April 30, 1957 G. A. MOORE 2,790,589

TELESCOPIC CONTAINER

Filed June 15, 1954

FIG. 1

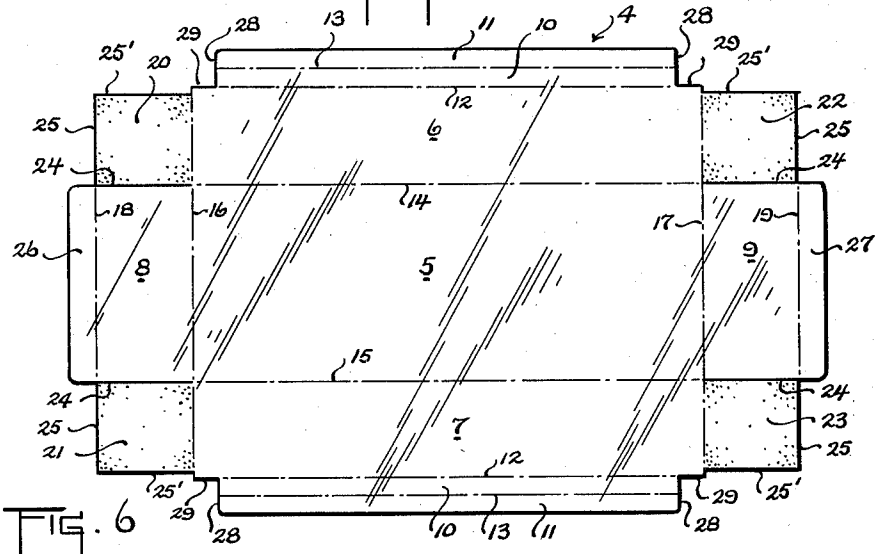


FIG. 6

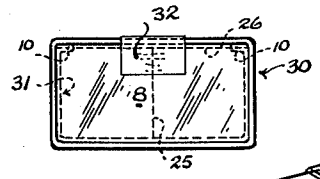


FIG. 4

FIG. 2

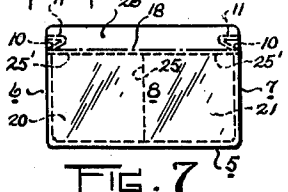


FIG. 5

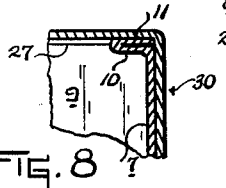


FIG. 3

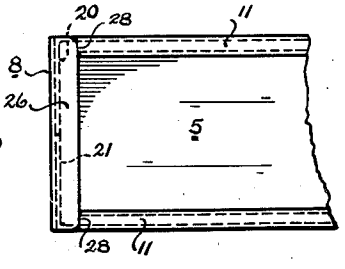


FIG. 7

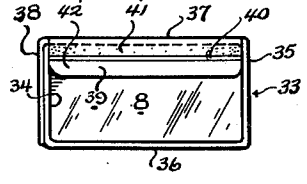
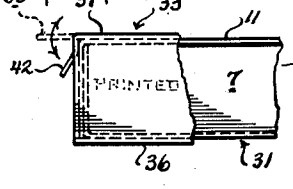


FIG. 8



INVENTOR.

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United States Patent Office 2,790,589 Patented Apr. 30, 1957

2,790,589

TELESCOPIC CONTAINER

George Arlington Moore, New York, N. Y.

Application June 15, 1954, Serial No. 436,847

3 Claims. (Cl. 229—19)

My invention pertains to an improved telescopic con- container, more particularly to novel features of structural relationship arranged for the male part of the container with respect to the female part thereof, whereby upon assembly of the related parts there is ever present, resilient co-active effects each upon the other to render the container efficient in utility and protection for the products to be commercially distributed therein.

The prior art relating to telescopic containers is old, however, the commercial use of such containers has been limited due to the lack of stability maintained in the fitting relationship of the component parts thereof thus rendering them unsuitable for distribtuion of a wide variety of consumer products. The general utility afforded by this type of container is much to be desired if structural embodiments can be devised to maintain engagements that will stabilize and maintain proper fitting relationship of the said component parts thereof.

