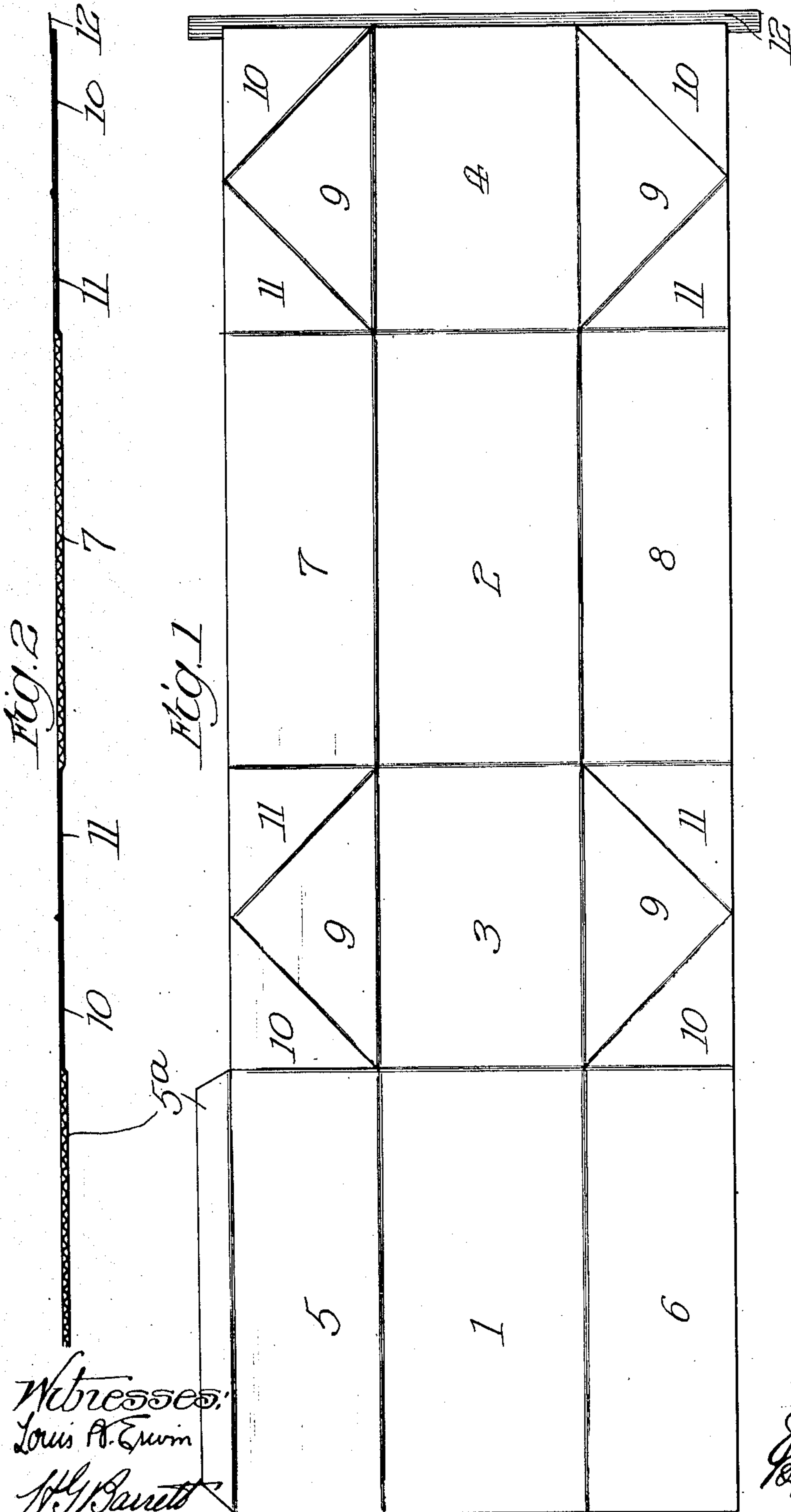


J. T. FERRES.
 PACKING OR SHIPPING BOX.
 APPLICATION FILED SEPT. 21, 1908.

916,544.

Patented Mar. 30, 1909.

