

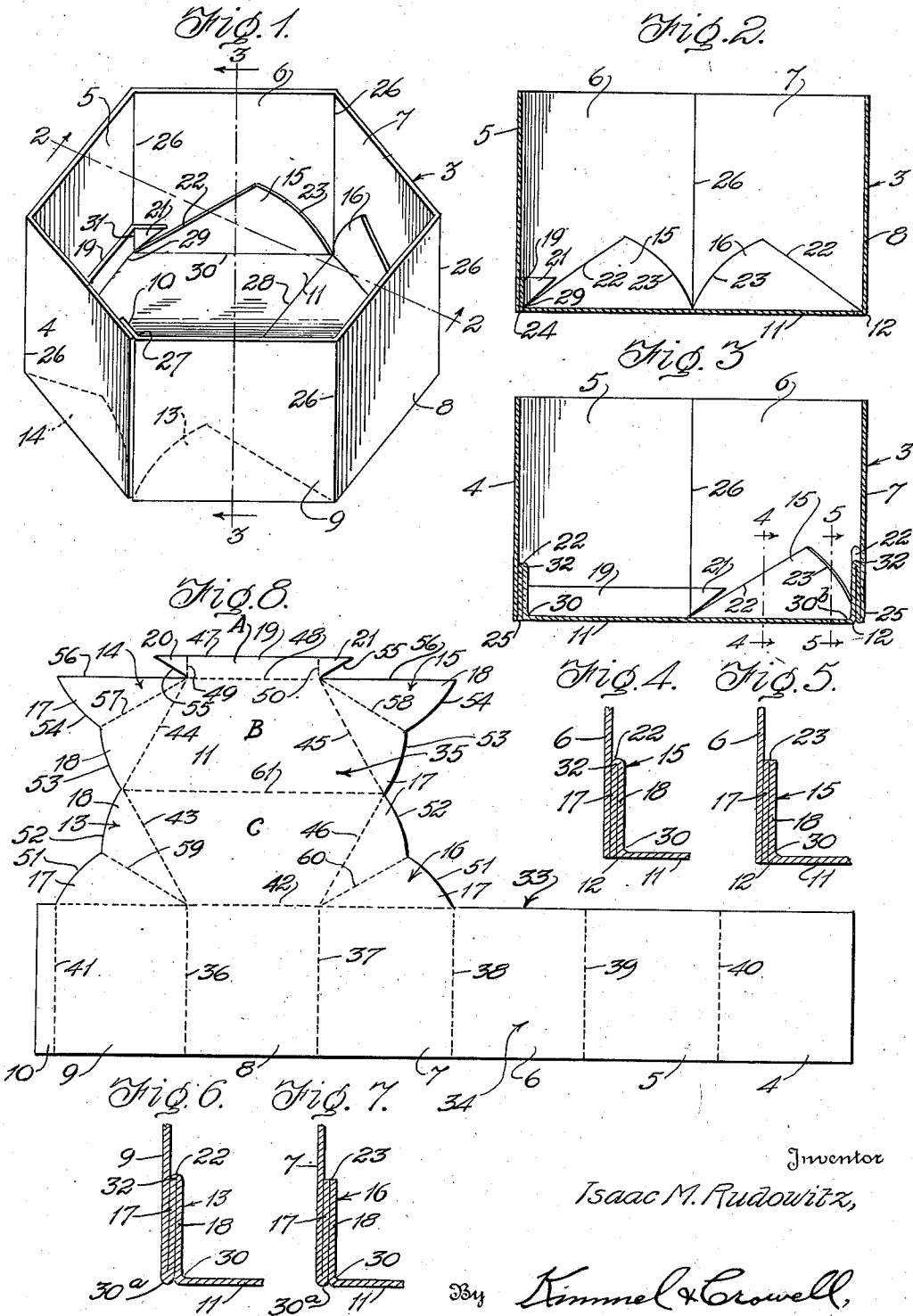
June 14, 1938.

