Nov. 3, 1931. C. V. BRADY 1,830,014

FASTENER

Filed March 28, 1931

Fig. 1.

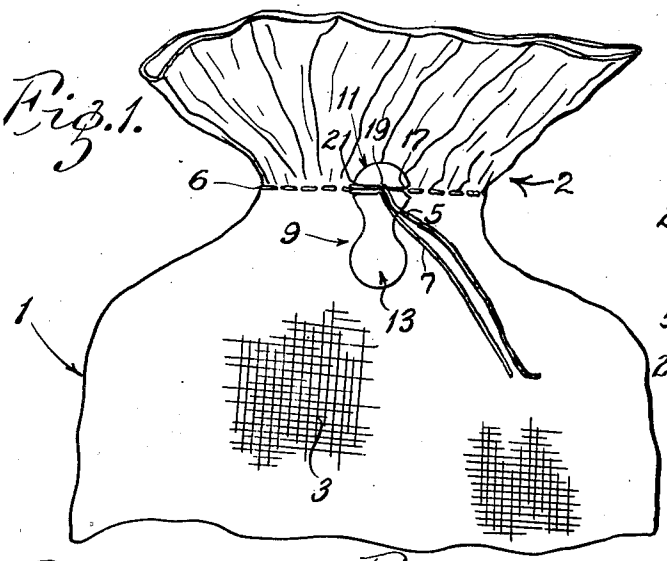


Fig. 2.

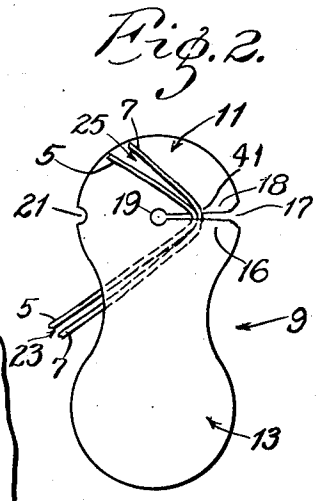


Fig. 3.

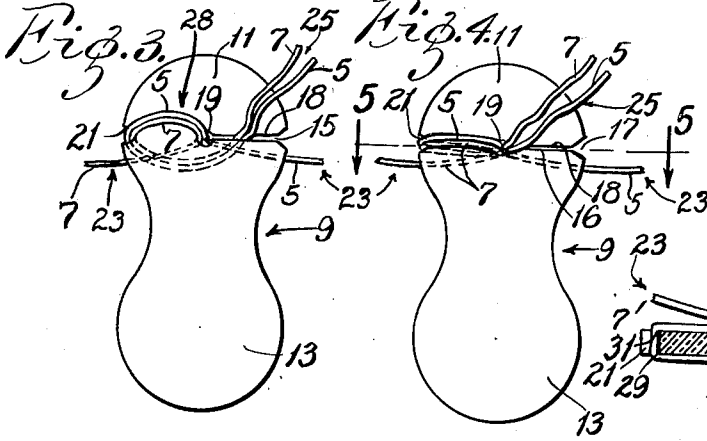


Fig. 4.

Fig. 5.

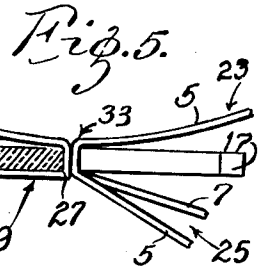


Fig. 6.

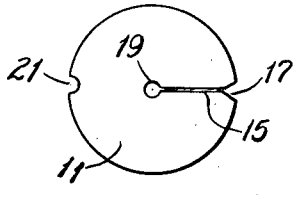
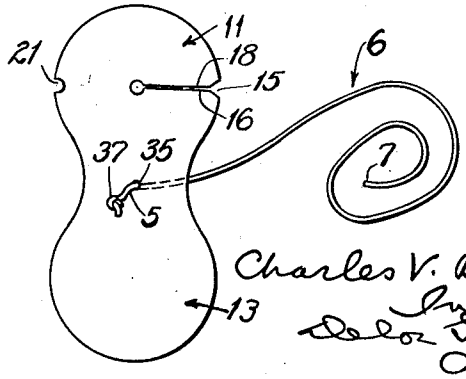


Fig. 7.



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UNITED STATES PATENT OFFICE

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FASTENER

Application filed March 28, 1931. Serial No. 526,013.

This invention relates to fastening means, and with regard to certain more specific features, to means for fastening and/or tying strands.

