

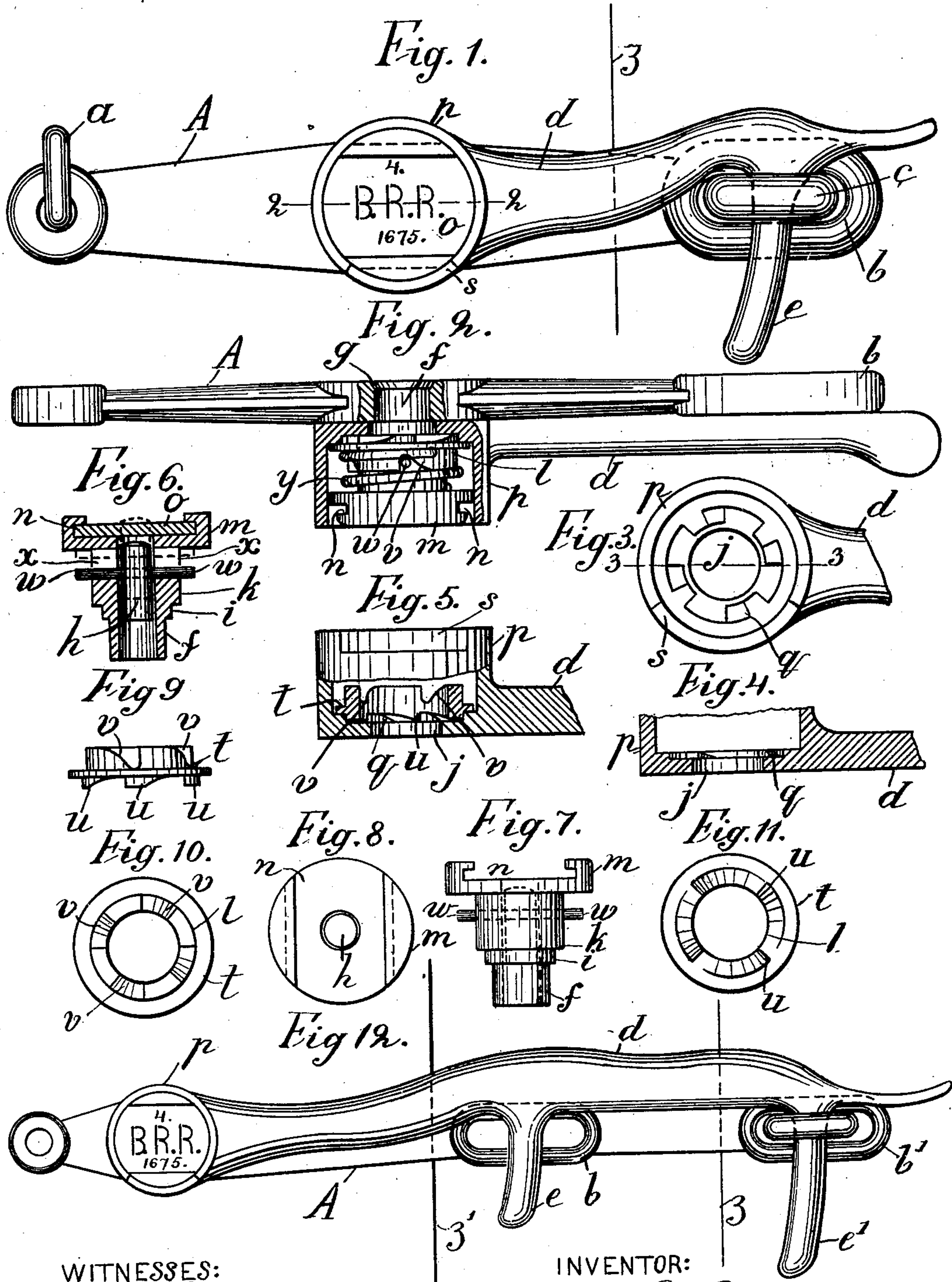
(No Model.)

3 Sheets—Sheet 1.

H. B. BROWER.  
SEAL LOCK.

No. 599,956.

Patented Mar. 1, 1898.



