Sept. 28, 1965 R. BRAITHWAITE 3,208,492

BAG HANDLE AND BAG

Filed Feb. 21, 1962

Fig. 1

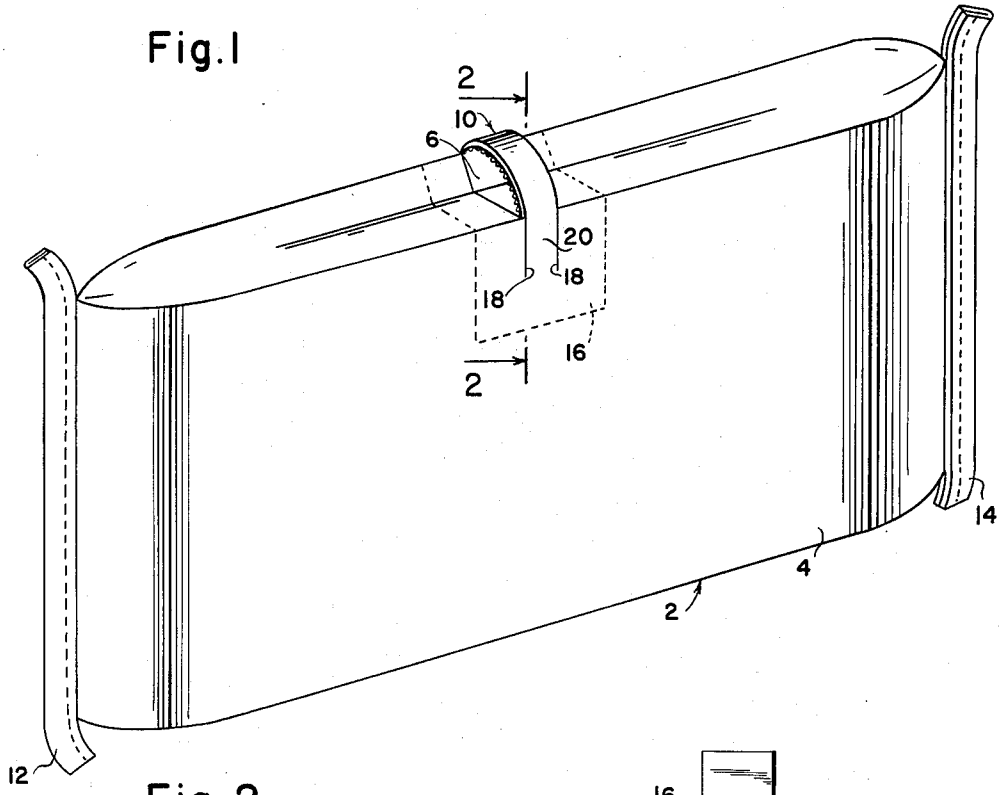
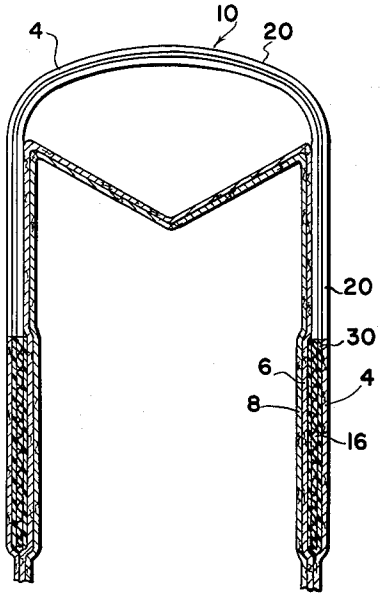


Fig. 2



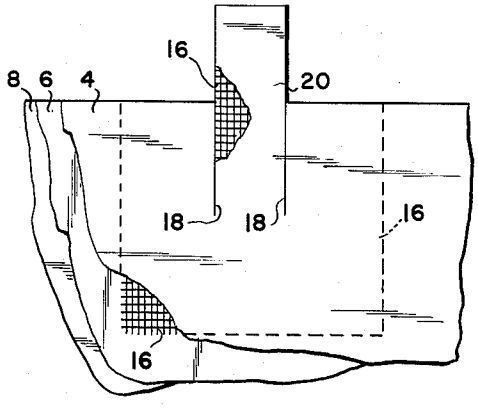


Fig. 3

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United States Patent Office 3,208,492
Patented Sept. 28, 1965

3,208,492

BAG HANDLE AND BAG

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Filed Feb. 21, 1962, Ser. No. 174,753
3 Claims. (Cl. 150—12)

The present invention relates to handles, and more particularly to improved handles for use with multi-wall sacks or bags.

In the packaging of granular, powdered or pulverized materials it is of particular importance that the container be sufficiently strong to withstand rough handling during shipment and storage. Accordingly, a multi-wall bag, which is comprised of a bag tube formed of several plies of paper and closed at both ends, is particularly suited for the packaging of such materials.

