Sept. 22, 1959 F. C. HUFF 2,905,371

FIBERBOARD PACKAGE FOR PAINT

Filed July 17, 1956

Fig. 1.

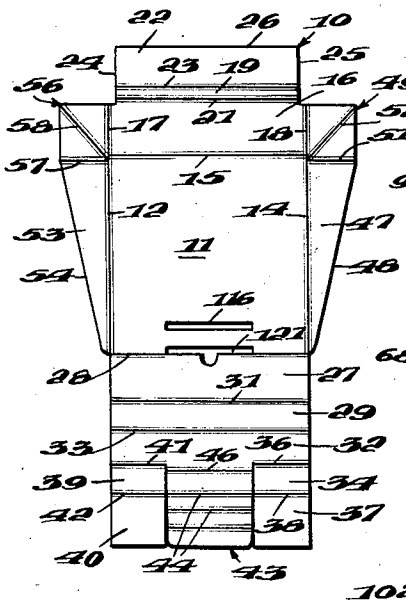


Fig. 2.

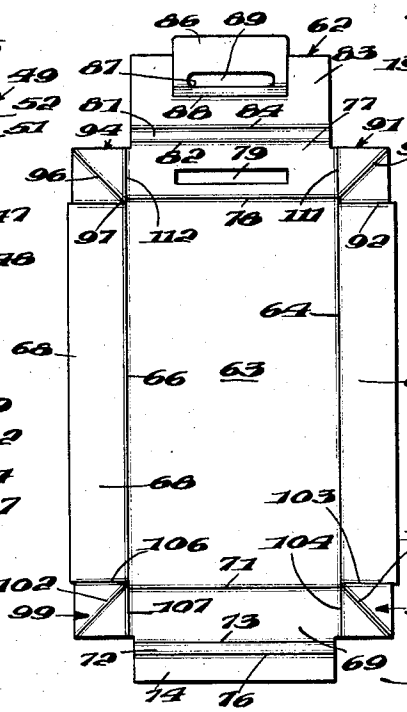


Fig. 4.

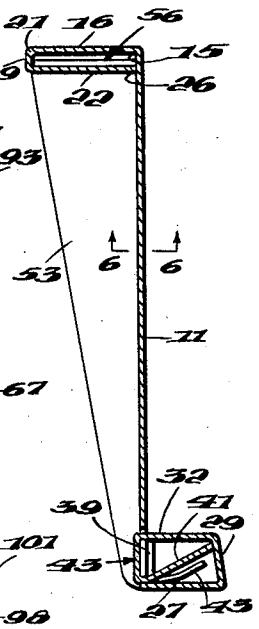


Fig. 5.

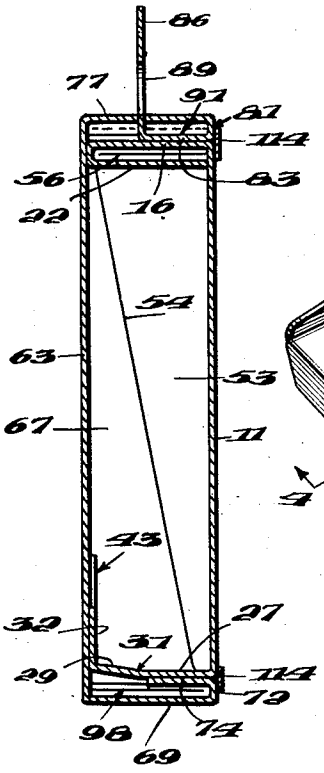


Fig. 3.

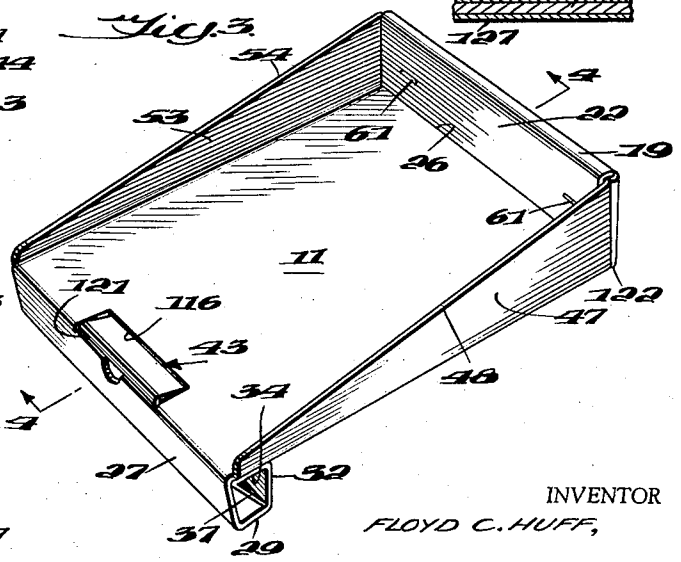
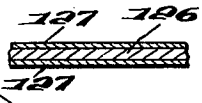


Fig. 6.