WITNESSES:

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*Josephine Howard*

INVENTOR:

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*by A. P. Thayer*  
*att'y*

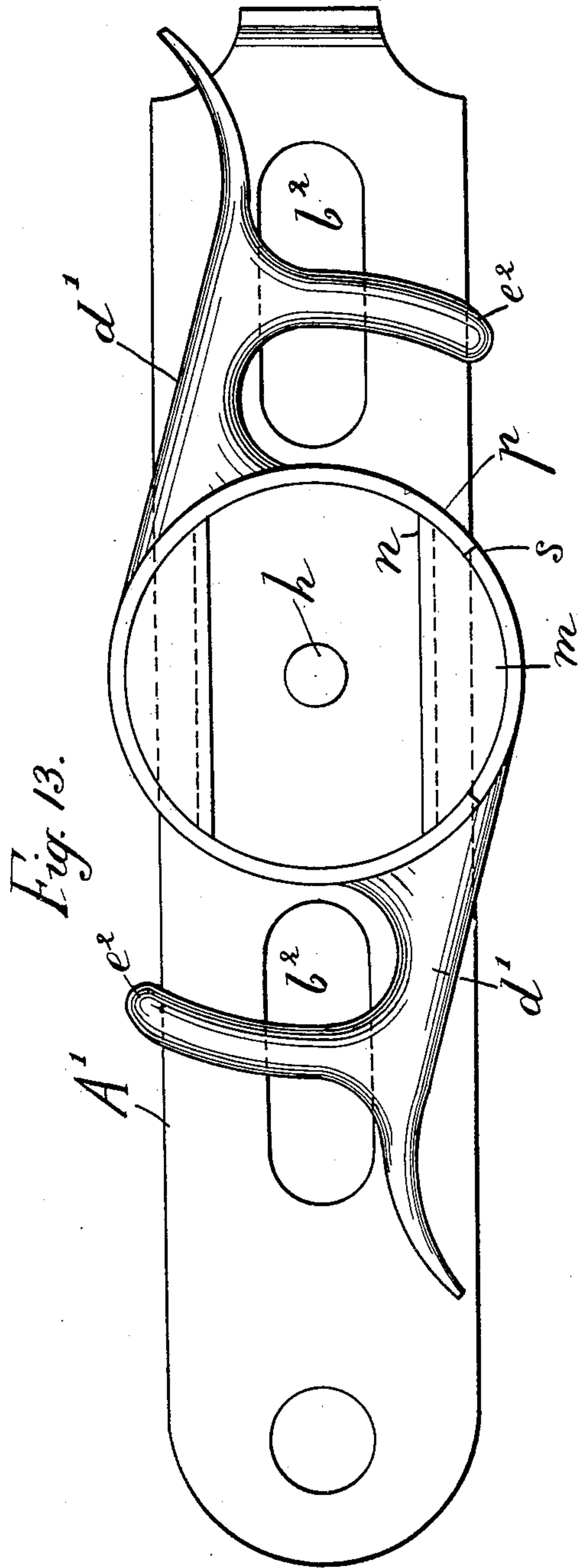
(No Model.)

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H. B. BROWER.  
SEAL LOCK.

No. 599,956.

Patented Mar. 1, 1898.



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(No Model.)

