

1,330,946.

Patented Feb. 17, 1920.

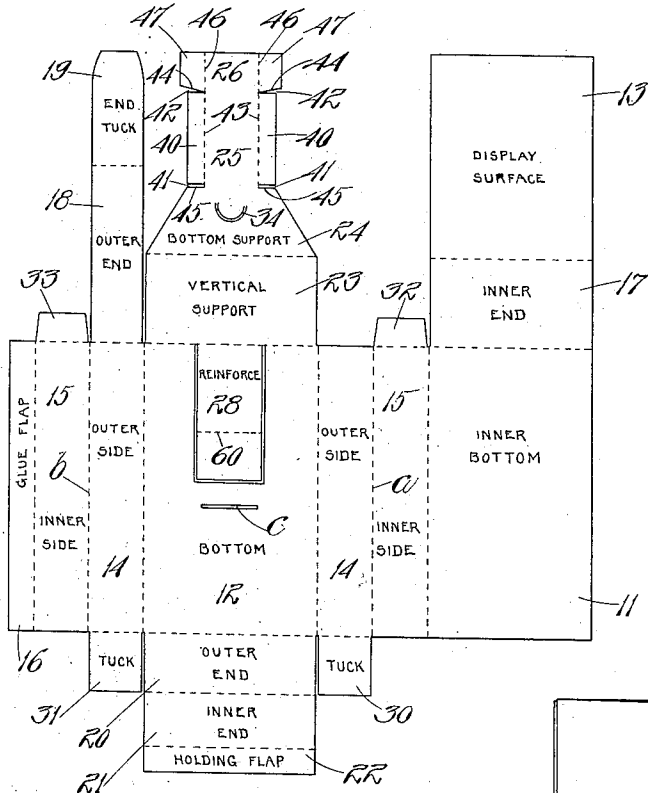


Fig. 1.

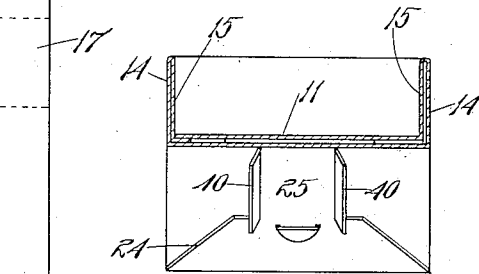


Fig. 5.

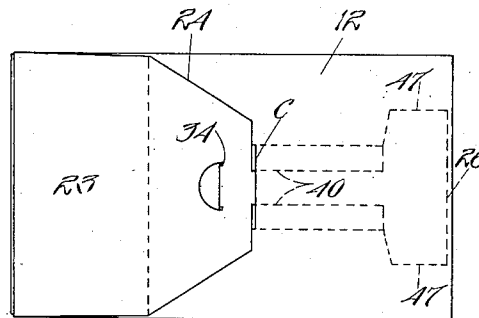


Fig. 2.

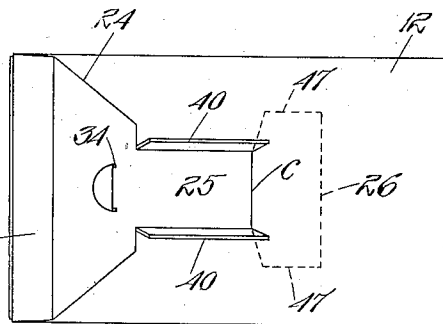


Fig. 4.

