

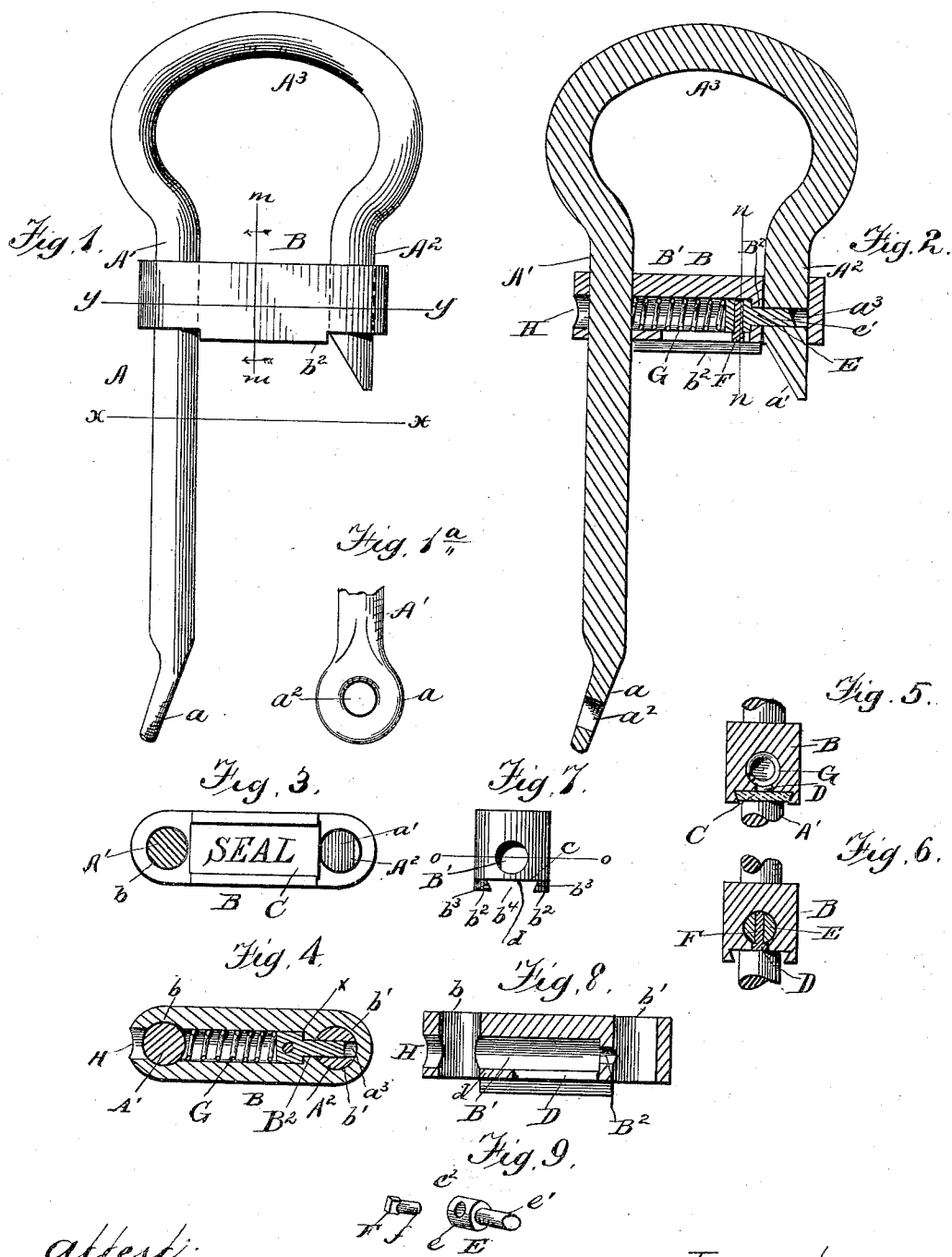
(No Model.)

H. F. GAINES.

SEAL LOCK.

No. 319,400.

Patented June 2, 1885.



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UNITED STATES PATENT OFFICE.