5 SHEETS—SHEET 1.

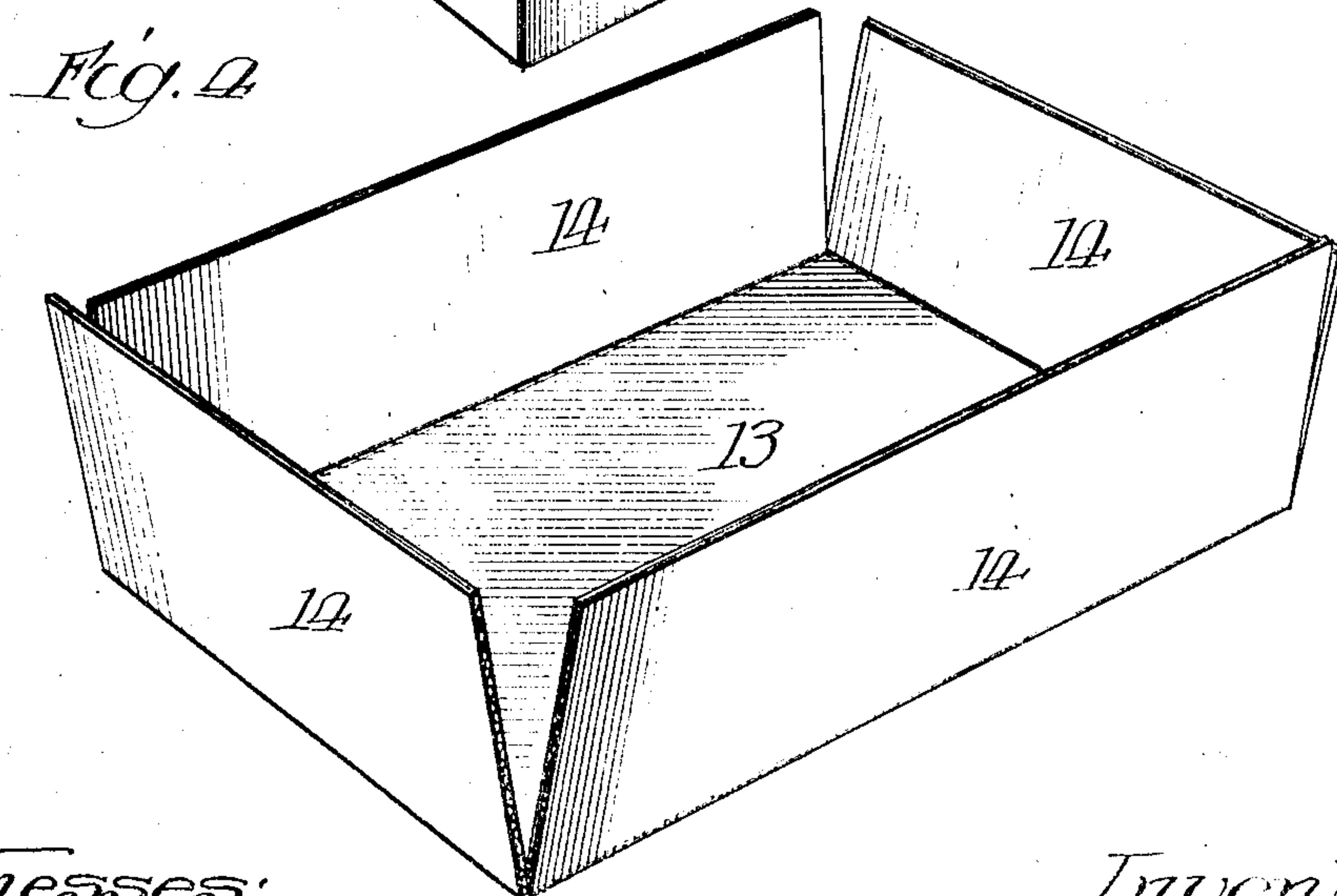
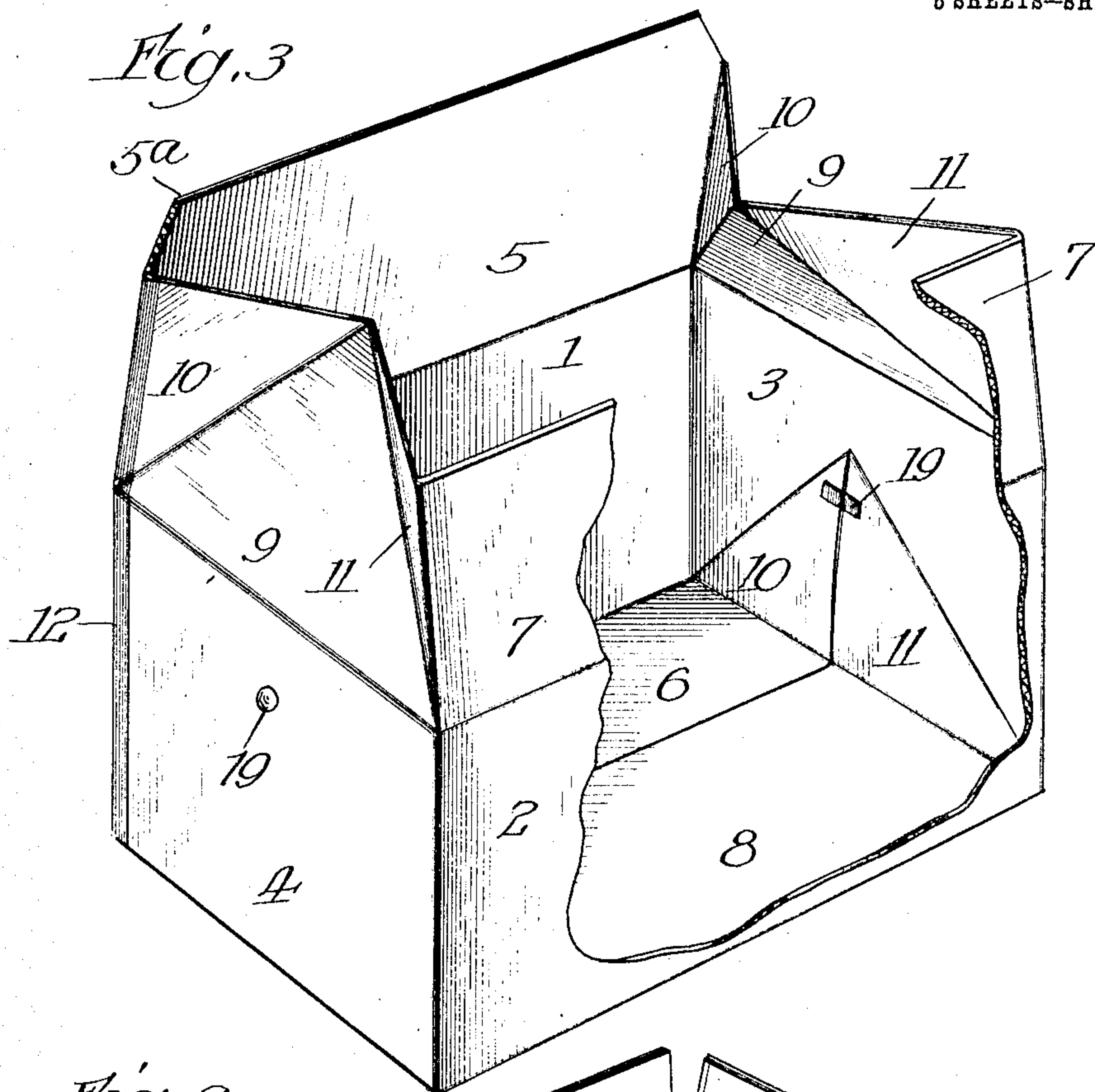


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5 SHEETS—SHEET 2.



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5 SHEETS—SHEET 3.