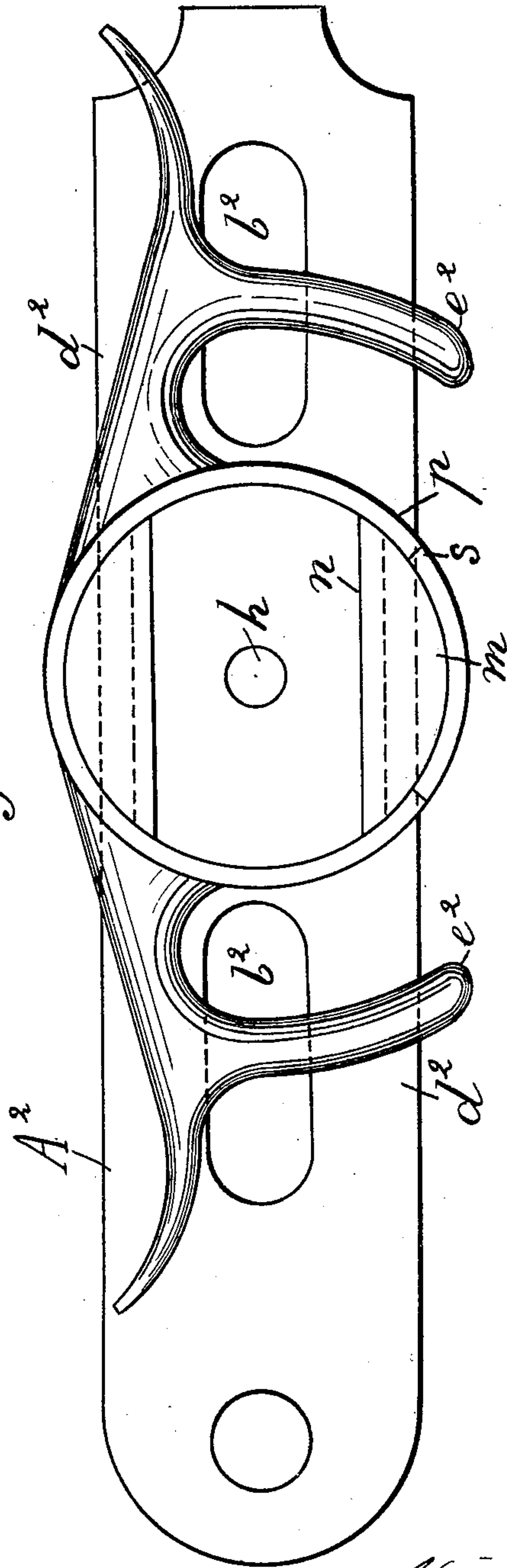
3 Sheets—Sheet 3.

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Fig. 14.



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# UNITED STATES PATENT OFFICE.

HIRAM B. BROWER, OF OXFORD, CONNECTICUT.

## SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 599,956, dated March 1, 1898.

Application filed April 21, 1897. Serial No. 633,107. (No model.)

*To all whom it may concern:*

Be it known that I, HIRAM B. BROWER, a citizen of the United States, and a resident of Oxford, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Car-Door Fasteners, of which the following is a specification.

My invention relates to fasteners for car-doors and the like, in which a frangible plate or disk seal is used in a way whereby the fastener cannot be opened without destroying the seal as a means of detecting fraudulent opening; and it consists of improvements in the construction of the apparatus of the fastener for greater simplicity, cheapness, and durability, as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is a front elevation of my improved car-door fastener closed and sealed. Fig. 2 is a top view of the fastener with the shell of the sealing apparatus sectioned on line 2 2, Fig. 1. Fig. 3 is a front elevation of the shell of the sealing apparatus, the rest of said apparatus being removed to show the bottom of the shell. Fig. 4 is a section of the bottom of the shell on line 3 3, Fig. 3. Fig. 5 is a section of the bottom of the shell on line 3 3, Fig. 3, also of the cam-ring for actuating the seal-breaker, and also a plan view of part of the under side of the said shell. Fig. 6 is a sectional elevation of the pivot-stud for the hook and holder for the seal and a side view of the seal-breaker. Fig. 7 is a side view of said stud and holder. Fig. 8 is a front elevation of the stud and holder. Fig. 9 is a side view of the cam-ring for actuating the seal-breaker. Fig. 10 is a plan of one side of the cam-ring for actuating the seal-breaker. Fig. 11 is a plan of the other side of said cam-ring. Fig. 12 is a front elevation of the improved car-door fastener adapted for holding the door closed, as usual, or partly open for ventilation. Fig. 13 is a front elevation of the improved car-door fastener adapted for holding the door closed, as usual, or partly open for ventilation, and also adapted for use either right or left handed. Fig. 14 is a front elevation of the improved car-door fastener in a modified form of construction for holding the door

closed or partly open and also adapted for use either right or left handed.

A represents an ordinary hasp of any approved form and construction adapted to be hung on the door-frame or door by a staple *a* or other approved means and having the usual slot-eye *b* for lodging on the staple *c* on the other part relatively to the part on which staple *a* is secured.

*d* represents the hook or hooks pivoted on the hasp and having the usual prong *e* for engaging the staple *c* to secure the hasp thereon. The pivot-stud *f* for the hook is riveted or otherwise securely fastened in the hasp, as at *g*. It is bored centrally and longitudinally for reception therein of a sliding seal-breaking plunger *h*. The pivot-stud has in its part projecting from the face of the hasp, first, the section *i* larger than the stem riveted in the hasp and on which the pivot-eye *j* of the hook fits; second, the larger and longer section *k*, on which the cam-ring *l* works, and, third, the head *m*, in the face of which is the groove *n* for reception of the seals *o* to be broken.

