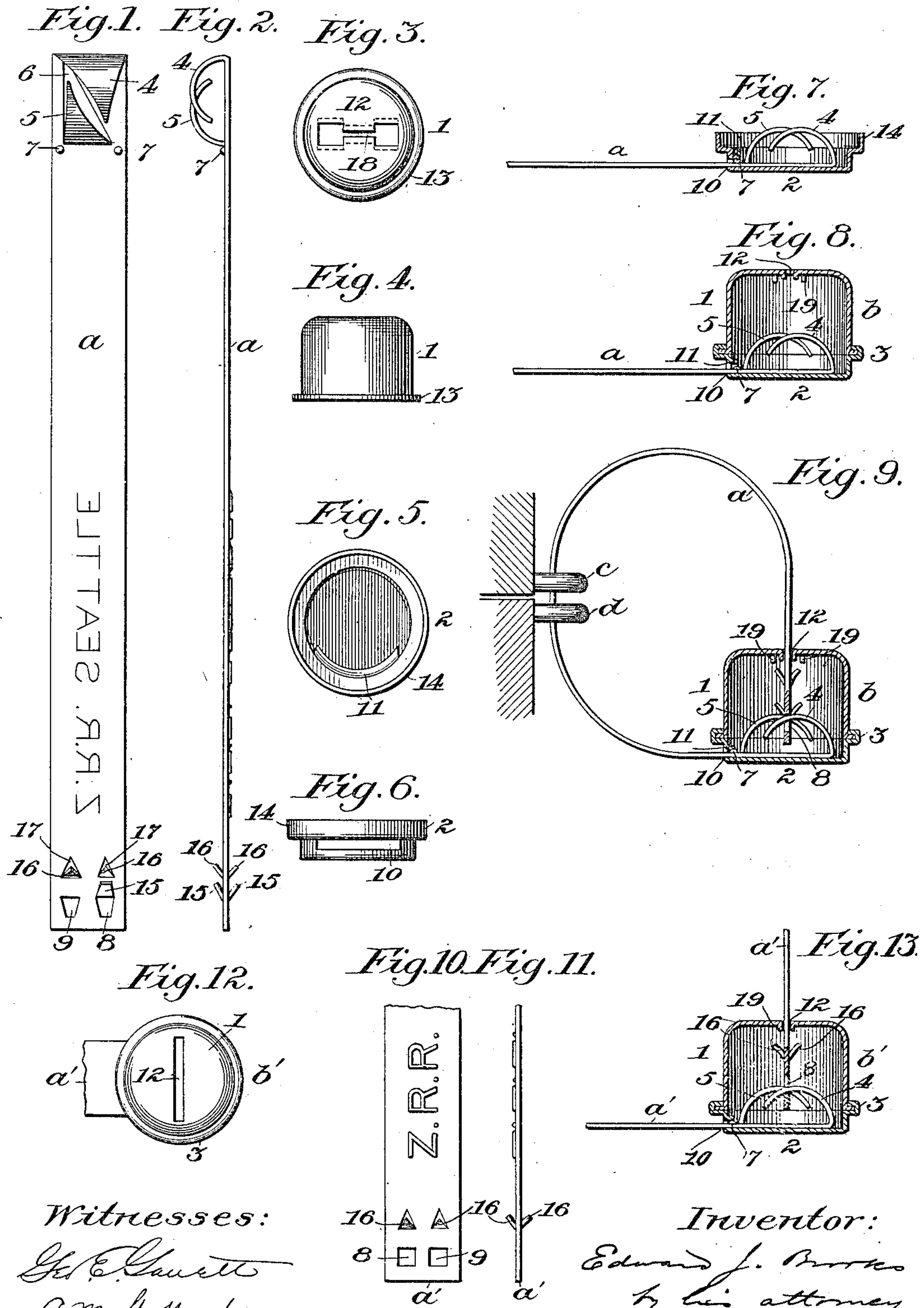


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E. J. BROOKS.
SNAP SEAL.

