United States Patent [19]

Waters

[11] **3,840,171**

[45] **Oct. 8, 1974**

[54] **ARTICLE CARRIER**

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[73] Assignee: **Slater Paper Box, Inc.,** Fall River, Mass.

[22] Filed: **Mar. 19, 1973**

[21] Appl. No.: **342,475**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 202,272, Nov. 26, 1971, abandoned.

[52] **U.S. Cl.** ..... **229/28 R,** 206/139, 206/427, 229/29 B, 229/29 F

[51] **Int. Cl.** **B65d 5/48**

[58] **Field of Search** .... 229/28 R, 29 R, 29 B, 29 D, 229/29 F, 15; 206/45.14, 139, 196, 427

[56] **References Cited**

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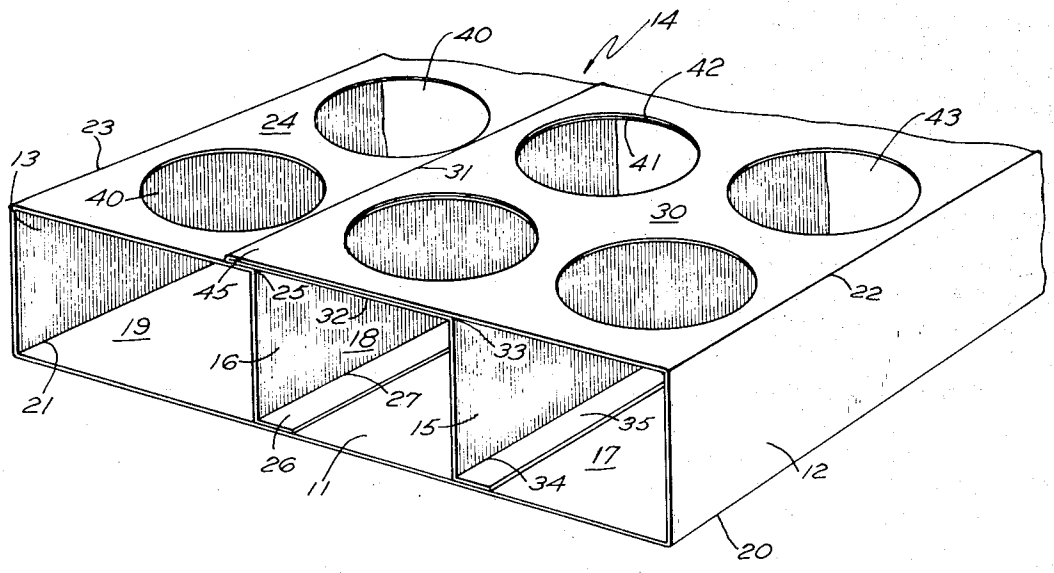
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Primary Examiner—William T. Dixson, Jr.
Assistant Examiner—Stephen P. Garbe
Attorney, Agent, or Firm—Barlow & Barlow

[57] **ABSTRACT**

An article carrier comprising a tube-like structure of generally rectangular cross section having upper and lower decks with more than two rows of openings in the upper deck for receiving such articles as cups, bottles or the like, and with a support between the two decks and between each of the more than two rows of article-receiving holes, all formed from a suitable card-board-like sheet of material, scored and folded into the tubular form, one of the decks having doubled back portions in order to provide a supporting structure between longitudinally extending rows of holes for the reception of the cups from the single sheet of material.

