E. J. BROOKS.

SNAP SEAL.

APPLICATION FILED NOV. 19, 1915.

1,170,140.

Patented Feb. 1, 1916.

Fig.1. *Fig.2.* *Fig.3.* *Fig.4.*

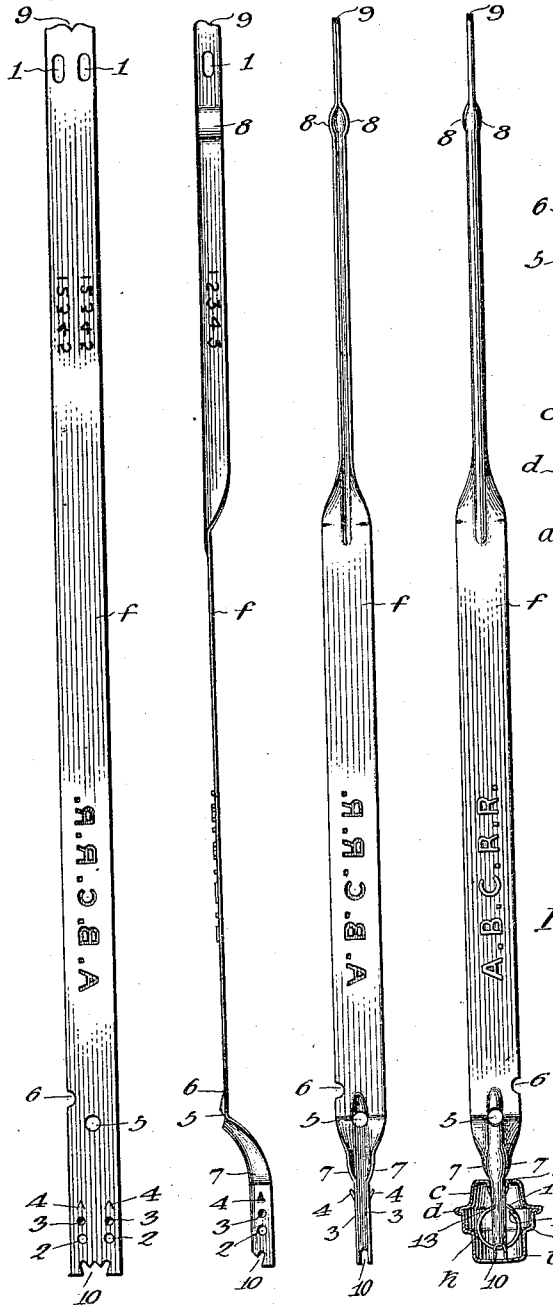


Fig.5. *Fig.6.*

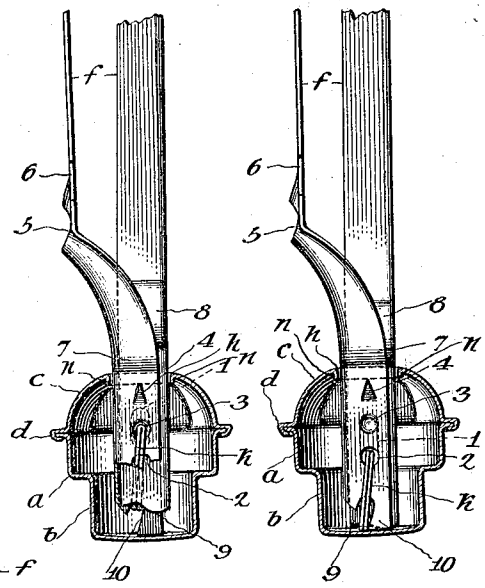


Fig.7. *Fig.8.*

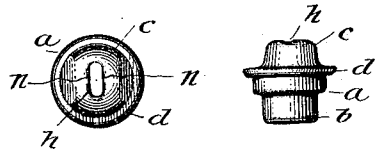


Fig.9. *Fig.10.*

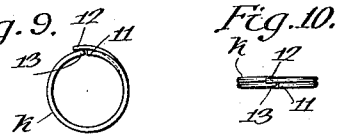
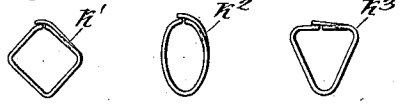


Fig.11. *Fig.12.* *Fig.13.*



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SNAP-SEAL.

1,170,140. Specification of Letters Patent. Patented Feb. 1, 1916.

Application filed November 19, 1915. Serial No. 62,318.

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 without the aid of tools in securing freight car doors and other like purposes. Examples of such snap seals are set forth in my Patents #1,017,950 and 1,026,943 and other patents referred to therein.

The present invention consists in certain novel combinations of parts and in an improved snap-seal of the lock ring type embodying said combinations as a whole, as hereinafter particularly described and claimed.

The present invention has as its leading object the production of a simple and perfectly secure seal of the type mentioned, embracing improvements in the containing member or bulb, the shackle and the locking ring.

A sheet of drawings accompanies this specification as part thereof in which like reference characters denote like parts throughout.

Figure 1 is a face view of a shaped shackle prior to bending; Fig. 2 is an edge view of the shaped and folded shackle; Fig. 3 is a face view of Fig. 2; Fig. 4 is a back view of the folded shackle with one end secured in the container member and the locking ring in its preliminary position previous to sealing; Fig. 5 is a sectional view of the container member with one end of the shackle secured therein and the other end in contact relation with the locking ring just prior to pushing same into locking position, which latter position is shown in the similar section of Fig. 6; Figs. 7 and 8 are top and side views of the container member; Figs. 9 and 10 are face and top edge views of the improved locking ring and Figs 11, 12 and 13 show modified general forms of the improved locking ring.

