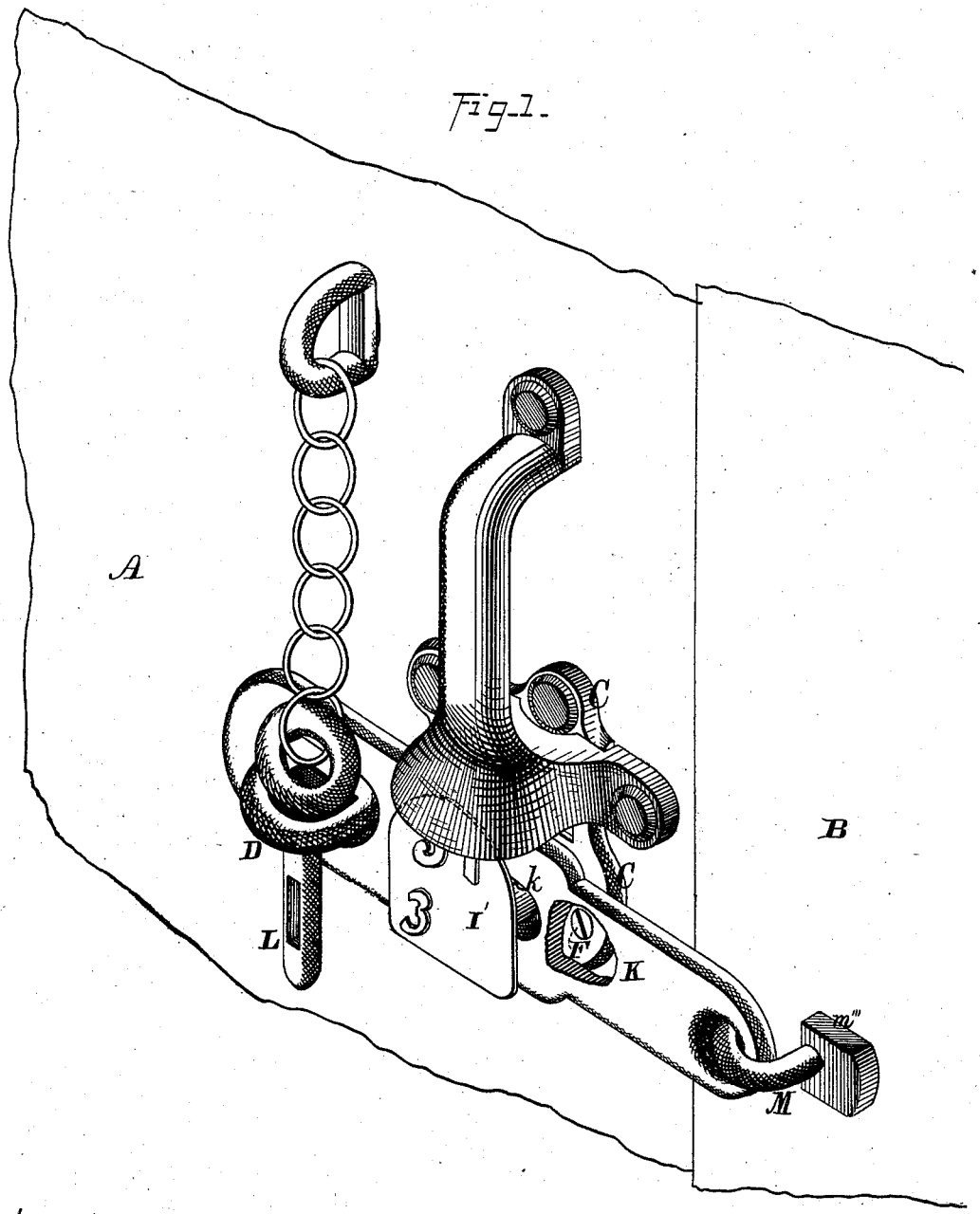
4 Sheets—Sheet 1.

F. J. KIMBALL.

SEAL-LOCKS.

No. 192,767. Patented July 3, 1877.

Fig. 1.



WITNESSES:
Jas. E. Hutchinson.
W. T. Hutchinson

INVENTOR.
Frederick J. Kimball, by
Prindle and Lothrie Attys

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F. J. KIMBALL.

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Fig. 2.

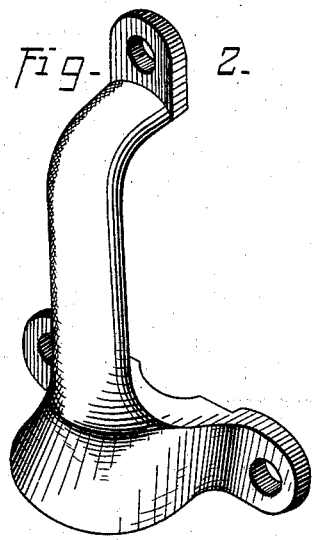


Fig. 3.

