Feb. 4, 1930. G. B. MUSTIN 1,745,947

BOX PROVIDED WITH EASEL

Filed Sept. 9, 1927 3 Sheets-Sheet 1

Fig 1.

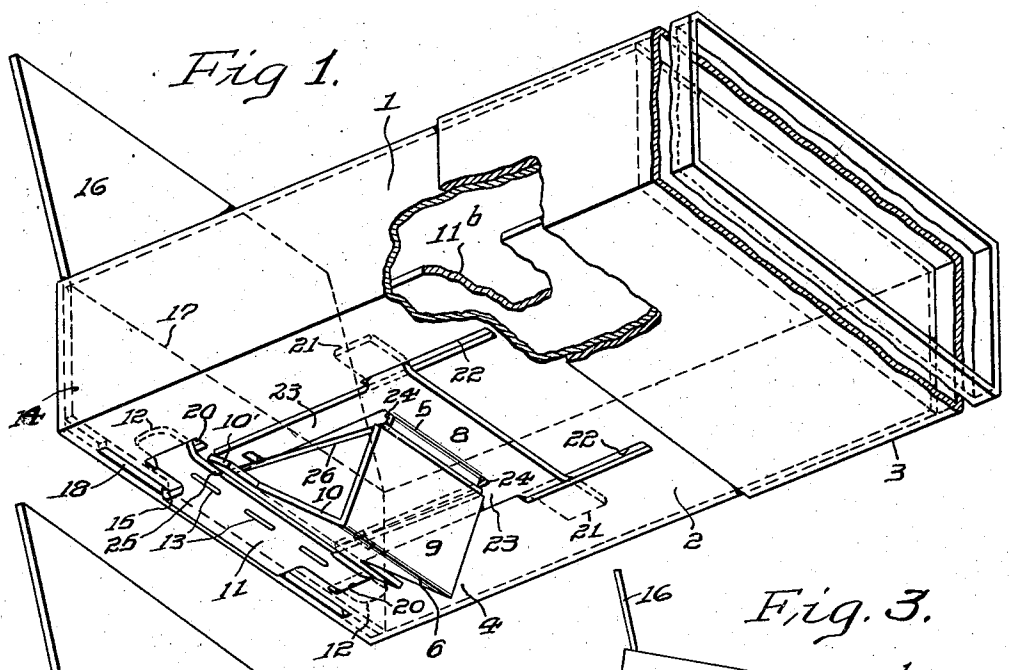


Fig 2.

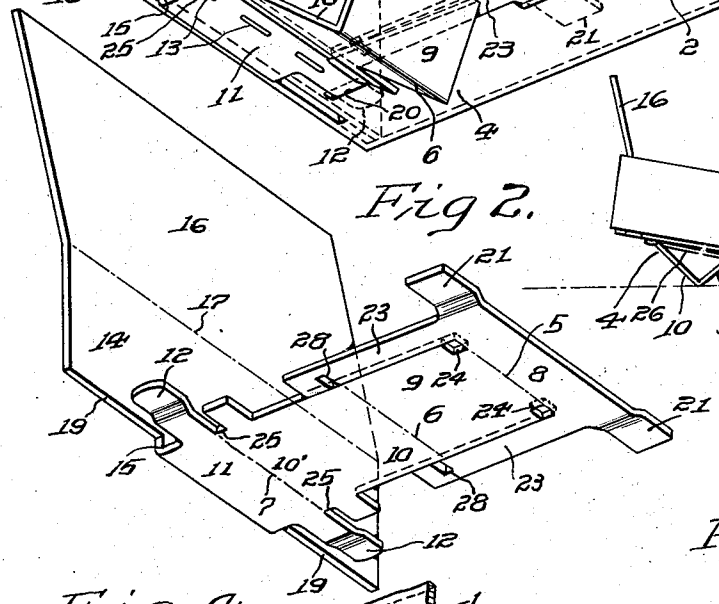


Fig. 3.

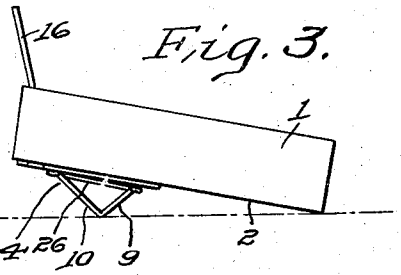


Fig. 4.

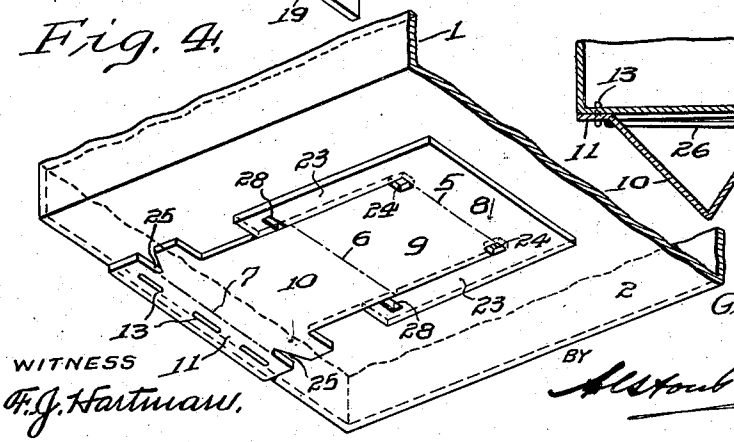
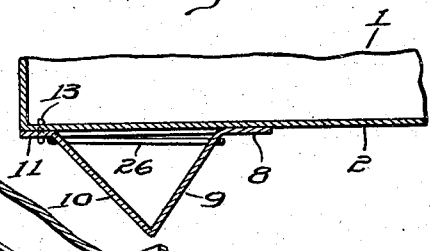


Fig. 5.



WITNESS
F. J. Hartman.

INVENTOR
Gilbert B. Mustin.

BY
ATTORNEY

Feb. 4, 1930. G. B. MUSTIN 1,745,947

BOX PROVIDED WITH EASEL

Filed Sept. 9, 1927 3 Sheets-Sheet 2

Fig. 6.