Among the several objects of the invention may be noted the provision of a fastening means for joining cords, strands or the like; the provision of a method of fastening a cord with said fastening means which affords a simple, rapid and positive fastening of said cord, and which also affords a simple and rapid unfastening of said cord; and, the provision of a fastening means of the class described which is simple to operate, not bulky, and easy to manufacture. Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly comprises the elements and combinations of elements, features of construction, and arrangements of parts which will be exemplified in the structure hereinafter described, and the scope of the application of which will be indicated in the following claims.

In the accompanving drawings, in which is illustrated several of various possible embodiments of the invention.

Fig. 1 shows a fastening means, applied to tie the closing cords of a bag;

Fig. 2 is an enlarged plan view of the fastening means of Fig. 1, showing cords to be fastened in the first step of the fastening operation;

Fig. 3 is a view similar to Fig. 2 but showing the cords nearly fastened;

Fig. 4 is a view similar to Fig. 3 but showing the cords fastened;

Fig. 5 is an enlarged sectional view taken on line 5—5 of Fig. 4;

Fig. 6 shows a modified shape of the fastening means; and,

Fig. 7 is a view similar to Fig. 2 but showing a cord joined to said fastening means.

Similar reference characters indicate corresponding parts throughout the several views of the drawings.

Referring now more particularly to Fig. 1 there is shown at numeral 1 a bag or container formed from a fabric 3. It is advantageous to close the mouth of such a container by constricting said mouth, by winding a draw string or strand or cord 6 therearound, and tying the ends 5 and 7 of the cord, as shown in Fig. 1. It is to be understood that strand, or cord, as referred to implies any thread, string or twine or like fastening means and that the same may be woven through the material of the bag on the loom. This method of closing the bag is preferable in some instances to sewing the mouth of the bag.

Formerly in closing the mouth of a bag with a cord, the ends of the cord were tied in a knot. Certain disadvantages arose from this method of fastening the ends in that the tying was slow and/or resulted in a loose knot. If the knot tying the ends together was loose, the product contained within the bag 1 would escape from the mouth. If the knot was tight, the person opening the bag would either cut the cord, such as 6, or tear the bag, thereby reducing the subsequent value of the bag.

I have overcome the necessity of tying a knot in the cord 6, and have provided a closure means or fastening means which is adapted to effect a rapid positive tying of the ends 5 and 7 after the cord 6 has been drawn tightly around the mouth 2, of the bag 1, and which also enables a rapid and non-destructive untying of the ends 5 and 7. Broadly, my invention comprises the placing of a loop of strand around a fastening means and frictionally holding the juxtaposed strands leading from said loop.

Referring now more particularly to Fig. 2 there is shown at numeral 9 the fastening means, formed from a sheet of, preferably, elastic material, such as for instance vulcanized fibre, cardboard, metals, a thin slab of wood, or molded bakelite. The sheet 9 has a head portion 11, which has a hole 19 formed substantially in the center thereof. A slit or passage 15, extends from the outer edge of the sheet 9 to the hole 19, and at substantially right angles to a longitudinal center line through the sheet 9. The outer end of the passage 15 is notched as shown at numeral 17. A notch 21 is also formed on the head portion 11, and is substantially opposite

the notch 17. The hole 19 is sufficiently large to snugly accommodate four passages therethrough of the cord 6. The slit 15 preferably comprises only a cut through the sheet 9, and consequently can only accommodate the cord 6 by bending either or both of the sides of the slot 15, out of the plane of the sheet 9 (see Fig. 2).

The tab 13 of the sheet 9 provides a substantial finger hold or purchase on the fastening means 9 while said means is being applied by the operator to the cord 6. This tab may assume any shape or be omitted as shown in Fig. 6.

To fasten the ends 5 and 7, of the cord 6, together with the fastening means 9, and at the same time to form a tight closure of the mouth 2, of the bag 1, the ends 5 and 7 are forced into the slit 15 and through it into the hole 19. This is accomplished by holding the ends 5 and 7 in one hand, the tab 13 in the other, positioning the portion 41 of the ends 5 and 7 in the notch 17 and forcing the ends to slide into the hole 19. The sides 16 and 18 bend to allow the entrance of the ends 5 and 7. The ends 5 and 7 thus positioned in the hole 19, are pulled therethrough until the cord 6 assumes a taut position around the mouth 2 of the bag 1, as shown in Fig. 1. The ends 5 and 7 are now passed around the means 9, into the notch 21 and around into the notch 17, and again forced through the slit 15, and into the hole 19, and the fastening is thereby completed. Fig. 3 shows the ends 5 and 7 partially positioned. Fig. 4 shows the ends 5 and 7 finally positioned in the hole 19, and the fastening operation completed.