6 Claims, 6 Drawing Figures



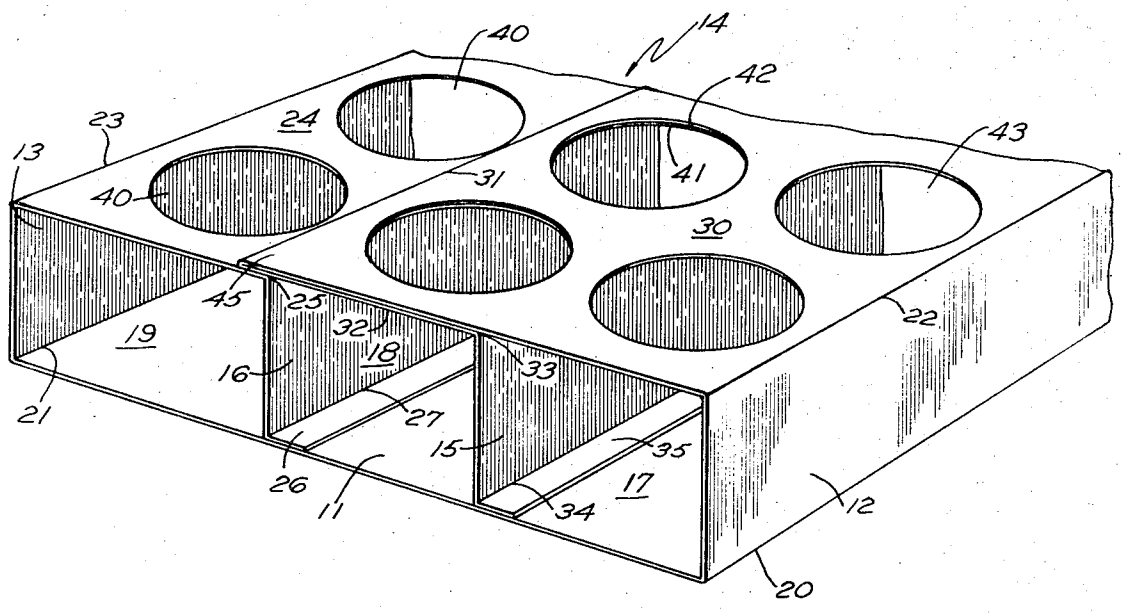

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FIG. 1

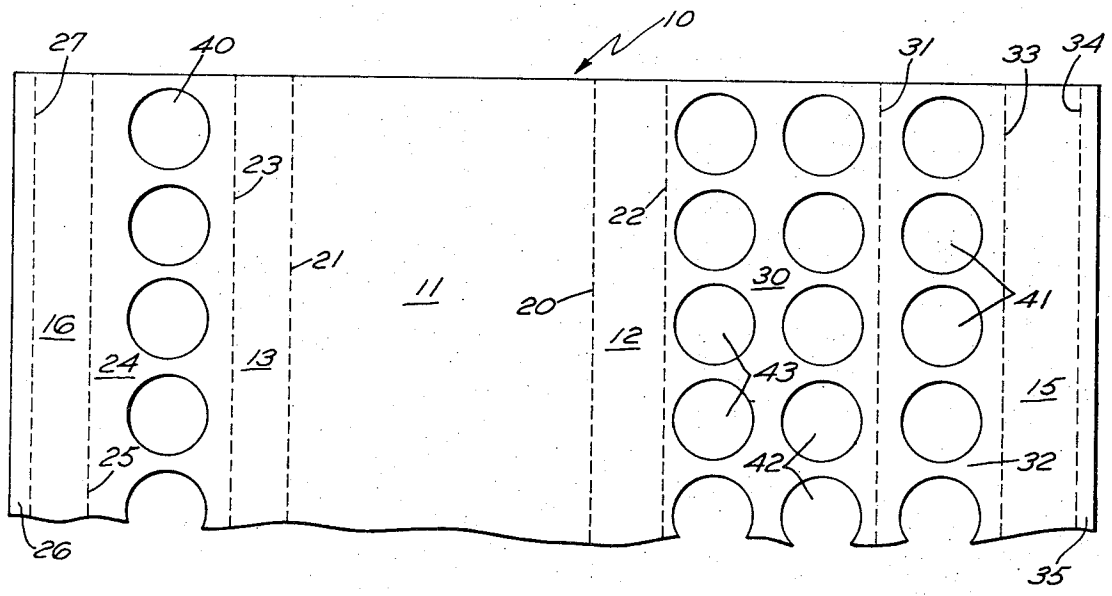

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FIG. 2

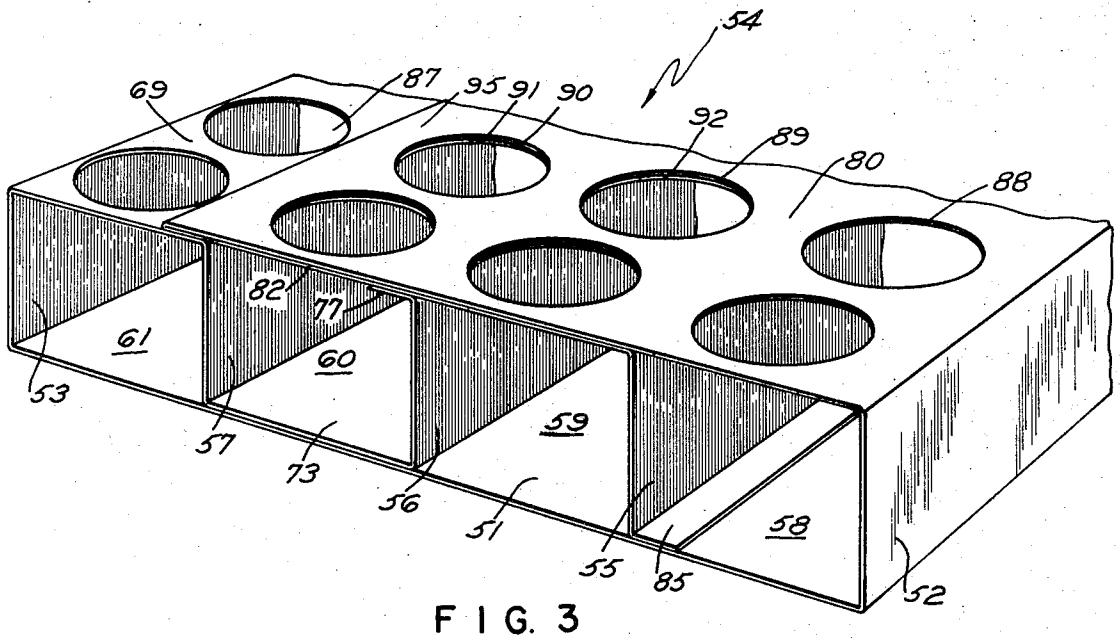

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FIG. 3

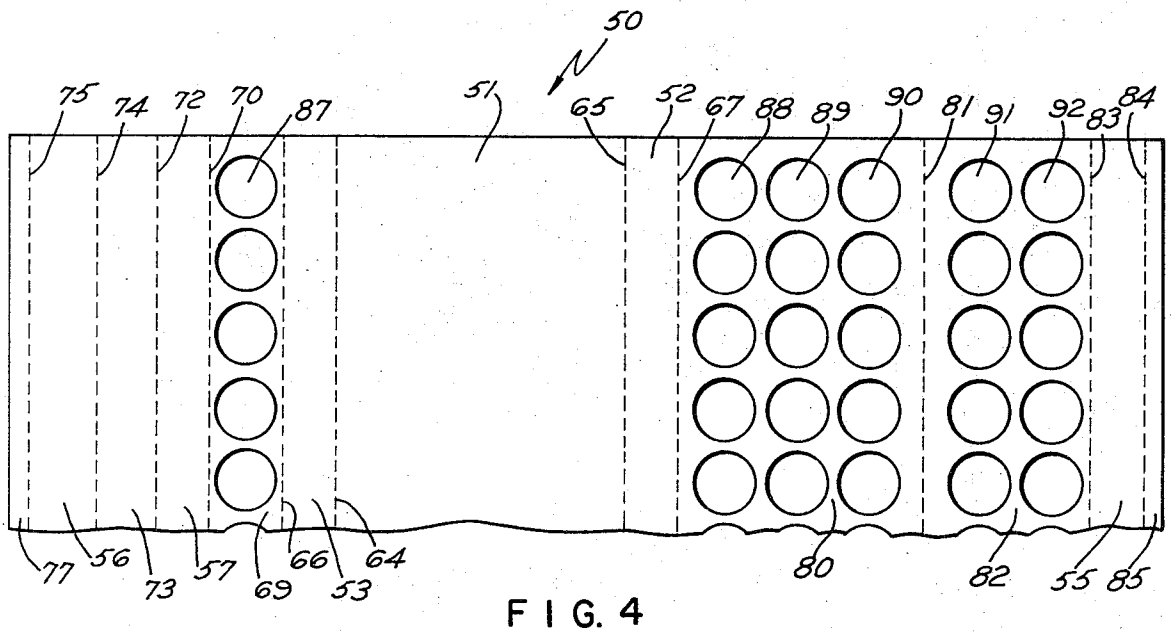

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FIG. 4

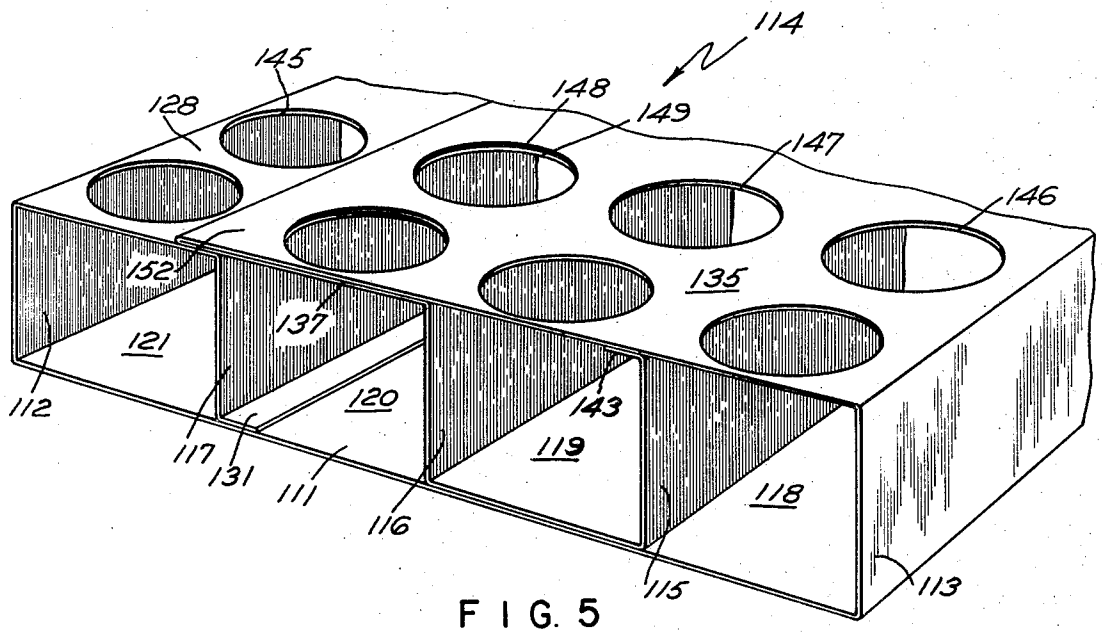

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FIG. 5

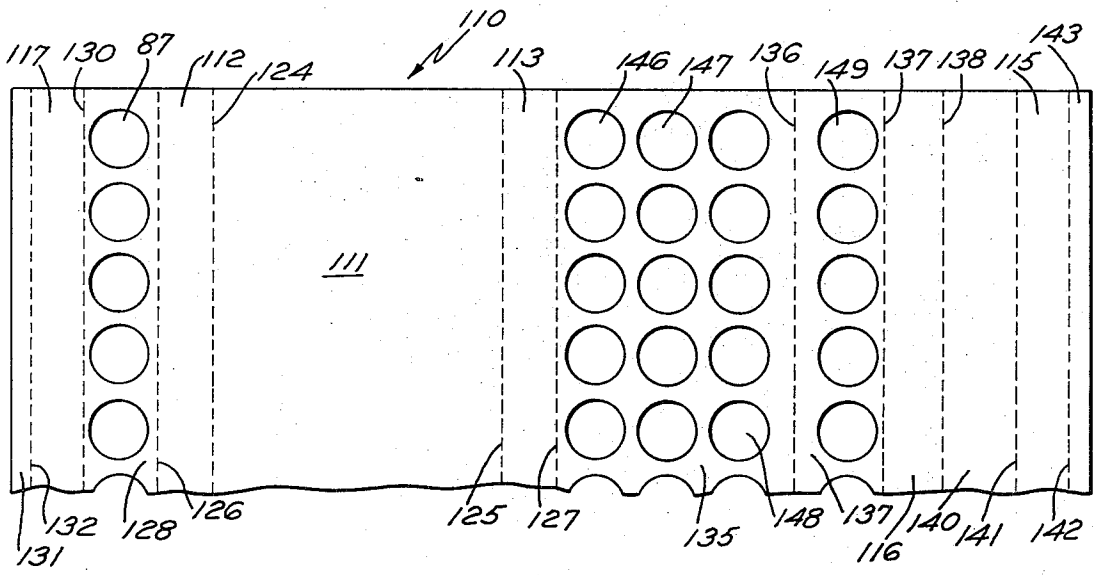

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FIG. 6

ARTICLE CARRIER

CROSS REFERENCE TO RELATED APPLICATION

This application is a continuation-in-part of a copending application Ser. No. 202,272, filed Nov. 26, 1971, now abandoned.

