Aug. 31, 1965 J. C. WILSON 3,203,619

SELF-LOCKING CLOSURE

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FIG. 1

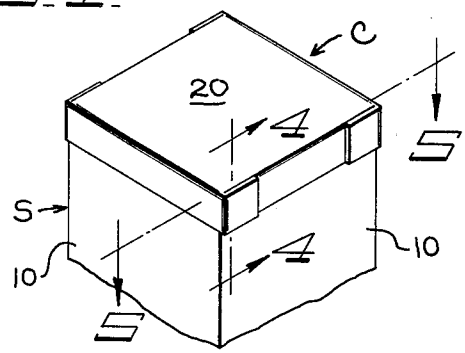
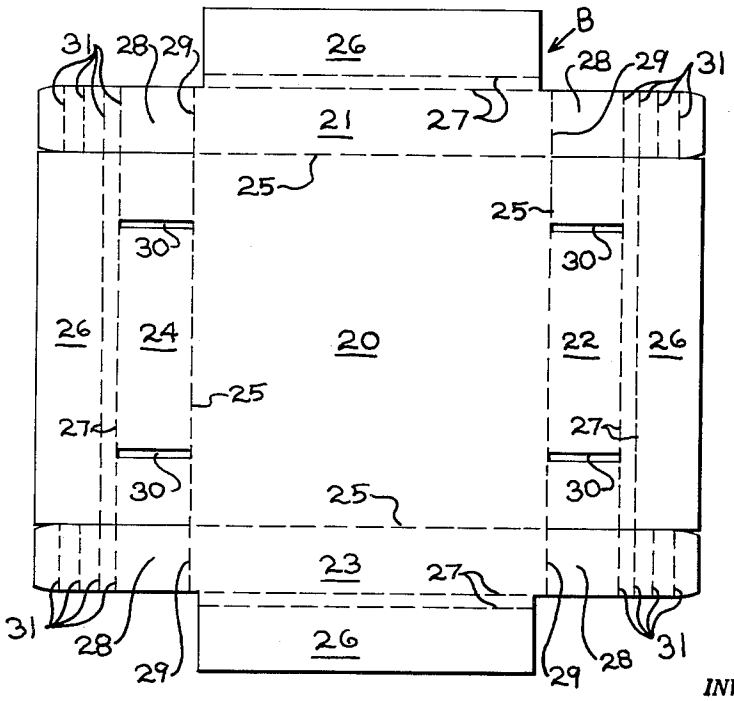


FIG. 2



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FIG. 3

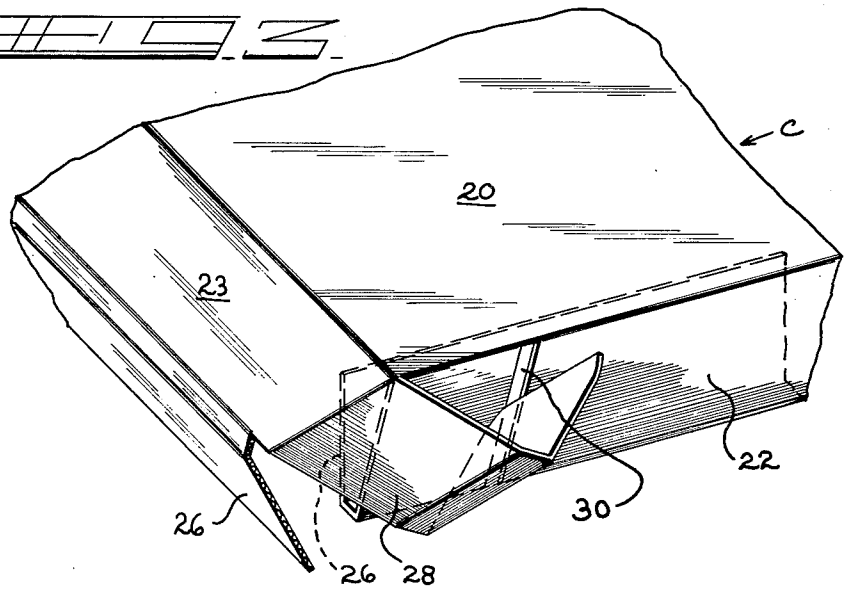


FIG. 4

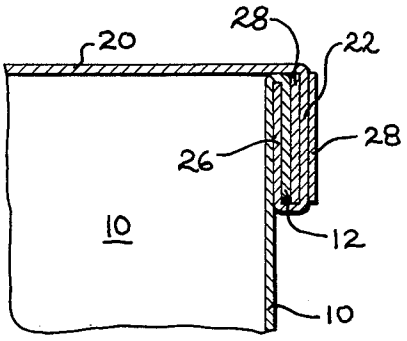
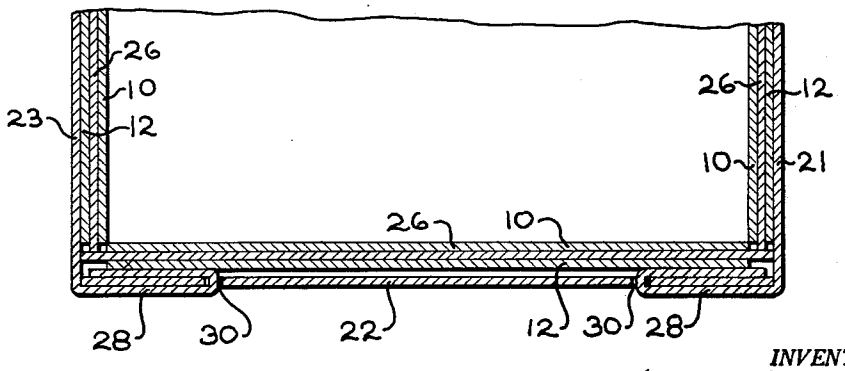


FIG. 5



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3,203,619

SELF-LOCKING CLOSURE

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Filed May 17, 1962, Ser. No. 195,495
1 Claim. (Cl. 229—43)

This invention relates generally to a self-locking closure, and more particularly to a self-locking closure for a paperboard shipping container.