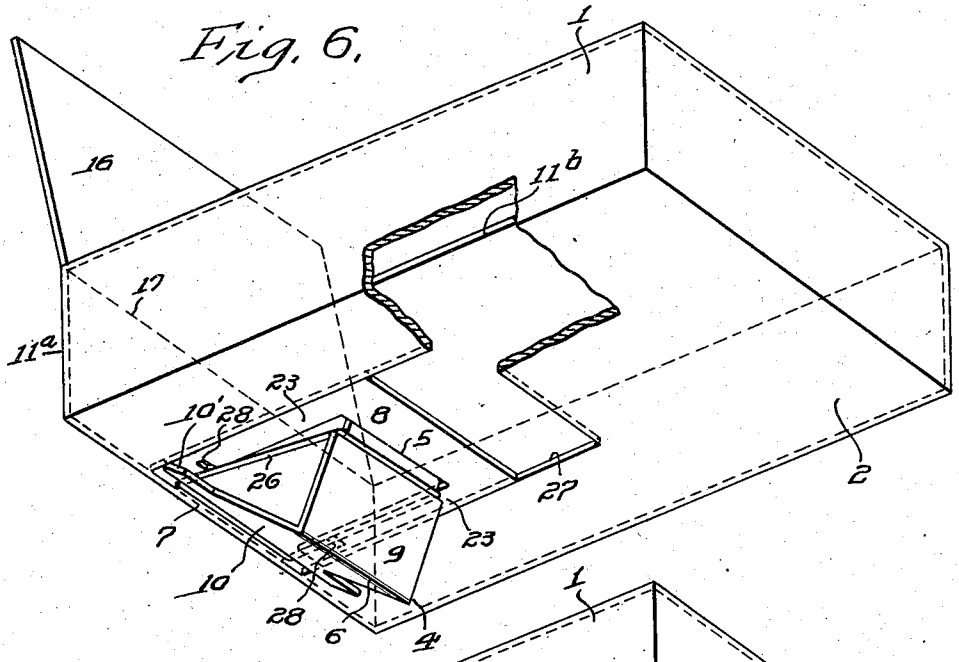


Fig. 7.

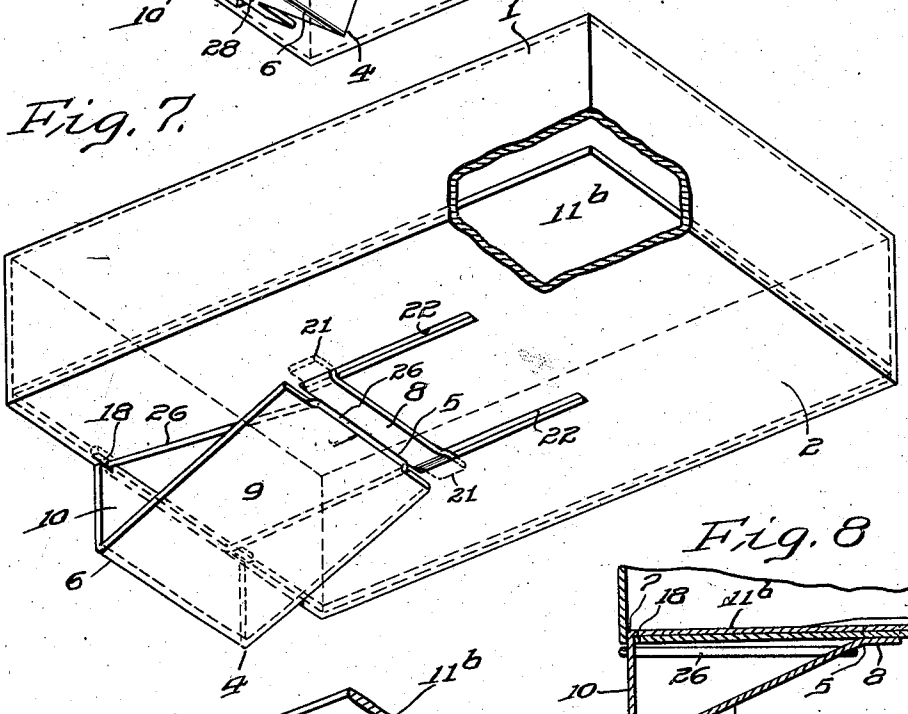
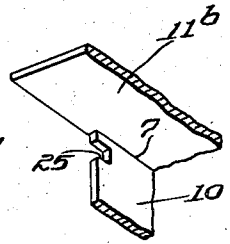


Fig. 8

Fig. 9.



WITNESS

H. J. Hartman.

INVENTOR

Gilbert B. Mustin

BY Stewart B. Mustin

ATTORNEY

Feb. 4, 1930. G. B. MUSTIN 1,745,947

BOX PROVIDED WITH EASEL

Filed Sept. 9, 1927 3 Sheets-Sheet 3

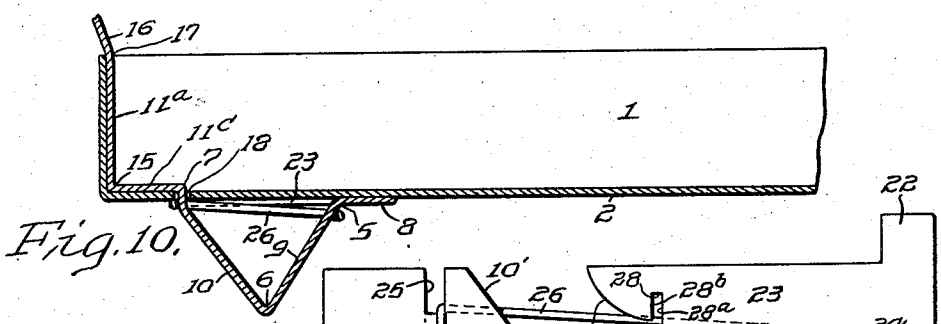


Fig. 10.

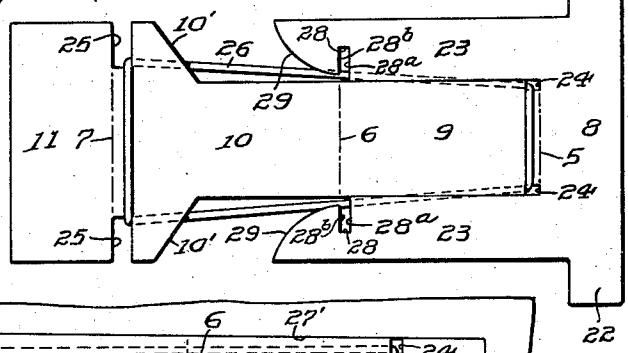


Fig. 11.

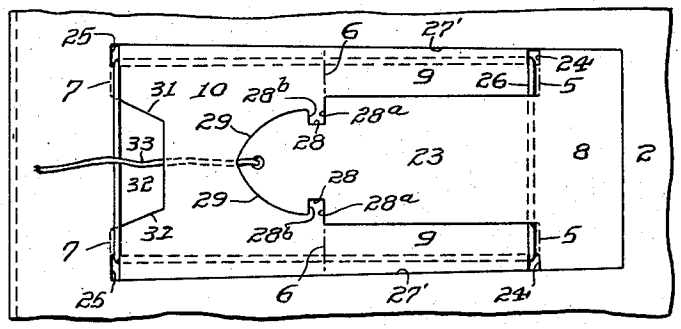


Fig. 12.

