

June 16, 1936.

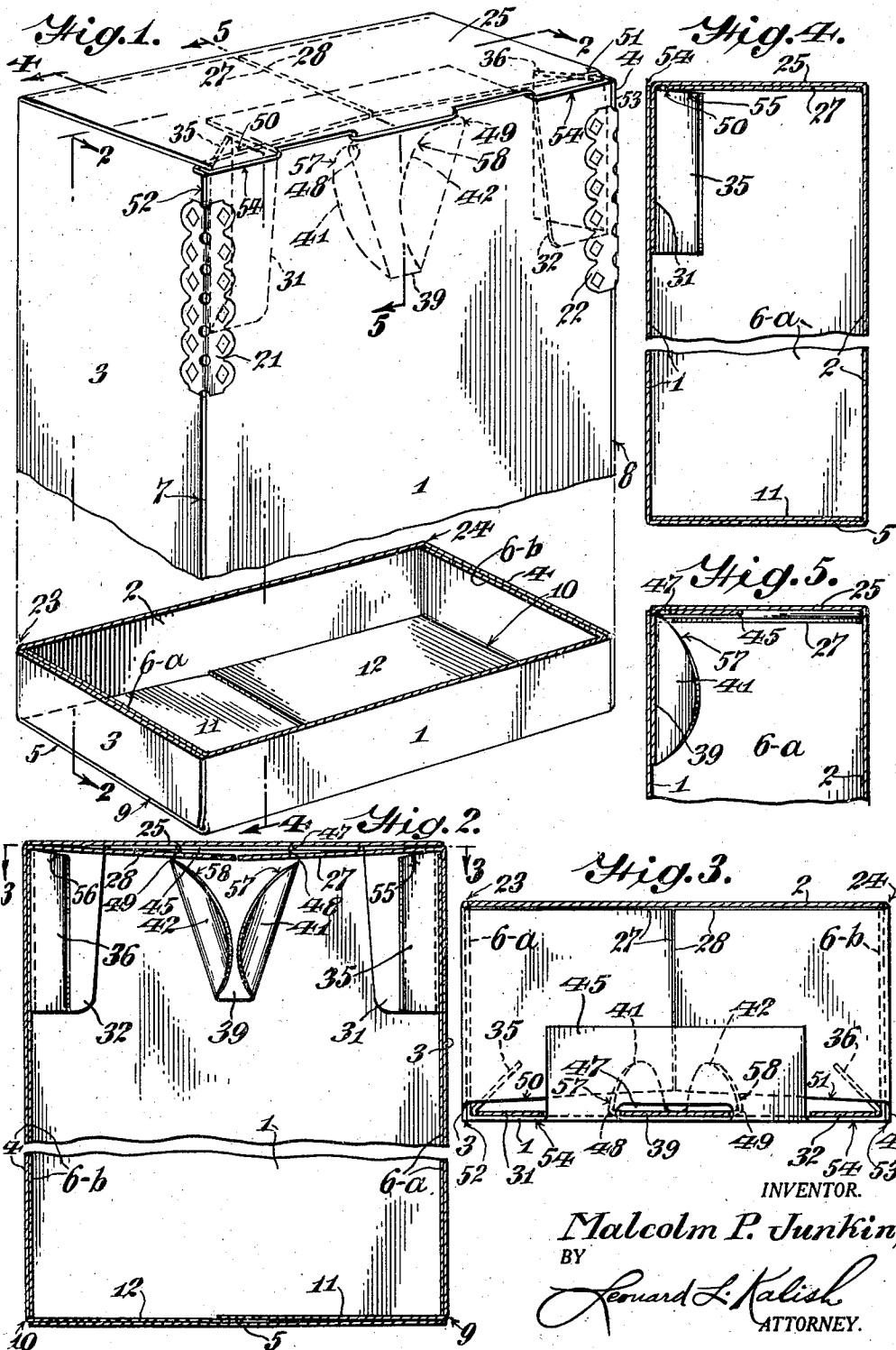
M. P. JUNKIN

2,044,701

CONTAINER

Filed Sept. 13, 1934

2 Sheets-Sheet 1



June 16, 1936.