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2,120,871

FOLDABLE BOX BODY

Filed Nov. 24, 1936



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2,120,871

FOLDABLE BOX BODY

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Application November 24, 1936, Serial No. 112,574

1 Claim. (Cl. 229—41)

This invention relates to storage, packing or shipping receptacles, more particularly to foldable box bodies of the hexagonal type for the storage or shipping of hats and other commodities, and the invention has for its object to provide, in a manner as hereinafter set forth, a strong, durable, foldable, one-piece box body of the form and for the purpose set forth and with the box body produced by a material saving in stock with respect to the stock employed in the production of such type of boxes now in general use and which results in a material decrease in the cost of manufacture and for a more expeditious extension of the box body to container position.

A further object of the invention is to provide, in a manner as hereinafter set forth, a box body of the hexagonal type including a foldable side member and a foldable bottom member forming an integral extension of the side member and with the said members when folded being of hexagonal contour.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a box body of hexagonal contour which is strong, durable, compact, foldable, readily assembled, quickly extended and folded when desired, and comparatively inexpensive to manufacture.

With the foregoing and other objects in view the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described, and illustrated in the accompanying drawing, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawing:

Figure 1 is a perspective view of the foldable box body when extended to container position,

Figure 2 is a section on line 2—2, Figure 1,

Figure 3 is a section on line 3—3, Figure 1,

Figures 4 and 5 are sectional details on lines 4—4 and 5—5, respectively on Figure 3,

Figures 6 and 7 are sectional details, and

Figure 8 is a plan view of the blank from which the body is formed.

The foldable box body of hexagonal contour, generally indicated at 3, includes side walls 4, 5, 6, 7, 8, and 9 arranged in angular relation, a flap 10 at one side of wall 9, a bottom 11 of hexagonal contour merging at the side edge portion 12 thereof into the bottom of the wall 8, upstanding substantially triangular spaced flaps 13, 14, 15, and 16 of like form and each consisting of an

outer and an inner section 17, 18 respectively, integral at a side edge with each other and an upstanding rectangular flap 19 having oppositely disposed tapered end terminal portions 20, 21.

Each flap of triangular contour has a closed side edge portion 22 and an open side edge portion 23 (Figures 4 and 5). The latter is of less length than edge portion 22. That portion of the flap 19, between its end terminal portions 20, 21 merges at its bottom in the side edge portion 24 (Figure 2) of bottom 11. The inner sections 18 of the flaps 13, 14, 15, and 16 merge at their bottoms into the others of the side edge portions 25 of the bottom 11. The outer sections 17 of the flaps 13 and 16 merge at their bottoms into the bottoms of the walls 9 and 7 respectively.

When the box body is extended, the flaps 13, 14, 15, and 16 are disposed vertically and the outer faces of the sections 17 thereof are secured by suitable cementitious material to the inner faces of the walls 9, 4, 6, 7; the flap 19 is disposed vertically and has its outer face secured by suitable cementitious material to the inner faces of walls 4, 5 and 6; and the outer face of flap 10 is secured to the inner face of wall 4 by a suitable cementitious material. The box body will then appear as shown in Figure 1.

The wall 4 merges into the wall 5; the latter merges into the wall 6; the latter merges into the wall 7; the latter merges into the wall 8; the latter merges into the wall 9 and the latter merges into the flap 10. At the points of mergence between said walls, bends 26 are provided and at the point of mergence of the wall 9 with the flap 10 a bend 27 is provided. The bends 26, 27 permit of the body portion of the box body being arranged in folded position until the box body is extended, and further act to enable the body portion of the box body to be positioned in the manner as shown in Figure 1. The bottom 11 is formed with a transverse bend 28 to permit of its being folded upon itself. As the point of mergence of the flap 19 with the edge portion 24 a bend 29 (Figure 2) is provided; at the points of mergence of the sections 18 with the edge portions 25 bends 30 are provided; at the point of mergence of the section 17 of flap 13 with the bottom of wall 9 a bend 30^a (Figure 6) is provided; and at the point of mergence of the section 17 of the flap 16 and the bottom of wall 7 a bend 30^b is provided (Figure 7). The flap 19 at the inner end of each tapered end terminal portion thereof is formed with a bend 31. The closed edge portions 22 of the flaps 13, 14, 15, 16 provide bends 32. The bend 29 permits of the extending of the flap 19

