

Aug. 20, 1935.

H. KONDOLF

2,012,131

CARTON

Filed Sept. 17, 1932

2 Sheets-Sheet 1

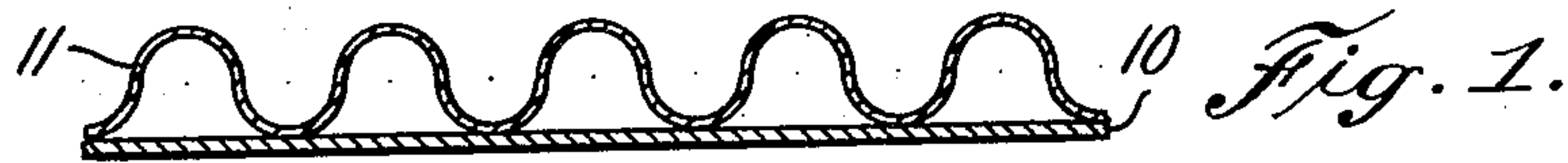


Fig. 1.

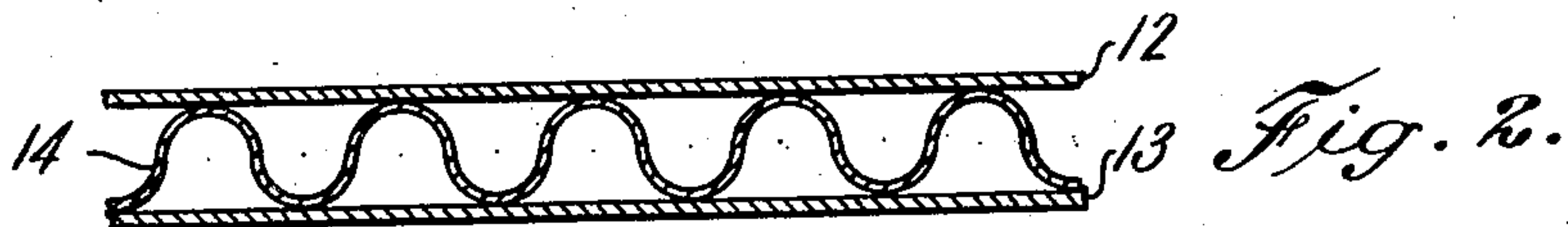


Fig. 2.

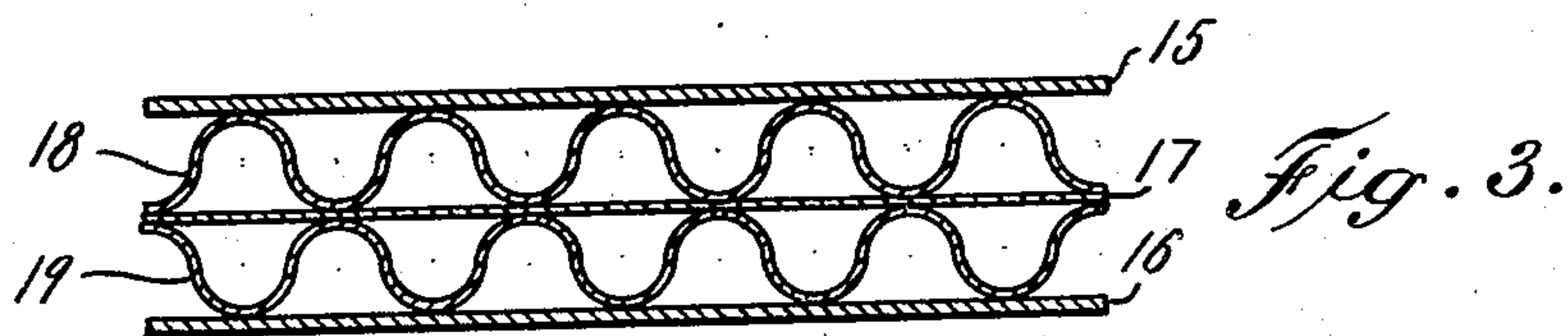


Fig. 3.

