

937,575.

Patented Oct. 19, 1909.

Fig. 1.

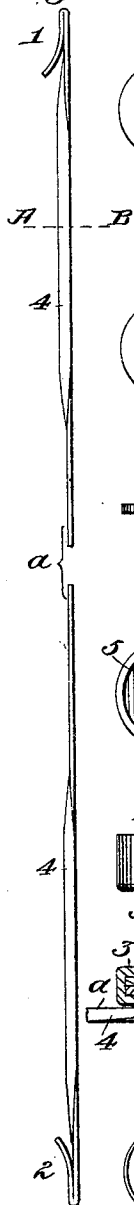


Fig. 2.

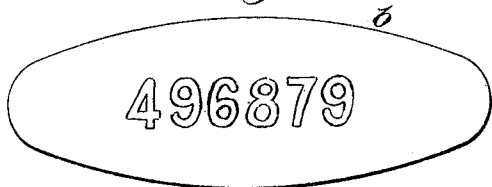


Fig. 3.

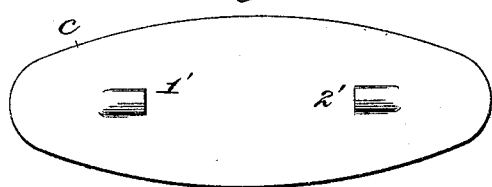


Fig. 4.

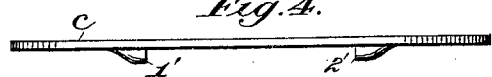


Fig. 5.

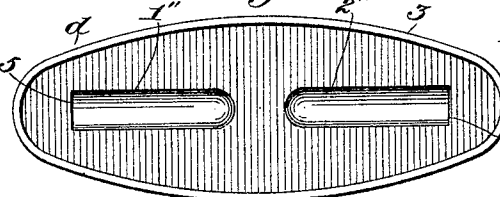


Fig. 6.



Fig. 7.

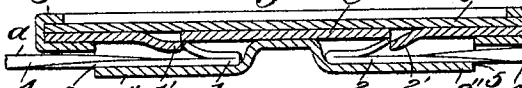


Fig. 8.

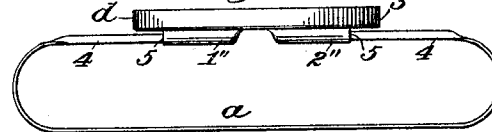


Fig. 9.



Fig. 10.

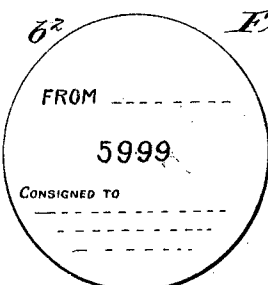


Fig. 11.

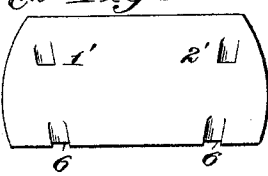


Fig. 12.

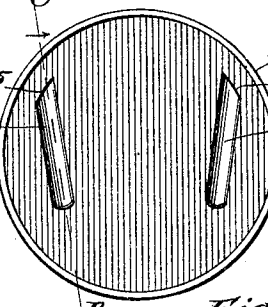


Fig. 13.

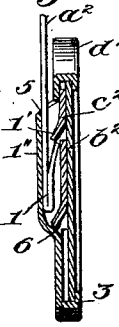


Fig. 14.

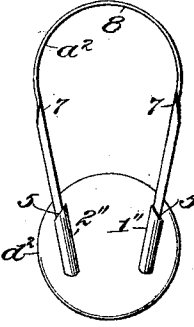
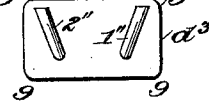


Fig. 15.



Witnesses:

Geo. C. Gault
A. M. Spofford

Inventor:

Edward J. Brooks
by his attorney
R. E. Swin.

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

SNAP-SEAL.

937,575.

Specification of Letters Patent.

Patented Oct. 19, 1909.

Application filed June 24, 1909. Serial No. 504,098.

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.

The present invention is additional more particularly to those improvements in snap seals set forth in my previous specifications forming part of United States Letters Patent No. 919315 dated April 27, 1909, and others of earlier dates, setting forth seal parts which have as a functional element of each a label member which may be of waterproof paper or any preferred material and provided with permanent distinguishing marks, such as serial numbers, which may be wholly or in part in the form of printed characters or embossed in thin sheet metal.

