July 19, 1966 O. J. KISTNER 3,261,537

SELF LOCKING CONTAINER

Filed Nov. 18, 1963 3 Sheets-Sheet 1

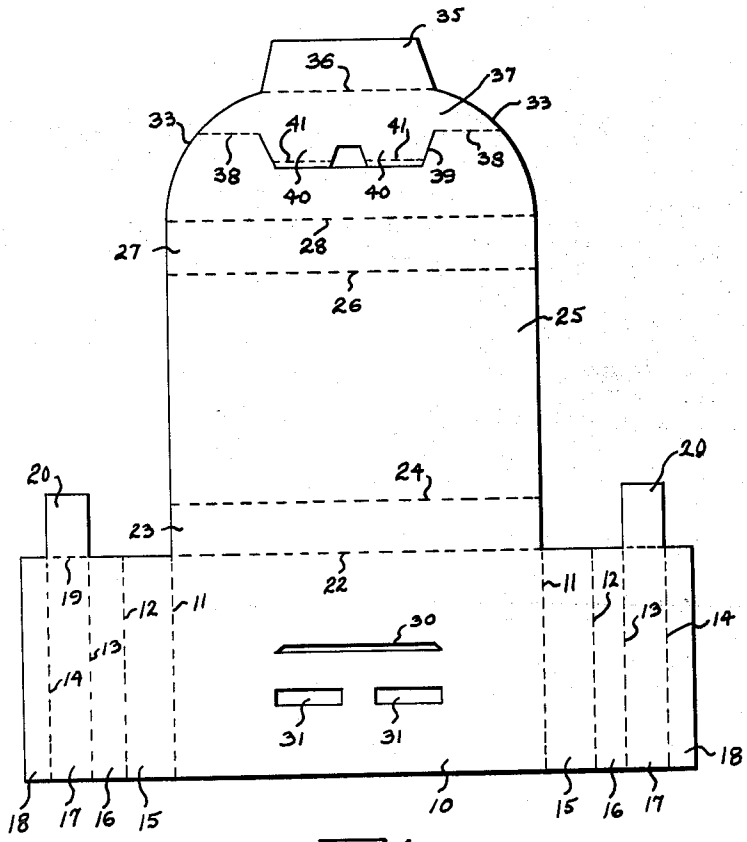


Fig. 1

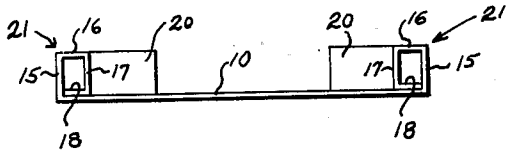


Fig. 2

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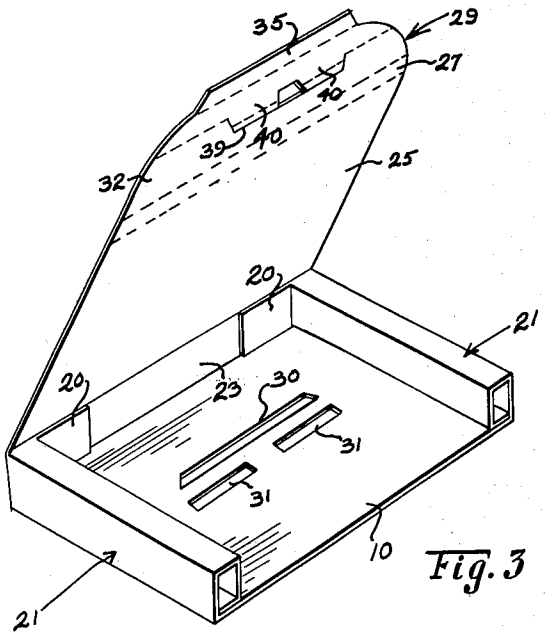