A conventional type of combination closure and shipping container is that shown generally in U.S. Patent No. 2,453,829 to S. A. Blackman. In this type of combination, the body portion or container side walls comprise a series of side wall panels foldably connected together to define a tubular configuration. Body flaps are foldably attached to the end edges of the side wall panels. The closure comprises a central panel having flaps foldably attached to its marginal edges. The flaps of the panel are folded about the body flaps to removably interlock the closure and the container side walls. The closure flaps, and hence the closure, are maintained in place by a steel band or strap which encircles the flaps. This strap is usually applied by means of special apparatus designed for the purpose.

This invention is directed primarily to the provision of integral self-locking means for a closure of the type described above, to thereby eliminate the need for strapping or banding, and also to allow manual reclosing of the closure.

It is also an object of this invention to provide a simple, economical and secure self-locking closure for paperboard shipping containers.

Other objects and advantages of this invention will become apparent from the following description taken in conjunction with the accompanying drawings wherein are set forth, by way of illustration and example, the preferred embodiment of this invention.

On the drawings:

FIG. 1 is a perspective view of the closure of this invention assembled on a container;

FIG. 2 is a top plan view of the blank used to form the closure of this invention;

FIG. 3 is a perspective view of the closure of this invention partially assembled;

FIG. 4 is a sectional view taken along the line 4—4 of FIG. 1; and

FIG. 5 is a sectional view taken along the line 5—5 of FIG. 1.

The closure of this invention, along with the container on which it is assembled, are preferably formed of foldable sheet-like material, such as corrugated paperboard.

The shipping container S, partially shown on FIG. 1, comprises four side wall panels **10** foldably connected together into a closed tubular configuration. A body flap **12**, which extends the width of a side wall panel is foldably attached to the end edge of each of the side wall panels.

Referring to FIG. 2, the closure C is formed from a blank B of foldable sheet-like material which is slit and scored to provide a series of foldably connected panels. The blank B includes a central panel **20** which is adapted to span and close the end of the tubular configuration referred to above. First flaps **21, 22, 23** and **24** are secured along score lines **25** to the marginal edges of the central panel **20**. Second flaps **26** are secured to the side edges of the first flaps along score lines **27**. Locking tabs **28** are foldably attached to the end edges of an opposed pair of first flaps **21** and **23** along score lines **29**. Each of the remaining pair of opposed first flaps **22** and **24** is

provided with a pair of transverse slots **30** having a length slightly greater than the width of the tabs **28**.

In the assembly of the closure of this invention the body flaps **12** of the shipping container S are folded to lie alongside the panels **10**. The closure is placed on one end of the body portion of the container with the central panel **20** spanning the open end of the tubular configuration defined by the side wall panels **10**. The first flaps **21, 22, 23** and **24** are folded to lie alongside the body flaps, and the second flaps **26** are reversely folded to lie between the body flaps **12** and the side wall panels **10**. See FIG. 4. The locking tabs **28** are folded about the corners of the closure into parallel contact with the adjacent first flaps and reversely folded through the slots **30** to lie between the first flaps and the body flaps. See FIG. 5. To facilitate reversely folding the tabs **28**, a plurality of transverse scores **21** may be formed on the tabs.

It is to be understood that only the preferred embodiment of this invention has been illustrated and that various modifications, obvious to a person skilled in the art, can be resorted to. For example, the closure of this invention can be adapted to close the end of a container having a polygonal configuration defined by any number of side wall panels. It is not essential that the locking tabs be located on an opposed pair of side wall panels, but a locking tab can be located at each corner of the closure without respect to which flap it is attached. Likewise, only one locking tab need be provided for each adjacent pair of first flaps. It will also be apparent that various other details of construction may be modified through a wide range without departing from the principles of this invention, and it is not, therefore, the purpose to limit the patent granted thereon otherwise than necessitated by the scope of the appended claim.

I claim:

A shipping container comprising, in combination: a body portion having four side wall panels foldably connected together into a tubular configuration; a body flap foldably attached to each side wall panel at an edge thereof at a first end of said body portion, each of said flaps extending from the respective edge toward the second end of said body portion and lying alongside the respective side wall panel; a closure for closing the first end of said container, said closure comprising a rectangular central panel spanning the first end of the body portion; a first flap foldably attached to each marginal edge of said panel and folded to overlie one of said body flaps closely adjacent thereto; a second flap foldably attached to each of said first flaps and reversely folded to extend therefrom toward the first end of said body portion and being disposed between one of said wall panels and one of said body flaps thereby to interlock said closure and said body portion; a locking tab foldably attached to each end edge of an opposed pair of said first flaps, each of said tabs being folded about the corners of said closure and having a first portion disposed more proximately to the respective end edge and lying in parallel relationship to the adjacent first flaps, and having a second portion foldably attached to the first portion; a pair of spaced apart slots in each of the adjacent first flaps; each of the second portions of the locking tabs being inserted into one of said slots and being reversely folded to extend toward the respective end edge to which said tab is attached, said second portion of the tab lying intermediate one of said first flaps and one of said body flaps and being restrained from retraction through said slot by the closely adjacent disposition of said first flap with respect to said body flap, whereby the opposed pair of first flaps is interlocked with the adjacent first flaps and with the body flaps.

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