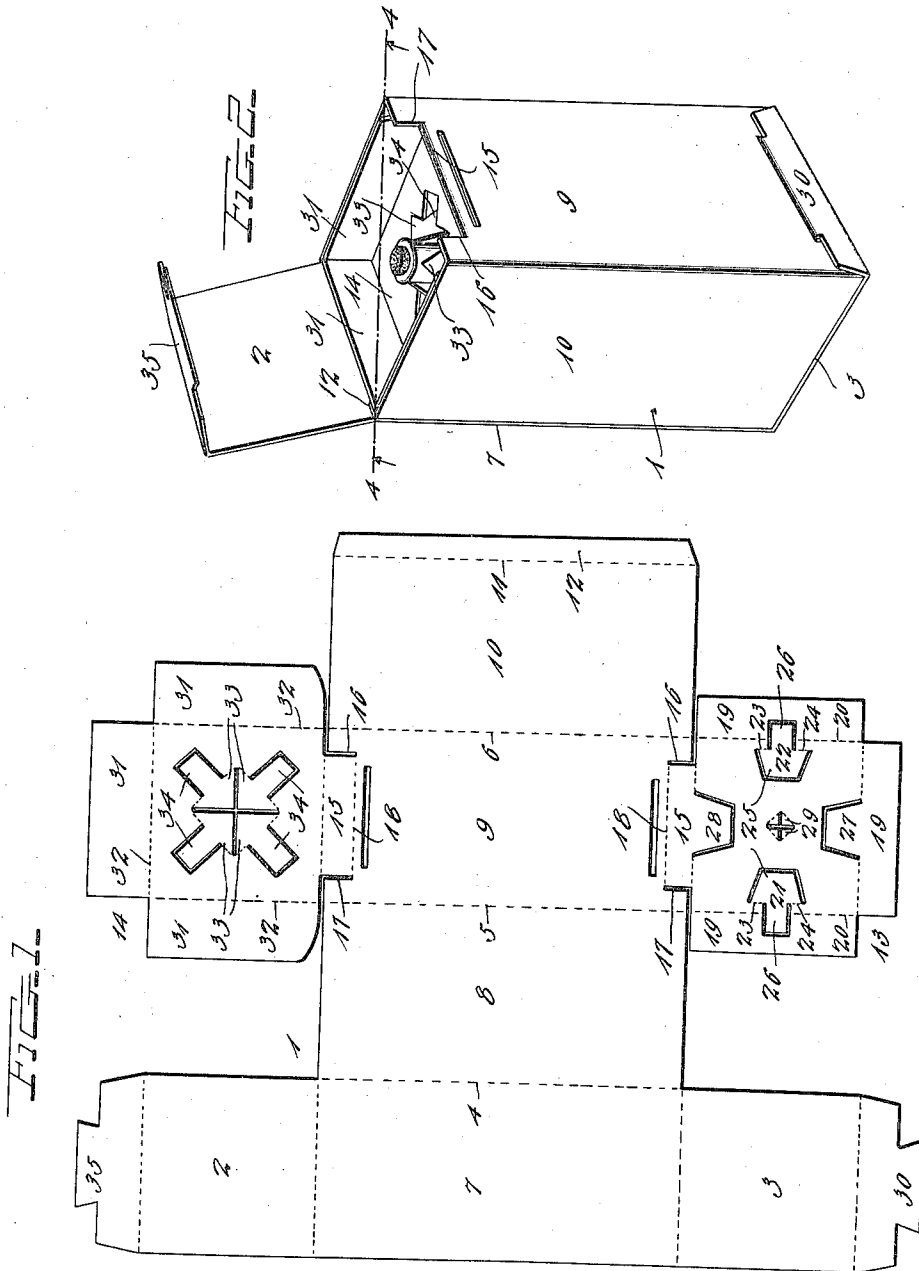


1,039,026.

J. H. CARTER.
FOLDING CARTON.
APPLICATION FILED JUNE 3, 1912.

Patented Sept. 17, 1912.

