(No Model.) 2 Sheets—Sheet 1.

F. F. SANBORN.

BOX.

No. 505,253. Patented Sept. 19, 1893.

Fig. 1.

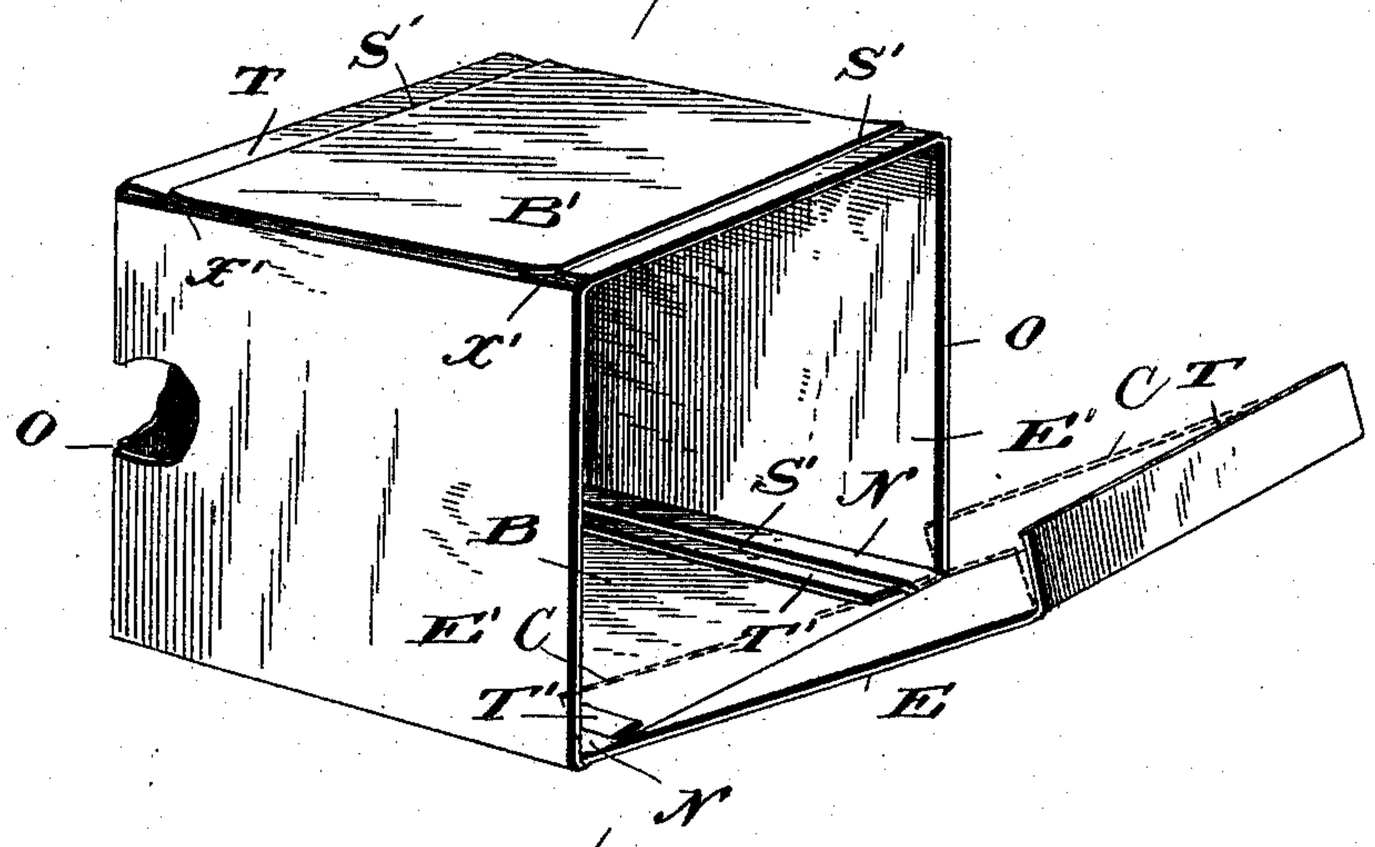


Fig. 2.

