Feb. 7, 1967 R. V. JOHNSON 3,302,851

SHIPPING FOLDER FOR BOOKS AND SIMILAR OBJECTS

Filed March 15, 1965

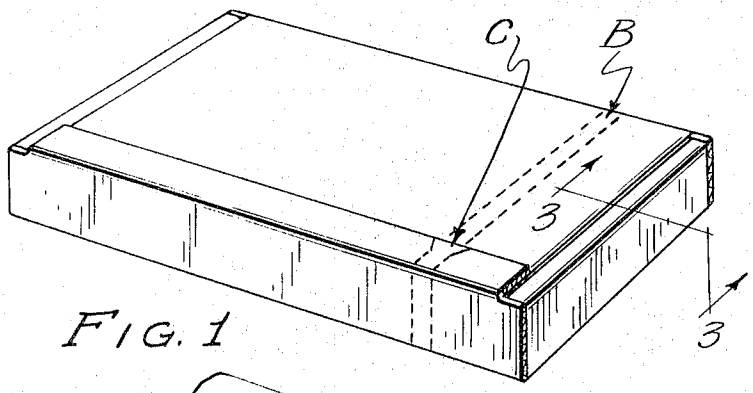


FIG. 1

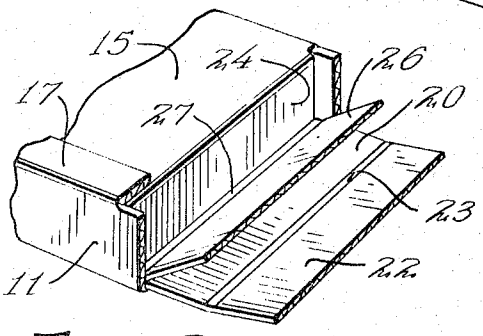


FIG. 2

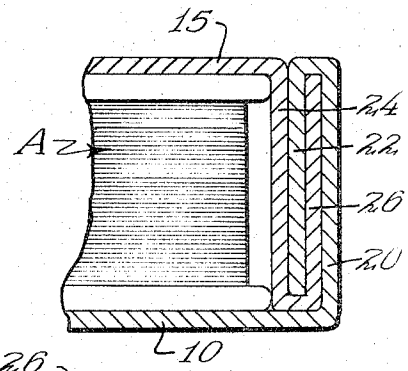


FIG. 3

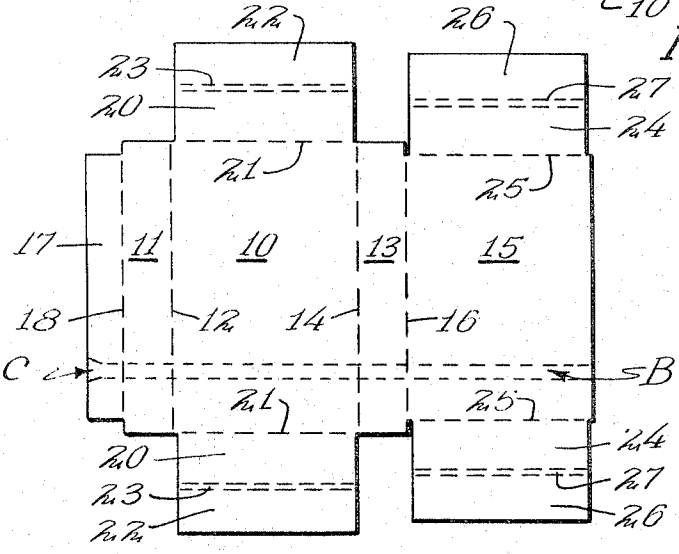


FIG. 4

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SHIPPING FOLDER FOR BOOKS AND SIMILAR OBJECTS

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This invention relates to an improvement in shipping containers for books and similar objects and particularly relates to shipping containers for books and similar objects which are adaptable for automated packaging.

Books and the like are oftentimes shipped in containers made of corrugated board which comprises an inner liner, an outer liner, and corrugated medium sandwiched therebetween. This construction provides a portion of the protection books need in shipment. Books are particularly susceptible to damage on the end edges. Added protection is therefore desirable to prevent damage to the corners of both book cover corners and book page corners. However, the added protection afforded by a container with cushioned or otherwise protected ends has heretofore considerably hindered the rate at which books or similar objects may be packed.

