June 22, 1943. S. PRICE 2,322,389

CARTON

Filed Jan. 11, 1940

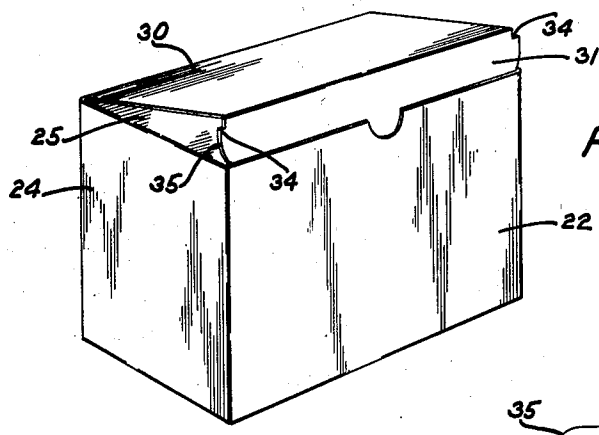


FIG. 1

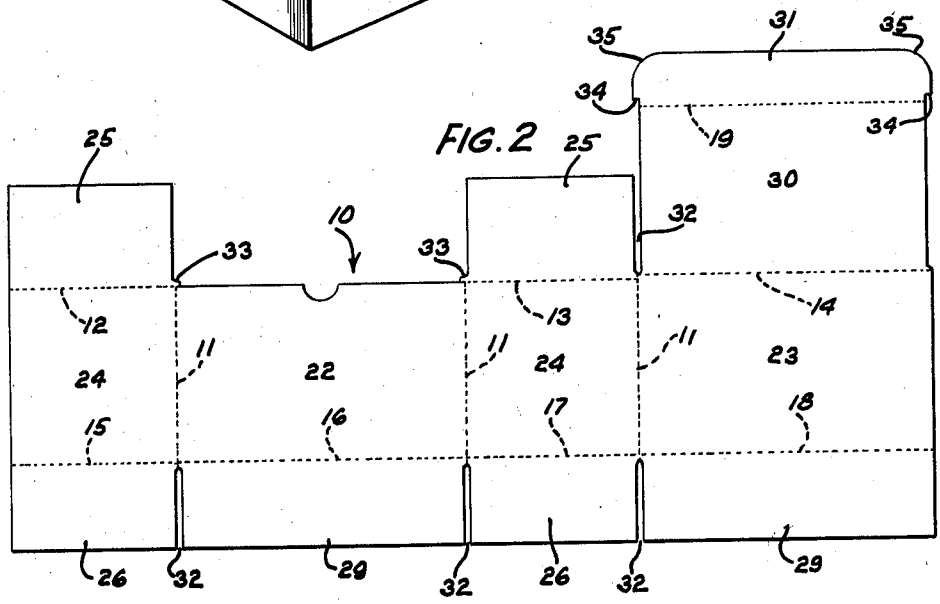


FIG. 2

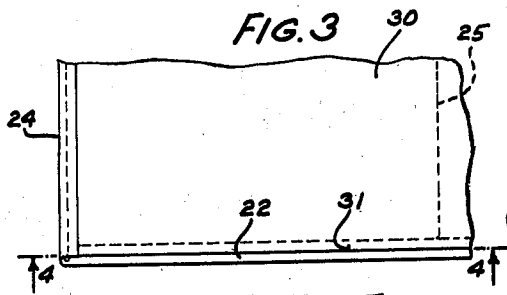


FIG. 3

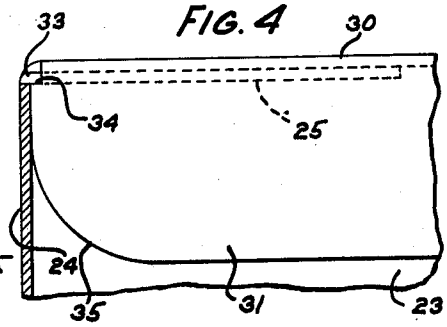


FIG. 4

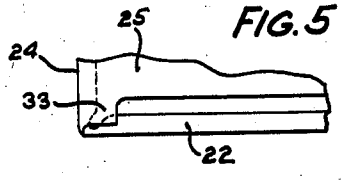


FIG. 5

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2,322,389

CARTON

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3 Claims. (Cl. 229—39)

This invention relates to cartons or containers for articles, and particularly to means for locking the cover thereof in closed position.