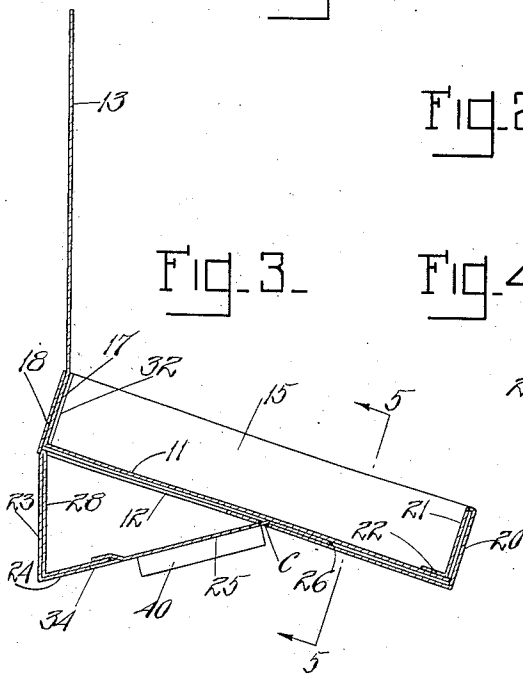


Fig. 3.

INVENTOR:
Edwin A. Locke Jr.
by Macleod, Calver, Copeland & Sikes
Attys

UNITED STATES PATENT OFFICE.

EDWIN A. LOCKE, JR., OF EVERETT, MASSACHUSETTS, ASSIGNOR TO P. R. WARREN COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

PAPER BOX.

1,330,946.

Specification of Letters Patent.

Patented Feb. 17, 1920.

Application filed July 16, 1919. Serial No. 311,142.

To all whom it may concern:

Be it known that I, EDWIN A. LOCKE, JR., a citizen of the United States, residing at Everett, county of Middlesex, State of Massachusetts, have invented a certain new and useful Improvement in Paper Boxes, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The invention relates to an improvement in paper boxes, being more especially intended for application to the type of box usually referred to as knockdown paper boxes and preferably made from a single
15 sheet of box-board of suitable shape, scored and creased in such a manner as to form panels, flaps and tucks, to enable the blank to be folded to form the completed box. The invention has particular reference to
20 that class of paper boxes which are provided with supporting portions to enable the box to be set up for display purposes in an inclined position, somewhat after the manner of an easel, the said support being of such
25 form and construction that it may be folded flat when the box is in its knockdown form and which when the box is set up may be locked securely to prevent the easel support from becoming accidentally displaced or
30 slipped out of position, and yet which may be again knocked down without mutilation of the parts if desired to repack the box for shipment or for compact storage. The present invention relates to the said support and
35 the lock therefor.

Inasmuch as the invention is intended to be applied more particularly in the construction of knockdown boxes of the character above mentioned, the drawings illustrate
40 and the specification will describe a box of that type although it is to be distinctly understood that the invention is not intended to be limited to the application to a box as a whole constructed exactly as the one
45 hereinafter described, nor necessarily to a box in which the body is entirely of a single sheet of material, nor even to a box in which the body part is of knockdown type.

The invention will be fully understood
50 from the following description when taken in connection with the accompanying drawings, and the novel features thereof will be pointed out and clearly defined in the claims at the close of this specification.

55 Figure 1 is a plan view of a blank from

which a box embodying the invention may be made.

Fig. 2 is a bottom plan view of the box made out of the blank shown in Fig. 1 in its knockdown form.

Fig. 3 is a sectional view of the box after it has been fully set up and with the easel support locked in operative position.

Fig. 4 is a bottom plan view of the fully set up box shown in Fig. 3.

Fig. 5 is a section on line 5—5 of Fig. 3.

Although the body portion of the box is not of itself the subject of the present invention, it will be briefly described in order to lead up to and make more clear the invention
70 of the support or easel member and the locking arrangement therefor.

Referring to the drawings, and especially to Fig. 1, the dotted lines therein indicate the creases; the slits are indicated by full
75 lines. The several portions of the blank are marked to indicate the respective portions of the box which is to be formed out of the blank. There is an inner bottom portion 11, under bottom portion 12 and a display portion
80 13. Immediately adjacent the under bottom portion 12 on opposite sides thereof are the two outer side forming portions
85 14—14, which respectively are connected at their outer edges with inner side forming portions 15—15. One of these inner side portions is connected at its outer edge with
90 said inner bottom portion 11, and the other inner side portion 15 is connected with a glue flap 16.

