June 10, 1958 H. K. STEEN 2,838,224

HANDLED BAG OF PAPER OR LIKE MATERIAL AND METHOD OF MAKING SAME

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Fig. 2

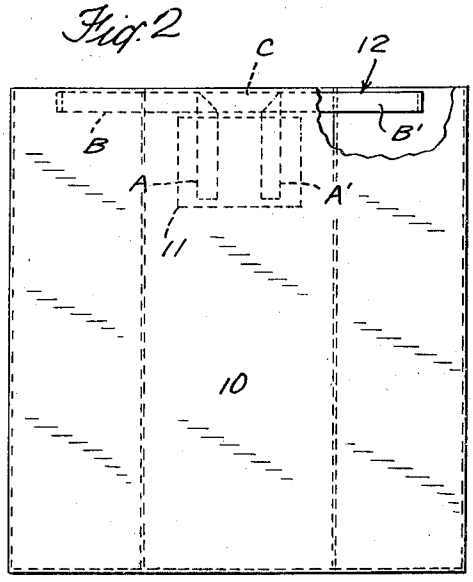


Fig. 1

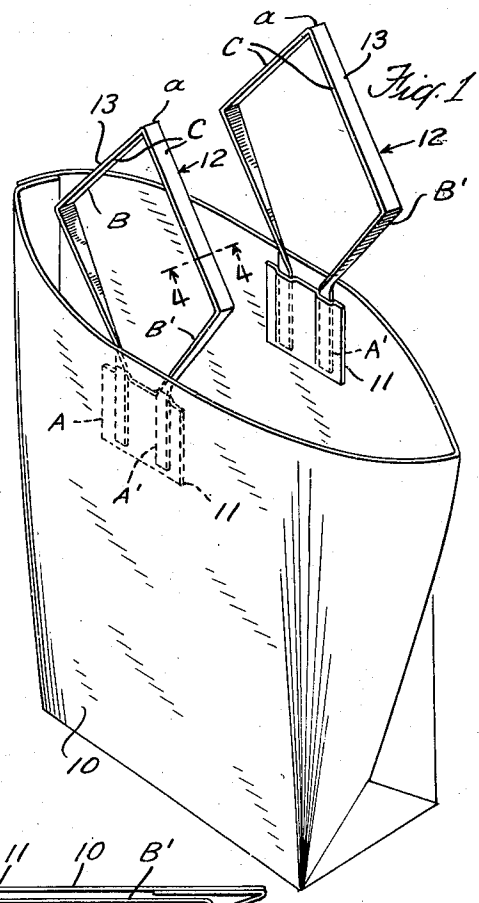


Fig. 4

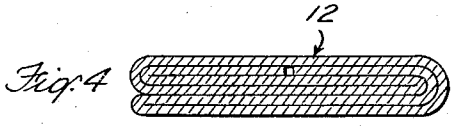


Fig. 3

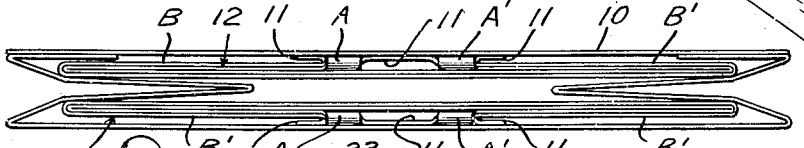