INVENTOR

FLOYD C. HUFF,

BY

ATTORNEY

United States Patent Office 2,905,371 Patented Sept. 22, 1959

2,905,371

FIBERBOARD PACKAGE FOR PAINT

Floyd C. Huff, Timonium, Md.

Application July 17, 1956, Serial No. 598,417

1 Claim. (Cl. 229—34)

The present invention relates to a package formed of reinforced fiberboard wherein the parts forming a box are so designed as to provide a container for the distribution of cans of paint and devices for applying the paint and wherein at least one of the parts of the box serves as a tray for receiving liquid paint from which the paint may be applied to the surfaces to be coated.

It is now a practice for many home owners and the like to carry out their own decorating by painting of walls and the like. Such a project involves the purchase of paint in cans along with brushes or roller type applicators. It is then necessary for a container to be provided into which the paint is poured and from which it may be applied to the surface to be coated. It is an object of the present invention to provide a package formed of reinforced fiberboard which is so designed as to accommodate one or more containers of paints along with an applicator such as a roller with the package so constructed that one of the fiberboard parts may receive the paint in liquid form from the containers and into which the brush or the roller may be dipped for the application of the paint to the surface to be treated.

It is an object of the invention to provide a package wherein the parts thereof are so constructed of reinforced corrugated fiberboard that each may be used as a container for liquid paint with one part which closes the package designed to serve as a tray in which paint may be accommodated for convenient access for a roller type paint applicator.

Another object of the invention is to provide a package formed of reinforced fiberboard in which all of the elements for a painting operation may be enclosed and at least one part of the package forms a tray for receiving liquid paint so that a roller may pick up paint from the tray for application to walls or the like.

Other objects and features of the invention will be appreciated and become apparent as the present disclosure proceeds and upon consideration of the accompanying drawing and the following detailed description wherein an exemplary embodiment of the invention is disclosed.

In the drawing:

Fig. 1 is a plan view of a blank designed to form one part of the package and may be used as a paint receiving tray.

Fig. 2 is a plan view of a fiberboard blank fashioned to provide another part of the package.

Fig. 3 is a perspective view of a tray formed from the blank shown in Fig. 1.

Fig. 4 is a sectional view of the tray structure taken on the line 4—4 of Fig. 3.

Fig. 5 is a sectional view showing the partially completed tray in position closing the box portion of package.

Fig. 6 is an enlarged sectional view showing the wall structure and taken on the line 6—6 of Fig. 4.

The invention is directed to a fiberboard package wherein one of two parts serves in cooperation with the other to close the box and upon removal may be fashioned into

a liquid retaining tray structure. The package is designed to receive cans of paint and a roller or other type applicator may be accommodated in the box. The package with its contents will thus supply all of the materials and elements required for a painting operation.

Referring to the drawing a blank of reinforced corrugated fiberboard is shown at 10 in Fig. 1 which is so designed that when it is folded it will serve as one part of the package. The blank 10 includes a central rectangular shaped panel 11 having parallel score lines 12 and 14 defining side edges of the central panel. A flap 16 is formed integral with one end of the panel 11 and the side edges of the flap 16 are defined by score lines 17 and 18 which are in alignment with the score lines 12 and 14. A narrow flap 19 is carried by the flap 16 beyond the score line 21. The flap 19 is of a smaller dimension measured transversely of the panel 11 than the flap 16. A third flap 22 is carried by the flap 19 and beyond the score line 23. The flaps 19 and 22 have common straight side edges 24 and 25. The free end of the flap 22 is provided with a straight edge 26 which is at right angles to the side edges 24 and 25.

The other end of the central panel 11 carries a flap 27. A score line 28 defines the end of the panel 11 and the inner boundary of the flap 27. Another flap 29 is integral with and positioned outwardly beyond the flap 27 and a score line 31 defines common extremities of the flaps 29 and 27. A third flap 32 integral with the flap 29 is positioned outwardly thereof and a score line 33 defines the boundary between the flaps 29 and 32.

