June 12, 1956 F. KEIDEL 2,750,220

SEALS

Filed June 19, 1953

Fig. 1.

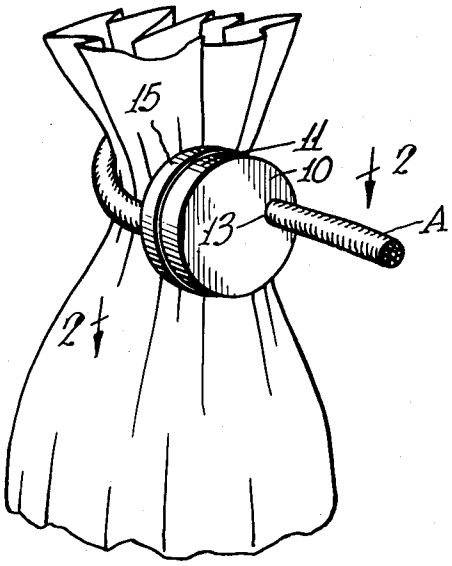


Fig. 2.

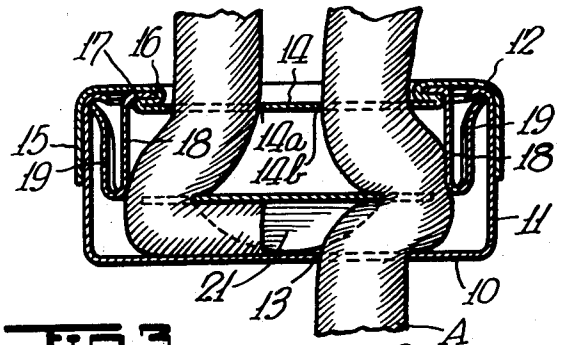


Fig. 3.

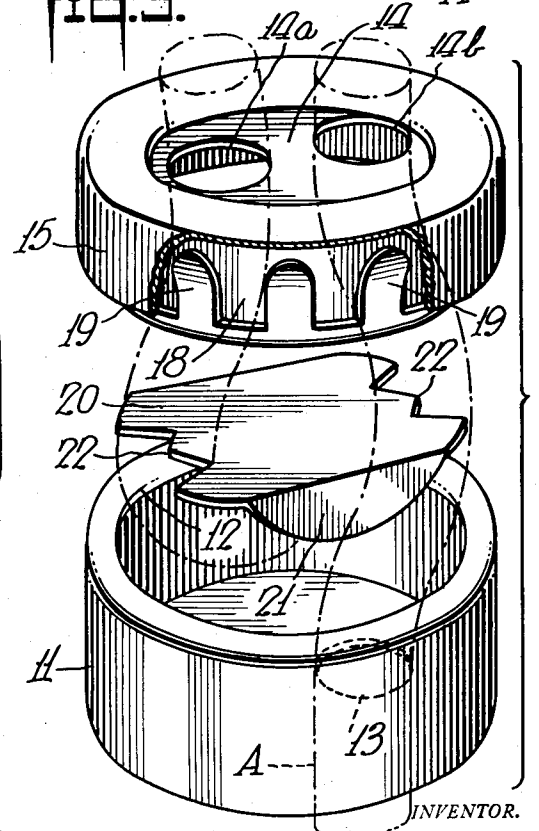


Fig. 4.

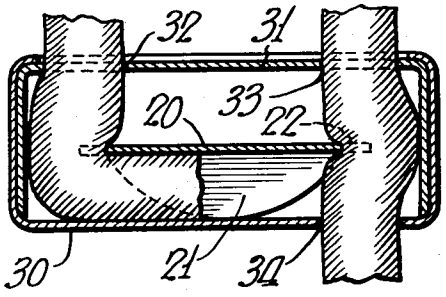
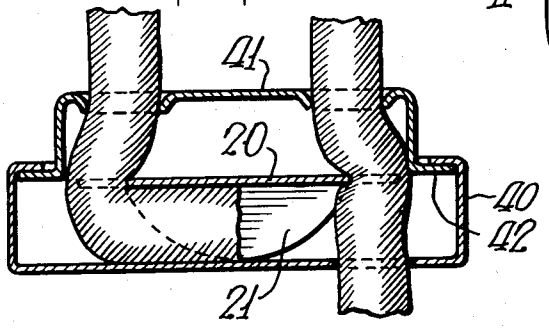


Fig. 5.