Fig. 5

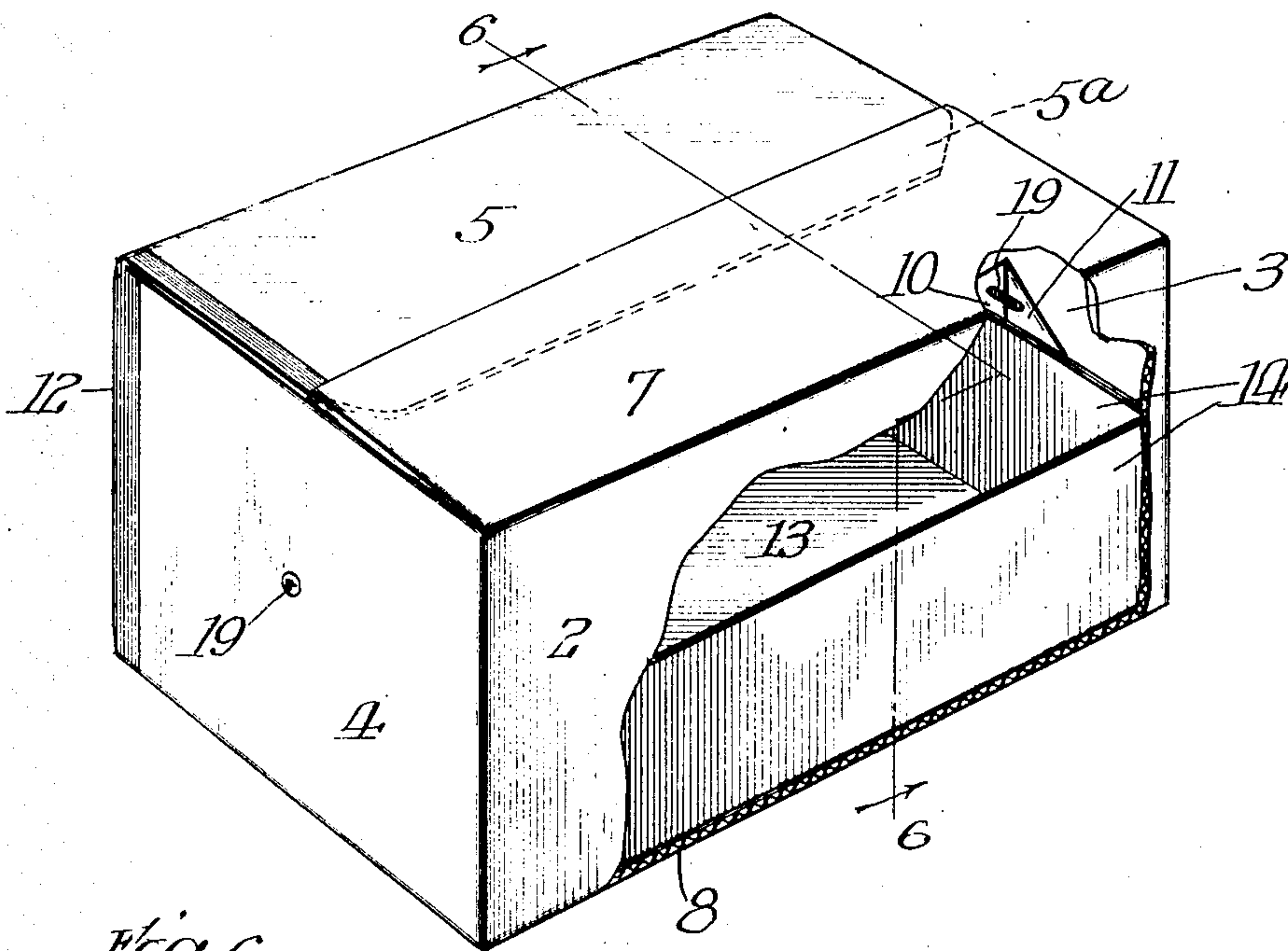
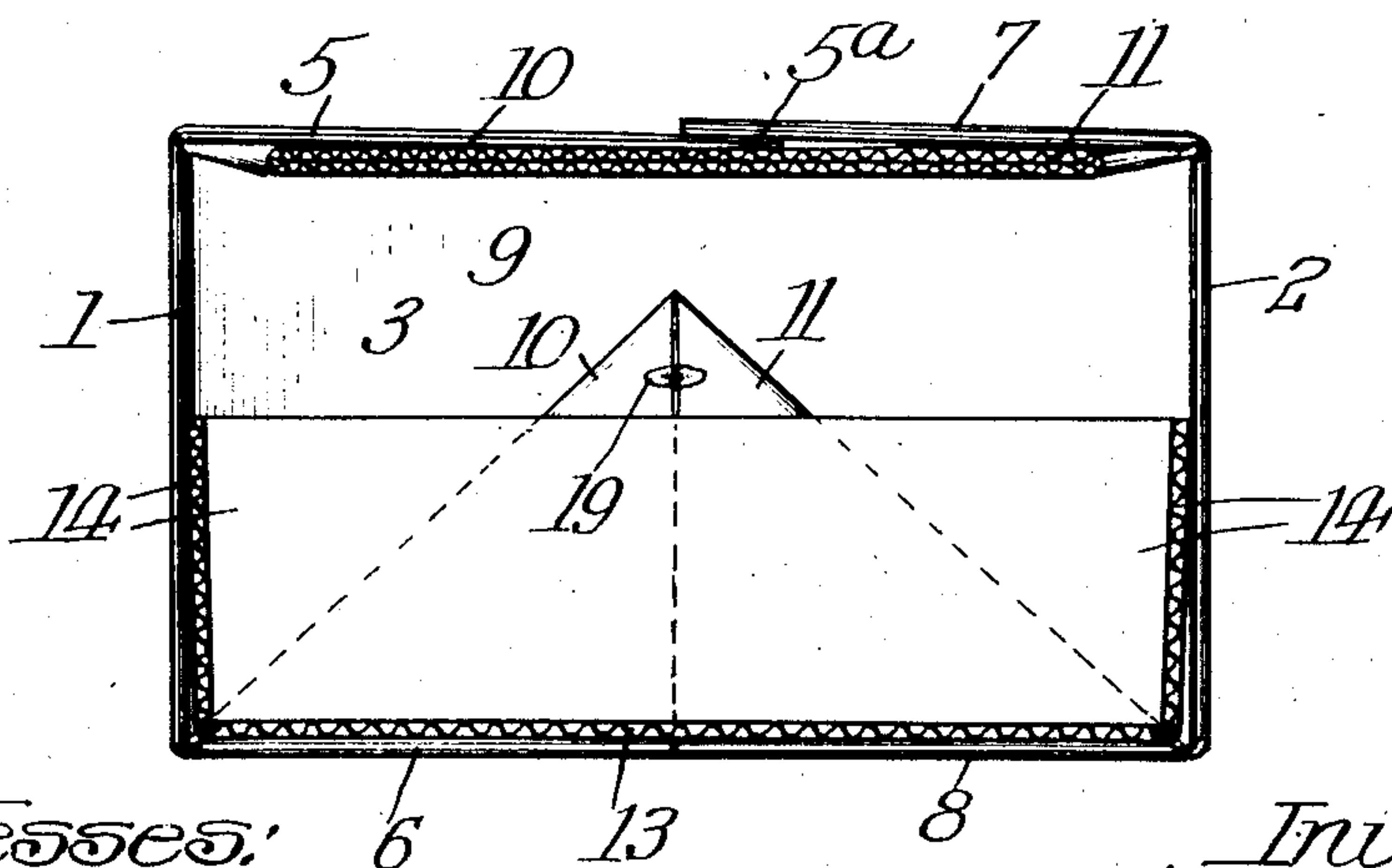