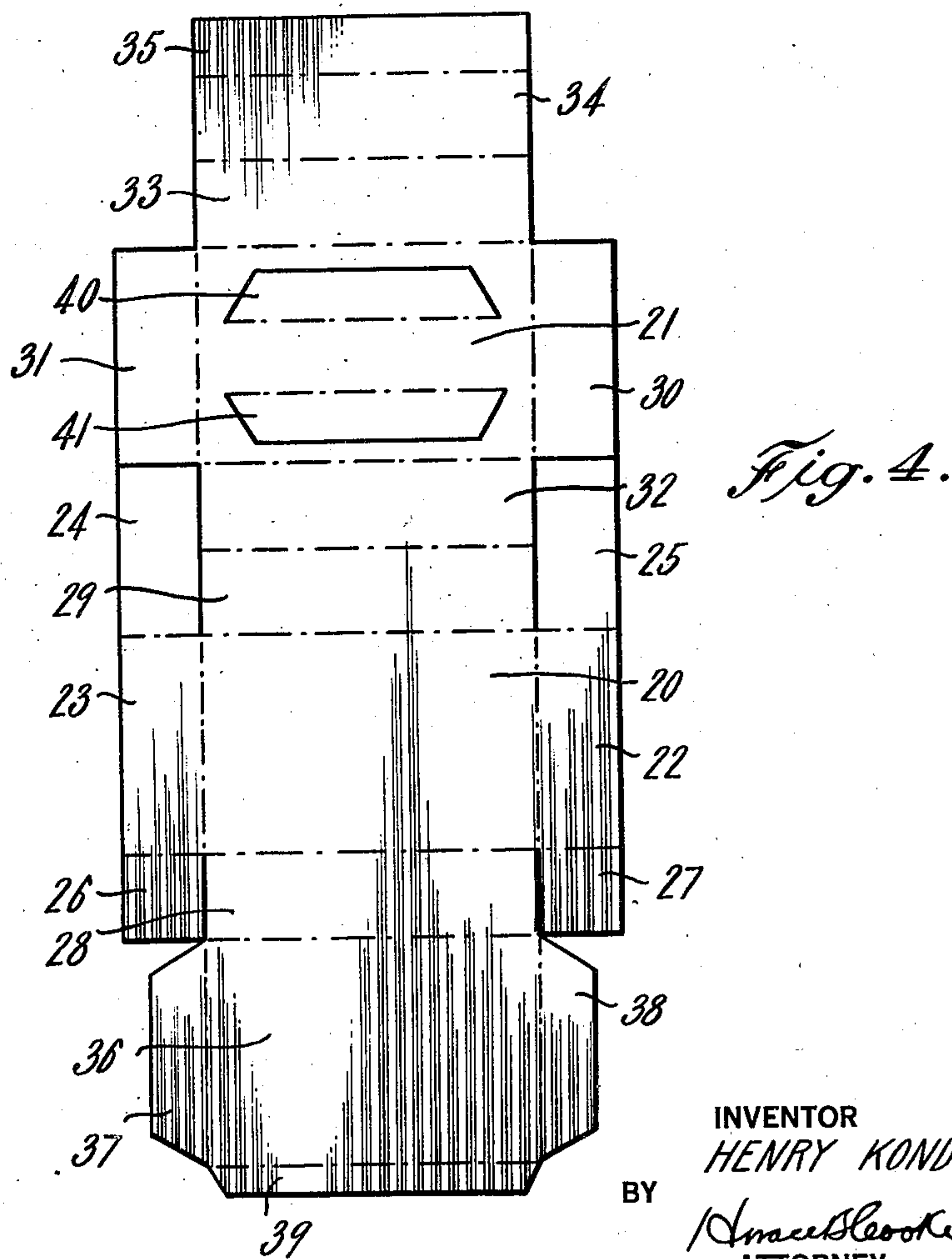


Fig. 4.

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Fig. 5.