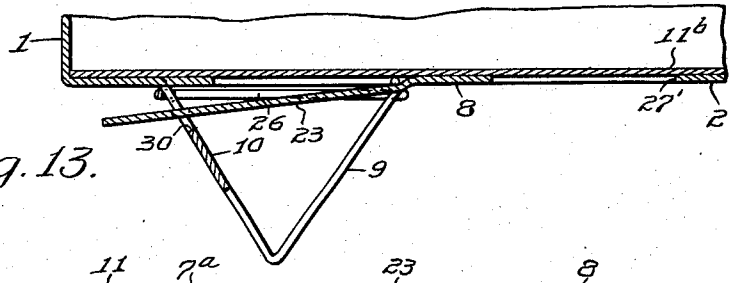


Fig. 13.

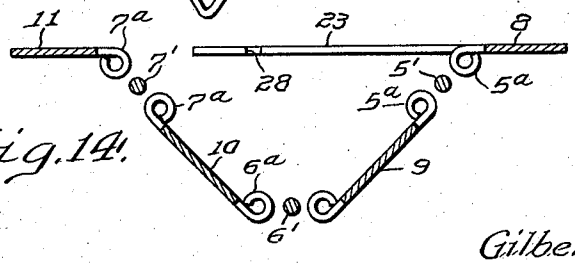


Fig. 14.

INVENTOR

Gilbert B. Mustin.

WITNESS

H. J. Hartman.

BY

ATTORNEY

Patented Feb. 4, 1930 1,745,947

UNITED STATES PATENT OFFICE

GILBERT B. MUSTIN, OF LANSDOWNE, PENNSYLVANIA

BOX PROVIDED WITH EASEL

Application filed September 9, 1927. Serial No. 218,389.

My invention relates to boxes or cartons in which relatively heavy goods, such as confectionery, chewing gum and the like, are packaged for shipment to a retailer, which boxes are provided with an easel for elevating one edge or side of the box for the better display of the goods contained therein.

It is an object of my invention to provide a box in which confectionery, chewing gum and similar relatively heavy goods are shipped with an easel which is adapted to be used with boxes of different types, and which lies flat on the bottom of the box while the goods are packed for shipment and which is preferably automatically folded up into a stiff support or easel when the box is lifted from the shipping crate, or when the cover is removed to display the contents of the box.

In the preferred embodiment of my invention, my improved easel, when applied to a box having a tubular sleeve closure, lies flat on the bottom of the box and is so held between the said bottom and the inner wall of the sleeve and when the said sleeve is slipped longitudinally off from the box structure to display the goods, the easel is automatically formed and raised on the bottom of the box without any other or further manipulation or action on the part of the retailer of the package. When my invention is applied to a box having the ordinary telescoping cover for the top thereof, then the packer holds my easel flat against the bottom of the box and so places the box in the crate. When so placed in the crate, the weight of the contents of the box will hold the easel flat. When the crate is opened by the consignee and the box is lifted by him from the crate, a stiff easel is automatically formed or folded up on the bottom of the box without any other action whatever on the part of the consignee or unpacker. The device is so constructed, however, that the weight of the contents of the box is insufficient to crush or depress or unfold the easel to cause it to lie flat against the bottom of the box after it has once been automatically formed.

The object of my invention is, therefore, to provide an easel for a box in which relatively heavy articles are shipped, said easel being preferably automatically drawn to a position to hold elevated one side of a box when the goods are unpacked from the crate or when a sleeve cover is withdrawn from the box to display the contents.

A further object of my invention is to provide an easel of the character above described, which can be attached to various kinds of boxes in various ways without substantially changing the method of manufacturing the box. Thus, the manufacturer of a box of a definite type, may need only to cut one or more slots through the bottom of a finished box in order to attach one form of my improved automatically operating easel thereto. Or in another form of my invention, the easel may be glued or stapled to the finished box, without changing the box construction at all.

A further object of my invention is to provide a construction which, when the easel is folded up into operative shape to support and elevate one side of the box whether the same be formed automatically or manually, provides a rigid construction which will not crush down or become flattened by the weight of the contents of the box, nor by ordinary usage or handling.

A further object of my invention is to provide an easel which is eminently adapted to be formed manually by merely sliding or drawing one end member toward the hinge connection between the easel and the box.

A further object is to provide an interlocking fold-up easel construction which is automatically operative to lock the easel parts rigidly together upon the folding of the parts up into easel form.

A further object of my invention is to provide a box with a foldable easel which is easily made, is formed into a rigid easel with the least possible manipulation on the part of the recipient of the box, and is adaptable for cooperation with boxes of different construction and types.

Other objects of my invention will appear in the specification and claims below.

In the drawings forming a part of this specification and in which the same reference characters are employed throughout the various views to designate the same parts:

Fig. 1 is a perspective view of a box having a tubular sleeve for a closure thereof and showing the bottom of the box provided with an easel embodying my invention, the closure being withdrawn from over the easel and the easel having been automatically brought to operative position.

Fig. 2 is a perspective view similar in position to the view constituting Fig. 1 but showing the easel only, and without the rubber band and in the position it assumes when flattened against the bottom of the box.

Fig. 3 is a small side elevational view of a portion of a box provided with my improved easel, showing it in operative position to hold a box tilted to better display the contents thereof.

Fig. 4 is a perspective view of the under side of a portion of a box provided with an easel of slightly different construction but embodying my invention.

Fig. 5 is a longitudinal sectional view through a portion of the box and easel shown in Fig. 4, the easel being shown in operative position.

Fig. 6 is a perspective view of the bottom of a box provided with a further modified form of my invention.

Fig. 7 is a perspective view of the bottom of a box illustrating another form or embodiment of my invention.

Fig. 8 is a longitudinal section view through a portion of the box and easel shown in Fig. 7.

Fig. 9 is a fragmentary perspective view of a portion of the easel showing the strip as connected to and forming a part of the false bottom of a box.

Fig. 10 is a vertical, sectional view of a box having an easel of a slightly modified construction.

Figs. 11 and 12 are plan views of a construction, which, when the easel is self-formed or manually folded, automatically locks the parts into a rigid structure.

