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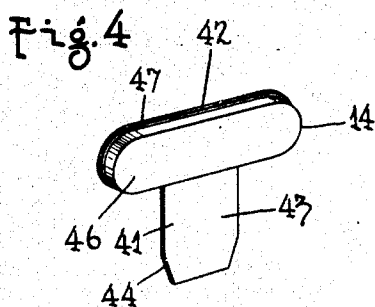
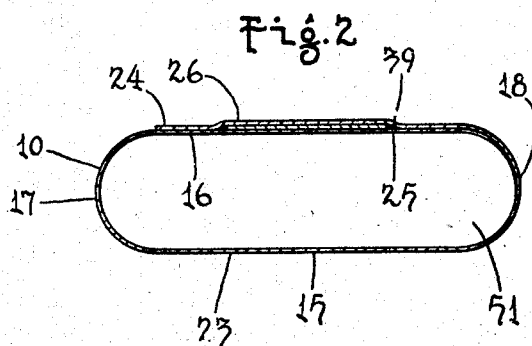
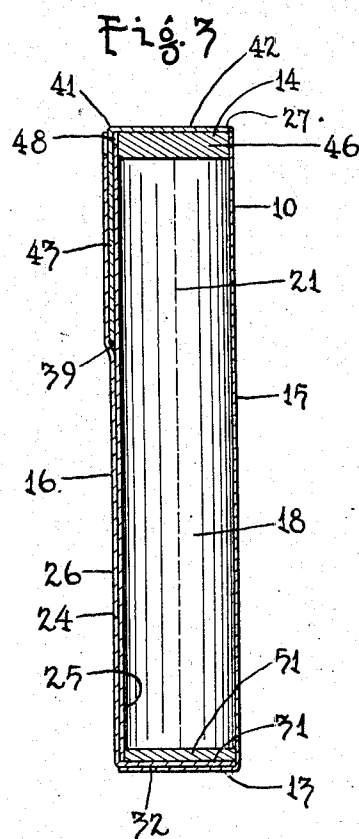
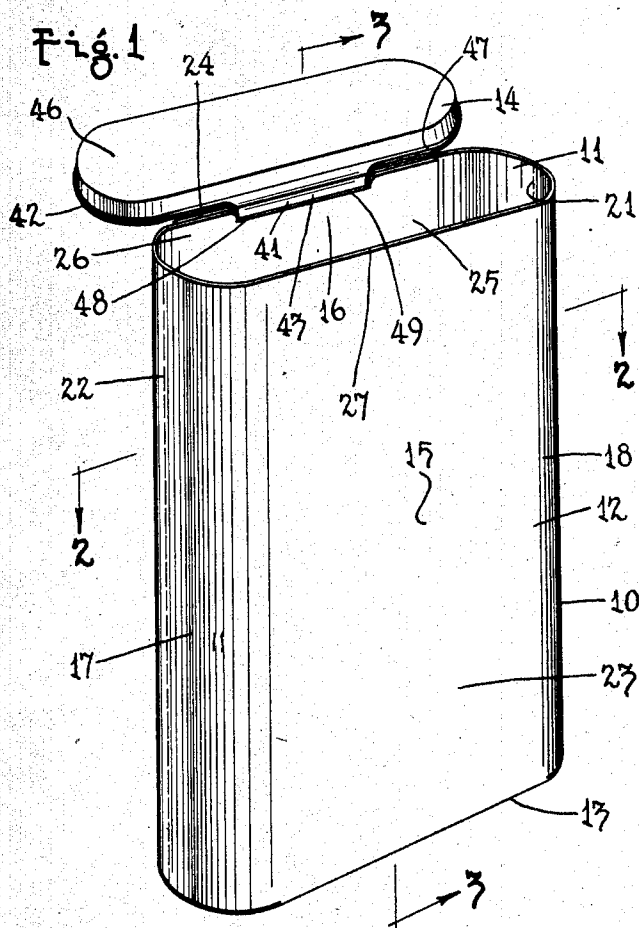
R. GUYER ET AL