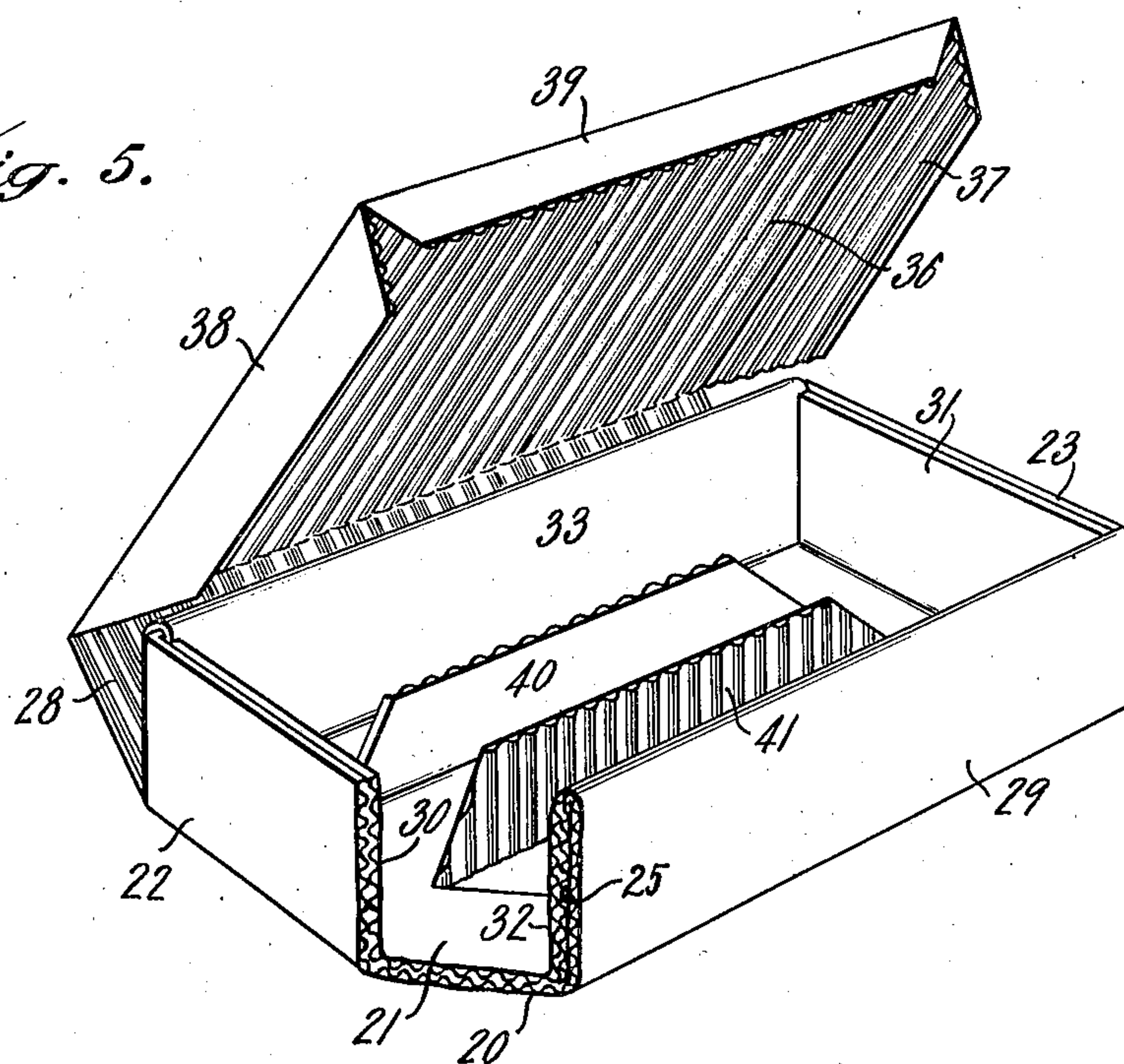
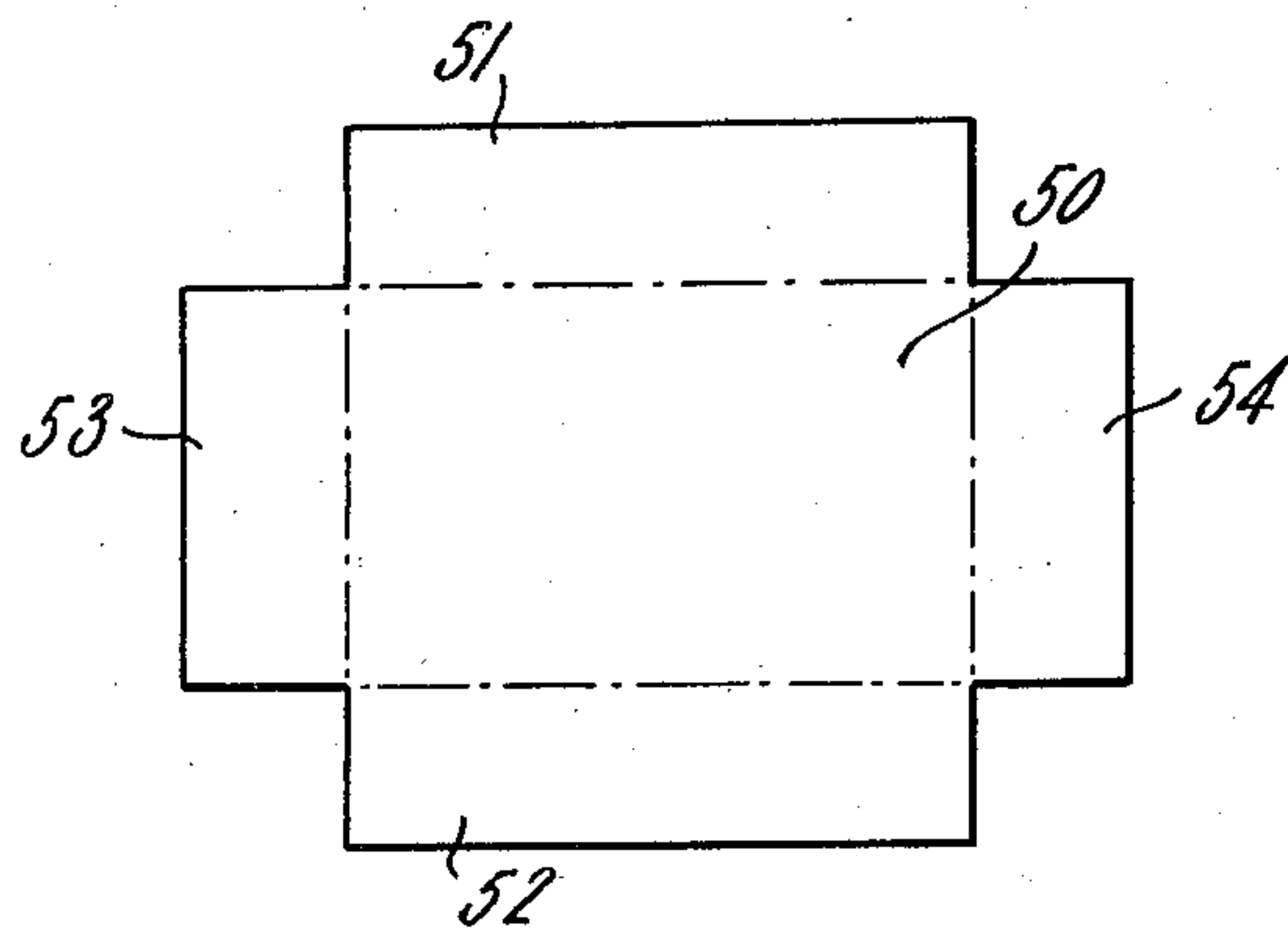