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2,750,220

SEALS

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Application June 19, 1953, Serial No. 362,910

6 Claims. (Cl. 292—323)

This invention relates to seals which may be used for securing together the ends of a cord, for instance one which has been drawn tightly around the mouth of a bag, so that the seal prevents the cord from being removed and the bag opened without cutting the cord.

In my improved seal there is provided a casing formed of two cup-shaped sections which when telescoped become locked together so that they cannot be separated. These sections and their locking means may be of the general type shown in the Baruch Patent 1,605,638.

In carrying out my invention one of the casing sections has a pair of openings through which the ends of a cord may be extended so as to form a loop which is large enough to permit it to be slipped over the partially closed end of a bag, and the other casing section has a single opening through which the other end of the cord extends, and through which that end may be pulled to reduce the size of the loop and thereby tightly close the mouth of the bag. Thereafter the portion of the cord which has been pulled through the casing may be cut off substantially flush with the outer surface of the seal and this end attached to another seal. Thus the amount of cord used for each bag is reduced to the minimum.

In carrying out my invention there is provided within the casing of the seal a disc around the edge of which the ends of the cord are folded.

As a further feature this disc is so formed and so mounted that it may tilt and permit the cord to be pulled past the edge of the disc in tightening the cord around the bag mouth, but hold the other end of the cord. To accomplish this result the disc has flanges on opposite edge, and substantially at right angles to the body of the disc, and these are curved and abut an end of the casing. Thus, in pulling the cord through the casing to reduce the loop, the disc tilts to increase the spacing at the edge across which the cord is pulled, but without releasing the end of the cord within the casing.

As a further feature the edges of the disc are provided with teeth or projections which are forced into the cord and hold the ends against the peripheral wall of the seal; and the body of the disc holds the end against the bottom of the casing.

In the accompanying drawing:

Fig. 1 is a perspective view of a bag having the mouth closed and sealed with my improved device.

Fig. 2 is a longitudinal section through a preferred form of the seal and showing the end of a cord secured therein.

Fig. 3 is a perspective view of the parts of the seal in spaced relationship, and

Figs. 4 and 5 are sections similar to Fig. 2, but showing other embodiments of the invention.

In the form shown in Figs. 1 to 3 inclusive the seal includes a cup-shaped casing for enclosing the ends of the cord, and the cord gripping means. This casing has a bottom wall **10** and a peripheral wall **11**, the edge portion of which is bent inwardly to form an inwardly extending lip or flange **12**. In the bottom wall there may be provided a hole **13** through which one end of a cord A

may extend. The top or closure member of the seal is also cup-shaped. It includes a top wall **14** having holes **14***a* and **14***b* for the cord, and a peripheral wall **15** which may telescope on and closely fit the peripheral wall **11** of the casing.

The top wall **14** is drawn and bent to form on the under surface an annular groove **16** which faces outward radially. Secured in this groove is a member for locking together the parts of the casing. This member has an inwardly facing annular flange **17** at the upper end of an annular wall **18** which is somewhat smaller than the wall **11** of the casing. The lower edge of this wall **18** has an annular row of spaced upturned resilient flanges **19** on its outer side. Thus, when the two sections are telescoped the flanges **19** slip past the edge of the flange **12** and spring out beneath it, so that the casing sections are permanently connected, and access cannot be gained to the flanges **19** to force them inwardly.

Within the casing there is provided a disc **20** which has opposite edge portions or flanges **21** bent down to engage the bottom wall of the casing, and of a width somewhat less than the normal diameter of a cord to be secured by the seal. Between the flanges or edge portions **21** are a plurality of sharp, radially extending teeth **22**.

In the use of the seal the two ends of the cord are extended through the holes **14***a* and **14***b* on the top wall of the casing and folded around the teeth **22** of the disc **20**, and one end of the cord is extended through the hole **13** of the outer casing section while the other and shorter end is folded beneath the disc **20**. When the seal is to be used the top wall is pressed tightly against the closed mouth of the bag, and the two sections of the casing are then pressed together until the resilient flanges **19** snap beneath the flanges **12**. The cord is pulled out as far as possible to reduce the loop around the bag mouth and the excess of the cord may then be cut off flush with the wall **10**. Thus the seal cannot be opened without destroying it, and the seal cannot be slid along the cord.

