W. HUEY.

MAKING WOODEN BOXES.

No. 190,590. Patented May 8, 1877.

Fig. 1.

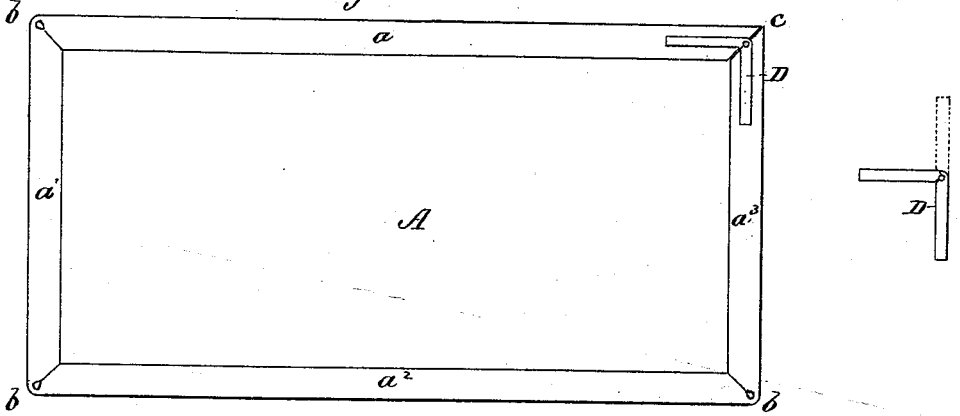


Fig. 2.

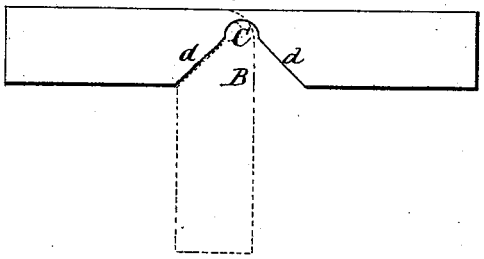


Fig. 3.

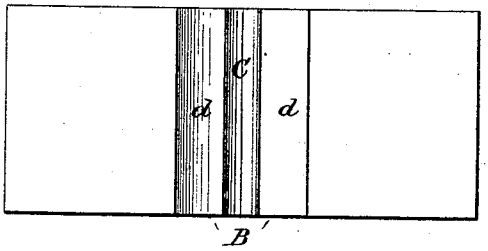


Fig. 4.

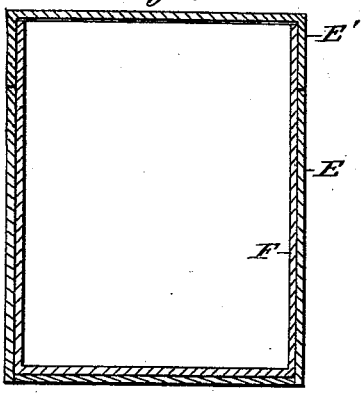
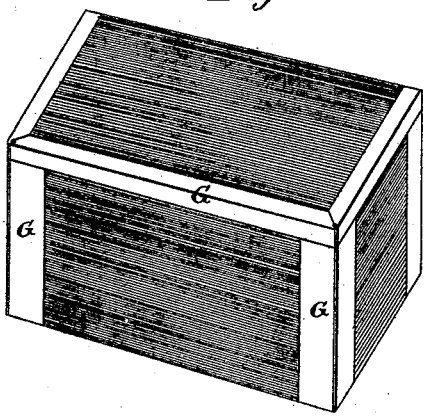


Fig. 5.



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IMPROVEMENT IN MAKING WOODEN BOXES.

Specification forming part of Letters Patent No. **190,590**, dated May 8, 1877; application filed April 16, 1877.

To all whom it may concern:

Be it known that I, WILLIAM HUEY, of Federalsburg, in the county of Dorchester and State of Maryland, have invented a new and useful Improvement in Making Wooden Boxes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a top view of a box with the lid removed, constructed in accordance with my invention. Fig. 2 is an edge view of the peculiar form of channel, with the bent joint indicated in dotted lines; Fig. 3, a face view of the form of channel; Fig. 4, a section, and Fig. 5 a perspective, of modified forms of boxes, which my invention enables me to construct to advantage.

My invention relates to certain improvements in the construction of wooden boxes, which improvements are designed more particularly for that class of wooden boxes which are stiff and rigid in shape, such as are employed for holding hats, caps, boots, shoes, thread, cotton, cigars, and all fancy articles, but which improvements are applicable to and designed to be also used in the construction of fruit-baskets, crates, &c.

