

No. 671,155.

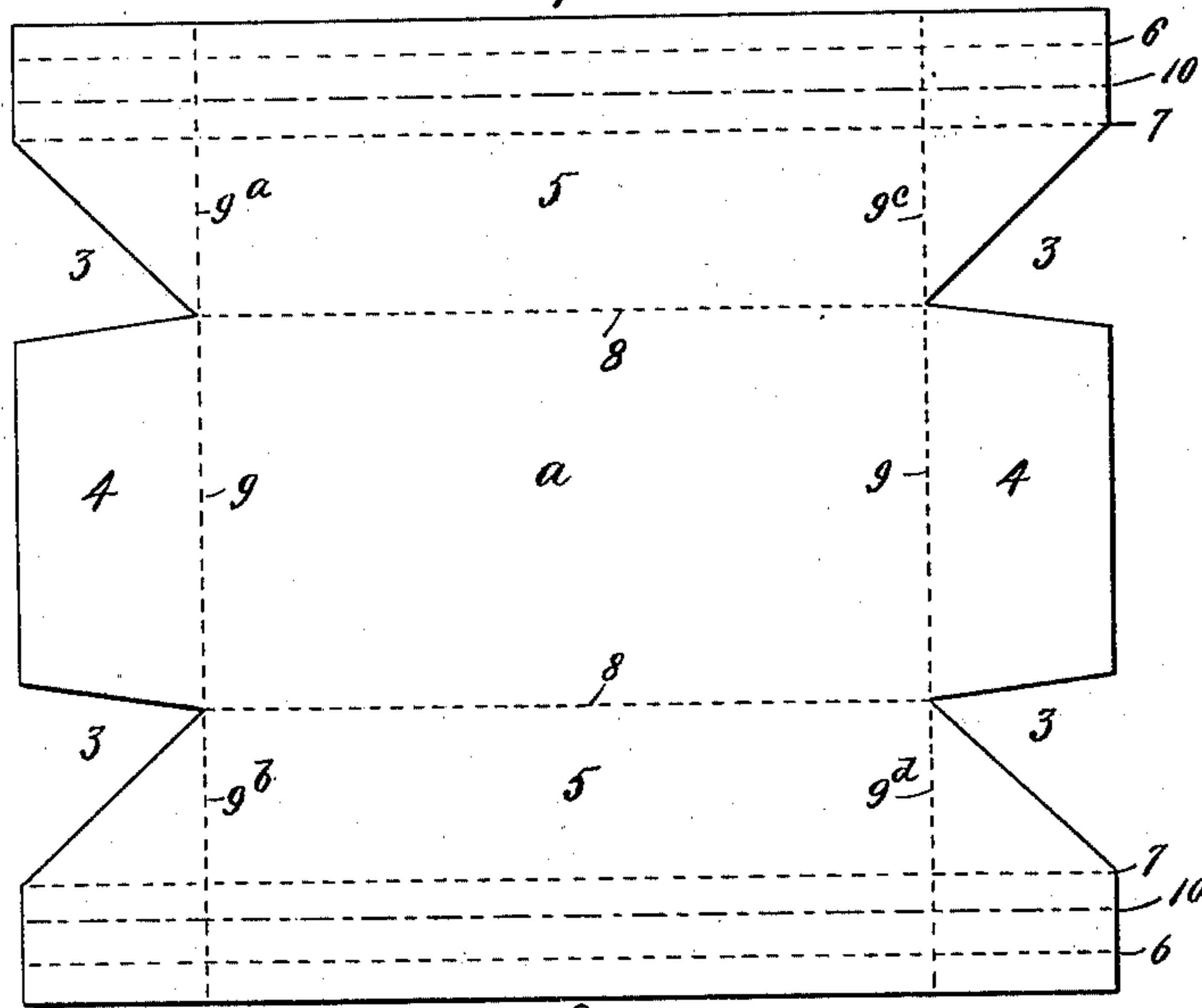