Fig. 13 is a vertical, sectional view on the line 13—13 of Fig. 12; and

Fig. 14 is a somewhat diagrammatic, vertical, sectional view of the separated parts of an easel construction made of sheet metal or similar material, and embodying my invention.

In Fig. 1 is shown a confectionery or chewing gum box 1 having a bottom 2 and a cover or closure 3, comprising a tube, rectangular in cross-section adapted to be slid longitudinally over the box to close and enclose the same, and provided with my automatically formed easel 4.

My improved easel 4 comprises a strip or sheet of cardboard or similar stiff sheet material provided preferably with transverse scorings 5, 6 and 7, parallel to each other and disposed at right angles to the long dimension of the strip. The strip is adapted to be bent at the scorings 5, 6 and 7 to form a slidable section 8 at the end of the strip; a foldable leg section 9 hingedly secured to the end section 8 by the scoring 5; a second foldable leg section 10, hingedly connected by the scoring 6 to the section 9. The section 10 may be hingedly secured to the box proper 1 in a variety of ways. Thus I may provide a stationary section 11 connected to the section 10 by the hinged scoring 7 and to the box bottom 2 by the tabs 12, 12 and/or the staples 13 and/or to the false inner wall 14, hingedly connected to the section 11 by the scoring 15.

In the embodiment of my invention shown in Fig. 1, the false wall 14 is provided with an advertising card or flap 16 hingedly secured to the section 14 by the scoring 17. The scorings 15 and 17 are also preferably parallel to each other and extend at right angles to the long dimension of the strip. This display card 16 is adapted to be folded down on the scoring 17 against the contents of the box, when the box is closed, and to be bent up to the position shown in Figs. 1 and 3 when the box is opened and the contents are on display.

The bottom 2 of the box is provided in Fig. 1 with a slot 18 of a width a little greater than the thickness of the sheet material of which the easel 4 is formed to be passed therethrough, and of a length substantially that of the widest part of the easel which lies on the bottom of the box. In Fig. 2 the widest portion of the easel is that portion 11 provided with the ears or tabs 12. The strip is passed downwardly through said slot 18 until the shoulders 19 on the bottom edge of the false inner wall 14 lie squarely against the inside of the bottom of the box. The parts of the easel now below the bottom 2 of the box may be bent along the crease or scoring 15. In some instances, this false wall 13 fitting against the end of the box and the portion of the strip passing through the slot 18 and bent up against the bottom of the box and the rubber band, referred to below, will be all that is necessary to fixedly secure the easel 4 to the bottom 2 of the box. However, in some instances, when greater security is needed, the ears or tabs 12 are inserted into the parallel slots 20, 20 through the bottom 2 of the box and the easel is more rigidly or securely held by these ears or tabs 12. When desirable, I may further secure the easel to the bottom of the box by the staples 13 as clearly indicated in Fig. 1.

The slidable section 8 may also be provided with a pair of ears or tabs 21, 21 on opposite sides thereof and adapted to be inserted into slots 22, 22 to hold the sliding section 8 at all times flat against the bottom of the box. These slots 22, 22 are of a length to permit the easel 4 to lie flat against the bottom of the box in the position shown in Fig. 2 and they extend toward that end of the box to

which the easel is hingedly secured a distance sufficient to permit the foldable sections 9, 10 to form with the bottom of the box a rigid hollow structure, substantially triangular in cross-section as shown in Fig. 1. The ends of the slots 22, therefore, form stops against which the tabs 21, 21 are brought when the easel is brought into operative position, as will be explained more fully below.

I preferably make the width of the foldable sections 9 and 10 alike and somewhat narrower than the width of the slidable section 8 and thereby, out of the strip, form extensions 23, 23 projecting rearwardly from the section 8 toward the section 11 which is secured to the box 1. The free ends of these extensions 23 are preferably spaced from the scoring 7 when the easel strip is flat, to permit the ends of the extensions 23 to abut against the edges of the sections 11 when the tabs or ears 21 engage the rear ends of the slots 22. The slots 22, 22 with the tabs 21, and the extensions 23 cooperating with the edge of the section 11 thus provide stops to limit the movement of the sliding section 8 rearwardly to a position wherein the triangular structure 9, 10 would not have sufficient rigidity to hold a filled box tilted.

At or about the ends of the scoring 5, I provide notches 24, 24 on opposite sides of the foldable member 9, and at or about the ends of the scoring 7 between the sections 10 and 11 I preferably provide a pair of notches 25, 25 on opposite sides of the section 10. Around the remote edges 5, 7 of the sections 9 and 10, and fitting into the notches 24, 24, 25, 25, I place a continuous rubber band 26. The length of this band is such that in this position shown in Fig. 1, it is still under tension sufficient to firmly hold the tabs 21 of the slidable member 8 against the ends of the slots 22, and the ends of the extensions 23 squarely against the edge of the section 11 and beneath the wide portion 10′ of the foldable section 10 adjacent the crease or scoring 7.

When the member 8 is provided with the tabs 21, sliding in slots 22, I prefer to provide the box with a false bottom 11ᵇ between which and the real bottom 2 the tabs 21, 21 may slide without interference with the contents of the box.

After the easel has thus been assembled on the bottom of the box, such as is shown in Fig. 1, the display card 16 may be folded down along the scoring 17 to lie in the plane of the top of the box. The slidable section 8 may be manually drawn outwardly away from the fixed section 11 or the fold 9, 10 may be manually depressed against the tension of the elastic band 26 until the easel 4 lies flat against the bottom of the box. It is so held until the tubular sliding cover 3 is slipped over the box and flattened easel. When the box is so closed, the easel 4 will be held flat against the bottom 2 of the box 1 between said bottom and the interior of the tubular sleeve 3.

When now a consignee or a dealer receives the box of confectionery or gum, or whatever may be in the box, and wishes to display the contents upon or within his counters, all he has to do is to withdraw the tubular sliding cover 3. As soon as the edge of the cover slides from over the foldable sections 9, 10 of the easel, the rubber band 26 will immediately draw the slidable section 8 to the left (Fig. 1), throwing the hinged connection 6 between the foldable sections 9 and 10 outwardly from the bottom of the box until the tabs 21, 21 engage the ends of the slots 22, 22, and/or the ends of the extensions 23, 23 engage the forward edge of the member 11, whereupon the rigid easel for elevating one end or side of the box will be in its operative position (shown in Fig. 3) without requiring anything to be done on the part of the retailer, except to remove the closure 3 of the box.