In the packaging and handling of articles, for instance telephone sets, the usual type of container or carton made from corrugated fibre board, card board or like materials, is used. The carton, after being packed and the cover closed is deposited on a conveyor line and carried to a sealing and shipping platform. The cover, which is merely held by friction in its closed position, frequently springs open due to the container being jarred during its passage and handling on the conveyor line. At times, this results in the telephone set being disarranged in the container or dumped therefrom with probable damage to the set.

An object of this invention is to overcome these objectionable features in the packaging and handling of articles by providing in a container or carton simple and practical means on the receptacle and cover thereof which automatically interengage and lock the cover to the receptacle during the movement of the cover to its closed position.

In attaining this object, in one embodiment of the invention, the usual type of one-piece card board container is provided having opposed sets of side walls, foldable closing flaps on one set of the side walls, a cover extending from one wall of the other set of side walls to the opposite side wall thereof folded over the closing flaps and a folded tuck flap on the cover for entrance into the container between edges of the closing flaps and an inner surface of the latter side wall. Extending outwardly from each opposed edge of the tuck flap and from each of the adjacent edges of the closing flaps, adjacent the fold line thereof, are short shouldered portions or locking lugs which automatically interlock during the moving of the cover to its closed position, thus preventing the cover from accidentally springing open.

Other objects and advantages of the invention will be understood by referring to the following specification and accompanying drawing, in which

Fig. 1 is a perspective view of a container or carton embodying the invention shown with the cover and tuck flap thereof partly closed;

Fig. 2 is a plan view on a reduced scale of a blank ready to be folded to produce the container illustrated in Fig. 1;

Fig. 3 is an enlarged plan view of the left hand forward corner of the container as viewed in Fig. 1 shown with the cover in a locked position;

Fig. 4 is a vertical sectional view taken on the line 4—4 of Fig. 3, and

Fig. 5 is a greatly enlarged fragmentary view view of Fig. 3 with the cover omitted and showing the relation of the top closing flap carrying the locking lug with the adjacent side wall.

In the drawing, a simple form of one-piece container of folded cardboard embodying the novel means of this invention for locking the cover in position from accidentally springing open is shown by way of illustration. Referring now to Fig. 2, there is shown a blank 10 which may be sheared or punched from card board or other suitable material, the blank being formed with a plurality of transverse creasing or folding lines 11 and a plurality of longitudinal creasing or folding lines 12, 13, 14, 15, 16, 17, 18 and 19, indicated by broken lines, upon which the blank is folded to produce the container shown in Fig. 1. The container illustrated is of rectangular shape and, therefore, the blank 10 comprises a pair of side wall portions 22 and 23 and a pair of end wall portions 24. Extending from the end walls 24 are top and bottom sets of closing flaps 25 and 26, respectively. From the side walls 22 and 23 extend half bottom wall portions 29 and from the side wall 23 extends a cover 30 provided with a tuck flap 31. Suitable clearance slots 32 are provided throughout the blank 10 to permit freely folding the top and bottom closing flaps 25 and 26, bottom walls 29 and the cover 30 into assembled relation.

As viewed in Fig. 2 the inner opposed edges of the top closing flaps 25 and the upper edge of the side wall 22 at their junction points are provided with outwardly extending short shouldered portions or locking lugs 33. Also formed upon the opposite edges of the tuck flap 31 adjacent the fold line 19 thereof are outwardly extending short shouldered portions or locking lugs 34, the outer vertical edges of which extend in the form of rounded corners 35 into the upper edge of the tuck flap.

The container is formed by folding the blank 10 in a forward direction, as viewed in Fig. 2, first along the vertical fold lines 11 to bring the free outer sheared edges of the end wall 24 and the side wall 23 together at right angles whereupon they may be secured by gluing a strip of fabric or paper (not shown) to the adjacent surfaces.

Thereafter the bottom closing flaps 26 are folded inwardly along the fold lines 15 and 17 and then the half bottom walls 29 are folded inwardly along the fold lines 16 and 18. The bot-

tom walls 29 may be secured together in a manner similar to that of the side and end walls 23 and 24, previously described.

