Sept. 25, 1945. H. G. ALLEN 2,385,597

HANDLE DEFINING CLOSURE FOR PAPER BAGS

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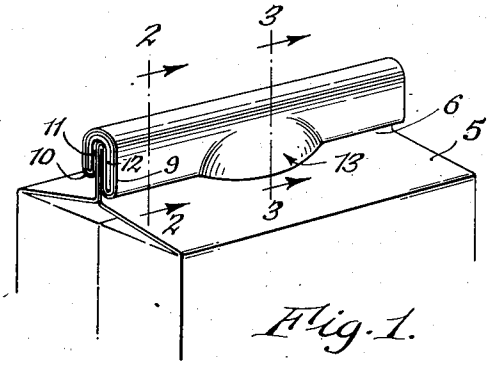


Fig. 1.

Fig. 2.

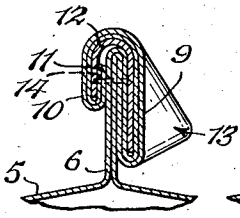


Fig. 3.

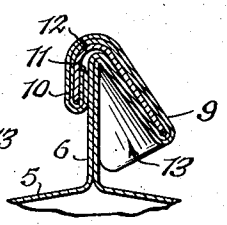


Fig. 4.

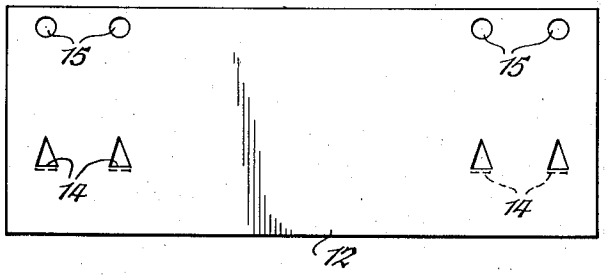


Fig. 5.

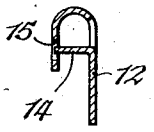


Fig. 6.

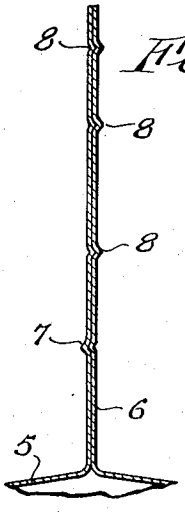


Fig. 7.

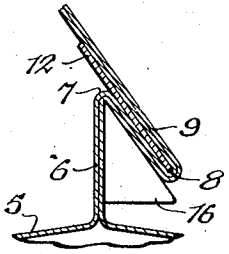
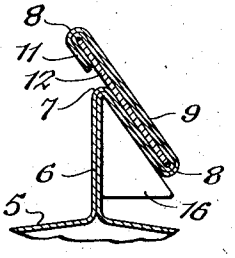


Fig. 8.



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Fig. 9.

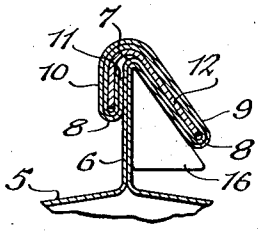


Fig. 10.

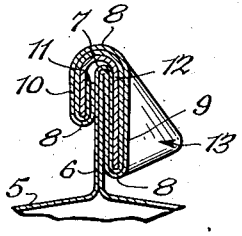


Fig. 12.

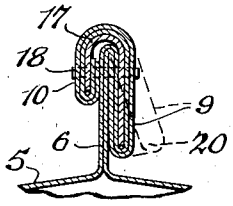


Fig. 11.

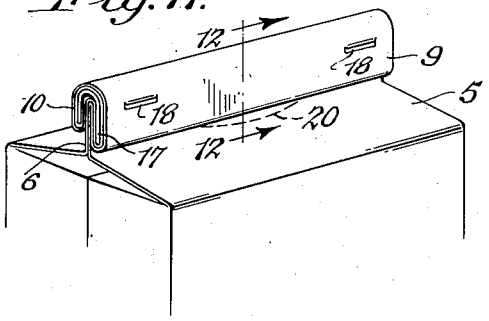
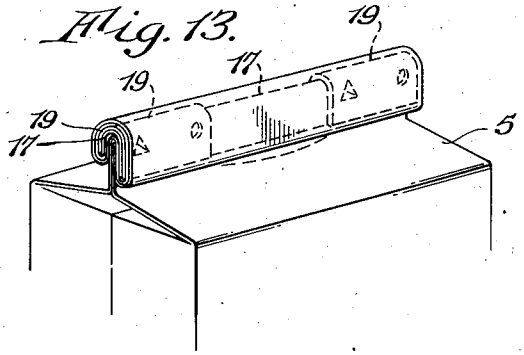


Fig. 13.