And this easel is just as well adapted to boxes having the ordinary telescoping lid or cover as it is to the box shown in Fig. 1. In packing a crate with boxes having such a telescoping lid, and filled with confectionery, chewing gum or other relatively heavy goods, the packer merely has to hold his hand on the bottom of the box to flatten the easel and to hold it there until he places the filled box in the crate. When the box is so placed in the crate, the weight of the contents of the box will hold the easel 4 flat against the bottom of the box against the tension of the rubber band or the resilient means.

Now when the recipient of the crate unpacks the goods and lifts a box from the crate, just as soon as the weight of the box is removed from the easel 4, the rubber band 26 becomes operative to immediatly draw the slidable section 8 toward the section 11 and fold up the foldable sections 9, 10 to form substantially legs or supports to hold elevated one end of the box (see Fig. 3) and thus hold the box in a tilted position where the goods are clearly visible.

In Figs. 4 and 5 I have shown a modified construction wherein are embodied in the same relation as that found in the construction of Figs. 1, 2 and 3, the sliding section 8 hingedly connected to a foldable section 9 which in turn is hingedly connected to a foldable section 10, the latter being hingedly connected to a stationary section 11 adapted to be secured to the bottom of the box by staples 13. In this construction the section 11 is not connected to the bottom of the box by a false wall or by any other member, and the ears 12—12 and slots 20—20 are omitted. The member 8 in this embodiment of my invention is not provided with the ears 21—21 nor the box bottom 2 with slots 22—22. This form of my invention is adapted for attach-

ment to any box without any modification whatever of the box structure itself. The easels 4 may be made and supplied to a box maker who merely staples or otherwise rigidly secures them to the bottom of the box adjacent one edge of the bottom of the box and places the elastic band in the notches 24—24—25—25 near the remote edges 5 and 7 of the foldable sections 9 and 10 respectively. The notches 25 are, of course, close to the bottom of the box, whereas the notches 24 in the member 9 are a little below the plane of the lower surface of the section 8 when the easel is in operative position to tilt the box, as shown in Fig. 5. The direction of the pull of the elastic band 26 is, therefore, such as to hold the sliding member 8 flat against the bottom 2 of the box, thus dispensing with the ears 21 and slots 22, for the sake of obviating any change whatsoever in the box. This construction is somewhat simpler than that previously described and may readily be applied to any box, the contents of which are sufficiently heavy when the easel 4 is once flattened, to hold said easel in that position until the box is lifted and the foldable members 9—10 brought to a position in which they form with each other a V-shape, and with the bottom of the box, a hollow rigid supporting structure, triangular in transverse cross-section, which will not collapse or flatten out when the box is placed in the show case or on the counter.

The approach of the member 8 toward the stationary member 11 is limited by the extensions 23, the free ends of which are brought up against the hinged edge of the foldable member 10 by the rubber band 26 and the slots 22 and ears 21 may be dispensed with in this construction for limiting the movement of the slidable member 8 and edge 5 toward the hinged connection 7.

In the modification shown in Fig. 6, the easel is made out of the sheet of material from which the box is made. The easel is stamped into or cut through the bottom wall 2 of the box. The construction and manner of hingedly connecting together the sliding member 8 and the two foldable or sliding sections 9 and 10 are the same as that illustrated in the modifications which have been above described, but the member 11^a to which the folding member 10 is directly hingedly connected is also formed out of the blank of paper from which the box is made and forms the wall 11^a of the box. This wall 11^a therefore also forms the stationary part of the easel shown in Fig. 4. In this case the sliding member 8 fits within and slides within the rectangular opening 27 in the bottom of the box, cut out of the bottom 2 of the box, to provide the easel parts 8, 9 and 10. As in the previous construction, the rubber band 26 is passed around the foldable members 9 and 10 and is retained in notches 25—25 and 24—24 in the foldable sections 9, 10, respectively, near the remote edges 5—7 thereof and the extensions 23 are adapted to slide within the opening 27 until the free ends of said extensions 23 abut against the hinged edge of the foldable wall or section 10.

Since by making the easel integral with the box in the manner above described, there is necessarily formed in the bottom of the box a hole 27, that hole is preferably covered with a false bottom 11^b. The tension of the rubber band 26 in this construction is such as to hold the slidable member 8 flat against the false bottom 11 of the box when the easel has been folded up into the position shown in Fig. 6.

In Fig. 7 is a still further modification of my invention wherein the slidable member or section 8 is provided with the ears or tabs 21 adapted to slide in slots 22—22 formed in the bottom 2 of the box. In this modification, the extensions 23—23 are dispensed with. These tabs or ears 21, drawn up by the rubber band 26 against the ends of the slots 22 are depended upon to limit the extent of the movement of the member 8 toward the edge of the foldable section 10 which is hinged to the box structure. In this modification, the false bottom 11^b may be the part to which the foldable member or section 10 is directly hingedly connected, the box proper being provided with a slot 18 through the bottom thereof and adjacent a wall, through which the strip forming the easel may be inserted in assembling the parts.

It is to be observed that in the forms of my invention shown in Figs. 6 and 7, the rubber bands 26 seated in the notches 25 of the section 10, are operative to prevent the foldable section 10 from slipping up into the box. The easels are locked by the rubber bands 26 in a fixed position with respect to the box.

I prefer to provide the rearwardly extending projection, 23, whenever possible, with notches 28 on the edges and near the ends thereof, to permit the retailer of the goods to lock the notches 28 into the notches 25 if a rubber band 26 happens to break and thus make the easel usable even if it is not self-forming as will be referred to again below.

When frail boxes are used within which to pack the relatively heavy contents to be shipped therein, the placing of the slot 18 close to or substantially at the juncture of the bottom 2 with a side or end wall of the box, might unnecessarily weaken the box structure. In Fig. 10, therefore, I have shown a construction wherein this slot 18 is still parallel to and adjacent a wall of the box but is nevertheless spaced from the edge of the bottom 2 of the box so as not to substantially weaken the box. The slidable section 8, the two foldable sections 9 and 10, the parallel scorings 5, 6 and 7 and the rubber band 26, are all constructed

and arranged in the manner heretofore described but the hinged connection 7 is now between the foldable section 10 and a short bottom section 11^c, extending from the slot 18 to the corner of the box where it is provided with the scoring 15 to form the false end 11^a connected by scoring 17 with the display card 16, as in Fig. 1. Here also, the foldable sections 9 and 10, form a triangular support parallel and adjacent to an edge of the bottom end of the box when the rubber band 26 has drawn the slidable section 8 toward the hinged connection 7 until the ends of the extensions 23 abut against the edge of the section 10 below the opening 18 in the bottom 2.

