

July 25, 1944.

M. I. WILLIAMSON

2,354,239

TELESCOPIC CONTAINER

Filed Sept. 6, 1941

3 Sheets-Sheet 1

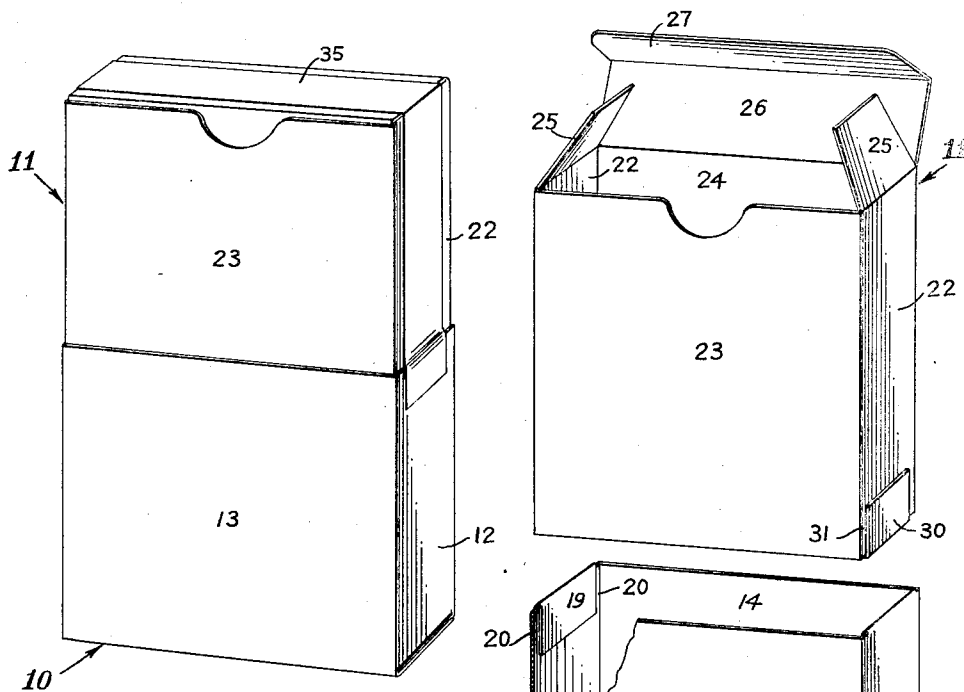


FIG. 1.

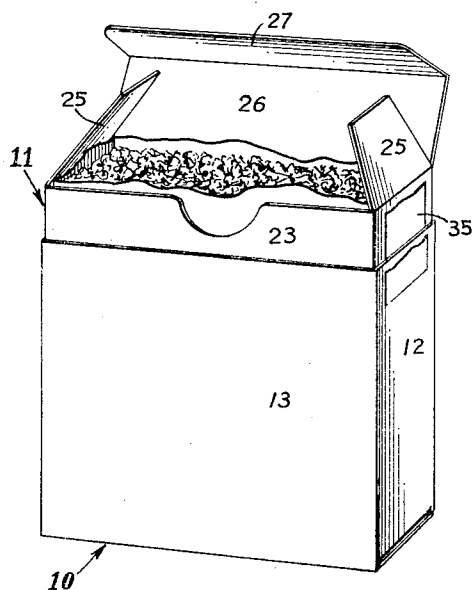


FIG. 3.

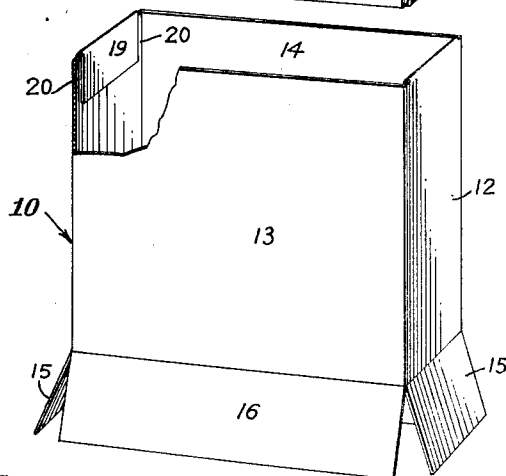


FIG. 2.

