R. G. INWOOD, DEC'D.
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BOX.
APPLICATION FILED NOV. 20, 1914.

1,288,598. Patented Dec. 24, 1918.

Fig. 1.

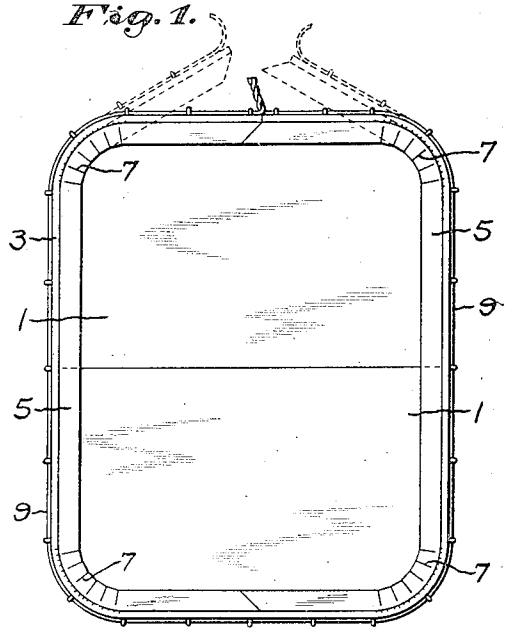
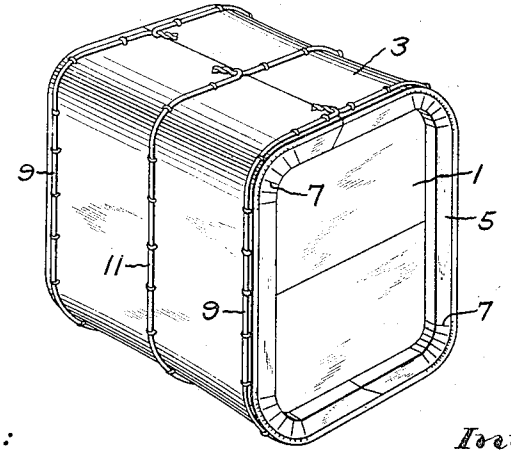


Fig. 2.



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UNITED STATES PATENT OFFICE.

RICHARD G. INWOOD, OF SOUTH BEND, INDIANA; MARY C. INWOOD, ADMINISTRATRIX OF SAID RICHARD G. INWOOD, DECEASED, ASSIGNOR OF ONE-HALF TO DANIEL P. MURPHY, OF NEW YORK, N. Y.

BOX.

1,288,598. Specification of Letters Patent. Patented Dec. 24, 1918.

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To all whom it may concern:

Be it known that I, RICHARD G. INWOOD, a citizen of the United States, and a resident of South Bend, Indiana, have invented an Improvement in Boxes, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to boxes, and among other objects provides a box which is simple and light in construction, cheap to manufacture and easy to handle.

The character of the invention may be best understood by reference to the following description of an illustrative embodiment thereof shown in the accompanying drawing, wherein:

Figure 1 is a side elevation of an illustrative box shown herein as embodying the invention; and

Fig. 2 is a perspective view of the box.

Referring to the drawing, the illustrative box shown therein as embodying the invention, comprises opposed ends 1 and side material 3 wrapped about said ends. In some cases to facilitate the flexing of the material, it may be scored or grooved on one surface thereof by passing the sheet between upper and lower rolls, one being smooth and the other fluted.

The sides are reinforced with cleats 5 of wood or other appropriate material each of a length substantially the same as the length of the side material. To enable the cleats to be flexed, V-shaped incisions 7 or other appropriate notches are made therein transversely to the lengths thereof and extending partially therethrough. Preferably these notches extend to within a short distance of the back of the cleat leaving a continuous rib for maintaining the integrity of the cleat.

To further strengthen the material binding wires or equivalent elements 9 are provided, extending the length of the sheet and preferably somewhat beyond the same to provide ends which may be twisted or otherwise connected, as more fully hereinafter described. These binding wires may be secured to the material by stitching or by driving staples straddling the wires through the material into the cleats.

The side material, cleats and binding wires thus assembled constitute a unit or blank which may be folded into box form or wrapped about the box ends as desired.

