E. J. BROOKS.

SNAP SEAL.

APPLICATION FILED AUG. 16, 1911.

1,009,277.

Patented Nov. 21, 1911.

Fig. 1.

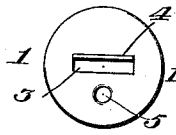


Fig. 7.

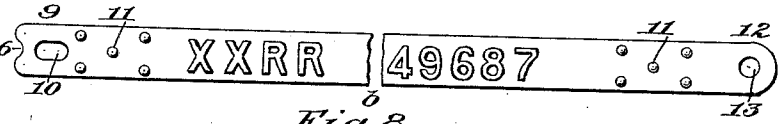


Fig. 2.

Fig. 8.

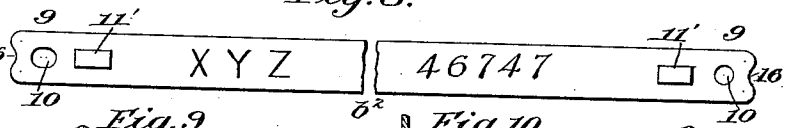


Fig. 3.

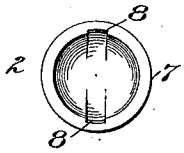


Fig. 9.

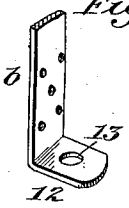


Fig. 10.

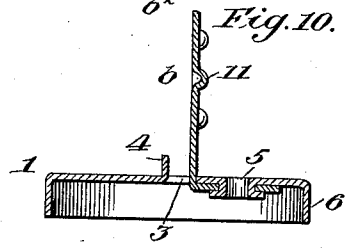


Fig. 11.

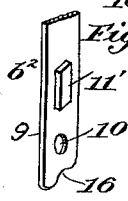


Fig. 4.

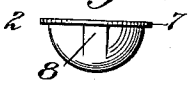


Fig. 12.

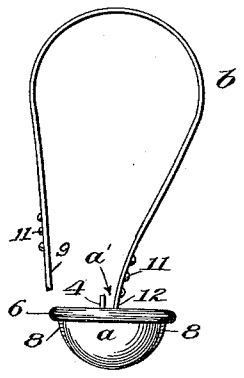


Fig. 13.

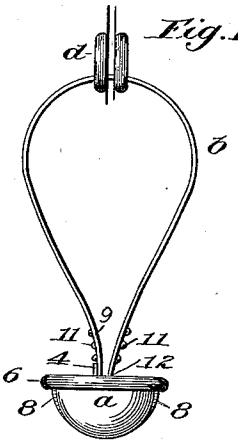


Fig. 5.

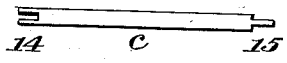


Fig. 6.

Fig. 15.

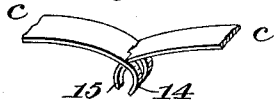
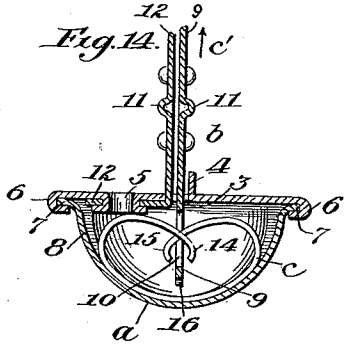


Fig. 14.



Witnesses:

M. E. Smoot.

H. F. Ruth

Inventor:

Edward J. Brooks

by his attorney

L. L. Ewin

UNITED STATES PATENT OFFICE.

EDWARD J. BROOKS, OF EAST ORANGE, NEW JERSEY.

SNAP-SEAL.

1,009,277. Specification of Letters Patent. **Patented Nov. 21, 1911.**

Application filed August 16, 1911. Serial No. 644,317.

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. 831,825, dated September 25, 1906, and previous Letters Patent therein referred to, and No. 997,234, dated July 4, 1911. The present invention is more particularly additional to the improvements in snap seals set forth in said specification forming part of Letters Patent No. 831,825 and No. 997,234, which relate in common to what may be termed the bulb type of snap seals; especially that of the former which relates to those seals in which only one end of the shackle is snap fastened.