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Witnesses:

Geo. E. Lavett
A. M. Spofford

Inventor:

Edward J. Brooks
by his attorney
R. R. Ewin

UNITED STATES PATENT OFFICE.

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

SNAP-SEAL.

No. 831,825.

Specification of Letters Patent.

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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 to self-fastening seals or "snap-seals," as they are herein termed, adapted for use as substitutes for press-fastened seals to secure the doors of railway freight-cars and for other like purposes.

Previous forms of such snap-seals are set forth in my specification forming part of United States Letters Patent No. 796,109, dated August 1, 1905, and previous specifications therein referred to.

The leading object of the present invention is to produce a highly-secure seal composed exclusively of the customary flexible shackle and what has ordinarily been the shell or bulb of the seal part, the improved seal being also adapted to be made wholly of sheet metal.

The invention consists in the improved snap-seal and in certain novel combinations of parts therein, as hereinafter set forth and claimed.

A sheet of drawings accompanies this specification as part thereof.

Figures 1 and 2 are respectively a back view and an edge view of the combined shackle and snap part of a preferred species of the improved seal. Figs. 3 and 4 are respectively top and side views of the body piece of the seal part. Figs. 5 and 6 are respectively top and edge views of the cap-piece of the seal part. Fig. 7 is a sectional edge view showing the parts as put together preliminary to uniting the pieces of the seal part. Fig. 8 is a like view showing the seal part completed. Fig. 9 is a like view of the fastened seal applied to a pair of car-door staples. Figs. 10 and 11 are respectively face and edge views of one end of a modified shackle. Fig. 12 is a top view of a modified seal part, and Fig. 13 is a sectional view showing a fastened seal embodying these modifications.

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

The improved snap-seal, in either of its forms is composed as a whole of a flexible sheet-metal shackle *a* or *a'* and a hollow sheet-metal seal part *b* or *b'*, the latter being

composed of two cup-shaped pieces 1 and 2, which in the finished seal are permanently united with each other by a circumferential joint 3 in a customary manner.

The respective ends of the shackle *a* or *a'* are adapted to interlock with each other within the seal part, as in Figs. 9 and 13.

The snap end is of one and the same construction in both species, including a pair of curved triangular catches 4 and 5, one of them formed by the extremity of the shackle and the other cut from a corresponding opening 6 in the shackle and the two so shaped and bent as to cross each other, as shown in Figs. 2, 7, 8, 9, and 13, and to interlock with the catch end 2 of the shackle from opposite sides, as shown in the two figures last named, Figs. 9 and 13.

Adjacent to the heel end of the inner catch 5 the shackle *a* or *a'* is provided with a pair of embossed guards 7 to prevent any tampering with this catch.

The other end of the shackle *a* or *a'* is provided in both species with a pair of catch-holes 8 and 9 to interlock with the catches 4 and 5, respectively, in the manner illustrated by Figs. 9 and 13.

The shackle *a* or *a'* may be provided with any desired lettering or like distinguishing marks, as illustrated by the lettering "Z. R. R. Seattle" in embossed characters.

The seal part *b* or *b'* is further constructed in each of the species with a slot 10 in the edge of the cap-piece 2 and an inwardly-projecting lip 11, formed from the partly-severed metal from within said slot, and with an inlet-hole 12 in the top of the body-piece 1.

The several pieces are put together in the manner illustrated by Figs. 3 to 8, inclusive—that is to say, the respective pieces 1 and 2 of the seal part *b* or *b'* are originally formed with flanges 13 and 14, Figs. 3 to 7, adapted to be interlocked with each other to form the seam 3 and with the slot 10, &c., above named. The snap end of a completed shackle *a* or *a'* is then threaded through the slot 10 of the cap-piece 2 of the seal part from within outwardly, and the guards 7, adjacent to the catch 5, are drawn beneath said flange 11 within the cap-piece, as in Fig. 7. The body-piece 1 of the seal part is then superposed, and the circumferential seam 3 between the two pieces of the seal part is closed, thus completing the seal for the market or for use.