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3 Sheets-Sheet 3

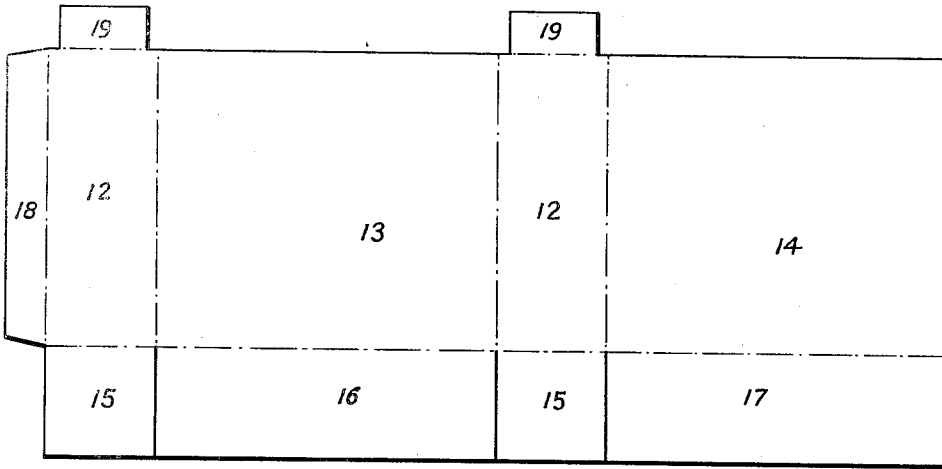


FIG. 9.

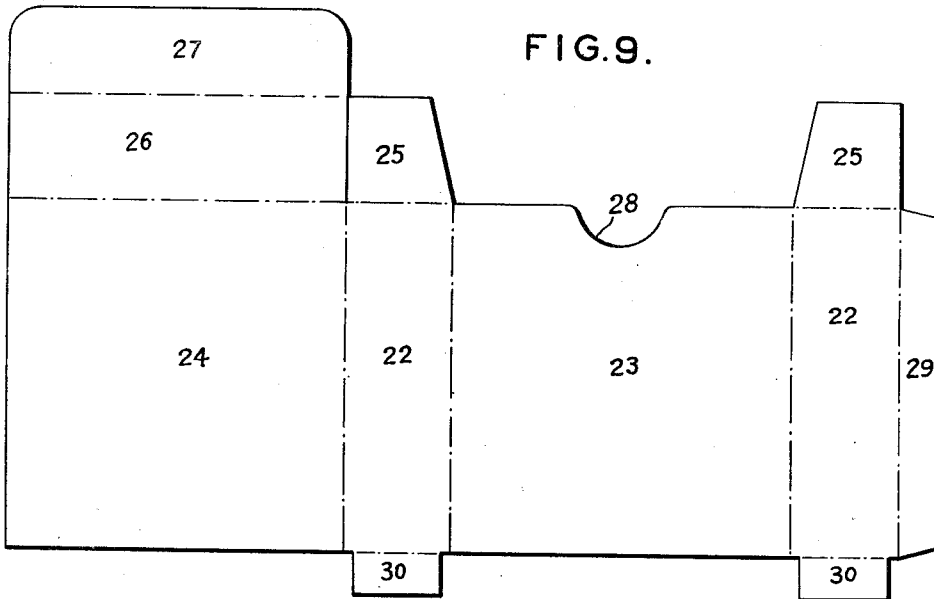


FIG. 10.

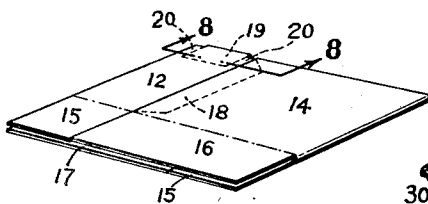


FIG. 11.

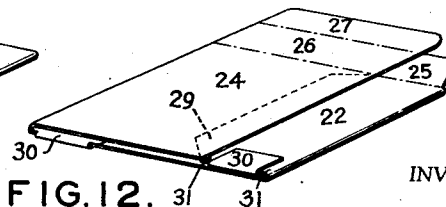


FIG. 12.

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TELESCOPIC CONTAINER

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Application September 6, 1941, Serial No. 409,794

4 Claims. (Cl. 229—23)

This invention relates to telescopic containers, and has particular reference to telescopic folding boxes as manufactured from sheet paper-board or other suitable foldable material.

Telescopic containers, as such, are not new, nor are telescopic folding boxes. The invention resides in the nature of the construction hereinafter disclosed, whereby manufacture and use of telescopic folding boxes are considerably facilitated.

