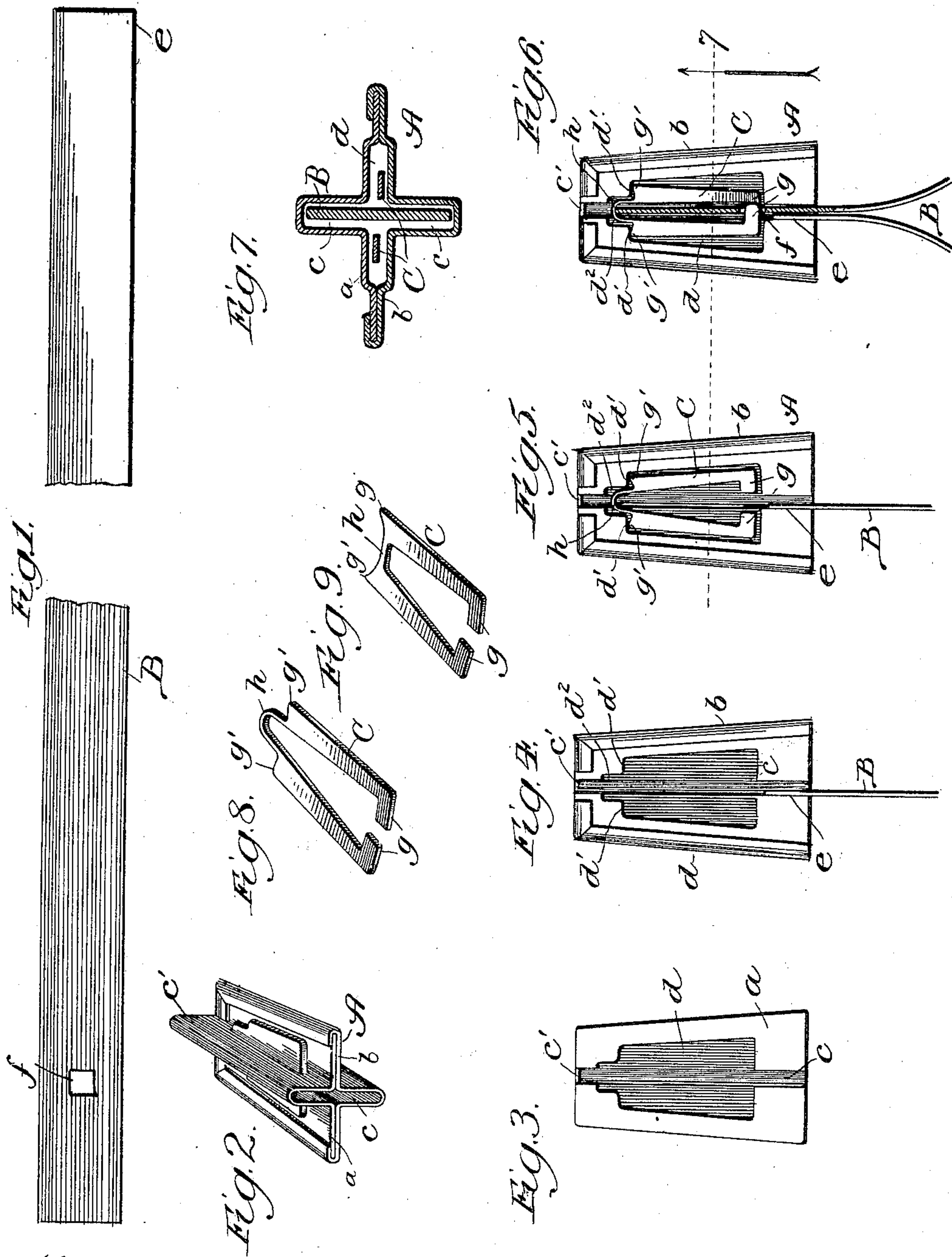


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SELF LOCKING SEAL.

(Application filed Apr. 25, 1901.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## SELF-LOCKING SEAL.

SPECIFICATION forming part of Letters Patent No. 679,126, dated July 23, 1901.

Application filed April 25, 1901. Serial No. 57,461. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR H. PEIRCE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Self-Locking Seals, of which the following is a specification.

My invention relates to improvements in sealing devices of the class employed to seal packages, car-doors, and the like, and comprising usually a flexible metal strap to loop around or through the parts to be secured, with means for sealing the ends of the strap together in such a way that the device cannot be opened or unfastened without breaking the strap or its sealing means.

My invention relates more especially to improvements in self-locking seals of the above class wherein the act of bringing the ends of the strap together fastens them, so that they cannot be separated without breakage.

My object is to provide a self-locking seal of the type mentioned of an improved construction which renders it particularly simple and inexpensive to manufacture and effective for its purpose.

In the drawings, Figure 1 is a broken view of the sheet-metal strap forming a part of the device; Fig. 2, a perspective view of the sealing head or casing; Fig. 3, a face view of one of the sections of which the sealing-head is formed; Fig. 4, a similar view of the other sealing-head section; Fig. 5, a view of the same part as Fig. 4, but showing the locking device in place and unlocked; Fig. 6, a similar view showing the locking device in its locking condition; Fig. 7, a section on line 7 of Figs. 5 and 6, and Figs. 8 and 9 perspective views of two forms of locking devices which may be employed in the sealing-head.