In applying the seal the free end of the shackle *a* or *a'* is passed through a pair of car-

door staples *c* and *d*, Fig. 9, or the like and is then inserted into the inlet-hole 12 in the top of the seal part *b* or *b'* and pressed endwise into the seal part until the snap of the catches 4 and 5 attests the fact that the shackle end has become interlocked with the concealed catches. The seal is thus permanently fastened and is removed by cutting the shackle, as is customary with this class of seals.

10 In the species illustrated by Figs. 1 to 9, inclusive, the shackle *a* is provided with two pairs of guard-catches 15 and 16, cut, respectively, from the catch-holes 8 and 9 and from another pair of holes 17 and bent so as to project on opposite sides of the shackle and obliquely toward the snap end, and the inlet-hole 12 in the body-piece 1 of the seal part *b* is made of a peculiar shape, as shown in Fig. 3, with a contracted middle portion 18 barely open enough to admit one thickness of the shackle metal, rendering it next to impossible to get any flat tool into the seal part at either side of the fastened shackle *a* in attempts to tamper with the snap-catches 4 and 5.

25 Should a tool of any kind be inserted, the guard-catches 15 and 16 will interfere with its manipulation to free either catch from the corresponding catch-hole and will also assist to prevent the withdrawal of a partially-released shackle end.

30 In the species illustrated by Figs. 10 to 13, inclusive, the guard-catches projecting from the catch-holes 8 and 9 are omitted, and the inlet-hole 12 of the seal part *b'* is of the customary simple form. The guard-catches 16 are preferably retained.

35 In both species the customary inwardly-projecting lips 19 at the sides of the inlet-hole 12 interact with the guard-catches 15 and 16 or 16 to resist the withdrawal of the shackle end by pulling it in attempts to tamper with the seal, and any tampering with the snap-catches through the slot 10 in the cap-piece is prevented by said guards 7, which are conveniently so located as to prevent inserting a tool at either edge of the otherwise exposed catch 5.

40 The seal part *b* or *b'* may, if preferred, be of the construction represented by Fig. 8 in my drawings forming part of the Patent No. 524,974, or Figs. 4 to 9, inclusive, of No. 696,002, or Fig. 7 of No. 719,642.

45 The modifications illustrated by Figs. 10 to 13, inclusive, may in practice be embodied in one and the same seal, as indicated by Fig. 13, or in separate seals, and other like modifications will suggest themselves to those skilled in the art.

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

60 1. A snap-seal composed of a flexible shackle of sheet metal having a pair of snap-catches at one end projecting at one side and crossing each other and having catch-holes at

its other end, and a hollow seal part within which the shackle end first named is secured at the factory and which is provided with an inlet-hole to admit the other shackle end in a direction perpendicular to the plane of said shackle end first named in the act of fastening the seal by interlocking said catches and catch-holes with each other within the seal part.

70 2. In a snap-seal, a flexible shackle of sheet metal having a pair of snap-catches at one end projecting lengthwise of the shackle at one side in curves which cross each other and having catch-holes at its other end, in combination with a hollow seal part within which the shackle end first named is secured at the factory and which is provided with an inlet-hole to admit the other shackle end in the act of fastening the seal by interlocking said catches and catch-holes with each other within the seal part.

75 3. In a snap-seal, a flexible shackle of sheet metal having a pair of triangular snap-catches at one end integral with the body of the shackle projecting lengthwise of the shackle at one side in curves which cross each other, one of said catches being formed by the extremity of the shackle and the other by the partly-severed metal from within a hole in the shackle, and having catch-holes at its other end, in combination with a hollow seal part, within which the shackle end first named is secured at the factory and which is provided with an inlet-hole to admit the other shackle end in the act of fastening the seal by interlocking said catches and catch-holes with each other within the seal part.

