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METHOD OF MAKING HANDLED SHOPPING BAGS

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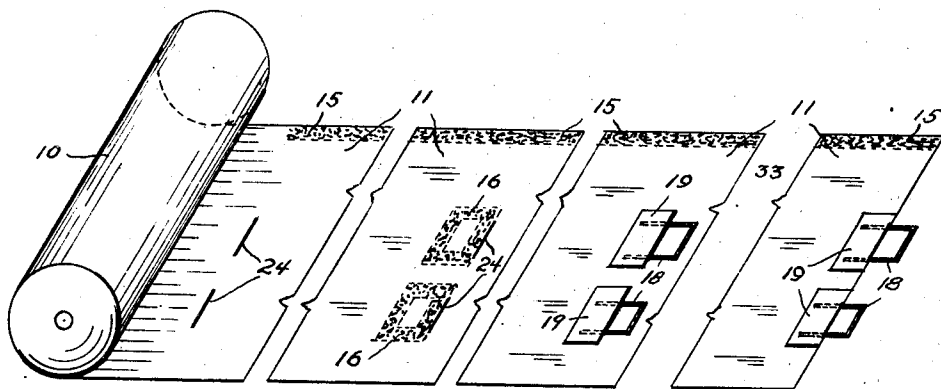


Fig 1 Fig 2 Fig 3 Fig 4

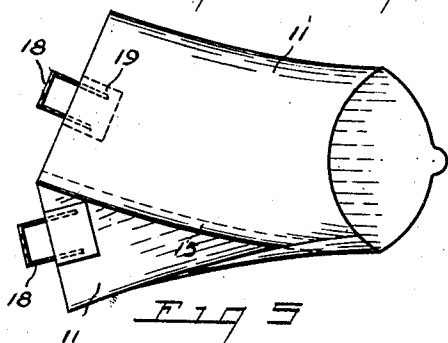


Fig 5

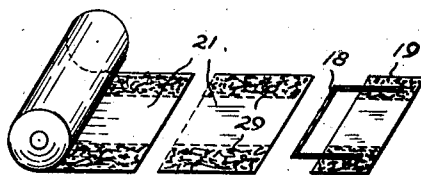
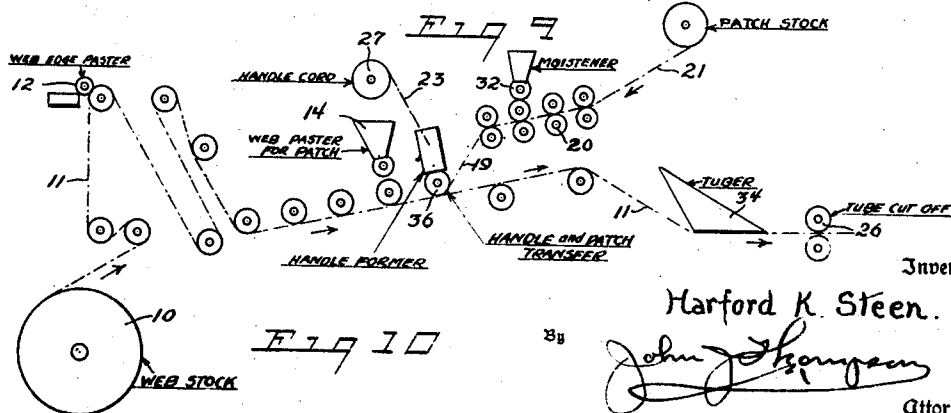
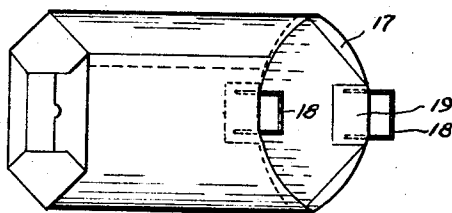


Fig 6 Fig 7 Fig 8



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UNITED STATES PATENT OFFICE

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METHOD OF MAKING HANDLED SHOPPING BAGS

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Original application July 27, 1935, Serial No. 33,553. Divided and this application December 5, 1935, Serial No. 52,955

7 Claims. (Cl. 93—35)

This invention relates to a method of making handled shopping bags, and has been divided from my application, Serial No. 33,553 filed July 27, 1935 for a Shopping bag, and constitutes an improvement over U. S. Patent No. 1,799,072, issued to me on March 31, 1931 for a Method of manufacturing shopping bags.

