

Jan. 14, 1936.

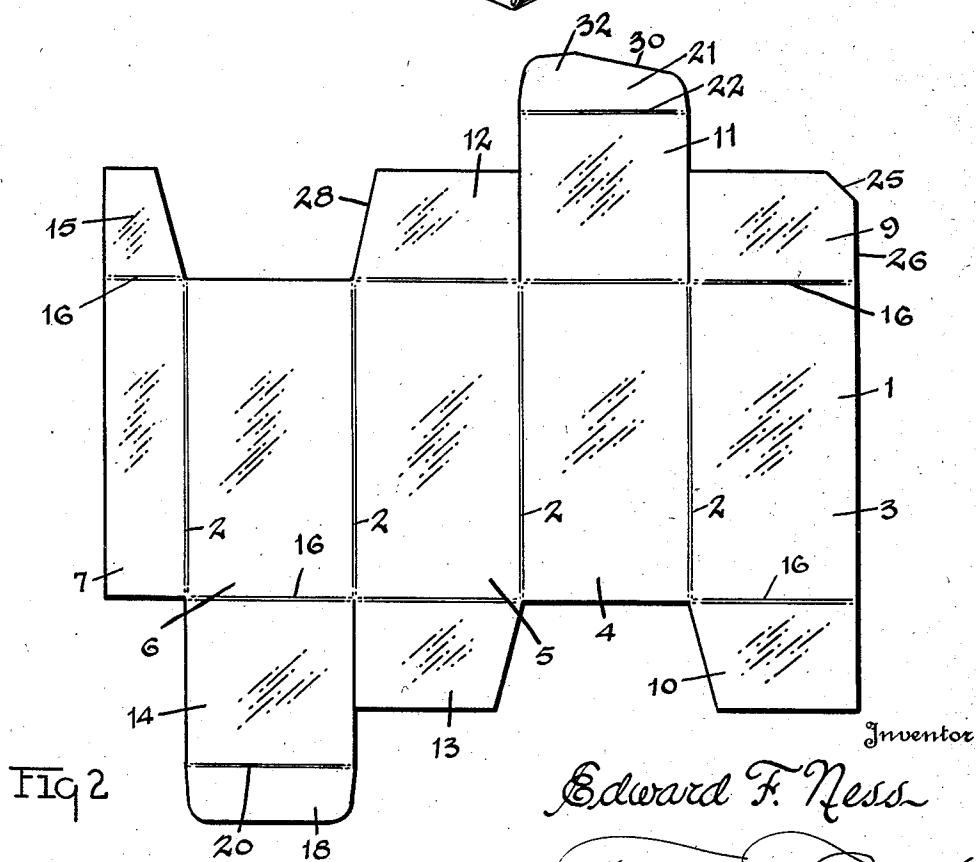
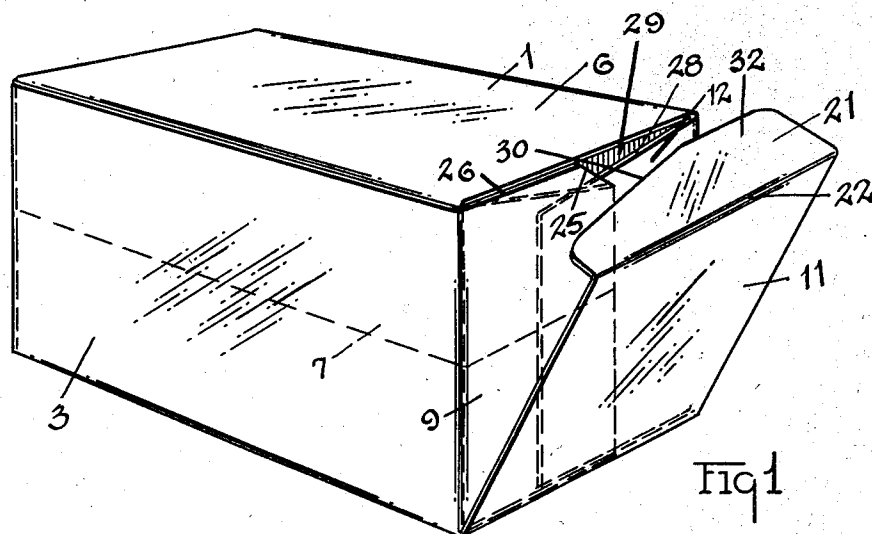
E. F. NESS

2,027,488

CARTON

Filed Oct. 15, 1934

2 Sheets-Sheet 1



Inventor

Edward F. Ness

By *Francis J. Crampton*
Attorney

Jan. 14, 1936.