2,387,392

METHOD OF CONSTRUCTING CONTAINERS

Filed Nov. 6, 1942

2 Sheets-Sheet 1



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Fig. 5

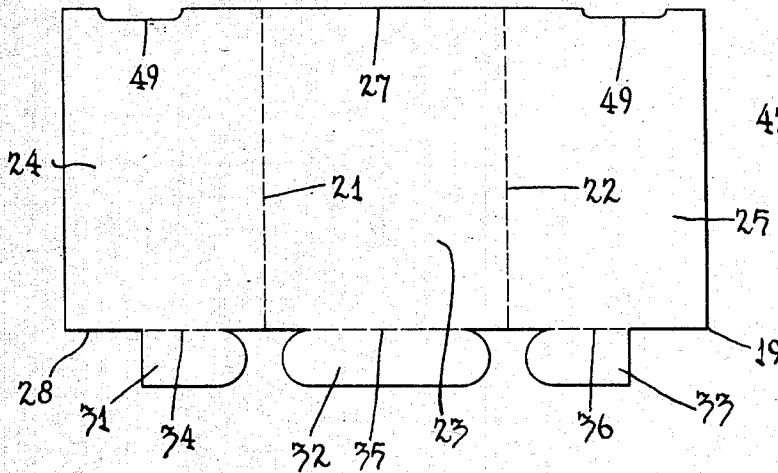


Fig. 6

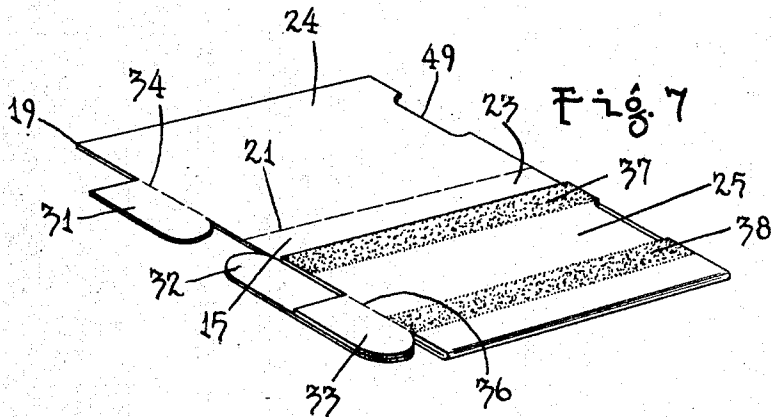
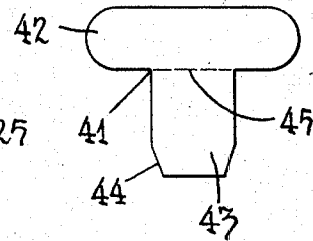
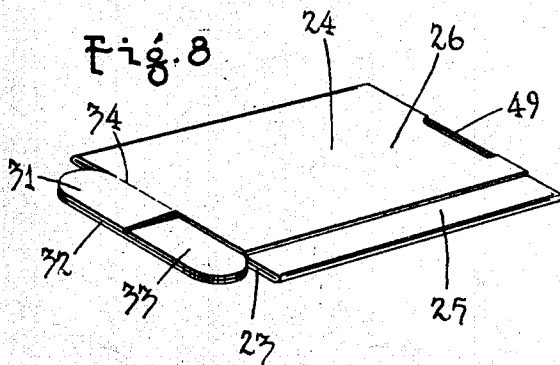


Fig. 8



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UNITED STATES PATENT OFFICE

2,387,392

METHOD OF CONSTRUCTING CONTAINERS

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Application November 6, 1942, Serial No. 464,808

3 Claims. (Cl. 93—39.1)

My invention relates to containers and has for an object to provide a container adapted to be used for dispensing substances such as tobacco and the like and adapted to be carried in the pocket of the user.

Another object of the invention resides in providing a container of the character described, open at its upper end and having a closure hingedly connected to the container for closing the open end thereof and in constructing both the container and the closure from paper.

Another object of the invention resides in providing a construction by means of which the closure may be removed from the container during filling of the container.

A still further object of the invention resides in providing a container which may be collapsed into compact flat form during shipment and storage and which may be erected and formed with curved lateral walls prior to filling.

Another object of the invention resides in providing the container with a lateral wall structure having a pocket and providing a tongue on the closure insertable into the pocket for attaching the closure to the container.

A still further object of the invention resides in the details of construction of the closure.

A feature of the invention resides in the method of forming the container in which the container is first collapsed and thereafter erected upon a form giving shape to the lateral walls and in utilizing for the lateral walls a paper embodying a thermo-plastic substance and in subsequently heating and cooling the wall structure to cause the same to take the shape of the form.

Other objects of the invention reside in the novel combination and arrangement of parts and in the details of construction hereinafter illustrated and/or described.