Fig. 3

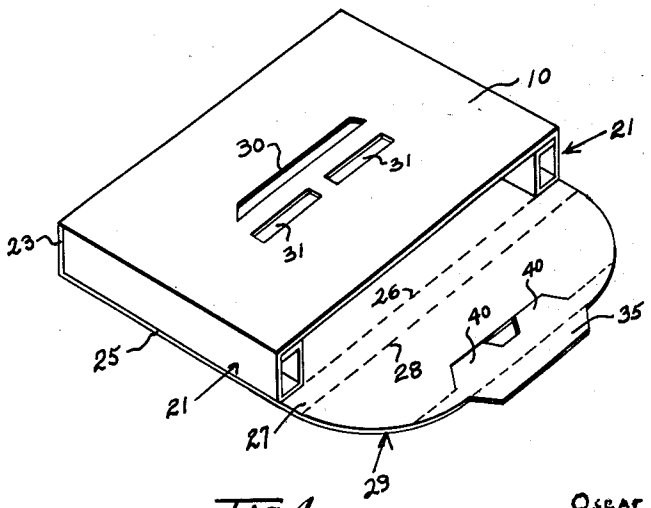


Fig. 4

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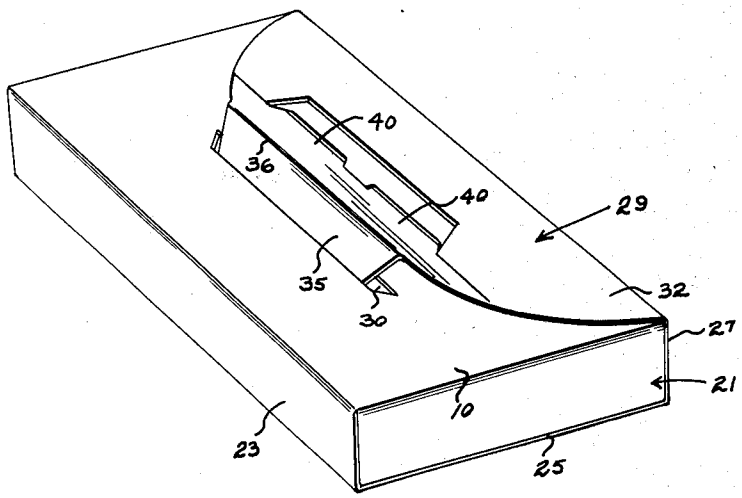


Fig. 5

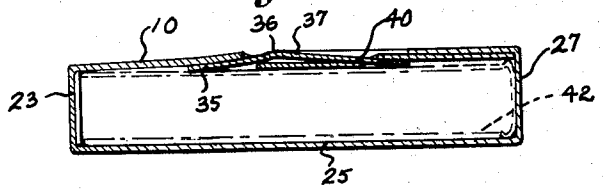


Fig. 6

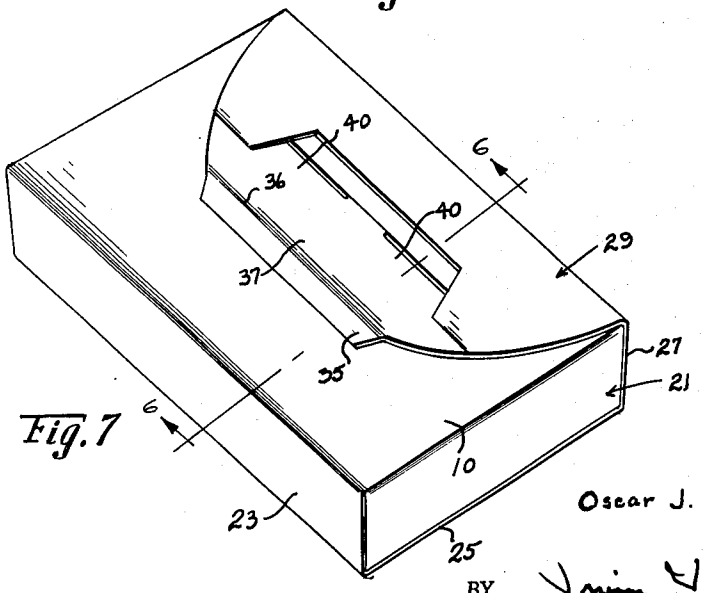


Fig. 7

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SELF LOCKING CONTAINER

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Filed Nov. 18, 1963, Ser. No. 324,329
4 Claims. (Cl. 229—40)

The present invention relates to a novel self-locking container.

Generally, there is provided a container particularly adapted for the shipment of individual books or like objects. The device is formed of a single blank and, when folded, is provided with a pair of integrally formed end buffer members each in turn provided with a stabilizing tab. The principal feature of the invention is a novel lock which consists of a forwardly extending flap engageable in a slot in the upper face of the container and a pair of rearwardly extending flaps engageable in a pair of slots likewise formed in the upper face of the container. This novel locking structure acts to prevent recollapsing of the container or accidental disengagement of the same.

It is accordingly an object of the invention to provide a novel self locking container which is simple in construction, inexpensive to manufacture and yet effective and efficient in use.

Another object of the invention is to provide, in a device of the character set forth, a novel locking structure including one forwardly and two rearwardly extending lock flaps, the flaps each being engageable in separate slots in the container structure.

Still another object of the invention is to provide, in a device of the character set forth, novel integrally formed end buffer members forming a part of the invention.

A still further object of the invention is to provide, in a device of the character set forth, novel stabilizing tabs forming a part of the invention.

Other and further objects of the invention will become apparent from a reading of the following specification taken in conjunction with the drawings, in which:

FIGURE 1 is a plan view of a blank utilized in forming the container of the present invention;

FIGURE 2 is an end elevational view of the device shown in FIGURE 1 illustrating the same in partially folded condition;

FIGURE 3 is a perspective view of the device shown in a still further state of its assembly;

FIGURE 4 is a perspective view illustrating a still further step in the assembly of the container;

FIGURE 5 is a perspective view showing the device partially closed;

FIGURE 6 is a sectional view taken along line 6—6 of FIGURE 7; and,

FIGURE 7 is a perspective view showing the device in fully closed condition.

