March 6, 1951 E. L. ARNESON 2,543,821

ARTICLE CARRIER

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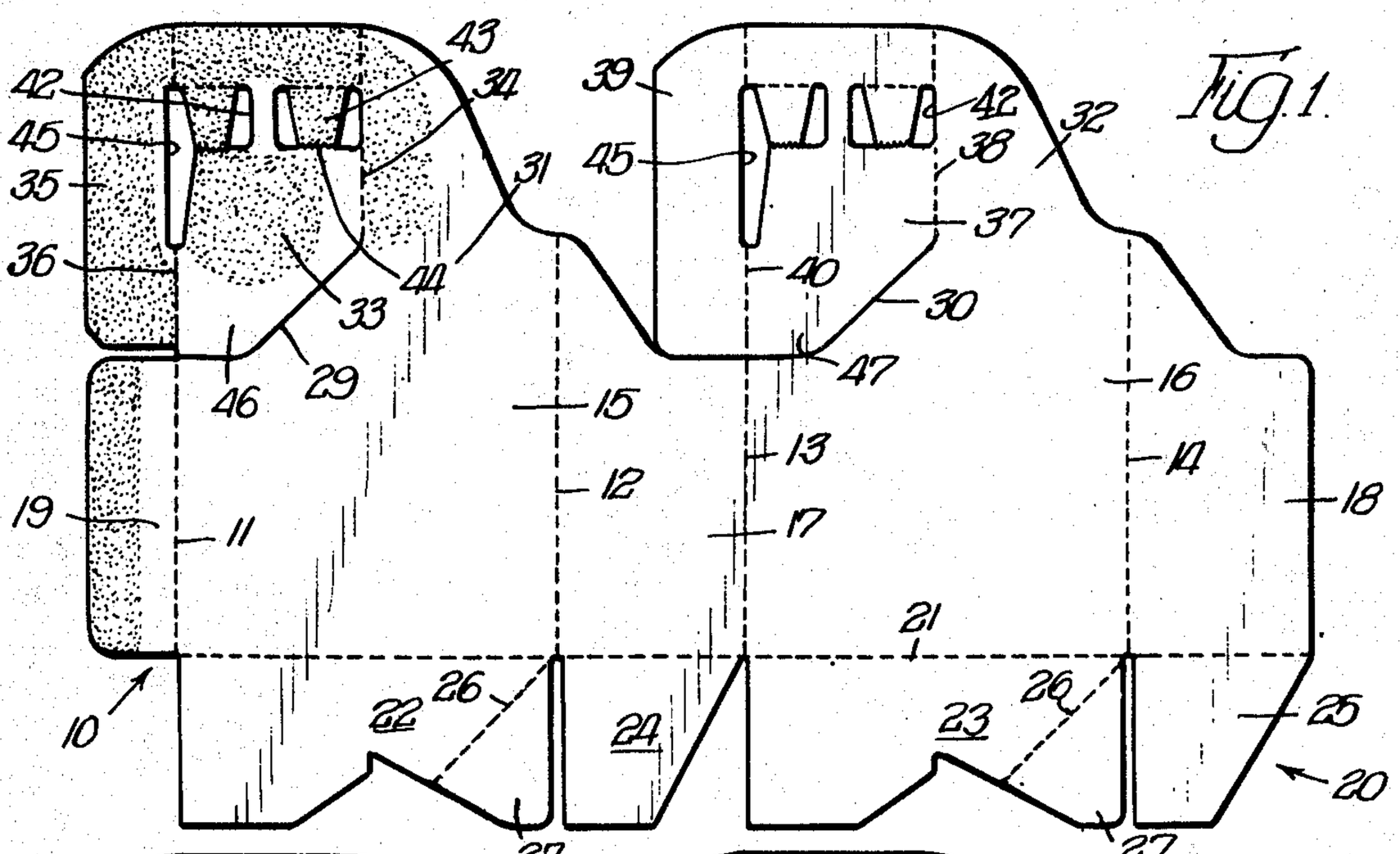

Fig. 1.

