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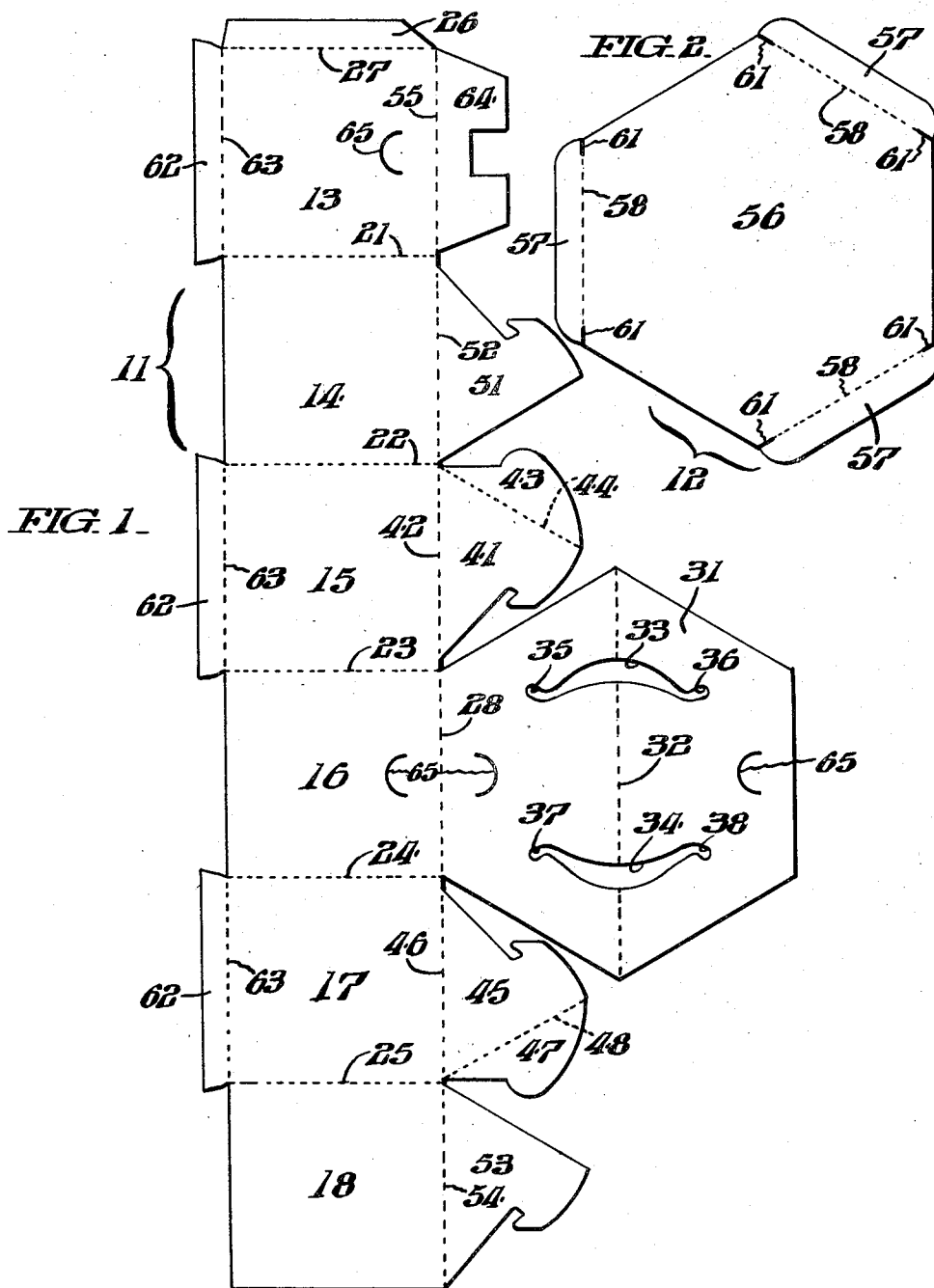
J. W. ULLGER