M. P. JUNKIN

2,044,701

CONTAINER

Filed Sept. 13, 1934

2 Sheets-Sheet 2

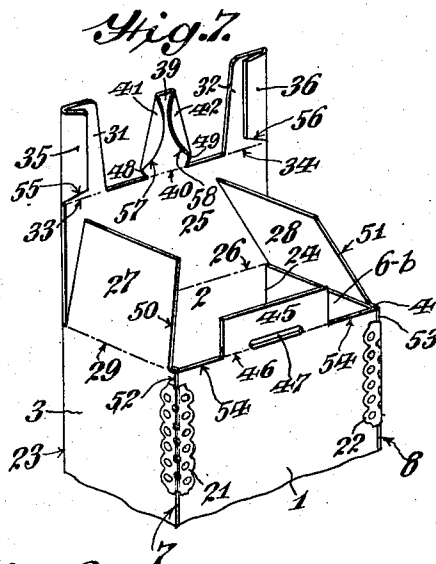
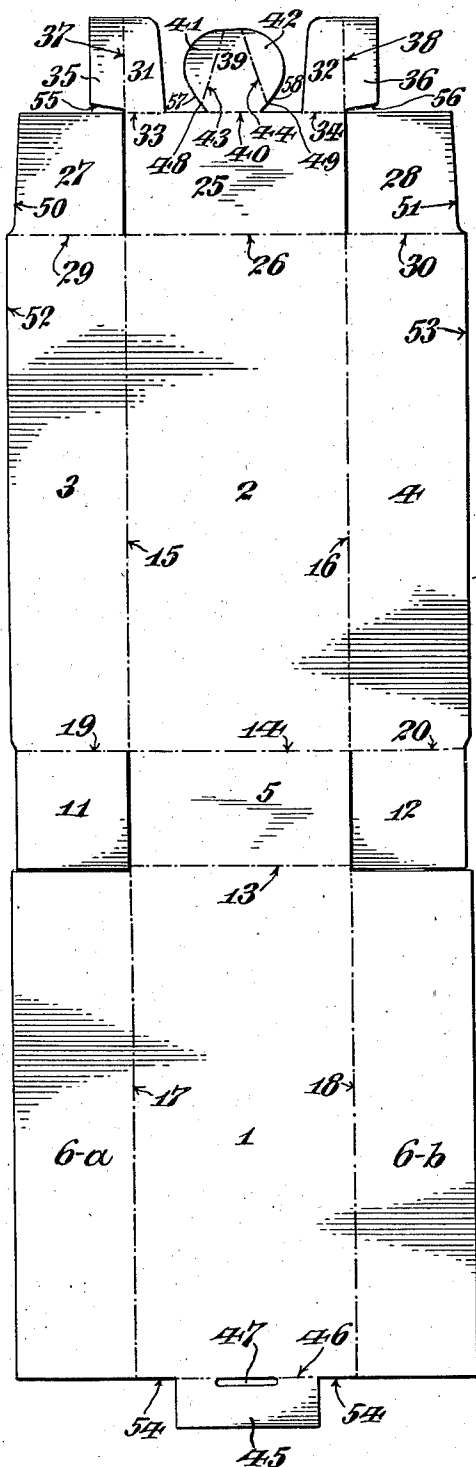
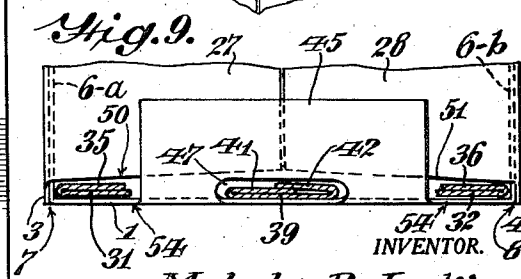
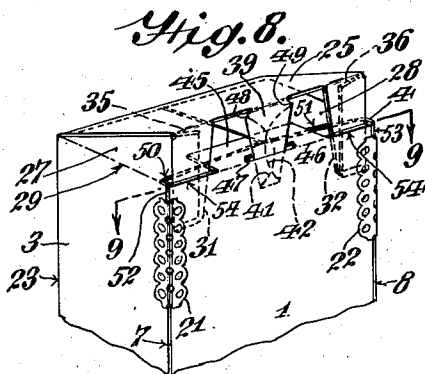


Fig. 6.



