

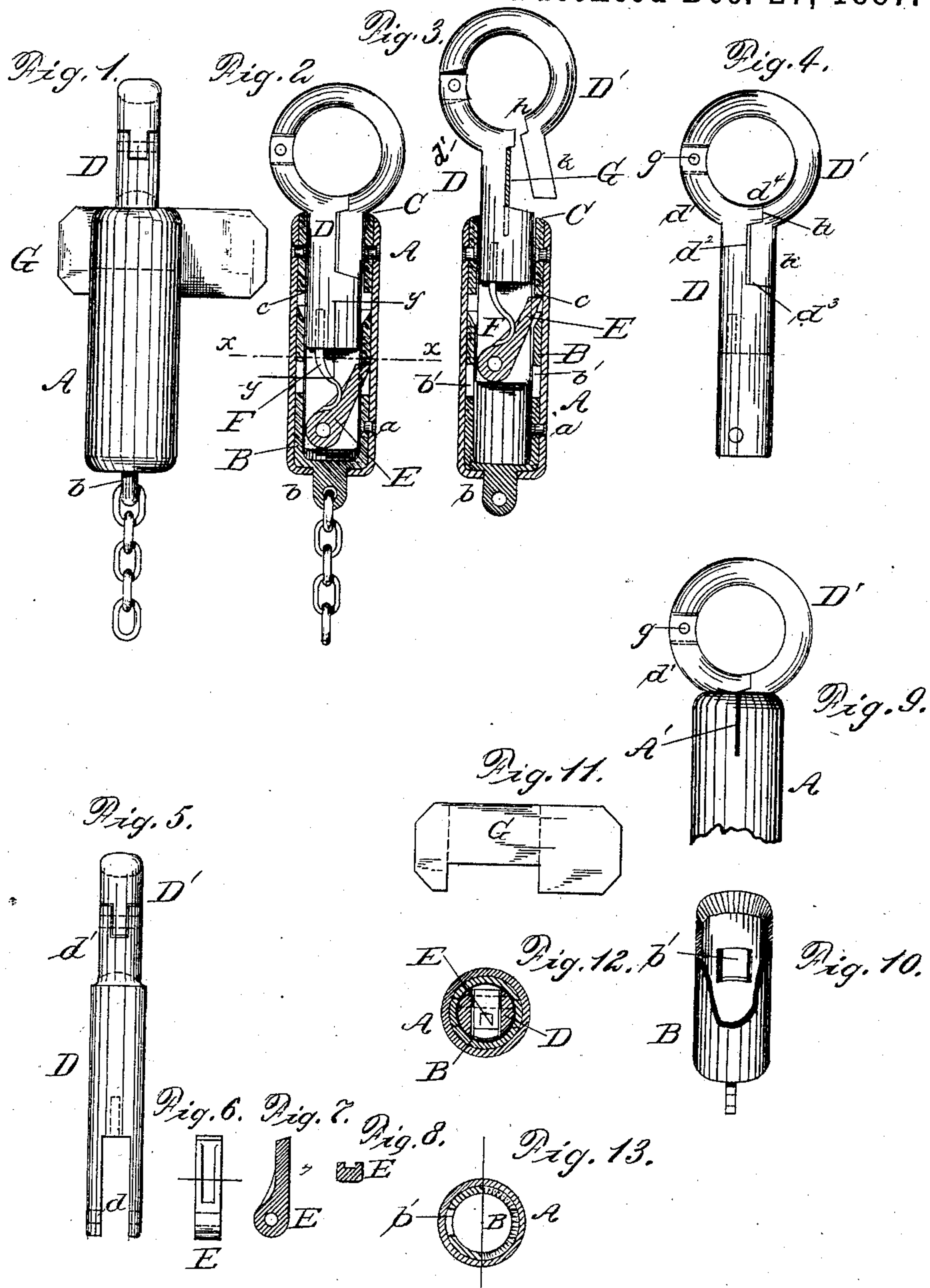
(Model.)

J. M. COALE & W. BRUMBLE.

SEAL LOCK.

No. 375,668.

Patented Dec. 27, 1887.



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# UNITED STATES PATENT OFFICE.

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## SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 375,668, dated December 27, 1887.

Application filed November 7, 1887. Serial No. 254,506. (Model.)

