FIG. 1

FIG. 2

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This invention relates to article carriers having medial partitioning struts which are struck from transverse partitioning straps and which are disposed with their ends in overlapping relationship and which are secured together so as to form a medial partitioning structure immediately below the handle panels of the carrier and which not only serve as partitioning means but which also substantially strengthen the handle structure.

In article carriers of the type disclosed in U.S. Patent 2,776,072, a partitioning panel is struck out of one of the handle panels and folded downwardly along a horizontal fold line so as to form a medial separator for the carrier in the region thereof immediately below the handle panel. Carriers of this type have met with wide commercial success and are characterized by worthwhile economy. Of course, the partitioning panel which is struck out of one of the handle panels tends to weaken that particular handle panel.

Strap style article carriers of the type disclosed, for example, in U.S. Patent 2,537,452 are in wide commercial use and are constructed so as to utilize material from which they are constructed in an efficient manner. Strap style carriers sometimes develop weaknesses in the region immediately adjacent the inner ends of the straps, i.e., at the fold lines where the straps adjoin the respective handle panels.

A principal object of this invention is to provide an improved medial partitioning strut for strap style article carriers without the necessity for striking a medial separating panel from one of the handle panels.

Another object of this invention is the provision of an improved strap style article carrier wherein significant strengthening is achieved medially of the carrier below the handle and at the general level of the straps and in this way substantially to reduce the likelihood of failure at the fold lines between the straps and the handle panels.

Still another object of this invention is to provide an improved article carrier handle structure wherein the handle panels are constructed of minimum area due to the fact that strength medially of the carrier is such according to this invention that ordinary handle panels may be reduced in size and substantial economies thereby effected.

An improved article carrier according to this invention comprises a first pair of handle panels secured at one end thereof to one end of the carrier, a second pair of handle panels secured at one end thereof to the other end of the carrier, said handle panels being secured together in flat face contacting relation to form a medial handle structure, transverse partitioning straps foldedly joined to each of the handle panels and also interrelated with the adjacent side walls respectively, a first medial partitioning strut struck out of a transverse partitioning strap which is foldedly joined to one of the first handle panels, a second medial partitioning strut struck out of a transverse partitioning strap which is foldedly joined to one of the second handle panels, and means for securing said first and second medial partitioning struts together in overlapping relationship. If desired, medial partitioning struts may be struck from the remaining transverse partitioning straps thereby to increase the bracing action medially of the carrier and to enhance the partitioning function of the partitioning struts.

For a better understanding of the invention, reference may be had to the following detailed description taken in conjunction with the accompanying drawings in which FIG. 1 is a perspective view of a set-up carrier embodying this invention; FIG. 2 is a plan view of a blank from which the carrier depicted in FIG. 1 is formed; and in which FIGS. 3, 4 and 5 depict stages through which the blank of FIG. 2 is manipulated in order to form the completed carrier depicted in collapsed form in FIG. 1.

In the drawings the numeral 1 designates a side wall of the carrier to the bottom edge of which a glue flap 2 is foldably joined along fold line 3. An end panel 4 is foldably joined along fold line 5 to one end of the side wall 1 while a similar end panel 6 is foldably joined along fold line 7 to the other end of side wall 1. A riser panel 8 is foldably joined to one edge of end wall 4 along fold line 9 and a similar riser panel 10 is foldably joined to one edge of end panel 6 along fold line 11. A first handle panel 12 is foldably joined to a second handle panel 13 along medial fold line 14 and to riser panel 8 along fold line 9.

At the other end of the carrier a second pair of handle panels designated by the numerals 15 and 16 are foldably joined together along medial fold line 17. Handle panel 15 is foldably joined to riser panel 19 along fold line 11. Hand gripping apertures 18 and 19 are formed in the first pair of handle panels 12 and 13 while similar hand gripping apertures 20 and 21 are formed respectively in the second pair of handle panels 15 and 16.

The opposite side of the carrier is similar in construction to those portions of the carrier blank described above and comprises a riser panel 22 foldably joined along fold line 23 to end panel 24 and to handle panel 13. End panel 24 is foldably joined along fold line 25 to side wall 26. In like fashion, end panel 27 is foldably joined to the other end of side wall 26 along fold line 28 and riser panel 29 is foldably joined to an edge 30 of end panel 27 and of handle panel 16. Bottom panel 31 is foldably joined along fold line 32 to the bottom edge of the side wall 26 and the bottom panel is provided with a medial fold line 33 at the ends of which a pair of notches 34 and 35 are formed.