Referring to the drawings, there is shown therein a top panel **10** to each side of which is connected along fold lines **11**, **12**, **13** and **14**, successive panels **15**, **16**, **17** and **18**. To the inner edge of each of the panels **17** there is connected along a fold line **19** a stabilizing tab **20**.

Panels **15**, **16**, **17** and **18** are adapted to be folded inwardly each at right angles to the next so that panel **18** will come to rest upon the adjacent surface of panel **10**, as illustrated in FIGURE 2, thus forming buffer members generally designated at **21**. When buffer members **21** are so asembled, it will be seen that stabilizing tabs **20** will extend inwardly from each end of panel **10** and at right angles thereto.

To the inner edge of panel **10** there is connected

along a fold line **22** a side panel **23** which is, in turn, connected by a fold line **24** with a bottom panel **25** which is, in turn, connected by a fold line **26** to a side panel **27** which, in turn, is connected along a fold line **28** to a locking structure generally designated at **29**.

Panel **10**, it will be seen, is rectangular in shape and is provided substantially centrally with a longitudinally extending slot **30** and, in spaced parallel relation thereto, a pair of linearly aligned slots **31**.

Referring to locking structure **29**, it will be seen that there is provided a body **32** having outwardly directed inwardly converging sides **33** terminating in a forwardly directed lock tab **35** connected along a fold line **36** to a flap body **37**. Body **37** is connected by a pair of fold lines **38** to the main body **32** and fold lines **38** are interconnected by a substantially U-shaped slit **39** into which extends a pair of rearwardly extending lock tabs **40** which are integrally formed with body **37**. Each of the tabs **40** is provided with a fold line **41** adjacent its free edge.

In operation, buffer members **21** are first assembled as above described whereupon a book or other object to be packed in said container is placed upon panel **10** between buffer members **21** and against the stabilizing tabs **20** as indicated in dotted lines at **42** in FIGURE 6. End panel **23** is then bent vertically behind stabilizing tabs **20** and bottom panel **25** is then bent over buffer members **21** whereupon the entire assembly is turned upside down as shown in FIGURE 4 and end panel **27** then bent vertically and lock structure **29** bent inwardly and lock tab **35** inserted into slot **30** while at the same time the lock tabs **40** are inserted into slots **31**. It will be seen that lock tabs **35** and **40** will first impinge against the book or other object **42** and thus be guided to a susbtantially flat position beneath cover **20**, all as indicated in FIGURES 5 and 7. Fold lines **41**, see FIGURE 1, act to assist in guiding the end portions of lock tabs **40** into slots **31** during this operation. It will also be apparent that in the assembled device, the end buffer members **21** are maintained in position by the stabilizing tabs **20** since the book or other object **42** will bear against tabs **20** and like the tabs **20**, being of the same width as the width of adjacent panel **23** are prevented from turning and hence will act to maintain buffer members **21** in position at all times.

While but one form of the invention has been shown and described herein, it will be readily apparent to those skilled in the art that many minor modifications may be made without departing from the spirit of the invention or the scope of the appended claims.

What is claimed is:

1. A device of the character described comprising a top panel, a first side panel, a bottom panel, and a second side panel successively interconnected by fold lines to one edge of said top panel, buffer members formed integrally with each side of said top panel, a locking structure interconnected by a fold line to said second side panel, said locking structure including a body portion connected to a flap body by a pair of spaced fold lines interconnected by a substantially U-shaped slit in said body portion for receiving a pair of spaced apart rearwardly extending lock tabs integrally formed with said flap body and symmetrically disposed relative to the central axis of a forwardly extending lock tab connected by a fold line to said flap body, and means for readily detachably securing said lock tabs to said top panel including slots formed therein and registering with each of said lock tabs.

2. A device of the character described comprising a top panel, a first side panel, a bottom panel, and a second side panel successively interconnected by fold lines to one edge of said top panel, buffer members formed

integrally with each side of said top panel, a stabilizing flap formed integrally with each of said buffer members and extending inwardly adjacent the inner face of said first side panel, a locking structure interconnected by a fold line to said second side panel, and means for engaging said locking structure with said top panel, said locking structure including a body portion connected to a flap body by a pair of spaced fold lines interconnected by a substantially U-shaped slit in said body portion for receiving a pair of spaced apart rearwardly extending lock tabs integrally formed with said flap body and symmetrically disposed relative to the central axis of a forwardly extending lock tab connected by a fold line to said flap body, and means for readily detachably securing said lock tabs to said top panel including slots formed therein and registering with each of said lock tabs.

3. A device as defined in claim 2 wherein a fold tab is connected to each of said rearwardly directed tabs by a score line adjacent the free edge thereof.

4. The device of claim 1, wherein the slots in said top panel for securing said rearwardly extending lock tabs are spaced apart to provide a support for said body.

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