In this invention, I provide a method whereby handles formed of cord or other material may be secured by an adhesive to the paper web from which a bag is formed.

While the bag may be formed from a single web having a single longitudinal seam whereby it is formed into a tube, the handles being attached to the single web in positions whereby after the single web is tubed, bottomed and folded, the handles will be on opposite sides thereof and will nest with each other. And the handles may be either secured directly to the web by an adhesive or a reinforcing patch glued over the handle upon the web, or in any other suitable manner.

In place of the single web, a double web may be used, that is, two webs fed through a suitable bag forming machine whereby the longitudinal edges of one web are secured to the longitudinal edges of the other web forming a bag tube. The handles in this case being secured, one upon each web, or both upon one web and so located that they nest with each other after the bag is formed and folded.

In this case one of the webs may be wider than the other web and its gummed edges are folded over upon the edges of the narrower web, thus forming the seams on the edges of the bag.

The bag may also be made from two webs of equal width. The longitudinal edges of each are gummed and the webs folded and brought together to form a double spaced seam upon opposite sides of the folded bag, thus creating a band of double thickness upon each web and so located that, upon the webs being lapped over and secured together, the handles will be located between the double thickness or within the lapped seam.

Or should two webs of different width be employed and the seams lapped to one side of the center, the handles may be attached by patches along the centerline of the bag.

In any of these four types, the open end of the bag may be creased and turned in to form a double thick edge, and either pasted down or left loose.

The object of the invention is to provide a process or method of manufacture whereby shop-

ping bags may be fabricated from a stock roll, or rolls of paper or the like, the material being fed from the rolls in the form of a web which is formed with slits where the handles are to be located and in parallel relation to where the bag tube is to be severed from the web.

Another object of the invention is to provide a method whereby handles are formed from a roll of stock cord of suitable material, either of single or multiple ribbon twisted or braided and with or without a reinforcing wire, and if desired the ends may be flattened or spread to give a greater surface for the adhesive, and placed upon patches provided with an adhesive and which also act as a transfer means for conveying the handles to the web and securing them thereto.

Another object of the invention is to provide a method whereby reinforcing patches can be formed from a stock roll of strip material either gummed or plain, and either moistened or gummed and adapted to receive and hold the formed handles in position during their transfer and adhesion to the web.

Another object of the invention is to provide a method whereby the web, after being formed with the slits is gummed for the bag forming seam or seams and also gummed in predetermined local surfaces to receive the handles and patches.

Another object of the invention may be to provide a method whereby the web may be provided with a transverse crease in aligned relation with the slits whereby a flap is formed for turning in or securing to the inner surface of the bag.

Another object of the invention is to provide a method whereby the bag tube can be severed from the web in such a manner as to leave the handles extending from the end thereof.

Another object of the invention is to provide a method whereby the bag tube can be severed from the web at a point below the handgrip of the handles.

Another object of the invention is to provide a method whereby cord handles may be attached to the web or webs during the fabrication of the web or webs into a tube before bottoming and not having to be attached to the finished bag after the same is completed.

Referring to the drawings:

Figure 1 shows the web after the slits have been made and the seaming paste applied.

Figure 2 shows the web after the paste or adhe-

sive has been applied adjacent to the slits for holding the patches and handles.

Figure 3 shows the web after the patches and handles have been secured in place.

5 Figure 4 shows the web with the extending handles after the bag portion or length is cut from the stock, but without having been tubed. In practice the tubing is done before the bag length is severed from the web.

10 Figure 5 shows the web being tubed.

Figure 6 shows the stock roll of patch material, which may have the adhesive in strips as shown or over the entire surface thereof.

Figure 7 shows a patch cut off.

15 Figure 8 shows a patch and handle thereon.

Figure 9 shows a finished bag, with the edges of the open end folded in at an angle to provide a double thick edge.

20 Figure 10 shows a schematic view illustrating the method employed in fabricating and attaching the handles to the style of bag shown in Figure 9.

25 Figure 11 shows a bag fabricated from two webs of different widths, the wider web being creased and pasted to the narrow web to form the seams on the edges of the bag.

Figure 12 is a schematic view showing method employed in fabricating this bag with the handles attached thereto.

30 Figure 13 shows a bag fabricated from two webs of equal width and showing the lapped seams on the opposite sides of the bag. The handles being attached between the overlapping portions of the webs.

35 Figure 14 is a schematic view showing the method employed in this style of bag.

40 Figure 15 is a view of the open end of a bag made from two webs of unequal widths having the two handles secured by patches to the wider web.