*To all whom it may concern:*

Be it known that we, JOSEPH M. COALE and WILLIAM BRUMBLE, citizens of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Seal-Locks; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-  
10 pertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

15 Our invention relates to seal-locks, more especially to those used for mail-pouches, and its nature and operation will be readily understood from the following description, the essential novelty of the device being pointed out  
20 in the claims.

In the accompanying drawings, in which the lock and its various parts are shown full size, Figure 1 is an elevation; Figs. 2 and 3, vertical sections; Fig. 4, a side elevation of the pin or bolt; Fig. 5, an edge view of the same. Figs. 6, 7, and 8 illustrate the locking-dog. Fig. 9 is an elevation of the case, showing the slots for the seal. Fig. 10 is a perspective view of the inner lock-case, partly broken  
30 away. Fig. 11 is a view of the seal. Fig. 12 is a cross-section of the lock-case on line *x x*, Fig. 2. Fig. 13 is a cross-section on line *y y*, Fig. 2.

The same reference-letters apply to corresponding parts in all the figures.

35 The lock-case is preferably cylindrical, and is composed of two parts—an outer shell, A, and an inner shorter shell, B. The shell A is open at the top, but is closed at the bottom, with the exception of a rectangular opening. The inner shell, B, is concentric with the outer shell, and is fitted tightly into it, being secured by forcing it in or by shrinking the outer shell upon it, or by rivets *a* passing through  
40 both shells. The inner shell is closed at its lower end, and has a projecting lug, *b*, adapted to pass snugly through the rectangular opening in the bottom of the outer shell, A. This prevents the shells from turning on each other  
45 in case they should become loose. Diametrically opposite to each other in the walls of the

inner shell are two holes, *b'*, the upper ends of which form square shoulders. The sides of these holes are made slightly flaring, as shown. The upper end of the inner shell is beveled off  
55 from within outwardly, as clearly shown in Fig. 10. The edge of this beveled portion lies some distance below the upper end of the outer shell, the length of the inner shell being preferably about two-thirds of the length of  
60 the outer shell. Above the inner shell, B, and extending down from the upper edge of the outer shell, is a collar, C, of the same internal and external diameters as the shell B. It is securely riveted or otherwise fastened in place  
65 within the shell A, the lower end forming a square annular shoulder, *c*, a little distance above the beveled upper end of the shell B. The two shells A and B and the collar C, thus assembled, constitute the lock-case. 70

The locking pin or bolt D is fitted to slide into the lock-case, being cylindrical in cross-section, and having an open slot, *d*, extending upwardly from its lower end. In the lower end of this slot is hinged the dog or pawl E,  
75 which has a square or slightly-beveled upper end to engage with the square shoulder formed by the upper ends of the holes *b'*, and also by the lower end of the collar C. A spring, F, secured to the pin D, rests upon the back of  
80 the dog and presses it outward against the inner walls of the lock-case. The outer face of the dog is slightly rounded to enable it to enter and leave the holes *b'* more readily, the flaring sides of the holes facilitating this operation. 85

At the upper end of the pin D is an arm, *d'*, to the end of which is hinged a curved piece, D', by a rivet, *g*. The upper end of the pin D is cut away to the center of the pin, forming a flat diametrical surface, *d''*, with a substantially square shoulder, *d'''*, at its lower end and an overhanging square projection, *d''''*, at its upper end. The curved piece D' has a rabbet, *h*, to receive the projection *d''''*, and a downwardly-extending semi-cylindrical portion, *k*,  
90 which fits between the projection *d''''* and the shoulder, *d'''*, leaving a narrow opening between itself and the pin D, but otherwise replacing that portion of the pin that was cut away. The curved piece D', being hinged to  
95 the arm *d'* at one end and fitting closely to the pin D at the other end, completes, with the



arm  $d'$ , a closed eye, as shown, to receive a staple or other fastening device. The piece  $D'$  can be opened away from the pin  $D$ , as shown in Fig. 3, passed through the staple, and again shut down against the pin. The pin is then slid into the case as far as it will go, when the dog springs into one of the holes  $b'$  and effectually prevents its removal. Furthermore, since the downwardly-projecting end  $k$  of the curved piece  $D'$  is then inside the lock-case, the eye cannot be opened to free the staple. As the pin  $D$  is, however, cylindrical, it can be released by giving it a quarter-revolution in the lock-case, which will carry the dog out of the hole  $b'$  and back into the slot  $d$ , with its end pressing against the inside of the inner shell,  $B$ , as seen in Fig. 12. The pin can now be drawn up out of the lock-case until the end of the dog slides out over the beveled edge of the inner shell and strikes against the shoulder  $c$  of the collar, as shown in Fig. 3. In this position the end  $k$  of the curved piece  $D'$  is outside of the lock-case, and the eye can be opened. The shoulder  $c$  prevents the pin from being entirely withdrawn from the case, but allows it to be revolved therein without impediment.