A tab 34 is carried by the flap 32 and this tab is disposed at one side of the longitudinal center line of the panel 11. A score line 36 defines the boundary between the tab 34 and the flap 32. A second tab 37 is carried by the tab 34 and is of the same lateral dimensions. The boundary between the tab 37 and the tab 34 is defined by a score line 38. Another tab 39 is integral with a portion of the flap 32 and is located at the opposite side of the longitudinal center of the panel 11. A score line 41 defines the boundary between the tab 39 and the flap 32. A further tab 40 is carried by the tab 39 and has the same lateral dimensions. The boundary between the tab 39 and the tab 41 is formed by a score line 42. A tongue 43 is provided with a series of score lines 44 and this tongue is integral with the central part of the flap 32. A score line 46 defines the boundary between the flap 32 and the tongue 43. It will be observed that the score line 46 is displaced with reference to the aligned score lines 36 and 41.

A flap 47 is carried by one side of the panel 11 and this side panel has an edge 48 disposed at an acute angle with reference to the score line 14. An auxiliary side flap 49 is integral with one end of the flap 16 and the boundary between the auxiliary side flap 49 and the flap 16 is defined by the score line 18. A score line 51 extends parallel to the score line 15 and is displaced from alignment therewith as shown in Fig. 1. The score line 51 defines the boundary between side flap 47 and the auxiliary side flap 49. An angularly arranged score line 52 is provided on the auxiliary flap 49 which extends from the free corner thereof as shown in Fig. 1 diagonally of the auxiliary flap.

Another flap 53 is carried by the other side of the rectangular panel 11 and the score line 12 defines the boundary between this side flap and the longitudinal edge of the panel 11. The side flap 53 is provided with an edge 54 which is disposed at an acute angle with respect to the score line 12. Another auxiliary side flap 56 is carried by the other end of the flap 16. The score line 17 defines the boundary between the auxiliary flap 56 and the flap 16. A score line 57 parallel to

the score line 15 and aligned with the score line 51 defines the boundary between the side flap 53 and the auxiliary flap 56. A score line 58 is arranged diagonally of the auxiliary flap 56.

The blank shown in Fig. 1 is adapted to serve as one part of the package which may be regarded as the cover. The blank 10 is folded to serve as a part of the package by hinging the side flaps 47 and 53 substantially at right angles to the plane of the panel 11. The flap 47 is hinged about the score line 14 and the auxiliary side flap 49 is also hinged about the score line 18. The side flap 53 in assuming the right angle position shown in Fig. 3 hinges about the score line 12 and the auxiliary side flap 56 hinges about the score line 17.

The triangular halves of the auxiliary flaps 49 and 56 are then hinged in a reversed manner about the respective diagonal score lines 52 and 58. During such folding of the auxiliary flap 49 about the score line 52 one triangular part is hinged about the score line 18 and the other triangular part is hinged about the score line 51. In a like manner a reversed hinging of the triangular halves of the auxiliary flap 56 about the score line 58 causes one part of the auxiliary flap 56 to hinge about the score line 57 and the other part to hinge about the score line 17. The flap 16 is hinged upwardly and caused to assume a substantially right angle position with reference to the panel 11. The folded condition of the auxiliary flap 56 is represented in Fig. 4 where the triangularly shaped parts lie in face-to-face assembly. Thereafter the narrow flap 19 is hinged about the score line 21 so that it overlies the upper edges of the bent auxiliary flaps 49 and 56. The flap 22 is then hinged so that it is arranged at ninety degrees with reference to the flap 19 and assumes a position along the inner face of the folded auxiliary flaps 49 and 56. The edge 26 of the flap 22 then extends along the inner face of the panel 11. Suitable fastening means may be applied through the flap 22 and the folded auxiliary flaps 49 and 56 and the flap 16. In the embodiment illustrated staples 61 (Fig. 3) serve as the fastening means. It will be appreciated that there is no cutting or rupture of the fiberboard in the corner areas of the structure formed by the auxiliary flaps 49 and 56 and the side flaps 47 and 53. Thus there is no possibility of leakage of liquid from this end of the fiberboard member when it is used as a tray for receiving paint.

A fiberboard blank 62 (Fig. 2) is designed to form the other member of the package. This blank includes central panel 63 having straight parallel sides defined by score lines 64 and 66. The transverse dimension between these score lines is sufficient to accommodate the side flaps 47 and 53 of the other box part therebetween. A flap 67 is carried by one side of the panel 63 and another side flap 68 is carried by the other side thereof. A flap 69 is carried by one end of the panel 63. A score line 71 defines the boundary between the flap 69 and the panel 63. A narrow flap 72 is carried by the flap 69. A score line 73 defines the boundary between the flap 69 and the flap 72. A flap 74 is carried by the flap 72 and a score line 76 defines the boundary between these flaps. A flap 77 is carried by the other end of the panel 63 and a score line 78 defines the boundary between these flaps. The flap 77 is provided with a rectangular shaped opening or slot 79. A narrow flap 81 is carried by the blank and a score line 82 defines the boundary between the flap 81 and the flap 77. A flap 83 is carried by the flap 81 and a score line 84 defines the boundary between these flaps. A tab 86 is carried by the central portion of the flap 83. This tab is provided with a score line 87 and a score line 88 where the tab 86 joins the flap 83. A slot 89 is provided in the tab 86.