Fig. 18

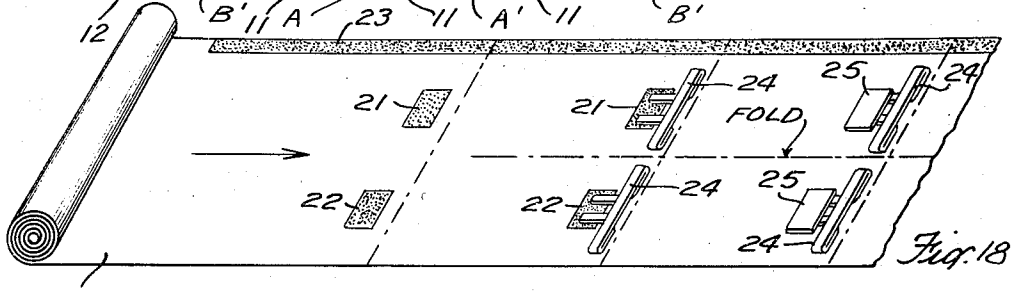
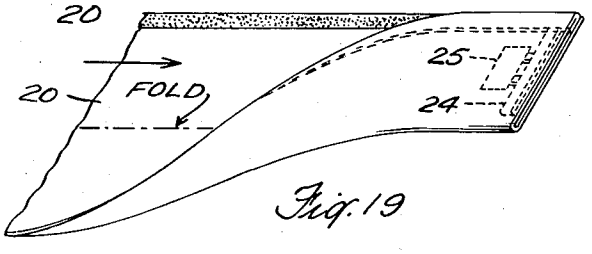


Fig. 19



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Fig. 6

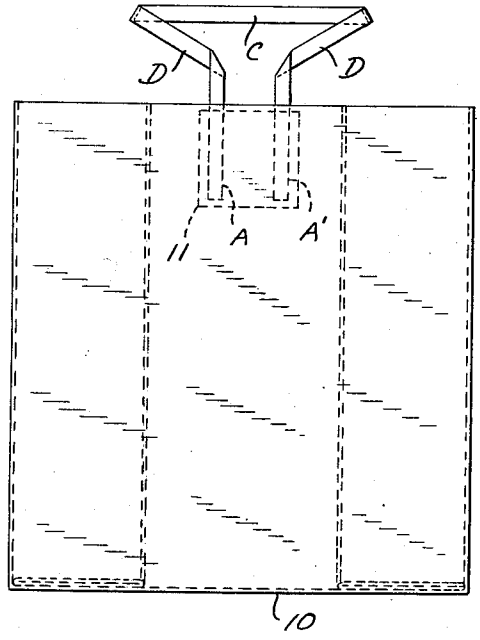


Fig. 5

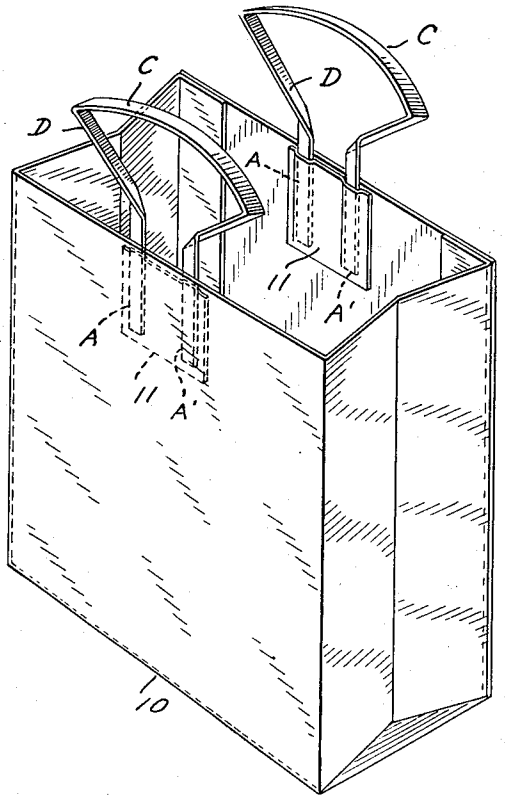


Fig. 7

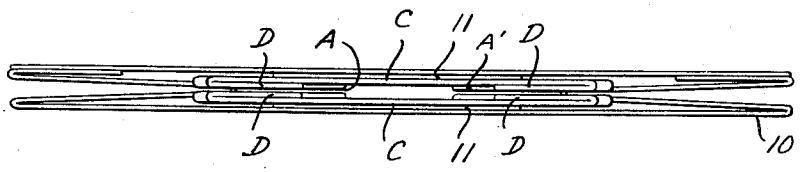
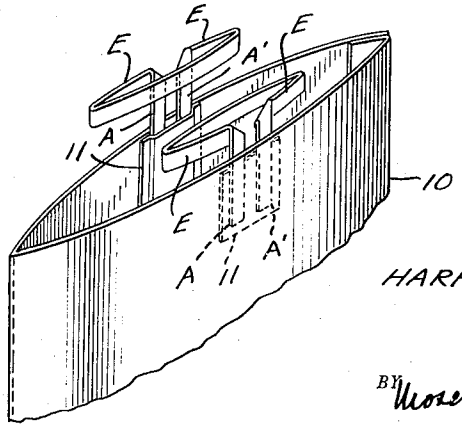


Fig. 8.