In the drawings:

Fig. 1 is a perspective view of a container illustrating an embodiment of my invention and showing the closure in open position.

Fig. 2 is a plan sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is an elevational sectional view of the container taken on line 3—3 of Fig. 1 and showing the closure in closing position.

Fig. 4 is a perspective view of the closure and the attaching means therefor detached from the container.

Fig. 5 is a developed view of the blank from which the lateral wall structure of the container is made.

Fig. 6 is a developed view of the blank from

which the closure and attaching structure therefor is made.

Fig. 7 is a perspective view of the blank partly folded.

Fig. 8 is a perspective view of the blank of the container in collapsed form.

In the packaging of smoking tobacco, it has been the custom to employ metal cans adapted to be carried about in the pockets of the user. Such cans are ordinarily thrown away after being emptied, entailing waste of metal. The present invention provides a container serving the same purpose as the metal cans and constructed entirely of paper, so as to avoid waste of metal.

My invention comprises a container 10 having an opening 11 at the upper end thereof, said container being constructed with a lateral wall structure 12, a bottom 13 and a closure 14 for the open end thereof. These parts will now be described in detail.

The wall structure 12 consists of a front wall 15, a rear wall 16 and two side walls 17 and 18 connected therewith. The walls 17 and 18 are curved so that the container, when in use, forms a relatively flat structure adapted to be readily carried in the pocket of the user without being bulky or cumbersome.

The lateral wall structure 12 and the bottom 13 are constructed from a blank 19 shown in detail in Fig. 5. This blank is constructed from paper and preferably from paper embodying a thermo-plastic material adapted to soften upon the application of heat so as to render the paper readily bendable, and further adapted to solidify upon cooling, to cause the blank to retain its form. The thermo-plastic material may be added as a liner between two of the plies of the paper or the paper may be impregnated therewith. If desired, the thermo-plastic material may be limited to the portion of the paper at which the bending is to occur.

The blank 19 is formed with two longitudinally extending scores 21 and 22, which provide a front section 23 and two rear portions 24 and 25, which, when the sheet is folded along the scores 21 and 22, are adapted to overlie one another and to be secured together to form a rear section 26. The upper edge 27 of the blank is free and forms the opening 11 in the upper end of the container. The lower edge 28 of the blank has issuing from it three flaps 31, 32 and 33, which, when the container is in erected form, form the bottom 13 of the container. The flap 32 is of the exact shape as the bottom 13 of the container, while the flaps 31 and 33 are similar

in construction, but fragmentary. These flaps are connected to the portions 23, 24 and 25 of the blank 19 by means of scores 34, 35 and 36 and by means of which the flaps may be folded outwardly at right angles to the walls to which they are connected.

In the fabrication of the container, the blank 19 is constructed tubular in form, as shown in Fig. 8, and the longitudinal marginal portions of the blank joined together. This is accomplished as follows: The blank is first folded along the scores 22 to bring the portion 25 into overlying position with reference to the front section 23 of the container. The exposed surface of this section is now coated with adhesive along two bands 37 and 38, the band 37 lying adjacent the free edge of the portion 25, while the band 38 is spaced from the band 27 and is disposed nearer the score 22. The other portion 24 of the blank is next folded along the score 21 to bring said portion into position overlying the portion 25. By bringing these two portions in contact with one another, the portion 24 is secured to the portion 25 along the bands 37 and 38, forming in conjunction the section 16. Due to the spacing of the bands 37 and 38, a pocket 39 is formed between the two portions 24 and 25, which pocket is open at its upper end. When the blank 19 has been folded as shown in Fig. 8 and the portions thereof secured together, the two flaps 31 and 33 overlie the flap 32 and register therewith.

The closure 14 for the blank and the attaching structure therefor is shown in detail in Fig. 1. This closure is constructed from a blank 41 of paper which is shown in Fig. 6. This blank has a portion 42 of the same shape as the flap 32 which serves as the top of the closure and which is of sufficient dimensions to overlie the upper edge 27 of the wall structure 10 when the container is in erected position. This portion has issuing from it a tongue 43 of lesser dimensions than the width of the pocket 39 and which is adapted to be inserted into said pocket. The end 44 of this tongue is tapered to permit of ready insertion of the same into the pocket 39. The blank 41 is formed with a score 45 which forms a hinge between the top 42 and the tongue 43. The top 42 has secured to it a similarly shaped projecting member 46, which is of smaller dimensions than the top 42 to leave a shoulder 47 extending about the top and which is adapted to rest on the upper edge 27 of the wall structure 12. The member 46 is adapted to be freely received within the upper open end 11 of the container proper, and prevents collapse of the wall structure at the open end of the container. The member 46 is adapted to be secured to the top 42 by gluing or otherwise. The rear wall section 16 is formed with a recess 48 into which the tongue 43 extends whereby the closure 14 may be readily held in closing position. This recess is formed by notching the blank along the upper edge 27 thereof, as indicated at 49 in Fig. 5.