80 4. In a snap-seal, a flexible shackle of sheet metal having a pair of triangular snap-catches at one end integral with the body of the shackle projecting lengthwise of the shackle at one side in curves which cross each other, one of said catches being formed by the extremity of the shackle and the other by the partly-severed metal from within a hole in the shackle, and catch-holes at the other end of the shackle, in combination with a hollow seal part composed of two cup-shaped pieces of sheet-metal united with each other by a circumferential seam and provided respectively with a slot through which the shackle end first named extends from within outwardly, and with an inlet-hole for the admission of the other shackle end in the act of fastening the seal by interlocking said catches and catch-holes with each other within the seal part.

85 5. In a snap-seal, a flexible shackle of sheet metal having a pair of triangular snap-catches at one end integral with the body of the shackle projecting lengthwise of the shackle at one side in curves which cross each other, one of said catches being formed by the extremity of the shackle and the other by the partly-severed metal from within a hole

in the shackle, embossed guards on the shackle at the heel end of the catch last named, and catch-holes at the other end of the shackle, in combination with a hollow seal part composed of two cup-shaped pieces of sheet metal united with each other by a circumferential seam and provided respectively with a slot through which the shackle end first named extends from within outwardly and a flange formed by the partly-severed metal from within said slot to interact with said guards, and with an inlet-hole for the admission of the other shackle end in the act of fastening the seal by interlocking said catches and catch-holes with each other within the seal part.

6. In a snap-seal, a flexible shackle of sheet metal having a pair of snap-catches at one end projecting lengthwise of the shackle at one side in curves which cross each other and having catch-holes at its other end, in combination with a hollow seal part within which the shackle end first named is secured at the factory and which is provided with an inlet-hole to admit the other shackle end in the act of fastening the seal by interlocking said catches and catch-holes with each other within the seal part, the shackle end first named being further provided with guard-catches to prevent tampering with the snap-catches and to aid in resisting the withdrawal of the shackle end.

7. In a snap-seal, a flexible shackle of sheet metal having a pair of snap-catches at one end projecting lengthwise of the shackle at one side in curves which cross each other and having catch-holes at its other end, in combination with a hollow seal part within which the shackle end first named is secured at the factory and which is provided with an inlet-hole to admit the other shackle end in the act of fastening the seal by interlocking said catches and catch-holes with each other within the seal part, the shackle end last

named being further provided with guard-catches formed by the partly-severed metal from within said catch-holes to prevent tampering with the snap-catches and to aid in resisting the withdrawal of the shackle end.

8. In a snap-seal, a flexible shackle of sheet metal having a pair of snap-catches at one end projecting lengthwise of the shackle at one side in curves which cross each other and having catch-holes at its other end, in combination with a hollow seal part within which the shackle end first named is secured at the factory and which is provided with an inlet-hole to admit the other shackle end in the act of fastening the seal by interlocking said catches and catch-holes with each other within the seal part, and inwardly-projecting lips formed from the partly-severed metal from within said inlet-hole, the shackle end first named being further provided with guard-catches to prevent tampering with the snap-catches and to interact with said lips in resisting the withdrawal of the shackle end.

9. In a snap-seal, a flexible shackle of sheet metal having a pair of snap-catches at one end projecting lengthwise of the shackle at one side in curves which cross each other and having catch-holes at its other end, in combination with a hollow seal part within which the shackle end first named is secured at the factory and which is provided with an inlet-hole contracted at mid-length to admit the other shackle end in the act of fastening the seal by interlocking said catches and catch-holes with each other within the seal part and to prevent tampering with the snap-catches, substantially as hereinbefore specified.

EDWARD J. BROOKS.

Witnesses:

ELLEN J. BROOKS,
ELINOR BROOKS.