For the purpose of cooperating with the notches 34 and 35 and thereby to maintain the carrier in set-up condition, a plurality of locking notches 36, 37, 38 and 39 are formed in riser panels 8, 22, 29 and 10, respectively, and perform in a well known manner.

In order to provide transverse separating means for articles disposed on either side of the handle structure, a plurality of straps are provided and in the drawings straps on one side of the carrier are designated by the numerals 40 and 41. Strap 40 is foldably joined to high center portion 1A of side wall 1 along a fold line 42 and to the handle panel 12 along the short fold line 43. In like fashion, transverse partitioning strap 41 is foldably joined at one end to high center portion 1A of the side wall 1 along fold line 44 and at the other end the strap 41 is foldably joined to handle panel 13 along short fold line 45.

The partitioning straps on the opposite side of the carrier are similarly constructed and are designated by the numerals 46 and 47. Strap 46 is foldably joined at one end along fold line 48 to the high center portion 26A of said wall 26 and at the other end strap 46 is foldably joined to handle panel 13 along the fold line 49. Transverse
partitioning strap 47 is foldably joined along fold line 50
to the high center portion 26A of side wall 26 at one end of
the strap and at the other end thereof the strap is joined
to handle panel 16 along fold line 51.

According to this invention, portions of ends of the
forementioned transverse partitioning straps are

out of the strap and the drawings are designated by
the numbers 52, 53, 54 and 55. It will be understood that
these medial partitioning straps 52-55, inclusive, extend
from the fold lines 43, 45, 49 and 51, respectively, toward
but not altogether to the fold lines 42, 44, 48 and 50.

While the inner ends of the medial partitioning straps are

shown as being curved, it will be understood that any suit-

able configuration may be employed. Furthermore, the

medial partitioning straps are depicted as being struck
from the lowermost edges of their respective transverse
partitioning straps. This is not a prerequisite of the inven-
tion, it being understood that the medial partitioning
straps may be struck from the top edges or from material
intermediate either edge and disposed centrally of the
straps.

In order to form the collapsed carrier depicted in FIG. 5
from the blank depicted in FIG. 2, an application of

adhesive is first made to the blank as indicated by stippling
in FIG. 2. Thereafter, the first pair of handle panels 12

and 13 are mounted and swung toward the right simulta-

neously with the folding of the end panels 4 and 24

upwardly and toward the right along the fold lines 5 and

25, respectively. Simultaneously, the riser panels 8 and 20

are fold upwardly and toward the right along the fold

lines 9 and 23, respectively, so that the inner ends of the

riser panels 8 and 22 become adhered to the stippled

partitioning strap at the left hand ends of the first pair of handle panels

12 and 13. Of course, the parts following this folding

operation occupy positions as depicted in FIG. 3. The

folding action as described thus far is well known in the

art.

During the folding operation whereby the parts are

manipulated from the blank as depicted in FIG. 2 to occu-

py positions as indicated in FIG. 3, the medial parti-

tioning straps 52 and 54 move over the inner panel and in the

same plane as their respective handle panels 12 and 13

and hence lie in overlapping relationship to the medial

partitioning straps 53 and 55, respectively, to occupy posi-
tions as depicted in FIG. 3. Since an application of glue has

been made to medial partitioning straps 53 and 55, the

overlapping portions of the medial partitioning straps 52

and 54 come adhered to the overlapping ends of medial

partitioning straps 53 and 55, respectively. According to

one feature of this invention, the securing of these medial

partitioning straps together as described materially en-
hances the strength of the carrier along the medial por-
tion thereof immediately below the handle and also, of

course, affords a separating partition for the article on one

side of the handle in the middle cell from the corre-

sponding article on the other side of the handle panel.