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Fig. 10

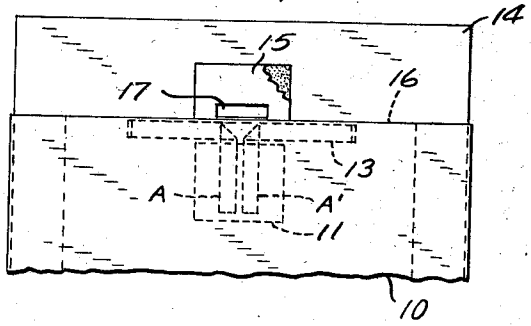


Fig. 9

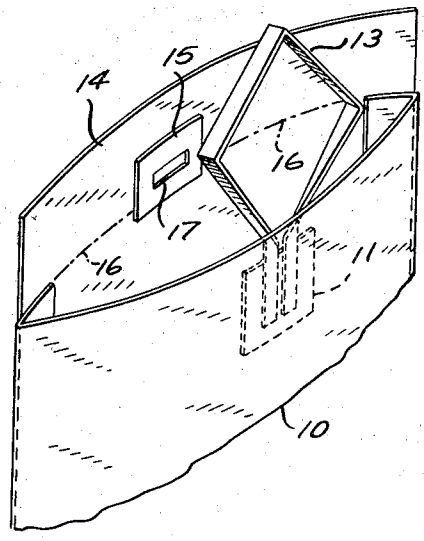


Fig. 12a

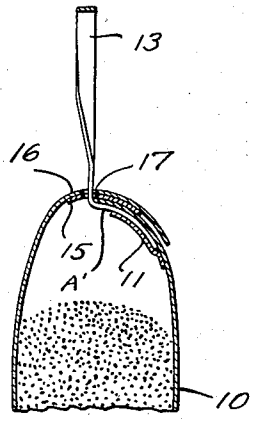


Fig. 11

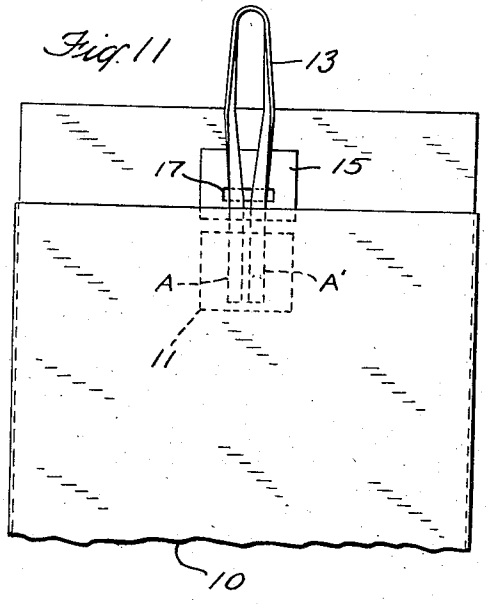
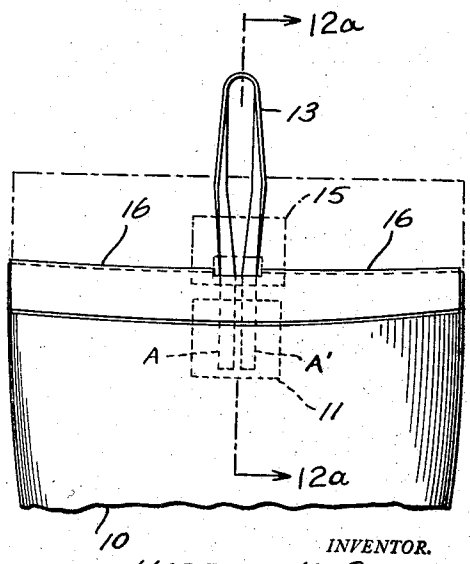