2 SHEETS—SHEET 1.



Inventor

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Witnesses
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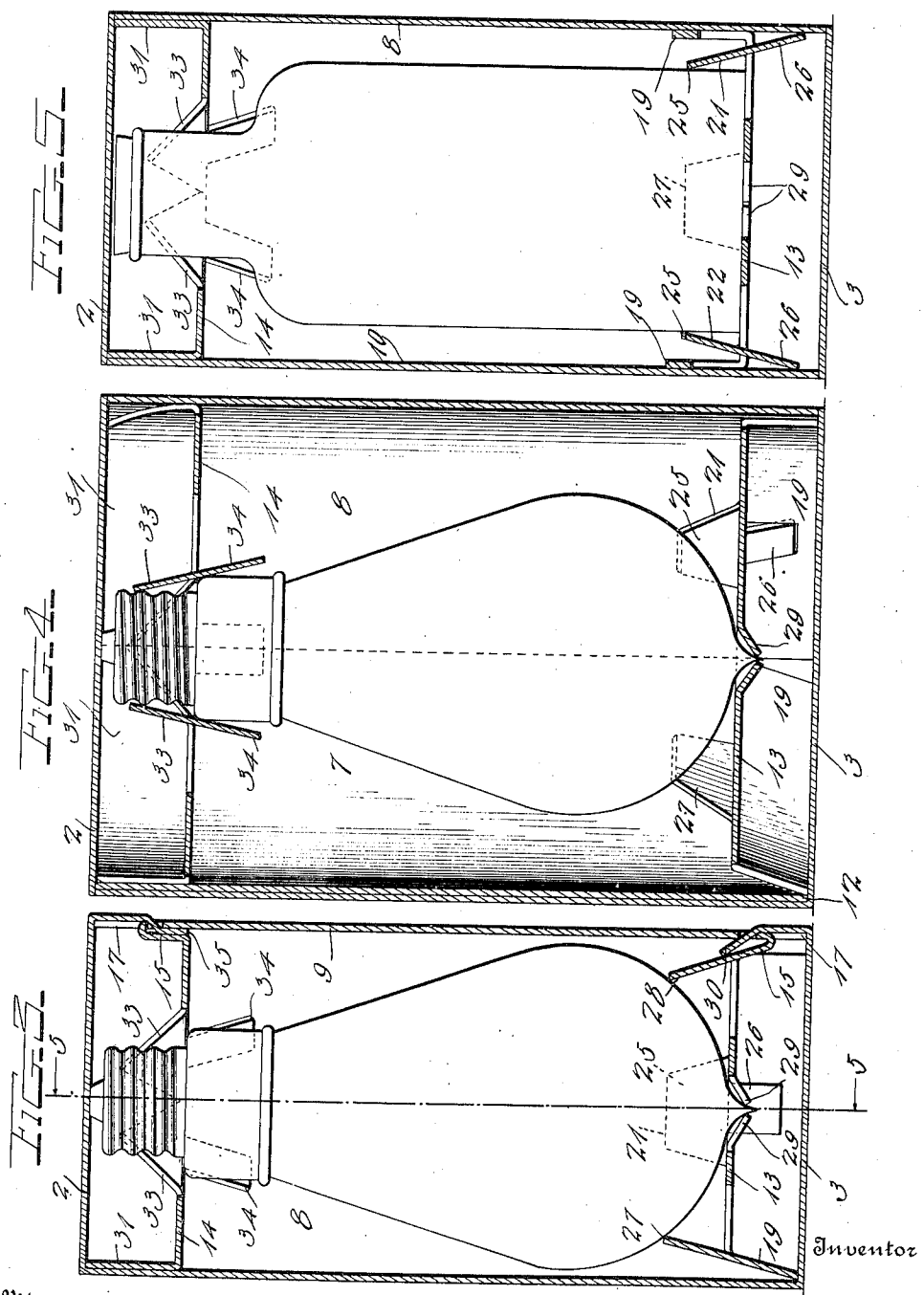
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UNITED STATES PATENT OFFICE.

JAMES H. CARTER, OF CHICAGO, ILLINOIS.

FOLDING CARTON.

1,039,026.

Specification of Letters Patent.

Patented Sept. 17, 1912.

Application filed June 3, 1912. Serial No. 701,350.

To all whom it may concern:

Be it known that I, JAMES H. CARTER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Folding Cartons; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in folding cartons adapted for protecting bottles, incandescent electric bulbs or other fragile articles for storage or shipment.

One object of the invention is to provide a carton constructed to provide cushioning means for the contents thereof without necessitating the use of any more material than is required for a carton of ordinary construction.

Another object is to produce a one-piece cushioning carton from a single sheet of card or straw board in which the cushioning parts will reliably engage the article disposed therein and hold it against shocks and jars.

Another object of the invention is to produce a carton of this character which may be used with either a round or a flat bottomed bottle or other article, the main object being to provide end flaps for cushioning the article contained in the box regardless of the shape thereof.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Figure 1 represents a plan view of the blank for the box or carton laid flat; Fig. 2 is a perspective view of the carton in partly folded position; Fig. 3 is a longitudinal vertical section illustrating the manner in which an incandescent lamp bulb is held and cushioned; Fig. 4 is a vertical section taken on line 4-4 of Fig. 2; Fig. 5 is a vertical section taken on line 5-5 of Fig. 3 with a bottle shown therein.

