Jan. 24, 1956 L. W. HARRIS, JR 2,731,998

LOCATOR FOR BAG CLOSURE TAPE

Filed Oct. 18, 1954

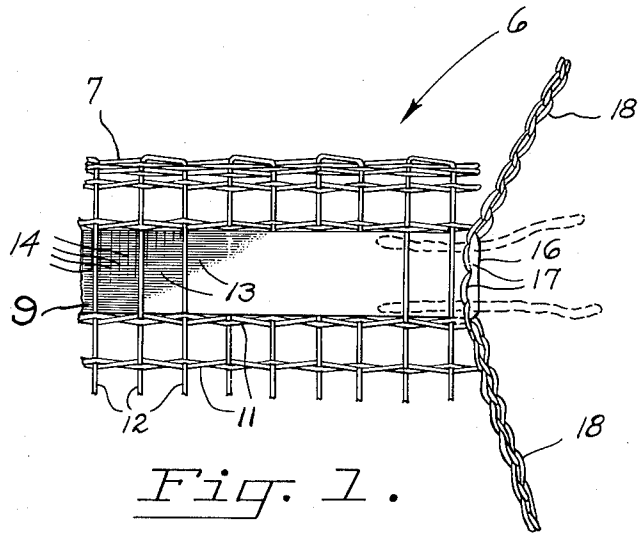


Fig. 1.

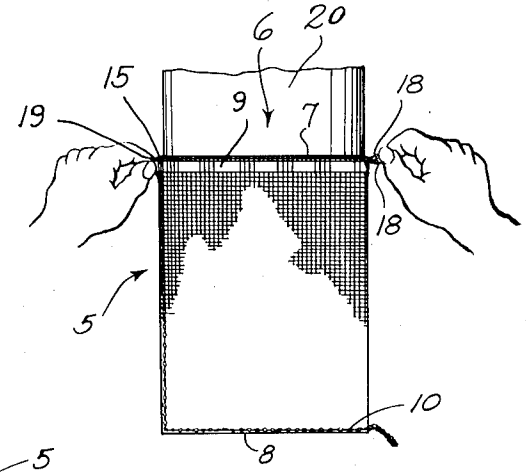


Fig. 2.

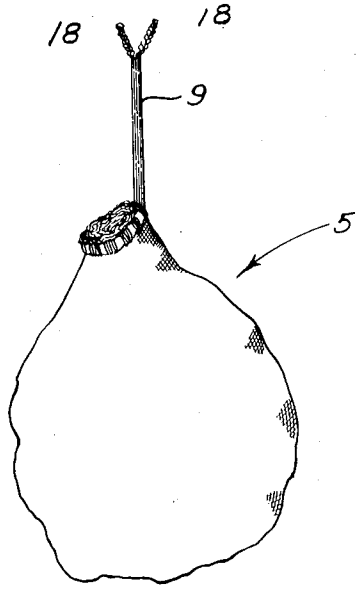


Fig. 3.

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United States Patent Office 2,731,998
Patented Jan. 24, 1956

2,731,998

LOCATOR FOR BAG CLOSURE TAPE

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Application October 18, 1954, Serial No. 462,842

4 Claims. (Cl. 150—11)

This invention relates to an open mesh vegetable bag having a fabric draw tape woven into the mesh about the open mouth of the bag. One object of my invention is to provide such a bag wherein the ends of the tape are caught in the stitching forming the side seam of the bag thereby forming a loop and wherein the distant portion of this loop is sewn through with stitching which protrudes in a pigtail and defines a readily located and an easily grasped pull tab for use in removing the bag from a filler spout and for cinching up the draw tape.