In Figs. 11 and 12 are illustrated forms of my invention wherein the slidable members 8 are automatically or manually stationarily locked with respect to the easel structure after the rubber band or other resilient means has folded the parts 9 and 10 to hold elevated one side or edge of the box.

The construction shown in Fig. 11 is quite like that shown in Fig. 4, except that the notches 25 are preferably made a little wider, so that the rubber band is somewhat spaced from the hinged connection 7, when the easel is in operative position. The free ends of the extensions 23—23 are provided with cam surfaces 29—29 curving away from the edges 28^b of the notches 28. The walls 28^a of the slots 28 further from the free ends of the extensions 23 are a little deeper than are the walls 28^b thereof, nearer said ends, and the distance between the nearest approaches of cam surfaces 29 to each other is a little less than the width of the member 10 between the notches 25. When, therefore, the rubber band is free to act to form the easel, it draws the sliding member 8 toward the hinged connection 7, as in the constructions heretofore above described, and when the cam surfaces 29 engage to bottoms of the notches 25—25 on opposite sides of the section 10, they ride over the bottoms of the notches 25 until the deeper sides 29^a of the notches 28 abut against the section 10 at the jointed connection 7 thereof with the section 11 and between the rubber band 26 and the bottom 2 of the box. In other words, the pointed ends of the members 23 ride or slide over the section 11 until the notches 28 take over the bottoms of the notches 25. Having been brought to this position, the member 8 is now locked with respect to the member 11, and now even if the rubber band 26 should break, the edge 28^b of the notch 28 would engage the member 10 at the slot 25 and the easel would be a rigid structure to support and hold tilted one edge and side of the box.

The cams 29 and notches 28 thus form latches or detents which become operative to automatically lock the slidable member 8 with respect to the other members as soon as the slidable member has been moved to the limit of its movement towards the hinged connection 7.

In Figs. 12 and 13, the easel, cut out of the bottom 2 of the box as in Fig. 6, operates similarly to the one shown in Fig. 11, and the extension 23 is cut or stamped out of the middle of the members 9 and 10 and projects toward the hinged connection 7 from the central portion of the slidable member 8, instead of from the ends thereof. The cam surfaces 29—29 are arranged symmetrically at the end of the member 23 and the notches 28—28 are on opposite sides of the extension 23. The walls 28^a of the notches 28 are a little deeper than the walls 28^b nearer the ends of the extension substantially as in Fig. 11, thus forming latches or detents similar to those shown in Fig. 11.

In this embodiment of my invention, I form an opening 30 through the foldable member 10 by providing the blank with cuts 31—31, starting from the scoring 7 and converging as they approach the end of the member 23. But I preferably omit any scoring across the tab 32 so formed, and which therefore will lie in the plane of the member 11 and form a part of it. It will be plain that when the parts 9—10 are folded into a V-shape, there will be in the member 10 a hole or opening 30 having converging sides 31, and disposed in axial alinement with the member 23. At the scoring 7, this hole 30 is a little wider than the greatest distance across the cam surfaces 29, but narrower than the part of the section 23 formed by the walls 28^a of the notch 28 therein. The upper part of this opening 30 is, however, considerably narrower than the width of the member 23 at the intersections of the cam surfaces 29 with the walls 28^a.

The rubber band 26 is preferably so passed around the foldable member 9 that as it lies in the notches 24, and extends over the foldable sections 9 and under the projection 23, while the notches 25 in the member 10 are preferably narrow notches, one edge of which is in line with the scoring 7, so that the rubber band in passing around member 10, lies close against the member 11. Thus, it is that the rubber band 26 lies between the projection 23 and the bottom 2 of the box when the easel is flattened out against the bottom of the box, but the tendency of the rubber band under the extension 23 is to throw the end of the extension 23 slightly away from the bottom of the box particularly when the rubber band begins to draw the member 8 toward the member 11. Thus, the free end of the member 23 is moved to a position below the plane of the bottom surface of the tab 31 and below the plane of the lower surface of the rubber band 26 which will lie across the lower or widest part of the opening 30.

When, therefore, the easel is released and the rubber band is free to draw the sliding

member 8 toward the hinged connection 7, the free end of the member 23 will first enter the upper narrower portion of the hole 30 formed by the cuts 31 and as the cam surfaces 29 enter the hole 30, the extension 23 will be reflexed upwardly toward the wider portion of the hole 30 until the cam surfaces 29 pass through the hole 30, whereupon the end of the extension 23 will again drop slightly into the narrow part of the opening 30 with the walls 28^a abutting against the adjacent surface of the member 10, below the plane of the rubber band 26, and further movement of the member 8 toward the hinged connection 7 will then be stopped.

But should now the rubber band 26 break or be cut, the easel will not collapse for the walls 28^b of the notches 28 will take against the outer surface of the foldable member 10, preventing any movement of the slidable member 8 away from the hinged connection 7. Thus, will the parts be locked together at the notches 28, the edges of which will be on opposite sides of the foldable member 10. In Fig. 12, I have shown the hole 27 in the box bottom 2 as having tapering sides 27′ converging as they extend away from the scoring 7. The sides of the members 8, 9 and 10 will be similarly tapered. This feature is desirable in all forms of my invention wherein the member 8 slides in an opening 27, for as soon as the member 8 starts to move towards the scoring 7, the side edges of the member 8 are free of the walls 27′. The walls 27′ will not impose any friction or resistance to the free sliding of the member 8 on the false bottom 11^b of the box.

But, it is not necessary that the rubber band 26 be passed under the projection 23 in order to depress the end of the said projection sufficiently to clear the end of the tab 32, for when the member 8 is slid on the bottom of the box toward the member 11 and the foldable members 9 and 10 begin to tilt with respect to the bottom of the box, the friction between the edges of the projection 23 and the edges of the members 9—10 will be sufficient to bend the extension 23 slightly out of the plane of the box and below the tab 32 and below the rubber band 26 at the widest part of the opening 30.

I regard this feature as of considerable importance because in some instances I may find it desirable to omit the rubber bands and permit the consignee or retailer to manually form up the easel on the bottoms of the boxes. My constructions are so simple and the manual formation of the easel is such an easy thing to perform that it may be found desirable under some conditions to omit the rubber bands, in which case the retailer has merely to manually slide the member 8 toward the hinged connection 7, and after the cam surfaces 29 have slid or passed through the opening 30 in the member 10, as in Fig. 12, or over the edges of the member 10 as in Fig. 11, then the walls 28^a and 28^b of the notches 28 will be on opposite sides of the member 10 and the rigid easel, so formed, will not collapse even when the rubber bands are omitted.