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UNITED STATES PATENT OFFICE

2,044,701

CONTAINER

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4 Claims. (Cl. 229—16)

My invention relates to certain new and useful self-locking cardboard containers or cartons, and it relates more particularly to what may be called a self-locking or tamper-proof carton.

5 The object of my present invention is to provide a carton of cardboard or the like, of simple construction which, when once closed, cannot be opened without destroying the carton or without at least so damaging or breaking or tearing a portion of the carton as to make tampering with the contents impossible without detection.

10 A further object of my present invention is to provide a tamper-proof container or carton which may be closed and "locked" in a simple manner without any additional operation or without the necessity of applying to the carton any additional sealing means. Thus, it is an object of my invention to lock the container, or, in effect, to seal the container against tampering by merely closing the lid of the container.

20 With the above and other objects in view which will appear more fully from the following detailed description and accompanying drawings, my invention consists of a carton or container of cardboard or some other similar sheet material, having a lid cover or closure member at one end and being otherwise completely closed, with the end of the container directly opposite to the closure member thereof being formed in direct continuation of two opposite sides of the container, and with the four sides of the container being either formed in continuation of each other or being permanently fastened to each other, and locking tongues carried by the lid or closure member, having expanding wings or projections and flaps associated with the body of the carton at its open end, adapted to receive said tongues, with the expanding wings or tabs thereof engaging beneath said flaps when the lid is in the fully closed position, thereby to lock the lid or closure to the body from within, and without ready access from without.

My invention further consists of other novel features and details of construction, all of which will appear more fully from the following detailed description and drawings.

For the purpose of illustrating my invention, I have shown in the accompanying drawings one form thereof which is at present preferred by me, since the same has been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise ar-

5 rangement and organization of the instrumentalities as herein shown and described.

Referring to the drawings, in which like reference characters indicate like parts,

Figure 1 represents a perspective view of a carton embodying my invention, shown in the closed or locked condition, with the intermediate portion thereof broken away so as to expose to view the interior of the bottom of the container.

Figure 2 represents a section generally on line 2—2 of Figure 1;

Figure 3 represents a section generally on line 3—3 of Figure 2;

Figure 4 represents a section generally on line 4—4 of Figure 1;

Figure 5 represents a fragmentary sectional view, on line 5—5 of Figure 1;

Figure 6 represents a plan view (on a reduced scale), of the carton blank before it is assembled into the completed carton;—this blank being formed of cardboard or similar material;

Figure 7 represents a perspective view of the top of the carton, shown in the open condition;

Figure 8 represents a similar perspective view of the upper end of the carton, with the locking tongues partly projected into the receiving recesses and with the lid partly closed; and

Figure 9 represents a section on line 9—9 of Figure 8, on an enlarged scale.

The carton of my present invention is preferably formed of a single sheet of material, as indicated particularly in Figure 6, and naturally can be made of any suitable proportions and of any desired size.

In the particular illustrations shown, the carton is one designed specially for holding the conventional flat type of one-pint whiskey bottle.

In this particular type of carton the wider upright walls or panels 1 and 2 may be designated as "front" and "back", respectively, of the carton, while the narrow upright walls 3 and 4 may be designated as the "sides" of the carton, although this is merely arbitrary nomenclature, and is not significant, but serves merely to facilitate the description or explanation of the present invention.

As hereinabove stated, the bottom 5 is preferably formed in direct continuation of two opposite vertical panels or walls of the container, as, for instance, the two opposite front and rear walls 1 and 2, respectively. The side panels 3 and 4 are formed in continuation of the rear panel 2 on either side thereof, while on either side of the front panel 1 similar auxiliary side panels 6—8

and 6-b are provided, for folding into the interior of the carton, thereby to form a fully closed corner along two of the corners 7 and 8, without the necessity of sealing said corners their full length by auxiliary fastening means or corner strips, and also for the purpose of adding rigidity to the container as a whole and for reinforcing the same. Likewise, in order to also form fully closed lower corners 9 and 10, the bottom tabs 11 and 12 are formed, either in continuation of the outer side wall panels 3 and 4, or in continuation of the inner side wall panels, or auxiliary side wall panels 6-a and 6-b. In the particular illustration the bottom tabs 11 and 12 are formed in continuation of the panels 3 and 4. For facilitating the folding of the hereinabove described panels with respect to each other, the blank is preferably scored along the lines 13 and 14, 15 and 16, 17 and 18, and 19 and 20.