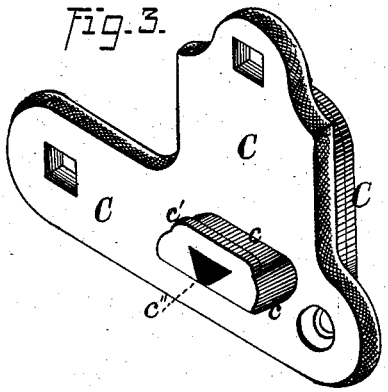


Fig. 4.

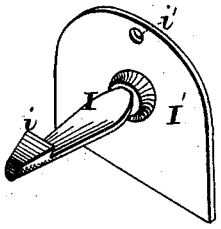
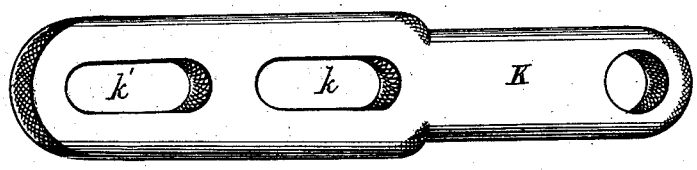


Fig. 5.



WITNESSES:
Jas. C. Hutchinson.
W. T. Hutchinson

INVENTOR.
Fredrick J. Kimball. by
Pindle and Lothrop his Attys

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F. J. KIMBALL.

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Fig. 6.

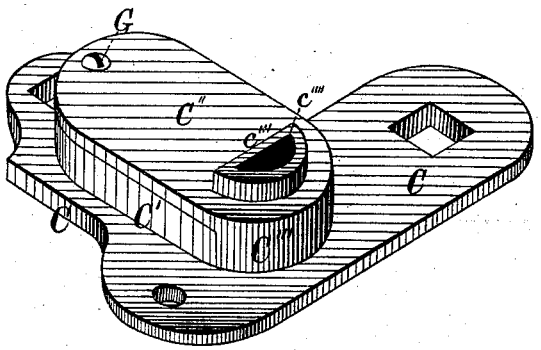
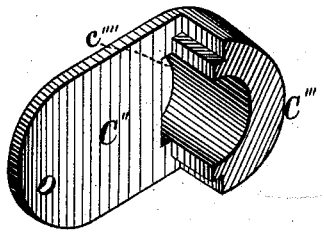
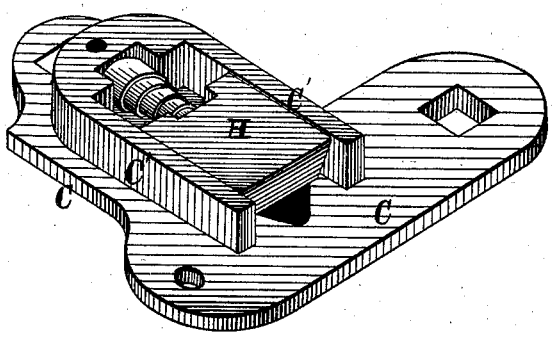


Fig. 7.





WITNESSES:
Jas. B. Hutchinson.
W. T. Hutchinson

INVENTOR.
Frederick J. Kimball, by
Pindle & Pindle his Attys.

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F. J. KIMBALL.

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Fig. 8.

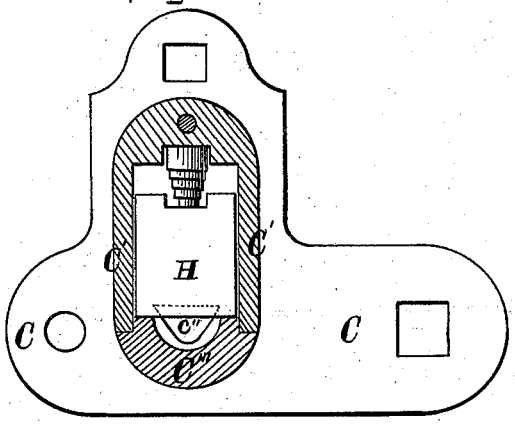


Fig. 11.

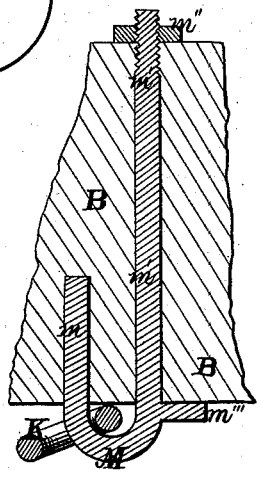


Fig. 9.