45 Figure 16 shows the open end of a bag made from two webs of equal width having their edges overlapped and secured by each other to form the seams and the handles secured by patches upon these overlapped seams.

50 In carrying out my invention the mechanism required for the various steps and operations may be constructed in a single machine, or, as part of a bag making machine of the usual type, or, the bags may be taken from my apparatus when in the form of a tube and bottomed and folded in another machine if desired, and in the description and illustrations of this present invention I have embodied my invention in a bag making machine without the bottoming and folding means.

Referring to the drawings:

55 I have taken the usual bag making machine and incorporated therein the required mechanism for making and attaching the handles and severing the bag tube from the web at the proper location to provide a bag length.

60 The usual stock roll 10 of suitable bag making material, such as paper or other fabric is indicated and from this is drawn the web 11 from which the bag is formed, and this web 11 during its travel through the machine is indicated by the broken lines.

65 From the stock roll 10 the web 11 travels past the seam pasting rolls 12 where paste is applied to one edge 15 to later hold the web in the form of a tube, and the web 11 next travels past the knives where the two aligned slits 24, are made which locate the position of the handles 18, and if it is desirable to form the bag with a flap 17 as

shown in Figure 9, a crease is now placed in the web and the edges are folded in and from either the slitting knives or the creaser the web is carried past the adhesive pads which transfer adhesive from the pot 14 to predetermined local surfaces 16 on the web adjacent to the slits 24 for the reception of the handles 18 and patches 19.

5 While this is taking place, a pair of cord handles 18 and their attaching patches 19 are being prepared as follows: A piece of cord 23 is drawn 10 from the stock roll 27; cut off and formed into the D-shaped handles 18. From the roll of strip stock, either plain or gummed, a strip 21 is fed, and from this are cut the patches 19 by the knife 20, and these patches are carried past the pads on the 15 roller 32, which either supplies moisture or gum to the patches in two parallel stripes 29 on their surfaces.

The transfer roller that carried these patches 19 and transfers them to the web 11, is provided 20 with spurs which perforate the patch 19 and carry it along as well as the formed handles 18 upon the patches in the moist gum and in contact with pins.

25 As the travelling web 11 reaches the proper station in the machine a transfer roller 30 places the gummed patches 19 and the handles 18 upon the previously gummed local surfaces 16 on the web, which is then carried through the press rollers that press the patches 19 and handles 18 30 upon the web 11 to form a firm and strong junction.

From the handle pressing roller the web 11 is carried to the usual tube forming device 34 which brings together the edges of the web 11 which are 35 retained by the paste seam 15.

After the bag tube has been formed it is severed from the web 11 by the cut off knife 26 which makes a transverse cut 33 in aligned relation with the slits 24 if the bag is to be made without a 40 flap 17.

45 But should it be desired to form the bag with the flap 17, then the original slits 24 are made, additional slits are made at right angles thereto in line with the body of the handles 18, or these longitudinal slits may be made without the transverse slits; the web 11 creases at the proper location to form the flap 17, the creases acting as a guide in folding the flap 17.

50 The bag tube is now taken to the bottoming device where the creasing for the turned in tops as shown in Figure 9 is provided, the bottom is formed, folded and baled.

55 The paste or adhesive rolls are of the usual type, having raised pads for transferring the paste from the pot to the web 11, and provided with cut-off portions.

60 To provide for the folded bag not building up in thickness in the bale due to the handles 18 stacking one upon the other, I have formed the two handles of slightly different dimensions, and have located them both upon the patches and upon the web, so that they will lie one within the other or nested, so that they take up but a single thickness of cord when the bag is folded upon itself. 65

65 Referring to the modified form of bag shown in Figures 11 and 12. This bag comprises the wide web 13 and the narrow web 15. The wide web 13 being fed past the double web seam paster 12 which applies paste to the two parallel edges of the web 13 which is then carried past the handle former and attacher 22 and over the relieved roller 25, or the edges of the narrower web may be pasted.

70 The narrow web 15 is carried past the second 75

handle former and attacher 23 which secures the handle 18 to the center of the web, which is then carried over the relieved roller 25 and brought down in parallel and superimposed relation to the web 13. The handles 18 being on the inner or adjacent surfaces of the webs 13 and 15 and in nesting registry with each other. The webs 13 and 15, are then brought together and passed through a former which folds over the pasted edges of the wide web upon the edges of the narrow web to form a bag tube. Now, referring to Figures 13 and 14, where the bag is shown as composed of two webs 26 and 28 of equal width, having their edges folded and pasted upon each other. One web 26 is carried past the web seam paster 12 which applies paste along its two parallel edges and it is then carried past the handle former and attacher 22 which applies one handle 18 upon one of its pasted edges, and it is then carried past the relieved roller 25.

