G. L. MORRISON.

KNOCKDOWN BOX.

APPLICATION FILED DEC. 31, 1913.

1,104,821. Patented July 28, 1914.

Fig. 1.

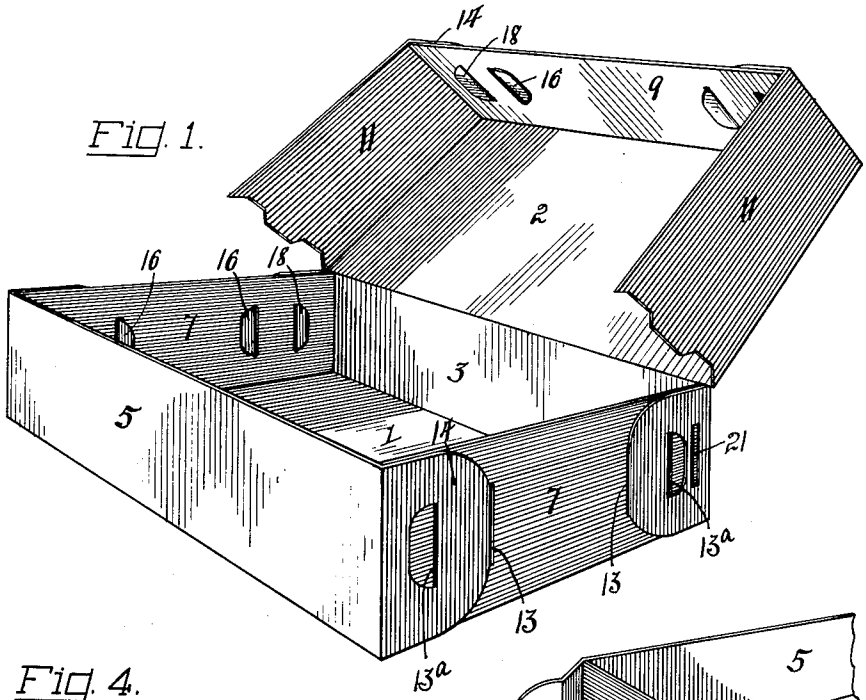


Fig. 4.

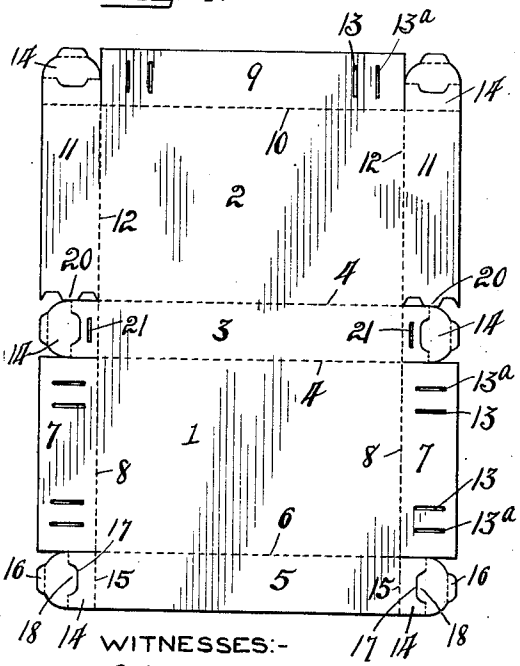


Fig. 2.

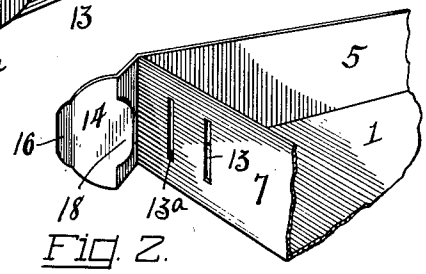
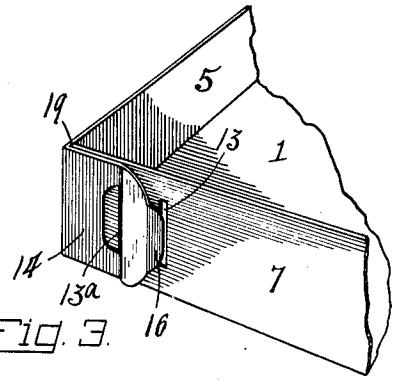


Fig. 3.



WITNESSES:-

R. G. Allen.

F. E. Aul.

INVENTOR.

George L. Morrison.

By Owen, Owen & Crampton.

His attys.

UNITED STATES PATENT OFFICE.

GEORGE L. MORRISON, OF HUDSON, MICHIGAN.

KNOCKDOWN BOX.

1,104,821. Specification of Letters Patent. Patented July 28, 1914.

Application filed December 31, 1913. Serial No. 809,645.

To all whom it may concern:

Be it known that I, GEORGE L. MORRISON, a citizen of the United States, and a resident of Hudson, in the county of Lenawee and State of Michigan, have invented a certain new and useful Knockdown Box; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to knockdown paper-board boxes, and particularly to suit boxes, or the like, of single-piece construction, but is not restricted to such use as it may be used in any connection for which it may be adapted or appropriate.

In the use of boxes of this character they are furnished in flat or knock-down form to the user and are set up by him as he may wish to use the same. The extensive use of boxes of this class, and the bulky nature of the same when set up, prohibits the storing or packing thereof in set up form preparatory for use, and necessitates the setting up of each box as it is desired to use the same. It is therefore of very great importance to users to have a box which can be easily and quickly set up, as otherwise more help is required in the packing of articles preparatory to sending out in this type of box.

The primary object of my invention is the provision of a box of this character, which is not only simple and inexpensive in its construction but which is capable of being easily and quickly set up or knocked down, and which when set up is of an exceedingly strong and durable nature.