An auxiliary flap 91 is carried by the end of the flap 67 and an end of the flap 77. A score line 92 defines an end of the flap 67 and one edge of the auxiliary flap 91. A diagonal score line 93 extends from one corner to the other of the auxiliary flap 91. An auxiliary flap 94 is carried by the other side of the blank and integral with one end of the flap 68 and the other end of the flap 77. A diagonal score line 96 extends from one corner to the other of the auxiliary flap 94. The transverse score line 97 is aligned with the score line 92 but it will be noted that these score lines are slightly offset from the score line 78. A similar auxiliary flap 98 is carried by the other end of the flap 67 and by one end of the flap 69. A further auxiliary flap 99 of the same design is carried by the other end of the flap 69. A diagonal score line 101 extends from one corner to the other of the auxiliary flap 98 and another diagonal score line 102 extends from one corner to the other of the auxiliary flap 99.

The blank as shown in Fig. 2 and provided with the score lines referred to may be shaped into another member of the package. The side flap 67 is hinged about the score line 64 so that this flap assumes a position at right angles to the plane of the panel 63. The side flap 68 may be similarly hinged about the score line 66 so that the flaps 67 and 68 form the side walls of a box member. The two triangular shaped halves of the auxiliary flap 98 are hinged in a reversed manner about the score line 101 and the halves of the auxiliary flap 99 are hinged in a reversed manner about the score line 102. During such bending the flap 69 hinges upwardly from the plane shown in Fig. 2 about the score line 71. One triangular part of the auxiliary flap 98 hinges about the score line 103 and the other triangular part hinges about the score line 104. One triangular part of the auxiliary flap 99 hinges upwardly about the score line 106 and the other triangular part hinges about the score line 107. When the triangular parts of the auxiliary flaps 98 and 99 lie in face-to-face engagement the flap 69 is at right angles to the panel 63 as shown in Fig. 5. The flap 72 is then hinged about the score line 73 to overlie the upper ends of the folded auxiliary flaps 98 and 99. Thereafter the flaps 74 is hinged about the score line 76 to lie along the inner face of the folded auxiliary flaps 98 and 99 and assumes a position as shown in Fig. 5. Any suitable type of fastening means (not shown) may then be arranged through the flap 74 and through the folded auxiliary flaps 98 and 99 and through the flap 69.

The flaps carried by the other end of the panel 63 are similarly folded and hinged to provide an end wall at this end of the box member. One triangular part of the auxiliary flap 91 is hinged downwardly with respect to the other triangular part about the score line 93. This causes one triangular part to hinge about the score line 92 and the other triangular part to hinge about the score line 111. The triangular halves of the other auxiliary flap 94 are hinged downwardly with respect to each other about the score line 96. This causes one triangular part to hinge about the score line 97 while the other triangular portion hinges upwardly about the score line 112. Such folding of the auxiliary flaps causes the flap 77 to hinge upwardly from the position shown in Fig. 2 about the score line 78. When the triangular parts of the auxiliary flaps lie in face-to-face relationship the flap 77 is positioned at right angles to the panel 63 as shown in Fig. 5. The flap 81 is then hinged at right angles with respect to the flap 77 so that it overlies the upper edges of the folded auxiliary flaps 91 and 94. The flap 83 is then hinged at right angles to the plane of the flap 81 and the tab 86 is introduced through the slot 79 and moved therethrough to assume the position shown in Fig. 5 to form a carrying handle. Any suitable securing means (not shown) may be applied through the flap 83 and the folded auxiliary flaps 91 and 94 and through the flap 77. It will be observed that there is no severance of the fiberboard blank in the corner areas and this member for the package is so constructed that liquid cannot escape through corners thereof. The blank shown in Fig. 2

serves to provide what may be regarded as a bottom member for receiving cans of paint or the like and devices for applying the paint.

