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FLAP HOLDING MEANS FOR CARTONS

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Fig. 1.

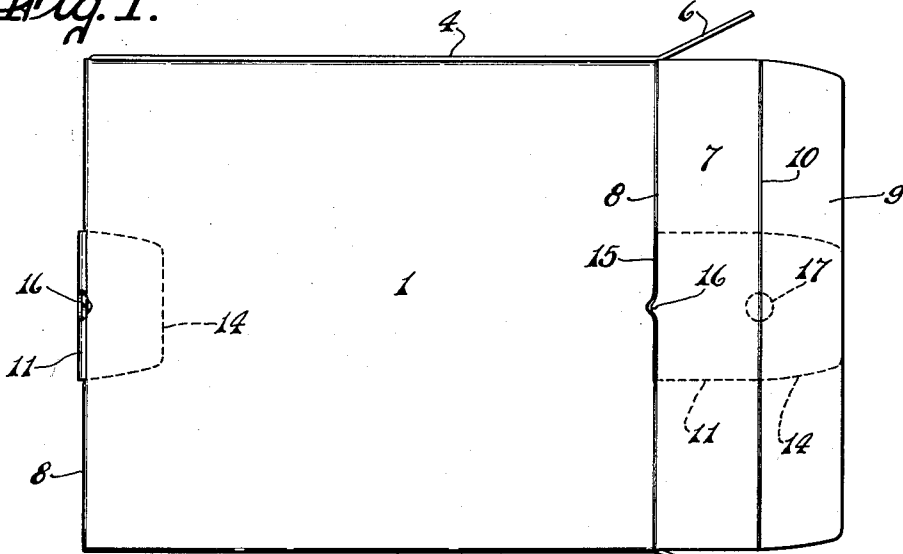


Fig. 2.

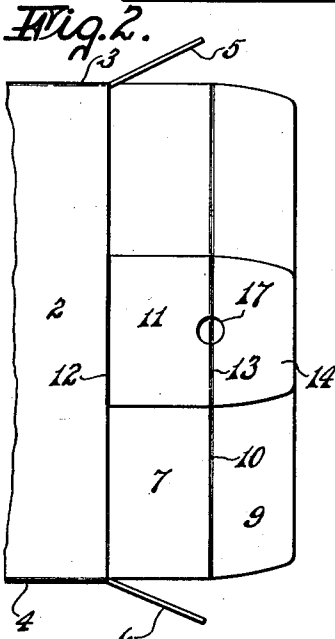


Fig. 3.

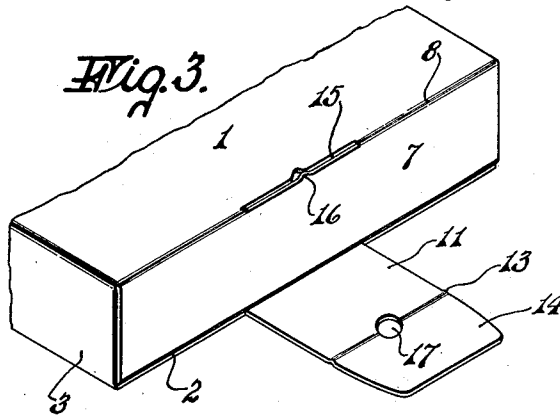


Fig. 5.

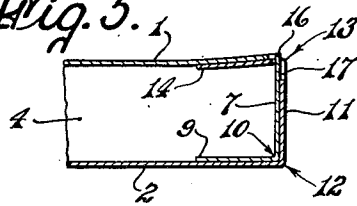
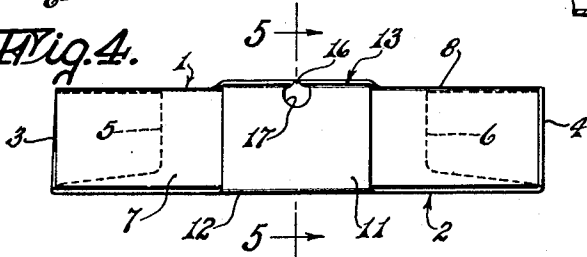


Fig. 4.



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FLAP HOLDING MEANS FOR CARTONS

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1 Claim. (Cl. 229—45)

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This invention relates to an improved means for holding in closed position a flap used in connection with the end closure of a carton or cardboard receptacle.

The invention, while capable of general application, finds one advantageous use in connection with the so-called locking flap of the end closure of a cardboard receptacle or carton, such as is used for shipping various articles. Such a carton usually consists of a tubular body of rectangular cross section, having closures one at each of two opposite ends thereof and each consisting of two opposed end flaps folded inwardly toward one another, a side flap folded over the end flaps and having a tongue tucked into the carton, and a locking flap, hinged to a side of the carton opposite to that to which the side flap is hinged and folded over the central portion of the side flap—the locking flap having a tongue to enter a slot provided in the hinge line of the side flap.

