J. SHELLENBERGER.

WIRE BOUND BOX.

APPLICATION FILED MAR. 23, 1911.

1,033,833.

Patented July 30, 1912.

Fig. 1.

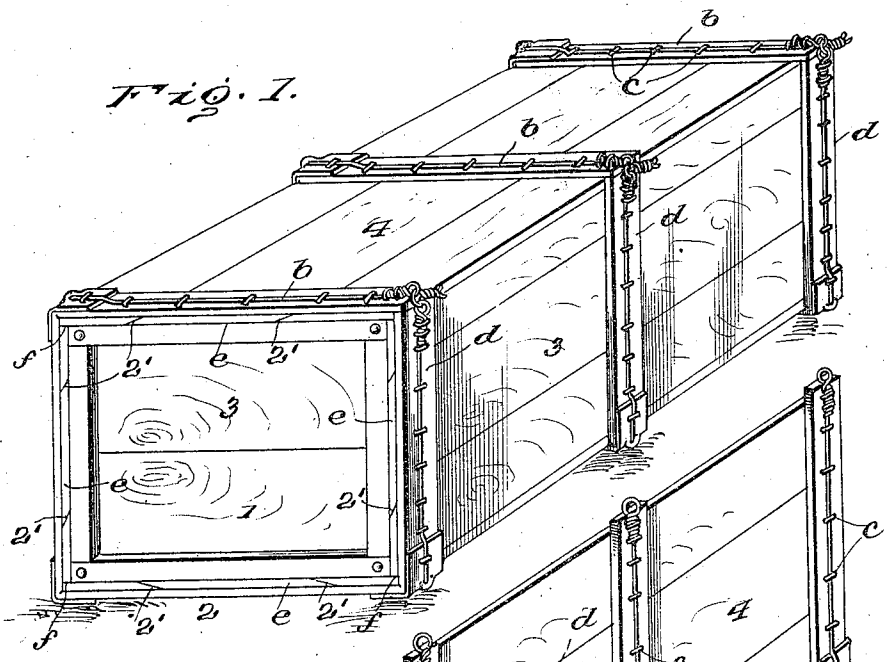
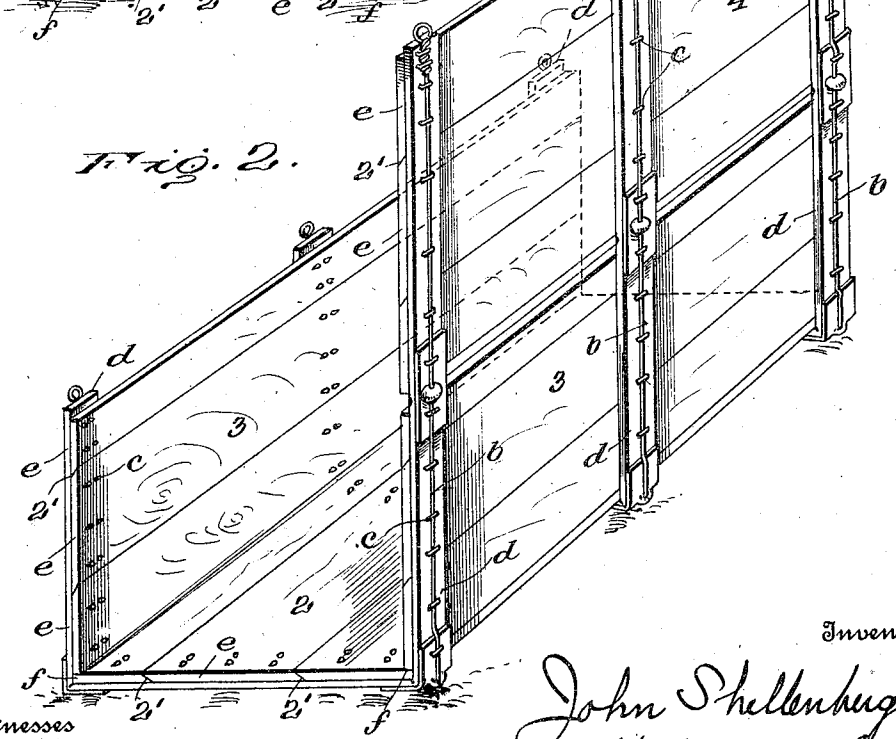


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN SHELLENBERGER, OF ROME, GEORGIA.