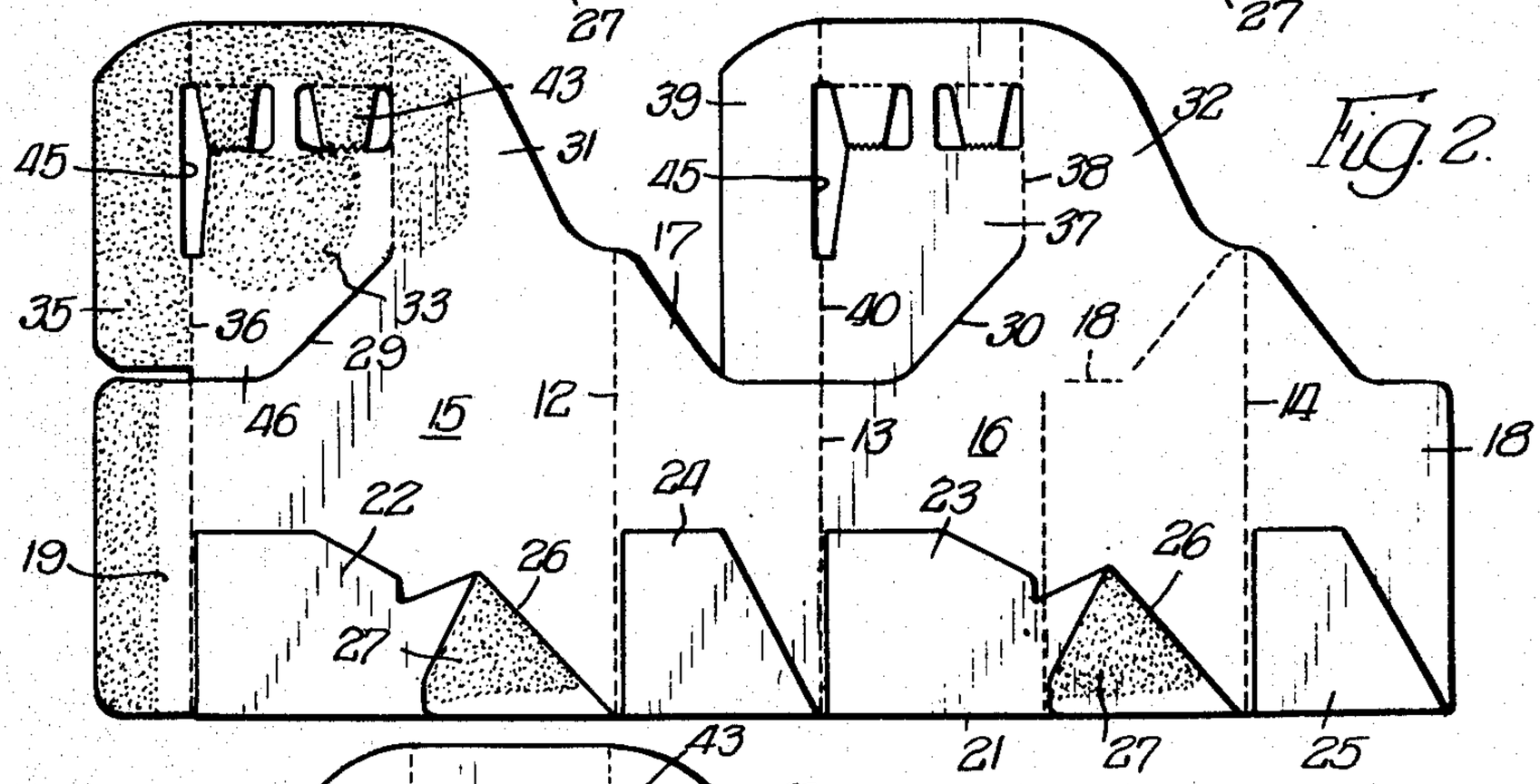

Fig. 2.

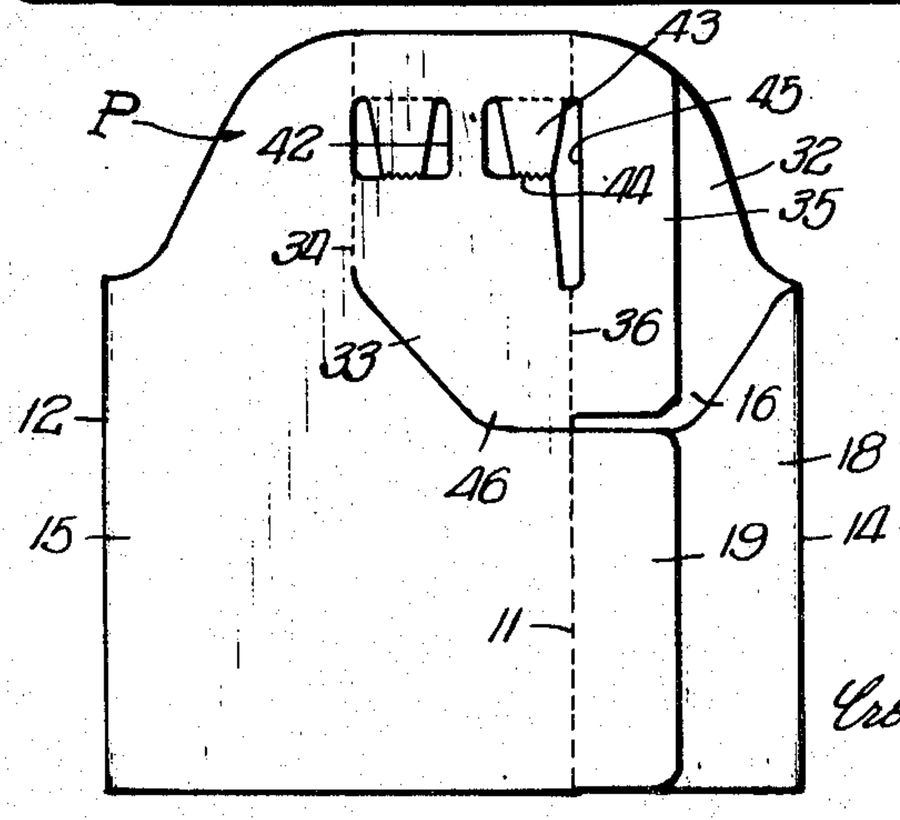

Fig. 3.