BACKGROUND OF THE INVENTION

In an article carrier of the type here disclosed, the construction of a tube having two rows of holes with a support between the rows of holes creates no problem as it is a fairly simple matter to fold up a sheet of cardboard to provide such a support, U.S. Pat. No. 3,163,321 being such an example. However, when three or more rows of holes are desired, a problem is created where there is to be a formation of a division between a plurality of rows of compartments that is more than two or a support between more than two rows of holes in an article carrier of the type of carrying cups, bottles or the like.

SUMMARY OF THE INVENTION

An article carrier is formed of a tubular construction of rectangular cross section having upper and lower decks and divisions that provide more than two longitudinally extending compartments and with rows of holes in the upper deck opening into each of the more than two compartments which are formed by providing score lines to form a division wall and utilize one edge of the division wall between the compartments, or the support between rows of holes, and then forming additional fold lines to provide a second substantially rectangular formation of compartment in cross section, which is folded to provide an upper deck of the tube which is doubled back on itself and then creased to extend downwardly to the lower deck where it is secured. This provides support for more than two rows of holes depending upon where the doubling back occurs, and is all arranged and folded into tube form from a single sheet of material which has been suitably scored.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a fragmental portion of the article carrier folded into tube form in accordance with this invention;

FIG. 2 is a plan view on a smaller scale of the blank from which the carrier is folded showing in dotted line the score lines along which the folding occurs;

FIG. 3 is a perspective view of a fragmental portion of a first alternative embodiment of the article carrier folded into tube form;

FIG. 4 is a plan view on a smaller scale of the blank from which the first alternative embodiment of the article carrier is folded showing in dotted line the score lines along which the folding occurs;

FIG. 5 is a perspective view of a fragmental portion of a second alternative embodiment of the article carrier folded into tube form;