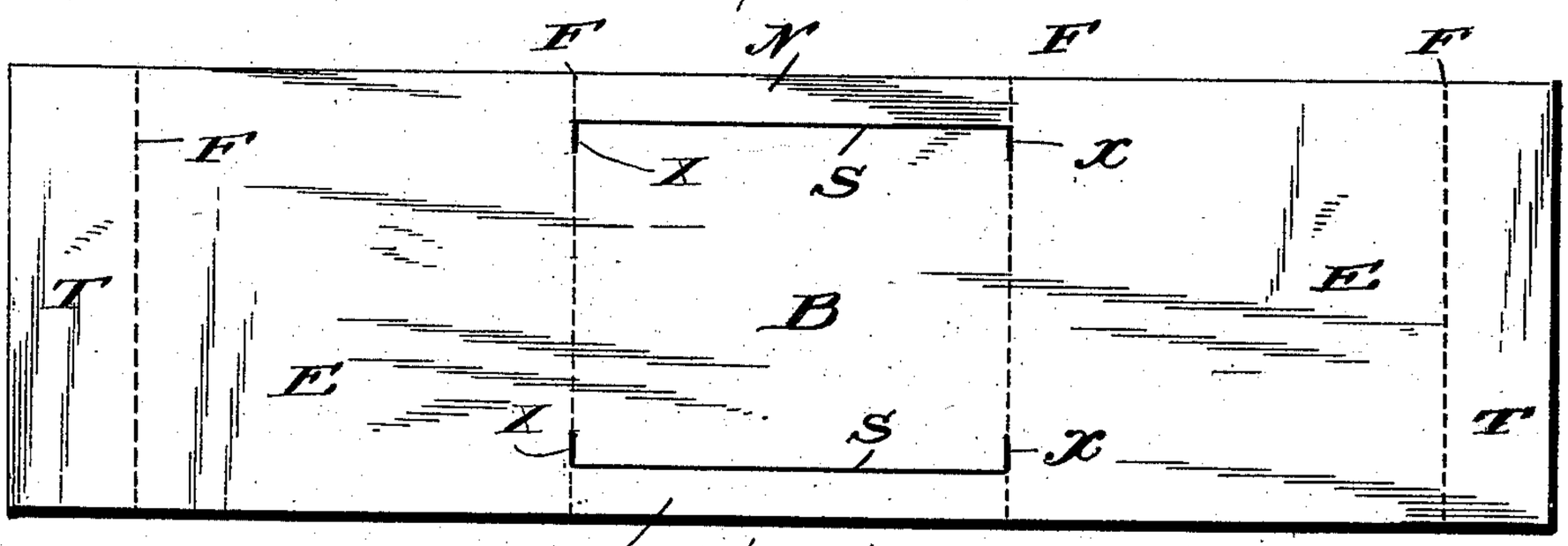
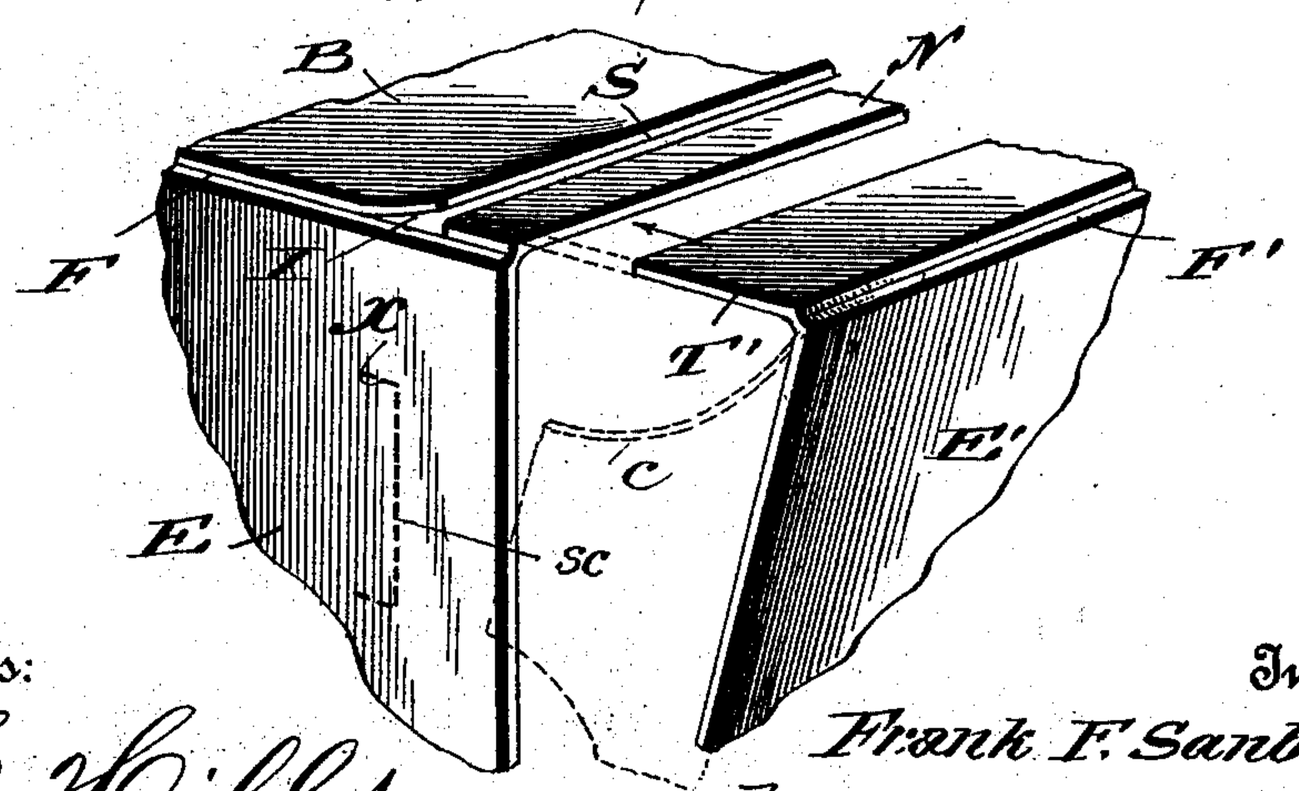