The invention is fully described in the following specification, and while in its broader aspect it is capable of embodiment in numerous forms, a preferred embodiment thereof is illustrated in the accompanying drawings, in which,—

Figure 1 is a perspective view of a box in open, set-up form, embodying my invention. Fig. 2 is a perspective view of one corner portion thereof with the associated locking parts in position preparatory to being engaged. Fig. 3 is a similar view with the locking parts partially interengaged, and Fig. 4 is a plan of the box blank.

The blank from which the box embodying the invention is formed, comprises, in the present instance, the two main panels 1 and 2, which are separated at their inner edges by an elongated rectangular panel 3, forming the back side of the box and having hinged connection with the respective panels 1 and 2 along the fold or score lines 4, 4. The panel 1, which is the main or body panel of the bottom portion of the box, has a front section or wall 5 hingedly attached thereto along a fold line 6 in opposition to the back panel 3, and of corresponding shape thereto. Side-sections 7, 7 are also hingedly connected to the respective side edges of the panel 1 along the fold lines 8, 8, such sections being of equal width or depth to the front and back sections 3, 5.

The panel 2, which forms a part of the cover portion of the box, has the front rectangular section 9 connected thereto along a fold or score line 10 and corresponds in shape and size to the back section 3. Side sections 11, 11 corresponding to the side sections 7, 7 of the bottom portion of the box are connected along fold or score lines 12 to the respective side edges of the panel 2.

Each of the sections 7, 7 and 9 is provided adjacent to each end thereof with a set of slots 13, 13ª, with the slots of each set spaced longitudinally of the respective section and extending transversely thereof, as shown. At each end of the sections 3 and 5 and at the outer ends of the sections 11, 11 are disposed flaps or extensions 14, which project longitudinally from the respective sections and are connected thereto along fold lines 15, which lines, for the sections 3 and 5, longitudinally aline with the respective fold lines 8, 13, and for the sections 11, 11 longitudinally aline with the fold line 10. Each of the flaps or extensions 14 is provided at its outer or free end with a tongue 16 and is slitted intermediate its ends, as at 17, to form a tongue 18, which projects in the opposite direction from the associated tongue 16. The tongues 16 and 18 are spaced to correspond to the spacing of the adjacent set of slots 13, 13ª and are adapted to register respectively with and be inserted through said slots when the section to which the tongue is attached and the adjoining side section are in upright position and the tongue laps the outer side of the section in which the slots are disposed.

The provision of the tongues 16 and 18 on the flaps or extensions 14, and of the respective sets of slots 13 and 13ª in the adjoining side wall or section, as the case may be, enables the adjoining ends of the respective sections 3, 5 and 9 to be easily and quickly locked in a strong and durable manner in set-up position to the adjoining end of the respective side sections 7 and 11. By this form of corner locking means it is only necessary for the person setting up the box to grasp the end portion of a flap 14 without the slit 17, and after drawing the flap around the end of the adjoining slotted section in flush relation thereto, to then bend the end portion of the flap 14, which is without the slit 17, in such manner as to cause the inner tongue 18 to project from the inner side of the flap in position to facilitate its insertion into the registering slot 13ª, as indicated in Figs. 2 and 3. The outer tongue 16 is then inserted into the registering slot 13, as indicated in Figs. 1 and 3. The straightening of the flap after the insertion of the inner tongue 18 into the registering slot causes such tongue and the outer end portion of the flap to exert a leverage action between the inner end portion of the flap and the wall or side portion in which the slot is provided, whereby to draw the flap and wall closely together, and also to draw the end portion of the wall to which the flap is attached firmly against the end of the adjoining wall, as indicated at 19 in Fig. 3. The insertion of the tongue 16 into its registering slot serves to retain the parts in locked relation.

The bending of the outer end of each flap 14 along a line transverse thereto and alining with the ends of the slits 17, is insured by a scoring or weakening of the flap on such line at the ends of the slit, as at 17ª, thus leaving the tongue 18 firmly attached to the outer end portion of the flap 14 so that it will have movements therewith relative to the inner end portion of the flap when said inner and outer portions have hinged movements on the connecting line 17ª. It is evident that the hinged connection 17ª between the inner and outer end portions of each flap 14 serves as the fulcrum for the outer end portion of the flap when such portion and the tongue 18 are acting as a lever, as shown in Figs. 2 and 3.

It is evident that the projecting of the tongues 16 and 18 in opposite directions through the respective slots serves to rigidly secure the locking flaps against endwise movement in either direction and provides a very much stronger box than would otherwise be the case.

The inner ends of the side walls or sections 11 are provided with tongues 20, which project longitudinally thereof and are intended to be inserted into registering slots 21 in the adjacent flaps 14 when the box is in set-up position and the cover closed down over the bottom portion.

I wish it understood that my invention is not limited to any particular form, size or arrangement of the parts except in so far as such limitations are specified in the claim.

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

In a knock-down box, two separably connected walls, one having a pair of slots which are spaced longitudinally thereof and the other having an end extension for lapping the adjacent end of the slotted wall, said extension having inner and outer end portions hingedly connected along a line transverse thereto and having the same spaced relation as the slots and the outer end portion having tongues projecting in opposite directions from its inner and outer ends for insertion into respective slots of the slotted wall, the inner tongue projecting inwardly beyond the hinged line of connection between the inner and outer end portions of the extension and movable with the outer end portion of the extension when such portion has hinged movements relative to the inner end portion of the extension.

In testimony whereof, I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

GEORGE L. MORRISON.

Witnesses:
S. T. KLOTZ,
F. E. AUL.