The present invention is an improvement upon the draw closure bag disclosed in United States Patent 2,557,517. That bag and the bag of the instant invention both are of an open mesh type having a length of flat fabric interwoven about the mouth of the bag to define a draw cord or tape. The ends of this tape are caught by the seam which forms the side of the bag and the tape thus forms a closed loop encompassing the mouth of the bag. Prior to use, the bag of the prior patent is turned inside out so that the sewn seam faces inwardly. Thereinafter, the open mouth is fitted about a filler spout from which measured amounts of vegetables are dispensed, one major use of the bag being in the packaging, transportation, retail display and sale of fresh vegetables. To this end, the fresh vegetables (potatoes and onions are exemplary) are discharged through the filler spout into the bag in a measured amount. Once the bag is filled, a worker pulls downwardly or otherwise removes the filled bag from the spout, grasps the draw tape, cinches the draw tape tight thereby closing the bag, and secures the draw tape as with a stitch, a staple, or the like. The filled bag then is ready for display and sale.

An examination of the above step by step typical use makes apparent several disadvantages in the construction of the aforementioned prior bag. Firstly, it will be apparent that the worker engaged in filling and closing the bag is an hourly employee working against the clock not only in a monetary sense but also to move the vegetables to market as fast as possible. The faster the filling operation can be accomplished, the lower the per bag charge for labor and the greater the profit which will inure to the benefit of the produce wholesaler, grower, and/or cooperative produce organization utilizing the bag and employing the worker. Secondly, it will be apparent that the draw tape of both the prior bag and the bag of my invention closely conforms to the open mouth of the bag in order tightly to fit about the filler spout. This close fit, however, makes it somewhat difficult for the worker to locate and to grasp the tape both to remove the bag from the filler spout and to cinch up on the tape when closing the mouth. Thus, with both types of the bag, the draw tape itself is woven into the fabric by the manufacturer of the yardage goods from which the bag blank is formed. If the bag is removed from the filler spout by pulling downwardly upon the top selvage, the draw tape often becomes bunched, rolled, and even more difficult to locate and to grasp. Furthermore, it is difficult to locate and to grasp the draw tape with the fingers even

before the bag is removed from the filler spout, since substantially no portion of the tape protrudes or readily presents itself to the grasp of the worker's fingers. These factors increase the time consumed in each filling operation and thus militate against the economic advantage of the consumer utilizing the prior bag. My invention includes among the objects thereof the elimination of these time consuming difficulties and the speeding up of the steps of removing the bag from the filler spout and of cinching up the bag through the draw tape by providing an improved draw tape structure and by utilizing the bag without turning it inside out. Thus, in final result, my improvements inure to the economic betterment of the consumer purchasing the bag from the bag manufacturer by speeding the filling and closure operations.

One object of my invention is to provide a draw tape of the above described type wherein an elongated, protruding section of thread is stitched through the tape in definition of a so-called locator or pull tab, which locator easily is sighted and is grasped by the fingers of the worker in order to draw the tape tight in closure of the bag.

Another object of my invention is to provide a bag in which the stitched side seam is spaced inwardly from the edge of the bag to provide a readily grasped protruding section of bag outboard of the seam. In conjunction therewith, the draw tape itself is provided with a protruding pigtail type pull tab, which pigtail is located diametrically opposite to the protruding section of bag in order to define spaced points which readily are grasped by the worker in removing the bag from a filler spout and in cinching up the draw tape after removal from the filler spout. In effect, these provisions are of substantial aid in speeding the removal and closure operations of the worker, thereby reducing the unit labor cost of the produce wholesaler, grower, or cooperative engaged in the use of my bag.

Yet another object of my invention is to provide a fold in the looped end portion of the draw tape in an open mesh bag, said fold being laterally across so a portion of the tape abuts and lies back upon itself to provide a double thickness for the reception and secure retention of a chain stitch. This chain stitch is extended a substantial distance beyond each side of the double thickness portion of the draw tape in definition of a readily grasped protruding pigtail. The pigtail, in turn, functions as a locator which readily is grasped by the fingers of the worker employed to cinch up the draw tape and remove the bag from a filler spout.