It is to be noted that the hole 19 now tightly holds the ends 5 and 7 inasmuch as it is only large enough to tightly, and hence frictionally, hold the four passes of the cord 6. However, if desired, the hole 19 may be made larger, in order that the ends 5 and 7 make another turn around the fastening means 9, that is, through the notch 21 and back again.

Referring now more particularly to Fig. 5, the ends 5 and 7 coming directly from the mouth of the bag 1, against which they are pushed as shown at numeral 23, cannot be pulled through the fastening means 9 because of the frictional contact between the loop 28 of the cord 6, and the fastening means 9, located at the corner 27, the corner 29, the corner 31, and the tight fit in the hole 19, as indicated at numeral 33. These points of friction make it substantially impossible for the loop 28 to be drawn around the means 9 and thus impossible for the extension of the ends 5 and 7, as indicated at numerals 23 and 25, to be pulled from the fastening means 9 by pulling the cord 6 therearound.

To untie or unfasten the ends 5 and 7 it is only necessary to force the ends 5 and 7 out through the slit 15, unwind the ends 5 and 7 from the sheet 9 and pull the sheet 9 away from the bag 1, thus pulling the ends 5 and 7 through the hole 19 and finally out of the hole 19. The positioning of the portion of the ends 5 and 7 in the hole 19 prevents the ends 5 and 7 from being inadvertently removed from the sheet 9.

As has been mentioned hereinbefore, as many turns as desired may be made about the fastening means 9. In most instances, however, one turn is sufficient.

Fig. 6 shows a modification of the shape of the fastening means, and in which the tab 13 has been omitted. This form is desirable when large cords are to be fastened and consequently where larger fastening means 9 are desirable. The larger size of the fastening means 9 makes the extended portion 13 unnecessary.

As shown in Fig. 7, one end of the cord 6 may be secured in the fastening means 9 by means of a hole 35 and a knot 37. When using this modification of the fastening means 9, the cord 6 is merely wound around the mouth of the bag 2, rather than woven into the fabric 3, and the end 7 of the cord is terminated in the head portion 11 of the fastening means 9 as hereinbefore described. It is noted that when this method of fastening is used, the hole 19 is preferably made smaller than that shown in Figs. 2, 3 and 4, inasmuch as only one turn of the cord 6 is made around the fastening means, and only two passes of the cord 6 are made through the hole 19.

The tabs or extensions 13 formed on the fastening means 9 may be stamped or otherwise marked to designate the quantity and/or kind of material contained in the bag. Further, these fastening means may be made in different colors, each color representing a certain quality and/or quantity. Further the brand or packer's name or any other name may be printed or stamped on the fastening means.

An advantage of the fastening means is the rapidity with which a positive closure may be formed around the mouth of the bag by means of a cord. Another advantage is the rapidity with which the tying thus formed may be unfastened. Another advantage is that bags, such as the container 1, will not be destroyed by destructively opening them, inasmuch as workmen can open the bags more easily by undoing the tie formed with the fastening means 9 than by tearing the bag open.

In view of the above, it will be seen that the several objects of the invention are achieved and other advantageous results attained.

As many changes could be made in carrying out the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accom-

panying drawings shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A strand fastening means comprising a sheet of material having an opening formed therein for receiving strand leads of a loop, said sheet having a passage connecting said opening and an edge of said sheet for the positioning of said strand leads in said opening, said sheet also having a notch substantially opposite and substantially in alignment with said passage, whereby when said strand leads are positioned around the portion of said means between said opening and notch, said notch and opening hold said strand leads.

2. A strand fastening means comprising a sheet of material having an opening formed therein for receiving strand leads of a loop, said sheet having a passage connecting said opening and an edge of said sheet for the positioning of said strand leads in said opening, said sheet also having a notch substantially opposite and substantially in alignment with said passage, whereby when said strand leads are positioned around the portion of said means between said opening and notch, said notch and opening hold said strand leads, said opening being adapted to frictionaly hold said leads and an extension tab formed laterally of said passage.

3. A strand fastening means comprising a strip of material having formed therein a strand receiving hole and a slit connecting said hole and the outer edge of said strip, said strip also having a notch at the outer end of said slit, and a notch substantially oppositely disposed to said first-named notch and substantially in alignment with said slit, said hole, slit, and notches being adapted to receive portions of a strand in frictional engagement for fastening said strand, said strand being easily but not inadvertently removable from said receiving portions for unfastening said strand.

In testimony whereof, I have signed my name to this specification this 23rd day of March, 1931.

CHARLES V. BRADY.