The other web 28 is treated in a similar manner, passing by the paste roller 35 the handle former and attacher 23 to the combiner where the webs are folded and combined together to form a bag tube. In this case, it will be seen, that the handles 18 are secured between the overlapping portions of the webs, which thus supply reinforcement to the handles, or the handles may be attached with patches either between the overlapping portions of the webs or upon these overlapped portions within the bag, or adjacent thereto.

In both of these latter methods it will be noted that the handle and patch units are located in the center of the machine, one above the other, thus doing away with the necessity of lateral adjustment for different widths of webs, as when a single web is used.

Of both of these styles shown in Figures 11 and 13, the open ends of the bags may be flanged if desired.

Having thus described my invention, what I claim is new and desire to secure by Letters Patent, is:

1. The process of manufacturing shopping bags which includes applying adhesive in predetermined positions upon a bag forming web, forming handles from cord, forming reinforcing and handle attaching patches from strip material, rendering said patches adhesive, placing the formed handles thereon, applying both the patch and the handle to the gummed position upon the web, pressing the same into place, forming the prepared web into a tube, and severing the tube from the web in such a manner that the handles will project from the mouth of the tube.

2. The process of making shopping bags having projecting handles, comprising in slitting the web adjacent to the locations for the handles, applying adhesive to one edge of the web for seaming, applying adhesive to predetermined local surfaces upon the web adjacent to the slits, preparing gummed patches, preparing handles and placing the same upon the gummed patches, transferring the patches carrying the handles to the gummed local surfaces of the web and pressing the same together, forming the handled portion of the web into a tube, severing the tube from the web on a line with said slits, bottoming the tube to form a bag, and folding said bag.

3. The process of making shopping bags having

handles extending therefrom, comprising in forming locating slits in the web, applying adhesive to the web for tubing, applying adhesive to local surfaces upon the web adjacent to the slits, forming gummed patches, forming handles and placing them upon the gummed patches, transferring both the patches and the handles to the gummed local surfaces upon the web and pressing into place, and forming the prepared web into a tube and parting the same from the web in such a manner that the handles extend from the end of the tube.

4. The method of making shopping bags having handles extending from the open end thereof, comprising in forming slits in predetermined positions upon the web, creasing the web in aligned relation with said slits, applying adhesive to the web for seaming into a tube, applying adhesive to the web in local surfaces adjacent to the slits, providing gummed patches, placing handles upon the gummed surfaces of said patches, transferring both the patches and the handles to the gummed local surfaces of the web and pressing in place, forming the prepared web into a tube, severing the tube from the web at a point in parallel relation to the slits and spaced from the crease to provide a flap which when folded forms a bag end with the handles projecting therefrom.

5. The method of making a shopping bag having projecting handles, comprising in forming aligned transverse slits in the web at predetermined points, applying adhesive to the web for seaming, applying adhesive to the web in predetermined local surfaces adjacent to said slits, preparing gummed patches, forming and placing handles upon the gummed surfaces of said patches, transferring both the patches and the handles to the local gummed surfaces of the web and pressing into place, locating the handles upon the web in such a manner that when the finished bag is folded said handles will nest one within the other, forming the handled portion of the web into a tube, severing a bag length of said tube from the web, forming a bottom in said tube and folding the finished bag.

6. The method of making shopping bags having handles, which includes feeding a web from a stock roll, applying adhesive to one edge of the web for subsequent seaming, forming cord handles of different sizes, locating and attaching the same to the web at predetermined points so that when the web is tubed and bottomed into a bag said handles will lie in a nested position one within the other when the bag is folded.

7. The process of manufacturing shopping bags which includes applying adhesive in predetermined positions upon a bag forming web, forming handles from cord, forming reinforcing and handle attaching patches from strip material, rendering said patches adhesive, placing the formed handles thereon, applying both the patch and the handle to the gummed position upon the web, pressing the same into place, forming the prepared web into a tube, with the handled end folded in at an angle from the handle to the side folds, and severing the tube from the web in such a manner that the handles will project from the mouth of the tube, and between the folded edges.

HARFORD K. STEEN.