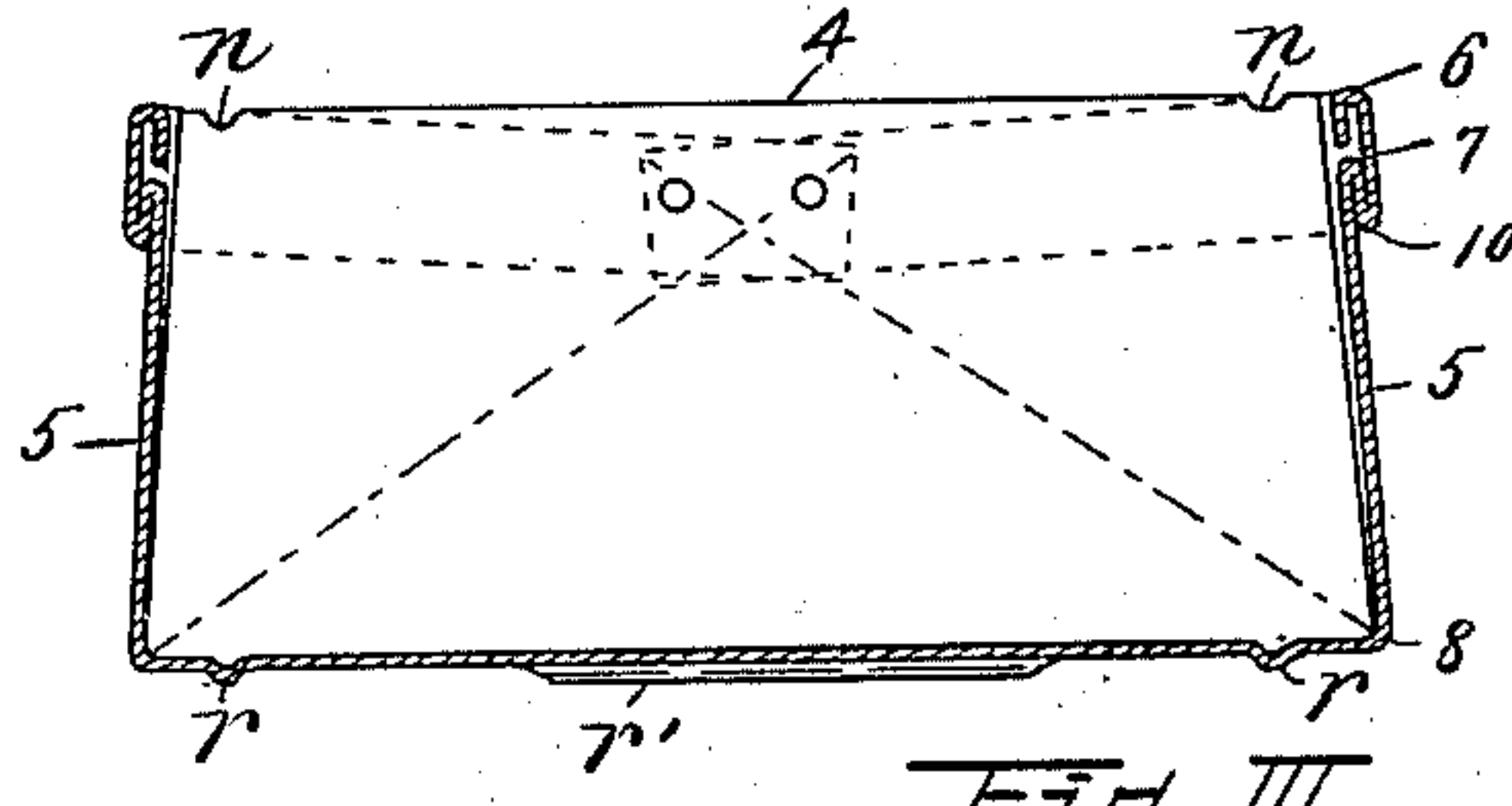
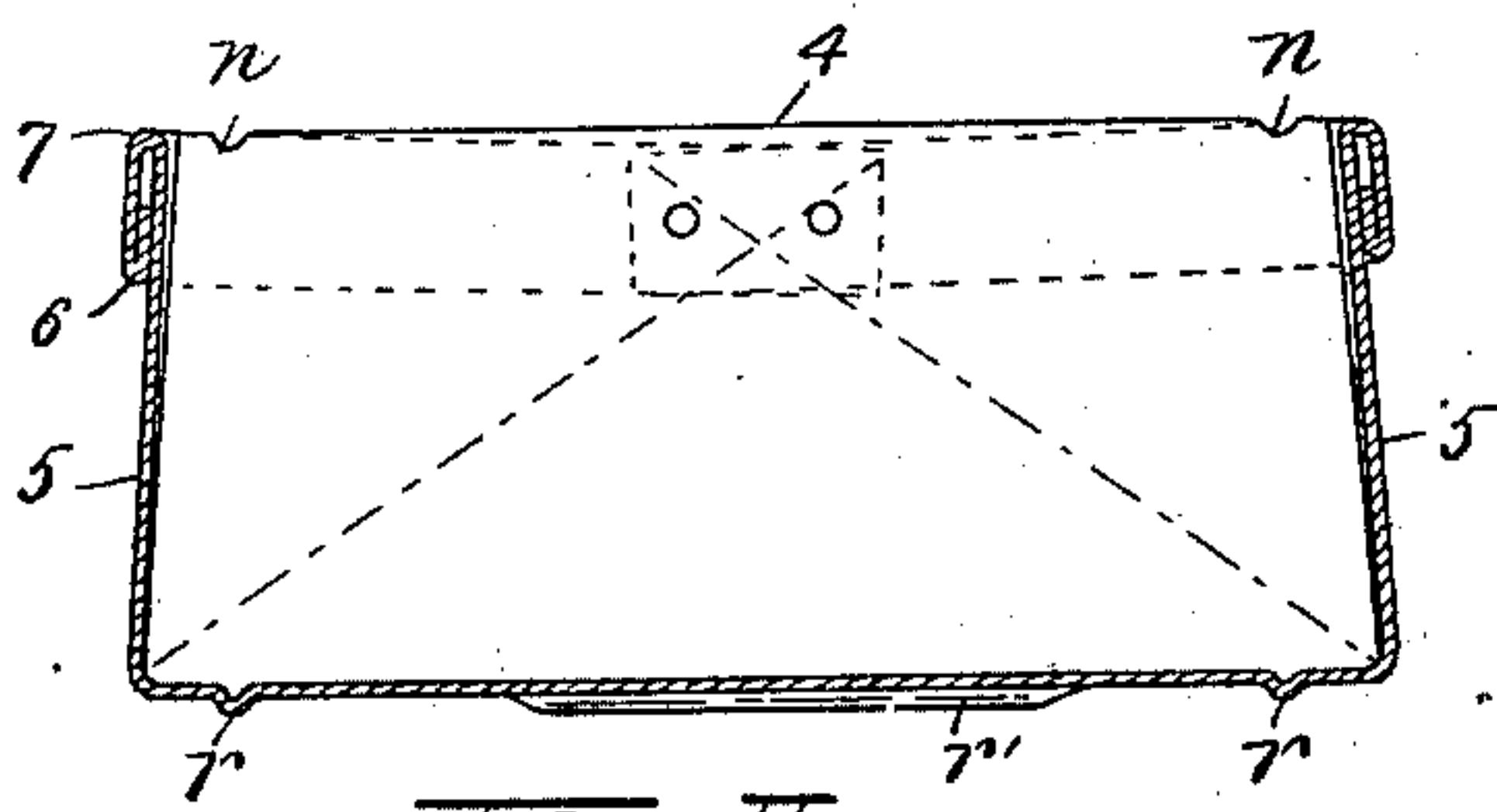