The hook *d* has in its pivotal hub the hollow cylindrical shell *p*, coincident with the pivot-eye *j*, for inclosing the projecting portion of the pivot-stud and the cam-ring and for retaining the seal *o* in the groove of the head of the pivot-stud, the depth of said shell being equal to the extent of the projection of the head of the stud from the face of the hasp, and on the surface of the bottom of the shell is a series of ratchet-teeth *q*, surrounding the eye *j*, and in the outer end and at one side of the shell is a notch *s*; which when the hook is turned upright coincides with the groove *n* in the head of the pivot-stud and permits the seals to be inserted through the notch into the groove, where they are retained by the unnotched part of the shell when the hook is engaged with the staple for securing the hasp, the sides of the groove being suitably undercut for overlapping the edges of the seal.

Over the ratchet-teeth *q* in the bottom of the shell the cam-ring *l* is placed, said ring being bored to fit and turn on the part *k* of the pivot-stud and having other ratchet-teeth *u* on its side bearing against teeth *q* of the shell, these two sets of teeth being so formed



that when the hook is raised to release the prong  $e$  from staple  $c$  its teeth  $q$  will engage the teeth  $u$  of the cam-ring and turn said ring; but when the hook swings down its teeth  $q$  will not take effect on the cam-ring, which will remain at rest. The other side of the cam-ring  $l$  has cams  $v$ , on two of which stud-pins  $w$  of the seal-breaker rest, said studs projecting through slots  $x$  in the part  $k$  of the pivot-stud, so that when the cam-ring is turned by lifting the hook the seal-breaker will be thrust forward against the seal and will break it before the prong  $e$  rises out of the staple  $c$ , and thus will always show when the door has been unfastened, there being no means of removing the seal without breaking it after the hook has been engaged with the staple.

Cams  $v$  are provided in ring  $l$  at such distance apart that studs  $w$  will escape from those effecting the break onto the next ones before the upward movement of the hook ceases, to allow the plunger to recede to permit the next seal to be inserted, and a coiled spring  $y$  between the head  $m$  of the pivot-stud and the flange  $t$  of the cam-ring keeps the ratchet-teeth of the cam-ring in engagement with the ratchet-teeth of the bottom of the shell, the plunger being free to be pressed back readily by the finger when a new seal is to be inserted.

It will be seen that the seal-breaking devices are so effectually inclosed that they are in no way accessible for evading the safeguard. The seal can be of any suitable size for being conspicuously visible, and there is no possibility of fraudulently securing the hook at a height that will leave the hasp free to be released with a seal unbroken.

The line  $z$ , Fig. 1, indicates the joint between the closed door and the door-frame, the fastener being adapted for fastening the door shut; but it is sometimes desirable to fasten the door partly open to leave a space for ventilating, as indicated by lines  $z$  and  $z'$ , for which the hasp and the hook may be extended, as in Fig. 12, and provided with an additional eye  $b'$  and prong  $e'$ , respectively.

In Fig. 13 I represent a contrivance of hasp and hooks for fastening the door partly open or entirely shut, which is also reversible for application alike to right or left handed doors. In this case the hasp  $A'$  has the pivot-stud located between the staple-eyes  $b^2$  and there are two hooks  $d'$ , projecting in opposite directions, respectively, from the pivot-stud and each having a prong  $e^2$ , said hooks being in the reverse arrangement, whereby they both act alike with reference to the eyes of the hasp when either one is shifted, so that either eye being lodged on a staple said staple will be engaged by a hook. The two hooks balance each other on the pivot, and the resistance of the seal-breaking devices, occasioned by a seal in place, prevent them from jarring open. One of the hooks may be chained or otherwise fastened against such action, if desired. It

is obvious that this form of fastener is alike applicable for right or left hand doors, and in Fig. 14 I represent another modification of double and reversible hasp and hooks, which differs only from the arrangement of Fig. 13 in that the two hooks  $d^2$  are connected to the shell of the seal-holder both at one side of the plane of the axis of the shell instead of on opposite sides of said plane and in such way that both hooks range across said plane in the same direction and engage the staple  $c$  by swinging from above downward. When the hasp  $A^2$  is reversed for application to a reversely-opening door, the hooks are turned half-way around and set to the upper side, same as before, and will act alike, as in the other adjustment.