FIG. 6 is a plan view on a smaller scale of the blank from which the second alternative embodiment of the article carrier is folded showing in dotted line the score lines along which the folding occurs.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to the drawings a single sheet of stock **10** of cardboardlike material, as seen in FIG. **2**, is provided with score line, shown as dotted lines, so that the same may be folded along the score lines into the form substantially as shown in FIG. **1** and secured in this position. This form when it is erected provides a lower deck **11** with side walls **12** and **13** extending upwardly from the lower deck and with an upper deck designated generally **14** formed by folding inwardly portions of the sheet cardboard from side walls **12** and **13.** Divisions **15** and **16** form compartments **17, 18** and **19** and these portions or division walls **15** and **16** serve as supports for the upper deck portion designated generally **14.**

In order to provide this formation, score lines **20** and **21** are provided for the fold between the lower deck **11** and the side walls **12** and **13.** Score lines **22** and **23** provide for the inwardly extending portions of the upper deck at the upper edges of the side walls **12** and **13,** the upper deck portion **24** extending inwardly from the score line **23** and then extending downwardly at score line **25** is the division or supporting wall **16** which is secured to the lower deck **11** by means of flange **26** that extends at right angles to the supporting wall **16** by being folded along score line **27.** This flange **26** is secured along the deck **11** by means of adhesive or staples or any suitable means.

The deck portion **30** extends inwardly from the score line **22** and then by means of score line **31** is doubled back on itself, the portion **32** extending beneath the portion **30.** By folding at score line **33,** the division or supporting wall **15** is created and extends downwardly where its lower edge is folded at score line **34.** A flange **35** which may extend along the lower deck **11** secures the division wall **15** and as previously stated may be by means of adhesive, staples or some suitable means.

More than two rows of holes are provided, one row of holes **40** in the deck portion **24** while three rows of holes **41, 42** and **43** are provided in the deck portion **30** and **32,** the holes **41** being doubled under and registering with the holes **42** in the two ply or double thickness portion **30, 32** of the upper deck portion. The fold of the doubled portion overlaps the deck portion **24** and is seen at **45** and is there secured by adhesive, staples or any suitable means. By reason of this doubled back portion, supports such as **15, 16** provide three rows of holes well supported.

A first alternative embodiment of the article carrier is illustrated in FIGS. **3** and **4.** It is formed from a single sheet of stock **50** of cardboard-like material and it is provided with score lines, shown as dotted lines, so that the same may be folded along the score lines into the form substantially as shown in FIG. **3** and secured in this position. In its erected form it has a lower deck **51,** side walls **52** and **53** extending upwardly from the lower deck, and an upper deck designated generally **54** which is formed by folding inwardly portions of the sheet cardboard from the side walls **52** and **53.** The divisions **55, 56,** and **57** form compartments **58, 59, 60** and **61,** and in addition these division walls serve as supports for the upper deck portion **54.**

In order to provide the above-described formation, score lines **64** and **65** (See FIG. **4**) are provided for the fold between the lower deck **51** and the side walls **52** and **53.** Score lines **66** and **67** provide for the inwardly

extending portions of the upper deck at the upper edges of the side walls. Upper deck portion **69** extends inwardly from score line **66** and at score line **70** and the division or supporting wall **57** extends downwardly therefrom all the way to score line **72.** Connecting member **73** extends from score line **72** to score line **74** in juxtaposition with lower deck **51** where supporting wall **56** extends upwardly toward upper deck **54.** Supporting wall **56** terminates at score line **75** and a flange **77** extends at right angles thereto lying in juxtaposition with the upper deck **54.** This flange **77** is secured along the deck **54** by means of adhesive or staples or any suitable means.

The deck portion **80** extends inwardly from score line **67** and then by means of score line **81** is doubled back upon itself with portion **82** extending beneath portion **80.** At score line **83** supporting wall **55** is folded downwardly until it reaches the lower deck at score line **84** and flange **85** extends at right angles thereto to secure supporting wall **55** in the same manner as flange **77** is secured to the upper deck.