Fig. 3.



Witnesses:

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Inventor:

Frank F. Sanborn,

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Attorneys.

(No Model.)

2 Sheets—Sheet 2.

F. F. SANBORN.

BOX.

No. 505,253. Patented Sept. 19, 1893.

Fig. 4.

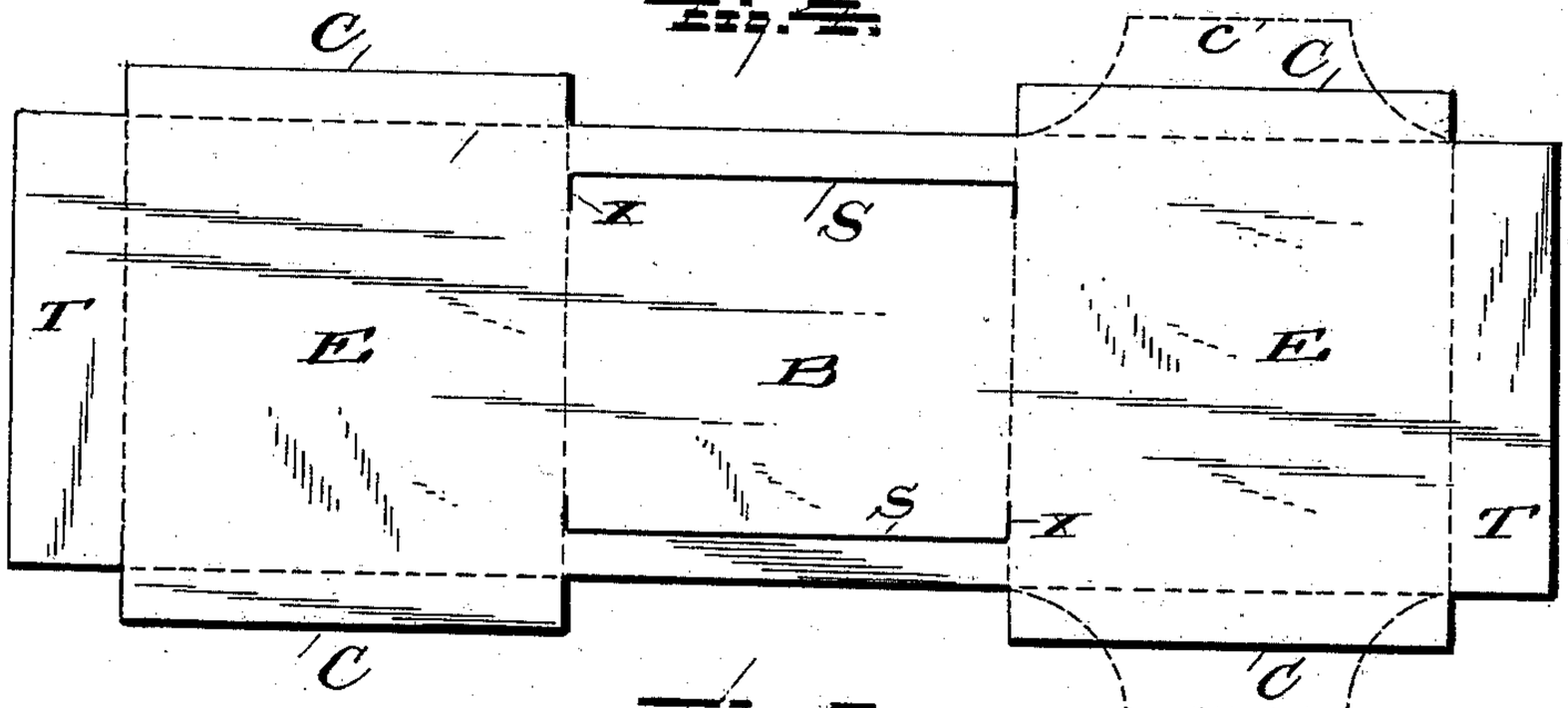


Fig. 5.

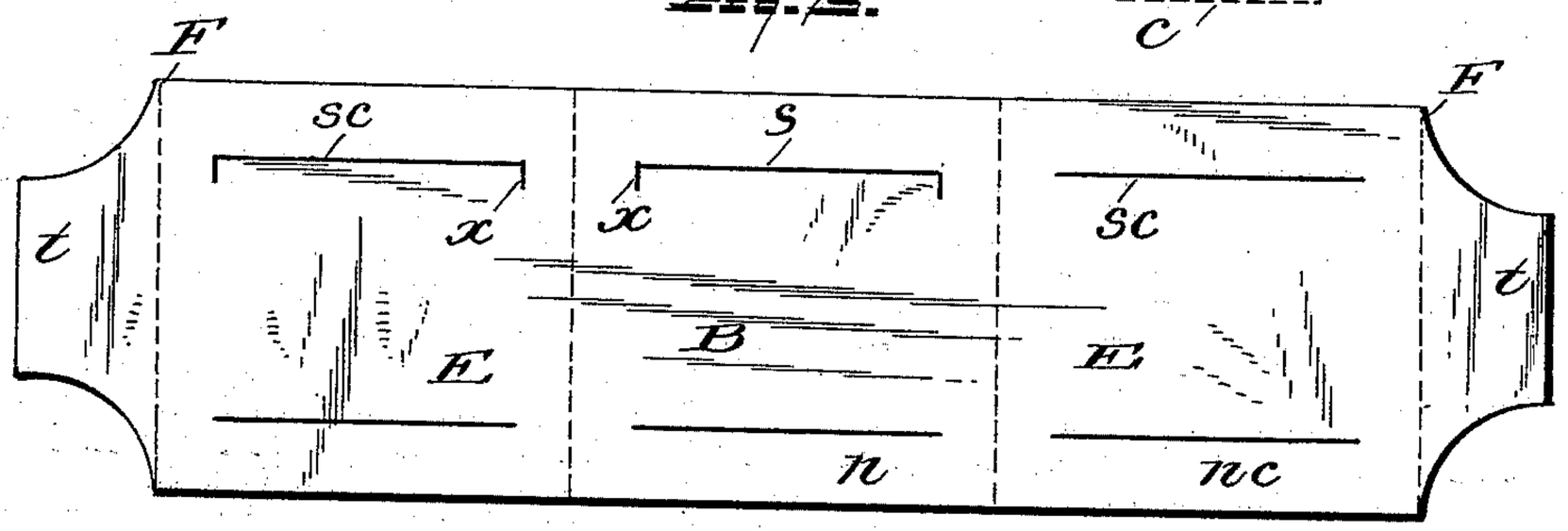


Fig. 6.