The blank for the box is shown in Fig. 1 and consists of a body 1 in the form of a parallelogram having extensions at opposite side edges near one end thereof forming end flaps 2 and 3 which are adapted for use as

outer closures in the top and bottom or ends of the carton when the parts are in operative position. This body portion 1 has score lines 4, 5 and 6 extended transversely of the body member, preferably at equal distances apart, thereby dividing the body 1 into four flexibly connected side members 7, 8, 9 and 10 of equal width. The side member 10 has a score line 11 extending longitudinally thereof and transversely of the body to form a flap 12 which when folded is engaged with the inner face of the free edge of the side member 7 and is secured thereto by gluing or otherwise.

The member 9 has end flaps 13 and 14 flexibly connected thereto at one edge of the flaps at points spaced inward from the end edges of said member 9 by means of tongues 15 of less length than the width of the member to which they are attached. These tongues 15 are produced by forming short slits 16 and 17 extending longitudinally of the member 9 and spaced from the side edges thereof and from each other a distance equal to the length of the tongues which they form, the inner ends of said slits being connected by a score line 18 whereby the tongues are flexibly connected with the ends of the member 9. The length of the slits 16 and 17 regulates the width of the tongues 15, which controls the distance the flaps 13 and 14 are spaced inwardly from the edges of the ends of the carton.

The bottom flap 13 is provided on its free edges with flaps 19 adapted to be folded inwardly on score lines as 20, and which are designed to frictionally engage the inner faces of the side members 7, 8 and 10 at points spaced inwardly from the edges of said members. The tongue 15 adapts the bottom member 13 to fit snugly between the side members of the carton. This bottom flap 13 is also provided near opposite sides with arrow-shaped lever-like elements 21 and 22 which are cut or stamped out from said flap 13, the fulcrums thereof being formed by score lines 23 and 24 arranged at the base of the heads 25 of said elements on opposite sides of the shanks 26 thereof. These score lines 23 and 24 extend parallel with the lines 20 at points spaced slightly inward from said lines 20, and said lines 23 and 24 are in longitudinal alinement with each other and supported by the shanks 26 of the elements 21 and 22. The shanks 26 of the

members 21 and 22 extend across the score lines 20, projecting some distance beyond said score lines, and when the flap 13 is inserted in the carton, these shanks engage the inner faces of the members 8 and 10 and force the heads 25 of said elements inward to form cushioning devices for the bottle or other object to be packed in said carton. The card board or straw board from which the carton is formed has sufficient stiffness or rigidity to cause these shanks 26 to reliably hold the heads 25 of the elements 21 and 22 firmly in position to engage at their free ends opposite sides of the bottle or bulb to be protected, as is shown clearly in Fig. 3. Tabs or tongues 27 and 28 are formed in the bottom flap 13 at diametrically opposite sides thereof alternating with the members 21 and 22 which are arranged on the other sides of said flap. These tongues 27 and 28 are preferably constructed similar to the heads 25 of the members 21 and 22 but have no shanks, and are adapted to act in conjunction with said members 21 and 22 for engaging and cushioning a bottle or other object disposed in the carton.

In the center of the bottom flap 13 are formed right angularly extending slits which form four triangular members 29, the apices of which are free and are designed to spread outwardly and permit the insertion between them of the teat on an electric light bulb or other similar article, and which yieldably engage and hold said teat and take up any ordinary jar which may occur. After this bottom flap 13 has been inserted in the carton either with the flaps 19 turned inwardly as shown in Fig. 5 or turned outwardly as shown in Fig. 4 the outer flap or closure 3 is then folded over said bottom flap and a locking tongue 30 at the free end thereof is engaged with suitable slits in the carton.

The end flap 14, which is designed to form the top protecting member of the carton, is connected with the edge of the member 9 at the end opposite the bottom flap 13 by means of the tongue 15 which is similar in construction and shape to the tongue 15 of the flap 13. This top flap 14 is provided on its free edges with flanges or flaps 31 flexibly connected with the flap 14 by score lines 32, the flaps or flanges 31 being of any desired width to properly position the member 14 at a suitable point within the carton when in operative position to permit the neck of the bottle or bulb to be protected to project through said flap 14 and be housed within the space above it between the flap 14 and the outer covering flap 2. The opening in the flap 14 for the passage therethrough of a bottle or bulb neck is formed by slitting the member 14 centrally in lines at right angles to each other to form triangular neck cushioning members 33 hingedly connected

at their bases to said flap and adapted to be forced outwardly by the insertion of the bottle mouth therebetween. These triangular members are provided with shanks 34 which extend rearwardly or outwardly from said triangular heads 33, forming arrow-shaped members similar to the members 21 and 22 of the flap 13. These arrow-shaped members are preferably arranged as shown, diagonally across the flap 14 with the apices of the heads thereof pointing toward each other and adapted to be folded flat flush with the outer face of said flap 14 when in inoperative position. It will be obvious that the flaps or flanges 31 of this member 14 may be folded either inwardly or outwardly, as desired.