And, to facilitate the formation of the easels, by hand, as when the rubber bands with which they are provided fail to work or are omitted, I may provide the end of the projections 23 with a string or flexible extension 33 passing through the hole 30 formed in the member 10, so that to form the easel, the retailer merely has to lift the box and draw the string to the left (Fig. 12) until the cam surfaces 29 pass through the hole 30 in the member 10.

In all the constructions which I have above described, I have termed the connections between the members 8, 9 and 10 as "hinged connections", as they are, when a strip or sheet of card-board is scored and bent along the scoring, in order to swing a section about the adjacent scoring as an axis, but my invention is not to be construed as limited to a card-board or stiff paper construction. When heavy boxes are required for the shipment of goods of the character which I have above indicated, it has been common to pack the goods in sheet metal boxes. Such sheet metal boxes may be provided with easels of the same material, with the slidable, the foldable, and the fixed or stationary sections connected together with sheet metal hinges made in the edges of the respective sections. In Fig. 13, I have shown in a diagrammatic manner, an easel made of sheet metal wherein a section 11 is provided on its edge with a hinge member 7^a cut out of the metal itself and adapted to be curled around a pintle 7′. In similar manner, the opposite edges of the member 10, may be provided respectively with hinge members 7^a and 6^a, adapted respectively to be curled around the pintles 7′ and 6′. Likewise, the foldable member 9, may be provided on its opposite edges with similar hinge members 6^a and 5^a, adapted respectively to be curled around the pintles 6′ and 5′, while an edge of the sliding member 8, is provided with a hinge member 5^a, adapted to be curled around the pintle 5′. The member 8, may be provided with integral metal extensions 23 and with notches 28, for the purposes above described.

In all the constructions above described, my invention comprises the combination with a box of an easel consisting primarily of four flat sections, namely, the slidable section 8, the two foldable sections 9 and 10 and a stationary section 11, 11^a, 11^b, 11^c or 2, to which the foldable section 10 is hingedly secured. In Fig. 1, this stationary section is the part 11, secured to the bottom of the box in a variety of ways; in Fig. 4, it is the part 11 stapled to the bottom of the box; in Fig. 6,

it is the wall 11ª of the box; in Fig. 7, it is the false bottom 11ᵇ; in Fig. 10, it is the short bottom section 11ᶜ and in Fig. 12 it is the bottom 2, to which the member 10 is directly hingedly connected.

In Figs. 6 and 12 the stationary section of the easel is an integral part of the box.

In all these modifications, the easel on the box when the parts are folded up into operative position is essentially the sliding member 8, and the two foldable sections or members 9 and 10, together with the rubber band 26, tending to draw the remote edges of the adjacent foldable members toward each other. I may provide the slidable member with double extensions 23 or with single extension, to prevent the remote edges 5 and 7 of the foldable members 9 and 10 from approaching to a position in which the hollow tubular structure, triangular in transverse cross-section, and formed by the said foldable members 9 and 10 and the bottom 2 of the box, fails to have sufficient rigidity to support the filled box in tilted position, as shown in Figs. 1, 4 and 6, or this limit to the motion may be effected by slots 22 and ears 21 on the movable or slidable member 8 passing through said slots or openings, as shown in Figs. 1, 7, 11 and 12.

While for the purpose of showing a construction wherein a box 1 may be lifted and moved around without effecting the formation of an easel 4 on the bottom 2 of a box until a telescoping cover 3 has been slipped off from over the flattened easel, it is to be understood from the description above given, that the box shown in Fig. 1, may be provided with the ordinary telescoping cover or lid on the top side in which case the rigid easel 4 will be automatically formed upon the lifting of the box from a shelf or other support on which the filled box may have been placed with the easel 4 held flattened against the bottom 2 of the box by the weight of the contents of the box.

Referring back to the construction shown in Fig. 1, if the ears or tabs 21 should become broken or torn off from the member 8, the band 26 would operate to automatically form the easel for the struts or extensions 23 would still hold the member 8 sufficiently far from the member 11 to form the hollow truss-like structure triangular in cross-section, of sufficient rigidity to hold supported one edge of a filled box of gum or candy or confectionery. Likewise, should the extensions 23 be accidentally torn off without disturbing the ears 21, the easel would be formed in the same manner for the ears 22 would prevent the too close approach of the member 8 to the member 11.

Should one remove the staples 13 shown in Fig. 1, the ears 12 in the slots 20 serve to retain the member 11 flat against the bottom of the box and should the ears 12 become torn off and inoperative without removing the staples 13, the easel would be still retained on the bottom of the box in an operative condition. But it is to be understood that where in Figs. 1, 11 and 12, I have shown two devices for performing the same purpose and function, one set of devices may be omitted in favor of the other without departing from the aim and scope of the invention, and in the modifications shown in Figs. 5, 6 and 7, I have shown structures in which such changes have been made.

When the easel is formed out of card-board or stiff paper, I prefer to have the grain of the board run longitudinally of the connected sections 11, 10, 9 and 8, at right angles to the scorings 7, 6 and 5, to provide a strong hinged connection at the scorings and to make the sections stiff. If the grain is parallel to the scorings, the sections may be bent or bowed out of a plane surface and such a distortion of the operative parts of the easel may interfere with the full enjoyment and utility of my invention.

Of course, there is a possibility that at rare intervals, the rubber band 26 may deteriorate or break and thus render the automatic folding feature of the easel inoperative. I, therefore, have not limited myself to a construction wherein a rubber band is used as the resilient means of the easel and it is to be understood that any equivalent metal spring structure may be substituted for the rubber band for drawing the slidable section 8 toward the hinged connection 7 to fold the members 9—10 in a position to hold the box tilted without departing from the spirit and scope of my invention.

Having thus described my invention, what I claim and desire to protect by Letters Patent of the United States is:

1. The combination with a box and a tubular sleeve closure therefor, of an easel comprising a strip of sheet material, a hinged connection between one end of said strip and the bottom of said box adjacent and parallel to an edge of said bottom, said strip consisting of a plurality of flat sections in series, hinged connections between adjacent sections, said hinged connections being all parallel to said edge of said bottom, and resilient means operatively connected to the remote edges of two adjacent sections, one of said remote edges being stationary with respect to said box, and the other remote edge being movable with respect to said box, said resilient means tending to draw the said movable edge toward the said stationary edge to form a fold in said strip, and means to limit the movement of the said movable edge of said remote edges toward the other to a point where said members form with the bottom a rigid hollow structure, triangular in transverse cross-section, said strip and said resilient means being held flat between said

tubular closure and said bottom when said box is closed, said resilient means acting automatically to form said fold when said closure is slid from over said strip in opening said box.