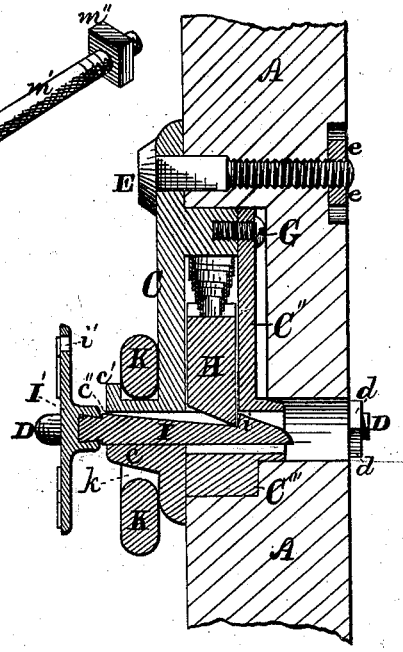
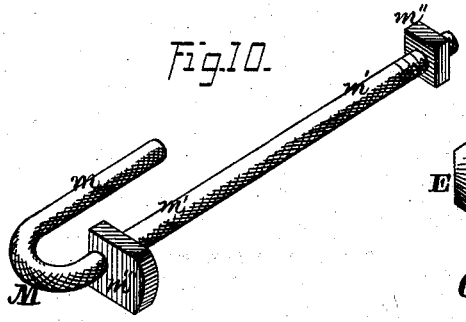


Fig. 10.



WITNESSES:

Jas. E. Hutchinson.

N. T. Hutchinson

INVENTOR.

Fredrick J. Kimball,

by Prindle and Hopkins Attys

UNITED STATES PATENT OFFICE.

FREDERICK J. KIMBALL, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SEAL-LOCKS.

Specification forming part of Letters Patent No. **192,767**, dated July 3, 1877; application filed May 19, 1877.

To all whom it may concern:

Be it known that I, FREDERICK J. KIMBALL, of Philadelphia, in the county of Philadelphia, and in the State of Pennsylvania, have invented certain new and useful Improvements in Seal-Locks; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my improved lock as applied to the door of a car. Fig. 2 is a like view of the hooded handle detached from said door. Figs. 3 and 4 are perspective views of the lock and sealing-key separated from each other. Fig. 5 is a like view of the hasp. Fig. 6 is a perspective view of the rear side of my lock. Fig. 7 is a like view of the same and its covering-plate, said parts being separated from each other. Fig. 8 is a plan view of the rear side of said lock, the casing being removed so as to show the interior construction. Fig. 9 is a vertical section of the door, lock, hasp, and seal upon a line passing through the center of said lock. Fig. 10 is a perspective view of the staple employed for pivoting the hasp to or upon a door-jamb. Fig. 11 is a section of said door-jamb and staple as combined.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to increase the efficiency and durability of seal-locks; and it consists, principally, in a seal-lock in which the sealing-key which confines a hasp in place has such shape, in cross-section, as to prevent it from being inserted within the lock in but one position, substantially as and for the purpose hereinafter specified.

It consists, further, in the peculiar construction of the staple employed for pivoting the hasp to or upon the door-jamb, substantially as and for the purpose hereinafter shown.

It consists, further, in the peculiar construction of the casing of the lock, by means of which its parts are connected together by one screw, substantially as and for the purpose hereinafter shown and described.

It consists, further, in a combined seal and key, in which the key is first formed, and the seal then cast upon its end, substantially as and for the purpose hereinafter specified.

In the annexed drawings, A represents the door, and B the door-post, of a car, said door being of usual construction, and arranged to slide edgewise over or away from the doorway.

Secured upon the outer face of the door A, near one of its side edges, is the outer plate or casing C of a lock, which plate has preferably an L shape in plan view, and is secured in place by means of an eyebolt, D, that passes inward through the end farthest from the door-jamb B, and through said door, and is provided upon its inner threaded end with a nut, *d*, which bears against the inner face of the latter; a bolt, E, that passes inward through the end of the upper arm of said plate and through said door, with a nut, *e*, upon its inner threaded end; and, finally, a a wood screw or bolt, F, which passes through the lower corner of said plate nearest said door-jamb, into or through said door, and is provided with a beveled head that fits into a correspondingly-shaped opening in said plate, the result being that said head is flush with the surface of the latter.

Upon the rear side of the plate C, in a line with the center of its vertical shortest arm, is provided a ∩-shaped flange, C′, that extends rearward for about half an inch, and receives a plate, C″, which incloses the rear side of said flange, and at its lower end is provided with a forward projecting flange, C‴, which extends to said plate C, and forms a continuation of said flange C′.