The present invention consists in certain novel combinations of parts, in snap seals of said bulb type; and in an improved snap seal in which only one end of the shackle is snap fastened embodying said combinations as a whole, as hereinafter particularly described and claimed.

The leading object of this invention is to provide each of the improved snap seals with a distinct snap-catch member adapted to fasten easily and to be more securely tightened by attempts to unfasten the seal.

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

A sheet of drawings accompanies this specification as part thereof.

Figures 1 and 2 are respectively top and edge views of the cap member of the bulb-shaped seal part; Figs. 3 and 4 are like views of its body member; Figs. 5 and 6 show respectively the snap catch member flat and in its normal and interlocking shapes; Figs. 7 and 8 are face views of two shackles, the latter illustrating certain modifications; Fig. 9 is a perspective view of one end of the shackle Fig. 7, as preliminarily bent; Fig. 10 is a magnified sectional view showing this shackle end preliminarily attached to said cap-member; Fig. 11 is a perspective view of one end of the modified shackle, Fig. 8; Fig. 12 is an elevation of the improved seal as it leaves the factory; Fig. 13 is a like view of the same applied and fastened; Fig. 14 represents a magnified section through the bulb and shackle ends of the fastened seal; and Fig. 15 is a fragmentary perspective view of the interlocked ends of the snap catch.

Like reference characters refer to like parts in all the figures.

The improved snap seal comprises a bulb-shaped seal part, *a*, and a flexible shackle, *b* or b^2; the former inclosing a distinct snap-catch member *c*. The seal part *a* is composed of cap and body members, 1 and 2, stamped from suitable sheet metal, which may be "scrap tin." These are represented respectively, as they leave the stamping machine, by Figs. 1–2 and Figs. 3–4, which see. The cap member 1 is stamped with a central inlet slot, 3, of suitable proportions to freely admit both ends of the shackle *b* or b^2, and preferably and conveniently with an upturned guide projection, 4, formed from the metal cut from the whole of said slot, a downwardly projecting eyelet collar, 5, and a circumferential joint-forming flange, 6. The body member 2 is stamped with a circumferential joint-forming flange, 7, and with a pair of groove-forming hollow projections, 8; the latter having open ends at the top of said body member before the seal part members are united; and being loosely fitted to the snap-catch member *c*, in its normal shape represented in full lines by Fig. 6.

The shackles *b* and b^2, in common, are adapted to be cut from "ribbon stock" such as the "thin and polished strap iron" described in said Letters Patent No. 997,234, but may be cut from tin plate if preferred, and are provided with snap fastening ends, 9, each of which is rounded and centrally indented; a catch-admitting hole, 10, in each fastening end; embossed end guards, 11 or 11′; and suitable distinguishing marks, represented by "XXRR—49687," Fig. 7, and "XYZ—46747," Fig. 8. The end guards may be of the form shown in said Letters Patent, No. 997,234, as represented at 11, or of an approximately rectangular form as represented at 11′ in Figs. 8 and 11; and the distinguishing marks may be embossed as represented in Fig. 7, or printed as rep-

resented in Fig. 8. The shackle *b*, Fig. 7, has an attaching end, 12, with a hole, 13, fitted to said eyelet collar 5 of the cap member 1; by which collar this end of the shackle, after it is bent at right angles as represented by Fig. 9, is preliminarily attached as represented by Fig. 10, so as to be thus independently and securely fastened within the seal part *a*. The shackle b^2 has snap-fastening ends 9 at both extremities.

The snap catch member *c* is adapted to be cut from narrow ribbon stock of suitable resiliency and lightness. In severing the required length for each one, its respective ends 14 and 15 are bifurcated and provided with a matching central projection, and the blank is then permanently bent and set in the normal (heart) shape shown in full lines in Fig. 6 and more clearly represented in Fig. 14, with its ends recurved and interlocked as more clearly shown in Fig. 15.