The ends of the box have rounded corners each curved preferably on an arc with a radius of substantial length. Thus each end has four straight edges and four curved edges. The notches in each cleat are arranged in four series appropriately spaced to correspond to the curved edges in the perimeter of the end. As a result, when the unit is wrapped about the ends the cleats will readily flex to conform to the contour of the end. In thus flexing the cleats the notches thereof are closed and the engagement of their walls serves to limit the flexing of the cleat and determine the curvature thereof.

The ends may be assembled with the blank in engagement with the inner faces of the cleats. In some cases the presence of articles within the box will be sufficient to maintain the ends positioned against said cleats, but in other cases the ends may be nailed or otherwise secured to said cleats as desired.

The ends, however, are not indispensable since the cleats in projecting inwardly from the side material may serve to prevent articles in the box from falling out. When the cleats are folded into box form they present curved corners containing wedge-like sections which act on the principle of the arch to resist collapsing of the box. Thus the cleats are rendered self-sustaining without using the ends.

In folding the blank into box form the side material is curved into intimate contact with the curved portions of the cleats along the lines of contact therewith, but intermediate the ends of the box the material tends to flatten thereby producing a slight concavity of the material intermediate said ends. This is a desirable feature in rolling the box since the material intermediate the ends which is weakest is spaced from the floor and the weight of the box is localized to the cleats which are better capable of sustaining it.

To further strengthen the box and in some cases contribute to the contraction of the side material intermediate the ends a binding wire 11 may be wrapped about the material and its ends twisted together adjacent the meeting terminals of the material.

Where box ends are employed preferably

portions of the cleats adjacent the terminals of the side material are not nailed or secured to the box ends. The side material is held wrapped about said ends by the binding wires embracing the same, the ends of the latter being twisted together at the terminals of said material. If it is desired to open the box the binding wires are cut adjacent their twists and then portions of the blank adjacent the terminals thereof may be swung outward away from the ends and permit access to the interior of the box.

In packaging certain articles it is desirable to provide a rectangular box which has flat sides, but there are objections to the handling of such a box since it is customary in moving the same to turn it over and over from side to side or from corner to corner. This results in an objectionable jolting of the box which is likely to injure the same or the contents thereof. The box described has advantages of the rectangular form, but does not have the objections above mentioned in the handling thereof, since the rounded corners will permit the box to be rolled on its sides substantially without jar to the contents thereof.

The rounded corners may be curved to conform to the contour of cans or other articles contained within the box and thereby inclose the articles with less material than would be necessary in making a square cornered box.

While the box shown herein is constructed so that the terminals of the side blank meet substantially in the middle of one of the sides of the box, it will be understood that the blank may be arranged to have its terminals meet at a corner of the box or otherwise as desired.

By my invention is provided a box which is extremely simple and strong in construction and cheap to manufacture. In assembling the same it is merely necessary to wrap the blank including the side material, cleats and binding wires about the ends and secure the same thereto. The box may be knocked down with equal ease, it being merely necessary to release the ends from the side material and unfold said material from said ends. Then the material may be laid out in flat form with the ends superposed thereon. The box parts are then in very compact condition permitting the same to be readily shipped or stored as desired. It may be desirable in some instances to ship the box to the user in knocked-down form. It will be apparent that by the simple operations above described he can readily assemble the parts in box form.

Having described one illustrative embodiment of the box embodying the invention and a method of making the same without limiting the invention thereto, what I claim as new and desire to secure by Letters Patent is:

1. A wire-bound box comprising ends having four straight edges and curved edges connecting said straight edges; side material encircling said ends and curved to conform to the contour of said edges; cleats for reinforcing said material having series of notches therein to permit the bending thereof to conform to the curved edges of said ends; said cleats engaging said ends and binding wires secured to said material.

2. A box comprising side material; reinforcing cleats for said material having series of notches therein for locating and determining the curving of said cleats to provide rounded corners; binding wires; means for securing said binding wires to said material and end pieces encircled by said side material and supported by said cleats.

3. A box comprising cleats of substantial thickness having regularly spaced portions thereof notched to provide series of blocks fitting together when the cleat is bent to form arches to support the corners of the box, side material encircling the cleats and binding wires encompassing the box and retaining said cleats in form.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

RICHARD G. INWOOD.

Witnesses:
THOMAS JAMIESON,
BARBARA C. PERRY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents Washington, D. C."