A principal object of the present invention is to provide an improved telescopic container with structural embodiment that will be flexibly effective to maintain substantially tight fitting engagement of the component part assembly that forms the container.

Another object of the invention is to provide an improved shell and slide container, the slide member thereof having a pair of resiliently active wedge-like runners which co-act with the shell member of the container to constitute an effective closure thereof.

A further object of the invention is to provide an improved telescopic container having novel features for display of commodities packaged therein, and further provide means for convenient dispensing of contents from the container.

A still further object of the invention is to provide an improved food container adapted with novel means for being initially sealed and also provide for convenience in opening reclosing the container with a minimum of effort required by the consumer.

And another object of the invention is to provide an improved telescopic container for food-stuffs having means with which the tray part thereof after being moved will automatically check and hold firmly in any stop position selected with respect to its in and out relation with an end of the sleeve part thereof.

The above and other objects and attendant advantages are attained by this invention an embodiment of which, I have illustrated in the accompanying drawings to which reference is made.

Fig. 1 is a plan view of one type of blank chosen from which the tray member of the container assembly may be formed.

Fig. 2 shows one end of the tray as formed of the blank of Fig. 1.

Fig. 3 shows a fragmentary part of the formed tray in plan view of Fig. 1 with marginal wall portions having been folded.

Fig. 4 shows a view in perspective of the formed tray

assembled into a sleeve part of the container, the tray being in an intermediate position therein.

Fig. 5 is a fragmentary part of a section on line 5—5 of Fig. 4 showing a structural feature of the present invention.

Fig. 6 shows an end elevation of one embodiment of the completed assembly of the container parts.

Fig. 7 shows an end elevation of another embodiment of the container in completed form, and

Fig. 8 shows a fragmentary part of the embodiment of the assembled container of Fig. 7 in side elevation.

The blank of Fig. 1 used to illustrate the present invention may be made of any suitable sheet material or of paper board, especially of grades that are used in making conventional trays or cartons. The blank 4 may be coated or laminated with protective material to have grease resistant properties or other qualities suitable for protection of the intended products for the container. The protective material may be liquid solutions of resins such as polyethylene, saran, vinyls or water dispersions of polystyrene or cellulose gum free acid containing methyl hydroxy benzoate and ionized to remove sodium salts for hydrogen, the latter material having excellent grease-proofing qualities. The laminating sheet material may be aluminum foil, saran, polyethylene, cellophane, pliofilm or other similar types of commercially available protective film material.

The blank 4 is cut and scored to provide a panel 5 that forms the bottom wall of the tray. At each side is a side panel 6, 7 and at each end an end panel 8, 9 for forming the side and end walls of the tray. Each side forming wall portion 6, 7 is provided with longitudinal twin marginal portions 10, 11 defined with parallel score lines 12, 13. The score line 13 subdivides the twin margins for folding purposes. The several adjoining panels are separated by score lines 14, 15, 16, 17, 18 and 19 along which the material is folded to form the tray. Side panels 6, 7 are provided with opposed end flaps 20, 21, 22, 23 extending outwardly of score lines 16, 17 and are separated from end panels 8, 9 with common slit lines 24. The outer end edges 25 of the end flaps are disposed substantially in line with the score lines 18 and 19 respectively. The outer longitudinal edges 25' of the flaps are disposed inwardly of the parallel score lines 12. End panels 8, 9 are each provided with end flanges 26, 27 disposed outwardly of score lines 18, 19. Each opposite end 28 of each twin margin 10, 11 is spaced inwardly of each score line 16, 17 respectively, the spacing margin being substantially equivalent to the width of the end flanges 26, 27. The side panels 6, 7 are each provided with outwardly spaced edges 29 extending from the transverse edges 28 of the longitudinal twin marginal portions 10, 11.

The blank is made adaptable to form reinforcements for the end panels 8, 9, the flaps 20, 21 and 22, 23 being the medium of reinforcement. The said flaps may be provided with thermoplastic adhesive as shown by the stippled dots thereupon, however if desired, other types of adhesive may be employed just prior to the forming of the tray to secure the said flaps to the end panels thereof.