It will thus be obvious that when the bottle or bulb to be protected by the carton is inserted therein with the bottom resting on the bottom flap 13 and engaged by the cushioning elements, 21, 22, 27 and 28, and the neck projected through the opening in the top flap 14 formed by the triangular heads of the arrow-shaped members, the heads of said members will be forced outwardly and their shanks inwardly into engagement with the shoulder or breast of the bottle or glass bulb, the heads grasping the neck thereof, and by these elements the bottle will be securely held within the cartons against wobbling and all ordinary shocks and jars absorbed by said cushioning devices. By so constructing this carton double end members are provided, one of which forms cushioning means for the bottle or other article and the other protective closures. The outer top closure 2 is secured in place by a locking tongue 35 similar to the tongue 30 on the bottom member 3.

This construction of carton consumes no more material than the ordinary uncushioned boxes or cartons, is no more difficult or troublesome to manufacture, and may be put in position for use as readily, the cushioning parts springing into operative position simply by the insertion of the end flaps within the carton.

The use of this improved cushioning carton dispenses with the necessity of the corrugated paper or other inside wrapping for protecting the fragile article to be shipped, yet securely holds the article as safely as with the additional inside wrapping and with less cost of manufacture.

When the carton is not in use the end flaps are opened out and the body thereof is folded on two of the diagonally opposite creases or score lines whereby the inside end members and the outside end members or flaps are arranged side by side and may if desired be folded over flat on opposite faces of the folded body of the box, the outer flaps being folded in one direction and the inner flaps in the other direction, and the cartons

may thus be packed one on top of the other in a very small space and without danger of crushing.

I claim as my invention:

- 5 1. A collapsible carton comprising a foldable body having end closures, one of which is spaced inwardly from the end of the body and provided with article cushioning tongues fulcrumed intermediately of their ends with
10 one end arranged to engage the article to be cushioned and the other to engage the inner face of said body when the parts are in operative position.
- 15 2. A collapsible carton comprising a foldable body having end closures, one of which is spaced inwardly from the end of the body and provided with article cushioning tongues fulcrumed intermediately of their ends with
20 one end arranged to engage the article to be cushioned and the other to engage the inner face of said body when the parts are in operative position, the center of said closure being slit to form an opening for the passage of a projection on the article within
25 the carton and to provide cushioning tongues or tabs.
- 30 3. A collapsible carton comprising a foldable body having end closures, one of which has members stamped therefrom and fulcrumed intermediately of their ends in position to cause one end to engage the article within the carton and the other to engage the side walls of the body whereby they are reliably held in cushioning engagement with
35 said article.
- 40 4. A collapsible carton comprising a foldable body having end closures, one of which is hingedly connected at one edge to one edge of the body and provided at its other edges with hinged wall engaging flaps, members stamped from said closure and fulcrumed intermediately their ends in position to cause

one end thereof to extend transversely across the hinged connection of the adjacent flap and engage the side wall of the body whereby the other end is held in cushioning engagement with the article in the carton. 45

5. A collapsible carton comprising a foldable body having end closures, one of which has members stamped therefrom and fulcrumed intermediately of their ends in position to cause one end to engage the article within the carton and the other to engage the side walls of the body whereby they are reliably held in cushioning engagement with
55 said article, said closure being hinged at one edge to said body at a point spaced from the edge of said body to position said closure inward from the edges of the body when in operative position. 60

6. A collapsible carton comprising a foldable body having end closures, one of which has members stamped therefrom and fulcrumed intermediately of their ends in position to cause one end to engage the article within the carton and the other to engage the side walls of the body whereby they are reliably held in cushioning engagement with
65 said article, said closure being hinged at one edge to said body at a point spaced from the edge of said body to position said closure inward from the edges of the body when in operative position, and an outer closure hinged at one edge to the end edge of said
70 body opposite the side to which said inner closure is hinged, and means for locking said outer closure in operative position. 75

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES H. CARTER.

Witnesses:

AARON LEVETOR,
F. FOGELSON.