An inner end portion 17 is connected at one edge to the inner bottom 11, and at its opposite edge is connected to the display surface 13. An outer end portion 18 is connected at one end to the left-hand outer side
95 portion 14, the other end of said end portion being connected with an end tuck flap 19.

The opposite end of the box is formed by an outer end portion 20, an inner end portion 21 which is connected with the outer
100 edge of said end portion 20, and a holding flap 22 which is formed as an extension of the inner end portion 21.

To that edge of the bottom 12, which in the drawings is at the top of Fig. 1, there is
105 connected a substantially vertical support portion 23 which forms the upright portion of the easel. An extension from said vertical support portion 23 forms the bottom supporting portions 24 and 25 which are
110

flexibly connected together, the portion 24 being also flexibly connected with the upright portion 23. The bottom support portion 25 terminates in a locking tuck or tab portion 26 having one or more side wings 47, 47. Preferably there are two such wings, one on each side.

The bottom support portion 25 has one or more side wing portions 40—40, which at their ends are separated from the bottom support member 24 by slits 41, and are separated from the tuck portion 26 by slits 42, so that these side wing portions 40—40 may be turned up at an angle to the bottom support member 24, or if desired they may be allowed to lie in the same plane with the support member 24 according to the requirements as will be more particularly hereinafter described. Preferably there are two of these wings 40, one on each side. Crease lines 43 along the junction line between the wing portions 40—40 and the bottom support 25 and crease lines 46 between the body of the lock member 26 and its wing portions 47 form the bending line of said wing portions.

The tuck member 26 with its wings is broader than the neck portion 25 of the bottom support member, that is broader than that portion of the bottom support 25 which lies between the wings 40—40, forming the shoulders 44—44 where said tuck member 26 is offset from the bottom support member 25. The other end of the neck portion of said bottom support member 25 is narrower than the adjacent end of the bottom support member 24, forming shoulders 45—45. The purpose of said shoulders 44—44 and 45—45 is to limit the sliding movement of the vertical and bottom supports as will be hereinafter more particularly described.

From the bottom 12 there is preferably died out a reinforce member 28 creased at 60 to engage with a slot 34 when the box is set up.

The outer sides 14—14 are provided with tuck flaps 30—31 and the inner sides 15—15 are provided with flaps 32—33 respectively, which when the box is set up are folded against the inner face of the inner end member 17 while the outer end member 18 is folded outside of the end member 17.

In making up the box from the blank after the blank has been died out, the lower bottom 12 is formed with a slit *c* transversely thereof, which is of a width approximately equal to or slightly greater than the width of that portion of the bottom supporting member 25 which lies between the wing portions 40—40. By folding the wing portions 40—40 flat over onto the under surface of the supporting member 25, and by folding the side wing portions of the tuck member 26 along the

dotted lines 46—46 and turning them flat up against the under surface of the body portion of said tuck member 26, the said tuck member 26 and the supporting member 25 with their respective folded wings, may be passed through the said slit and pushed in until the bottom supporting portion 24 and the vertical supporting portion 23 lie flat up against the under side of the lower bottom portion 12 while the supporting portion 25 and the tuck member 26 lie between the inner bottom 11 and lower bottom 12. The wing portions 47—47 of the tuck 26 are then spread out flat in the same plane as the body of the tuck, as shown in Fig. 2. This is more conveniently done before the sides and inner bottom are folded. These wings 47—47 serve as locks or stops to limit the sliding movement of the bottom support member 25 and to prevent its being again accidentally withdrawn. The combined members 25 and 26 with their wings 40 and 47 is for convenience referred to as a tongue when it is desired to speak of it as a whole.

The blank is then folded along the lines *a* and *b* to superpose the inner sides 15—15 on the outer sides 14—14 and also to superpose the inner bottom 11 on the lower bottom 12. The left-hand inner side 15 will be folded before the right-hand inner side 15 so as to bring the glue flap 16 in between the inner bottom 11 and the lower bottom 12. The so-called glue flap 16 may or may not be glued, as desired, to the under side of the inner bottom 11. The double sides formed by folding the inner sides 15 over on to the inner face of the outer sides 14 are then turned up into a vertical position at right angles to the bottom portions 11—12, and the flaps 32—33 are turned in; the inner end 17 with the display surface 13 attached thereto is then turned up into a vertical position and lies in contact with the flaps 32—33. The outer end 18 is then folded over onto the inner end 17 and the end tuck 19 is inserted between one set of the inner and outer sides 14 and 15.