Fig. 6



Witnesses:
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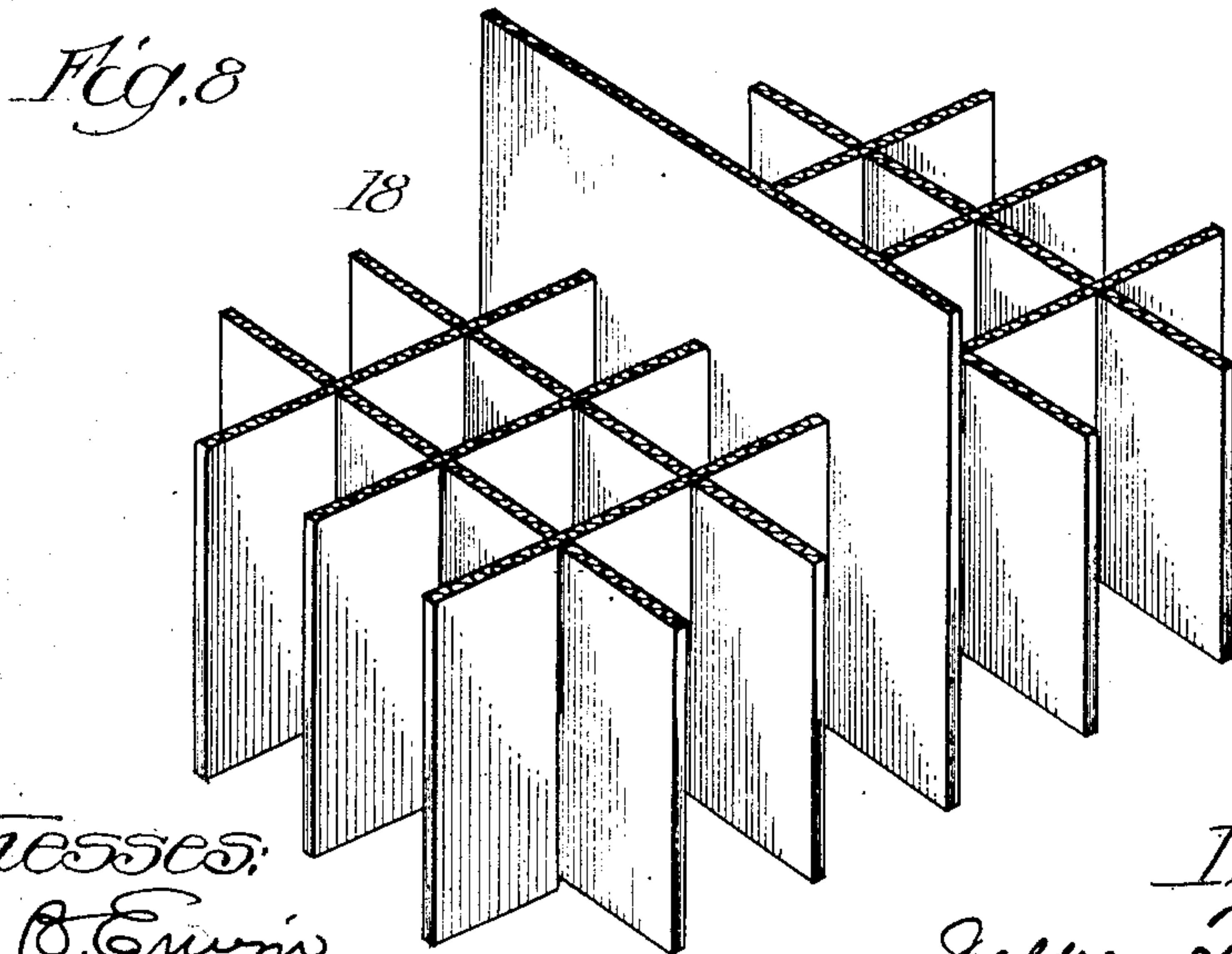
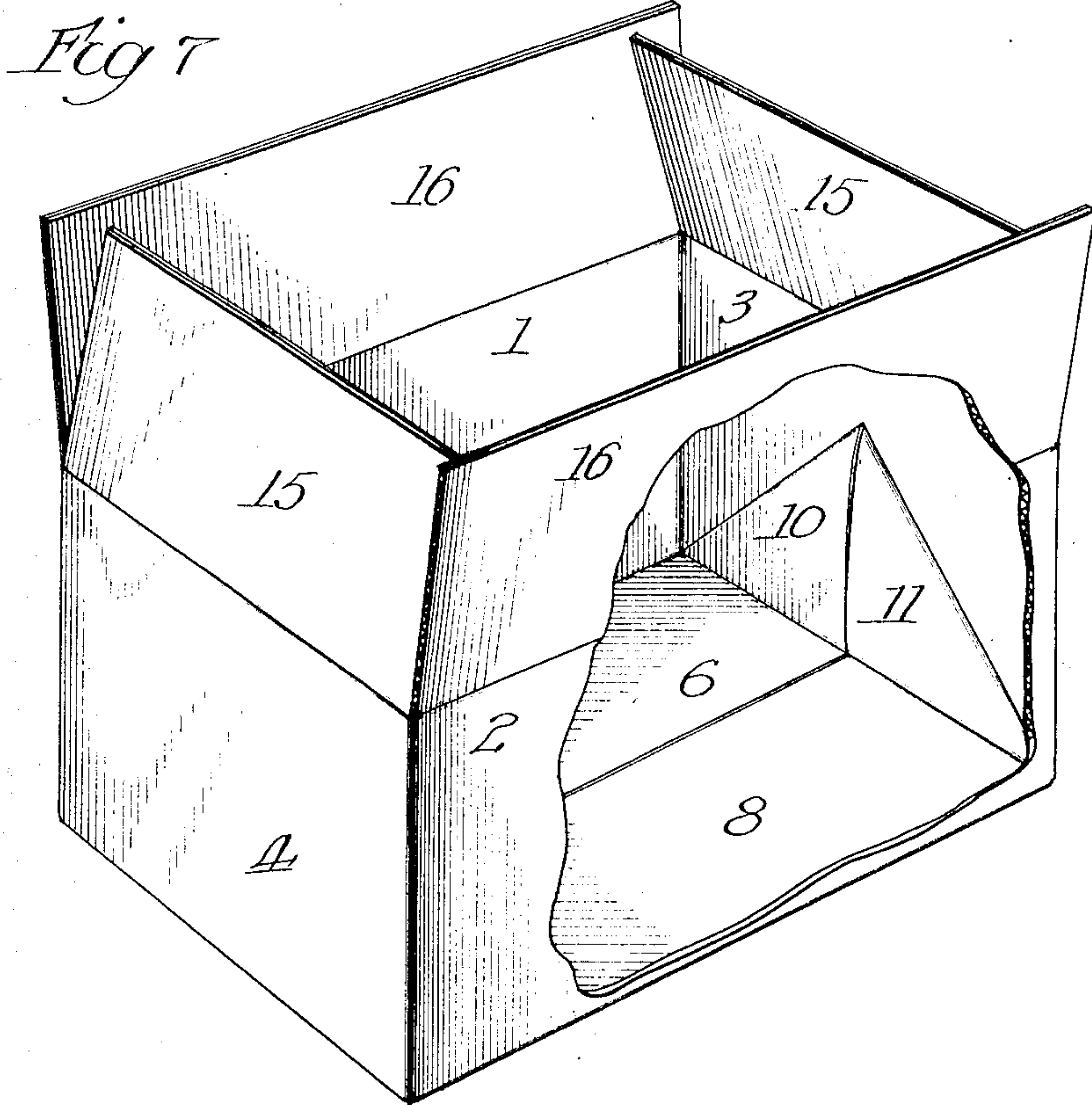
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5 SHEETS—SHEET 4.



