

E. J. BROOKS.

SNAP SEAL.

APPLICATION FILED JULY 22, 1912.

1,038,082.

Patented Sept. 10, 1912.

Fig. 1.

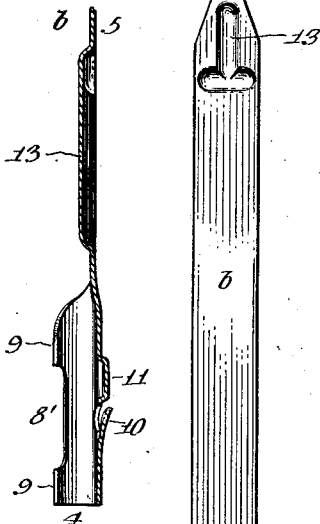


Fig. 2.

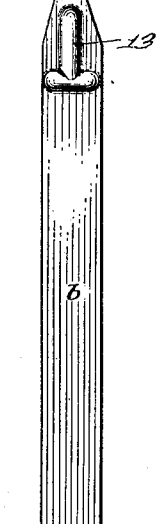


Fig. 3.

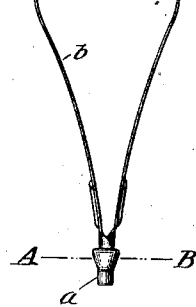


Fig. 4.

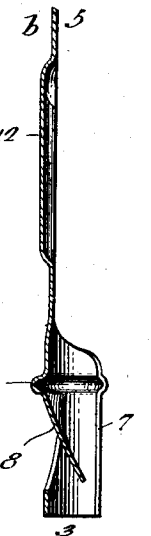


Fig. 6.

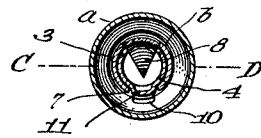
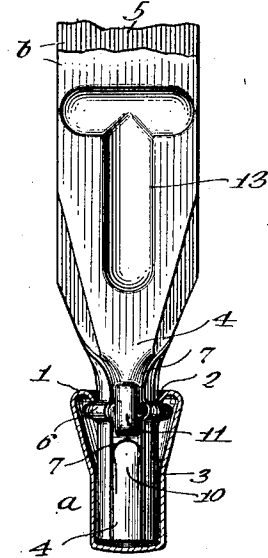


Fig. 7.



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UNITED STATES PATENT OFFICE.

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SNAP-SEAL.

1,038,082.

Specification of Letters Patent.

Patented Sept. 10, 1912.

Application filed July 22, 1912. Serial No. 710,834.

To all whom it may concern:

Be it known that I, EDWARD J. BROOKS, a citizen of the United States of America, and a resident of East Orange, in the State of New Jersey, have invented a new and useful Improvement in Snap-Seals, of which the following is a specification.

This invention relates, in common with previous improvements, to self-fastening seals, or "snap seals" as they are commonly termed, for use, as substitutes for lead and wire seals and other press-fastened or press-fastenable sealing devices, to secure the doors of railway freight cars and for other like purposes. Examples of such snap seals are set forth in my previous specifications forming part of United States Letters Patent No. 1,017,950, patented February 20, 1912, No. 1,030,457, patented June 25, 1912, and other Letters Patent therein referred to.

The improved snap seal, in common with those patented February 20 and June 25, 1912, is composed of a one-part shackle of sheet metal the ends of which are inseparably interlocked with each other in the form of tubes one within the other within a bulb-shaped sheet-metal seal part which latter may be and preferably is also of one piece, and within which one end of the shackle is preliminarily fastened at the factory, so that one end only of the shackle is snap fastened at the sealing operation.

The present invention consists in an additional improvement, hereinafter particularly described and claimed, and in an improved snap seal embodying this improvement.

In making such seals I have discovered that the shackles may be bent up from narrow sheet-metal strips, and that the seal part may be very small as compared with those represented in said Letters Patent No. 1,017,950 and No. 1,030,457; the round shape of the seal part in cross section being preferably and conveniently retained. In the shackle so bent up there is an open longitudinal space between the edges of the metal in the outer or sheath-end tubes; and the leading object of the present invention is to utilize this opening as part of a supplemental fastening for the purpose of preventing the disengagement of the snap catch members by twisting the shackle ends.

Other objects will be set forth in the general description which follows.

A sheet of drawings accompanies this specification as part thereof.

Figure 1 is a full-length view of the improved shackle detached; Fig. 2 is a like view showing the other side of the shackle as it leaves the factory with the seal part attached; Fig. 3 is a small scale view representing the improved seal in use as a car-door fastening; Figs. 4 and 5 represent magnified longitudinal sections of the respective shackle ends; Fig. 6 represents a magnified cross section through the fastened seal on the line A—B, Fig. 3; and Fig. 7 represents a magnified section through the seal part on the line C—D Fig. 6, showing the interlocked shackle ends in elevation.

Like reference characters indicate like parts in all the figures.