In practice, it has been found that the locking flaps of these cartons often become accidentally pulled out by catching on parts of other packages during handling in the mails. This type of locking flap has generally been held in place solely by frictional engagement of its tongue with the walls of the tongue-receiving slot and with a portion of the side wall of the carton and the article contained therein. Consequently, a locking flap of this type is dislodged relatively easily.

This invention has for its object the provision in an end closure of the class described of a hole in the locking flap, located in and intermediate the ends of the hinge line of its tongue, and a slot in the hinge line of the side flap so cut as to form a small projection, which will enter the hole, when the tongue of the locking flap is thrust through the slot, and hold the locking flap against accidental dislodgement.

The invention will more particularly appear from the description of one illustrative embodiment of it in the accompanying drawings, in which,

Fig. 1 is a top plan view of a carton, embodying the invention, shown with one end closed and the other end open;

Fig. 2 is a fragmentary bottom plan view of the carton showing its open end;

Fig. 3 is a fragmentary perspective view of one end of the carton, shown with the end flaps and side flap in closed position but before the locking flap has been moved to locking position;

Fig. 4 is an end elevational view of the closed carton; and

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Fig. 5 is a fragmentary sectional elevational view taken on the line 5—5 of Fig. 4.

Referring to these drawings; the carton includes top and bottom walls 1 and 2, respectively, and side walls 3 and 4, suitably connected together to form a tubular body of rectangular cross section open at opposite ends. For closing each end of the carton, end flaps 5 and 6 are provided, respectively hinged at one end to the ends of side walls 3 and 4 and adapted to be folded inwardly toward one another and at right angle to such walls. To complete each end closure a side flap 7 is hinged at one end along a fold line 8 to an end of top wall 1. At its other end the flap has a tongue 9 hingedly connected to it along the fold line 10. The side flap 7 is adapted to be folded over the end flaps 5 and 6 and at right angles to walls 1 and 2 and its tongue 9 is adapted to be inserted into the carton to lie contiguous with the inner face of the bottom wall 2. Each end closure also includes a so-called locking flap 11, hinged at one end along the fold line 12 to one end of bottom wall 2 and having connected to its other end along the fold line 13 a tongue 14. The locking flap is of less width than the side flap 7 and is adapted to be folded over upon it in parallel and contiguous relation. The tongue 14 is adapted to be inserted into the carton through a slot 15 formed in the fold line 8.

This invention provides in a carton, such as described, a means, in addition to the frictional engagement above described, for holding the locking flap, such as 11, and its tongue 14 against accidental dislodgement. The slot 15, instead of being straight from end to end as has been usual heretofore, is formed at at least one point intermediate its ends with an inward deflection or offset, whereby there is formed on the side flap 7 a small projection 16 which extends slightly beyond its hinge line 8. When flap 7 is folded along the hinge line 8 into closed position, the projection 16 will upstand as shown in Figs. 3 and 4 above such hinge line. The locking flap is provided with a hole 17, extending through it at a point in the hinge line 13 intermediate the ends thereof. When the flap 11 is folded over against the side flap 7 and the tongue 14 is thrust through slot 15 as far as possible into the carton, the projection 16 will snap into hole 17 and, by engaging a part of the wall of the hole, prevent the locking flap and its tongue from being easily dislodged. It will be clear from Fig. 4, that the projection 16 is very small and does not project above the top wall of the carton so that it can be engaged and damaged. As a matter of fact,

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the size of the projection has been somewhat exaggerated in order to clearly show it. The projection actually does not need to project through the hole 17 or beyond it but merely into it enough to hold the flap 11 against accidental pulling out.

It will be recognized by those skilled in the art that the size and shape of the projection 16 and the size and shape of hole 17 may be varied within substantial limits without departing from the principle of the invention. Also there may be more than one of these locking projections on each side flap and more than one hole in each locking flap, if necessary due to the size of the carton and the weight of its contents to provide additional resistance to pulling out of the locking flap.

I claim:

The combination in a carton, of a flap for closing one end thereof and foldably connected along a line of fold to one wall of the carton, said flap having foldably connected to its other end a tongue for insertion into the carton to lie against

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the inner face of the opposite wall, said flap provided with a slot extending part way along said line of fold and having intermediate its ends an offset forming a projection which upstands from said flap above said line of fold when the flap is in closed position, and a locking flap foldably connected at one end along a line of fold to an opposite wall of the carton and having foldably connected to its other end along a line of fold a tongue, the locking flap adapted to be folded over upon the first flap and its tongue being adapted for insertion through said slot into the carton, said locking flap having a hole there-through which is located in and intermediate the ends of the third-named line of fold and which is adapted to receive said projection, the latter engaging a part of the wall of said hole and holding the tongue of said locking flap against easy dislodgement.

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No references cited.