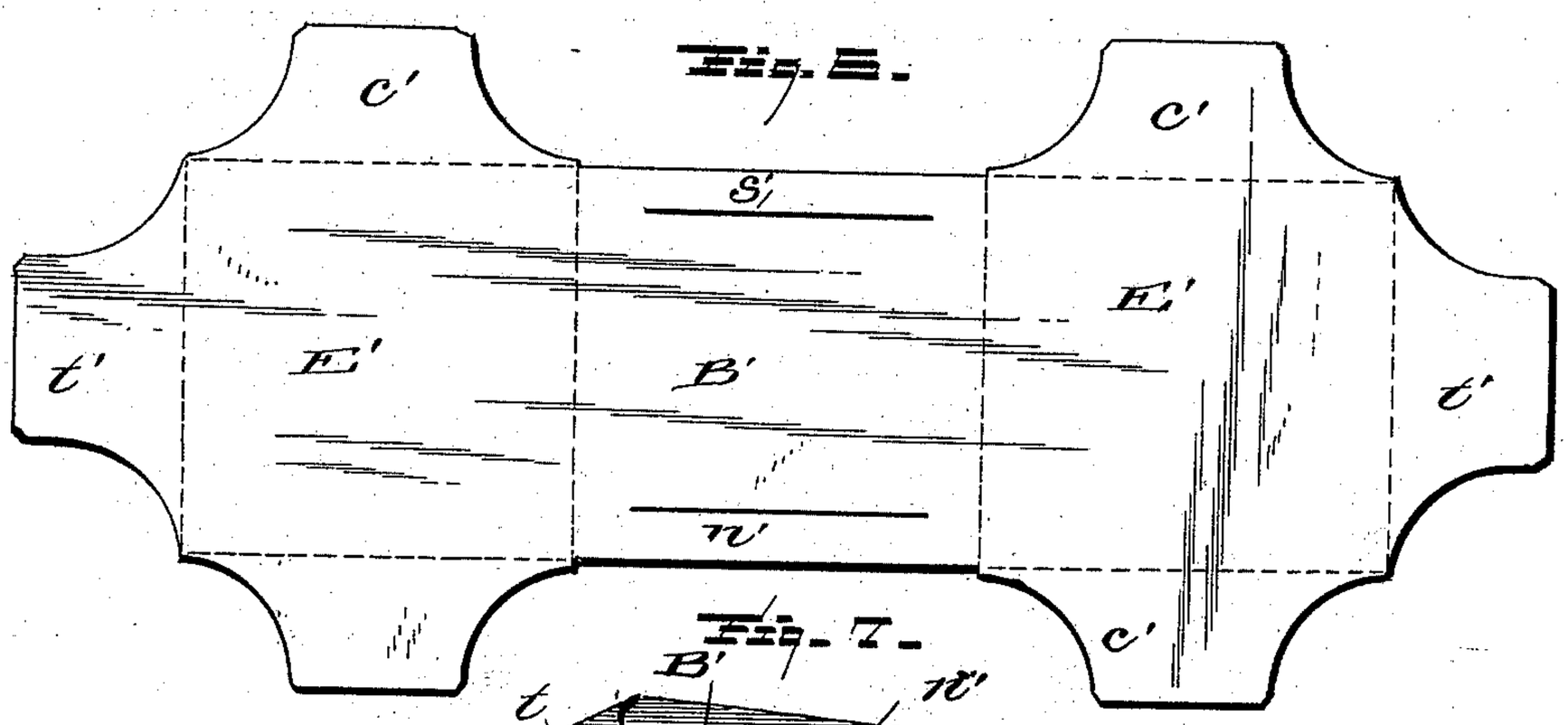
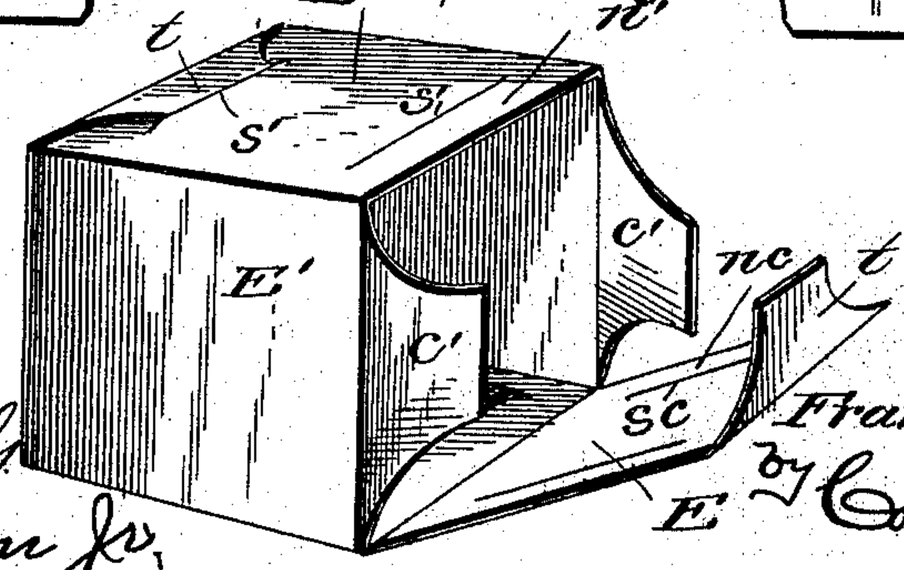


Fig. 7.