Upon the container being packed, it is closed by first folding inwardly along the fold lines 12 and 13 the top closing flaps 25 (Fig. 5). In folding inwardly the top closing flaps 25 the outwardly extending locking lugs 33 move therewith and assume the position shown in Fig. 5 arranged substantially parallel to the side wall 22 with their outer edge portions extending over and abutting the upper edge of the side wall 22.

Thereafter the cover 30, having the tuck flap 31 previously folded along the fold line 19 so that it will enter into the container between the parallel edges of the top closing flaps 25 and the inner surface of the side wall 22 (Figs. 1 and 3) is folded along the fold line 14 and over the top closing flaps. As shown in Fig. 1 the cover 30 is partly closed, the tuck flap 31 being entered between the inner surface of the side wall 22 and the aligned edges of the top closing flaps 25. Upon merely pressing the cover 30 completely into closed position, as shown in Figs. 3 and 4, the outwardly extending locking lugs 34 upon the tuck flap 31, guided by the rounded corners 35 of the tuck flap, move below the locking lugs 33 and then spring under the same, as clearly shown in Fig. 4, into interlocked relation. The locking lugs 33 are drawn inwardly from the position shown in Fig. 5 and pressed into position within the inner surface of the side wall 22 (Fig. 3) thus producing a tight fit at the corner. Thus the tuck flap 31 carried by the cover 30 is sufficiently locked to the closing flaps 25 to prevent the cover from accidentally springing open during handling of the container and before it is sealed for shipment. This locking action is effected by simply moving the cover into closed position over the closing flaps, no other manipulation of the various elements forming the container being necessary.

In certain types of containers, a single locking lug 33 on one of the closing flaps 25 and a single locking lug 34 coacting therewith on one end of the tuck flap 31 will be found sufficient to retain the cover 30 in closed position.

From the foregoing description it will be apparent that simple and economical means is provided on a container for retaining the container cover and its tuck flap in interlocked closed relation with the container closing flaps by simply pressing the cover into closed position.

While the features of this invention have been disclosed in a specific carton or container structure, it is, of course, understood that it may be applied to other types of containers and that modifications may be made without departing from the scope of the invention as defined in the appended claims.

What is claimed is:

1. In a container, a foldable closing flap having a lug-like projection extending from the juncture of an edge and the fold line of the flap, and a cover having a foldable tuck flap, said tuck flap having a lug-like projection extending from the end of the tuck flap adjacent said first-named lug-like projection, said lug-like projection on said tuck flap having an edge extending perpendicular from an edge of and spaced from the fold line of the tuck flap for interlocking engagement under said lug-like projection on said closing flap in the closing of the container, an edge of said tuck flap presenting a camming surface from the outer edge of said lug-like projection to the free longitudinal edge of said tuck flap.

2. In a container having opposed sets of side walls and opposed foldable closing flaps connected to one set of said side walls, said closing flaps each having a lug-like projection extending from the junctures of opposite edges and the fold line of the flap, and a cover having a foldable tuck flap extending from one wall of said other set of side walls to the opposite side wall thereof and foldable over said closing flaps, said tuck flap having lug-like projections having edges extending perpendicular from opposite edges of and spaced from the fold line of the tuck flap for interlocking engagement under said lug-like projections on said closing flaps in the closing of the container, an edge of said tuck flap presenting a camming surface between the outer edge of the lug-like projection and the free longitudinal edge of the tuck flap.

3. A container comprising side walls, closing flaps attached to two opposing walls, said closing flaps being at least as wide as the walls to which they are attached at the base of the flaps, the remainder of the flaps being narrower than the side walls to form locking lugs at said base, a cover attached to an intermediate wall and being narrower than said wall, and a tuck flap attached to said cover along a fold line and being of the same width as said cover at the point of attachment and for a distance outwardly equal to at least the thickness of said walls, the tuck flap being abruptly extended beyond this narrow portion to form a lug to interlock with the locking lugs on said closing flaps when the container is closed, an edge of said tuck flap presenting a camming surface from the outer edge of said lug-like projection toward the free longitudinal edge of said tuck flap.

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