Fig. 6.



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UNITED STATES PATENT OFFICE

2,012,131

CARTON

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a corporation of Delaware

Application September 17, 1932, Serial No. 633,574

10 Claims. (Cl. 229—16)

My invention relates to an improvement in fibre board boxes or cartons and is particularly advantageous in the manufacture of receptacles such as are used in the packaging of candies, fruits, vegetables or other commodities.

My invention has for an object the provision of an improved carton well adapted for use in the packaging of apples, peaches, pears, or other fruits or vegetables, and other uses in which a strong, rigid and low cost container, which is light in weight, is desired.

My invention contemplates a carton, as a new article of manufacture, made from a plurality of plies of single-faced corrugated board and so assembled in the carton to provide bottom and walls of double-faced corrugated board.

In the drawings accompanying and forming a part of the specification I have illustrated a form and manner in which my invention may be utilized and embodied. In the drawings,

Figs. 1, 2 and 3 are sectional views on an enlarged scale of types of corrugated boards in common use;

Fig. 4 is a plan view of a blank made from single-faced corrugated board, cut and creased and adapted to be folded into the carton shown in Fig. 5;

Fig. 5 is a perspective view of my improved carton with one portion cut away to show the sectional construction; and

Fig. 6 is a plan view of a reenforcing blank.