Fig. 12



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Fig. 14

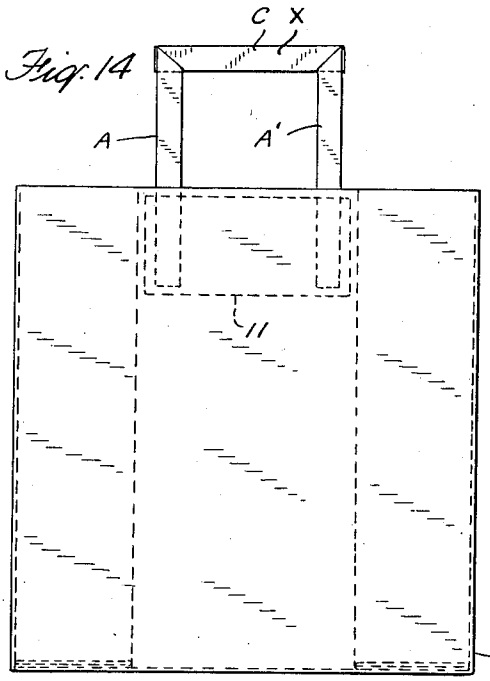


Fig. 13

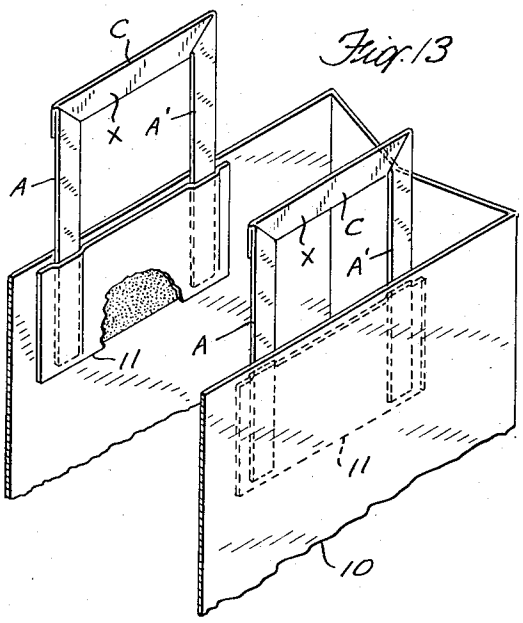


Fig. 15

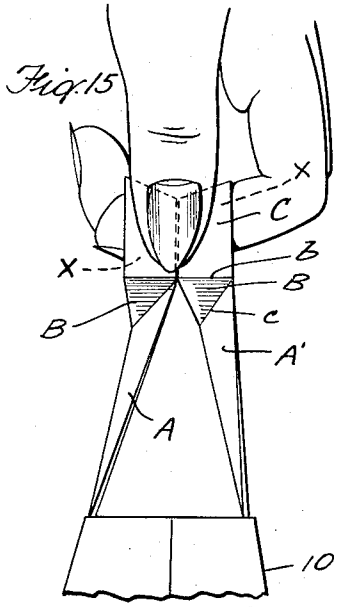
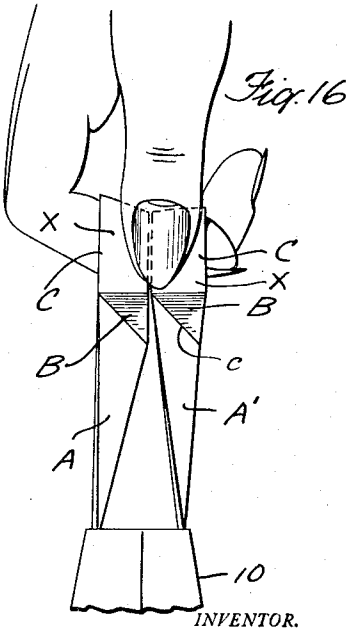