The blank may be folded by hand or machine to form the tray as shown in Figs. 2 and 3. The side panels 6, 7 and end panels 8, 9 are bent upwardly on score lines 14, 15 and 16, 17 respectively to form the sides of the tray. The flaps 20, 21 and 22, 23 are folded inwardly on the extending score lines 16, 17. The end edges 25 being opposed in substantial abutment. The flaps are adhesively secured to the inner surface of the folded end panels 8, 9 to render rigid reinforcements thereto. During the forming operation of the tray the twin margins 10, 11 may be folded inwardly on score lines 12 and

doubled back on score lines **13** as shown in Fig. 2. The said doubled back margins form a pair of opposing resiliently active ledges along a major length on the top sides **6**, **7** of the tray. The ledges strengthen and reinforces these side panels in an effective manner. The doubled back margins are of relatively narrow width and are adapted to be self-superimposed which adds to the efficiency and strength of their resilient activity when being opposed by an enclosure wall of the container.

The hollow shell part of the container may be provided by adapting any of various open end types of sleeve made suitable for the insertion of the tray having the resiliently active ledges. The sleeve may be formed of a cut and creased blank of fibrous board material being folded to shape the sleeve with marginal portions thereof glued together. Embodiments of the present invention however contemplate improvements in the sleeve part of the container to co-operate effectively with the resilient wedging action of the tray part thereof.

One embodiment of the invention provides a telescopic display container illustrated in Fig. 4. A hollow sleeve **30** which may be of transparent plastic material is provided for telescopic encasement of the tray **31**. The transparent sleeve may be molded or extruded of plastic material such as polystyrene, cellulose acetate or of other suitable transparent plastic material. Alternatively, the sleeve may be folded and shaped of transparent film material in sheet form such as oriented polystyrene, cellulose acetate, vinyls or ethyl cellulose.

After filling the tray **31** with the intended product for the container, the end **9** of the tray is inserted into an open end of the sleeve **30**. Just prior to the said insertion the end flange **27** is bent inwardly and downwardly of the tray. The leading end portions of the resiliently active ledges **10**, **11** are flattened downwardly in self-superimposing relationship as the tray is pushed into the sleeve. The tray is finally disposed within the substantial length of the sleeve, the ledges being further compressed by the sleeve as the tray has progressed therein and the flange **26** having been bent inwardly and downwardly of the tray so as to enter under the end edge of the upper wall of the shell. The constant resiliency of the opposing side ledges of the tray is opposed by the top side wall of the shell causing the compressed ledges to co-act with the shell in wedging relationship to maintain an efficient close fitting engagement therewith which effectively closes the container when the tray is pushed home into the sleeve.

The end flanges **26**, **27** of the tray may be made of increased width to provide doubled back margins and thus provide the ends of the tray with resiliently active ledges similar to the wedging ledges on the opposing sides thereof. A sealing stamp **32** illustrated in Fig. 6 may be affixed to the shell and tray to safeguard against tampering with the container contents until received by the consumer. Thus, there is provided a display container for packers of many varieties of saleable consumer items, the container affording advantages in display and service utility for attracting the consumer.

The container may be opened with little effort by the consumer compared with other types of containers. By severing the stamp **32** the tray part **31** of the container is free so that it may be manually pushed upon one end thereof to move the tray out of the shell any desired distance to expose the contents of the container for convenient dispensing purposes. The folded spring wedging ledges are constantly active in brake-like action to firmly check the tray in any desired stop position from out the shell. When a portion of the container contents is removed from the tray it may be pushed back into the shell as it was initially disposed, reclosing the container effectively for continued protection of the contents. The resilient coactive effects of the spring-wedging ledges of the tray within the shell keeps the fitting engagments of the container parts stable regardless of any rough handling or

storage conditions to which the containers may be subjected.

The tray blank **4** may be printed with appropriate color design so that the formed tray when inserted into the transparent sleeve will display luster and sheen to the printed design thus making the container attractive in sales appeal for the packaged product.