The present invention also relates particularly to those snap seals in which the flexible shackle is of flat wire provided with snap catches in the form of resilient terminal hooks. Examples of such shackles are set forth in my specifications forming part of United States Letters Patent No. 912534 dated February 16, 1909, and previous specifications therein referred to.

This invention consists in certain novel combinations of parts, including a seal part having a label element and a flexible shackle of flat wire having such terminal hooks, and in snap seals embodying such combinations or any of them, as hereinafter particularly described and claimed.

The leading objects of this invention are to facilitate forming and locating rigid catches of superior efficiency to interact with such shackle hooks at the sealing operation, and to protect the hooks against being tampered with.

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 an edge view of the two ends of an improved snap-seal shackle; Fig. 2 is

a face view of the label member of one of the improved seal parts; Figs. 3 and 4 are respectively face and edge views of the catch member of the same; Figs. 5 and 6 are respectively face and edge views of its shell member; Fig. 7 represents a longitudinal section through the improved snap seal represented in detail by Figs. 1 to 6 inclusive; Fig. 8 is a small-scale edge view of the same, showing the loop of the shackle; Fig. 9 represents a magnified cross section on the line A—B, Fig. 1; Figs. 10, 11 and 12 are face views respectively of the label member, catch member and shell member of the seal part of another of the improved snap seals; Fig. 13 is an edge view of the improved seal represented by Figs. 10, 11 and 12, partly in section in the plane indicated by the line C—D, Fig. 12; Fig. 14 is a small scale back view of the snap seal represented by Figs. 10 to 13, inclusive, and Fig. 15 is a back view of another seal part illustrating an additional modification.

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

The improved snap seal in any of its forms is composed of a flexible flat wire shackle, *a*, Figs. 1, 7 and 8, or *a*², Figs. 13 and 14, having preferably at both ends resilient terminal hooks, 1 and 2, formed by permanent bends of the wire, and a substantially flat seal part of curvilinear outline in face or back view, such as is represented by Figs. 2, 3 and 5, or Figs. 10, 12 and 14, or by Fig. 15.

The seal part in each of its forms includes a label member, *b* or *b*², which may be of waterproof paper or the like having distinguishing characters printed thereon as represented by the serial number "496,879", Fig. 2, or "From _____". Consigned to _____" and the serial number "5999" in Fig. 10; or this member may be made of very thin sheet metal, such as tin measuring fifty or sixty one-thousandths or less. Immediately behind such label member *b* or *b*², so as to be covered and protected thereby, there is in each seal part a catch member, such as that shown at *c*, Figs. 3, 4 and 7, or *c*², Figs. 11 and 13; the same being of sheet metal and provided with rigid catches, 1' and 2', formed by permanent indentations therein. Said catch member in each seal part is backed by the body of a shell member such as is shown at *d*, Figs. 5 to 8 inclusive, or at *d*², Figs. 12 to 14 inclusive, or *d*³, Fig. 15; and, in any of the forms, this shell member is

made of suitable sheet metal such as an ordinary grade of stiff tin, and includes a pair of tunnel-shaped projections 1'' and 2'' formed therein by suitable dies, together with a continuous rim 3, which serves to unite the several members of the seal part as in Figs. 7 and 8, or Figs. 13 and 14.

In the species represented by Figs. 1 to 9 inclusive, the improved shackle *a* is further constructed with inlet guards, 4, formed by rendering a sufficient length of each end of the shackle U-shaped in cross section between suitable dies, with the back of the shackle flat or smooth as shown in Fig. 1, and the convexity of the inlet guard 4 in line with the adjacent hook 1 or 2, so that in the fastened seal, Figs. 7 and 8, the inlet guards close or obstruct the inlets, 5, of the tunnel-shaped projections 1'' and 2'' so as to prevent tampering with the hooks by means of tools inserted through such inlets. Tampering with the hooks from the other side of the catch member *c* is prevented by the label member *b*. See Fig. 7. Said form of inlet guard serves also to stiffen the shackle end so as to facilitate thrusting the adjoining hook 1 or 2 endwise through the appropriate inlet 5 into engagement with the corresponding catch 1' or 2' within the passage formed by the corresponding tunnel-shaped projection 1'' or 2''. The label member *b*, the catch member *c* and the shell member *d* in said first species are conveniently of a long oval shape, which is preferred, and said catches 1'—2' and tunnel-shaped projections 1''—2'' of the catch member *c* and shell member *d* respectively are located in common in line with each other and along the longer diameter of the member; the outer ends of said tunnel-shaped projections being open to form said inlets 5, and said rigid catches 1' and 2' projecting into the passages formed by said tunnel-shaped projections at or about midlength as shown in Fig. 7.