Many publishers and manufacturers of similar articles must package their product in such a way that maximum protection is afforded, yet minimum time is expended in packaging. Several publishers, must ship thousands of identically-shaped books each month. It is desirable that these publishers have available a shipping container which is strong, durable, and with adequate protection for the ends of books, yet adaptable for high production packaging.

It is therefore an object of my present invention to provide a shipping container which provides adequate protection for the ends of books and similar objects.

It is a further object of my present invention to provide a container adaptable for automated packaging of books and similar objects.

A feature of my invention resides in the provision of an easy opening device such as a pull-tab, U.S. Patent 2,706,076, or a strip-flap, U.S. Patent 3,141,598, both of which are assigned to Waldorf Paper Products Company.

These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a pair of the specification:

FIGURE 1 is a perspective view of the shipping container in closed position. An easy opening device B is shown.

FIGURE 2 is a perspective view of the end of the container of FIGURE 1 in partially-closed position.

FIGURE 3 is a cross sectional view through the center of an end portion of the container of FIGURE 1 on a plane parallel to the sides thereof or substantially on the line 3—3 of FIGURE 1.

FIGURE 4 is a diagrammatic view of the blank from which the container is formed.

The manner in which the shipping container is formed is best illustrated in FIGURE 4, the diagrammatic view of the blank from which the shipping container is formed.

The shipping container includes a bottom wall panel 10 having opposed parallel side edges and opposed parallel end edges. Side wall panel 11 is hingedly connected to a side edge of bottom wall panel 10 along fold line 12. Side wall panel 13 is hingedly connected to a side edge of bottom wall panel 10 along fold line 14 which is parallel to fold line 12. Top wall panel 15 having opposed parallel side edges and opposed parallel end edges is hingedly connected along a side edge to the side edge of side wall panel 13 along fold line 16 which is parallel to fold line 12. A glue flap 17 is hingedly connected to the side edge of side wall panel 11 along fold line 18 which is parallel to fold line 12.

An end closure assembly is attached to each end edge of bottom wall panel 10 and includes an end closure panel 20 hingedly connected to the end edge of bottom wall panel 10 along fold line 21 which is perpendicular to fold line 12. An end closure flap 22 is hingedly connected to the end edge of end closure panel 20 along closely spaced parallel flold lines 23 which are parallel to fold line 21.

An end cushion assembly is attached to each end edge of top wall panel 15. Each assembly includes an end cushion panel 24 hingedly connected to the end edge of top wall panel 15 along fold line 25 which is perpendicular to fold line 16. An end cushion flap 26 is hingedly attached to end cushion panel 24 along closely spaced parallel fold lines 27 which are parallel to fold line 25.

FIGURE 2, a perspective view of the container when it is partially closed, shows end cushion panel 24 folded downwardly from the top panel and in position to cushion the item contained in the container. In closing the container, end closure panel 20 will be folded in face contact with end cushion flap 26 and closure flap 22 will be folded over end cushion flap 26 along closely spaced parallel fold lines 23 and into face contact with end cushion flap 26 and end cushion panel 24. Top wall panel 15 is shown as shorter than bottom wall panel 10 so that when the end cushion assembly and the end closure assembly are folded in place, end closure panel 20 is flush with side wall panels 11 and 13.

As shown in FIGURE 3, a cross section of the container of FIGURE 1 taken along section line 3—3, the end cushion assembly and the end closure assembly are shown folded into position for shipment. A book A is shown as it is cushioned by end cushion panel 24. In this view, end closure flap 22 is folded into face contact with both end cushion panel 24 and end cushion flap 26, and, in the preferred embodiment, is adhered to end cushion panel 24.

FIGURE 1 shows the container in a perspective view; the container is completely sealed and ready for shipment. An easy opening device B is shown on the container, consisting of spaced side by side weakened lines in the inner liner, the weakened lines located transverse to the corrugations so that by grasping the end of the easy opening device C and pulling outwardly, the inner liner will rip through the corrugated medium and outer liner and form a continuous tear strip thereby opening the container.

In operation, the item to be shipped in the shipping container is placed on bottom wall panel 10. The dimensions of the panels, of course, correspond with the dimensions of the item to be shipped so that a snug fit is effected. For high production packaging, the shipping container blank, as shown in FIGURE 4, proceeds along the production line with the item to be packed placed on bottom wall panel 10. The next step is to fold the side wall panels 11 and 13 into face contact with the item to be packed. Top wall panel 15 is then folded into face contact with the item and glue flap 17 is adhered to the outside surface of top wall panel 15 thereby securing the four wall panels into tubular relation.