upwardly from the bottom 11. The bends 30 permit of the extending of the flaps 13, 14, 15, 16 upwardly from the bottom 11. The bends 31 permit of positioning the end terminal portions 20, 21 of flap 29 against the inner faces of the walls 4, 6 respectively. The bends 32 permit of the sections of each triangular flap being folded against each other and also to dispose sections 17 against the inner faces of walls 9, 4, 6 and 7.

With reference to Figure 8 there is shown a blank from which the box body and bottom for the latter are formed from. The bottom is integral with the box body. The blank is a single length or web 33 of suitable card board. The web 33 consists of an oblong portion 34 of the desired width and length and a substantially polygonally-shaped portion 35 of less width and of greater length than that of portion 34. The portion 35 is disposed at right angles to one end of portion 34 between the lengthwise median and one side edge of the latter. The portion 34 is formed lengthwise with a series of equi-distant spaced parallel scores 36, 37, 38, 39 and 40 extending from end to end thereof and which provide the bends 26. The portion 34 is also formed lengthwise and from end to end with a score 41 in close proximity to one of its side edges and which provides the bend 27. The score 41 aligns with one of the side edges of the portion 35. That part of the portion 34 extended outwardly from the score 41 forms the flap 10.

With respect to the portion 34, the part thereof between the scores 41, 36 forms the wall 9; that part between the scores 36, 37 the wall 8; that between the scores 37, 38 the wall 7; that between the scores 38, 39 the wall 6; that between the scores 39, 40 the wall 5; and the part extended outwardly from the score 40 the wall 4. The portion 35 at its inner end merges into the parts of the portion 34 between the scores 41, 36, 37 and 38. The portion 34 includes an end edge forming the bottom edge of the box body and an opposite end edge forming the top edge of the box body. The inner end of the portion 35 is integral with and coextensive with that part of the end edge of the portion 34 which forms the lower ends of the wall forming parts 7, 8 and 9. At the point of mergence of the portion 35 with the portion 34, the blank is provided with a transverse score 42 which provides the bends 29, 30^a and 30^b.

With respect to the portion 35, it is formed adjacent one side with a pair of spaced oppositely extending diagonally disposed scores 43, 44 inclining outwardly at an inclination from their inner ends and adjacent its other side edge with a pair of spaced oppositely extending diagonally disposed scores 45, 46 inclining outwardly at an inclination from their outer to their inner ends. The outer ends of the scores 44, 45 are arranged inwardly of the forward outer end edge part 47 of the portion 35. The outer ends of the scores 43, 46 merge into the inner ends of the scores 44, 45, respectively. The inner ends of the scores 43, 44 merge into the points of mergence between the scores 36, 37 and the score 42. The portion 35 is also formed with a transverse score 48 inwardly of and disposed in proximity to its outer end edge part 47. The score 48 at its ends aligns with the oppositely extending outer end edge parts 56 disposed inwardly relative to the edge part 47. The scores 43, 44, 45 and 46 form the bends 30. The score 48 provides the bend 27. The portion 35 is further formed with a pair of spaced parallel lengthwise scores 49, 50 leading from the

outer ends of the scores 44, 45 respectively to the edge 47. The scores 49, 50 provide the bends 31. The side edges of the portion 35 are of like contour, oppositely disposed and each of said edges include two pairs of oppositely curved edge portions. The edge portions of one pair are designated 51, 52 and those of the other pair at 53, 54. Each of said side edges also includes an inclined edge portion 55 having the inclination thereof extending upwardly from its inner end to one end of the edge 47. Each of said side edges also includes a straight edge portion 56 having its inner end aligning with an end of the score 48. The edge portion 51 extends from the score 38 or 41 to the inner end of edge portion 52. The latter extends from the inner end of edge portion 51 to the inner end of edge portion 53. The latter extends from the inner end of edge portion 52 to the inner end of edge portion 54. The latter extends from the inner end of edge portion 53 to the outer end of an edge part 56.