It will be seen that besides the several advantages apparent in the foregoing description the improved seal-breaker avoids one operation of other seal-fasteners—that is, breaking the seal before opening—and it avoids the necessity of carrying a hammer, and it also avoids damage to the fastener, which often occurs by the use of stones for a substitute when the hammer is forgotten, which, not being of proper shape, often damage the seal-holding parts.

I claim—

1. In a car-door fastener, the combination with a hasp, and a hook pivoted on said hasp, of a seal-holder in which the seal is not removable intact when the door is fastened, of a seal-breaker and means operated by the hub of the hook to actuate said breaker by the opening of the hook, and automatically break the seal prior to the release of the hasp substantially as described.

2. In a car-door fastener, the combination with a hasp, and a hook pivoted on said hasp, of a seal-holder located in the pivotal hub of the axis of the hook and in which the seal is not removable intact when the door is fastened, a seal-breaker and means to actuate said breaker by the opening of the hook, and automatically break the seal prior to the release of the hasp substantially as described.

3. In a car-door fastener, the combination with a hasp, and a hook pivoted on said hasp, of a seal-holder located in the pivotal hub of the axis of the hook, and consisting of a groove in the head of the hook-pivot stud, and of the surrounding shell of the hook, said shell having a notch for admitting the seal when opened, and in which holder the seal is not removable intact when the door is fastened, a seal-breaker and means to actuate said breaker by the opening of the hook, and automatically break the seal prior to release of the hasp substantially as described.

4. In a car-door fastener the combination with a hasp, and a hook pivoted on said hasp, of a seal-holder located in the pivotal hub of the axis of the hook, and in which the seal is not removable intact when the door is fastened, a seal-breaker consisting of a sliding plunger located behind the seal, and means



to actuate the plunger by the opening of the hook, and automatically break the seal prior to release of the hasp substantially as described.

5 5. In a car-door fastener, the combination with a hasp, and a hook pivoted on said hasp, of a seal-holder in which the seal is not removable intact when the door is fastened, a seal-breaker consisting of a sliding plunger 10 located behind the seal, a cam for thrusting the plunger forward to break the seal, and means to actuate the cam by the opening of the hook, and automatically break the seal prior to release of the hasp substantially as 15 described.

6. In a car-door fastener the combination with a hasp, and a hook pivoted on said hasp, of a seal-holder in which the seal is not removable intact when the door is fastened, said 20 holder located in the axis of the pivotal hub of the hook, a seal-breaker consisting of a sliding plunger in said axis, a cam-ring turning on the pivot-stud for actuating the plunger, a ratchet of the hub of the hook for turning the cam-ring, and a shell of said hub in- 25 closing the ratchet and ring substantially as described.

7. In a car-door fastener the combination with a hasp, and a hook pivoted on said hasp, 30 of a seal-holder consisting of a groove in the head of the pivot-stud of the hook, and of the surrounding shell of the hook, said shell hav-

ing a notch for admitting the seal when the hook is opened, and in which holder the seal is not removable intact when the door is fastened, the seal-breaker consisting of a sliding 35 plunger in the pivotal hub of the hook-axis of the cam-ring for actuating the plunger, ratchet of the hook-hub to actuate the plunger, and the retracting-spring for the cam- 40 ring substantially as described.

8. In a car-door fastener, the combination with a hasp, jointed at one end to the door or door-frame and having one staple-eye near the other end and another staple-eye inter- 45 mediately of said ends, of a duplex hook adapted to engage and secure a staple in either eye of the hasp substantially as described.

9. In a car-door fastener, the combination with a hasp, jointed at one end to the door or 50 door-frame and having one staple-eye near the other end, and another eye intermediately of said ends, of a duplex hook pivoted to said hasp intermediately of the staple-eyes and adapted to engage and secure a staple in either 55 eye of the hasp substantially as described.

Signed at Oxford, in the county of New Haven and State of Connecticut, this 15th day of March, A. D. 1897.

HIRAM B. BROWER.

Witnesses:

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LEWIS BARNES.