Corrugated fibre board is manufactured in several type constructions among which is the type known as "single-faced corrugated board" which comprises a single facing of solid flat board, on one side of which is attached a corrugated or fluted board. This type is shown in Fig. 1 in the drawings. A second type of "double-faced corrugated board" which comprises two facings of solid flat board, each attached to opposite sides of a corrugated or fluted board. This type is shown in Fig. 2 in the drawings. A third type is "double-strength corrugated board" which comprises a double-faced corrugated board to one side of which is attached a single-faced corrugated board or, in other words, two single-faced corrugated boards attached to opposite sides of a center flat board. This type is shown in Fig. 3 of the drawings.

Referring to Fig. 1, numeral 10 represents a facing liner and 11 the corrugated sheet which is attached thereto. In Fig. 2, 12 and 13 represent the facing liners and 14 the corrugated sheet which is fixed between them. In Fig. 3, 15 and 16 represent the facing liners, 17 the cen-

ter sheet and 18 and 19 the two corrugated sheets.

In Fig. 4 I have shown one form of blank which is adapted to carry out my invention, but it will be obvious that other forms may be used to advantage. This blank is made from a sheet of single-faced corrugated board of the type shown in Fig. 1. It is cut on the full lines and creased or scored on the broken lines. Numeral 20 is the outer bottom member and 21 is the inner bottom member. The outer end wall members 22 and 23 are attached to the bottom member 20 and carry at their end the corner pieces 24, 25, 26 and 27. The outer side wall members 28 and 29 are likewise attached to the outer bottom member 20. The inner end wall members 30 and 31 are attached to the inner bottom member 21 and the inner side wall member 32 connects the inner bottom member 21 to the outer side wall member 29. The inner side wall member 33 is attached to the inner bottom member 21 and carries the flap 34 to which is attached the flap 35. These flaps 34 and 35 serve as locking means to hold the carton in set-up position.

The cover 36 is provided with the flanges 37, 38 and 39 and is attached to the outer wall member 28.

To set up the carton from the blank shown in Fig. 4 the blank is placed with the corrugated side up. The outer end wall members 22 and 23 are brought up to position and at the same time the corner pieces 24, 25, 26 and 27 are turned at right angles to the outer end wall members. The inner bottom member 21 is now brought over so as to superimpose upon the outer bottom member 20 and this will cause the side wall members 29 and 32 to overlap the corner pieces 24 and 25. The inner side wall member 33 will be within the corner pieces 26 and 27. The flap 34 is now folded down over the corner pieces 26 and 27 and the flap 35 is tucked between the bottom members 20 and 21 and serves to hold the carton in erected position.

The partition members 40 and 41 are now brought up to stand at right angles to the bottom of the carton and serve as cushion separators for rows of apples or other articles which may be bruised or damaged by contact with each other when packed in the carton.

Though I have shown the cover 36 in connection with the blank of Fig. 4 it will be obvious that the cover is not an element of nor is it necessary to carry out my invention in practice. If a cover is not used with the blank shown in Fig. 4 the outer wall 28 may be secured to the

inner wall 33 by stitching or otherwise. The flap 35 would not be necessary, since its function is to hold the box erected until the cover is brought into closure position.

5 After the carton has been packed, the cover 36 may be brought into closure position, the flanges 37 and 38 being preferably tucked within the carton and the flange 39 without the carton and the carton sealed by a corner stitch, a
10 gummed paper seal or other means.

If desired, some form of adhesive, like silicate of soda, may be coated or brushed over the corrugations before the blank is folded. If a carton of greater strength is desired, a reenforce, such
15 as that shown in Fig. 6, may be inserted between the plies of the carton. As shown, the reinforcing or lining member of Fig. 6 comprises a central panel 50 adapted to lie between the members 20 and 21 of the finished carton, and side
20 panels 51, 52, 53 and 54 adjoining the panel 50 along score lines defining the latter. Thus, in the finished carton, the panel 54 may lie between the members 20 and 29.

While the reinforcing member may be made
25 of single- or double-faced corrugated board, I prefer to form it from uncorrugated facing paper. By covering the sides of the reinforcing panel with adhesive and then inserting it while forming the carton, the result is secured that the
30 sides of the carton are formed of the "double strength corrugated board" shown in Fig. 3, although the blank therefor is made of simple single-faced corrugated board as illustrated in Fig. 1. It further results that the carton thus
35 formed is extremely rigid, strong and durable, considerably more so in fact than if no reinforcing panel were used but the blank were initially made of double-strength corrugated board as illustrated in Fig. 3.