These and other objects and advantages of my invention will become apparent in the following detailed description, taken in conjunction with the accompanying drawings, wherein:

Fig. 1 is an enlarged detail of a small section of an open mesh bag adjacent the mouth and top selvage at the folded side thereof, the draw tape and protruding locator or pigtail being shown extended in full lines and retracted in dashed lines;

Fig. 2 is a perspective view of my open mesh bag in place upon a filler spout with the right and left hands of a worker grasping the protruding pigtail and the protruding section of bag, respectively, in order to remove the bag from the filler spout and cinch upon the draw tape in substantially one continuous motion; and

Fig. 3 is a perspective view of a filled bag with the draw tape cinched tight and secured in place.

The numeral 5 designates an open mesh bag having a normally open mouth 6. The open mesh material of which the bag is formed conventionally is provided to the bag manufacturer as yardage goods having a top selvage 7, a bottom selvage 8, and a fabric draw tape 9. Bag blanks are cut from this yardage goods and the blank is folded back upon itself with the free edges in abutment

and alignment. The bottom and side of the bag then are stitched with a continuous chain stitch **10** to form a seam and to define the conventional bag shape. I prefer the chain stitch to other types of stitching since the bag material is an open, loose mesh and chain stitching cooperates therewith in a most efficient manner.

Referring now to Fig. 1, the warp threads are designated by the numeral **11** and the woof threads by the numeral **12**. Adjacent the top selvage **7**, one of the warp threads **11** has been omitted thereby defining a space of sufficient width to receive the draw tape **9**. This draw tape is woven into the bag about the mouth thereof in the finished product by virtue of the fact that the yardage goods are provided to the bag manufacturer with the tape woven therein adjacent the selvage **7**. In practice, the tape **9** is passed under and over alternate groups of the woof threads **12** rather than under and over adjacent ones of these threads, since the function of the tape is to draw or cinch the mouth of the bag in a closed position. As shown in Fig. 1, the tape passes over four woof threads, under four woof threads, over four woof threads and so on throughout the length of the open mesh yardage goods.

As to the actual structure of the draw tape itself, this is formed from a loose weave, preferably cotton, sheeting, having a high number of warp threads **13** compared to a lesser number of woof threads **14**. To prevent unraveling of the edges of the tape, a double or triple thickness may be employed with the tape folded longitudinally back upon itself prior to being woven into the open mesh material. This latter feature, however, is not a part of the instant invention.

Returning to the formation of the bag itself, after the seams are defined by the chain stitching **10** across the bottom and sides of the bag, a pigtail is joined to the closed or looped end of the tape **9** adjacent the area bearing the reference numeral **16** in Fig. 1. To this end, the free ends **15** of the tape **9** are caught in the stitched side seam **10** after which the sewing machine operator grasps the closed or looped end **16** pulling it free of the warp and woof for a short distance. Thereinafter, the closed portion **16**, which is double thickness, as is shown in Fig. 1, and a stitch is taken through the double thickness as indicated at **17**. This stitch preferably is formed with the same sewing machine which stitches the seams and thus is an identical chain stitch.

In practice, the stitch **17** catches the folded portion of the tape **16** with several individual chain stitches thus grouping the warp threads **13** in bunches. By extending this stitch to one or both sides of the tape portion **16**, I provide either one or two protruding pigtails **18**. These pigtails **18** define pull tabs which also consist of a chain stitch, of course. In function, the pull tabs extend a substantial distance beyond one or both sides of the draw tape portion **16** where they are readily located and presented to the view of the worker as a protruding locator. In cooperation therewith, it will be noted the inner edge of side seam **10** is located inboard of the margin of the mesh bag adjacent the open mouth (see Fig. 2) to define a readily grasped protruding section of the bag itself. I have assigned the reference numeral **19** to this section of the bag. As shown in Fig. 2, the protruding pigtails or pull tabs **18** and the protruding section of bag **19** are located diametrically opposite each other across the open mouth of the bag **6** in order to define spaced points readily grasped by the fingers of a worker in removing the bag from a filler spout **20** and in cinching up the draw tape to the position of Fig. 3.