WIRE-BOUND BOX.

1,033,833. Specification of Letters Patent. **Patented July 30, 1912.**

Original application filed November 26, 1910, Serial No. 594,374. Divided and this application filed March 23, 1911. Serial No. 616,512.

To all whom it may concern:

Be it known that I, JOHN SHELLENBERGER, a citizen of the United States, residing at Rome, Floyd county, Georgia, have invented certain new and useful Improvements in Wire-Bound Boxes; 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 relates to certain improvements in wire bound packing or shipping boxes or receptacles; and this case constitutes a division of my application Serial No. 594,374 filed November 26, 1910, for improvements in wire bound boxes; and the objects and nature of my invention will be readily understood by those skilled in the art in the light of the following explanation of the accompanying drawings showing what I now consider my preferred embodiment from among other formations and arrangements within the spirit and scope of my invention.

Boxes of the type to which my invention particularly relates usually have their sides, bottoms and tops constructed of thin material such as lumber about one quarter to five sixteenths of an inch in thickness or thereabout, braced and reinforced by wire binding or by a wire and batten binding as will be well understood by those skilled in the art. These walls of the boxes are usually made of thin sliced or rotary cut lumber because of the low cost thereof as compared with sawed lumber. It is found in practice however, that this cut or sliced lumber is subject to excessive shrinkage. In the manufacture of such boxes, webs of wire bound boards are constructed to be bent around the box heads and secured thereto to form the complete boxes. In the formation of the webs, the thin usually comparatively narrow longitudinal boards are either butt or tongue and grooved jointed at their longitudinal edges, but when the boxes formed thereby are subjected to warm dry heat these boards will either cup or shrink and separate or open at their joints leaving the boards unsupported between the wire binding permitting the thin boards to spring inwardly or outwardly and thus materially decrease the strength and rigidity of the structure and render the same otherwise objectionable. In view of which facts, it has not been heretofore possible to successfully and economically employ narrow heretofore waste strips and pieces of the thin lumber in the manufacture of such boxes.

It is therefore, an object of my invention to so bevel the adjacent longitudinal edges of the thin strips forming a box longitudinal section (bottom, side or top) that said edges will overlap throughout their lengths to form bevel lap joints in connection with the stapled wire bindings securing said strips together with their beveled edges contacting whereby the longitudinal edges of said strips will be approximately held abutting notwithstanding shrinkage, and the joints will be maintained closed between the strips and the strips supported throughout their lengths, and whereby the narrow strips that were heretofore waste can be successfully and economically employed in the manufacture of such boxes.

The invention consists of certain novel features in construction and in combinations or arrangements as more fully and particularly set forth hereinafter.

Referring to the accompanying drawings: Figure 1, is a perspective view of a box embodying the several features of my invention. Fig. 2, is a perspective view of a web partially bent to form the bottom, sides and top (longitudinal sections) of a box.

In the particular example illustrated, the box or receptacle is composed of a pair of end heads 1, and wire bound longitudinal sections forming a bottom 2, sides 3, and a top 4, secured to the end heads in any suitable manner as by nails or staples. The longitudinal sections are formed by what might be termed a continuous web or blank consisting of a plurality of parallel strips or boards all traversed usually at their outer faces by wires *b*, secured to said strips by staples *c*, straddling the wires and passed through the boards and clenched at the

opposite faces thereof, battens *d*, being preferably interposed between the wires and boards so that the staples pass through and secure the battens and thus secure the wires, battens and boards together with the wires and battens practically continuous or unbroken throughout the length of the blank or web, and although I prefer to employ battens, I do not wish to limit all features of my present invention thereto. The web or blank is then bent around the end heads and secured preferably so that one end portion of the blank will form a side of the box, and intermediate portions thereof will form the bottom and opposite side of the box while the opposite end portion of the blank will form the top or cover of the box.