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5 SHEETS—SHEET 5.

Fig. 9

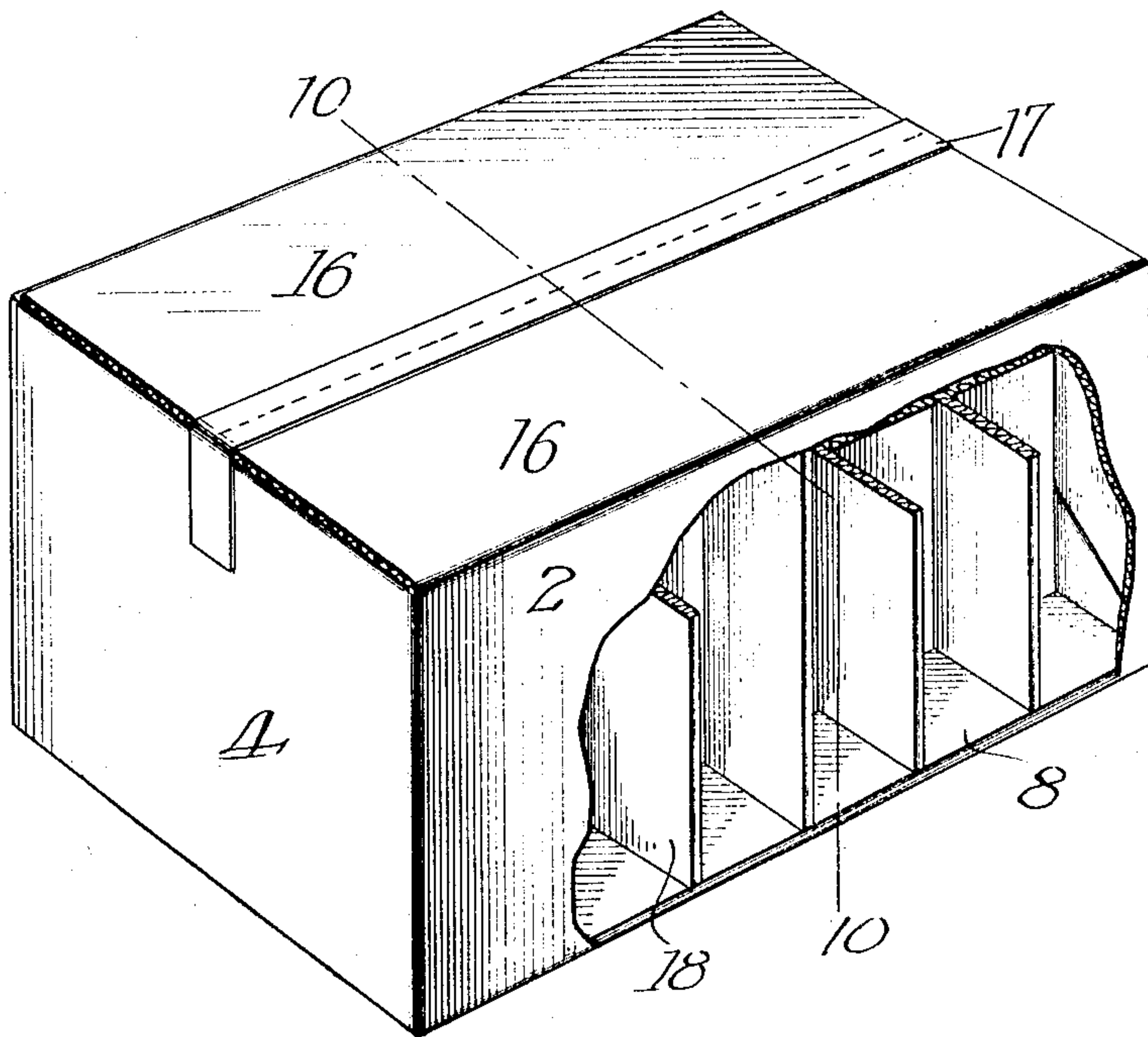
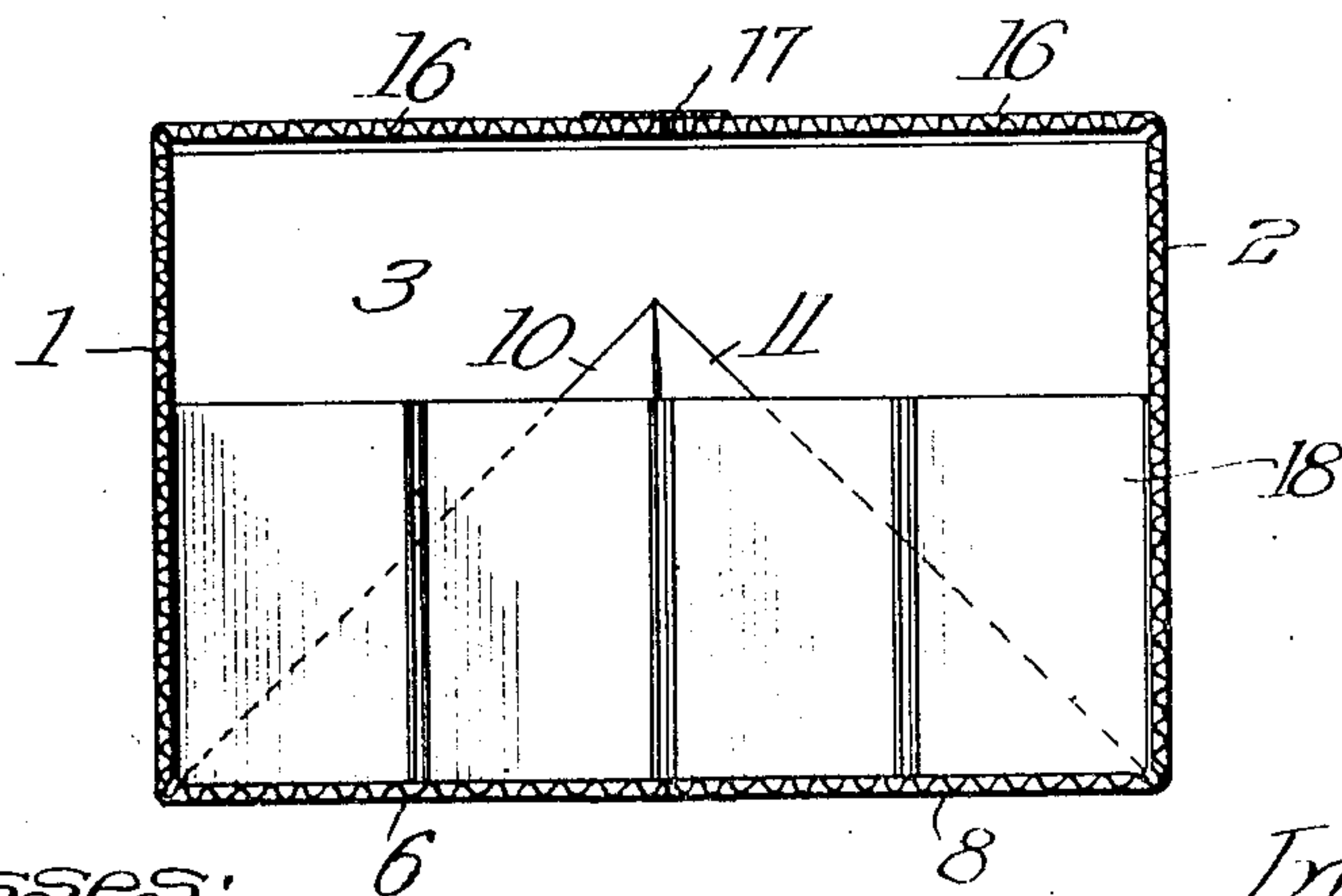


Fig. 10



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UNITED STATES PATENT OFFICE.

JEFFREY T. FERRES, OF ANDERSON, INDIANA, ASSIGNOR TO THE SEFTON MANUFACTURING COMPANY, OF ANDERSON, INDIANA, A CORPORATION OF INDIANA.

PACKING OR SHIPPING BOX.

No. 916,544.

Specification of Letters Patent.

Patented March 30, 1909.

Application filed September 21, 1908. Serial No. 453,939.

To all whom it may concern:

Be it known that I, JEFFREY T. FERRES, a citizen of the United States, residing at Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Packing or Shipping Boxes, of which the following is a specification.

My invention relates to folding boxes adapted for the packaging and shipping of goods and preferably made of double faced corrugated board, as herein shown.

The object of my invention is to provide a novel, simple and efficient form of box for this purpose and so constructed as to give the requisite strength and rigidity and to be securely locked and closed when in use. Moreover, the box is of the collapsible type, so that the same may be collapsed and left in knocked down condition until put to use.

The various features of novelty and utility of my box will be apparent from the description hereinafter given.

In the drawings, Figure 1 is a plan view of a blank from which a box embodying my invention is formed; Fig. 2 an edge view of said blank; Fig. 3 a perspective of the box partially set up and showing a portion thereof broken away to expose the interior; Fig. 4 a perspective of the lining or tray which is employed in the form of box illustrated in Figs. 3 or 7; Fig. 5 a perspective of the box in its assembled and closed condition with a portion thereof broken away to expose the interior of the box; Fig. 6 a section on the line 6—6 of Fig. 5; Fig. 7 a perspective of a modified form of box showing the top flaps open and with a portion of the box broken away to expose the interior; Fig. 8 a perspective of the filler or partitions employed in connection with the form of box illustrated in Figs. 5 or 7; Fig. 9 a perspective of said modified form of box in its assembled and closed form with a portion of the box broken away to expose the interior thereof; and Fig. 10 a section on the line 10—10 of Fig. 9.