A is a sealing head or casing formed, preferably, of two parts *a b*, fitting flatwise together. In the construction shown the part *b* is provided around its edge with a flange to overlap the part *a*. Each of the parts *a b* is formed with a channel part *c*, the channels forming together an opening oblong in cross-section and extending the full length of the head. The opening is closed at the end *c'* of the head. In each of the sections *a b* are flat recesses *d*, forming together a flat chamber of the shape shown. The chamber *d* is crossed

lengthwise by the channel *c* and extends equally on opposite sides of said channel. A strap *B* is fastened at its end *e* in any suitable manner in the casing and is provided in its opposite end portion with the locking-slot *f*. The strap *B* is of approximately the same width as the opening *c*, and the said opening is capable of receiving just two thicknesses of said strap. Thus when the strap is bent over and passed into the head, as shown in Fig. 6, it substantially fills out the opening *c*.

*C* is a locking device, preferably formed in the form of a pair of tongs, having inturned ends or feet *g* and a flexible connecting part *h*. The device *C* is formed, preferably, of sheet metal possessing toughness, but no material elasticity. Thus whichever way the legs of the tongs are bent with relation to each other at the part or pivot *h* they will stay.

The locking device *C* is adapted to fit into the chamber *d* and is formed with shoulders *g' g'*, which rest against or are adapted to engage shoulders *d' d'* in the chamber. Between the shoulders *d' d'* the chamber is formed with a recess *d<sup>2</sup>*, as shown.

The device is supplied to the market with the strap secured in the casing, as shown in Figs. 4 and 5, with the locking device in place, as shown in Fig. 5, and the sections of the casing firmly secured together, as shown in Figs. 2 and 7. The feet *g* of the locking device are at opposite sides of the channel *c*, and the connecting part *h* extends across the said channel. Whenever it is desired to lock the device, the free end of the strap is passed into the opening *c* and pressed inward to cause the end to engage the part *h* of the locking device. Pressure of the end of the strap against the flexible part *h* bends the same and causes the shoulders *g'* to bear against the shoulders *d'* in the chamber and the legs of the locking device to be forced in the direction of each other. In this movement the feet *g* pass through the opening *f* of the strap and overlap each other, as shown in Fig. 6, in which condition they remain permanently.

No amount of jarring or rattling of the head *A* will cause the legs of the tongs to close together when open, as in Fig. 5, and no amount of jarring will cause the tongs to open when they have been closed, as shown



in Fig. 6. The only way of producing the locking is by pressing the end of the strap against the inelastic part *h* to bend the same and cause the feet *g* to pass through and engage the locking-slot *f*. When locked as described, the parts cannot be separated to open or unseal the device without their being broken in such a manner that the breakage can be detected. One great advantage of this construction rests in the fact that no springs are employed, as is usual in such devices. Springs necessarily add expense and tend to render the construction complicated and undesirable.

While I prefer to provide my improved seal as shown and described, it may obviously be modified with regard to details of construction without departing from the spirit of my invention as defined by the claims.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a self-locking seal, the combination of a casing inclosing a chamber, a shoulder in the chamber and a channel open at one end, a strap secured at one end to the casing and adapted at its opposite end to be passed into said channel and having a locking-slot, and a sliding locking device loose in said chamber having a projecting part, extending into the path of said channel, a shoulder adapted to bear against said shoulder in the chamber and a locking-foot, whereby when the strap is pushed into the said channel it engages said projecting part to press the said shoulder on the locking device against the said shoulder in the chamber and force said locking-foot into said locking-slot, substantially as set forth.

2. In a self-locking seal, the combination of a casing inclosing a chamber, a stationary fulcrum in the chamber and a channel open at one end, a strap secured at one end to the casing and adapted at its opposite end to be passed into said channel and having a locking-slot, and a locking device, in the said chamber, having a projecting part extending into the path of said channel, a part adapted to bear against said fulcrum, and a swinging locking-foot portion, held normally to one side of said channel, whereby when the strap is pushed into the said channel it engages

said projecting part of the locking device and swings said locking device on said fulcrum to force said locking-foot into the said locking-slot, substantially as described.

3. In a self-locking seal, the combination of a casing having a chamber and a channel open at one end and crossing said chamber, stops in the chamber at opposite sides of said channel, a strap secured at one end to the casing and having a locking-slot toward its opposite end, at which end it is adapted to be passed into said channel, and a locking device, in the chamber, formed with a flexible end portion, crossing said channel, shoulders on opposite sides to engage said stops, and legs extending along opposite sides of said channel provided with inwardly-projecting feet normally out of the path of said strap, whereby when the strap is pushed into said channel it engages and bends said flexible end portion of the locking device to swing the legs toward the strap and cause the feet to engage said locking-slot in the strap, substantially as set forth.

4. In a self-locking seal, the combination of a casing having a chamber and a channel open at one end and crossing said chamber, stops in the chamber at opposite sides of said channel, a strap secured at one end to the casing and having a locking-slot toward its opposite end, at which end it is adapted to be passed into the said channel, and a locking device, in the chamber, formed with a narrow flexible non-elastic strip *h* crossing said channel, shoulders *g'*, and legs and feet *g*, all constructed and arranged to operate, substantially as described.

5. In a self-locking seal, the combination of a casing *A*, having a chamber *d*, channel *c* and stops *d'* in the chamber, locking device *C* in the chamber, having a flexible part *h*, legs, and feet extending at an angle to each other to overlap when the device is locked as described, and a strap *B* secured at its end *e* to the casing and having a locking-slot *f*, all constructed and arranged to operate, substantially as and for the purpose set forth.

ARTHUR H. PEIRCE.

In presence of—

D. W. LEE,

ALBERT D. BACCI.