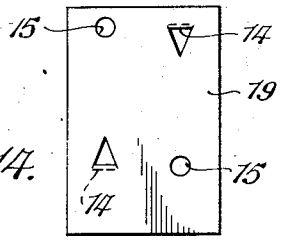


Fig. 14.

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UNITED STATES PATENT OFFICE

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HANDLE DEFINING CLOSURE FOR PAPER BAGS

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Application July 3, 1940, Serial No. 343,771

6 Claims. (Cl. 229—62)

This invention relates to new and useful improvements in bags and particularly seeks to provide a paper bag having a novel handle portion integral therewith and formed from the top portion thereof.

It has been found that heavy bags containing relatively large weights of filled material, such as 25 pounds of flour or sugar, are rather cumbersome and awkward for an individual to carry. This is especially true in the instances where a retail purchaser must carry a number of smaller packages in addition to the heavy bag of flour or the like.

Many handles and carrying devices have been heretofore devised to enable a purchaser to carry a heavy filled bag with a minimum of difficulty, but these devices are invariably either separate carrying straps or handle members formed separate from the structure of the bag itself.

It is therefore an object of this invention to provide a paper bag or the like with a handle portion formed adjacent the closure end of the bag and from the material of the bag itself.

Another object of the invention is to provide a bag of the character stated in which the handle portion thereof is coextensive with the closure forming portion thereof.

Another object of the invention is to provide a bag of the character stated in which the closure forming portion of the collapsed bag mouth includes an upstanding panel portion and a series of connected return fold portions formed integral from the material thereof and disposed to each side of the upper part of the upstanding panel portion.

Another object of the invention is to provide a bag of the character stated in which the return fold portions of the closure end are fastened by securing means located adjacent the ends thereof thereby leaving the central portions thereof free and partly displaceable to form resultant handle portions.

Another object of the invention is to provide a bag of the character stated in which a stiffening element is employed and interposed between the return fold portions of the closure end to thereby render the handle forming portions capable of only limited displacement.

Another object of the invention is to provide a method of forming a handle defining bag closure of the character stated.

With these and other objects in view, the nature of which will become more apparent, the invention will be more fully understood by reference to the drawings, the accompanying detailed description, and the appended claims.

In the drawings:

Fig. 1 is a perspective view of the upper end of a bag having a handle portion constructed in accordance with this invention;

Fig. 2 is a vertical section taken on line 2—2 of Fig. 1;

Fig. 3 is a vertical section taken on line 3—3 of Fig. 1;

Fig. 4 is a plan view of one form of stiffening and fastening element that may be employed;

Fig. 5 is a transverse section through the stiffening element of Fig. 4, the upper end thereof being bent downwardly towards clamping position;

Figs. 6 to 10 inclusive are somewhat diagrammatic views illustrating the successive steps in the formation of the handle;

Fig. 11 is a perspective view of the upper end of a bag including a slightly modified form of handle;

Fig. 12 is a vertical section taken on line 12—12 of Fig. 11;

Fig. 13 is a perspective view of the upper end of a bag including a further modified form of handle; and

Fig. 14 is a plan view of a form of fastener which may be employed in place of the staples of Fig. 11.