A primary object of the invention is to provide a folding box made up of two or more sections telescopically related and adapted for telescopic movement with respect to one another, the sections being capable of easy and efficient manufacture on high-speed automatic machines, and the assembled box being collapsible into a flat shipping and storage condition without distortion.

An important feature of the invention, in the accomplishment of the foregoing object, resides in the providing of mutually cooperative limit-stops on mutually opposite lateral walls of the telescopic sections of the box, the limit-stops being preferably in the form of tabs secured to such mutually opposite lateral walls and adapted for edge-to-edge abutting engagement to limit the telescopic movement of the sections.

The limit-stop tabs are preferably less in width than the respective wall panels with which they are associated in order to provide clearances for accommodating score beads resulting from the folding of the foldable material during the formation of the box. This facilitates both the manufacture and the subsequent assembly of the sections, and, in both these instances, as well as in the collapse of the box from set-up position to flat shipping and storing condition, prevents misalignment and distortion thereof.

A feature of certain embodiments resides in the placing of the limit-stop tabs on mutually opposite side wall panels which are considerably narrower than the other side wall panels of the box.

Further objects and features of the invention will be apparent from the following detailed description of specific embodiments illustrated in the accompanying drawings.

In the drawings:

Fig. 1 represents a perspective view, taken from the front, of a preferred form of one type of telescopic box pursuant to the invention, the box being illustrated as an unopened merchandise-containing carton;

Fig. 2, a view similar to that of Fig. 1, slightly enlarged, and illustrating the two individual telescopic sections of the box immediately prior to

being assembled, a portion of the front wall of the lower section being broken away to reveal one of the limit-stops;

Fig. 3, a view similar to that of Figs. 1 and 2, and illustrating the box with its two individual sections assembled and in fully telescoped or retracted relationship, reducing the containing capacity thereof in accordance with depletion of its contents;

Fig. 4, a vertical section taken centrally through the narrower width of the box illustrated in Fig. 1;

Fig. 5, a horizontal section taken on the line 5—5 of Fig. 4;

Fig. 6, a vertical section taken on the line 6—6 of Fig. 4;

Fig. 7, an enlarged fragmentary detail in horizontal section taken on the line 7—7 of Fig. 4;

Fig. 8, an enlarged fragmentary detail in section taken on the line 8—8 of Fig. 11, sheet 3 of the drawings;

Fig. 9, a plan view of the inside face of the blank from which the lower section of the box of Figs. 1 and 2 is formed;

Fig. 10, a view similar to that of Fig. 9 but illustrating the blank from which the upper section is formed;

Fig. 11, a perspective view of the lower section as originally folded and glued or as collapsed into flat storage and shipping condition;

Fig. 12, a view similar to that of Fig. 11 but illustrating the upper section as originally folded and glued or as collapsed into flat storage and shipping condition; and

Fig. 13, sheet 2 of the drawings, another embodiment of telescopic box pursuant to the invention, and of a type similar to that of Fig. 1, but adapted for containing and displaying a different type of merchandise.

The invention is especially applicable to telescopic folding boxes of the type which are reducible in capacity for affording convenient access to unused portions of the contents remaining at the bottom of the box after the upper portions have been used.

Such a folding box is illustrated in Figs. 1 through 8 of the drawings, and is especially useful for packaging smoking tobacco. The illustrated box comprises a lower section 10 and an upper section 11 adapted for telescopic movement relative to each other. The upper section 11 fits within and telescopes into the lower section 10, but the lower section of the box might equally as well be made so as to fit into and slide within the upper section, the particular arrangement in any instance being dependent upon the circumstances of

use. The lower section 10 is, therefore, hereinafter spoken of as the outer section, while the upper section 11 is hereinafter spoken of as the inner section. Both sections are hollow-formed.

Each of the telescopically related box sections is formed separately, preferably from an integral blank of sheet paper-board stock, which is suitably cut and scored. The blank for forming the outer section 10 is illustrated per se in Fig. 9, while the blank for forming the inner section 11 is illustrated per se in Fig. 10.

The blank of Fig. 9 is substantially rectangular in configuration having mutually similar side panels 12 and 12, respectively, and front and back panels 13 and 14, respectively, the side panels 12 and 12 being considerably narrower in width than the front and back panels 13 and 14, respectively. Extending from the lower ends of the side panels 12, 12 are conventional closure-supporting flaps 15, 15, respectively, and extending from the lower portions of the front and back panels 13 and 14 are conventional closure glue flaps 16 and 17, respectively. A conventional side glue lap 18 extends laterally from one of the side panels 12. Extending from the upper ends of side panels 12, 12 are limit-stop tabs 19, 19, respectively. The provision of such limit-stop tabs constitutes one of the novel features of the invention. They are preferably substantially less in width than are the respective side panels with which they are associated, their lateral edges being spaced backwardly, or being indented, from the lateral edges of the said side panels.