The disc lies in approximately the transverse plane of the lower edge of the wall **18**. Thus, in pulling the cord end the disc rocks the curved edges of the flanges **21**, and the edge around which the pulled end extends moves down from the lower edge of the wall **18**, but the opposite edge moves up along the wall **18** without substantial change in spacing therefrom. Thus pulling one end of the cord does not act to release the other end.

In Fig. 4 there is shown a seal having the same flanged and notched disc as in Figs. 2 and 3, but different means for holding together the sections of the casing. As shown there are two cup-shaped sections **30** and **31**, the section **31** having a pair of holes **32** and **33** for the ends of the cord and the section **30** having a single hole **34**, which may be aligned with the hole **33**. After placing the disc with a loop of cord around it in the section **31** and extending the cord through the hole **33** the casing sections are telescoped, and the edge of the outer wall of the section **30** is bent over onto the top wall of the section **31** to permanently connect them.

In Fig. 5 the outer section **40** may be similar to section **30** of Fig. 4, but the peripheral wall is shorter. The inner section **41** is somewhat smaller in diameter than the outer section **40** and has a radial flange **42** around which the open end portion of the section **40** may be bent. The disc **20** may be bent to form flange **21** the same as shown in Figs. 2 and 4, and is smaller in diameter than the peripheral wall of the section **41**, as shown in Figure 5, and is held in position beneath the flange **42**.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. A seal for connecting together the ends of a cord, including a pair of cup-shaped casing sections adapted to

be telescoped to form a casing, interengaging parts for preventing separation of said sections, one of said casing sections having a pair of spaced openings through which the ends of a cord may be passed to form a loop and the other of said casing sections having an opening in alignment with one of said pair of openings through which opening one end of said cord may be passed to provide a free end of the cord extending exteriorly of said casing, and a disc within said casing and across the opposite edges of which the cord is folded to prevent withdrawal of the cord but permitting said free end of the cord to be moved in a direction to reduce the size of said loop.

2. A seal for connecting together the ends of a cord, including a pair of cup-shaped casing sections adapted to be telescoped to form a casing, interengaging parts for preventing separation of said sections, one of said casing sections having a pair of spaced openings through which the ends of a cord may be passed to form a loop and the other of said casing sections having an opening in alignment with one of said pair of openings through which opening one end of said cord may be passed to provide a free end of the cord extending exteriorly of said casing, and a disc within said casing and having notched edges around which the cord is folded to prevent withdrawal of the cord but permitting said free end of the cord to be moved in a direction to reduced the size of said loop.

3. A seal for connecting together the ends of a cord, said seal including a pair of cup-shaped sections adapted to be telescoped to form a casing, one of said sections having a pair of holes for the ends of a cord and the other section having a hole through which one end of the cord

may be pulled, means for locking said sections against separation after being telescoped, and a disc within said casing but unattached thereto, and around opposite edges of which the ends of the cord are extended.

4. A seal as defined in claim 3, and in which the edges of the disc are provided with teeth extending into the cord.

5. A seal as defined in claim 3, and in which the disc has down-turned flanges on opposite edges for spacing the disc from the bottom of the casing, said flanges having curved edges permitting tilting of the disc to more tightly grip one end of the cord and less tightly grip the other end.

6. A seal for securing together two cord ends, including a casing formed of two telescopable cup-shaped sections, one having a pair of opening to receive the cord ends to be secured together, a disc within the casing and having opposite edges across which the end portions of the cord extend, said edges being provided with pointed projections, the difference in the diameter of the disc and the peripheral wall of the casing being such that the projections are forced into the cord and press it against the peripheral wall of the inner casing section when the casing is closed.

References Cited in the file of this patent

UNITED STATES PATENTS

548,318	Koch	Oct. 22, 1895
721,926	Tyden	Mar. 3, 1903
968,665	Humphrey	Aug. 30, 1910
1,605,638	Baruch	Nov. 2, 1926