

Dec. 18, 1951

P. O. THEANDER

2,579,346

SELF-LOCKING BOX

Filed April 29, 1948

2 SHEETS—SHEET 1

Fig. 1

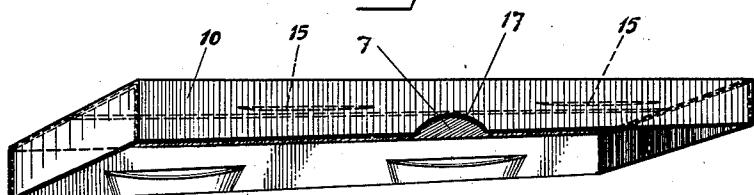


Fig. 2

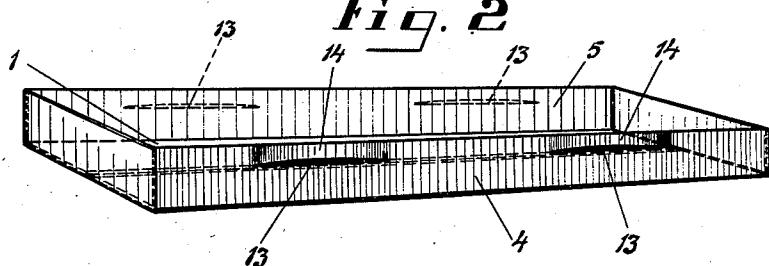


Fig. 3

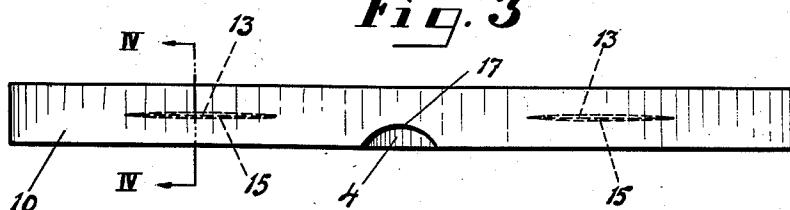
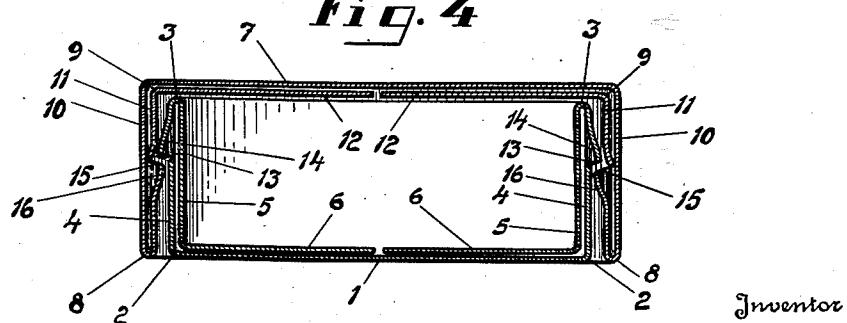


Fig. 4



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2 SHEETS—SHEET 2

Fig. 5

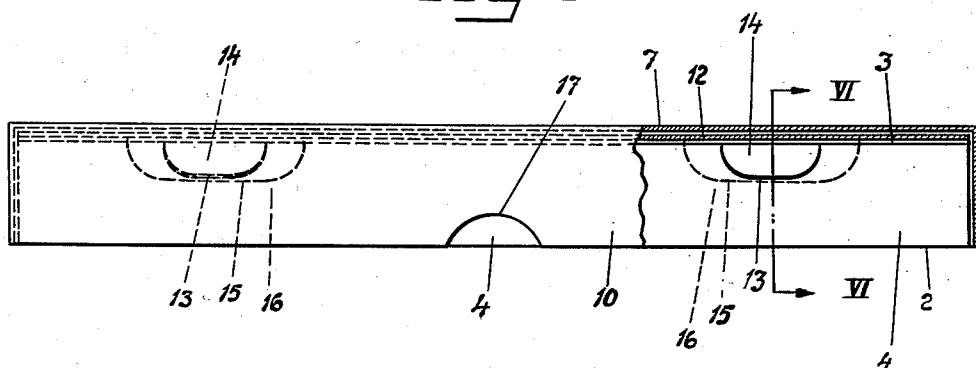
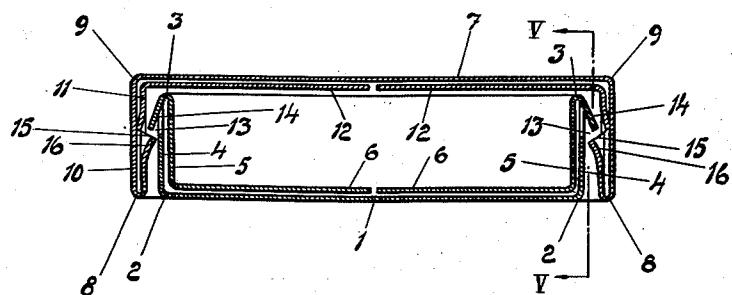


