the said shingles 3 or the like, and the opposing flanges of the corner strips or members 4, said sheets being loosely inserted and being securely held in place, as will be obvious.

I claim as my invention:

1. A crate of the character set forth comprising upper and lower end members adapted to be held against approach toward each other by interposed substantially incompressible crate contents, and metallic corner-strips adapted to receive the corners of the crate contents and end-members and having end-flanges overlapping upon and secured to the end members, the length of the corner members between upper and lower end flanges being determined by the height of the crate-contents plus the thickness of the end members.

2. A crate for substantially incompressible merchandise comprising end frames each composed of a plurality of loosely abutting strips of wood or the like, and ductile metallic angle-strips having their flanges severed from each other at the end portions of said strips and bent to overlap each other and each to project beyond the farthest removed side edge of the other, the said projecting end portions of the flanges secured to the strips of wood or the like of the end frames between the ends of said strips, the abutting portions of the latter being covered by the overlapped portions of the bent end portions of said flanges and being held by the latter against separation, the merchandise disposed between the end frames serving to maintain the same against approach toward each other and the body portions of said angle strips preventing relative separating movement thereof and protecting the corners of the contents of the crate.

3. A crate of the character set forth comprising substantially rectangular end frames each composed of four mitered strips of wood or the like abutting loosely against each other at their ends, and metallic angle corner-strips connecting the end frames with each other, each of said corner strips equipped at its ends with overlapped tongues secured at their free ends to abutting strips of the end-frames between the ends of said strips for preventing separation of the abutting ends of said strips and securing the respective end frames to said corner-strips and upon the crate contents.

In testimony whereof I have signed my name in presence of two subscribing witnesses.

MATHIAS B. BECKER.

Witnesses:
M. M. Boyle,
F. C. Dyer.