The blank is assembled by folding the front and back panels 1 and 2 at a right angle to the bottom panel 5, and parallel to each other, and folding the auxiliary bottom tabs 11 and 12 at a right angle to the outer side walls 3 and 4, and folding the side walls 3 and 4 at a right angle to the rear wall 2, and folding the auxiliary or inner side walls 6-a and 6-b at a right angle to the front wall 1. The exact order of these operations may be varied, naturally, and in the embodiment shown, the panels 6-a and 6-b are placed on the inside of the container, while the panels 3 and 4 are on the outside in contiguous relation to the panels 6-a and 6-b. This may be reversed, however, and the panels 3 and 4 placed on the inside and the panels 6-a and 6-b placed on the outside. In that modification, however, the fastening means, such as the metal edge strips 21 and 22 would be placed along the rear corners 23 and 24 instead of along the front corners 7 and 8. The tabs 11 and 12 are placed on the inside of the bottom panel 5, as indicated particularly in Figure 2.

The fastening means 21 and 22 are preferably of a type disclosed in United States Letters Patent No. 1,703,522, February 26th, 1929, although I may employ other fastening means of the tamper-proof type, that is, preferably fastening means of the riveted type, in which the fastening means is deformed in its application to the carton, so that it cannot be readily removed without detection.

The lid or closure member 25 is formed integrally with the back panel 2 and is folded therefrom along the score line or fold line 26.

From the outer side walls 3 and 4 (or from the outer side walls 6-a and 6-b, if these are to be placed on the outside), the top tabs 27 and 28 are extended and folded therefrom along the score or fold lines 29 and 30. From the lid or closure member 25, two side tongues 31 and 32 extend, to be folded therefrom along the score or fold lines 33 and 34, respectively, each having a self-expanding wing or tab portion 35 and 36, respectively, folded therefrom along the fold or score lines 37 and 38, respectively. A central locking tongue 39 is also extended from the free end of the lid or closure 25, to be folded therefrom along the fold or score line 40, having expanding wings or locking tabs 41 and 42 extending therefrom, and adapted to be folded therefrom along the fold or score lines 43 and 44.

The locking wings or tabs 35 and 36, 41 and 42, are adapted to be folded (along the fold or score lines 37, 38, 43 and 44, respectively), when the box or carton is being closed; said locking wings

or tabs 35 and 36, 41 and 42, springing back and away from their respective locking tongues 31, 32 and 39, when the tongues have been fully inserted into the container in the locked position. This slight springing away or folding away is due to the fact that the temporary folding of the locking wing portions against the corresponding tongue portions does not give such folds (37, 38, 43 and 44) a permanent "set", but leaves a certain resiliency in the bends or folds, which tends to deflect the locking wing portions 35, 36, 41 and 42 at an angle to the locking tabs or tongues 31, 32 and 39, from which these locking wings depend. The upper edge of the front panel 1 carries a front tab 45 folded therefrom along the fold or score line 46, and provided with a slot 47 of a width approximately sufficient to receive two thicknesses of the cardboard and of a length approximately equal to the width of the tongue 39 at its greatest width near its base, that is, across the points 48 and 49. The front edges 50 and 51 of the upper tabs 27 and 28 are preferably off-set slightly from the corner edges 52 and 53, as indicated particularly in Figures 6 and 7, so that when the flaps or tabs 27 and 28 are folded down, a clearance will be provided between the edges 50 and 51, and between the upper edge 54 of the front panel 1, sufficient to receive the locking tongues 31 and 32 with their respective wings 35 and 36.