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Fig. 4

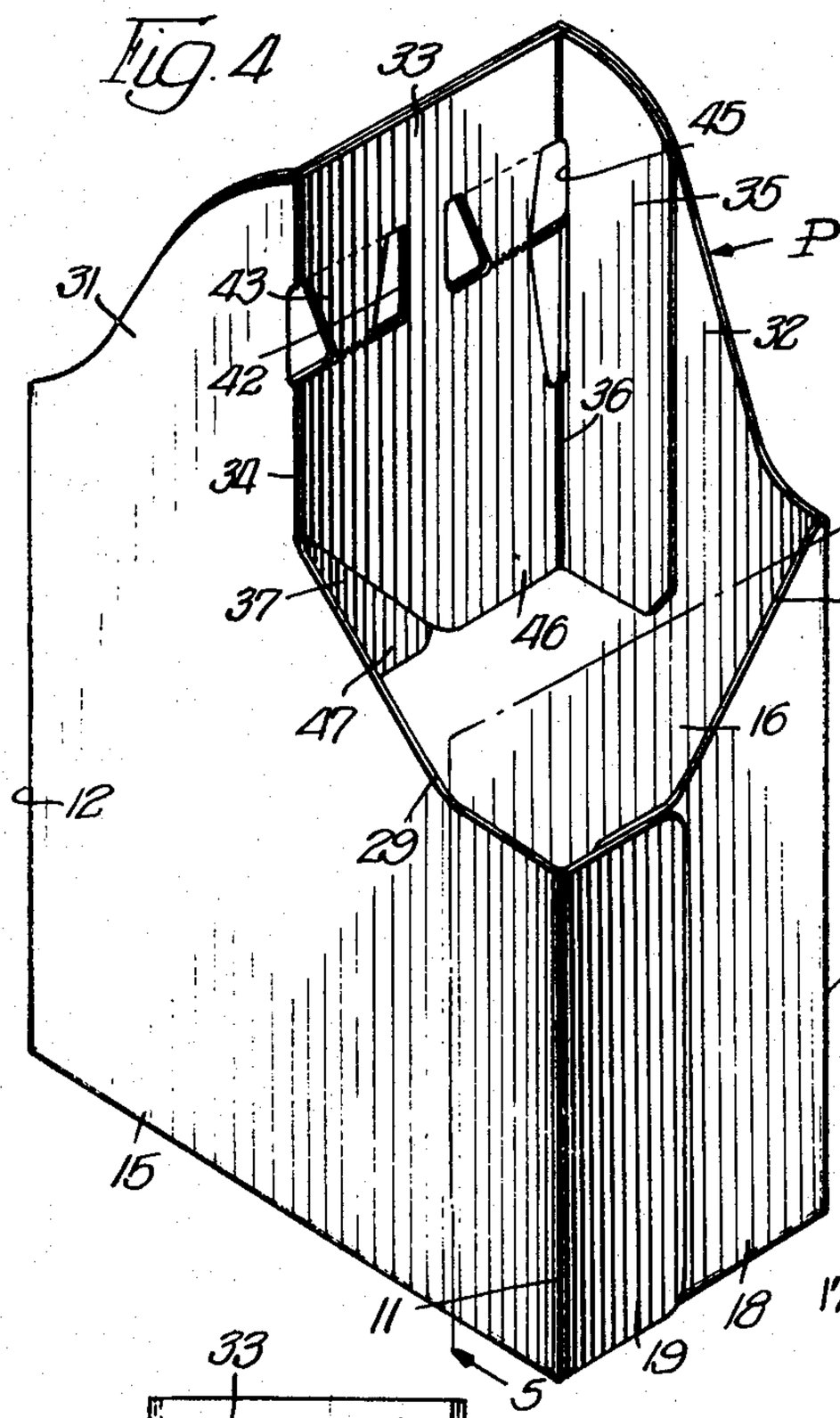

Fig. 6

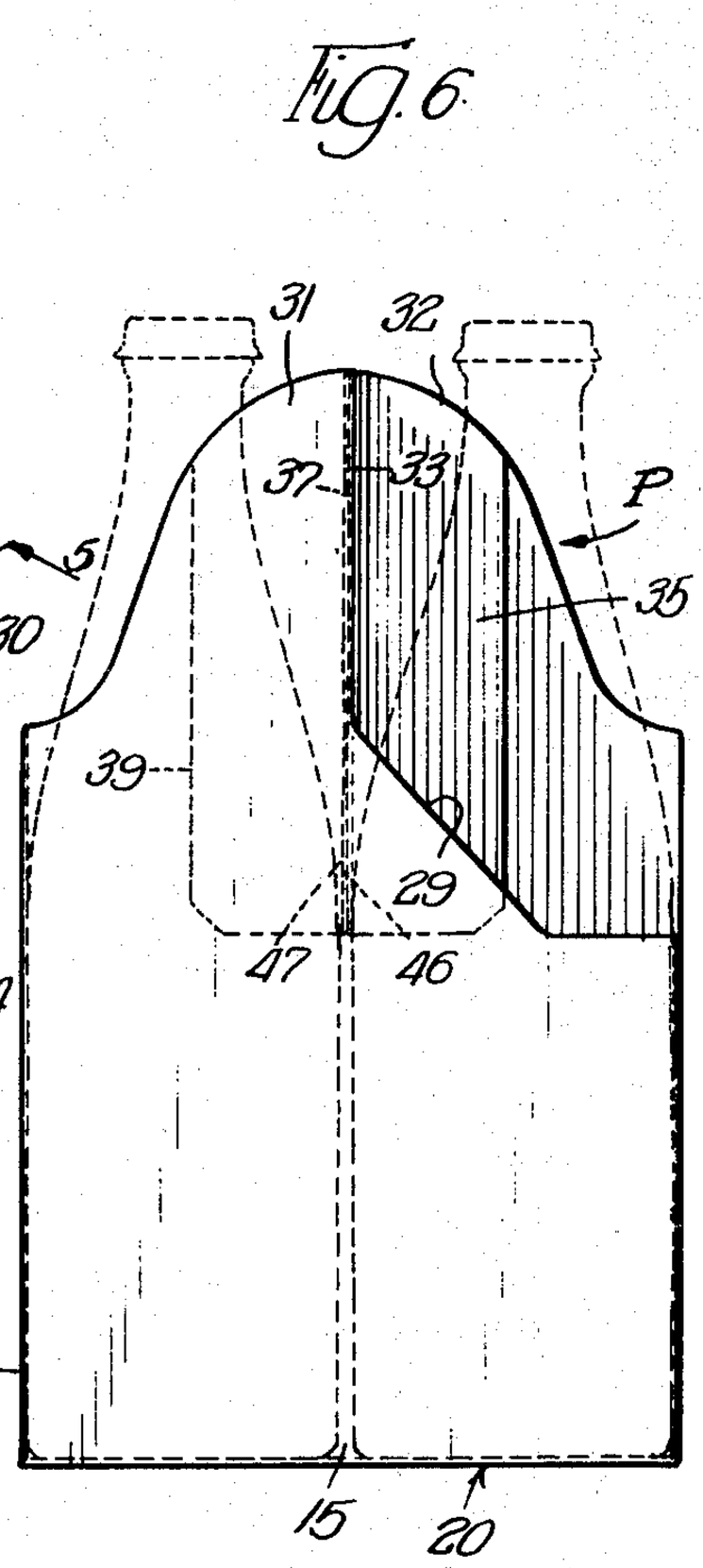

Fig. 5

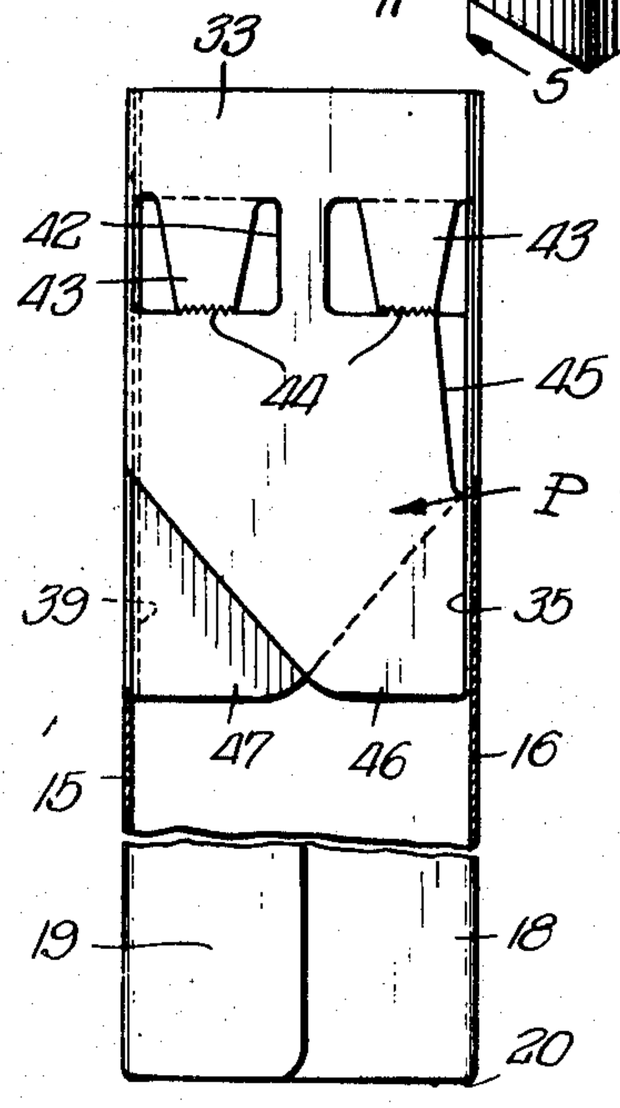

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Fig. 7

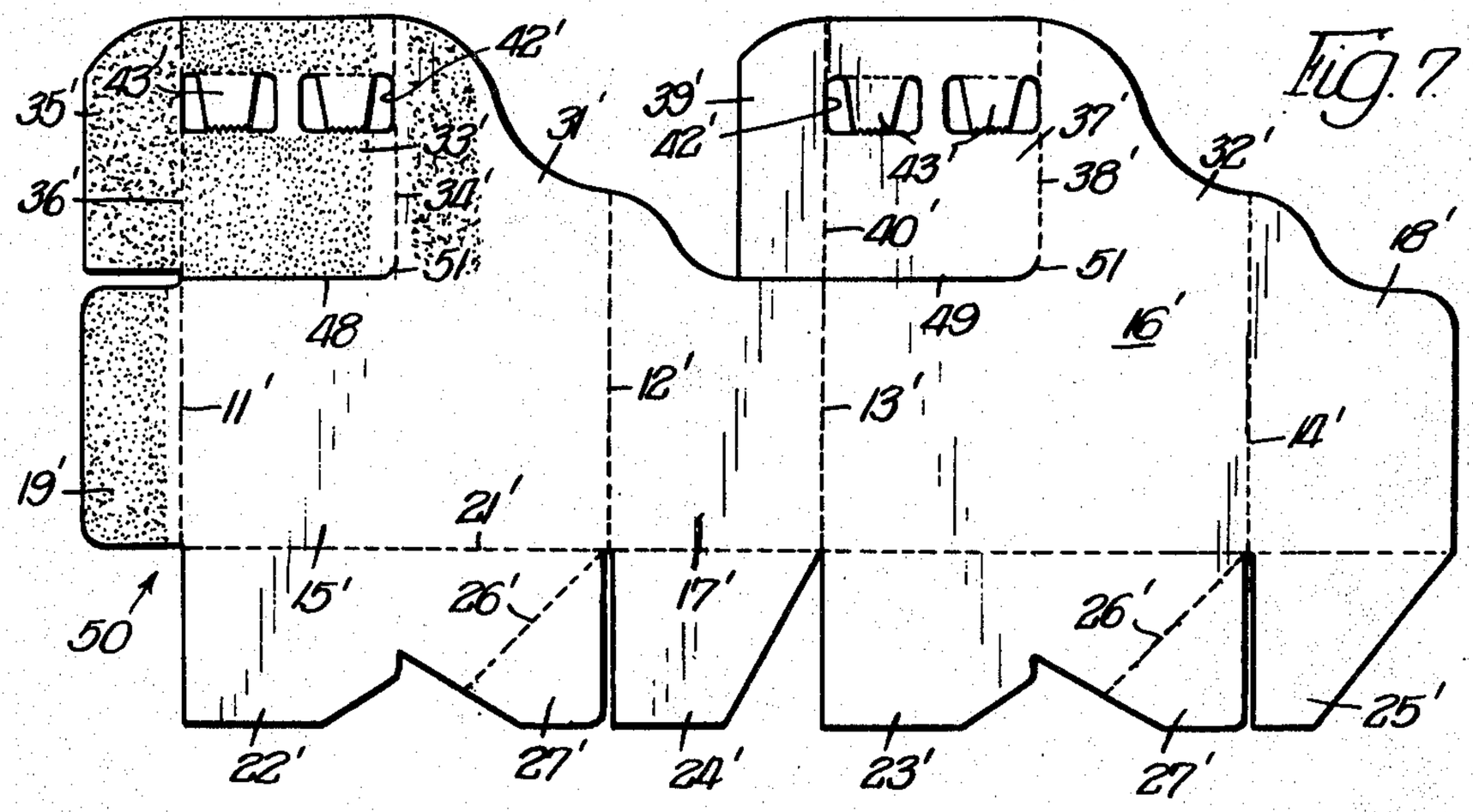


Fig. 9

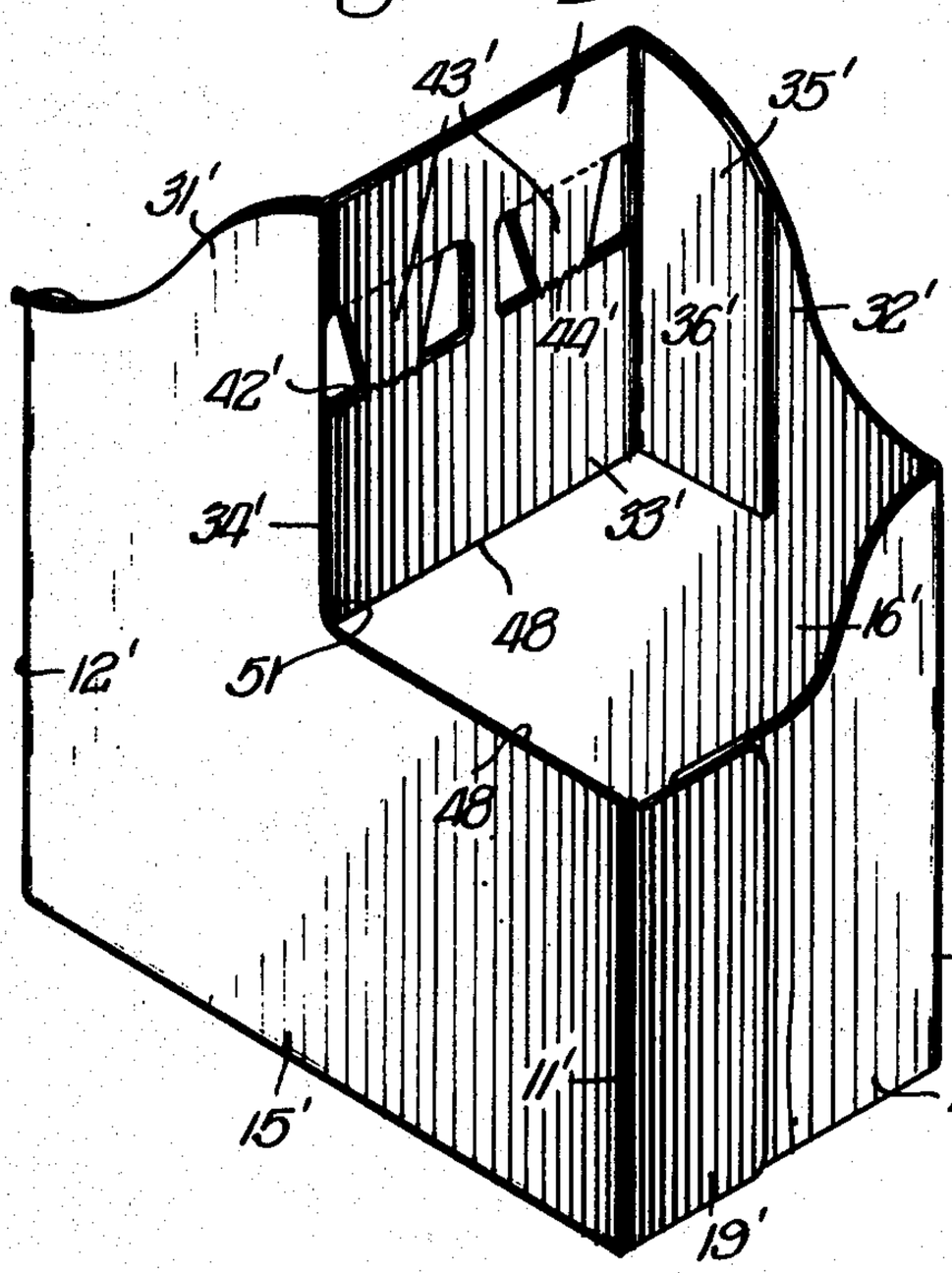
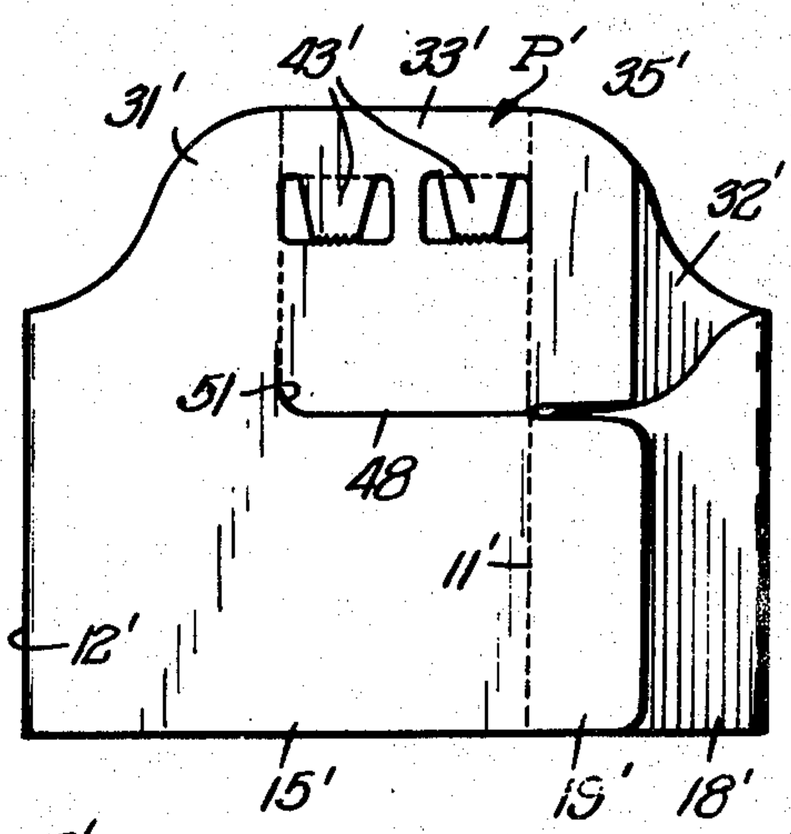


Fig. 8



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UNITED STATES PATENT OFFICE

2,543,821

ARTICLE CARRIER

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Application June 30, 1950, Serial No. 171,523

1 Claim. (Cl. 229—52)

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The present invention pertains to improvements in a portable paperboard carrier for bottles, cans or like articles of uniform size and shape. The carrier is primarily improved in the manner in which certain portions of the side and end walls thereof are cut and manipulated to provide a relatively strong and substantial, multiple-ply partition and suspending panel extending medially of the carrier to subdivide its interior.

It is an object of the invention to provide a carrier having a central partition and suspending panel extending at a right angle between and integrally connected to a pair of opposed walls, which panel is of two-ply construction, having the respective plies thereof cut in a novel manner from the material of said last named pair of walls and of a further pair of walls normal thereto.

Another object of the invention is to provide a very simple, economical and practical paperboard bottle carrier of the foregoing description, in which an improved and simplified two-ply medial partition and suspending panel subdivides the interior of the carrier between the side and end walls thereof into two rectangular article receiving spaces of equal size, each adapted to receive one or more articles, the carrier being devoid of further cross partitions further subdividing these spaces.

A still further object is to provide a flexible paperboard blank for a bottle carrier of the above type.