E. F. NESS

2,027,488

CARTON

Filed Oct. 15, 1934

2 Sheets-Sheet 2

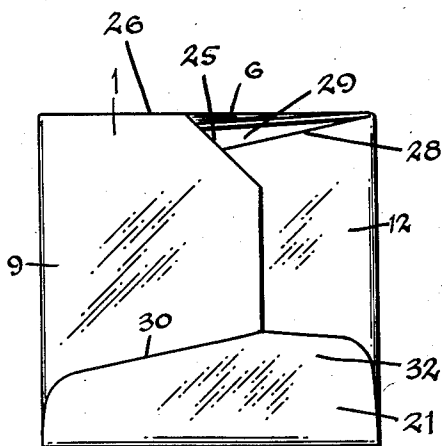


Fig 3

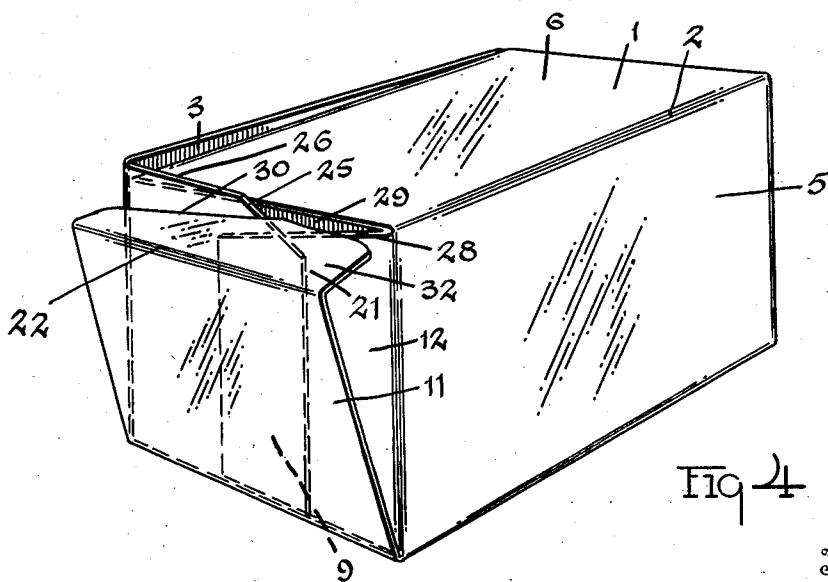


Fig 4

Inventor

Edward F. Ness

By

Faust F. Crampton

Attorney

UNITED STATES PATENT OFFICE

2,027,488

CARTON

Edward F. Ness, Toledo, Ohio

Application October 15, 1934, Serial No. 748,295

4 Claims. (Cl. 229—33)

My invention relates to a carton construction of the character which has walls and ends formed from a foldable sheet blank. The invention particularly relates to a carton construction in which the walls thereof are located and locked in carton form by the folding and interrelation of other of the carton parts as distinct from those cartons which are fixed in carton relation by glue, staples, stitching, and the like.

My invention has for an object to provide a sheet blank which is cut and scored so that when the blank is folded it has parts which cooperate with each other to complete the carton form, thereby facilitating the formation of the carton from the blank. Another object of the invention is to provide a carton-forming sheet blank having parts which are adapted to interlock with other parts to hold the blank in carton form, the said parts being provided with guiding surfaces that react on each other to guide the first-named parts into an interlocked position with the other parts. A still further object of my invention is to provide a carton having an end which may be closed by an end part, the end part having edge surface portions which cooperate with other edge surfaces of the carton to locate end part relative to the carton and in closed end relation of the carton.