Referring to the form of box illustrated in Figs. 1 to 6, the same is made from a blank of double-faced corrugated board of the proper size and dimensions according to the dimensions of the box desired and suitably scored for such purpose. In the present instance the box is made from the blank illustrated in Fig. 1, wherein the two opposite

side walls 1 and 2 and the two opposite end walls 3 and 4 are hinged together, it being understood that I employ the separate designations "side walls" and "end walls" for the purpose of a clear description, although all of such walls if made of the same area would be termed side walls. The side wall 1 is provided with the top end flap or extension 5 and a bottom end flap or extension 6 hinged to proper score lines, while the side wall 2 is provided with top and bottom end flaps or extensions 7 and 8. By preference the top end flap 5 is made somewhat wider than the bottom flap 6 as well as the corresponding flap 7, such flap 5 being wider to the extent of the portion 5^a as clearly indicated in Figs. 1 and 3. The purpose of this construction will be made apparent from the description hereinafter given.

In practice the blank illustrated in Fig. 1 is made of double-faced corrugated paper board comprising as usual two facing strips or sheets and an interposed corrugated strip and according to my invention the entire box remains of such corrugated character with the exception of flaps or extensions which are provided at the top and bottom of the end walls 3 and 4, as now to be described. These particular flaps or extensions are crushed down or flattened and the corrugated character of the board thereby destroyed or eliminated, with the result that such flaps or extensions are composed of three plies of paper, to-wit, the two facing strips and the corrugated strip. This crushing or flattening of the board as to these particular flaps enables the latter to be readily folded for the purpose of forming proper folds for efficient end closures for the box, without materially detracting from the strength of the board, and the strength of the resulting closures. In the present instance the top and bottom flaps or extensions of the end walls 3 and 4 are similarly creased or scored along oblique lines, meeting at the outer edges of the blank to form three triangular portions, 9, 10 and 11 respectively. In the present instance and by preference the series of top and bottom extensions are hinged together at their ends as indicated in the form of blank illustrated in Fig. 1. The free ends of the blank are brought together to form a tube and such ends, that is the outer edges of the side walls 1 and 4, flaps 5 and 6 and triangular portions

11—11, are held hingedly together in any suitable manner, as by means of the tape 12 glued to said parts and acting as a hinge.

It will be understood that the box as thus far described is made at the factory by the manufacturer, and is shipped to the consumer, together with another portion hereinafter explained, in the collapsed or knocked down form, ready to be set up by the consumer and filled by the latter with the articles to be packaged or shipped and thereafter closed and also sealed if desired.

In assembling or setting up the box ready for the introduction of the goods, the user or consumer folds the bottom end flaps on the side walls 3 and 4 inwardly, in which operation the series of triangular portions 9, 10 and 11 will assume the single triangular form or structure illustrated in Fig. 3, the outer faces of the portions 10 and 11 folding down upon the outer face of the portion 9. The bottom end flaps 6 and 8 are thereupon folded inwardly and downwardly, the same being by preference of such a size and width that they will meet at their free edges in order to close the box. The box now assumes the condition illustrated in Fig. 3 and in order to lock such bottom of the box in its closed condition I provide suitable means in connection with the form of box just described, which locking means forms one of the features of my present invention. In opening the bottom of the box it is necessary to reverse the movements of folding just described, so that it will be necessary for the triangular bottom flaps to move downwardly and outwardly from the bottom plane of the box. Consequently so long as such triangular portions are prevented from moving outwardly below said bottom plane of the box the bottom will be locked against opening. Therefore I employ suitable means to prevent such movement of said triangular portions and while I may employ merely a flat strip or board resting in the bottom of the box with its ends bearing or pressing against said triangular portions, I prefer to employ the means illustrated in Fig. 4 which comprise what I term a tray consisting of a bottom portion 13 equaling in area the bottom of the box and provided with the four separate upwardly extending flaps 14. After the box is assembled to the condition illustrated in Fig. 3 this tray is pressed downwardly into the box with the sides 14 pressing against the two opposite side walls 1 and 2 and also against the triangular portions adjacent the end walls 3 and 4. In practice such triangular portions do not have the perfectly erect or vertical position illustrated in Fig. 3, but the introduction of the tray insures this and in order to facilitate the introduction of the latter I employ a pair of hook-shaped irons (not shown) serving to hold such triangular portions in vertical position until the tray is

introduced, after which such irons may be removed.

As hereinafter made apparent, the top end portion of the box may have any suitable structure or manner of folding, but referring to the particular form of box now being described, which is made from the blank illustrated in Fig. 1, the top end portion is made in the same manner as the bottom with the exception of the provision of the extended portion 5^a on the flap 5. After the goods have been introduced into the box the end flaps on the end walls 3 and 4 are folded inwardly, in the general manner indicated in Fig. 3 and the opposite end flaps 5 and 7 are thereupon folded inwardly and downwardly. Inasmuch as the triangular portions 11 are hinged to the end flap 7, a pocket is formed along the inner face of said latter flap into which said extended portion 5^a may be inserted or tucked. Said extended portion 5^a may, however, be entirely omitted, in which case the free edges of the opposite flaps 5 and 7 will meet or abut, but it is desirable to employ such extended portion in order to meet certain demands of the trade. For instance, as one of many illustrations, the manufacturers of glass-ware such as fruit jars and the like desire to put up their goods in boxes of the character under description and to then place the goods thus packaged in their warehouses. The boxes are thus closed, but yet openable, which is necessary inasmuch as it is found by such manufacturers that the jars after being thus put in the warehouse frequently crack of themselves after the annealing process, with the result that it is necessary to inspect each package before being shipped out to the consumer. Hence the provision of the extended portion 5^a enables the box to be sufficiently closed for the purpose stated and will, on the other hand, permit the box to be readily opened. After the inspection of such a box and after the contents are found in order or made so the said extended flap is smeared with glue and inserted in said pocket, as hereinbefore stated, so that the top flaps become securely fastened and sealed. It will be understood that when the box is employed for the packaging of fruit jars or bottles as described, suitable fillers or compartments (not shown) are provided, the same resting upon the bottom of said tray.