Fig. 16



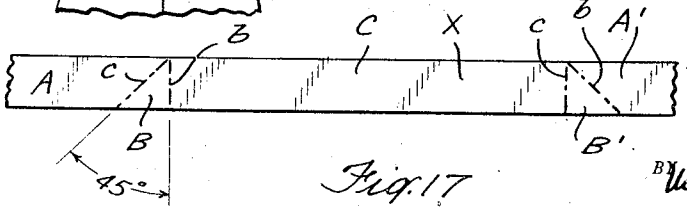


Fig. 17

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United States Patent Office 2,838,224 Patented June 10, 1958

2,838,224

HANDLED BAG OF PAPER OR LIKE MATERIAL AND METHOD OF MAKING SAME

Harford K. Steen, Newburgh, N. Y., assignor, by mesne assignments, to Interstate Bag Company, Inc., a corporation of Virginia

Application April 6, 1953, Serial No. 346,843

9 Claims. (Cl. 229—54)

My present invention relates to shopping or other bags of similar type provided with one or more handles having a pair of handles formed of straps of comparatively stiff ribbon-like material, preferably of paper or other fibrous material, and to methods of making same.

A type of shopping bag which has gone into extensive use is characterized by oppositely disposed handles in the form of loops of cord material, the ends of which are secured to the sides of the bag. It has also been proposed to employ as the handle material comparatively stiff multi-ply paper ribbon. Since for reasons of economy of space, the plane of the handles must normally lie in that of the bags themselves, such bags have the drawback that they present a sharp edge of the handle to the hand when the same is grasped.

It is therefore a principal object of my invention to overcome these drawbacks by providing a bag in which the grip portion of the handle will readily assume a position parallel to the fingers or palm of the hand no matter from which direction the same is engaged.

It is a further object to provide handles which are extensible. In addition to the advantages resulting from the use of such bags, they possess substantial advantages in their manufacture.

A still further object is to produce an improved bag of the millinery type in which a single handle is used for carrying and maintaining the bag closed.

Other objects and advantages will be apparent as the description proceeds and the features of novelty will be pointed out in the appended claims.

In general, my improved bags are characterized by increased comfort in carrying, will be more easily packaged, and when loaded will have less tendency for the sides of the bag to buckle as frequently happens when the legs of the handle which are attached to the same side of the bag are spaced apart a distance which is a substantial proportion of the width of the bag.

In carrying out my invention, I utilize handle material formed preferably by folding a strap of kraft paper a plurality of times, as for example as shown in my pending application Serial No. 234,320, filed June 29, 1951, now Patent No. 2,766,259, although if desired the handle material may be formed in other ways.

I may then form the handle by securing one end thereof flatwise to one side of the bag, preferably the inner side with the strap extending in a first course upwardly therefrom, then by folding on an axis in the plane of the handle material to assume a second course outwardly (or outwardly and upwardly) of the central axis of the bag, then further folding the material to assume a third course inwardly of such axis, such third course constituting the grip portion of the handle and, in the usual case, extending parallel with the top of the bag, then forming courses which are complementary to the first and second courses, the last course being attached to the same side of the bag as the first course. In this manner, not only is the handle attached flatwise to the bag but if desired the entire handle may be initially substantially contained within the bag, with the plane of the grip portion parallel to that of the bag, thus facilitating packaging of the bag. When, however, the handle is grasped, the folds allow the grip portion of the handle to be extended and assume a position flatwise to the fingers. As will be evident from what follows in the special case in which the second course does not extend substantially beyond the width of the strap material of the first course, the handles are not extensible but bend in either direction to fit the palm (or fingers) of the hand, thus enabling one to grip the bag by passing the hand or fingers in either direction through the loop thereof. When, on the other hand, the second course of the handle extends for some distance beyond the first course, the handles will be extensible. In this case the third course or grip portion may, as above stated, be arranged so as not to extend beyond the top edge of the bag.