Referring to the drawings in detail, the invention as illustrated is embodied in a filled bag 5 having an upstanding collapsed mouth portion 6. The upper edge of the collapsed mouth portion 6 is provided with a lower fold-line 7 and a plurality of upper fold lines 8 along which the mouth portion is folded to form a zigzag fold 9 disposed on one side of the collapsed mouth portion and terminating on the other side of the collapsed mouth partion 6 in a downwardly extending lip portion 10 provided with an inwardly directed return fold 11. A stiffening and handle forming element 12, formed from sheet metal, cardboard, or the like, extends the full length of the collapsed mouth portion 6 and is disposed between the outer layer of the folds thus formed and the return fold 11 on one side and the first return fold of the zigzag fold 9 on the other side. The extreme end portions of the metallic element 12 may be crimped into fold clamping position, and the central portion of one side of the element 12 and the associated bag material may be bulged outwardly as at 13 to thereby provide a handle defining portion. In order that

the metallic element 12 and the associated folds 9, 10 and 11 will not be disrupted upon lifting of the bag with which they are associated, the element may be provided with a plurality of prongs 14 struck up from the metal of the element and adapted to be received into apertures 15 brought into registry therewith by the bending of the element into the clamping position as described.

In Figs. 6 through 10 of the drawings there are somewhat diagrammatically indicated the several steps which may be employed in the shaping of a handle forming bag closure of this type. In this connection the upstanding collapsed bag mouth 6 is provided with the plurality of spaced parallel crease lines 7, 8, the crease line 7 being formed in a direction opposite to that of the others. That portion of the bag mouth 6 which extends above the lowermost crease line 7 is folded over a bulged forming tool 16 and then the remainder of the bag mouth 6 is bent back upon itself along the next crease line 7 to form a first return zigzag fold 9. At this stage the stiffening element 12 may be inserted in the bight of the fold 9 and it will be observed that the upper edge of the element 12 will be disposed adjacent the uppermost of the creases 8. The end portion 11 of the collapsed bag mouth 6 is then bent over the upper edge of the element 12, after which the element 12 together with its associated portion of the collapsed bag mouth is bent over the upper apex of the forming tool 16 to thereby form the top ridge of the combined handle and closure; then the extreme end portions of the folds thus formed are pressed together so that the opposed wall portions of the element 12 will be brought into clamping relation and the prongs 14 thereof will pierce the associated layers of paper and extend into the registering apertures 15 to thereby rigidly retain the element in position and prevent the folded bag mouth thus formed from becoming distorted. It should be noted that as the extreme ends are pressed into this clamping or securing position the central portions of the folds 9 and the associated portion of the element 12 are retained against the forming tool 16 which effects thereby an outward relative bulging of that central portion to define the carrying or lifting handle 13.

In Figs. 11 and 12 of the drawings there is illustrated a slightly modified form of handle forming closure in which the folds thereof are formed in the manner heretofore described, but in which a stiffening element 17 preferably formed from cardboard, replaces the element 12 of the form previously described. In this modified form the extreme end portions of the handle forming closure are secured in rigid position through the medium of spaced fastening means such as metallic staples generally indicated at 18. The staples 18 of this modified form secure the end portions of the fold, but since the cardboard stiffening element 17 has replaced the more rigid metallic element in the previous form, it is unnecessary to positively shape a centrally disposed outwardly bulged handle defining portion. The limited flexibility of a cardboard from which the stiffening element is formed is ample to permit the insertion of the fingers between the folds 9 and the upstanding portion 6 of the bag and a consequent displacement of the central portion of the folds 9 outwardly a distance sufficient to define a handle recess 20 as indicated in dotted lines in Figs. 11 and 12.

In some instances it may be found undesirable to use staples as fastening elements; therefore, it is entirely feasible to employ spaced fastening plates 19 of the type illustrated in Figs. 13 and 14 of the drawings.

It should be noted that as a result of disposing the metallic stiffening elements beneath the outer layer of the reinforcing folds, there are no metallic parts whatsoever exposed to the eye and to the air, and consequently the appearance of the finished package is improved and the danger of staining the external surface of the bag is eliminated.

Thus it will be seen that the herein described invention provides a paper bag with an integrally formed handle at the closure end thereof, in which the handle portion is coextensive with the closure forming portion of the bag, and which employs spaced securing means to thereby permit outward displacement of the central portions to define a carrying handle.

It is of course to be understood that certain details of arrangement and proportions of parts may be variously modified without exceeding the scope of the appended claims.