Considerable development has taken place in the design and improvement of inexpensive paperboard bottle and related article carriers of the type characterized by pairs of side and end walls, a medial partition and suspending panel, usually connected to the end walls and paralleling the side walls, and a plurality of cross partition elements, straps or walls extending between the respective side walls and the aforesaid panel to subdivide the space on either side of the latter into a plurality of bottle receiving compartments or cells, usually three in number, and to separate and protect bottles in those cells.

However, it is in some instances desirable to supply an article carrier which is non-cellular in character to the extent that it lacks the cross partition elements referred to above. It is evident that such cross elements are unnecessary in the packaging of just two large size bottles, in which case the bottle separating function is performed solely by the medial partition, or, alternatively, in the packaging of a number of

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cylindrical metal cans not subject to disfiguration or damage due to side-by-side contact with one another. Therefore, the present invention provides a non-cellular type carrier of this description, featuring particularly a partition and suspending handle which is cut in a novel and improved fashion partly from the material of the side walls and partly from the material of the end walls.

Two embodiments of the invention are presented herein for purpose of illustration and it will be appreciated that the invention is susceptible of incorporation in other modified forms coming equally within the scope of the appended claim.

In the drawings,

Fig. 1 is a plan view illustrating the flexible blank from which the carrier is fabricated, in one embodiment thereof, showing the manner in which the blank is slitted, creased and preliminarily glued;

Fig. 2 is a plan view showing the blank in partially folded condition, showing in dotted lines a succeeding folding operation;

Fig. 3 is a plan view illustrating the completely assembled carrier in the flat, knocked-down condition thereof;

Fig. 4 is a perspective view showing the carrier in erected condition, ready for the reception of its contents;

Fig. 5 is a view in vertical cross section on line 5—5 of Fig. 4;

Fig. 6 is an end elevation of the erected carrier, showing in dotted line a pair of bottles packaged therein;

Fig. 7 is a plan view, similar to Fig. 1, of a blank employed in the construction of a slightly modified carrier;

Fig. 8 is a view of the completed knock-down carrier constructed from the blank of Fig. 7; and

Fig. 9 is a perspective view of the carrier constructed as shown in Fig. 8, in erected condition.

Referring to the drawings, the reference numeral 10 generally designates the blank from which one embodiment of the carrier of the present invention is fabricated. This blank is subdivided by parallel crease lines 11, 12, 13 and 14 into a pair of end wall panels 15, 16, an intermediate side wall panel 17 which is hingedly connected at its opposite side margins to panels 15, 16 by creases 12, 13, respectively, and a further side wall panel 18 hingedly connected to panel 16 by crease 14. A partial width side wall glue flap or panel 19 is bendably connected to end wall panel 15 by the crease 11.

In accordance with usual terminology, I have designated as "end wall" panels the two panels 15, 16 between which the medial upstanding partition P of the carrier extends, as illustrated in Figs. 4, 5 and 6, this partition paralleling the "side wall" panel 17 on one side thereof and the two-part panel 18, 19 on the other. In both embodiments of the invention a carrier for but two bottles, cans or like articles is shown, in which instances the end walls are twice as long as the side walls. However, the invention is adapted to carrying articles in any multiple of two, in which case the end and side walls will be equal in length or the latter longer than the former.

An automatically erectable bottom structure 20 of a well known type is hingedly connected to the aforesaid panels 15, 16, 17, 18 by means of a longitudinally extending crease 21. This bottom structure includes a pair of identical end wall flaps 22, 23 and a pair of identical side wall flaps 24, 25. Flaps 22, 23 are provided with 45° creases 26 to define generally triangular glue flaps 27 therein. This bottom construction is of the general type shown and described in the patent to Hines No. 2,243,421 of May 27, 1941. Its details form no part of the present invention, hence further detailed description thereof is dispensed with.

The material of blank 10 is cut inwardly from the exterior margin thereof, and across the respective end wall marginal creases 11, 13, along the upwardly angled, horizontally extending slits 29, 30, respectively. These slits extend upwardly and inwardly into the integral upper extensions 31, 32 of the respective end wall panels 15, 16. Partition and suspending panels 33, 37 are thus freed from the end wall panels 15, 16 by slits 29, 30, which panels 33, 37 are adapted to hinge freely relative to the upper end panel extensions 31, 32 (as well as relative to side wall panels 19 and 17) about vertical creases 34, 38, respectively. The termini of slits 29, 30 merge with the lower ends of the respective creases 34, 38. Panel 33 has a terminal glue lap 35 hinged thereto by a crease 36 which lies in alignment with the lower wall defining crease 11. In like manner, a further glue lap or panel portion 37, freed from side wall panel 17 by the angled crease 30, is hingedly connected to the partition panel 32 by the crease line 40 lying in alignment with the wall defining crease 13.

Partition panels 33, 37 are appropriately apertured at 42 to define finger holes and depending, swinging tabs 43 therein adapted to be bent to one side and upwardly of the partition P of the carrier when grasped. These tabs are preferably left weakly connected to the respective panel portions 33, 37, as by a line of perforations 44. They are adapted to be broken away by the fingers of the user in grasping the partition.