Fig. 6



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UNITED STATES PATENT OFFICE

2,579,346

SELF-LOCKING BOX

Per Olof Theander, Goteborg, Sweden

Application April 29, 1948, Serial No. 23,990
In Sweden September 26, 1945

2 Claims. (Cl. 229—45)

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The present invention relates to cardboard boxes of the kind comprising a receptacle with a rectangular bottom portion and four walls perpendicular to said bottom portion, and a cover having a rectangular top portion and four walls perpendicular to said central portion, the receptacle and the cover, respectively, being formed from a single blank by folding the blank portions projecting from opposite edges of the bottom portion and the top portion, respectively, each of said projecting portion of the blank being by two creasing lines parallel to said edges divided into three sections, whereby the sections adjacent the bottom portion and the top portion, respectively, are erected to form right angle to said bottom portion and said top portion, respectively, the sections situated outside the last mentioned sections are folded downwardly along the inner side of said sections, and the outermost sections are folded inwardly along the bottom portion of the receptacle and the top portion of the cover, respectively. More particularly, the invention relates to boxes of the kind referred to, in which the walls of the receptacle are provided with a number of slots parallel to the bottom portion of the receptacle, and in which the side walls of the cover are provided with slots, which are parallel to the top portion of the cover and so positioned that, when the cover is placed in position on the receptacle they will register with the slots provided in the walls of the receptacle, whereby the wall portions are along the one side of each slot bent out of the plane of the respective wall in such a manner that, when placing the cover in position, the portions of the wall of the cover thus bent outwardly will snap over the corresponding portions of the walls of the receptacle thus locking the cover in its position on the receptacle.

The general object of the invention is to improve and simplify boxes of the kind referred to, so as to render them reliable in use, inexpensive to manufacture, and easy to manipulate.

The invention is broadly characterized in that the slots of the receptacle are provided in the blank sections adjacent the bottom portion in the vicinity of the creasing lines between said sections and the sections bent downwardly along the inner side of the same, so that the strain or stresses occurring in the cardboard when folding down the last-mentioned sections will bend the cardboard portions situated between the slots and said creasing lines out of the plane of the respective wall.

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The invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of the cover;

Figure 2 is a similar view of the receptacle;

Figure 3 is a side elevation of the box;

Figure 4 is a transverse sectional view on a larger scale through the box along the line IV—IV in Figure 3;

Figure 5 is a side elevation of a box according

10 to a slightly modified embodiment with the cover partly in section along the line V—V in Figure 6, and

Figure 6 is a transverse sectional view of the box along the line VI—VI in Figure 5.

