W. P. COBURN.

WOODEN BOX.

No. 192,815. Patented July 10, 1877.

Fig. 1.

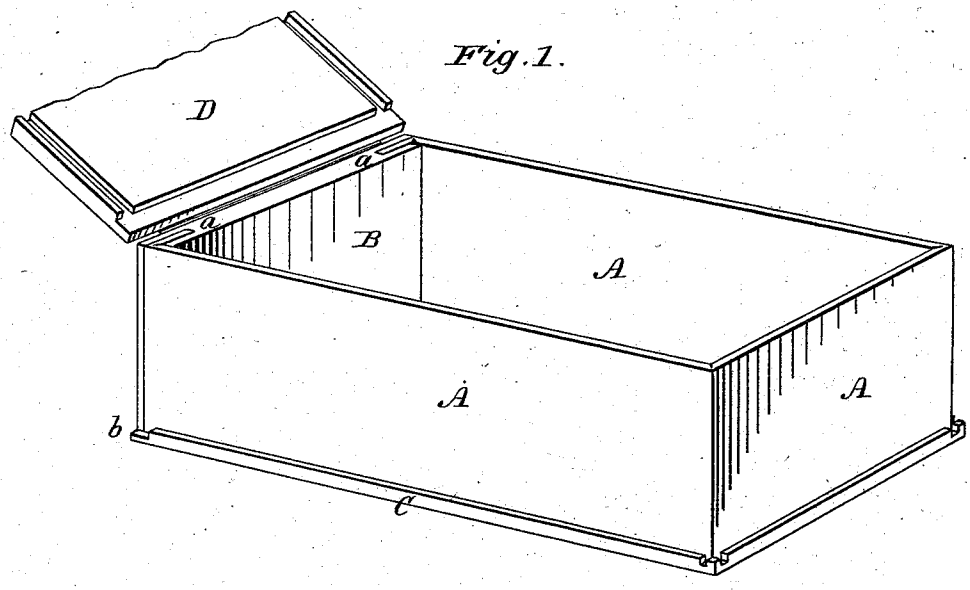


Fig. 2.

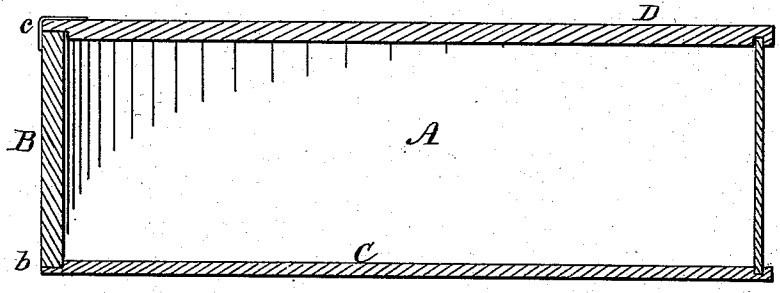


Fig. 3.

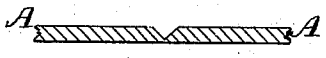
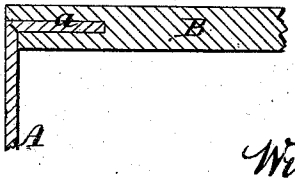


Fig. 4



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UNITED STATES PATENT OFFICE.

WILLIAM P. COBURN, OF WINCHESTER, NEW HAMPSHIRE.

IMPROVEMENT IN WOODEN BOXES.

Specification forming part of Letters Patent No. **192,815**, dated July 10, 1877; application filed June 18, 1877.

To all whom it may concern:

Be it known that I, WILLIAM P. COBURN, of Winchester, in the county of Cheshire and State of New Hampshire, have invented certain new and useful Improvements in the Construction of 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 drawings, in which—

Figure 1 is a perspective view of a box constructed in accordance with my said invention, with part of the cover or lid broken off. Fig. 2 is a longitudinal vertical section of the same.

The object I have in view is to reduce the cost of manufacturing boxes by dispensing with many of the operations and manipulations incidental to the production of wooden boxes, to avoid waste in the material, and, if possible, at the same time, to improve the character, style, form, and generally the quality of manufacture, and in particular so far as the same relates to permanency of shape—that is to say, the production of a wooden box which, while cheaply made, shall be strong, durable, well finished, not liable to warp or bulge, or otherwise get out of shape, as is but too common with most wooden boxes of whatever mode of construction.

