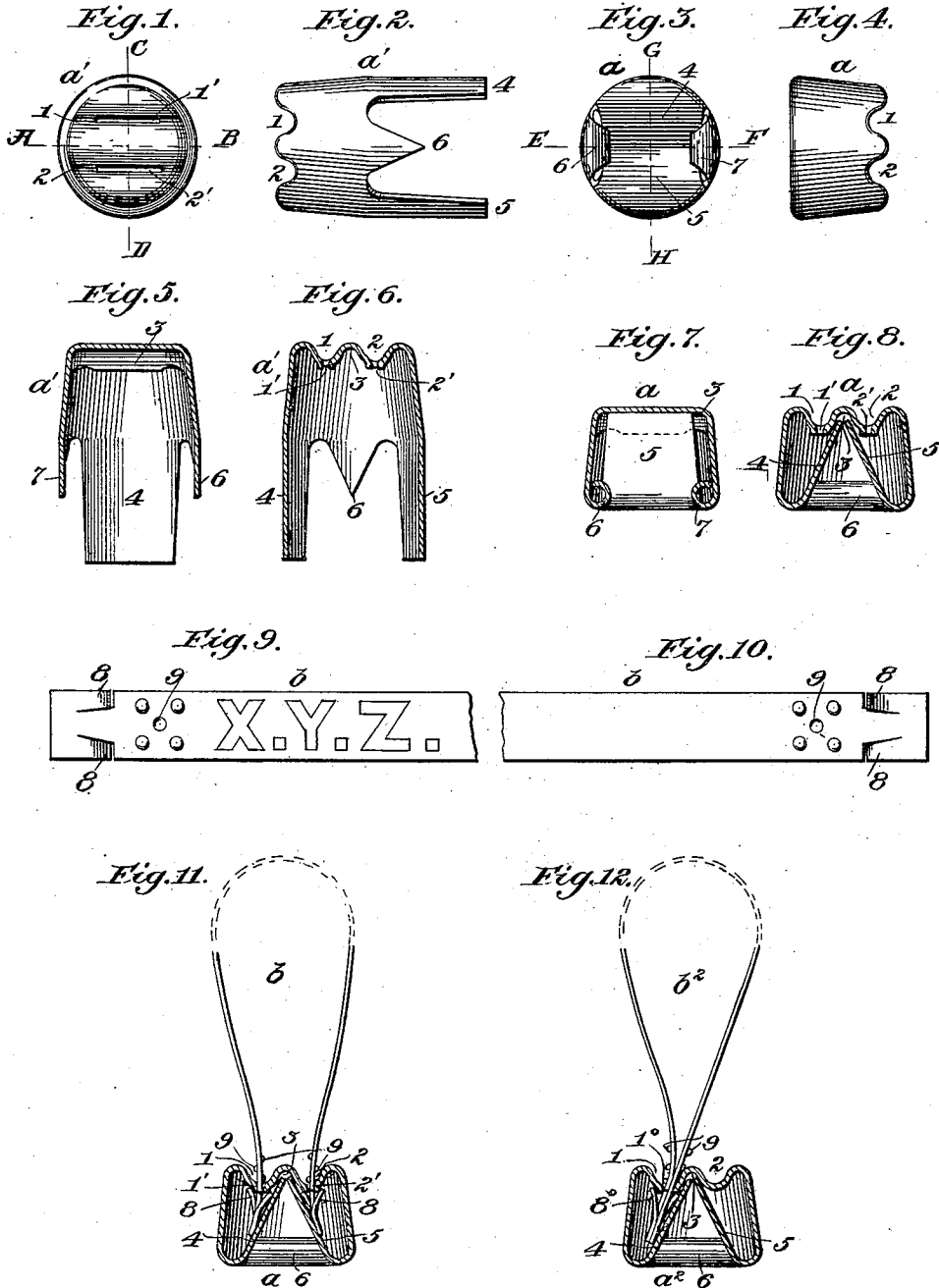


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SNAP SEAL.

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SNAP-SEAL.

988,169.

Specification of Letters Patent.

Patented Mar. 28, 1911.

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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, 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. 679104, dated July 23, 1901, and previous Letters Patent therein referred to, and No. 923014, dated May 25, 1909. The present invention is more particularly additional to the improvements in snap seals set forth in my specifications forming part of said Letters Patent No. 679104 and No. 923014, which relate respectively to snap seals having sheet-metal shackles both ends of which are provided with snap catches; and to snap seals made wholly of sheet-metal, with the seal part and shackle each in one piece.

The leading object of the present invention is to produce a safe snap seal of the type set forth in said specification forming part of said Letters Patent No. 679104, with a one-piece seal part adapted to be made by automatic machinery at practically a single operation.

The invention consists in the improved one-piece seal part hereinafter described, and in each of certain novel combinations of parts including such seal part, as hereinafter set forth and claimed.

A sheet of drawings accompanies this specification as part thereof.