My invention has for a more particular object to provide a carton construction comprising a foldable sheet blank forming side walls from which extend end wing parts or flaps which, when located in parallel overlapping relation to each other, form the closed end of the carton. Another particular object of the invention is to provide one of the said end wing parts or flaps with an inclined edge surface which is adapted to guide another of the end parts or flaps into the carton and in surface contact with one of the side walls of the carton, thus automatically spacing the side walls contacted by the end parts from the remainder of the side walls and locking the end parts or flaps in closed end relation. The invention therefore may be readily adapted to use in the automatic or manual folding of cartons about or around materials which are to be contained therein, the end parts facilitating the action of a folding machine as will be appreciated by one familiar with the art or the manual action in closure.

A further particular object of the invention is to provide a carton construction which has easily closable end parts and is therefore more acceptable to the ultimate consumer or house-

holder and consequently reflects the satisfaction thereof to the goods contained within the carton. A still further and more particular object of the invention is to provide a carton end construction easily established in closed carton relation but efficiently resistant to haphazard or undesired opening.

The invention consists in other features and advantages which will appear from the following description and upon examination of the drawings. Structures containing the invention may partake of different forms and still embody the invention. To illustrate a practical application of the invention, I have selected a carton as an example of the various structures and details thereof that contain the invention and shall describe the selected carton hereinafter, it being understood that variations may be made without departing from the spirit of the invention. The particular carton selected is shown in the accompanying drawings and described hereinafter.

Fig. 1 of the accompanying drawings illustrates a perspective view of a carton embodying the features of my invention. Fig. 2 illustrates a view of a sheet blank from which the carton shown in Fig. 1 is formed. Fig. 3 illustrates an end view of the carton showing one of the end flaps in open position. Fig. 4 illustrates a perspective view of an end of the carton showing the end flap about to be inserted into locked position.

In the carton construction shown in the drawings, a sheet blank 1 is provided. The sheet blank 1 is scored along parallel lines 2 to form side wall portions 3, 4, 5, and 6 and a body flap 7. The blank is cut to form a pair of end wing parts or flaps 9 and 10 connected to either end of the wall portion 3; an end part or flap 11 connected to one end of the wall portion 4, a pair of end wing parts or flaps 12 and 13 connected to either end of the wall portion 5; an end part or flap 14 connected to one end of the wall portion 6; and an end part or flap 15 connected to one end of the body flap 7. The end parts or flaps are each adapted to be folded at right-angles to their respective associated wall portions along suitable lines of scoring 16, when the carton is in completed form.

The sheet blank 1 is folded about the scoring lines 2 to locate each wall portion at substantially right-angles to its adjacent wall portion, the body flap 7 being located in parallel surface contact with the inner surface of the wall portion 3, thus overlapping the point of jointure of

the wall portion 3 with the wall portion 6. It will be apparent from the foregoing that an open ended container or carton has thus been formed.

In order to lock the folded blank in place and in carton-forming relation, and to close one of the open ends of the carton, the end flaps 10, 13 and 14 are bent about the scoring 16 and at right-angles to their respectively associated wall portions 3, 5, and 6. The flaps 10 and 13 extend towards each other and overlap at their substantial tips while the flap 14 extends over the flaps 10 and 13 toward the edge of the wall portion 4. The flap 14 is preferably provided with a lip portion 18 that may be folded along scoring 20 and is adapted to frictionally engage the inner surface of the wall portion 4, in a manner well known in the art, to lock the end flaps 10, 13, and 14 in end closure relation of the carton.

In order to close the other and opposite end of the carton and to further lock the blank and wall portions thereof in place, the end parts or flaps 9, 11, 12, and 15 are bent about their respective scoring 16 and at right-angles to their respectively associated wall portions 3, 4, and 5 and body flap 7. The end flaps 9 and 15 extend towards the end flap 11 and overlap each other at the substantial tips thereof. The end flap 11 extends over the flaps 9, 12, and 15 toward the edge of the wall portion 6. The flap 11 has a lip portion 21 which is foldable along the scoring 22 to a position of substantial right-angles to the flap 11. The lip portion 21 is adapted to be inserted between the edges of the flaps 9, 12, and 15 and the edge of the wall portion 6 proximate thereto, and be located in surface contact with the inner surface of the wall portion 6.