In order to transform the carrier from the condition
depicted in FIG. 3 to that depicted in FIG. 4, the bottom

panel 31 is folded along the medial fold line 33B by simply

folding the lower portion 33A thereof upwardly and over

into flat face contacting relation with the upper portion

33B thereof as depicted in FIG. 3. Simultaneously, the

riser panel 10 is folded upwardly and toward the left along

the fold line 11 so that its inner end is secured in flat face

contacting relation to the handle panel 15. Likewise, the

tiser panel 29 is folded upwardly and toward the left along

fold line 30 so that the inner end thereof is affixed to the

right hand end of handle panel 16. The blank then

appears as depicted in FIG. 4.

In order to complete the carrier an application of glue

is made to the blank as indicated by stippling in FIG. 4.

Thereafter, the side wall 1, glue flaps 2, end panels 4 and

6, riser panels 8 and 10 and handle panels 12 and 15 are

folded upwardly and forwardly along the fold lines 14, 17

into flat face contacting relation with the remaining por-
tions of the blank to occupy positions as depicted in FIG. 5,

i.e., to form the completed carrier in collapsed

condition.

In order to set up the carrier from its collapsed condi-
tion as depicted in FIG. 5, it is simply necessary to press

inwardly on the end panels 6 and 27 at the fold lines 11,

30 while urging the side walls 1 and 26 toward the right.

This action causes the locating notch 34 to engage the

notch 36, 37 and also allows the locating notch 35 to en-

gage the locating notch 38, 39. Thereafter, the carrier

appears as depicted in FIG. 1.

Since the medial partitioning straps 52, 53, 54 and 55

are secured together in overlapping relation, substantial

strength is added medially of the carrier and in the region

below the handle panel. This structure also serves as a

partition according to one feature of the invention and

substantially strengthens the carrier at the fold lines 42,

44, 48 and 50. Furthermore, it is not necessary to strike

out a partitioning panel from any one of the handle panels

such as 12, 13, 15 or 16 and by this means these handle

panels may be made smaller, if desired. Of course, sub-

stantial economy is effected in this manner.

The invention is described and shown in conjunction

with a carrier of the type having telescoping handles as
disclosed in U.S. Patent 2,537,452. It will be understood

that the invention is not limited thereto and that it is also

applicable to carriers of the types disclosed in U.S. Patents

2,692,700, 2,537,615 and in reissued U.S. Patent 2,318,807.

While a particular embodiment of the invention has

been shown and described, it will be understood that the

invention is not limited thereto, and it is intended in the

appended claims to cover all such changes and modifica-
tions as fall within the true spirit and scope of the

invention.

The embodiments of the invention in which an exclu-
sive property or privilege is claimed are defined as follows:
1. An article carrier comprising a bottom panel, op-

posed side walls foldably joined to opposite side edges of

said bottom panel, end panels foldably joined to said bot-

tom panel and said opposed side walls and extending transversely inward there-

from, medial riser panels foldably joined to said end

panels respectively, the riser panels at each end of the
carrier being secured together in face contacting relation,

a medial multi-ply handle connected at each end to said

riser panels, at least one transverse partition strap integral

with and foldably joined to its outer end to each of said

depicted side walls, said straps being spaced from each other in a
direction medially of the carrier, said straps being integ-

ral with and foldably joined to their inner ends to dif-

ferent plies of said handle, a medial partitioning strut

struck out of each of said straps and extending toward

each other with their inner ends in overlapping relation,

and means securing said inner ends of said straps together.

2. An article carrier comprising a bottom panel, op-

posed side walls foldably joined to opposite side edges of

dsaid bottom panel, end panels foldably joined to the ends

of said side walls and extending transversely inward there-

from, medial riser panels foldably joined to said end

panels respectively, the riser panels at each end of the
carrier being secured together in face contacting relation,

a medial multi-ply handle connected at each end to said

riser panels and having a pair of opposed outer panels

arranged in face-to-face relation and a pair of inter-

mediate panels disposed between said outer panels, a pair

of transverse partition straps foldably joined to each side

wall, each pair of straps being disposed in spaced relation
to each other, one of the straps on each side of the handle

being foldably joined at its inner end to the corresponding

outer panel and the other corresponding of the handle

being foldably joined to the corresponding inner panel,
a first medial partitioning strut struck out of one of said

transverse partitioning straps, a second medial partition-
ing strut struck out of another of said transverse parti-

tioning straps which is spaced medially from said first

partitioning strap, said struts extending toward each other
with their inner ends in overlapping relation, and means securing said inner ends of said struts together.

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