2,934,254

FOLDING BOX

Filed Aug. 8, 1958

2 Sheets-Sheet 1



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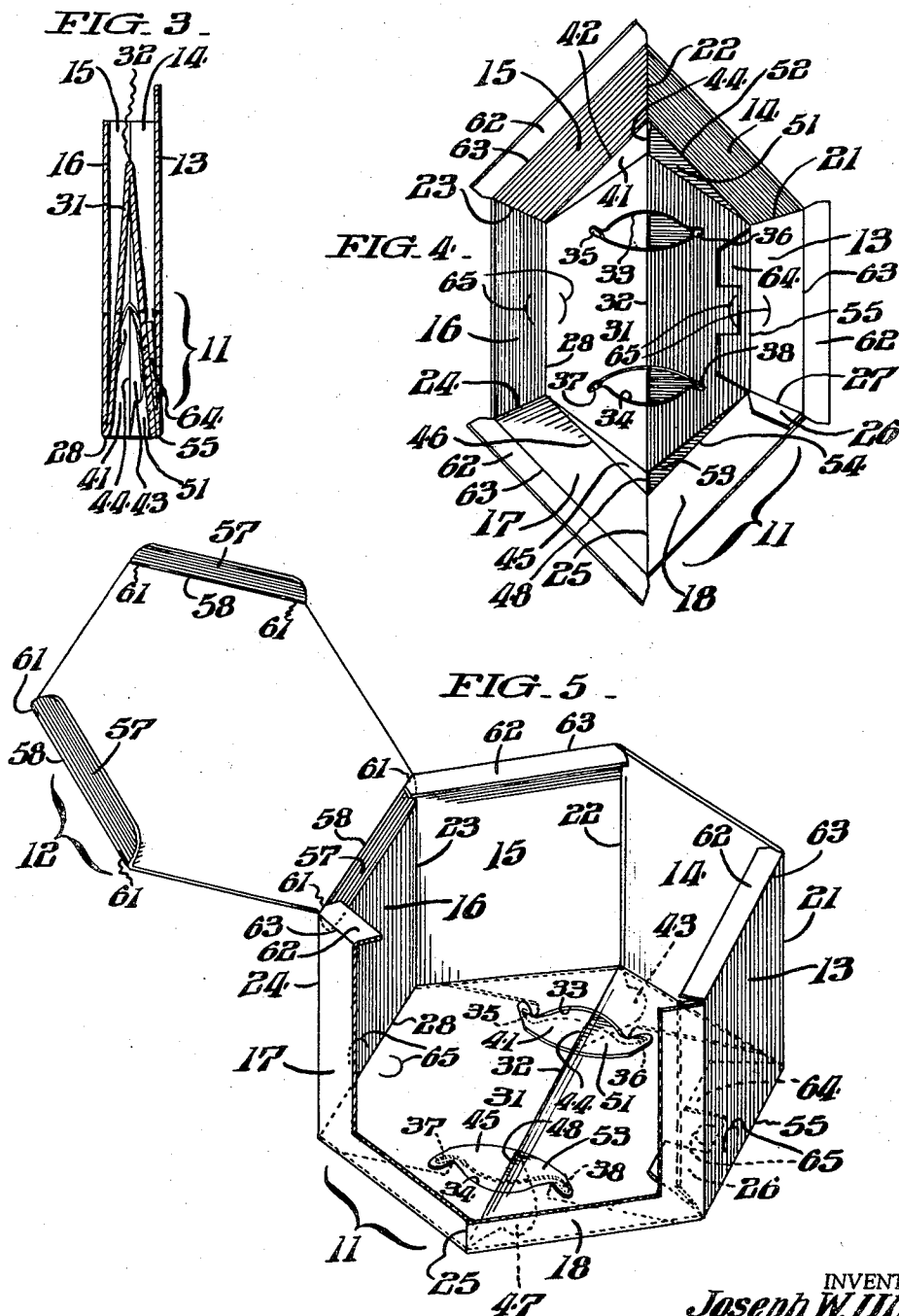
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FOLDING BOX

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2 Claims. (Cl. 229—41)

This invention relates to improvements in a folding box, and more particularly concerns a folding box used for hats and similar articles.

It is an object of this invention to provide a folding box which is automatically glued and folded on an automatic glue machine so as to be assembled without the use of any hand labor.

It is another object of this invention to provide a folding box which is quickly and easily set up by a lateral push on the side walls and which is automatically locked in non-collapsible set up condition by said lateral push.

It is another object of this invention to provide a folding box which is set up without pre-breaking the crease lines.

Other objects and advantages of this invention, including its simplicity and economy, will further become apparent hereinafter and in the drawings, in which:

Fig. 1 is a plan view of the blank from which the body of the box is formed;

Fig. 2 is a view in plan of the lid of the box;

Fig. 3 is a view in cross section of the body of the box in its assembled and collapsed condition;

Fig. 4 is a view in top plan of the body of the box and shows the box part way between its collapsed and its set up condition; and

Fig. 5 is a view in perspective of the box in its set up condition with parts cut away in order to illustrate important details.

Although specific terms are used in the following description for clarity, these terms are intended to refer only to the structure shown in the drawings and are not intended to define or limit the scope of the invention.

Turning now to the specific embodiment of the invention selected for illustration in the drawings, there is shown a folding box which includes a body member 11 and a lid 12. Body member 11 is formed of a single sheet of flexible material which is cut and creased to form a blank as shown in Fig. 1. This blank has a series of wall panels 13—18 which are arranged longitudinally and which have transverse crease lines 21—25 located between them. End wall panel 13 has a transverse glue tab 26 connected to it along transverse crease line 27. Transverse glue tab 26 is glued to end wall panel 18 to connect the end wall panels 13 and 18 together along a transverse glue seam when the box is assembled.