At this point, it is well to note that the chain stitching **17** catches the folded portion of the draw tape **16** through a double thickness in order to gather the warp threads **13** and to locate these gathers against the fold which defines the margin of the tape portion **16**. As will be apparent, this provides a structurally superior joinder of the pigtails **18** to the draw tape **9**. As is known in the industry, the draw tape itself is somewhat weak and easily is broken

because of the sparse, open arrangement of the warp **13** and woof **14**. This type of draw tape fabric, however, is preferred in the industry since the cost thereof is minimal. The open mesh bag business is highly competitive and thus even slight savings are of importance. At the same time, the stitches **17** and the tape portion **16** must withstand a relatively strong pull upon the pigtails **18** when the bag is removed from the filler spout and cinched up. It is for this reason and in order to prevent the pigtails from pulling out or severing their joinder with the draw tape **9** that several stitches **17** are caught in the end of the tape at a point closely adjacent the fold line where the tape is doubled back upon itself to provide a double thickness bounded by a fold line.

Another factor necessary to an understanding of my invention concerns the manner in which the bag initially is formed from a blank. Thus, bag blanks are cut, folded and sewn as previously described, the tape **9** having been woven through the open mesh fabric under and over groups of the woof threads **12** prior to formation of the blank. In approximately half of the blanks, the fold line falls or is located such that the draw tape **9** will be outside of a group of the woof threads **12** across the fold line. In an equal number of blanks, the draw tape will be under or inside of a group of these woof threads **12** across the fold line. In Fig. 1, I have shown in dashed lines the appearance of a draw tape **9** which inadvertently has pulled back into and within the interior of the bag where the tape underlies a group of the woof threads **12** adjacent the fold line of the blank. This dashed line position of the elements can result from a normal handling of the bag prior to, during, or after a normal filling operation. The effect thereof, however, does serve to illustrate an important advantage of my invention. Thus, even with those bags wherein the tape **9** inadvertently underlies the woof threads at the fold line and thus becomes arranged a short distance back within the woven fabric, the pigtails **18** protrude and extend sufficiently beyond the fold line to allow a ready grasping thereof by the fingers of the worker as shown in Fig. 2.

In use, the bag of my invention is not turned inside out, but rather is used with the seams and stitching in an exterior or outward position as shown in Fig. 2. Open mesh vegetable bags normally are sold to a produce grower or wholesaler, to a cooperative vegetable marketing organization, to a retail chain, or the like for filling and marketing. The filling operation utilizes a filler spout such as illustrated at **20** in Fig. 2 and the open mouth of the bag closely conforms to the periphery of the spout. In addition, it will be noted that the free circumference of the draw tape itself closely conforms to, fits about and jointly bounds the free circumference of the mouth of the bag **6**. This helps to hold the bag closely to the filler spout **20** to prevent spillage during the filling operation. After the bag is filled, a workman grasps the protruding section of the bag indicated by the reference numeral **19** in his left hand and the protruding pigtails or pull tabs **18** in his right hand in order to strip or remove the bag from the filler spout **20**. With substantially one continuous motion, the bag is removed from the spout and cinched tight to the position of Fig. 3 by pulling upon the pigtails **18** against the weight of the contained vegetables within the bag. After the tape **9** is cinched and the top of the bag thus is closed, a staple, stitch or the like is used to secure the draw type in this closed position.

