No. 764,154. PATENTED JULY 5, 1904.

H. P. SHOTTS.

SECTOR SHAPED CARTON.

APPLICATION FILED JULY 6, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

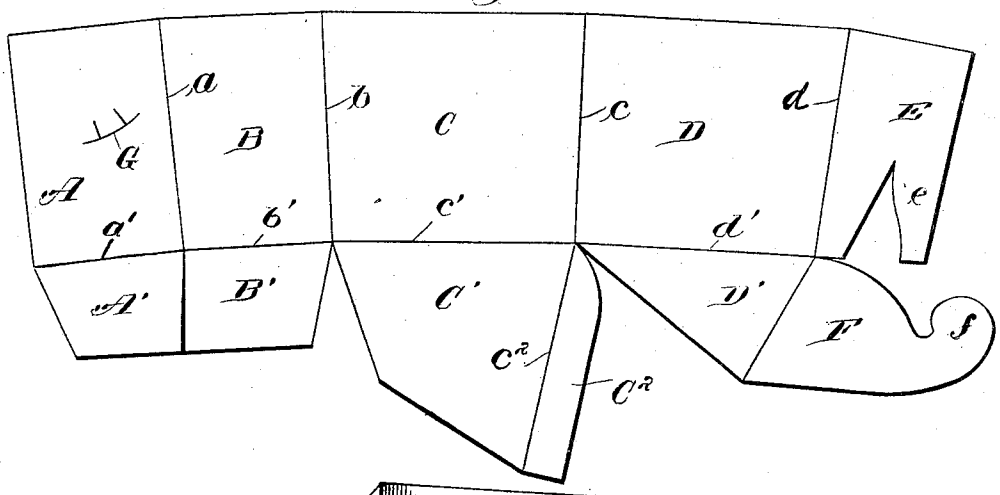
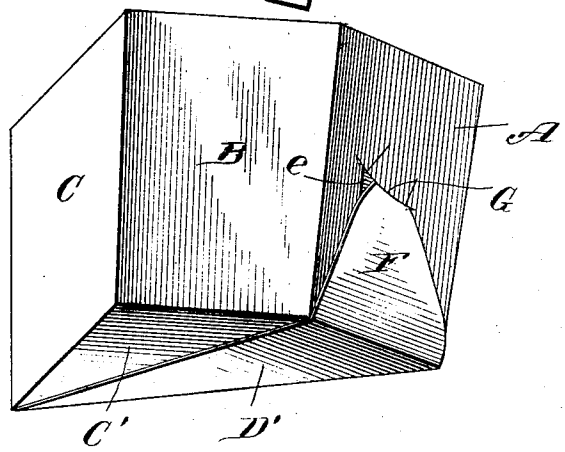


Fig. 2.