The other end of the box may then be made up by turning in the tucks 30—31 and folding up over their outer faces the outer end portion 20 and then folding down over their inner faces the inner end portion 21. The holding flap 22 will be bent so as to lie flat upon the upper surface of the inner bottom 11.

Now after the sides and ends have been fully folded as already described, the tuck member 26, the bottom supporting portion 25, and the bottom supporting portion 24 and the vertical supporting member 23 all lying flat in the same plane, the said bottom supporting portion 25 and the tuck portion 26 are still inclosed between the inner and lower bottom portions 11—12, as

shown in Fig. 2. In order to set up the easel portion, the vertical supporting member 23 may be grasped by the fingers at its edges and turned down into a substantially vertical position, as shown in Fig. 3, thereby also pulling the bottom supporting member 24 into inclined angular relation to the vertical supporting member 23, and pulling out the supporting member 25 from its inclosure between the two bottom members 11—12 until the shoulders of the wing members 47—47 of the tuck member 26 strike the edges of the slot *c* to prevent the further withdrawal. This outward movement, however, is sufficient to withdraw the wing members 40—40 of the supporting member 25 entirely out of the slot, they being separated from the wing members of the tuck by a slit, and said wing members 40—40 can then be turned into angular relation to the supporting member 25, as shown in Figs. 3 and 4. The ends of said wing members 40—40 then serve as stops to prevent the said bottom supporting portion 25 from being pushed back again through the slot *c*, so long as the said wing members 40—40 are left in their angular position with relation to the said portion 25.

The easel support for the box is thus formed by the combination of the two bottom supporting members 25 and 24, and the vertical supporting member 23 as shown in Fig. 3. The easel is locked in this position by reason of the fact that the wing members 40—40 prevent the bottom support 25 from being pushed in again through the slot *c*, and the laterally extending wing members 47 of the tucks 26, which are still in between the two bottom forming members 11—12, engage the edges of the slot on the inside to prevent the further outward withdrawal of the easel. As previously stated, there are preferably two wing portions 40 and two wing portions 47, but if the tongue 25 and the tab 26 are each provided with only one wing the lock will be fairly effective and will come within the scope of the invention, and is intended to be covered by the claims.

If for any reason it is desired to recollapse the box, the wing members 40—40 may be turned up against the under side of the portion 25 so as to allow the portion 25 together with the turned under members 40—40 to be pushed into the slot *c*, and then the whole easel formed by the combined members previously referred to may be flattened out against the bottom of the box. If it is then desired to recollapse the entire box, it is evident that this may be done by reversing the steps by which the box was set up in a manner which will be well understood.

It will be obvious that the easel portion of the box together with its locking connec-

tions may be applied to a paper box having a slit in the bottom to receive the locking member although the body of the box may be varied in its form of construction in great variety of ways. It is not even essential that the box should have a double bottom, although this is preferable for the purpose of protecting the locking member.

What I claim is:—

1. In combination with a paper box having a bottom formed with a slot therein, an easel therefor comprising a supporting member connected with the box, a tongue member connected with the supporting member, said tongue member having foldable side wings one of which is nearer the outer end of the tongue than the other, the combined tongue and spread wings being wider than said slot, the tongue and forward wing when folded being insertible through the slot, said forward wing when unfolded after insertion serving as a lock to prevent withdrawal from the slot.