HIRAM F. GAINES, OF ROUSE'S POINT, NEW YORK, ASSIGNOR OF ONE-THIRD
TO ROBERT EMMET CASEY, OF SAME PLACE.

SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 319,400, dated June 2, 1885.

Application filed August 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, HIRAM F. GAINES, a citizen of the United States, residing at Rouse's Point, in the county of Clinton and State of New York, have invented certain new and useful Improvements in Seal-Locks, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in seal-locks, having for its object the provision of a lock adapted for use on various articles, although it is designed to be used, principally, for securing car-doors, mail-bags, and the like during transportation, and cannot be opened or unlocked without destroying the seal, thus preventing fraudulent access to the contents of the car, bag, &c., without exposure.

It has, further, for its object the provision of a lock which shall be simple and durable in construction, easy of operation, and cheap of manufacture.

The invention consists of the construction, combination, and arrangement of parts, substantially as hereinafter set forth and claimed.

Referring to the drawings, Figure 1 represents an elevation of my improved lock as it appears when in position for use. Fig. 1^a is a detail view of a portion of Fig. 1. Fig. 2 is a vertical longitudinal section through the parts shown in Fig. 1. Fig. 3 is a view taken on the line *xx* of Fig. 1, looking toward the lock. Fig. 4 is a horizontal sectional view on the line *yy* of Fig. 1. Fig. 5 is a transverse sectional view of the locking-bar on the line *mm* of Fig. 1. Fig. 6 is a similar section through said bar on a line corresponding with the line *nn* of Fig. 2. Fig. 7 is an end view of the locking-bar. Fig. 8 is a horizontal longitudinal section through the locking-bar on the line *oo* of Fig. 7. Fig. 9 is a perspective of the locking-bolt detached from the locking-bar.

Referring to the drawings, in which like letters of reference indicate like parts, A designates a staple, made preferably of metal, and bent and curved, as shown in Fig. 1, to provide two parallel arms, A' A², and a curved portion, A³, for a purpose hereinafter described. The arm A' is of greater length than the arm A², and at its extremity is preferably

provided with a flattened or enlarged portion, *a*, formed as hereinafter described, and having an eye or perforation, by means of which and a chain, cord, or staple the device can be secured to the car or other article. The arm A² is provided with a beveled or chamfered end, *a'*, for a purpose hereinafter described.

B designates the locking-bar, preferably formed of a single piece of metal, and provided at its ends with apertures *b b'*, for the reception of the arms A' A² of the staple A. The locking-bar B is preferably provided upon one side (the lower) with projecting ribs *b²*, that terminate at each end of the bar in a plane with the inner adjacent edges of the arms A' A² of the staple A. The inner or adjacent edges of the ribs *b²* are inclined, as at *b³*, whereby a dovetail groove, *b⁴*, is formed for the reception of a seal, C, of glass or other vitreous or frangible material. The bottom *c* of the dovetail groove *b⁴* is extended to the ends of the bar B, as shown.

B' designates a bore extending through the bar B in a plane parallel with its longitudinal axis, from one end thereof to a point, *x*, near the opposite end.

B² designates a bore of smaller diameter, opening from the end of the bore B' to one of the transverse apertures *b*, for the reception of the staple A. It will be observed that the larger bore B' opens into the transverse apertures *b* at each side thereof, for a purpose hereinafter to be explained.

D designates a slot opening through the wall *d*, between the groove *b⁴* and the bore B', for the passage of the thumb piece and button for operating the locking-bolt E, located in said bore B'.

The bolt E is preferably of the construction shown in Fig. 9—*i. e.*, having a portion of its length, as at *e*, a diameter slightly less than the diameter of the bore B', and terminating in a bolt, *e'*, the diameter of which is slightly less than that of the bore B², the outer end of the part *e'* being beveled to more readily permit the passage of the arm A² of the staple A. The larger portion *e* is perforated transversely, as at *e²*, to receive the shank *f* of a thumb-button, F, that projects through the slot D of the bar B when the parts are in position.