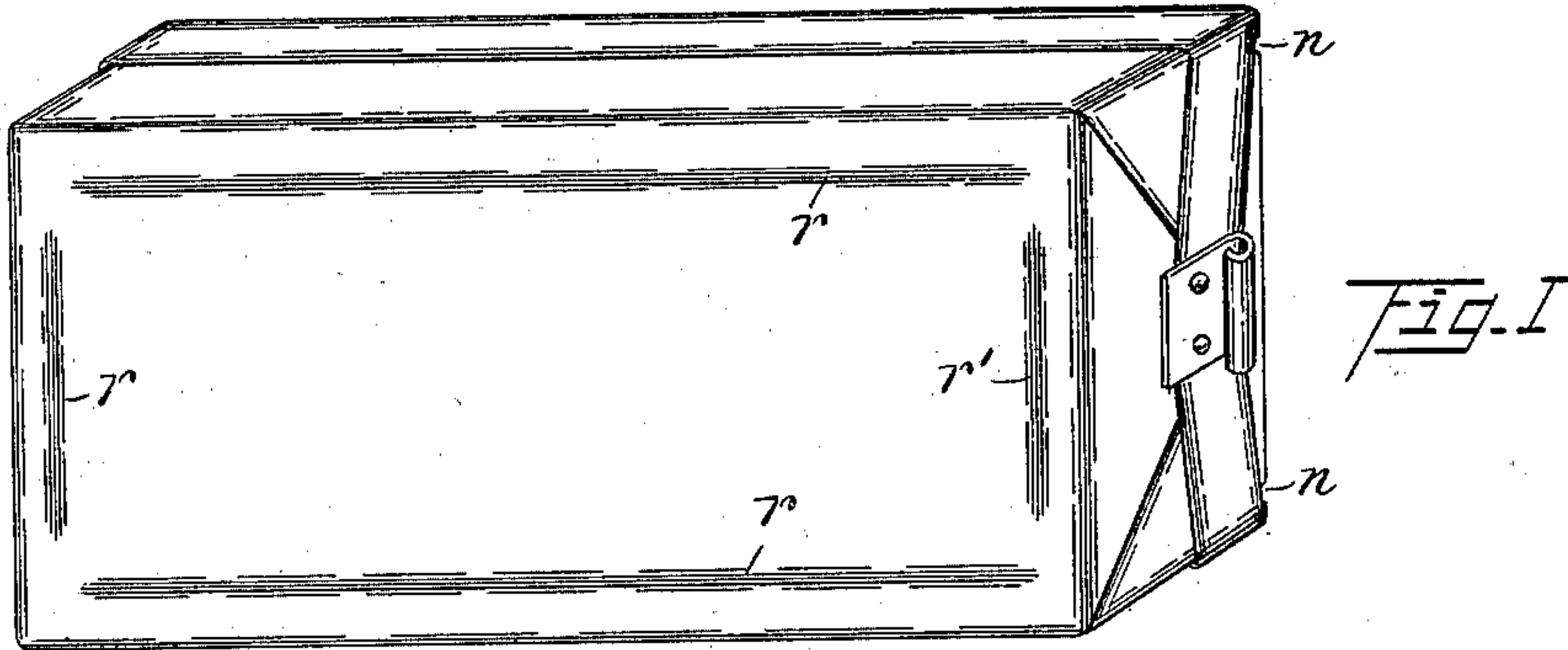
Patented Apr. 2, 1901.