In closing the carton (after the merchandise or contents has been placed therein) the tabs 27 and 28 are first folded down and then the front tab 45 is folded down over the tabs 27 and 28. Thereupon the wings 35 and 36, and the wings 41 and 42 are folded against their respective locking tongues 31 and 32 and 39, and while in this folded condition, the tongues with the respective wings are inserted into the clearances between the edges 50 and 51, and the edge 54, and in the slot 47, as indicated particularly in Figures 8 and 9. When the insertion has been completed to the point where the lid or closure 25 is in the fully closed position, the slightly inclined or off-set edges 55 and 56, and 57 and 58 clear the inner surfaces of the tabs 27, 28 and 45 sufficiently to permit the wings 35, 36, 41 and 42 to spring away slightly from their respective tongue portions 31, 32 and 39, and to assume a position at an angle thereto, as indicated particularly in Figures 1, 2, 3, 4 and 5. In these angular positions of the wing portions 35, 36, 41 and 42, the wings interlock with the edges of the tabs 27 and 28 and 45, and prevent the tongues 31, 32 and 39 from being withdrawn and thus permanently locking the carton against unauthorized tampering, so that if the carton is opened, a sufficient destruction of the carton is necessary to make an unauthorized and undetected opening of the carton impossible.

It will be observed that only relatively slight additional fastening means, such as the fastening means 21 and 22 is required along two edges, while all the other edges require no fastening means whatever, because they are formed along bends between two continuously formed panels.

While in the particular illustration of my invention hereinabove described and shown in the accompanying drawings, successive panels are shown as being formed in continuation of each other in one certain way, it is to be understood that this may be varied to the extent indicated, without departing from my invention.

Likewise, while the container or carton shown is particularly designed for whiskey bottles, other

merchandise may likewise be packaged in this carton of my present invention. In either event, however, the merchandise or contents augments the natural resiliency or stiffness or form-retaining characteristics of the cardboard in keeping the auxiliary side panels 6-a and 6-b flush against the outer side panels 3 and 4, so as to give the carton, and particularly the corners 7 and 8 the full rigidity and strength of a completely closed corner (resulting from the folds 17 and 18).

I am aware that my invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and I therefore desire the present embodiment to be considered in all respects as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

Having thus described my invention, what I hereby claim as new and desire to secure by Letters Patent, is:—

1. A tamper-resistant container, comprising bottom and side walls formed in continuation of each other, a lid extending from one of the side walls, a slotted tab extending from the opposite side wall, and opposed side tabs extending from the other side walls, a pair of opposed and similar locking tongues carried near the outer ends of the free edge of the lid and an intermediate locking tongue carried by the lid therebetween and locking wings extending from each of said locking tongues and folded with respect thereto along resilient folds; said tongues and wings being adapted to be inserted in the aforesaid slot and between the edges of said side tabs and the upper front edge of the container, and said locking wings being adapted to fold away from their respective locking tongues in the closed condition of the lid, thereby to lock the lid against undetected opening.

2. A tamper-resistant container including closure tabs extending from the upper free edges of the side walls, a lid extending from the upper free edge of another side wall, and a pair of opposite and spaced locking tongues carried by the outer ends of the free edge of the lid, locking-expanders extending from each of said locking

tongues, and a tab extending from the upper edge of the side wall of the container opposite to the side wall from which the lid extends;—said tab being adapted to be extended between the two locking tongues and to reinforce said side wall against outward bending, and to confine the space into which said locking tongues extend when in the closed position.

3. A tamper-resistant container, comprising bottom and side walls, a lid extending from one of the side walls, a tab extending from the opposite side wall in operative alignment with said lid, opposed side-tabs extending from the other side walls in operative alignment with said lid, a pair of opposed and similar locking tongues carried near the outer ends of the free edge of the lid, said first mentioned tab extending between said pair of opposed locking tongues from the upper front edge of the container, and locking-expanders extending from each of said locking tongues and folded with respect thereto along resilient folds; said tongues and expanders being adapted to be inserted between the edges of said side-tabs and the upper front edge of the container, and said locking-expanders being adapted to fold away from their respective locking tongues in the closed condition of the lid, thereby to lock the lid against undetected opening.

4. A tamper-resistant container comprising front, back and side walls, a lid hingedly extending from the back wall, tab means extending right angularly from a side wall, the side edge of said tab means adjacent the front wall being spaced from said front wall to form a narrow opening between said tab means and the front wall, a locking tongue connected to the free edge of said lid along a folding-line, and a locking expander extending from a side edge of the locking tongue along a resilient fold and adapted when collapsed against said tongue freely to be received therewith in said narrow opening, said expander having its locking edge bevelled inwardly from its folding-line to its free edge and adapted, when the tongue and expander are inserted into said narrow opening and the expander progressively opens away from the tongue, to jam against the under side of said tab means.

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