Figures 1 and 2 are respectively end and side views of the cup-shaped blank of the improved seal part ready to be closed; Figs. 3 and 4 are respectively a view of the opposite end, and a side view of the closed or finished seal part; Figs. 5 and 6 are sections respectively on the lines A—B and C—D, Fig. 1; Figs. 7 and 8 are sections respectively on the lines E—F and G—H, Fig. 3; Figs. 9 and 10 are face views of the respective ends of a shackle of any required length; Fig. 11 is a sectional view of the fastened

seal; and Fig. 12 is a like view illustrating certain modifications.

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

The improved snap seal is composed of a one-piece hollow seal part, a or a^2 , adapted to be produced from a cup-shaped blank, a' , which is represented by Figs. 1, 2, 5 and 6, and a flexible one-piece shackle, b or b^2 ; both of suitable sheet metal. The metal of the seal part is preferably "tin" (tin plate) and that of the shackle "taggers tin" or very thin and resilient sheet iron. The originally closed end of the cup-shaped blank (Fig. 1) is corrugated so as to form a pair of deep parallel transverse depressions, 1 and 2, in its outer surface; and a deep internal transverse depression, 3, between them; and, in forming said corrugations, said depressions 1 and 2 are provided with inlet slots, 1' and 2'; or one of them is provided with a single inlet slot, 1°, Fig. 12. The other end of the seal part blank is shaped to form a pair of broad flaps, 4 and 5, opposite each other, with a pair of pointed flaps, 6 and 7, between said broad flaps. To close and finish the seal part a or a^2 as in Figs. 3, 4, 7 and 8, the broad flaps 4 and 5 are first bent in until their flattened ends are located within said internal depression 3; and the pointed flaps 6 and 7 are then curled into the interspace, so as to fasten said broad flaps and complete a sufficiently tight closure of the "open face" of the seal part.

The shackle b or b^2 is produced by a single stamping or pressing operation from sheared strips of proper proportions, and is preferably and conveniently provided with a pair of snap catches at each end, which may be normally sprung in opposite directions, as shown at 8 in Figs. 9–11, or in one direction as shown at 8° in Fig. 12. The shackle is preferably and conveniently provided also with embossed inlet-guards or end-guards, 9, and with embossed distinguishing marks at one end, as represented by the lettering "X. Y. Z." in Fig. 9. In the first species, Figs. 1 to 11, inclusive, one end of the shackle b is preferably and conveniently snapped into the seal part a at the factory, so as to insure the proper exposure of the lettering or distinguishing marks, and so that the seal is subsequently handled as one piece. And at the sealing operation, (after passing the free end of the shackle through

a pair of car-door staples or the like,) the free end of the shackle is snapped into the second inlet slot to fasten the seal as in Fig. 11. In the second species, represented by Fig. 12, both ends of the shackle b^2 are simultaneously snapped into the seal part a^2 ; and the latter, apart from its single inlet slot 1^o may be and is intended to be of the same construction as the seal part a above more particularly described. It will be understood that the flaps 4—5 and 6—7 will be so proportioned and so intumed, as to form the required spaces, in communication with the inlet slots, to admit the shackle ends at the snap-fastening operation or operations, and at the same time to prevent the insertion of any tampering means between the intumed flaps. The seal part a and shackle b may obviously be furnished separate, so as to facilitate inspecting all the catches immediately before the sealing operation, both ends of the shackle to be fastened at that operation; the seal part a may be used in connection with the shackle b^2 or flexible shackles of other makes fitted thereto; 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. A one-piece seal part, of sheet-metal, adapted to be formed from a cup-shaped blank and having its originally closed end corrugated and slotted, the corrugations including an internal transverse depression between parallel external depressions, a pair of inwardly bent broad lips having their end surfaces located within said internal depression, and a pair of flaps curled inward between said broad flaps and adapted to hold the latter in place and to complete the seal part.

2. A one-piece seal part, of sheet-metal,

adapted to be formed from a cup-shaped blank and having its originally closed end provided with a pair of inlet slots, and its other end provided with a pair of broad flaps bent inward, and a pair of flaps bent inward between said broad flaps and adapted to hold said broad flaps in place; said flaps completing spaces within the seal part each of which communicates with one of said inlet slots.

3. A snap seal having, in combination, a hollow seal part, of sheet-metal, adapted to be formed from a cup-shaped blank, and having its originally closed end corrugated and slotted, the corrugations including an internal transverse depression between parallel external depressions, a pair of inwardly bent broad flaps having their end surfaces located within said internal depression and a pair of flaps curled inward between said broad flaps and adapted to hold the latter in place, and a flexible shackle of sheet-metal having its ends provided with snap catches and adapted to be interlocked with said slotted end of the seal part.

4. A snap seal having, in combination, a hollow seal part, of sheet-metal, adapted to be formed from a cup-shaped blank, and having its originally closed end provided with parallel inlet slots, and its other end provided with intumed flaps forming spaces in communication with the respective inlet slots, and a flexible shackle of sheet-metal having its ends provided with snap catches and adapted to be separately inserted through said slots respectively and to be snap-fastened within the respective spaces of the seal part, substantially as hereinbefore specified.

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Witnesses:

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