In this situation in which the handle lies flush with or slightly below the top of the bag, a further and substantial advantage results since in that position it allows the manufacture of the bag to take place from a single web thereof in such a manner that the folded handle is applied and the web severed without cutting the handle. Otherwise when the handle extends beyond the top of the bag, as in my prior Patent 2,060,451, November 10, 1936, the web must be pre-slit before the handles are applied in order not to have to cut off the handle when the web is severed into bag blanks. Furthermore, by having the handle entirely folded within the bag, stacking and shipping of the same is facilitated.

My invention will be best understood by reference to the following detailed description taken with the annexed drawings, in which

Fig. 1 is a view in isometric perspective showing the bag in open position with the handles extended;

Fig. 2 is a view of the same bag in collapsed position;

Fig. 3 is a plan view of the top of the collapsed bag as seen in Fig. 2;

Fig. 4 is an enlarged view in section taken on line 4—4 of Fig. 1 and showing the handle material;

Fig. 5 is a view similar to Fig. 1 but showing a modification in which the handles are not initially concealed within the bag;

Fig. 6 is a view corresponding to Fig. 2 of the modification shown in Fig. 5;

Fig. 7 is a top plan view of the bag shown in Fig. 6;

Fig. 8 is a view in perspective of a further modification;

Fig. 9 is a view in perspective of a modification as applied to a bag of the millinery type;

Fig. 10 shows the same bag with the handle in retracted position;

Fig. 11 shows the same bag with the handle fully extended;

Fig. 12 is a view of the same bag loaded with the closing flap folded down and secured in place by the handle;

Fig. 12*a* is a section on line 12^a—12^a of Fig. 12;

Fig. 13 is a view in perspective showing handles according to my invention which are not extensible;

Fig. 14 is a view of a collapsed bag with the same handles as shown in Fig. 13;

Figs. 15 and 16 show the action of the handle of Figs. 13 and 14 when gripped by passing the fingers through the loop in either direction;

Fig. 17 is a view of the handle of Fig. 13 straightened out and showing the residual fold marks; and

Figs. 18 and 19 show diagrammatically an improved method of manufacture.

Referring now to Figs. 1 to 4 of the drawing in detail, **10** denotes a bag of conventional formation such as is used for so-called shopping bags, for example, to which

handles of special configuration of comparatively stiff multi-ply paper or paper-like material are secured aided by means of patches **11**. The paper strap material, as pointed out above, can be formed in various ways to give a multi-ply handle. For example, it may be formed by first folding a strip of kraft paper along a central median axis thereof and then folding the strip so formed along parallel axes to give the cross-section shown in Fig. 4. The handle material now denoted **12**, Fig. 4, may then be folded to form handles in the following manner: A first course A forms one leg or tab of the handle, a second course formed by folding the strap material outwardly of the central longitudinal axis of the bag is then formed and is denoted B. Then a third course C is formed by folding the strap material back on itself, course C constituting the grip portion of the handle. Then course B' is formed complementary to course B and course A' is formed complementary to course A, courses A and A' constituting the legs of the handle which are attached to the bag, as for example the inner sides thereof, by being adhesively secured thereto aided by patches **11** also adhesively joined to the bag sides. It will be noted that in this embodiment the folded strap lies entirely within the mouth of the bag when the bag is collapsed. However, when the handle is gripped, the handles—now denoted **13**, **13**—expand as shown in Fig. 1. Optionally a crease may be formed as at *a* to facilitate the formation of the loop position as shown in Fig. 1 although, if desired, this crease may be omitted whereupon the grip portion of the handle will assume the configuration shown in Fig. 5. It will be noted that the leg portions of the handles are brought near the longitudinal median axis of the bag in which position they lie close to the usual center of gravity of the loaded bag and because of this make the loaded bag easy to carry. Further by having course C of the handles extend nearly the entire width of the bag, the extended handles will be given considerable length so as not to cause the top side portions of the loaded bag when carried to come nearly together, thus making for increased carrying capacity of the bag.

Figs. 5 to 7 shows a modification in which the handles initially project from the top of the bag and have the second courses thereof—denoted D—extend both outwardly and upwardly, such handles in their retracted position having the general configuration of a T. In Fig. 8 the second courses E of the handle likewise extend outwardly parallel to the top of the bag similar to courses B of Fig. 2.