The invention contemplates another embodiment of the sleeve part of the container as being formed of paper board material and treated if desired in the manner hereinbefore described for the tray part of the container. The modified shell is illustrated in Figs. 7 and 8. The tube-like sleeve **33** may be made of a cut and scored blank which is folded to form four side walls for encasement of the tray **31**. The sleeve blanks may be printed, cut, scored and folded by conventional folding carton making machinery. The longitudinal seam of the sleeve is preferably arranged so that the inner surfaces of the side walls **34**, **35**, **36**, **37** are rendered uniformly smooth for close fitting of the walls of the tray. The wall **37** (Fig. 7) is extended with a folded side panel **38** which overlaps the inner side wall portion **34** of the sleeve. The said overlapping wall portions **34**, **38** are glued together to constitute the longitudinal seam of the sleeve. The top side wall **37** is provided with two opposing marginal end flanges **39**. Each end flange may be scored with a line **40** with which to subdivide the flange into two marginal portions **41**, **42**.

After inserting the filled tray **31** within the sleeve **33**, the end flanges **39** are bent downwardly and inwardly to engage an upper marginal portion of each opposed end wall **8**, **9** of the tray. Adhesive may be applied to the margin **41** of each flange just prior to the said folding thereof so that the flanges when folded are securely fastened to the said upper margins of the tray end walls.

Preferably, the length of the sleeve **33** exceeds the length of the inserted tray **31** by substantially two thicknesses of the sleeve material so that the exterior surface of each folded end flange **39** upon each end of the tray will be disposed flush with the end edges of the shell. The bridging length of the folded end flanges are substantially equivalent to the inner width of the shell. This arrangement of the folded flanges **39** provides a level end base for the container to stand upon either of its ends in square upright position.

The folded and secured end flanges **39** seals the tray in the sleeve and thereby constitutes the completion of a simple and uncomplicated sealed closure for the container. The container may be easily opened with little effort by grasping each unattached marginal portion **42** of the flanges **39** pulling same outwardly and upwardly which severs the bonded portions **41** from the ends of the tray. The tray may be pushed outwardly of the sleeve to any desired position required for dispensing the contents of the container, the removal of container contents being convenient and greatly simplified as compared with other types of containers. The tray may be pushed back into the sleeve to reclose the container effectively as hereinbefore described. The tray part of the container will not jar loose or move out of position in the sleeve without being manually operated upon to over-power the wedging friction imparted by the resilient ledges of the encased tray.

The blanks used to form the tray and shell component parts may be waxed if desired. Alternatively, the blanks or the formed tray and shell may be sprayed with water dispersions of plastic compounds such as polystyrene or other suitable plastic solutions which are solvent free. Such treatment of the containers of the present invention renders them suitable for distribution of frozen foods, bakery products and many other varieties of food commodities.

My improved container in the form and modifications shown can utilize a variety of materials in various com-

binations adapted to the particular commodity to be packed without departing from the simple manner of fabrication and assembly of the container. The commodity filled trays may be carried rapidly by a simple conveyor and the trays inserted into the open sleeves which are also carried by conveyor at the same rate of speed, the insertion being accomplished by a simple transverse plowing movement to the tray while being carried in motion by the said conveyor.

The structural embodiments of the present invention are adaptable for making telescopic containers in sizes comparable with the usual range of conventional folding cartons. The paper board sleeve embodiment of my improved container may be adapted with a transparent window similar to those used in conventional cartons or boxes. The tray part of the container for special purposes may be advantageously formed of plain aluminum or a lamination thereof with other sheet material.

The spring wedging ledges of the tray have the double feature of maintaining an effective closure encasement of the tray within the sleeve part of the container, the ledges being adapted to yield the tray by manual movement thereof, the ledges automatically checking the tray in a firm stop position to facilitate convenient dispensing of the container contents. The portion of the tray remaining within the sleeve is prevented from slipping or being jarred loose by the wedging runners of the tray even though the container is tilted at an acute angle.

The action of the spring ledges when compressed have a tendency to tighten the surface engagements of the side walls of the tray with the adjacent side walls of the sleeve. This action is due to the U-shaped form of the ledges being disposed at right angles to their dependent side walls. Pressure imposed upon the doubled back marginal portions of the ledges cause the under wall marginal portions thereof to push the side walls outwardly against their respective opposing walls of the engaging sleeve.

The invention will suggest other modifications and adaptations to those skilled in the art of making containers, all within the scope.