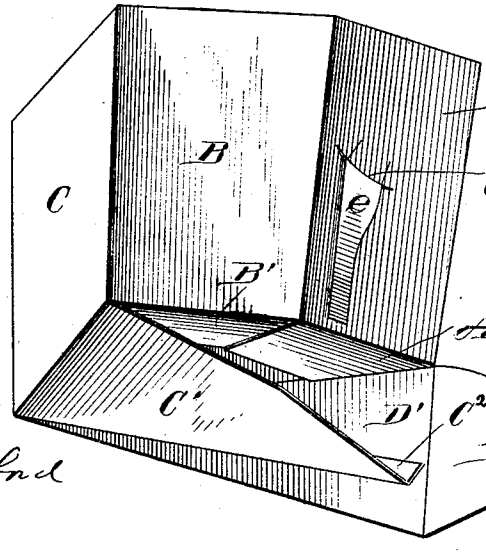


Fig. 3.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

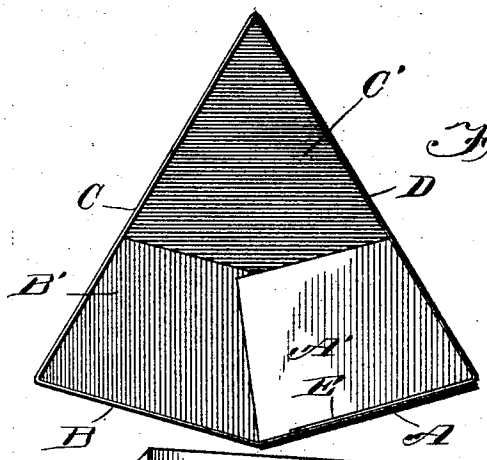


Fig 5

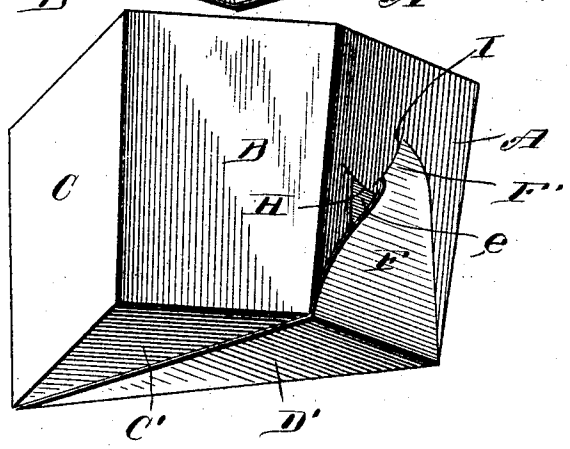
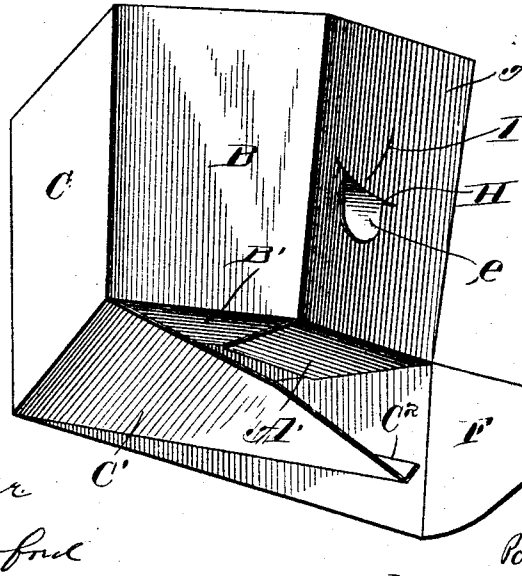


Fig. 6.



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No. 764,154. Patented July 5, 1904.

UNITED STATES PATENT OFFICE.

HARRY P. SHOTTS, OF CHICAGO, ILLINOIS, ASSIGNOR TO HOWE AND DAVIDSON COMPANY, OF EAST ORANGE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SECTOR-SHAPED CARTON.

SPECIFICATION forming part of Letters Patent No. 764,154, dated July 5, 1904.

Application filed July 6, 1903. Serial No. 164,363. (No model.)

To all whom it may concern:

Be it known that I, HARRY P. SHOTTS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sector-Shaped Cartons; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in the construction of sector-shaped cartons—such, for instance, as are used for packing candy or the like in pails, and which are made of a single flat blank cut to the proper shape, and which are joined or set up for use by means of interlocking parts of the blank only and without the use of paste or glue for joining any parts of the blank.

The invention consists in the matters hereinafter described, and more particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 illustrates a blank for forming a carton in accordance with my invention. Fig. 2 is a perspective view of the carton when folded and ready for use. Fig. 3 shows the carton made from the blank shown in Fig. 1 when partially folded. Fig. 4 indicates a plan view of the carton made from the blank shown in Fig. 1 when folded. Fig. 5 is a perspective view of the carton generally like that shown in the other figures, but differing slightly therefrom with respect to the means for interlocking the folded parts. Fig. 6 is a perspective view of the carton shown in Fig. 5 when the blank is partially folded.

The carton illustrated consists of four connected main sections A B C D, which constitute the connected side walls of the finished carton and are separated by score-lines *a b c*, an end flap E, joined to the section D and separated therefrom by score-lines *d*, and four bottom flaps A′, B′, C′, and D′, which are joined, respectively, to the sections A, B, C, and D and separated therefrom by score-lines *a′ b′ c′ d′*. The sections C and D constitute the diverging walls of the sector-shaped carton, while the sections A and B form the outer walls thereof. The bottom flap C′ on said section C corresponds in shape with the bottom of the carton, while the flap D′ on the section D is triangular in form and has on its margin nearest the flap E a locking-tongue F, provided with a locking-head *f*, which projects laterally from said tongue.

The bottom flaps A′ C′ are inclined on their margins adjacent to the outer edge of the section A and to the section C, so that when folded inwardly said edges will conform to the radial walls C and D of the carton. These flaps A′ B′ are shown as made relatively short, the same being intended to fold inwardly above the bottom flap C′, which latter constitutes, in effect, the bottom wall of the carton. The flap D′ forms a supporting or holding flap and is folded beneath the edge of the bottom flap C′, which comes in contact with the section D when the blank is folded and serves to support or hold in place said flap C′. The flap D′ is held in place by engagement of the locking-tongue with the section A, against and outside of which it is folded.

The end section A is provided with a locking-slit G, and the end flap E is provided with a notch extending inwardly from its lower edge or margin and forming a downwardly-extending locking-tongue *e*, adapted to enter the slit G. Said slit G in the particular construction shown in Figs. 1 to 4 is also adapted to receive the locking-head *f* on the locking-tongue F.