The above-described structure produces an article carrier having one row of holes **87** in deck portion **69** while five rows of holes **88, 89, 90, 91,** and **92** are provided in deck portions **80** and **82.** The holes **91** and **92** register with holes **89** and **90** respectively in the two-ply or double thickness portion of the upper deck. The fold of double portion overlaps the deck portion **69** and is seen at **95** to form a three-layer thickness which is secured together by adhesive, staples or any suitable means. By reason of the double-back portion supports **55, 56** and **57** there is provided an article having four rows of holes that are well supported.

A second alternative embodiment of an article carrier is illustrated in FIGS. **5** and **6.** It is characteristically similar to the four-row article carrier previously described and is likewise formed of a single sheet of stock **110** of cardboard-like material. It has score lines so that the sheet of stock be folded therealong into the form shown in FIG. **5** and secured in this position. This form when erected provided a lower deck **11,** side walls **112** and **113,** and an upper deck generally designated **114.** Divisions **115, 116** and **117** form compartments **118, 119, 120** and **121** and these portions or division walls serve as supports for the upper deck portion **114.**

Score lines **124** and **125** are provided for the folds between the lower deck **111** and the side walls **112** and **113.** Score lines **126** and **127** provide for the inwardly extending portions of the upper deck at the upper edges of the side walls. Upper deck portion **128** extends inwardly from the score line **126** and extending downwardly at score line **130** is supporting wall **117.** This supporting wall is secured to the lower deck **11** by means of flange **131** that extends at right angles thereto and which is folded along score line **132.** This flange is secured along the lower deck in any of the many ways previously described with respect to the other embodiment.

The deck portion **135** extends inwardly from score line **127** and then by means of score line **136** is doubled back upon itself with portion **137** extending therebeneath. By folding along score line **137,** the supporting wall **116** is created that extends downwardly. At its lower edge, along score line **138,** it is folded a right angle and connecting member **140** is placed in juxtaposition with the lower deck **111.** Extending upwardly from the connecting member **140** at score line **141** is supporting wall **115** which, at score line **142,** is bent at a right angle to form a flange **143** that is secured to the underside of the upper deck.

In this embodiment only five rows of holes are provided in the blank **110,** one row of holes **145** in deck portion **128** while four rows of holes **146, 147, 148,** and **149** are provided in the deck portion **135** and **137.** Holes **143** and **149** register with each other when upper deck portions **135** and **137** are doubled over to provide a two-ply or double thickness portion in the upper deck. The fold of double portion overlaps deck portion **128** and is seen at **152** to form a triple thickness portion that is secured together in the manner previously described. By reason of the double-back portion supports **115, 116** and **117** provide an article carrier having four rows that are well supported.

What is claimed is:

1. A carrier for a plurality of articles comprising a single sheet of cardboard-like material scored and folded into tubular form having spaced upper and lower decks with side walls extending between said decks, a plurality of supporting walls between said side walls providing a plurality of longitudinally extending compartments, said upper deck having spaced rows of article receiving holes with each row of holes opening into its own compartment and said top deck having a portion formed of double thickness of said sheet material by reason of said sheet material being folded back upon itself with holes in each portion of double thickness registering with each other, said portion of double thickness extending completely across the top of one of said compartments and partially overlapping the top of another compartment to thereby form a triple thickness section in said upper deck.

2. An article carrier as in claim **1** wherein the supporting walls have flanges at their ends extending along one of said decks and secured thereto.

3. An article carrier as recited in claim **1** wherein said portion formed of double thickness extends completely across the top of two of said compartments.

4. An article carrier as recited in claim **3** wherein said portions formed of double thickness has at least two rows of holes with the holes in each portion of double thickness registering with each other.

5. An article carrier as recited in claim **1** wherein two of the supporting walls that are adjacent to each other have an integral connecting member attached to the bottom of said supporting walls that lies juxtaposed on the top surface of said lower deck to thereby form a double thickness in said lower deck.

6. An article carrier as recited in claim **5** wherein said pair of supporting walls having the integral connecting member between them is formed on the single sheet of cardboard-like material adjacent the end of said sheet having the portion formed of double thickness.

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