It now will be apparent that several advantages result from the use of my improved bag and draw tape. With previous open mesh vegetable bags, the bag itself was turned inside out whereupon the section **19** was hidden and no pigtails or pull tabs **18** were provided. With this construction, it was difficult and time consuming for the workman to remove the bag from the filler spout **20** and cinch up the draw tape. Referring to Fig. 2, the bag often was stripped from the filler spout by pulling down upon the top selvage **7** or upon the bottom corners of the

bag. The first of these tended to roll and bunch the draw tape making it difficult for the workman to locate the draw tape **9** with his fingers. The second method required that the worker let loose of the top of the bag and thus loose his position and/or spill the contents. Additionally, no portion of the draw tape **9** protruded from the exterior of the bag itself and the workman thus was required to fish about or feel for the tape in order to draw the tape tight outside of the bag in effecting a closure operation. With the instant invention, on the other hand, both the protruding section of the bag **19** and the protruding pigtails or pull tabs **18** are located where they can be seen and readily grasped by the fingers of the workman. In fabricating the bag, these sections are located diametrically opposite one another across the open mouth of the bag so as to be visible on the opposite sides of the filler spout **20** as shown in Fig. 2. Additionally, the stitches **17** are positioned adjacent the fold line in the tape whereby a substantial pull or jerk can be effected with the pull tabs without tearing them loose from the tape. In summary, these advantages reduce the labor cost to the user of the bag, enable the workman to fill bags faster and more effectively and thus decrease the cost of the vegetables to the consuming public.

I claim:

1. In combination with an open mouthed mesh bag having a stitched side seam, a fabric draw tape woven into said bag about the mouth thereof with the ends of the tape caught in said stitched side seam, that portion of the tape which is most distant from said side seam being folded laterally back upon itself and stitched through and laterally across the end thus folded closely adjacent the fold line with a length of the stitching extending beyond at least one side of the tape in definition of a readily grasped and a protruding locator pull tab for the draw tape.

2. In combination with an open mouthed mesh bag having a stitched side seam, a fabric draw tape woven into said bag about the mouth thereof with the ends of the tape caught in said stitched side seam to form a closed loop substantially bounding the circumference of said mouth, that portion of the tape loop which is most distant from said side seam being folded laterally back upon itself for a short distance and stitched through and laterally across the double thickness of the end thus folded with a plurality of stitches, a length of the stitching extending beyond at least one side of the tape in definition of a readily grasped protruding locator and pull tab for the middle section of the draw tape loop, said side seam and locator stitches being identical types of stitches formed upon the same machine.

3. In an open mesh bag having a stitched side seam and an open mouth, said stitched seam being located inboard of the marginal edge of the bag to define a readily grasped protruding section of bag outboard of the seam, a draw tape woven into said bag about the mouth thereof with the ends of the tape caught in said stitched side seam, the free circumference of the draw tape loop thus formed closely bounding the free circumference of the mouth of the bag, a portion of said draw tape loop being folded back upon itself, said folded portion being stitched through and laterally across the tape closely adjacent the fold line with the same stitch which forms said side seam, a length of said folded portion stitch extending a substantial distance beyond each side of the draw tape in definition of a readily grasped protruding pigtail and pull tab, said protruding pigtail and protruding section of bag being located diametrically opposite each other across the mouth of the bag.

4. In an open mesh bag having a continuous chain stitched side and bottom seam and an open mouth, said stitched seam being located inboard of the margin of the mesh bag adjacent said open mouth to define a readily grasped protruding section of bag outboard of the seam, a fabric draw tape woven into said bag about the mouth thereof and through at least a portion of said protruding section with the ends of the tape caught in said stitched side seam, the free circumference of the draw tape loop thus formed closely conforming to and jointly bounding the free circumference of the mouth of the bag, a portion of said draw tape loop being folded laterally across and back upon itself for a short distance, said folded portion being stitched through and laterally across closely adjacent and parallel said fold line with the same chain stitch which forms said side and bottom seam, a length of said folded portion chain stitch extending a substantial distance beyond each side of the draw tape in definition of a pair of readily grasped protruding pigtails, said pair of protruding pigtails and said protruding section of bag being located diametrically opposite each other across the open mouth of the bag to define spaced points readily grasped in removing the bag from a filler spout and cinching up the draw tape.

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