Witnesses:
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J. N. Jochum Jr.

Inventor:
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UNITED STATES PATENT OFFICE.

FRANK F. SANBORN, OF SAXONVILLE, MASSACHUSETTS.

BOX.

SPECIFICATION forming part of Letters Patent No. 505,253, dated September 19, 1893.

Application filed November 10, 1892. Serial No. 451,542. (No model.)

To all whom it may concern:

Be it known that I, FRANK F. SANBORN, a citizen of the United States, and a resident of Saxonville, Middlesex county, State of Massachusetts, have invented certain new and useful Improvements in Boxes; and my preferred manner of carrying out the invention is set forth in the following full, clear, and exact description terminating with claims particularly specifying the novelty.

This invention relates to packing and storing vessels, and more especially to that class thereof known as knockdown paper boxes; and the object of the same is to produce a simple and inexpensive box of this character.

To this end the invention consists in a box constructed of stiff paper, card-board, straw-board, or other suitable and cheap material and of the desired proportions, in two members or blanks (generally duplicates), together with the specific manner of connecting or interlocking these members so as to form a box—all as hereinafter set forth, and as more fully illustrated in the drawings, wherein—

Figure 1 is a perspective view of this box complete and in its simplest form, one of the ends of one member being left partially open. Fig. 2 is a plan view of the blank from which either member of the box in this form is made, showing the cuts in full lines and the bends or scores in dotted lines. Fig. 3 is an enlarged perspective detail of one corner of this box, showing the tongue of one member as just about to enter the slit of the other, and showing in dotted lines a corner flap and its slit I sometimes use. Fig. 4 is a plan view of one blank with corner flaps. Figs. 5 and 6 are plan views of the two members of another box constructed on the same principle, but with the addition of corner flaps—the flaps and tongues and the slits therefor being smaller. Fig. 7 is a perspective view, similar to Fig. 1, showing the box complete but slightly open, and when composed of the two blanks shown in Figs. 5 and 6.

This box is preferably a perfect cube when completed, and is composed of two members precisely similar in shape and size; though it will be understood that by making the members of proper shape, the finished box may be made of other shape. It is of stiff paper, or of card or straw-board, according to the uses to which it is to be put, and may be finished with paint or other material if desired. When the members are alike, each is of the following construction: A rectangular piece of material (Fig. 2) is scored or otherwise adapted to be bent at four transverse lines F so spaced as to leave three intermediate squares and two outer end pieces or flaps. The central square I will call the body B, the next adjacent squares the ends E, and the end pieces or flaps the tongues T. Preferably by the same operation which produces the scores, indentations, perforations, or other means for facilitating the folding at the lines F (which means are common in the art and not herein claimed), I also produce slits S parallel with the side edges of the body B and nearer thereto than the width of the tongues T, for a purpose which will appear hereinafter. At each end of each slit, the cut is continued inward in an extension X along the line of the score or fold F between the body and the adjacent end E, the extension being probably about an eighth of an inch in length. These slits S produce two narrow strips N standing along the side edges of the body, and connected at their ends with the two ends E through the intervening short length of fold F. The other member is precisely the same in construction, and I have lettered its parts the same but applied a prime (′) to each letter that is used.

In assembling the two members of this box, the body of each member is laid down flat, then the two ends bent up, and finally the two tongues bent in—all the bends thus being made in the same direction, and hence the necessity for scoring the blank on opposite sides does not arise. The open sides of the members thus bent are passed into each other so that the two bodies shall stand opposite each other and the four ends E form the four sides of the box. Each narrow strip N is then bent slightly inward and the tongue T of the opposite member (which then stands opposite the slit S when thus opened) is passed in under said strip and pressed home until the angle between the tongue T and its adjacent end E comes up against the outer edge of the strip N. The tongue being wider than the

strip as above stated, it will be obvious that at this time the former will pass completely over the latter and extend for a short distance under the body B. When the four corners of the box have been thus connected, the whole is completed; and one corner may be opened as shown in Fig. 1 for the purpose of filling the box; or the charge may have first been inserted.