15 Referring first to Figures 1—4, I denotes the rectangular bottom portion of an open receptacle formed from a single blank of cardboard and provided with four walls forming right angles to the bottom portion. Two of said walls op-

20 posite each other are formed from cardboard portions projecting from the longitudinal edges of the bottom portion, each of said projecting portions being by two creasing lines 2 and 3 parallel to said edges divided into three rectangular

25 sections 4, 5 and 6, respectively. The sections 4 adjacent the bottom portion I are erected perpendicularly to the bottom portion I, the sections 5 outside the sections 4 are folded downwardly along the inner side of the sections 4,

30 and the outermost sections 6 are folded inwardly along the inner side of the bottom portion I. The cover which in the same manner is formed from a single cardboard blank consists of a rec-

35 tangular top portion 7 and four walls forming right angles to the top portion. Two of said walls opposite each other are formed from cardboard portions projecting from the longitudinal edges of the top portion 7, and each of said projecting portions are by two creasing lines 8, 9

40 divided into three rectangular sections 10, 11 and 12, respectively. The sections 10 adjacent the top portion 7 are erected perpendicularly to the top portion 7, the sections 11 outside the sections 10 are folded downwardly along the

45 inner side of the sections 10, and the outermost sections 12 are folded inwardly along the inner side of the top portion 7. The cover is sized to telescope over the receptacle when placing it in closed position. According to the invention

50 each of the sections 4 of the side walls of the receptacle is provided with two slots 13 parallel to the creasing line 3. On account of strains or stresses occurring in the cardboard when folding down the sections 5 along the sections 4

55 the portions 14 of the sections 4 situated be-

tween the slots or incisions 13 and the creasing lines 3 will be bent out of the plane of the sections 4, as clearly appears from Figure 4. The sections 11 of the side walls of the cover are in the same manner provided with slots or incisions 15 parallel to the creasing lines 8 and so positioned that when the cover is placed in position the slots 15 will register with the slots 13. Owing to stresses or strains occurring in the cardboard when folding the sections 11 along the sections 10 the cardboard portions 16 situated at the one side of the slots 15 will be bent out of the plane of the sections 11 as clearly appears from Figure 4. When placing the cover on the receptacle the cardboard portions 14 and 16 thus bent out will snap over each other and automatically lock the cover in closed position. When the cover is to be removed one of the side walls of the receptacle which is accessible through a recess 17 at the edge of the corresponding wall of the cover is pushed inwardly by means of a finger, whereby the cardboard portions 14 and 16 are brought out of engagement with each other so that the cover may be removed.

The embodiment shown in Figures 5 and 6 differs from the embodiment described above only by the fact, that the slots or incisions 13 in the wall section 4 of the receptacle are curved at their ends so as to reach the creasing lines 3. In the same manner the slots or incisions in the wall section 11 of the cover are curved at their ends so as to reach the creasing lines 9.

What I claim is:

1. Improvements in cardboard boxes comprising in combination a container formed from a single sheet of folded material, said container having a pair of opposite walls each formed by two parallel sections folded together and along a common line of said material, the outside section of each of said opposite walls having longitudinal slits formed in the medial portions thereof with each slit forming a bulge extending in its respective section between said common fold line of the section and said slit and a cover for said container formed also from a single sheet of folded material, said cover having a pair of opposite walls each formed by two parallel sections folded together and along a common line of said material, the inside section of each of

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said opposite walls having longitudinal slits formed in the medial portions thereof with each slit forming a bulge extending in its respective section between said common fold line of the section and said slit and said slits of said cover being positioned for aligning with said slits of said container when said cover is on said container.

2. Improvements in cardboard boxes comprising in combination a container formed from a single sheet of material having rectangular sections folded around a central portion forming the base, for providing a pair of opposite side walls and end walls extending therebetween, said side walls each being formed by parallel sections folded together and along a line forming a top edge of said container, the outer section of each side wall having longitudinal slits formed in the medial portions thereof with each slit forming a bulge extending in its respective section between the top edge of said wall and said slit and a cover for said container formed from a single sheet of material having rectangular sections folded around a central portion forming the top of said cover for providing a pair of opposite side walls and end walls extending therebetween, said cover side walls each being formed by parallel sections folded together and along a line forming the open end of said cover, the inner section of 30 each cover side wall having longitudinal slits formed in the medial portions thereof with each slit forming a bulge extending in its respective section between the open end of said cover and said slit and said slits of said cover being positioned for aligning with said slits of said container when said cover is in place on said container.

PER OLOF THEANDER.

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