The improved snap seal is composed of a bulb-shaped seal-part *a* and a flexible shackle *b*, each made of suitable sheet metal in one piece as heretofore; and the improved construction is confined to the shackle *b*. As heretofore the seal part *a* is cup or "vase" shaped and round in cross-section, with its upper edge or lip turned inward and downward and a central round shackle inlet thus formed, as represented respectively at 1 and 2 in Fig. 7; the shackle ends 3 and 4 are tubular and constructed to fit slidably one within the other; the larger or sheath end 3 is preliminarily fastened within the seal part *b* by contracting the latter tightly around it; the other shackle end 4 is snap fastened within the seal part *b* after being passed through a pair of car door staples, *c*, *d*, Fig. 3, or the like; and the shackle ends are connected by a flat body portion 5, which may be provided with any desired lettering or distinguishing marks as shown, for example, in either of said Letters Patent Nos. 1,017,950 and 1,030,457, either embossed or printed as desired; and is adapted to be readily cut through to remove the seal. In the improved snap seal said sheath end 3 of the shackle *b* is constructed with a circumferential embossed bead 6 to cooperate with the downwardly pressing in-turned lip 1 of the seal part, with a conveniently open longitudinal space 7, hereinafter termed its longitudinal opening, between the otherwise adjoining edges of the metal and, in connection with a seal part of small size, a single sufficiently resilient snap catch, 8, projecting downward and inward

diametrically opposite said opening 7. Compare Figs. 1, 5 and 6. The other end, 4, of the improved shackle, insertible slidably into the interior of said sheath end 3, is shown in Figs. 1, 2, 4, 6 and 7, which see. Its longitudinal joint 9 is tightly closed and is crossed by a catch hole 8' which freely admits the matching snap catch 8 in the fastened seal, Figs. 3, 6 and 7. Diametrically opposite said joint 9, this tubular end 3 is provided, by embossing and cutting operations, with a free-ended locking projection 10 projecting longitudinally upward and outward in the fastened seal and fitted to said opening 7 of the sheath end 3, and with a longitudinal guard projection 11 in line with said locking projection. In the fastened seal said locking projection 10 and guard projection 11 project within and through the longitudinal opening 7 of the sheath end 3 of the shackle 6, as shown in Figs. 6 and 7, and effectively resist twisting the shackle ends in relation to each other in attempts to disarrange the catch members, 8, 8', which are relied on for preventing the withdrawal of the snap-fastened shackle end 4. At the ends of the body portion 5, a pair of embossed T-shaped projections 12 and 13 conveniently stiffen those portions of the shackle which are grasped between finger and thumb in manipulating the shackle ends, and facilitate thrusting and twisting them in fastening and testing the respective ends.

The stiffening projections 12 and 13 may obviously be omitted in some cases or may be of other shapes; the improved seal, especially in larger sizes, may have more than one pair of catch members, as shown for example in either of said Letters Patent Nos. 1,017,950 and 1,030,457; and other like modifications will suggest themselves to those skilled in the art.

Having thus described said improvement, I claim as my invention and desire to patent under this specification:

1. In a snap seal comprising a flexible shackle and a shackle-end inclosing seal part, the combination of a tubular shackle end having a catch member and a longitudinal opening, and a tubular shackle end slidably insertible within the shackle end first named and provided with a matching catch member and a locking projection, the latter constructed and arranged to interlock with said longitudinal opening and to resist twisting strains.

2. In a snap seal comprising a flexible shackle and a shackle-end inclosing seal part, the combination of a tubular shackle end having a catch member and a longitudinal opening diametrically opposite said catch member, and a tubular shackle end slidably insertible within the shackle end first named and provided with a matching catch member and a locking projection, the latter constructed and arranged to interlock with said longitudinal opening and to resist twisting strains.

3. In a snap seal comprising a flexible shackle and a shackle-end inclosing seal part, the combination of a tubular shackle end having a catch member and a longitudinal opening, and a tubular shackle end slidably insertible within the shackle end first named and provided with a matching catch member and a free-ended locking projection constructed and arranged to project outward within said longitudinal opening.

4. In a snap seal comprising a flexible shackle and a shackle-end inclosing seal part, the combination of a tubular shackle end having a catch member and a longitudinal opening, and a tubular shackle end slidably insertible within the shackle end first named and provided with a matching catch member, a free-ended locking projection constructed and arranged to project upward and outward within said longitudinal opening and a rigid guard projection above said locking projection and in line therewith.

5. An improved snap seal having, in combination, a vase-shaped seal part of sheet metal the lip of which is turned inward and downward, and a flexible shackle bent up from a sheet-metal strip, said shackle being constructed with a tubular sheath end having a circumferential bead which coöperates with said lip to preliminarily fasten said sheath end within the seal part, a subjacent internally projecting snap catch and a diametrically opposite longitudinal opening, and a tubular shackle end, slidably insertible into said sheath end, having a catch hole matching said snap catch and a twist-resisting locking projection constructed and arranged to interlock with said longitudinal opening of the sheath end of the shackle, substantially as hereinbefore specified.

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Witnesses:

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