W. G. AVERY.

TOTE BOX.

(Application filed Oct. 15, 1900.)

(No Model.)



Witnesses:

Geo. A. Metzger.
H. M. Griswold.

FIG. IV

Inventor.

William G. Avery.

by Louis F. Griswold,
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UNITED STATES PATENT OFFICE.

WILLIAM G. AVERY, OF PAINESVILLE, OHIO.

TOTE-BOX.

SPECIFICATION forming part of Letters Patent No. 671,155, dated April 2, 1901.

Application filed October 15, 1900. Serial No. 33,132. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. AVERY, a citizen of the United States, residing at Painesville, in the county of Lake, State of Ohio, have
5 invented certain new and useful Improvements in Tote-Boxes, of which the following is a full, clear, and exact specification, such as will enable those skilled in the art to make and use the same.

10 My invention relates to sheet-metal boxes used in nail-mills, screw-factories, tack-works, and like places for carrying or storing their wares.

In factories where nails, screws, tacks, nuts, and like articles are stored in sheet-metal tote-boxes great annoyance is caused by the sides and ends of the boxes bulging and in piling them on top of each other, the top edges of the boxes being so thin that great care
15 must be taken to prevent one side or end of one box from slipping off and into the box immediately under it, and thus damaging the thread of the screws or the points of the tacks, and distorting the pile and making it difficult
20 to remove any one box from said pile.

