July 19, 1960 E. C. SWANSON 2,945,615

BAG CLOSURE AND OPENING DEVICE

Filed Oct. 28, 1957

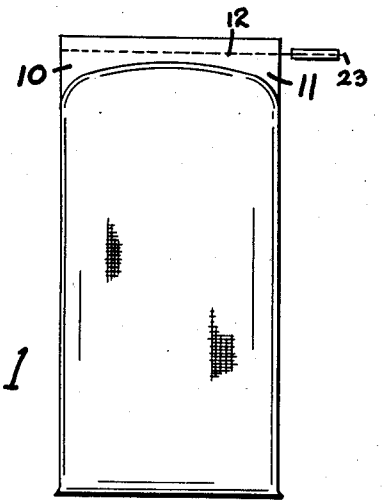


Fig. 1

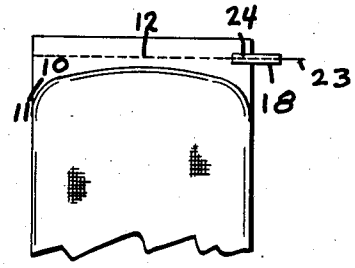


Fig. 2

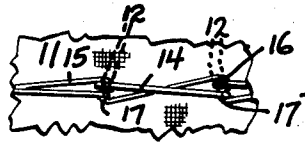


Fig. 3

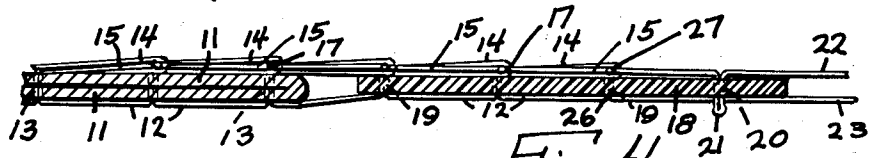


Fig. 4

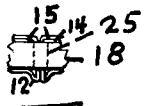


Fig. 5

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BAG CLOSURE AND OPENING DEVICE

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1 Claim. (Cl. 229—66)

My invention pertains to a device or arrangement for closing and opening bags.

An object of my invention is to provide a device which will allow convenient and rapid opening of the upper end of a bag containing flour, or any other substance.

A further object of my invention is to provide a special type of closure member at the bag end as well as exterior of the bag, which closure is of suitable material so that it will grip or frictionally engage the bag opening threads to retain the same.

A further object of my invention is to provide a special type of retaining unit whereby several cords of the stitching members can be pulled within an opening so that the locking effect of the stitching will be materially increased.

With these and other objects in view, my invention consists in the construction, arrangement, and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which:

Figure 1 is a forward elevation of a conventional bag showing one form of my invention,

Figure 2 is a similar elevation showing a further form,

Figure 3 is a plan view of the usual two-thread type of stitching, and being a plan view of a portion of Figure 4,

Figure 4 is an enlarged sectional view showing the two-thread stitching as applied to the bag and the plastic or resilient retaining member, and

Figure 5 is an enlarged detail showing the special type of device for causing a maximum locking action within the resilient member.

I have used the character **10** to designate the top of a bag made of fabric or any other material, and although my invention will explain the use of the closure device at the upper portion of the bag, it should be specifically understood that the device could also be used at the bottom of the bag as well without departing from the essential spirit of the invention.

The character **11** indicates the folded-over plies of the bag at the portion **10**.

Figures 3 and 4 show more specifically the use of the resilient member in combination with the usual two-thread stitching, Figures 3 and 4 being on a considerably increased scale in order to show more clearly this type of stitching. In this type of stitching the character **12** indicates one of the threads, which can be called the needle thread, this thread or cord passing upwardly through the bag plies **11** through the openings **13**, and which cord **12** continues into the integral loops **14**.

At the other side of the bag, the character **15** indicates the other thread or cord, which thread loops about the cord portions **12** at **16** (see Figure 3), and thence loops between the loop portions **14** at **17**, this stitching passing along the entire top of the bag.

Spaced from the bag is a plastic or other resilient strip **18** having the various openings **19**, the stitching passing through these openings in the same manner, and I also provide an extra opening at **20** which is of restricted size, and the cord **15** is pulled downwardly through this opening forming the loop **21**, the cord then continuing into the portion **22**, the end of the cord **12** being indicated by the character **23**.

The loop **21** within the opening **20** provides a locking method for locking the stitching so that it will not unravel, and when it is desired to unlock the stitching, the end **22** can be pulled as well as the end **23**, whereby the stitching will then unravel in the usual manner and the bag can be opened.

Figure 2 shows a modification wherein the same stitching is employed, and wherein all of the same construction is used with the exception that a portion **24** of the strip **18** will lie adjacently to one side of the bag and will be stitched thereto.

A further modification is shown in Figure 5 wherein the same stitching is also employed, however, in this case an opening **25** is provided in a similar resilient member **18**, and in this construction a major portion of the stitching is pulled directly into the opening which thereby provides a tightly restricted accumulation of cords to thereby considerably increase the locking action.

In order to explain this modification more clearly, the following explanation is made. To provide the effect or structure shown in Figure 5, the junction of the cord **12** where this cord passes upwardly through the openings **19** at **26** in Figure 4 can be grasped and pulled downwardly, and as a result the entire structure as indicated generally by the character **27** in Figure 4 will be similarly pulled downwardly into the opening **25**, thereby providing a wedged mass of cords which will be tightly retained for the locking effect, and of course the loop **21** etc. will not be used in this latter modification. Also, the cord **12** can be pulled downwardly further than is shown in Figure 5.

It should be understood also that my invention will pertain to other types of stitching, the principal feature being that of pulling all of the cords within this opening. The strip **18** will usually be separate from the bag as shown in Figure 1, however, it should be understood that it could be used as shown in Figure 2 as well.

It will now be seen that I have provided the advantages mentioned in the objects of my invention, with further advantages being apparent.

Some changes may be made in the construction and arrangement of the parts of my invention without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claim any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim as my invention:

A bag closure and opening device comprising a pair of stitching cords stitched along a normally opening end of a bag, one of said cords passing through the bag plies and including integral loops, the other of said cords looped engaging about and through said integral loops consecutively and thus continuing successively and retaining the same, a resilient member attached at the end of said continued stitching and resiliently retaining the integral loops of said cord of the stitching thus formed, the portion of said cords looped engaging about and through said integral loops being pulled within the last stitching opening, whereby all of the cords so formed will be tightly restricted thereby, said resilient member being spaced from a side edge of said bag.

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