The blank shown in Fig. 1 when folded at one end as above described and to the condition shown in Fig. 5 may be employed as the top or cover member for the package. The side flaps **47** and **53** are transversely spaced so as to fit between the flaps **67** and **68** which forms the side walls of the bottom member. The flap **16** which forms the outer surface at one end of the cover member then lies along the inner surface of the flap **83** as shown in Fig. 5. The flaps beyond the flap **29** including the tab **43** may be arranged to lie along the inner surface of the panel **63** and under the contents of the box. A number of readily severable tapes **114** may be provided for holding the cover member in operative association with the bottom member. The package may be readily carried by gripping the handle formed of the tab **86** with the fingers extending through the slot **89**.

The cover member may be formed into a sloping tray as shown in Fig. 3. When this part of the package is removed the flap and tab structure shown in the lower portion of Fig. 1 is manipulated to form a rib structure under the tray. The flap **29** is hinged at right angles to the flap **27** about the score line **31**. The flap **32** is hinged about the score line **33**. The tongue **43** is introduced into a slot **116** formed in the panel **11**. The tab **34** is hinged about the score line **36** and the tab **37** is hinged into a position as shown in Fig. 3. The tabs **39** and **41** are similarly folded. The tongue **43** is moved upwardly through the slot **116** so that faces of the tabs **34** and **39** lie in face-to-face engagement with the under surface of the panel **11**. Then the tongue **43** is bent at the score lines **44** and the free end is inserted and moved downwardly through a slot **121**. The free end of the tongue then assumes the position shown in Fig. 4. The tongue **43** in its threading through the slots **116** and **121** serves to hold the folded fiberboard structure as a supporting rib under the associated end of the panel **11**. Thus when this structure is supported on a horizontal surface the rib will support one end of the device and the other end will be supported along the edge **122** (Fig. 3). Thus the panel **11** will slope downwardly towards the closed end as formed by the flap **22** and the folded auxiliary flaps **49** and **56** and the flap **16**. A tray is thus provided for receiving paint poured thereinto. A roller type applicator may then be used to remove paint from the tray structure shown in Fig. 3.

It has been found that reinforced corrugated fiberboard formed of brown paper serves to effectively prevent leakage of paint from such a tray structure. The paint appears to form a layer on the fiberboard tray and any hardening of the paint serves to effectively prevent leakage. If desired the tray structure or the paper employed in making the reinforced fiberboard and from which the tray is formed may be coated or impregnated with a suitable resin to avoid the possibility of leakage. In one form the reinforced fiberboard is provided with an aluminum foil layer **127** on each face thereof as shown in Fig. 6 suitably bonded to the outer face of the fiberboard. A tray formed of reinforced fiberboard having metal foil facing serves as a paint holding tray. The bottom member of the package will also hold liquid paint since the corner structures are devoid of ruptures of the fiberboard blank. The tray may be disposed of when the painting operation is completed.

While the invention has been shown and described with reference to a particular type of box structure and with regard to reinforced corrugated fiberboard and coatings thereon it will be appreciated that changes may be made in the design of the box and the tray structure. Such changes and others may be made without departing from the spirit and scope of the invention as set forth in the appended claim.

What I claim and desire to secure by Letters Patent is:

A fiberboard tray for holding a supply of paint comprising, a rectangular panel forming a bottom of the tray and sloping downwardly from a first end to a second end, flaps integral with the sides of said panel arranged at right angles with respect thereto forming side walls for the tray, a substantially straight upper edge on each side wall substantially flush with the upper surface of said panel adjacent said first end and continuing horizontally to positions above the second end of said panel, an end flap integral with said panel at the second end thereof extending upwardly therefrom and forming an outer element of an upright end wall at the second end of the tray, a triangular shaped folded auxiliary flap integral with each side wall and integral with one end of said end flap with triangular shaped parts of said auxiliary flaps in face-to-face engagement, additional flaps carried by said end flap folded over said auxiliary flaps and forming an inner element of said end wall, flaps carried by said panel at the first end thereof folded thereunder forming a rib under said panel at the first end of the tray, a tongue carried by a central portion of the last-mentioned flaps extending upwardly through a slot in said panel adjacent the first end, said tongue overlying an upper face of said panel and extending downwardly through another slot in the panel terminating within said rib holding the last folded flaps as a tray supporting rib under the first end of said panel.

References Cited in the file of this patent

UNITED STATES PATENTS

998,497	Goodyear	July 18, 1911
1,189,452	Ives et al.	July 4, 1916
2,444,096	Faust	June 29, 1948
2,444,584	Touchett	July 6, 1948
2,578,107	Thacker et al.	Dec. 11, 1951
2,636,662	Diehl	Apr. 28, 1953