The improvement consists, mainly, in the manner of forming the bend or joint at the corners, which enables me to construct a box strongly and stiffly, and in which construction a single piece of board is made to form the several sides of the box without the use of nails, whereby I am enabled, with suitable machinery, to greatly facilitate and cheapen this form of box. The manner of forming the joint, which constitutes the main novel feature of my invention, is to cut upon the board transverse channels of peculiar shape at such points of the board as are to form the corners of the box, which channels are of straight angular sides, converging toward each other with an equal inclination, to a point near the side of the board which forms the outer surface of the box. Instead of meeting to form an angle, however, the channel opens or swells at its bottom or apex into a curved semicircular groove, which permits the successful manufacture of stiff heavy boxes by bending, as hereinafter more fully described.

In the drawing, A represents a box constructed in accordance with my invention, in which a a^1 a^2 a^3 represents the four sides of the box, which are made from a single stiff and rigid board, the joints b b b being bent joints, formed by the peculiarly-shaped channel or groove, while c is a joint formed by the free ends of the board, connected by an angular dowel, or by the lapping of one of the free ends, as hereinafter more fully described.

The novel construction of channel, which enables me to successfully form my bent joint from thick stiff boards, and thus utilize the latter for the purposes of my invention without the use of nails, is illustrated in Figs. 2 and 3, in which a channel, B, has straight angular sides d d, which taper with an equal inclination toward a point near the outside of the board, and open or swell at such point or apex into a curved or semicircular groove, C. The merit of this particular construction is that the curved groove at the bottom of the channel gives a sufficient amount of bending room for the wood, while the straight angular sides d d come together flush, as shown in dotted lines, to make a tight joint, and in so doing the sides of the box abut against each other throughout their entire thickness, which gives such strength and stiffness to the box as to enable it to successfully stand any strain which in boxes of the ordinary construction would cause it to give or loosen in the joints.

In constructing boxes I make three of the corners with the bent joint, while the other must necessarily be formed by the free ends of the board and united in a special manner. In uniting these free ends I may employ a bent angular dowel, D, which is made of a straight piece of wood cut transversely with the peculiar form of channel shown in Fig. 2, and afterward bent and inserted into longitudinal mortises cut into the free ends of the board. Instead, however, of making a bent angular dowel constructed with my peculiar channel, I may employ an angular paper dowel, or may make a lap-joint. In making boxes embodying my improved joint, which are to be provided with detachable covers, or for

making a double and stronger form of box, I may construct one box in upper and lower sections E E′, Fig. 4, and then fit another, F, inside of the same, whose upper edge extends above the joint formed by the sections, so as to form a lap-joint, that holds the upper section E′ in place, which upper section then forms a removable cover, while the box is rendered stronger by being double. In making boxes from certain kinds of wood, also, that will not bend without breaking, the corners may be inlaid with re-enforcing sections G, Fig. 5, which are made of straight pieces of less brittle wood, the said pieces being grooved according to my invention, as shown in Figs. 2 and 3, and then bent around the corners and glued.

In constructing boxes according to my invention, the boards are to be first channeled out (a number at a time) by means of a machine provided with revolving cutters, corresponding to the exact shape of the channel, the boards steamed, and the boxes then rapidly put together, no nails being required, except in large boxes, for fastening on the bottoms. By making the sides all of one piece of wood, in accordance with my invention, it will be seen that if the three channels are simultaneously cut by machinery, and the cutters are properly adjusted as to the distance between the same, the board after being steamed is simply bent around to form the sides of the boxes without any further measurement or fastening of the bent corners, and without the sawing and fitting ordinarily required.

I am aware of the fact that it is not new to form a wooden box of a single piece of board with a transverse angular channel, having no curved groove at the bottom, the same being shown in the patent to Wm. Gilbert, October 25, 1870, but the bending of the wood here must take place at the apex of the channel, which, being a single point, involves the inevitable cracking and breaking of the wood at such points upon the outside.

I am aware, also, that a shingle-binder patented by J. W. Wells, February 19, 1867, shows an angular groove with a dovetail groove at the bottom, but the extent of the thinned portion of the wood at the bottom of the groove, and the failure of the upper faces of the groove to abut when bent, prevents the formation of a stiff joint, while the dovetail cut running lengthwise into the wood renders it, when bent, liable to split.

I therefore fully disclaim both the patents referred to.

Having thus described my invention, what I claim as new is—

An improvement in the art of making stiff wooden boxes, &c., which consists in forming in the wood a curved groove at the bottom of an angular channel, and then bending the board at such point to form a corner-joint, substantially as described, and for the purpose specified.

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Witnesses:
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