Fig. 9 shows a bag having a single handle **13** of the type shown in Fig. 1 except that the legs thereof are preferably brought closer together as shown. In lieu of a second handle, the bag is provided with a flap **14** preferably having a reinforcement **15** disposed centrally thereof and bridging the fold line **16**, the so reinforced flap **15** having an aperture **17** to receive the handle **13** which is threaded therethrough when the bag is loaded whereupon the flap **14** is turned down along fold line **16**, the loaded and closed bag having the appearance of Figs. 12 and 12*a*.

It will be noted that since the legs of the handle project flatwise from the mouth of the bag in the plane thereof, the flap when in closed position with the handle projecting through the aperture **17** will assume a position without buckling as would be the case if the handle material were not flat and presented flatwise to the flap. Fig. 12*a* shows how such flap is maintained in a closed position when the bag is loaded due to the fact that the flap is now bent along a fold line **16** which is curved.

Figs. 13 to 17 illustrate the special case obtained when the handle is formed with the second course B, Figs. 15, 16, of a length equal to the outer boundary of course A where a handle is had which when grasped will enable the grip portion, course C, to conform to the fingers or palm of the hand irrespective of which way the hand is placed within the loop formed by the handle. This condition is shown best in Figs. 15, 16 wherein when the fingers are introduced from the right of Fig. 13, side X of the grip portion facing the observer will be next to and conform to the fingers whereas when the fingers are inserted from the left as in Fig. 16, the loop will be reversed whereby side X will be on the top instead of the bottom, the action of the creases separating courses A, B and C being clearly shown in Figs. 15, 16. Thereby the hand or fingers do not have to carry the bag by the lower edge of the grip portion C. If either of the handles shown in Fig. 13 is flattened out, its appearance will be that of Fig. 17. If side X is downward, crease *b* will be convex upward and 45 degree crease *c* will be concave downward. On the other hand, if the handle be flattened out so that the side X is upward, then crease *b* will be concave and crease *c* convex.

In the retracted type of handle there is no need to reverse the loop—although this can be done—because the grip portions C will always lie flat in the hand without having to be reversed.

Figs. 18 and 19 show how advantage is taken of the improved handles to facilitate manufacture of the bag. As shown a web **20** first has applied thereto oppositely disposed adhesive areas **21**, **22** and a longitudinally extending strip **23** of adhesive. Then folded handles **24** preferably of the type illustrated in Fig. 2 with the grip portions in retracted position are applied over the adhesive areas after which paper patches **25**, **25** are applied of substantially the size of the adhesive areas. Or a composite of handle **24** and patch **25** may be applied in one operation. Then the web is tubed as shown in Fig. 19 and the tube severed adjacent the retracted handles **24** as shown in Fig. 19. Then the bag tubes are bottomed in the usual way, not shown.

It will be understood that various changes may be made in the embodiments specifically described without departing from the spirit of my invention or the scope of the appended claims. In particular, in some of the embodiments, especially those illustrated in Figs. 1, 2 and 3, the handle material may be made of cord as in my prior patent above mentioned, and many of the advantages of the present invention had, including those shown in Figs. 18, 19.

I claim:

1. A bag having a handle in the form of a loop and composed of a strip of comparatively stiff ribbon-like material, one end thereof being secured flatwise to one side of the bag and extending in a first course upwardly thereof, then sharply folded to assume a second course outwardly of the central longitudinal axis of the bag, then sharply folded to assume a third course inwardly of said longitudinal axis, said third course constituting the grip portion of the handle, said strip further having sharply defined courses complementary to said second and first courses to complete the bag handle, said last mentioned course being attached to the same side of the bag as said first course.

2. A bag having a handle in the form of a loop and composed of a strip of camparatively stiff ribbon-like material, one end thereof being secured flatwise to one side of the bag and extending in a first course upwardly thereof, then sharply obliquely folded to assume a second course outwardly of the central longitudinal axis of the bag, then sharply folded to assume a third course inwardly of said longitudinal axis, said third course constituting the grip portion of the handle, said strip further having sharply defined courses complementary to said second and first courses to complete the bag handle, said last mentioned course being attached to the same side of the bag as said first course, all of said courses initially lying in substantially the plane of the bag.