2. In combination with a paper box having a bottom formed with a slot therein, an easel therefor comprising a supporting member connected with the box and a tongue member connected with the supporting member, said tongue member having connected with the side thereof two foldable wings, one of which is nearer the outer end of the tongue than the other, said slot being of such size that said tongue together with the said wings are slidable through the slot when the wings are folded, the tongue and wings when unfolded being together of greater width than the slot, said wings being separated from each other whereby when the wing nearer the end of the tongue and that portion of the tongue with which it is immediately connected are passed through the slot into the interior of the box and said wing opened out, and the other wing is outside of the box and opened out the tongue will be locked against withdrawal of the inner wing or pushing in of the outer wing.

3. In combination with a paper box, the bottom of which has a slot therein, an easel therefor comprising a supporting member connected with the box, and a tongue member provided with foldable wings, said tongue with the wings when folded being insertible in the slot, the combined tongue and wings when unfolded being wider than the slot, one of said wings being nearer the outer end of the tongue than another one of said wings, said two wings being separated from each other whereby the tongue may be engaged with the slot in such manner that one of the wings is on the outside of the bottom of the box while the other wing is on the inside of the bottom of the box.

4. In combination with a paper box, a knockdown easel attachment therefor, hav-

ing at one end a hinged connection with the box and having at its other end a tongue terminating in a locking tab, the bottom of the box being formed with a slot through which the tongue is slidable, the locking tab being of a width which normally prevents it from being drawn out through the slot and the tongue being formed with foldable wing portions which when folded permit sliding movement of the tongue through the slot, and which when turned at an angle to the face of the tongue serve to prevent the tongue from sliding in through the slot.

5. In combination with a paper box, a folding easel attachment therefor, said box being formed with a slot in the bottom thereof, said easel having an extension portion which is slidable through said slot, and which when pushed in permits the easel to be folded against the bottom of the box, and which can be drawn outwardly to permit setting up the easel, said extension portion having a tab which normally limits the outward sliding movement to the predetermined set-up position of the easel, said extension also being formed with projections which are capable of being turned at an angle to the plane of said extension member to serve as a lock against inward sliding movement of the extension member and prevent collapsible movement of the easel.

6. In combination with a paper box having a bottom formed with a slot therein, an easel therefor comprising a supporting member connected with the box, a tongue member connected with the supporting member; said tongue member having foldable side wings one of which is nearer the outer end of the tongue than the other, the combined tongue and spread wings being wider than the said slot, the tongue and forward wing when folded being insertible through the slot, said forward wing when unfolded after insertion serving as a lock to prevent withdrawal from the slot, said rear wing being spaced apart from the forward wing whereby when the forward wing is through the slot and spread, the rear wing may, if desired, be outside of the slot and spread open to engage the sides of the slot and thereby serve as a stop to limit the for-

ward position of the tongue, and thereby retain the supporting member in supporting position.

7. In combination with a paper box, the bottom of which has a slot therein, an easel therefor comprising a supporting member connected with the box, and a tongue member connected with the supporting member, said tongue member having two foldable side wings, one of which is nearer the tip end of the tongue than the other, said slot being of such size that said tongue together with both of said wings are slidable through the slot when the wings are folded, said combined tongue and wings being wider than the slot when the wings are spread out, the tongue and wings and supporting member being all capable of being brought into complete flat knock-down position by folding the wings and inserting the tongue and folded wings through said slot, the tongue then being capable of being locked against complete withdrawal by spreading open the wing which is nearer the tip of the tongue after it has been passed through the slot but permitting the withdrawal of the folded wing which is nearer the said supporting member while the forward wing still remains unfolded in locking position, and permitting the turning of the said supporting member and the said rear wing into angular supporting position with relation to the box.

8. In combination with a paper box, an easel attachment therefor the bottom of said box being formed with a slot and the easel being provided with a locking member to engage in said slot, said locking member being under certain conditions slidable through the slot to permit collapsing of the easel, said locking member having one set of foldable projections which may be opened out to prevent it from sliding inward, and having another set of foldable projections at its inner end which when opened out prevent it from being disengaged from the slot, said projections being foldable to permit sliding movement through the slot, the easel attachment and the locking mechanism being integral with the box.

In testimony whereof I affix my signature.

EDWIN A. LOCKE, JR.