In the species represented by Figs. 10 to 14 inclusive, the label *b*² and shell member *d*² are preferably and conveniently round or disk-shaped, and the catch member *c*² is constructed in the shape of a segment of a circle adapted to fit, together with the label member *b*², within the rim 3 of the shell member *d*²; being provided at its lower edge with a pair of supplemental catches, 6, which interlock with the inner ends of the hollow backs of the tunnel-shaped projections 1'' and 2'' of said shell member *d*²; these tunnel-shaped projections being arranged as shown in Figs. 12 and 14 in converging oblique lines equidistant from the center of the shell member *d*², with their inlet ends 5 outermost.

The shackle *a*² if sufficiently long may be of the same construction as the shackle *a* of the first species, or it may be constructed as represented in Figs. 13 and 14, especially if

the seal be of a small size, without distinct inlet guards, and with a twist, 7, in each end, so as to facilitate forming the bow 8 of the shackle.

The modification represented by Fig. 15 relates wholly to the shape of the seal part, which may have any preferred curvilinear shape in face or back view, including parallelograms provided the corners 9 are suitably rounded as represented in Fig. 15. Other like modifications will suggest themselves to those skilled in the art.

In any of the forms, the shackle and seal part would be united at the factory at one of the shackle ends, and, for the purposes of this invention, that end and its accessories may be of any known or improved construction. Both shackle ends and their appurtenances may preferably and conveniently be of one and the same construction, and are so shown in the accompanying drawings.

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 flexible shackle of flat wire, and a substantially flat seal part, preliminarily united at one of the shackle ends, said shackle having at its other end a resilient terminal hook, and said seal part comprising a member constructed with a rigid catch projection arranged to interact with said hook, a label member covering one side of such catch member, a shell member covering the other side of said catch member and provided with a tunnel-shaped projection forming an inlet and passage constructed to admit said hook and leading past said catch, and means for permanently uniting the several members of the seal part.

2. In combination with a flexible shackle of flat wire having resilient terminal hooks, a substantially flat seal part comprising a label member, a catch member provided with rigid catch projections arranged to interact with said hooks, a shell member provided with tunnel-shaped projections forming inlets and passages constructed to admit said hooks and leading past said catches, and means for permanently uniting the several members of the seal part.

3. In combination with a flexible shackle of flat wire having resilient terminal hooks, a substantially flat seal part of a long oval shape comprising a label member, a catch member provided with rigid catch projections arranged to interact with said hooks, a shell member provided with tunnel-shaped projections forming passages having open inlet-forming outer ends constructed to admit said hooks and leading past said catches, and means for permanently uniting the several members of the seal part said catches and tunnel-shaped projections being located in common in line with each other

and along the longer diameter of the seal part.

4. In combination with a flexible shackle of flat wire having resilient terminal hooks, 5 a substantially flat seal part of curvilinear outline in face and back view, composed of a label member of paper or the like, a sheet-metal catch member provided with rigid catch projections arranged to interact with 10 said hooks and a sheet-metal shell member provided with tunnel-shaped projections forming inlets and passages constructed to admit said hooks and into which said catches project to interact with the respective hooks, 15 said shell member being further constructed with a continuous rim by which the several

members of the seal part are inseparably united with each other.

5. In combination with a seal part having internal rigid catches and inlets leading 20 thereto, a flexible shackle of flat wire having resilient terminal hooks and adjoining inlet guard portions, the latter formed by rendering the wire U-shaped in cross section for a sufficient length with the back of the 25 shackle flat and the convexity of each inlet guard in line with the adjacent hook, substantially as hereinbefore specified.

EDWARD J. BROOKS.

Witnesses:

ELLEN J. BROOKS,
MONTGOMERY LINDSAY.