It will be noted that each of the partition panels 33, 37 have a vertically elongated slot 45 located in alignment with the crease line 36, 40, respectively, and extending downwardly approximately to the level of the lower extremity of the respective creases 34, 38. The purpose is to facilitate the bending of the flaps 35, 39 at a right angle to the panels 33, 37, respectively, by eliminating a slight tendency to bind when the completed carrier is erected to its open article-receiving condition.

In manipulating the blank 10 of Fig. 1 to assemble the completed carrier, the bottom forming flap members 22, 24, 23, 25 are first folded upwardly and inwardly onto the respective end

and side wall panels and the glue laps 27 are reversely folded onto the members 22, 23 in the fashion illustrated in Fig. 2. Adhesive is then applied to the exposed surface of those flaps, as indicated by stippling in Fig. 2, and to one of the partition panels 33. Adhesive may also be applied to the side flap 35 as well as to an area of the end wall panel extension 31 which adjoins crease 34, as indicated by stippling in Figs. 1 and 2.

If desired, the application of adhesive to the flap 35 and panel extension may be omitted, leaving flaps 35 and 39 unattached to the respective end wall panel extensions 32, 31, respectively, when the carrier is completed. However, it is preferred that the adhesive connection be employed for the extra rigidity which is thereby imparted to the end walls.

The outer side wall panel 18 and its bottom forming flap 25 are now folded inwardly and downwardly about the crease 14, as shown in dotted line in Fig. 2, causing the flap to be adhered to the glue lap 27. With the parts in this condition, the end wall panel 15 and associated parts are folded inwardly and downwardly about the crease 12, causing the other glue lap 27 to be adhered to the bottom-forming flap 24. The side wall glue flap 19 is adhered to the coacting side wall panel and the partition and suspending panels 33 and 37 are adhered to one another. Flap 39 will also be adhered to the end wall extension 31 and flap 35 to the other extension 32 in the event adhesive has been applied as mentioned above.

These manipulations leave the carrier in the completed condition illustrated in Fig. 3 of the drawing, presenting opposed end walls 15, 16, both of which are twice the width of the side wall constituted by the panel 18 and flap or panel 19, also that constituted by the opposite end wall panel 17. The partition and suspending panel or handle P is of double-ply thickness, being constituted by sections cut by unidirectional slits from the material of the blank which normally falls in the end and side wall areas thereof.

The carrier is erected to the position of Figs. 4, 5 and 6 by simply compressing the opposite end margins represented by creases 12 and 14. This spreads the opposed end and side walls and causes the bottom-forming members to assume closed and locked relation, in a well known manner. The partition and handle member P swings to position between and normal to the end walls, paralleling the side walls.

The amount of material employed in manufacturing the above carrier is kept at an absolute minimum, representing the width occupied by two end walls, two side walls and a necessary overlapping glue flap. The cutting of the blank along the angled slits 29, 30 insures the presence of a pair of depending tab portions 46 and 47 (see Figs. 4 and 5) which extend substantially downwardly into the interior of the carrier to separate the two bottles therein from one another. This prevents destruction or disfiguring of the bottles by rubbing or impact.

The embodiment of the article carrier illustrated in Figs. 7, 8 and 9 of the drawings is, in general respects, almost identical to that illustrated and described above. Hence, corresponding parts thereof are designated by corresponding reference numerals or characters, primed, and further detailed description of these parts will be dispensed with. The carrier of the second embodiment differs from that of Figs. 1

through 6 primarily in that the partition freeing slits 48, 49 in the blank, here generally designated 50, are horizontal throughout and parallel the bottom crease 21', rather than being angled in character. Slits 48, 49 terminate in rounded inner extremities 51 by which they are joined to the respective vertically extending creases 34', 38'. In this embodiment the elongated slotting of the respective panel portions 33', 37' has been dispensed with. For the purpose of facilitating flexure along the creases 36', 40' the flaps 35', 39' may be left unadhered to the respective end wall panel extensions 32', 31'. However, this is not a matter of great significance. These respective flaps and portions may be adhered to one another, if desired, without imposing excessive resistance to flexure at creases 34', 38' and 36', 40'. Hence, a stippled application of adhesive is shown in Figure 7 at the areas which are involved. Alternatively, the expedient of elongating one of the apertures 42' may be resorted to, as in the first embodiment.

Assembly and erection of the structure illustrated in Figs. 7, 8 and 9 is performed in exactly the same way as described above, and generally considered, the carrier exhibits all of the characteristic features of improvement of the first embodiment.

I claim:

A blank for a flexible paperboard carrier comprising a pair of similar sections integrally articulated to one another in end-to-end relation, said sections each including end and side wall panel members integrally hinged in end-to-end relation to one another, the material of each section of the blank being provided with a single laterally extending cut having an inner terminus located at the midpoint of one of the respective end wall panel members, said cuts extending from said termini in the same direction to an exterior margin of said blank and at least to a hinged edge of said respective end wall panel members, said blank being provided with a pair of creases parallel to said lines of articulation and hinging, each extending to a free edge of the blank from the inner terminus of one of the respective cuts to provide a partition member on each section partially freed therefrom by the cut and which is freely swingable about said inner crease terminus relative to one of the end wall panel members, said sections being adapted to be connected to one another at opposite ends of the blank and said partition members being adapted to be secured in face contact with one another to define a multi-ply partition having said respective creases disposed at opposite margins of the respective partition members.

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