In forming the outer box section 10 from the blank of Fig. 9, it is necessary that the limit-stop tabs 19, 19 be folded back on the inner face of the blank and be secured to the inner faces of the side panels 12, 12, respectively. Since it is contemplated that the boxes will be produced on standard automatic folding and gluing machinery for extensive commercial use, gluing is the preferred method of securing the limit-stop tabs 19, 19 in place.

The respective blanks are first run through an automatic folding and gluing machine in their flat conditions, as illustrated. In the case of the blank of Fig. 9, the inner faces of the limit-stop tabs 19, 19 are coated with glue by the machine, and the thus coated tabs are then folded backwardly by the machine against the inner faces of the side panels 12, 12, respectively, and pressed into position. Thereafter, the thus processed blank is run through an automatic folding and gluing machine for coating the outer face of the glue lap 18 with glue and for folding the blank, and for securing it, in the form illustrated in Fig. 11. During this operation, the clearances (see 20, 20, Fig. 11) provided laterally of each limit-stop tab 19, accommodate the score beads (see 21, 21, Fig. 8) and insure gluing of the glue lap 18 to the inside face of front panel 13 without misalignment of the respective wall panels of the resulting box section. As thus completed, the outer box section 10 is set-up in the manner shown in the lower portion of Fig. 2 for assembly with the similarly formed and set-up inner section 11.

The blank of Fig. 10, which ultimately becomes the inner section 11 of the box, comprises mutually similar side panels 22 and 22, respectively, and front and back panels 23 and 24, respectively. Extending from the upper ends of side panels 22 and 22 are closure-supporting flaps 25 and 25. A top panel 26 and tuck-in flap 27 extends from the upper end of back panel 24 to pro-

vide a tuck-in closure for the box. The front panel 23 may be indentured as at 28 to facilitate opening of the tuck-in closure. A side glue lap 29 extends laterally from one of the side panels 22. All of the foregoing is conventional in the folding box art. Novel with the invention, however, as in the case of the blank of Fig. 9, are the limit-stop tabs 30, 30, extending from the lower ends of side panels 22, 22, respectively. As in the case of the blank of Fig. 9, the limit-stop tabs 30, 30 are each of lesser width than the widths of the corresponding side panels 22, 22, and each provides marginal clearances laterally thereof when folded and secured in place against the main body of the blank. In this instance, the limit-stop tabs 30, 30 are folded and secured against the outer faces of side panels 22, 22, respectively, preferably in the same manner and by the same procedure as explained in connection with the blank of Fig. 9, the resulting marginal clearances indicated 31, 31, respectively, are apparent from Figs. 2 and 12. These marginal clearances 31, 31 are, however, not important from the standpoint discussed above relative to the folding and gluing of the blank, because the tabs 30, 30 are on the outside, rather than the inside of the box section, and the panels fold on their respective score lines away from and not over the said tabs 30, 30, which tabs, therefore, have no tendency to cause misaligned gluing of the box section. They are, nevertheless, still important for accommodating the score beads of the outer box section 10 when the two box sections are collapsed while in telescopically assembled relationship.

The blanks of Figs. 9 and 10 completely form the respective box sections 10 and 11 when folded and glued as described above, and the said sections, when telescopically assembled, form the complete box of Figs. 1, 4, 5, and 6. Because of the clearances laterally of the respective limit-stop tabs 19, 19 and 30, 30, as aforesaid, the complete box, as well as the box sections individually, may be collapsed into flat shipping and storing condition without distortion.

The complete box is most easily assembled from the two individual box sections by pressing the front and back panels of the set-up inner box section toward each other, and by thereafter inserting the thus pinched and open engaging end of the inner box section into the open, engaging end of the outer box section until the limit-stop tabs of the respective box sections clear one another. Thereupon, the pressure is relieved and the two box sections extended relative to each other until the limit-stop tabs engage in end-to-end edge abutment. This procedure can be most easily visualized by referring to Fig. 2. The pressing or pinching of the front and back panels of the inner box section toward each other shortens the normal width of the inner box section and allows the same to be easily inserted into the open engaging end of the upper box section, regardless of the several limit-stop tabs.