In the operation of setting up the box from the blank shown in Fig. 1 the blank is first bent into tubular form, so as to bring the end flap E behind the end section A, and the locking-tongue *e* is then inserted downwardly through the slit G, such tongue passing from the inside to the outside of the section A, as clearly seen in Fig. 3. The bottom flaps A′ B′ are then bent inwardly and the bottom flap C′ then folded inwardly and upwardly against

the flaps A′ B′, with its side margin in contact with the lower edge of the section D. The flap D′ is then folded inwardly against the surface of the flap C′. Fig. 3 shows the position of the parts after the bottom flaps A′ B′ have been folded inwardly, the flap C′ has been partially folded, and the flap D′ is still in its original position. The flap C′ having been folded inwardly, as described, the bottom flap D′ is then folded against the bottom surface of said flap C′, the locking-tongue F then bent or folded upwardly against the outer surface of the section A, and the locking-head on said tongue F then inserted into the slit G. The engagement of said locking-head with the slit holds the bottom flap D′ in position and said flap D′ supports the bottom flap C′. Said flap D′ by extending beneath the edge of the flap C′ which meets the lower edge of the section D forms a tight joint at this place. The inwardly-turned bottom flaps A′ B′ serve to close the joints between the bottom of the sections A B and the outer edge of the bottom flap C′, which meets the same, and said flaps A′ B′ also serve to give additional strength to the bottom of the carton.

It will be manifest from the above that the bottom wall of the carton is formed mainly by the flap C′, attached to the section C, which forms one of the radial walls of the carton, and that the said flap C′ is supported or held in place by the flap D′ on the section D, which forms the other radial wall of the carton, and that the said supporting-flap D′ is adapted to so strongly support the flap C′ by reason of the fact that it is connected at one of its three margins with the radial section or wall D and is joined at another of such margins by the tongue F to the section A, which forms the outer wall nearest the said radial section or wall D.

Figs. 5 and 6 show a form of the carton which is like that hereinbefore described, excepting that the section A in this instance contains two separate locking-slits H and I. The locking-slit H in this instance is adapted to receive the tongue *e*, by which the flap E is joined to the section A, and above the said locking-slit H is another slit I, preferably arranged in nearly a vertical position and adapted for engagement with the locking-head *f* on the tongue F.

As further improvement in blanks and cartons made as above described I provide, as shown in Figs. 1 to 4, upon the margin of the bottom flap C′, which bears against the lower margin of the section D, a flap C^2, separated from the body of the flap C′ by means of a score-line c^2 and which is adapted to be folded upwardly in setting up the carton, so that said flap bears thereagainst and extends upwardly along the inner surface of the section D. The flap D^2 thus arranged serves to make the bottom of the box tighter and less liable to admit of the escape of granular material therefrom by closing the joint along the bottom of the section D between the edge of the flap C′ and the flap D′.

An important advantage gained by the construction described is that it affords a strong and tight carton which is made from a blank of simple form and which has only two locking-tongues, so that the carton may be set up with little labor and few manipulations on the part of the person doing the work.

I claim as my invention—

1. A blank for sector-shaped cartons which is divided transversely by score-lines into four sections, adapted to form the radial walls and outer walls of the carton and is provided at one end with a locking-flap adapted for interlocking engagement with the opposite end of the blank, which has attached to the section which forms one radial wall of the carton a bottom flap shaped to correspond with the bottom of the carton, and which has attached to the section which forms the other radial wall of the carton, a bottom flap of triangular shape adapted to fold upwardly into overlapping relation with the first-mentioned bottom flap and provided at its margin remote from the junction-line of the two radial wall-sections with a locking-tongue adapted to be folded upwardly against and for interlocking engagement with one of the outer wall-sections.

2. A sector-shaped carton comprising two radial walls and outer walls, which are joined to each other to constitute the tubular body of the carton, and a bottom wall embracing a bottom flap forming an extension of one of the radial walls and which corresponds in shape with the bottom of the carton, and another bottom flap which forms an extension of the other radial wall, is of triangular form and is provided at its margin remote from the junction-line of the two radial walls with a locking-flap; said triangular bottom flap being folded beneath and into overlapping relation with the adjacent free edge of the first-named bottom flap to support the same and the locking-flap on said triangular flap being adapted to be bent upwardly against one of the outer walls and to be interlocked therewith.

3. A sector-shaped carton comprising two radial walls and outer walls, which are joined to each other to constitute the tubular body of the carton, and a bottom wall embracing a bottom flap forming an extension of one of the radial walls, and which corresponds in shape with the bottom of the carton and has on its edge which meets the other radial wall an upwardly-bent flap, and another bottom flap which forms an extension of said other radial wall, is of triangular form and pro-

vided at its margin remote from the junction-line of the two radial walls with a locking-flap adapted to be bent upwardly against one of the outer walls and to be interlocked therewith.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 22d day of May, A. D. 1903.

HARRY P. SHOTTS.

Witnesses:
WILLIAM L. HALL,
GERTRUDE BRYER.