In order to detect any attempt to revolve the pin when in its closed and locked position, we provide the following simple expedient: Two slots,  $A'$ , are cut in the upper end of the lock-case diametrically opposite each other, and extending downwardly in a plane at right angles to a plane passing perpendicularly through the two holes  $b'$ . Since the face  $d^2$  of the pin is diametrical and the case is concentric with the pin, it follows that the slots  $A'$  will register with the narrow space in the pin when the dog is in either of the holes  $b'$ .

Supposing the parts to be in the position shown in Fig. 3, a flat seal,  $G$ , of frangible material, is laid against the surface  $d^2$ , the end  $k$  of the curved piece  $D'$  is shut down upon it, and the pin pushed into the case. The seal has a narrow middle portion, whose length is equal to the outside diameter of the lock-case, while its width is such that it fits neatly between the shoulder  $d^3$  and the projection  $d^4$  of the pin  $D$ . Consequently, when the pin is pushed in, this middle portion of the seal will be received entirely within the case, leaving only the wide ends projecting on either side, as seen in Fig. 1. The seal prevents the pin from being revolved to disengage the dog from the hole  $b'$ , and can only be removed by breaking off one of the wide ends of the seal and withdrawing the remnant from the slots in the case and pin. To facilitate breaking the seal, it may be weakened along the dotted lines shown in Fig. 11. Between these lines may be stamped or written any private marks or words, and as this portion of the seal is concealed from view it cannot be counterfeited before removing it. Furthermore, by weakening the seal near the ends any attempt to

replace it after surreptitiously breaking it is frustrated, since the broken end has no narrow portion to enter the slot  $A'$ .

The lock cannot be picked by driving out the rivet  $g$ , since the projection  $d^4$ , overlapping the rabbet  $h$ , prevents the curved piece  $D'$  from being withdrawn from the case.

This invention is an improvement on United States Patent to William Brumble for seal-lock, No. 368,375, granted August 16, 1887.

Having thus described our invention, what we claim is—

1. A seal-lock having a cylindrical case provided with internal shoulders and diametrical slots, and a cylindrical locking-pin having a diametrical opening and carrying a spring-actuated dog to engage with said shoulders, substantially as described.

2. A seal-lock consisting of a cylindrical outer shell, a similar inner shell having two diametrically-opposite holes, an annular shoulder above said holes, and two diametrical slots extending downwardly from the upper end of the case, a cylindrical pin having a spring-actuated dog, and a curved piece hinged to the upper end of the pin and shutting down against the pin to form an eye and leaving a narrow diametrical opening through the pin, substantially as described.

3. A seal-lock consisting of a lock-case having internal shoulders and diametrical slots, a cylindrical pin,  $D$ , carrying a spring-dog, and provided with a flat diametrical surface,  $d^2$ , shoulder  $d^3$ , and overhanging projection  $d^4$ , and having a curved piece,  $D'$ , hinged to it, provided with a rabbet,  $h$ , and a downwardly-extending portion,  $k$ , substantially as described.

4. A seal-lock consisting of an outer shell,  $A$ , an inner shell,  $B$ , having the lug  $b$  and the opposite holes  $b'$ , the collar  $c$ , secured within the outer shell above the shell  $B$ , the case thus formed having the diametrical slots  $A'$ , a pin,  $D$ , carrying a dog,  $E$ , and cut away to form a flat diametrical surface,  $d^2$ , shoulder  $d^3$ , and projection  $d^4$ , said pin having hinged to it a curved piece,  $D'$ , having a portion,  $k$ , to fit into the cut-away portion of the pin  $D$ , substantially as described.

5. A seal-lock consisting of an outer shell,  $A$ , an inner shell,  $B$ , having lug  $b$  and diametrically-opposite holes  $b'$ , a collar,  $c$ , above said inner shell, and a cylindrical pin carrying a spring-dog to engage with said holes and collar, the case and the pin being provided with diametrical slots which register when the dog is in either one of the holes  $b'$ , substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOSEPH M. COALE.

WILLIAM BRUMBLE.

Witnesses:

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