In Fig. 7 I have shown a modified form of construction of box in which the side walls and bottom structure remain the same as before and are consequently correspondingly designated but in which the top structure is differently made and folded. In this instance the top end flaps or extensions are not hinged to each other but made separate and the same moreover fold inwardly in pairs and in their entirety without any

crushing, creasing or folding. The box shown in Fig. 7 is provided with the pair of end flaps or extensions 15 and the pair of side flaps or extensions 16. In practice the end flaps 15 are folded inwardly and downwardly and then the flaps 16 are folded in similar manner and by preference glued to the side flaps 15 in order to securely close and seal the package or box. If desired the joint between the meeting or adjacent edges of the flap 16 may be closed or sealed by means of a tape 17. In this modified form of box the same means for locking the bottom thereof may be employed as hereinbefore described, but as showing another means or method to this end I have illustrated in Fig. 8 a filler structure indicated generally by the reference numeral 18 which is designed to fit closely within the box with the strips of the filler at two opposite ends bearing against the triangular infolded portions of the bottom structure in order to keep the same upright in the condition indicated in Fig. 7. The particular box illustrated in Figs. 7 to 10 is intended for the packaging and shipment of bottled articles such as catsup and consequently the filler provides a series of compartments to receive the bottles. The filler 18 can be used, if desired, in connection with the tray 13 in which case bottles placed in the filler are protected on the bottom and up the sides as far as the shoulder of the bottle by two thicknesses of corrugated paper.

If desired, metal fasteners of suitable character, such as the fasteners 19 illustrated more particularly in Fig. 3 may be employed to lock the bottom closure in place, especially where no tray, filler or flat board are used. Of course it will be understood that where the tray, filler, etc., are used, it is not necessary to employ said fasteners as the former will serve to lock the bottom closure as described.

Boxes embodying my invention as above described answer practical requirements as to strength and rigidity and also ease and convenience of packing, inspection and closing or sealing. Moreover, the bottom structure and also the top structure if desired are so made as to become locked after the box is set up ready for use, besides which the different folds and flaps, together with the side walls, give ample thicknesses of material for the protection of the contents, especially articles either of a fragile nature or packed in fragile containers, such as glassware, bottled goods, etc.

I claim:

1. A packing or shipping box comprising side walls hinged together and having end flaps hinged to their ends, two opposite flaps at one end of the box being creased and arranged to fold upon themselves and inwardly

in advance of the other flaps, and means for locking said two flaps within the box.

2. A packing or shipping box comprising side walls hinged together and having end flaps hinged to their ends, two opposite flaps at one end of the box being creased and arranged to fold upon themselves and inwardly against the inner face of the side walls to which they are respectively hinged, and means for holding said infolded flaps against their side walls to lock them and close the box thereat.

3. A packing or shipping box comprising side walls hinged together and having end flaps hinged to their ends, two opposite flaps at one end of the box being creased along two diagonal meeting lines and arranged to fold to triangular form and inwardly in advance of the other flaps, and means for holding said infolded flaps against their side walls to lock them and close the box thereat.

4. A packing or shipping box comprising side walls hinged together and having end flaps hinged to their ends, two of the end flaps being infolded, and means for locking said two flaps within the box consisting of an inserted piece forming a part of the box structure and cooperating with said two flaps to prevent them from passing the bottom plane of the box.

5. A packing or shipping box comprising side walls hinged together and having end flaps hinged to their ends, two of the end flaps being infolded, and means for locking said two flaps within the box consisting of a board resting upon the inner faces of the other flaps which form the bottom of the box and pressing against said two infolded flaps.

6. A packing or shipping box comprising side walls hinged together and having end flaps hinged to their ends, two opposite flaps at one end of the box being creased and arranged to fold upon themselves and inwardly in advance of the other flaps, and means for locking said two flaps within the box, consisting of a tray formed of a flat board and end extensions which cooperate with the said two infolded flaps to hold and lock them in place.

7. A packing or shipping box comprising side walls hinged together and having end flaps hinged to their ends, two opposite flaps at one end of the box being creased along two diagonal meeting lines and arranged to fold to triangular form and inwardly in advance of the other flaps, and means for holding said infolded flaps against their side walls to lock them and close the box thereat consisting of a tray formed of a flat board and end extensions which cooperate with the said two infolded flaps.

8. A packing or shipping box made of corrugated paper board and comprising side walls hinged together and end flaps hinged to

their ends, two opposite flaps being crushed down to destroy the corrugated character thereof and creased to fold upon themselves and inwardly into the box in advance of the other flaps, and means for locking said two flaps within the box.

9. A packing or shipping box comprising side walls hinged together and having end flaps hinged to their ends, two opposite flaps at one end of the box being creased and arranged to fold upon themselves and inwardly against the inner face of the side walls to which they are respectively hinged, and means for securing said infolded flaps to their side walls.

10. A packing or shipping box comprising side walls hinged together and having end flaps hinged to their ends, two opposite flaps at one end of the box being creased and arranged to fold upon themselves and inwardly against the inner face of the side walls to which they are respectively hinged, and fasteners 19 passing through said infolded flaps and their side walls to secure them together.

11. A packing or shipping box made of

corrugated paper board and comprising side walls hinged together and end flaps hinged to their ends, two opposite flaps being crushed down to destroy the corrugated character thereof and creased along diagonal meeting lines to fold into the box in triangular form, and means for holding said two flaps against the inner faces of the side walls to which they are hinged.

12. A packing or shipping box made of corrugated paper board and comprising side walls hinged together and end flaps hinged to their ends, two opposite flaps being crushed down to destroy the corrugated character thereof, and means for locking said two flaps within the box consisting of a tray fitting within the box with two opposite ends bearing against said flaps to hold them against the inner faces of the side walls to which they are hinged.

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