Another satisfactory way of assembling the two individual box sections into a complete telescopic box is by threading the inner box section through the outer box section so that the limit-stop tabs do not have to pass over one another.

Regardless of the manner of assembling the two box sections into a complete telescopic box, they are dimensioned relative to each other to provide a very close sliding fit.

It is preferable that the filling of the completely assembled box with contents be accom-

plished through the closure end of the inner box section, and, thus, through the smaller and into the larger box section. During such filling operation, the inner box section may be held against sliding, telescopic movement within the outer box section in any suitable manner, as, for example, by grasping the closure supporting flaps thereof.

As shown in Fig. 1, the filled and closed box may be sealed by a gummed paper strip 35 or the like which passes over the top closure of the box and down the sides thereof past the junctions between the upper and lower box sections. In the instance of use of the box for smoking tobacco, the strip 35 may be the usual revenue stamp required by law. The seal, of course, is broken at the junction of the two box sections either by tearing or cutting the same at that point or by pressing the inner box section further into the outer box section when part of the contents of the box has been used, see Fig. 3.

The manner in which the score beads of the respective box sections, see the reference numeral 21, fit into and ride within the clearances provided laterally of the limit-stop tabs, is illustrated in Figs. 4, 5, and 7. Because of this, there is no deformation nor weakening of the box along its height by reason of crowding during the telescopic movement of the box sections relative to each other.

The embodiment of Fig. 13 is identical in construction with the embodiment aforedescribed, differing therefrom only in dimensions, and in the fact that the outer box section, here 40, is upper, while the inner box section, here 41, is lower. This embodiment effectively illustrates how suitable contents of such telescopic boxes may be exposed for display purposes or for more convenient removal from the box, by reason of the telescopic movement of the interengaged inner and outer box sections.

In the particular instance, pencils 42 are shown packed in a relatively long, narrow box or carton especially adapted therefor. When the interengaged sections 40 and 41 are fully extended, the box is just large enough to comfortably contain its contents. Upon opening the closure and sliding the outer box section 40 downwardly, the contents are exposed for display or for removal of one or more of the articles contained therein. To re-close the box, the upper and outer box section 40 need merely be pushed upwardly until its limit-stop tabs (not shown) are again in end-to-end edgewise abutting relationship with the limit-stop tabs (not shown) of the inner and lower box section 41.

In instances where a box of the general type shown in Fig. 13, that is, where the upper section

is "outer" and the lower section is "inner," and the box is intended for full telescopic retraction while the cover of the upper section is closed, the entering edge of the closure tuck-in flap, indicated in Fig. 13 by 43, preferably tapers to an apex, desirably arcuately, to facilitate its passing the upper edge of the lower or inner box section as the two sections are being retracted.

The various embodiments of the invention aforedescribed each comprises only two sections. Additional middle sections, substantially similarly formed but with open ends, may be provided for cooperation with the closure-provided sections, if desired, for increasing the capacity of the box in well-known telescopic manner.

Whereas this invention has been illustrated and described with respect to several specific embodiments thereof, it should be understood that various changes may be made in such specific embodiments and numerous other embodiments may be constructed by those skilled in the art without departing from the spirit and generic purview of the invention as set forth herein and in the claims here following.

I claim:

1. A folding box comprising a plurality of box sections telescopically inter-related in close sliding fit, each of said box sections being hollow-formed from foldable paper box board to provide wall panels which include two oppositely related, narrow, side wall panels separated by relatively broad panel wall means, said narrow, side wall panels being provided with respective tabs which are folded into face-to-face contacting relationship therewith, the several tabs being arranged in corresponding pairs as limit-stops for co-operation in edge-to-edge abutment when the said sections are in extended position, thereby limiting the extent of telescopic extension of said box.

2. A folding box as recited in claim 1, wherein the limit-stop tabs are narrower than the respective narrow, side wall panels with which they are associated.

3. A folding box as recited in claim 1, wherein the limit-stop tabs are narrower than the respective narrow, side wall panels with which they are associated, and are glued against those said side wall panels; and wherein the box sections are formed of sheet paper box board blanks which are folded and glued longitudinally to provide the hollow formation thereof.

4. A folding box as recited in claim 1, wherein the limit-stop tabs are glued to those respective narrow side wall panels against which they are folded in face-to-face contacting relationship.

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