I claim:

1. A handle-defining closure for paper bags and the like, including a collapsed bag mouth having an upstanding portion, reinforcing folds disposed on each side of said upstanding portion of the collapsed bag mouth, said reinforcing folds being formed integral with said collapsed bag mouth, and a stiffening strip of shape-retaining material located beneath the outer layers of said reinforcing folds and being bent over the upstanding portion of said collapsed bag mouth, the central portion of one of said reinforcing folds together with the associated portion of said stiffening strip being bulged away from the upstanding portion of said collapsed bag mouth to define with said portion of said mouth a carrying handle.

2. A handle-defining closure for paper bags and the like, including a collapsed bag mouth having an upstanding portion, reinforcing folds disposed on each side of said upstanding portion of the collapsed bag mouth, said reinforcing folds being formed integral with said collapsed bag mouth, a stiffening strip of shape-retaining material located beneath the outer layers of said reinforcing folds and being bent over the upstanding portion of said collapsed bag mouth, the central portion of one of said reinforcing folds together with the associated portion of said stiffening strip being bulged away from the upstanding portion of said collapsed bag mouth to define with said portion of said mouth a carrying handle, and means carried by said stiffening strip for engaging the bag material confined thereunder to prevent bodily displacement of said strip and said reinforcing folds.

3. A handle-defining closure for paper bags and the like, including a collapsed bag mouth having an upstanding portion, reinforcing folds disposed on each side of said upstanding portion of the collapsed bag mouth, said reinforcing folds being formed integral with said collapsed bag mouth, a stiffening strip of shape-retaining material located beneath the outer layers of said reinforcing folds and being bent over the upstanding portion of said collapsed bag mouth, the central portion of one of said reinforcing folds together with the associated portion of said stiffening strip being bulged away from the upstanding portion of said collapsed bag mouth to define with said portion of said mouth a carrying handle, and fastening elements integral with said stiffening

strip and penetrating the bag material confined thereunder to secure said closure and to prevent displacement of said strip and said reinforcing folds.

4. A handle-defining closure for paper bags and the like, including a collapsed bag mouth having an upstanding portion, reinforcing folds disposed on each side of said upstanding portion of the collapsed bag mouth, said reinforcing folds being formed integral with said collapsed bag mouth, and a stiffening strip comprising a metal plate located beneath the outer layers of said reinforcing folds and being bent over the upstanding portion of said collapsed bag mouth to confine said upstanding portion in collapsed condition, the central portion of one of said reinforcing folds together with the associated portion of said stiffening strip being bulged away from the upstanding portion of said collapsed bag mouth to define with said portion of said mouth a carrying handle.

5. A handle-defining closure for paper bags and the like, including a collapsed bag mouth having an upstanding portion, reinforcing folds disposed on each side of said upstanding portion of the collapsed bag mouth, said reinforcing folds being formed integral with said collapsed bag mouth, a stiffening strip comprising a metal plate located beneath the outer layers of said reinforcing folds and being bent over the upstanding portion of said collapsed bag mouth to confine said upstanding portion in collapsed condition, the central portion of one of said reinforcing folds together with the associated portion of said stiffening strip being bulged away from the upstanding portion of said collapsed bag mouth to define with said portion of said mouth a carrying handle, and means carried by said stiffening strip for engaging the bag material confined thereunder to prevent bodily displacement of said strip and said reinforcing folds.

6. A handle-defining closure for paper bags and the like, including a collapsed bag mouth having an upstanding portion, reinforcing folds disposed on each side of said upstanding portion of the collapsed bag mouth, said reinforced folds being formed integral with said collapsed bag mouth, a stiffening strip comprising a metal plate located beneath the outer layers of said reinforcing folds and being bent over the upstanding portion of said collapsed bag mouth to confine said upstanding portion in collapsed condition, the central portion of one of said reinforcing folds together with the associated portion of said stiffening strip being bulged away from the upstanding portion of said collapsed bag mouth to define with said portion of said mouth a carrying handle, and fastening elements integral with said stiffening strip and penetrating the bag material confined thereunder to secure said closure and to prevent displacement of said strip and said reinforcing folds.

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