It is an object of the present invention to provide a simple yet strong handle for use with multi-wall sacks or bags, and the like. It is another object to provide such a handle which may be easily incorporated into the tube from which the bag is to be formed. It is a further object to provide a multi-wall bag with a handle attached thereto, wherein the bag is reinforced to prevent tearing when the bag is lifted by the handle. Another object of this invention is to provide a handle construction which may be produced during the manufacture of the tube from which bags are being formed without imposing objectionable limitations upon the production rate. It is still another object to provide a handle attachment for bags which is inexpensive to manufacture and which may be used with the various types and sizes of multi-wall bags, sacks and the like.

In the specification and the accompanying drawings, preferred embodiments of the present invention in handles and bags is shown and described. It is to be understood that these are not intended to be exhaustive nor a limitation of the invention, but on the contrary, are given for the purpose of illustration in order that others skilled in the art may fully understand the invention, its principles and the manner of carrying it out.

In the drawings:

FIGURE 1 is a perspective view of an illustrative embodiment of the invention comprising a filled and closed multi-wall bag with a handle attached thereto;

FIGURE 2 is a sectional view on the line 2—2 of FIGURE 1; and,

FIGURE 3 is a somewhat exploded view of the handle of FIGURES 1 and 2.

Referring to FIGURES 1 and 2 of the drawings, a multi-wall bag **2** comprises three plies **4**, **6** and **8** and has a handle **10** at the center of one edge. The ends of the bag are closed by sewing and with cover strips **12** and **14**. Handle **10** is constructed of a layer or patch **16** of burlap and the adjacent portions of the plies forming the bag. Patch **16** is rectangular extending across the gusset of the bag and a substantial distance down the side walls of the bag. The patch is positioned between plies **4** and **6** and is glued to the adjacent ply surfaces. During manufacture of the tube from which bag **2** is to be formed, patch **16** is tightly glued at **30** to the inner surface of the outer ply **4** and a pair of transverse slits **18** are then cut through patch **16** and ply **4**. This forms a free strip **20** of the laminated ply **4** and patch **16** which

is the loop of the handle. Glue is also applied to the bottom surface of patch **16** except for the area between slits **18**. Hence, the inner surface of patch **16** is glued to the outer surface of ply **6**, except for the area of the handle strip **20**. The gussets are then formed and the strip **20** between slits **18** remains in tight contact with ply **6**. Hence, the bag is used in the same manner as bags without handles.

Thereafter, when the filled bag is to be lifted individually, the strip **20** of patch **16** and ply **4** is pulled away from ply **6** and the bag is readily lifted by the loop handle thus formed. The reinforcement formed by patch **16** and the glue distributes the lifting forces throughout a wide area or zone of the bag so as to insure that the bag will not be ripped or otherwise damaged. Bag **2** may be lifted by handle **10** even when filled with heavy products without damage. The loop handle formed by strip **20** is easily grasped and provides sufficient lifting surface on the hand to prevent discomfort, and the bag is not damaged even when filled with a heavy product. Also, handle **10** is produced during the production of the tube from which bags **2** are formed without objectionable reduction in the speed of the machine.

In the illustrative embodiment patch **16** is a patch of burlap ten inches long and four inches wide, and slits **18** are seven inches long and spaced three-quarters inch apart. Other materials having satisfactory tensile strength may be used in place of burlap. However, a fabric such as burlap has superior characteristics in that it absorbs the desirable amount of glue to form a lamination with ply **4**.

I claim:

1. A multi-wall gusseted bag formed with two gussets and two side walls and a handle construction incorporated therein, said bag comprising a plurality of bag plies forming a bag tube and end-closing means therefor, said handle comprising a fabric patch having substantial tensile strength positioned between an inner ply and an outer ply thereof, said patch having a rectangular center portion and a surrounding portion, the surface of said center portion adjacent said outer ply being glued to said outer ply and the surfaces of said surrounding portion being glued to both said inner ply and said outer ply and there being a pair of parallel slits extending transversally of the length of the bag from the outer surface thereof through said patch along opposite sides of said rectangular center portion, said parallel slits extending across the center of one of said gussets and into the adjacent portions of each of said side walls, thereby defining a strip of said patch and said outer ply whereby said strip may be grasped to lift the bag.

2. A multi-wall bag as defined in claim **1**, wherein said patch is a rectangular piece of burlap.

3. A multi-wall bag and a handle construction incorporated therein, said bag comprising a plurality of bag plies forming a bag tube with two gussets and two side portions and end-closing means therefor, said handle comprising a patch having substantial tensile strength positioned across one of said gussets and into the adjacent portion of said side walls between an inner ply and an outer ply thereof, said patch having a substantially rectangular center portion and a surrounding portion, the surface of said center portion adjacent said outer ply bonded to said outer ply and the surfaces of said surrounding portion bonded to both said inner ply and said outer ply,

and there being a pair of substantially parallel slits across one of said gussets into the adjacent portions of said side walls from the outer surface thereof through said patch along opposite sides of said center portion thereby defining a strip of said patch and said outer ply whereby said strips may be grasped to lift the bag.

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