3. The bag according to claim 2 in which said second course and said course complementary thereto are of sufficient length and of such direction as to effect a displacement of said first and last courses constituting the legs of

the handle toward said central longitudinal axis of the bag whereby in its folded position said third course constituting the grip portion is retracted relative to the top of the bag in a position substantially parallel thereto and is extensible upon being grasped and lifted.

4. The bag according to claim 1 in which said second course and said course complementary thereto are substantially parallel to the top of the bag.

5. The method of making a shopping bag having at least one handle projecting from the bag when the same is carried thereby, comprising forming from a comparatively stiff flat ribbon-like material, a handle composed of a grip portion and legs, folding said handle sharply so as to provide courses extending inwardly toward the central longitudinal axis of the bag together with courses angularly related thereto constituting tabs for attaching the handles to the bag, so that the handle may be applied with said grip portion in a retracted position wholly within the longitudinal bounds of a bag body, applying said folded handle in predetermined position upon a web of bag making material, forming said web with the handle in place into a flattened tube, severing said tube completely from edge to edge along a zone clear of the handle to form a bag tube section with said handle within the longitudinal bounds of the same, and bottoming said bag tube section to form a completed bag.

6. A method of making shopping bags, each having a pair of handles projecting from the bag when the same is carried by the handles, comprising forming handles from comparatively stiff ribbon-like material, shaping each of said handles substantially in the shape of a T in which the horizontal portion thereof is constituted by the grip portion of the handle and the vertical portion of the T by the legs of the handle, with parts of the handle bent back along the horizontal portion of the T, attaching the legs of said handles to predetermined portions of a web of bag making material, forming said web into a flattened tube, completely severing the tube from edge to edge on successive lines adjacent to, but clear of, the top of successive pairs of the handles, and bottoming each tube section so severed to form a bag.

7. In a shopping bag, a pair of oppositely disposed handles each in the form of a loop, and composed of a strap of comparatively stiff ribbon-like material having a cross piece which in use is disposed above the top of the bag to permit insertion of the hand into the loop and the engagement of the hand flatwise of the strap, said handle further having legs both of which connect the

cross piece with the same side of the top of the bag, said legs being initially sharply folded so as to bring said cross piece entirely within the bag and with the flat side of the strap substantially coplanar therewith and the ends of the legs closer together and presented flatwise to the sides of the bag.

8. A bag having a handle in the form of a loop and composed of a strip of comparatively stiff material, one end thereof being secured to one side of the bag and extending in a first course upwardly thereof, then being sharply obliquely folded to assume a second course outwardly of the central longitudinal axis of the bag, then being folded to assume a third course inwardly of said longitudinal axis, said third course constituting the grip portion of the handle, said strip further having courses complementary to said second and first courses to complete the bag handle, said last course being attached to the same side of the bag as said first course.

9. A bag having a handle in the form of a loop and composed of a strip of comparatively stiff ribbon-like material, one end thereof being secured flatwise to one side of the bag and extending in a first course upwardly thereof, then sharply folded to assume a second course outwardly of the central longitudinal axis of the bag, then sharply folded to assume a third course inwardly of said longitudinal axis, said third course constituting the grip portion of the handle, said strip further having sharply defined courses complementary to said second and first courses to complete the bag handle, said last mentioned course being attached to the same side of the bag as said first course, and all of said courses being disposed flatwise within the bag below the upper end thereof.

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U. S. DEPARTMENT OF COMMERCE

PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 2,838,224 Harford K. Steen June 10, 1958

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 1, line 56, for "Patent No. 2,766,259" read -- Patent No. 2,766,925 --; column 4, line 25, for "strip" read -- stripe --.

Signed and sealed this 5th day of August 1958.

(SEAL)

Attest:

KARL H. AXLINE
Attesting Officer

ROBERT C. WATSON
Commissioner of Patents