The finished snap catch member *c* as above described is dropped into the body member 2 of the seal part *a* so as to be located within and supported by the grooves formed by said hollow projections 8. The cap member 1, having the shackle *b* attached as in Fig. 10, is then applied to said body member so that the inlet slot 3 and groove-forming projections 8 are at right angles to each other, the slot 3 crossing the seat of the catch member *c*, and a secure circumferential joint is then formed by means of said flanges 6 and 7 in customary manner. The seal leaves the factory in this condition as represented by Fig. 12. It is applied to a pair of car door staples, *d*, or their equivalent, as represented by Fig. 13, and the sealing operation is concluded, by inserting the snap-fastening end 9 into the inlet slot 3 with the aid of the guide projection 4, as represented by the arrow *a'*, Fig. 12; and pressing the shackle end downward, endwise, as represented by the arrow *b'*, Fig. 6, against the resiliency of the catch member *c*, until the ends of the latter separate as represented in dotted lines in Fig. 6, and are reached by the catch-admitting hole 10; through which they instantly spring, causing the catch member *c* to resume its normal shape in the fastened seal as in Fig. 14. The central indentation 16 (Figs. 7, 8 and 11) in the snap-fastening end 9 prevents the displacement of the catch member *c* or shackle end with reference to each other at the sealing operation, and this insures the alinement of the catch hole 10 with the catch extremities 14 and 15. The latter not only interlock the catch ends, but owing to their recurved shape they interlock with the snap-fastened shackle end 9, when the latter is pulled, as represented by the arrow *c'*, Fig. 14, and render it impossible to unfasten the seal by inserting a thin blade or the like through the inlet slot 3 and attempting to separate the catch ends while the snap-fastened shackle end is being so pulled.

It will be understood that when the shackle construction shown at b^2 is used, the eyelet collar 5 is not used and may be omitted, both shackle ends being snap-fastened; 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. The combination, in a snap seal, of a bulb-shaped seal part having an inlet slot in its top and a subjacent snap-catch seat at right angles to said slot, a normally heart-shaped snap-catch member of resilient material located by said seat and having ends crossed beneath said inlet slot and respectively bifurcated and provided with a matching central projection, their extremities being recurved to resist unfastening, and a flexible shackle one end of which is constructed with a catch-admitting hole and adapted to be snap-fastened within said seal part by said catch, the other shackle end being secured in any approved way.

2. The combination, in a snap seal, of a bulb-shaped seal part having an inlet slot in its top and a subjacent snap-catch seat at right angles to said slot, a normally heart-shaped snap-catch member of resilient material located by said seat and having ends crossed beneath said inlet slot and respectively bifurcated and provided with a matching central projection, their extremities being recurved to resist unfastening, and a flexible shackle one end of which is constructed with a central alining depression in its extremity and with a catch-admitting hole and adapted to be snap-fastened within said seal part by said catch, the other shackle end being secured in any approved way.

3. The combination, in a snap seal, of a bulb-shaped seal part composed of cap and body members permanently united with each other by a circumferential joint and constructed respectively with a central inlet slot in its top and subjacent groove-forming projections open at the top of the body member before the cap and body-member are united and located at right angles to said slot, a normally heart-shaped catch member of narrow ribbon metal located within the grooves formed by said projections and having ends crossed beneath said slot, and a flexible shackle, one end of which is constructed with a catch-admitting hole and adapted to be snap-fastened within said seal part by said catch; the other shackle end being secured in any approved way.

4. The combination, in a snap-seal, of a bulb-shaped seal part having an inlet slot in its top, a guide projection formed by the upturned metal from the whole of said slot

at one side thereof and a downwardly projecting eyelet collar on the other side of the slot, a flexible shackle one end of which is apertured, bent at right angles and preliminarily attached within the seal part by means of said collar, and a snap-catch member within the seal part adapted to securely fasten the other shackle end at the sealing operation.

5. An improved snap seal composed of a bulb-shaped seal part of sheet metal having cap and body members permanently united with each other by interlocked circumferential joint flanges, said cap member being constructed with a central inlet slot, a guide projection formed by the upturned metal from the whole of said slot and a downwardly projecting eyelet collar on the opposite side of said slot, and said body member having groove-forming projections at right angles to said slot, a flexible shackle one end of which is apertured and bent at right angles and preliminarily attached by means of said collar and the other end is apertured and provided with an alining end depression, and means for snap-fastening the shackle end last named within the seal part at the sealing operation consisting of a normally heart-shaped snap-catch member of narrow ribbon metal located within the seat formed by said groove-forming projections and having its ends crossed beneath said inlet slot, substantially as hereinbefore specified.

EDWARD J. BROOKS.

Witnesses:
ARTHUR C. HINCKLEY,
F. S. MORSE.