The manner in which I have attained the object I have in view is as follows: I use for the body or sides a thin board, A, of a length little more than twice the length and once the width, or twice the width and once the length, and of a width equal to the height of the intended box. This board is scored by cutting transversely to its length a rectangular V-shaped groove, as shown in Fig. 3 in cross-section, care being taken that the fiber of the wood runs lengthwise, so that the board, when bent so as to close the V-shaped score, may be bent along said score-line, at right angles, without liability of severing the parts. The scores are so formed on lines corresponding with the four angles or corners in the body of the box. The length of the board, which, as before said, is more than that of three contiguous sides of the box, will, therefore, have a small length in excess on either end, which is the tenon end, and which is fitted into the corresponding grooves in the fourth side. This side B, which may be a short or a long side of the box, is made of a board of sufficient thickness to have cut into it along its ends contiguous to the other sides, and through its thickness, a groove. The two pieces are united by applying glue to either of the parts to be united, and by insertion of the tenons into its mortises or grooves, as shown at *a* in Figs. 1 and 4. In order to produce a nice finish I prefer to make the thick and grooved end piece slightly or so much wider on the exterior than on the interior as to become flush with the surface of the contiguous sides made of the board.

The body of the box thus made is secured to the bottom piece C, which consists of a board of a thickness to admit of being grooved on the face. Four such grooves of widths to receive the thickness of the boards composing the body of the box are cut, and the body is applied and set into and held in the groove by previously being glued.

The top D of the box is similarly formed; but, being removable, it is set and held by the upper end or edges of the body, fitting into corresponding grooves cut into the under face of the cover or top.

A box thus constructed will have a neat finish, sharp and well-defined corners, flanged on top and bottom. It is obvious, however, that the construction, and consequently appearance, of the box may be varied without departure from my invention. Thus, instead of one side of the body being made of thick board, two opposite sides may be so made, and the two thin sides would then be both tenoned into the two thick end pieces. Again, the bottom and top of the box need not form all around the body a flange; but the flange may, as shown in the drawing, only extend around the sides of the box, which are formed of thin boards, and the thick side may be fitted into an open groove or shoulder, as at *b* in Figs. 1 and 2. Instead of the top being entirely removable, it may be hinged at one end, or, as shown in the drawing at *c*, Fig. 2, on the end contiguous to the thick end of the body. Other obvious modifications may be suggested, all embodying more or less the advantages due to my invention, which are as follows:

First, cheapness of manufacture. This depending on cost of material and labor, it

will be understood that the box is produced at a very small cost, inasmuch as it contains the minimum material consistent with requisite strength. Very thin material is used there, where the needed strength is given to it by being firmly secured in stiff transverse pieces. The cutting, scoring, grooving is all done by machinery at great speed, and the gluing is effected in tenon-and-mortise joints, whereby the holding of the glued parts by means of vises or other instrumentalities is entirely dispensed with. The several parts are simply put together, and they remain so without auxiliary means, as there is no tendency to become detached.

Second, neatness of appearance. The box is perfectly shaped, with flanges on top and bottom. They may be covered with paper, or painted or varnished, or otherwise ornamented.

Third, strength and durability. Although for cheap boxes this is hardly expected, yet boxes made in accordance with my invention possess these properties to a great extent, as tendency (if there be any) to warp or otherwise to get out of shape, is withstood by the interlocking of parts.

Having thus described the said invention, and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

1. A box the body of which is composed of scored and bent boards, the ends of which are secured in separate grooved boards, as set forth.

2. The combination constituting a box composed of scored and bent and grooved boards, as described, with top and bottom pieces grooved for the reception of the edge of said body, as shown and described.

3. The box-body composed of thin scored and bent pieces of board, the bent ends of which are embedded and glued into the grooves of separate pieces, constituting one or more sides of the body, substantially as shown and set forth.

4. In combination with the body composed of thin and thick pieces, united as described, the grooved bottom piece to confine and hold, by means of glue, the edges of the body, as set forth.

5. The combination, with a body made as described, and united with the bottom, as shown and set forth, of a removable top, grooved to confine, when applied, the edges of the body of the box, whether said top be or not hinged to the body, as shown and described.

In testimony whereof I have hereunto signed my name this 14th day of June, A. D. 1877.

WM. P. COBURN.

Witnesses:
F. R. PETERS,
WILLIAM H. GUERNSEY.