Having thus described my invention in what I believe to be a comprehensive embodiment, what I claim is:

1. A telescopic display container for articles of merchandise comprising a five sided tray folded of sheet material to contain said articles, said tray having two of its opposed longitudinal side walls folded upwardly along parallel corner edges of the integral bottom wall of the tray and the top corner edge of each said two side walls being provided with a relatively narrow marginal portion folded inwardly, upwardly, outwardly and downwardly to form a pair of up-springing ledges capable of being compressed downwardly in self superimposing surface relationship, the opposite end edges of said pair of ledges being spaced inwardly from the opposite end walls of the tray, the top corner edge of each said end wall being provided with an in-folded marginal portion thereof and the inner edge of the folded margin meeting parallel with two end edges at the ends of the transverse pair of folded ledges, a four sided tubular body portion of the container being formed of transparent plastic material and provided to enclose said longitudinal side walls and bottom wall of said tray, the tray being inserted into said plastic body whereby the marginal folds of said pair of ledges of the tray are compressed substantially into superimposing relationship by the enclosure walls of said body, the top surface of the upper marginal portion of each ledge bearing flatly parallel upon corresponding interior surface portions of said enclosure walls thereby effecting a resiliently tight union of the tray and body assembly, said infolded margins of the opposite end walls of the tray being inserted into the opposite ends of said body to co-act with the opposite ends of said ledges and thereby effect a substantially tight closure of said opposite ends of the plastic body portion of said container.

2. A telescopic assembled display container for articles of merchandise comprising a four sided tubular body formed of transparent plastic material, a five sided tray formed of sheet material and being provided with resilient structural means to engage firmly but flexibly with said tubular body, said means consisting of a pair of up-springing marginal ledges folded along top corner edges of two opposed longitudinal side walls of the tray, each of said ledges being defined as being folded inwardly, upwardly, outwardly and downwardly from the corresponding side wall and the marginal folds being disposed substantially inwardly at right angles of said side wall, the opposite end edges of the ledges being parallel and spaced inwardly of the pair of side walls defining the opposite ends of said tray, each top edge of said opposite ends of the tray being provided with an in-folded marginal wall portion extended to the adjacent pair of opposed parallel edges of said opposite ends of the longitudinally disposed pair of ledges, said tray being inserted into said tubular body whereby said ledges are substantially compressed flatly into marginal superimposing relationship and the constant up-springing tendency of said ledges providing means that effectively tightens the assembly of tray and tubular body by resilient coplanar surface contact securing relationship, said infolded tucked marginal wall portions of opposite end walls of the tray coacting to effectively close the opposite ends of the tubular body, and tamper proof means being provided to augment the closure of the opposite ends of the assembled display container.

3. An assembled telescopic container for articles of merchandise comprising a four sided tubular body of folded sheet material, said body enclosing longitudinal wall portions of a five sided tray folded of sheet material and containing said articles, each wall of two opposed longitudinal side walls of said tray being provided with a relatively narrow reversely folded marginal portion thereof in self-superimposed relationship and articulated thereto along the top corner edge of each corresponding side wall to define a pair of parallel ledges disposed inwardly at right angles of said corresponding wall, said ledges having constant tendency to spring upwardly, the opposite ends of said ledges being spaced inwardly from the opposite end walls of the tray, each of said end walls being provided with a marginal portion thereof being folded inwardly from the top corner edge thereof, and said marginal portions being extended to the adjacent end edges of said pair of ledges whereby, the assembly relationship of the tubular body and tray of articles is constantly maintained together in resiliently secured fitted engagement irrespective of the relative longitudinal position of the tray in the tubular body that may be manipulated for dispensing purpose of the assembled container, and upon closing the opposite ends of said body by the tray, said inwardly folded top margins of said opposite end walls thereof providing means to effectively close the container by marginally closing the exposed alternate ends of the transverse pair of opposing resiliently active superimposed ledges.

References Cited in the file of this patent

UNITED STATES PATENTS

625,757	Groneman	May 30, 1899
1,253,489	Houghland	Jan. 15, 1918
1,862,829	Roempler	June 14, 1932
1,906,964	Hill	May 2, 1933
2,116,513	Frankenstein	May 10, 1938
2,401,765	Kuhlman	June 11, 1946
2,623,682	Candell	Dec. 30, 1952
2,717,073	Young	Sept. 6, 1955
2,722,361	Kindseth	Nov. 1, 1955

FOREIGN PATENTS

265,814	Great Britain	Feb. 17, 1927