In the example thus described, the blank is composed of four sections, the wire binding being continuous across and between said sections to unite and bind the same together. Each section is made up of several parallel thin boards or strips *e*, transversely and oppositely beveled (at 2′) throughout their lengths with said beveled edges abutting to form bevel lap joints. Each section is spaced, on the wire binding, a suitable distance from the adjacent sections so that the meeting edges of the sections will form butt joints or will overlap, see *f*, in the completed box at the angles thereof. To accomplish this result, the outer longitudinal edges of the end strips or boards *e*, of each section are usually cut off square, about as shown, and spaced from the adjacent squarely cut off edges of the end boards of the next adjacent sections.

The longitudinal beveled edges 2′, are beveled from the inner to the outer face of the boards, and at each bevel lap joint, one bevel is at the inner face of its board while the opposite and abutting bevel is at the outer face of its board. In making the blank, the bevel faces are fitted to tightly or squarely abut and are thus held by the clenched staples holding the wire binding and boards together but the staples are preferably so arranged as not to pass through the beveled edges or faces 2′, as they might cause the same to split when the boards shrink, and hence in shrinking the beveled faces can slip or slide on each other.

The beveled faces are formed comparatively long and of a comparatively slight angle so as to allow for maximum possibility of shrinkage without such complete separation of such edges as to completely open the joint formed thereby and in this connection it should be noted that the wire binding so cooperates with the bevel edges as to maintain them together to such extent as necessary to form a joint with such edges longitudinally bracing each other even in the presence of considerable shrinkage. By employing such formation, I am enabled to employ narrow strips or boards, in fact such pieces as were heretofore considered waste in closed box construction, and find the narrow strips preferable in my construction because of the reduction in shrinkage for each joint. The staples will give sufficiently to permit the normal shrinkage without causing the thin boards to split, and in shrinking the bevel edges slip on each other without forming or leaving an open joint but are held abutting by the wire binding and by the outward pressure and weight of the load in the box.

It is evident that various changes and modifications might be resorted to without departing from the spirit and scope of my invention and hence I do not wish to limit myself to the exact disclosure hereof.

What I claim is:—

1. A wire bound box blank consisting of a series of spaced box wall forming sections and wire binding traversing and stapled to all of said sections and bridging the spaces between and uniting said sections, each section consisting of several parallel thin narrow boards stapled to and held together by said wire binding and having their longitudinal meeting edges oppositely beveled from the inner to the outer faces thereof to form abutting bevel lap joints, substantially as described.

2. A wire bound box blank consisting of box wall forming sections forming butt joints at their meeting longitudinal edges and wire binding traversing and uniting all of said sections and secured thereto, each section consisting of several parallel boards abutting throughout the lengths of their adjacent edges and free to slip on each other under shrinkage, said edges being oppositely beveled from the inner faces of the boards, to the outer faces thereof and overlapping and held together by said wire binding.

3. A wire bound box blank consisting of box wall forming sections, wire binding traversing and uniting all of said sections, and securing staples straddling said wire binding and passed through said sections, each section consisting of several parallel boards abutting at their adjacent longitudinal edges, said edges being oppositely beveled from the inner to the outer faces of the boards and overlapping, said staples passing through said boards at points removed from said beveled edges.

4. A wire bound box having wall forming sections composed of longitudinal boards having their abutting meeting longitudinal edges oppositely beveled and overlapping, and wire binding traversing said boards and secured to each board and maintaining said edges overlapping in the presence of shrink-

age, the longitudinal edges of said sections being cut off squarely and abutting.

5. A wire bound box having wall formed sections composed of longitudinal boards beveled from their inner to their outer faces, abutting and overlapping along their meeting longitudinal edges, wire binding traversing said boards, and securing staples securing said wire binding thereto and passing through said boards.

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

JOHN SHELLENBERGER.

Witnesses:

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