In order to expedite the insertion of the lip portion 21 between the edges of the flaps and wall portion 6 as described and to hold the lip portion 21 after insertion against the surface of the wall portion, the end flap 9 is provided with a lip-guiding edge 25 and a lip-holding edge 26. The edge 25 is inclined to the edge 26 which approximates contiguous edge of the wall portion 6 when in carton relation. The wing or end flap 12 has a cut-away portion 28 which when the flap 12 is located in carton-forming relation forms an unrestricted point of entry, such as the opening 29, for the entrance of the lip 21 into the interior of the carton. The lip 21 is provided with an edge 30, the line of which is inclined to the scoring 22, and which originates at a point on the tip of the lip and progresses rearwardly and across the span of the lip thus forming a slight extending tip or finder portion 32.

The finder portion 32 of the lip 21 is adapted to be first inserted through the opening 29, whereupon the edge 30 of the lip slidably engages the edge 25. On continued movement the lip 21 inwardly, the lip tends to ride toward the edge 26 and into the interior of the carton until the edge 30 passes over the point of jointure of the edges 25 and 26 whereupon the lip 21 will be held in surface contact with the inner surface of the wall portion 6 by the edge 26 pressing against the side of the lip and thus locking the end flap 11 in closed position.

While I have described a carton having but one end partaking of the particular features of my invention, it will be readily appreciated that such construction can be provided at either or both ends without departing from the spirit of

my invention as set forth in the claims appended hereto.

I claim:

1. A carton having a plurality of walls adjoining each other at their side edges, flaps extending from adjacent ends of certain of the adjoining side walls, one of said flaps having a side edge extending parallel to an end edge of a side wall adjoining the side wall from which said flap extends and along said end edge from one side edge of said adjoining side wall to a point on said end edge intermediate the side edges of said adjoining side wall, the last named flap having an end edge and an edge extending angularly to said end edge, another of said flaps having a lip portion, the lip portion having a tip, one edge of the tip extending along a line convergent toward the base of the lip portion whereby when the tip is moved toward the body of the carton the said tip edge slidably engages the said angularly extending edge of the described one flap to progressively guide the lip portion to a position intermediate the said side edge of the described one flap and the said adjoining side wall whose end edge is proximate thereto.

2. A carton having a plurality of adjoining side walls, flaps extending from adjacent ends of certain of the adjoining side walls, one of said flaps having a side edge extending along the parallel to the end edge of a side wall adjoining the side wall from which said flap extends, an end edge and an edge inclined to said side edge interjoining said side and end edges, another of said flaps having a lip portion, the lip portion having a tip, one edge of the tip extending along a line convergent toward the base of the lip portion whereby when the tip is moved toward the body of the carton the said tip edge slidably engages the said inclined edge and the lip portion is progressively guided to a position intermediate the said side edge of the said one flap and the said adjoining side wall whose end edge is proximate thereto.

3. A carton having a plurality of side walls adjoining each other at their side edges, a flap extending from an end edge of one of said side walls, the flap having a side edge extending parallel to an end edge of the side wall adjoining the side wall from which said flap extends and along said end edge from the side edge of said adjoining side wall to a point intermediate the side edges of said adjoining side wall, an end edge and an edge extending angularly to said side edge and interjoining the side and end edges, a second flap extending from an end edge of a side wall opposite to the said side wall from which the first-named flap extends and adapted to underlap with said first-named flap, said second flap having a side edge inclined to and diverging from the said end edge of said adjoining side wall, a third flap extending from the end edge of a side wall intermediate the side walls from which the first and second named flaps extend, the said third flap adapted to overlap the first and second named flap and having a lip portion, the lip portion having a tip, one edge of the tip extending along a line convergent toward the base of the lip portion whereby when the tip is moved intermediate the said side edge of the second flap and the said adjoining side wall the end edge of the tip slidably engages the said angularly extending edge of the first flap to guide the lip portion progressively

to a position intermediate said side edge of the first-named flap and the said adjoining side wall.

5 4. In a carton formed of a foldable blank having top, bottom, and side parts, the side parts having over-lapping wings, the said wings having side edge parts inclined to the top when located in an overlapping relation and forming an opening intermediate the top part and the
10 said inclined edge parts, the bottom part having an end part foldable over the over-lapping

wings, and a flap formed on the end part and having end edges inclined relative to each other to form a centrally located corner, forming a tip part, insertable in the opening whereby the relatively inclined end edges of the flap slidably
5 coact with the said inclined edges of the wings to direct the flap intermediate the top part and the wings.

EDWARD F. NESS. 10