The objects of the invention are to provide a sheet-metal tote-box with the upper edges of the sides and ends stiffened to prevent their bulging when heavily loaded and also
25 to provide means to facilitate the piling of the boxes.

With these objects in view my invention consists of the construction herein described, and pointed out definitely in the claims.

35 In the drawings forming a part of this specification, Figure I is a perspective view of the under side of my improved tote-box. Fig. II is a vertical transverse section of the box, showing one form of stiffening-hem. Fig. III
40 is a like section showing a modified form of stiffening-hem. Fig. IV is the blank from which the box is formed.

Similar characters of reference designate similar parts in the drawings and specification.
45

The blank from which the box is formed has parallel side edges 1 and 2 and parallel end edges at right angles to the sides 1 and 2. In the ends are the angle-cuts 3. The flaps
50 4 form the ends of the box, which are tapered, as shown. The flaps 5 form the sides of the

box and also reinforce the ends and form the stiffening-hem for the sides and ends.

In forming the box shown in Fig. II the blank is first folded over onto itself on the
55 lines 6 6. It is then bent down on lines 7 7, thus forming a flat roll on each side of the blank. The flaps 5 5 are next bent upward or in an opposite direction to the bends 6 and 7 on the lines 8 8, and the flaps 4 4 are
60 also bent upward on the lines 9 9, and the portion *a* of the blank forms the bottom of the box. The flaps 4 4 are bent at right angles to the bottom *a*; but the angles formed between the sides 5 5 and the bottom are less
65 than right angles, owing to the tapered edges of the flaps 4 4, which the sides 5 5 meet. The ends of the flaps 5 5 are next bent toward each other on lines 9^a 9^b and lines 9^c and 9^d
70 around the outside of the flaps 4 4. The lapped ends of the flaps 5 5 are then riveted or otherwise fastened to the flaps 4 4. After the box is thus formed two notches *n n* are cut
75 in each end near the sides, and two longitudinal ridges *r r* are stamped in the bottom at right angles to an imaginary perpendicular line from the notches *n n*, and two ridges *r' r'*
80 are stamped in the bottom near the ends and at right angles to the ridges *r r*. It will readily be seen that the boxes when made as described and piled on top of each other, the
85 bottoms of the boxes being broader than the tops, will overlap, and the ridges *r r*, being in a perpendicular line with the notches *n n*, will register with them, and thus prevent a lateral movement of the boxes, and the ridges
90 *r' r'* will permit of but little longitudinal movement until one end of one box is lifted free from the one beneath it.

The box shown in Fig. III is constructed as
95 just described, except the stiffening-hem. In this one the hem is formed by first folding the metal over onto itself on line 7, then back again on line 10, and then down on line 6, after which the box is formed in the same
manner as described in reference to Fig. II.

The boxes may be provided with any suitable kind of handle.

I do not claim, broadly, the formation of the box by bending the sides around the ends
100 and then fastening them, as I am aware that this is not novelty.

What I do claim is—

1. A sheet-metal box, having its ends tapering from the bottom upward and having notches cut in the top of said ends in proximity to the sides and longitudinal ridges on the bottom at right angles to a perpendicular from said notches, whereby one box can slide on top of another, the said ridges traveling in said notches substantially as and for the purpose set forth.
2. A sheet-metal box, having its ends tapering from the bottom upward, and having notches in the top of the ends and longitudinal ridges on the bottom at right angles to a perpendicular from said notches, and transverse ridges on the bottom near the ends thereof, substantially as and for the purpose set forth.
3. A sheet-metal box, having its ends tapering from the bottom upward and sides bent upward against the tapered edges of the ends and lapped around the outside of said ends,

a stiffening-hem formed around the top of said sides by bending the metal outward and downward, then outward and upward, then inward and downward, substantially as described.

4. A sheet-metal box, having its ends tapering from the bottom upward, and having notches in the top of the ends and longitudinal ridges on the bottom at right angles to a perpendicular from said notches, and transverse ridges on the bottom near the ends thereof, the sides have a stiffening-hem formed around the top thereof and bent upward against the tapered edges of the ends and lapped around the outside of said ends, substantially as specified.

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

WILLIAM G. AVERY.

Witnesses:

L. A. STRATTON,
L. E. GRISWOLD.