2. The combination with a box of the character described, of an easel therefor on the bottom of said box and having a foldable section hingedly connected at one edge to said box adjacent and parallel to an edge of the bottom of said box, a second foldable section hingedly connected to an edge of said first-mentioned foldable section, a slidable section hingedly connected to an edge of said second foldable member, the hinged connections between said sections being all parallel to each other, resilient means under tension and operable to automatically draw said slidable section toward the hinged connection between said first foldable section and said box and to throw the hinged connection between said foldable sections away from the bottom of said box whenever said easel is not forceably held flat against the bottom of said box, means to limit the distance which said slidable member may be drawn by said resilient means to a point beyond which said foldable members do not form with the bottom of the box a hollow rigid structure triangular in cross-section and means automatically operable to prevent said slidable section from being moved in the opposite direction when once it has been moved to the limit of its movement toward said hinged connection between said first-mentioned foldable section and said box.

3. The combination with a box of the character described, of an easel structure therefor of sheet material held flat on the bottom of said box when the box is filled, and when the box is within a sleeve closure therefor and operative upon the removal of the box from a sleeve and when a box is lifted to be automatically folded into a rigid easel structure positioned adjacent an edge of said bottom, said easel comprising a strip of sheet material having three sections arranged in series, each section being connected to the adjacent section by hinge joint, said hinge joints extending at right angles to the long dimension of the strip, the edge of one end section being hingedly secured to the bottom of said box adjacent an edge of said bottom, and resilient means surrounding the other end section and the intermediate section and tending to draw said other end section and with it the edge of said intermediate section hingedly connected thereto toward the hinged connection between said first-mentioned end section and said box, and to throw the hinged connection between said first-mentioned section and the said intermediate section away from said box bottom and a stop to limit the distance to which said second-mentioned end section may move toward said first-mentioned end section under the pull of said resilient means.

4. The combination with a box of the character described, of an easel comprising a strip of cardboard hingedly secured at one end to said box adjacent an edge of said box and including three consecutive sections hingedly secured together by a parallel scoring across the strip and a rubber band operatively secured to the remote hinged edges of the section secured to said box and the section next adjacent thereto, said rubber band being under tension when said strip is held flat against the bottom of said box and operative when said strip is not so retained flat, to automatically draw the said two remote edges toward each other and the sections therebetween into planes making an acute angle at the hinged connection between said two, and a stop against which the section at the free end of said strip is drawn and held by said rubber band.

5. The combination with a box of the character described, of an easel having a series of four flat sections hingedly secured together on lines parallel to each other and transverse to the long dimension of the strip, and comprising two end sections, and two intermediate foldable sections, one end section of said strip being stationarily secured to the box adjacent an edge of the bottom thereof and contractile means surrounding said intermediate sections and operative to draw the remote edges of the two intermediate sections toward each other, the other end section lying flat against and being freely slidable on the bottom of said box, and means to limit the distance that the last mentioned end section and the edge of the intermediate section connected thereto may be moved by said contractile means toward said first-mentioned end section.

6. The combination with a box of the character described of an easel therefor, comprising a strip consisting of series of four sections hinged together on lines parallel to each other and transverse to the long dimension of the strip, one of said sections being an end section stationary with respect to the bottom of the box, an end section freely slidable on the bottom of the box and two intermediate folding sections, contractile means tending to draw the remote edges of the two intermediate folding sections toward each other and to throw the hinged connections between said folding sections downwardly away from the bottom of said box and to draw said sliding end section lying flat against the bottom of said box toward said stationary end section, means to limit the distance which the said sliding end section and the edge of the folding section hingedly connected thereto may be drawn by said contractile means, and means to automatically lock said sliding section with respect to said foldable sections when said sliding section has reached the limit of

its movement under the tension of said contractile means.

7. The combination with a box of an easel comprising a strip provided with parallel scorings forming two foldable sections and a sliding section in series, hingedly secured together by said scoring, the edge of one of said end foldable sections being secured to the box by hinged connection adjacent and parallel to an edge of the bottom of said box, said sliding section being slidable on the bottom of the box from its position flat on the bottom of said box toward the hinged connection between said strip and said box to force the hinged connection between said foldable sections away from the bottom of the box and to fold said foldable sections into substantially a V-shape, and interlocking means carried by said slidable section and another section of said strip respectively and brought into interlocking engagement when said slidable section has been moved to the limit of its movement toward the hinged connection between said first-mentioned end section and the foldable section hinged thereto.

8. The combination with a box of the character described, of an easel therefor, comprising a sheet of stiff material having three consecutive sections hingedly secured together in series and comprising an end foldable section, an intermediate foldable section and a sliding section, one edge of said end foldable section being hingedly secured to the box and the said slidable section being movable toward the hinged connection between said end foldable section and the box, to move the hinged connection between said foldable sections away from the bottom of the box, means to limit the distance which said slidable member may move toward the said hinged connection between said foldable section and said box, and interlocking means carried by said sliding section and said first-mentioned foldable section respectively and brought into interlocking engagement when once said slidable section has been moved to the limit of its movement toward said hinged connection between said end foldable section and said box.

9. The combination with a box of the character described of an easel having a series of flat sections, hingedly secured together on lines parallel to each other and transverse to the long dimension of the strip and comprising two end sections and two intermediate sections, the edge of one end section of said strip being stationarily secured to the box adjacent an edge of the bottom thereof, the other end section of said strip lying flat against the bottom of said box and being freely slidable on the bottom of said box toward the other end section when said strip is flat on the bottom of said box, to fold the two intermediate foldable sections into substantially a V-shape, means to limit the travel of said slidable section toward the other end section and interlocking means carried by said slidable member and another member of said strip respectively and brought into interlock-locking engagement by the movement of said slidable member into its position of nearest approach to said stationary end member.

10. The combination with the box of an easel comprising a strip provided with parallel scorings forming two foldable sections and a sliding section in series hingedly secured together by said parallel scorings, the edge of one of said end sections being secured to the box by hinged connection adjacent and parallel to an edge of the bottom of said box, said slidable section being freely movable on the bottom of said box toward said hinged connection between said strip and said box, when said strip is flat on the bottom of the box, to a position in which said foldable members are folded into substantially a stiff V-shape and interlocking means carried by said slidable section and another section of said strip respectively and brought into interlocking engagement with each other when said slidable section has been moved to limit of its motion toward the end section which is hinged to said box.

In witness whereof, I have hereunto set my hand this eigthth day of September, 1927.

GILBERT B. MUSTIN.