The portion 35 also includes a pair of oppositely extending diagonally disposed spaced scores 57, 58 which incline inwardly from their inner to their outer ends and a pair of oppositely extending diagonally disposed scores 59, 60 which incline outwardly from their inner ends. The portion 35 is further formed intermediate its ends with a transverse score 61 which is spaced from the scores 42, 48. That part of the portion 35 between the scores 42, 48, 43, 44, 45 and 46 provides the bottom 11. The parts of the portion 35 respectively between an edge portion 56 and the score 44; the score 42 and score 43; the other edge portion 56 and score 45 and the score 46 and the score 42 provide the sectional flaps of triangular form. The parts of the portion 35 which extend outwardly from the scores 49, 50 provide the tapered end terminal portions of the flap 19 which are free of edge parts 56. The scores 57, 58, 59 and 60 provide the closed side edge portions 22 of the sectional flaps and bends for the sections of the sectional flaps. The scores 57, 58 have their inner ends at the ends of the score 48 and their outer ends at the point of mergence of the edge portions 53 and 54. The scores 59, 60 have their inner ends at the inner ends of the scores 45, 46 and their outer ends at the point of mergence of the edge portions 51, 52. The ends of the score 61 are disposed at the point of mergence of the edge portions 52, 53. The score 61 provides the bend 28 upon which the bottom 11 is folded.

That part of the portion 35 between the score 48 and edge part 47, indicated at A (Figure 8) is of inverted frusto-tapered contour; that part of the portion 35 between the scores 48, 61, indicated at 13 (Figure 8) is of substantially inverted frusto-tapered contour; and that part of the portion 35 extending from the score 61 to the score 42, indicated at C (Figure 8) is of substantially frusto-tapered contour. The parts B, C are of the same contour, but oppositely disposed with respect to each other. The part B, C are of the same width and length. The part A is of materially less width and length than that of part B or C. The part A is disposed centrally with respect to the outer end of part B, the latter extends laterally in opposite directions with respect to the sides of part A.

When the blank is not extended to form the box body of container form, it may be folded in a somewhat compact manner and in this connection the bottom 11 is folded upon itself into two portions on bend 28 with the sectional flaps

extended, the folded bottom folded against those portions of the blank which provide the wall portions 7, 8, 9, the flap 19 folded on a portion of the bottom 11 and that part of the blank providing the wall forming portions 4, 5 and 6 is folded in a manner to conceal the folded bottom 11.

What I claim is:—

A blank for forming a foldable box body having an integral foldable bottom consisting of a one piece web including oblong and polygonally-shaped portions disposed at right angles to each other, said oblong portion having an end edge forming the bottom edge of the box body, an opposite end edge forming the top edge of the box body, a pair of side edges and spaced parallel scores extending from one of its end edges to its other dividing such portion into wall forming parts and a flap forming part, said polygonal-shaped portion having an outer end, a pair of side edges and an inner end integral with and coextensive with that part of that end of the oblong portion providing the lower ends of three of

said wall forming parts, said polygonally-shaped portion having an inner part of frusto-tapered contour formed with diagonal scores, an intermediate part of inverted frusto-tapered contour of the same area as said inner part and formed with diagonal scores and an outer part of inverted frusto-tapered contour of materially less length than the said inner and intermediate parts, said outer part having lengthwise extending parallel spaced scores and tapered side terminal portions extending laterally from said lengthwise scores and free of said intermediate part to provide a flap forming part and a pair of tab forming parts, said polygonally-shaped portion being provided with a transverse score between its intermediate and inner parts and between its intermediate and outer parts, said web being formed with a horizontal score coextensive with the point of mergence of said portions, and the diagonal scores of said inner part extending from said horizontal score.

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