An alternate method is to supply the packager with a container which has the glue flap 17 preapplied to the top wall panel 15. This container may be shipped to the packager flat, and in operation, is opened into tubular arrangement for end loading of the item.

At this point, the end cushion panel 24 may be "tucked in" into face contact with the item being packed. The

next step is to fold end closure panel 20 into face contact with end cushion flap 26 and to fold end closure flap 22 over end cushion flap 26 and into face contact therewith. At this point, either the outside facing surface of end cushion panel 24 or the inside facing surface of end closure flap 22 may be coated with glue. End closure flap 22 is then secured in face contact with end cushion panel 24, thereby sealing the container for shipment.

Closely spaced parallel fold lines 23 and 27 are spaced substantially equal to the thickness of the heavy paper or corrugated board from which the shipping container is made. Top wall panel 15, in the preferred embodiment, is shorter than bottom wall panel 10 by approximately the thickness of three widths of the heavy paper or corrugated board so that when folded into position for shipment, the end closure assembly does not extend past the side wall panels of the shipping container thereby eliminating the possibility of "snagging" the end closure assembly and breaking the seal of the shipping container.

In accordance with the patent statutes, I have described the principles of construction and operation of my improvement in shipping containers for books and similar objects; while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A shipping container including:

a tubular body comprising a pair of generally rectangular top and bottom wall panels connected along opposite side edges by a pair of generally rectangular side wall panels, in which the top panel is substantially shorter than the bottom and side wall panels,

an end cushion assembly and end closure assembly connected to at least one end of said shipping container including:

an end cushion panel hingedly connected to the end edge of one of said top and bottom wall panels,

an end cushion flap hingedly connected to said end cushion panel,

an end closure panel hingedly connected to the end edge of the other of said top and bottom wall panels, and folded into face contact with said end cushion flap, and

an end closure flap hingedly connected to said end closure panel and folded over said end cushion flap into face contact therewith and into face contact with said end cushion panel, said cushion panel, end cushion flap, end closure panel and end closure flap being of a length substantially equal to the height of said side wall panels to form an end closure for said tubular body, and

means adhering said end closure flap in face contact to said end cushion panel thereby securing the shipping container for shipment.

2. A shipping container including:

a tubular body comprising a pair of generally rectangular top and bottom wall panels connected along opposite side edges by a pair of generally rectangular side wall panels, in which the top panel is substantially shorter than the bottom and side wall panels,

a glue flap hingedly connected to a side edge of said side wall panel,

means for securing said glue flap to said top wall panel in overlapping relation so that a tubular container is formed,

an end cushion assembly and end closure assembly connected to at least one end of said shipping container including:

an end cushion panel hingedly connected to the end edge of one of said top and bottom wall panels,

an end cushion flap hingedly connected to said end cushion panel along closely spaced parallel fold lines,

an end closure panel hingedly connected to the end edge of the other of said top and bottom wall panels and folded into face contact with said end cushion flap, and

an end closure flap hingedly connected to said end closure panel along closely spaced parallel fold lines and folded over said end cushion flap into face contact with said end cushion panel, said cushion panel, end cushion flap, end closure panel and end closure flap being of a length substantially equal to the height of said side wall panels to form an end closure for said tubular body, and

means adhering said end closure flap in face contact to said end cushion panel thereby securing the shipping container for shipment.

3. A shipping container including:

a tubular body comprising a pair of generally rectangular top and bottom wall panels connected along opposite side edges by a pair of generally rectangular side wall panels, in which the top panel is substantially shorter than the bottom and side wall panels,

an end cushion assembly and end closure assembly connected to at least one end of said shipping container including:

an end cushion panel hingedly connected to the end edge of one of said top and bottom wall panels,

an end cushion flap hingedly connected to said end cushion panel along a wide fold line,

an end closure panel hingedly connected to the end edge of the other of said top and bottom wall panels and folded into face contact with said end cushion flap, and

an end closure flap hingedly connected to said end closure panel along a wide fold line, and folded over said end cushion flap into face contact therewith and into face contact with said end cushion panel, said cushion panel, end cushion flap, end closure panel and end closure flap being of a length substantially equal to the height of said side wall panels to form an end closure for said tubular body, and

means adhering said end closure flap in face contact to said end cushion panel thereby securing the shipping container for shipment.

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