In the use of thick card-board or the straw-board now commonly employed for making boxes of this character, the extensions X permit the sides of the body B to be raised along the inner edges of the slits S at the same time that the strips N are depressed, and thus the latter are not torn from the ends E where connected thereto by the rather frail folds F at the extremities of the strips; however, if thinner card-board or paper be used, these extensions may be omitted; or they could be omitted in any event if the paper were tough or the parts of much larger proportions.

Means may be provided for cementing the parts together or for fastening them in any way, and if desired strips could be applied to close the open corners O of the box to make it tight, but in the use to which I propose to put this box, such measures will not be found usually necessary.

In Fig. 4 I have shown the blank of Fig. 2 with additional flaps or tongues C which I may sometimes provide to close the open corners O, as seen in dotted lines in Fig. 1. They pass inside the ends E′ of the other member of the box as will be understood. Or, as seen in dotted lines in Fig. 4, the flaps for closing the corners may be made smaller as at *c* (and possibly longer than those lettered C); and their use is shown in dotted lines in Fig. 3. They could of course pass inside the ends, but I prefer to pass them outside thereof, and into short slits s^c cut in such ends for that purpose, and which slits may have the extensions *x* or not according to the thickness of the material. In fact, the tongues T may be also made narrower or smaller, as shown at *t* and *t′* in Figs. 5 and 6; and in that event, the slits *s* and *s′* will be made correspondingly shorter so that their extensions *x* if used will not lie in one of the fold lines F. These figures also show one of the members as provided with the smaller corner flaps *c′* and the other member with corresponding shorter slits s^c for their reception. The assembling of the two members is shown in Fig. 6 where one end E is left open ready to be closed. The strips *n* exist here as where the slits S are full length, but here they are shorter, as also are the side strips n^c outside the slits s^c. Obviously the construction of the box is materially the same whether the tongues, flaps, and slits are the full length of their members or shorter, though when the corner flaps are used I find that it is better to make them shorter because then the members can the more easily be assembled. The shape of the box is immaterial, and can be square, cubic, or rectangular—whether the said parts are long or short.

What is claimed as new is—

1. The herein described box, the same consisting of two members, each having tongues at its opposite ends and slits along its opposite sides adapted to receive said tongues on the other member, as and for the purpose set forth.

2. The herein described box, the same consisting of two members, each having tongues at its opposite ends, and along its sides slits of the length of the tongues on the other member and distant from the side edges less than the width of said tongues, as and for the purpose set forth.

3. The herein described box, the same consisting of two members, each comprising a rectangular body, two ends connected by fold-lines with the opposite edges of said body, and two tongues connected by fold-lines with the edges of the ends opposite the first-mentioned fold-lines, the body being provided with slits at right angles to said fold-lines and nearer the side edges of the body than the width of said tongues, and all said fold-lines being in one face of the member, as and for the purpose set forth.

4. The herein described box, the same consisting of two members of paper or equivalent material having transverse fold-lines to produce a body, ends, and tongues, the body of each member being provided with cuts parallel with its side edges to receive the tongues on the other member, and said cuts at their extremities being extended inward for a short distance, as and for the purpose set forth.

5. The herein described box, the same consisting of two members adapted to be bent so as to complement each other, each member having tongues at its opposite ends and slits along the side edges of its center to receive the tongues of the other member, and one member having flaps at its opposite sides adapted to engage the other member between the slits and end tongues on the latter, to close the corners of the box, as set forth.

6. The herein described box, the same consisting of two members adapted to be bent so as to complement each other, each member consisting of a body, two ends, and tongues along the outer edges of said ends, each body portion having slits along its side edges for the reception of the tongues of the other member, one member also having slits along the side edges of its end portions, and the other member having corner-closing flaps along the side edges of its end portions adapted to enter the last-mentioned slits, as and for the purpose set forth.

7. In a knockdown box, the combination with one member having two fold-lines to form a body between, the body being slitted parallel with its edges from one fold-line to the other and the slits being extended at their

extremities inward in cuts along the fold-lines, of a second member having a portion of the same width as the length of the slits, and tongues on said portion of a length to enter said slits when said portion stands against the edge of said body, as and for the purpose set forth.

In testimony whereof I have hereunto subscribed my signature on this the 3d day of November, A. D. 1892.

FRANK F. SANBORN.

Witnesses:

DANIEL GUINNETT,

J. E. RALPH.