The containers, when delivered by the factory, are collapsed and the parts are disposed as shown in Fig. 8. When it becomes desirable to erect a container, the same is inserted over a suitable form adapted to closely fit the interior of the container. This form shapes the end walls 17 and 18 of the wall structure 12 and holds these walls in proper position. A false bottom 51 of the same shape as the member 46 is placed upon the upper end of the form employed and the flaps 31, 32 and 33 are next folded over this false

bottom and secured thereto and to one another by means of an adhesive or in any other suitable manner. The container supported on the form is next subjected to heat which melts the thermo-plastic material. When melted, the paper from which the lateral wall structure is made, becomes soft and readily assumes the shape of the form. Upon cooling of the container, the thermo-plastic material sets and the container, upon removal from the form, retains its shape. The container is now filled with the commodity to be dispensed therefrom, which operation is performed before attachment of the closure thereto. This permits of filling the container by means of the machines now available for the purpose of filling similarly shaped metal cans. After filling, the closure 14 is applied by inserting the tongue 43 into the pocket 39. When said tongue is received within the recess 48, the closure may be moved into closing position. The filled container is now ready for distribution.

The advantages of my invention are manifest. An extremely simple and practical construction is provided which will take the place of metal cans heretofore used for dispensing tobacco and like products. My invention being constructed entirely from paper, it is extremely light and rigid. By the use of paper, printing may be placed directly upon the exterior of the sheet, so that the expense of printing of metals is done away with. By the use of a water-proof plastic, the container becomes waterproof and serves the purpose equally as well as the ordinary metal can.

Changes in the specific form of my invention, as herein described, may be made within the scope of what is claimed without departing from the spirit of my invention.

Having described my invention, what I claim as new and desire to protect by Letters Patent is:

1. The method of constructing a non-collapsible paper container having oppositely facing curved walls, which consists in forming a blank from a sheet of material, scoring the sheet along the portions of the sheet to be curved, the score lines dividing the blank into a center section and a pair of end sections, folding the blank along the score lines so that the end sections overlap one surface of the center section in flat condition, securing the ends of the blank together, in utilizing a paper containing thermo-plastic material at at least the portions thereof forming the curved walls, in expanding the blank from flat condition to curved condition, in applying sufficient heat to the wall structure while holding the same in curved form to cause the thermo-plastic material to substantially melt in the area of the score lines, and to cool the blank below the softening point of the thermo-plastic material while holding the blank in curved form.

2. The method of constructing a non-collapsible paper container having oppositely facing curved walls, which consists in forming a blank from a sheet of material, scoring the sheet along the portions of the sheet to be curved, the score lines dividing the blank into a center section and a pair of end sections, folding the blank along the score lines so that the end sections overlap one surface of the center section in flat condition with the free ends of the end sections overlapping, securing the ends of the blank together, in utilizing a paper containing thermo-plastic material at at least the portions thereof forming the curved walls, in expanding the blank from flat condition to curved condition, in ap-

plying sufficient heat to the wall structure while holding the same in curved form to cause the thermo-plastic material to substantially melt in the area of the score lines, and to cool the blank below the softening point of the thermo-plastic material while holding the blank in curved form. 5

3. The method of constructing a non-collapsible paper container having oppositely facing curved walls, which consists in forming a blank from a sheet of material, scoring the sheet along the portions of the sheet to be curved, the score lines dividing the blank into a center section and a pair of end sections, folding the blank along the score lines so that the end sections overlap one surface of the center section in flat condi- 10 15

tion, securing the ends of the blank together, in utilizing a paper containing thermo-plastic material at at least the portions thereof forming the curved walls, in expanding the blank from flat condition to curved condition, in applying sufficient heat to the wall structure while holding the same in curved form to cause the thermo-plastic material to substantially melt in the area of the score lines, and to cool the blank below the softening point of the thermo-plastic material while holding the blank in curved form, and plug type closures inserted in the ends of the blank.

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