Referring to the drawing, the improved containing member *a* comprises a top member *c* having a shackle admitting aperture in its top *h* with inwardly projecting lips *n n* and a bottom part *b*, the two parts being circumferentially joined as at *d*. The improved shackle *f* has its extremities notched as at 9 and 10 to produce ring engaging notches, and in each end duplicate holes and slots 2 and 1 respectively adapted to coincide in the sealing operation and receive a locking ring. In one end indentations 3 3 are provided adapted to receive the sprung ends of a locking ring as shown in Fig. 4, in the same end above said indentations are two projecting horns 4 4 adapted to coact with the lips *n n* of the containing member to secure said shackle end in said container and above these are weakening notches 5 6; on both shackle ends are transverse enlargements 7 8 adapted to coincide and close and guard the outer side of the shackle admitting aperture in the container, the enlargement 7 also operating to secure that shackle end securely in the container. The improved lock ring *k* is constructed of spring wire doubled upon itself so that one free end 11 abuts the folded end 13 and the other free end 12 passes it as shown in Figs. 9 and 10. This ring may be round as in Fig. 9, or square, oval or triangular as in Figs. 11, 12 and 13 or any other suitable shape.

The improved seal as it leaves the factory ready for use comprises the parts as above described, one end of the shackle longitudinally bent and shaped as shown being permanently secured in the container member by the interlocking of the horns 4 4 the lips *n n* and the enlargement 7 and forming a sheath adapted to receive the other longitudinally folded end when presented endwise. Within the container member the improved locking ring *k* is set with its ends sprung into the indentations 3 3 of the fixed shackle end and its far side in the ring engaging notch 10. The seal in this condition is ready for use and in operation the shackle having been passed through the staples or pin to be sealed the free end is thrust endwise into the other sheath end and container member. In the course of its entrance the ring engaging notch 9 in its extremity comes in contact with the far side of the locking ring and carries same with it downward until the free ends of the ring come in contact with the locking apertures 1 and 2 which at this time are coincident and snap through same thereby locking both shackle ends.

It will be noted that the improved form

of the shackle admitting aperture in combination with the transverse enlargements of the shackle ends interact to effectually seal the container member against the entrance of any tools while the improved ring of doubled wire one free end abutting and the other passing the folded end makes a seamless ring which will sit true in its preliminary position and will snap into secure locking position without fail. The shackle is adapted to be embossed with the name or initials of the railroad or firm using same and may be further marked with a serial number or other marks for identification as may be desired.

Having thus fully disclosed my invention, I claim:—

1. A snap seal having in combination a bulb shaped containing member closed except for a small shackle admitting aperture in one end, a flexible shackle with longitudinally folded ends adapted to fit snugly the one within the other, means for securing the outermost shackle end permanently within the containing member, means on the shackle ends for guarding the entrance aperture of the containing member, coincident locking apertures in each of the shackle ends, indentations on either side of the outermost shackle end above the locking apertures adapted to receive the sprung ends of a locking ring, and a locking ring of spring wire doubled upon itself so that one free end abuts the folded end and the other passes it.

2. A snap seal having in combination a bulb shaped containing member having a shackle entrance aperture at one end, a flexible shackle the ends of which are longitudinally folded and adapted to fit snugly the one within the other having means for securing the outermost end in the containing member, coincident locking apertures in each end adapted to receive a locking ring, coincident transverse enlargements adapted to guard the shackle entrance aperture and secure the outer shackle end in the containing member, indentations in the outer sides of the outer end above the locking apertures adapted to receive the sprung ends of a locking ring, a ring engaging notch in the extremity of each shackle end and a locking ring of spring wire doubled upon itself so that one free end abuts the folded end and the other passes it.

3. The combination in a snap seal of a two part containing member adapted to be circumferentially joined having a small shackle admitting aperture in one end with inwardly projecting lips, a flexible shackle the ends of which are folded longitudinally and adapted to fit the one within the other through endwise engagement, the outermost end having weakening notches, outwardly projecting horns adapted to engage the lips of the receiving aperture and indentations adapted to receive the sprung ends of a locking ring, both ends having transverse enlargements adapted to coincide and guard the outer side of the entrance aperture, locking apertures adapted to coincide and receive a locking ring and ring engaging notches in their extremities, and a locking ring of spring wire doubled upon itself so that one free end abuts the folded end and the other passes it.

4. A snap seal having in combination a containing member constructed with a shackle admitting aperture having inwardly projecting lips, a flexible shackle formed from a rectangular strip folded longitudinally at each end and provided with transverse enlargement adapted to engage and guard the outer side of the entrance aperture and outwardly projecting horns adapted to engage the inwardly projecting lips of said aperture and preliminarily secure one end of the shackle within the containing member and a locking ring of spring wire doubled upon itself so that one free end abuts the folded end and the other passes it, adapted to interlock with the shackle ends in the sealing operation; said preliminarily fastened end being a sheath end and the other longitudinally folded end being adapted to be inserted endwise into said sheath end and the two shackle ends having respectively duplicate holes and slots to admit the ends of the locking ring and ring engaging notches on their extremities, all as hereinbefore specified.

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Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."