40 A modification of my invention comprises the making of the box from two types of stock, using two blanks. This may be accomplished by making the series of members forming the outer walls and bottom of one type of stock and the series
45 of members forming the inner walls and bottom of a different type of stock. For example, if the outer series is made of liner or facing stock and the inner series of single-faced corrugated stock, after folding and assembling we will have
50 a box which will correspond to a box made of one ply double-faced corrugated board, except it will be of more pleasing appearance.

After the box has been erected it will be noted
55 that the cross section through the walls or bottom will correspond to single-ply corrugated board. Thus if the two series of members are made from single-faced corrugated board we will have a section similar to a double-faced corrugated board as shown in Fig. 2 with the addition
60 of an extra corrugated sheet. If one series of members is made from facing or liner stock and the other from single faced corrugated board we will have a section similar to the double-faced corrugated board shown in Fig. 2. In each case
65 the interior surface and the exterior surface of the box will be flat or smooth, the corrugations being concealed between the facings.

My invention provides for the manufacture of
70 corrugated boxes at less expense and of a more pleasing appearance and stronger than corrugated boxes made directly from single ply corrugated board of the various types.

My invention is not limited to the specific details of the illustrative examples set forth and
75 described hereinabove, but may variously be em-

bodied within the scope of the claims hereinafter made.

I claim:

1. A box comprising a series of outer members and a series of inner members, said members
5 being formed in an integral blank made of single-faced corrugated board, the members of each series being assembled with respect to one another to provide double-faced walls and bottom in said box.
10

2. The combination in a box of one series of members, to partially form the walls and bottom of said box, made from single-faced corrugated board with the corrugations directed inwardly and a second series of complementary members
15 to complete the formation of said walls and bottom of said box, said second series of members being made from single-faced corrugated board with the corrugations directed outwardly, the corrugations of each series being positioned between the facings of the two series in the finished box, both series of members being formed from a unitary blank.
20

3. A box comprising two connected series of members to form a plurality of layers in the walls and bottom of the box, each series of members being made from single-faced corrugated board, and each series of members being folded to position the corrugations between the facings
25 in the erected box.
30

4. A box comprising two connected series of members to form a plurality of layers in the walls and bottom of the box, each series of members being made from single-faced corrugated board, each series of members being folded to position the corrugations between the facings in the erected box, and adhesive between the layers.
35

5. A box comprising two connected series of members to form a plurality of layers in the walls and bottom of the box, each series of members being made from single-faced corrugated board, each series of members being folded to position the corrugations between the facings in the erected box, and a reenforce held between the two series of members.
40

6. A box comprising two connected series of members to form a plurality of layers in the walls and bottom of the box, each series of members being made from single-face corrugated board, each series of members being folded to position the corrugations between the facings in the erected box, and sections of the inner series being folded to serve as partitions in the box.
45

7. A box comprising a series of outer walls of single-faced corrugated board having the corrugated side turned inwardly, and a series of inner walls of single-faced corrugated board having the corrugated side turned inwardly, the inner surfaces of the outer walls being adhesively fastened to the outer surfaces of the inner walls, each of said walls being formed in an integral blank of single-faced corrugated board.
50

8. A box comprising a series of outer walls of single-faced corrugated board having the corrugated side turned inwardly, and a series of inner walls of single-faced corrugated board having the corrugated side turned inwardly, each of said walls being formed in an integral blank of single-faced corrugated board, and a reinforcing liner lying between the inner surfaces of the outer walls and the outer surfaces of the inner walls and adhesively fastened thereto.
55

9. As a new article of manufacture, a carton formed from an integral blank of single faced corrugated paper including a bottom, side and
60

end walls, a reinforcing bottom, side and end walls, the corrugations of said reinforcing bottom, side and end walls being in abutting relation with the corrugations of said bottom, side and end walls, whereby to form a carton providing smooth interior and exterior surfaces.

10. As a new article of manufacture, a carton formed from an integral blank of single faced

corrugated paper including a bottom, side and end walls, a reinforcing bottom, side and end walls, the corrugations of said reinforcing bottom, side and end walls being in juxtaposed relation with the corrugations of said bottom, side and end walls and an insert position between said corrugations.

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