G designates a spiral spring adapted to be

placed, when the lock is complete, within the bore B', between the lock-bolt E and the long arm A' of the staple A.

The several members of the locks are secured together and adapted to operate in the following manner, viz: The locking-bar B being first provided with its transverse apertures *b* *b'*, longitudinal bores B' B², dovetail groove *b'*, and slot D, the lock-bolt E is slipped into position in the bore B' through the open end H of said bore B'. The shank of the thumb piece or button F is now passed through the slot D and into the aperture *e*² in the bolt, said button being pressed inward until its outer end is flush with the surface *c* of the dovetail groove *b'*. The spring G is now placed in the bore B' through the opening H, after which the long arm A', at this time without the flattened portion *a*, is passed through the spring G, whereby said spring is confined within the bore between said arm A' and the locking-bolt E. The lower end of the staple-arm A' is now flattened (see *a*, Figs. 1 and 2) and perforated, as at *a'*, for the reception of the lock-securing chain or cord, such flattened portion operating to prevent the removal of the arm A' from the bar B. The parts being thus in position, it will be understood that the smaller portion *e'* of the bolt E will be normally kept by the force of the spring G projected through the bore B² and into the aperture *b'* in the track of the shorter arm A² of the staple A, and that said bolt is moved backward by said arm when it is desired to lock the parts together. To accomplish the backward movement of the bolt E, the lower end of the staple-arm A² is beveled, as at *a'*, and said arm is provided with a transverse aperture, *a'*³, adapted to be brought into alignment with and receive the part *e'* of the bolt when the parts are in locked position.

To operate my device the short arm A² is first withdrawn from the aperture *b'* in the bar B and slipped through the locking eye or hasp attached to the article to be locked. A seal, C, of glass or other vitreous or frangible material, corresponding in width with the dovetail groove *b'*, is now slipped into said groove, one of its ends bearing against the long arm A' of the staple. The staple A is now pressed downward, the short arm A² passing through the aperture *b'*, its beveled end operating to retract the bolt E until the aperture *a'*³ in said arm comes into alignment with the bolt, which, under pressure from the spring G, now passes into said aperture, thus holding the staple and arm together in a locked

position. When the parts are thus locked, the lower end of the arm A² passes below the seal C, thus holding it in position and preventing the withdrawal of the staple without first breaking the seal C, and slipping the bolt E backward out of engagement with the arm A² by means of the thumb-piece F.

It will be observed that the locking-bar B consists of a single piece of metal, and that the locking-bolt E and its operating-spring G are wholly contained within said bar. I attach importance to this construction, whereby the locking-bolt E cannot be reached without breaking the seal C.

Without confining myself to the exact details of construction herein shown and described, I claim—

1. In a seal-lock, the combination of a staple consisting of a single piece of metal having two arms and bent portion with a locking-bar formed of a single piece of metal and provided with a locking-bolt, substantially as described.

2. In a seal-lock, a locking-bar, B, provided with transverse apertures to receive a staple, longitudinal bores to receive a locking-bolt, dovetail groove to receive a seal, and a slot formed in the wall thereof between the longitudinal bore and dovetail groove, substantially as described.

3. In a seal-lock, a locking-bar, B, provided with transverse apertures to receive a staple, longitudinal bore to receive a locking-bolt, dovetail groove to receive a seal, and a slot between such dovetail groove and longitudinal bore, in combination with a staple, locking-bolt, spring, and a seal of glass or other vitreous or frangible material, substantially as described.

4. In a seal-lock, a locking-bar, B, provided with transverse apertures *b* *b'*, longitudinal bore B', opening through one end of said bar, longitudinal bore B², of smaller diameter than bore B' and opening thereto, dovetail groove *b'*, and slot D, with the staple A, having long arm A', provided at its lower end with a flattened portion, *a*, short arm A², having inclined face *a'* and aperture *a'*³, locking-bolt E, having thumb-piece F, spring G, and seal C, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HIRAM F. GAINES.

Witnesses:

R. E. CASEY,
F. W. MYERS.