Connected to wall panel 16 along a longitudinal crease line 28 is a six-sided bottom panel 31 which has a median longitudinal crease line 32 formed therein. Bottom panel 31 is also provided with slots 33, 34 formed therein which have hook portions 35—38 formed at each end.

Wall panel 15 is connected to a hooked tongue 41 by longitudinal crease line 42, and hooked tongue 41 is connected to a glue tab 43 by crease line 44. Similarly, wall panel 17 is connected to a hooked tongue 45 by a longitudinal crease line 46, and a hooked tongue 45 is connected to a glue tab 47 by a crease line 48.

Wall panel 14 is connected to a hooked tongue 51 by longitudinal crease line 52, and wall panel 18 is connected

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to hooked tongue 53 by longitudinal crease line 54. Glue tab 43 joins tongue 41 to tongue 51 along crease line 44, and glue tab 47 joins tongue 45 to tongue 53 along crease line 48. End wall panel 13 is connected to a glue tab 64 along longitudinal crease line 55, and glue tab 64 is fastened to the bottom panel 31 at its side opposite crease line 28 when the box is assembled.

Lid 12 includes a top member 56 and is six-sided with lid tongues 57 depending from top member 56 along alternate sides at crease lines 58. Crease lines 58 are provided at their ends with slits 61 which are adapted to catch within the flared ends of body tabs 62 which extend from alternate wall panels along longitudinal crease lines 63. Also provided in body member 11 are the semi-circular slits 65 which are adapted to receive the tape or ribbon which is tied around the box in its set up condition when filled with a hat or similar article.

The assembly of the folding box constructed in accordance with this invention is easily and quickly effected and is accomplished on an automatic glue machine. It is an important feature of this invention that the body member 11 is automatically glued and loaded on a glue machine without any hand labor being used. The glue machine folds the elements of body member 11 into the proper relationship and glues the various elements together through the glue tabs 26, 64, 43, 47. When assembled, body member 11 assumes the position in cross section in Fig. 3, and for convenience and economy in shipping, the box is shipped in this collapsed condition.

The setting up of the box is accomplished quickly and easily through a lateral push against longitudinal creases 22 and 25. Fig. 4 shows the body member 11 part way between its collapsed and set up condition. It is to be noted that the same push which brings the crease line 32 of bottom panel 31 downwardly also inserts hooked tongues 41, 51 into bottom slot 33 and hooked tongues 45, 53 into bottom slot 34. It is important to note that the hooked shape of the tongues and the hook portions 35—38 of slots 33 and 34 serve to make the box non-collapsible so that the box cannot again be collapsed by merely pushing on the wall panels unless a special effort is made to manually unhook the aforesaid hooked tongues and hook slots.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred embodiment. Various changes may be made in the shape, size and arrangement of parts. For example, equivalent elements may be substituted for those illustrated and described herein, parts may be reversed, and certain features of the invention may be utilized independently of the use of other features, all without departing from the spirit or scope of the invention as defined in the subjoined claims.

Having thus described my invention, I claim:

1. A folding box comprising a single sheet of flexible material cut and creased to form a blank, said blank having a series of wall panels arranged longitudinally, transverse crease lines located between adjacent wall panels, means connecting the end walls together along a transverse seam, a bottom panel having as many sides as there are wall panels connected to one of the wall panels along a longitudinal crease line, means connecting another side of the bottom panel to another wall panel, a median longitudinal crease line formed in said bottom panel, locking means including a hook shaped tongue for engaging a hook shaped slot formed in said bottom panel, said locking means being connected to the wall panels along longitudinal crease lines for engaging said bottom panel and locking said box in set up condition, said box being automatically locked in non-collapsible set up condition by a lateral push on the wall panels, and being automat-

ically glued and folded on a glue machine without any hand labor.

2. A folding box comprising a sheet of flexible material cut and creased to form a blank, said blank having six wall panels arranged longitudinally, transverse crease lines located between adjacent wall panels, transverse glue 5 tab means connected to one of the end wall panels for connecting the end wall panels together along a transverse glue seam, a six-sided bottom panel connected to one of the wall panels along a longitudinal crease line, a 10 median longitudinal crease line formed in said bottom panel, a pair of substantially transverse oppositely disposed slots formed in said bottom panel, said slots having a retaining hook portion formed at each end, a first hooked tongue attached along a longitudinal crease line 15 to each wall panel positioned adjacent said bottom-attached wall panel, a second hooked tongue attached along

a longitudinal crease line to each wall panel positioned adjacent said first tongue-attached wall panels on the side of said first tongue-attached wall panels away from said bottom-attached wall panels, glue tab means for joining adjacent hooked tongues along a crease line that registers with said median crease line of said bottom panel when said box is erected, and glue tab means for joining the side of the bottom panel opposite said bottom-attached wall panel to a wall panel.

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