A screw, G, passing through the upper end of the plate C″ into the flange C′, secures the former upon the latter; but in order that the lateral position of the lower end of said plate may be insured, the flange C‴ is caused to extend upward between the lower ends of said flange C′, as seen in Fig. 8.

Upon the front side of the plate C, at the intersection of the axial lines of its horizontal and vertical arms, is provided a boss, *c*, which has a width of about half an inch, and a length of about one and a quarter inch, is placed with its longest axis upon a horizontal line, and has, preferably, its ends curved.

Upon the upper side, at the front of the

boss c, is provided an upward-projecting lip, c', which has a height of about one-eighth of an inch, while the lower side of said boss is cut away upon a downward and inward inclination, so as to cause the distance between the upper edge of said lip and the lower front edge of said boss to just equal the vertical dimensions of the latter in rear of said lip, the object of which will be hereinafter explained.

Within the boss c is formed an opening, c'', which extends horizontally inward, and has the general shape of a triangle, with its upper side considerably longer than its remaining sides, and the angle formed by the intersection of its shortest sides rounded, as shown in Fig. 3.

Upon the rear side of the covering-plate C'' is formed a boss, c''', which coincides in lateral and vertical positions with the boss c upon the outer plate, and is provided with an opening, c'''', that corresponds to and coincides with the opening c''.

Within the space inclosed by the plates C and C'' is loosely fitted a block, H, which has a length equal to about three-fourths the length of said space, and at its lower end is beveled outward and upward, as seen in Fig. 9. Between the upper end of said block and the upper end of the space within which it is contained is placed a spring—preferably a volute spring—that operates to hold said block, with a yielding pressure, at the lower limit of its motion.

The lock described is intended for the reception of the sealing-key, (shown in Fig. 4,) which key consists of a body, I, that, in cross-section, has the general form of the opening c'', and at its outer end is provided with a flat disk, I', which is preferably attached thereto by being cast upon said key after the latter is formed.

The upper side of the key I is beveled at its inner end, so as to enable the same to pass beneath and raise the block or latch H, while at a suitable point in rear of said end is formed a shoulder, i, which, when said key is in position, with its head or seal I' bearing against the outer face of the boss c, engages with said latch and prevents the withdrawal of said key.

The lock and seal described are used in connection with a hasp, K, which is pivoted at one end to or upon the door-post B, and is provided with an opening, k, that enables it to be passed over the boss c, in rear of the lip c', after which the sealing-key I is inserted within said lock, and its seal-head I', projecting over the outer face of said hasp, prevents the disengagement of the latter from said boss, and the consequent opening of the door.

To unlock the door it is necessary that the seal-head I' should be broken from the key I, as no means exists by which the latter can be disengaged from the latch H.

When it is desired to again lock and seal the car, the key from which the seal-head was broken, as described, is pushed inward through the lock, and the latter thus rendered capable of the reception of a new key.

It will be seen, by reference to Fig. 9, that the lip c' of the boss c holds the hasp K in position upon said boss, and prevents any strain from being thrown upon the seal-head I' by the working outward of said hasp in consequence of the motion of the car. It also enables said hasp to be placed in and to maintain its position before sealing.

The outer end of the hasp K is provided with an opening, k', that enables said hasp to be passed over the eyebolt D, after which a pin, L, may be passed through the latter and said hasp locked more securely in place.

In order that the hasp K may be securely connected to or with the door-jamb B, and incapable of being disconnected therefrom without breakage, the staple M (shown in Fig. 10) is employed for pivoting said hasp to said door-jamb.

The staple M has a short and a long arm, m and m', respectively, the first of which passes into but not through the door-post B, while the arm m' passes entirely through the latter, and is secured in place by means of a nut, m'', that is placed upon the threaded end of said arm. A collar, m''', formed upon said arm m', near the bow of the staple, limits the inward movement of said arm, and forms a bearing upon the outer face of said door-post, against which said nut m'' exerts its force.

The seal-heads I' are each provided with an opening, i', for the reception of a wire that is employed for stringing together such seals as are not in use.

This means for storing the seals is far more convenient and safe than that ordinarily employed—viz., a box or drawer—and prevents the accidental displacement or loss of seals.

It will be seen that, in consequence of the peculiar form of the key and the opening prepared for its reception, said key can only be inserted within its lock in one position, by which means the letters and numbers formed upon the outer face of the seal are always in position for reading, and much time is saved to the persons who are required to note such numbers and letters as the train enters or leaves a station.

The construction of the sealing-key, by first forming the shank, and then casting upon the end of the same the head or seal, enables a better and a more perfect article to be produced, and also renders more easy the separation of said parts by breaking away said head when it is desired to open the car.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. A seal-lock in which the sealing-key which confines a hasp in place has an irregular shape in cross-section, whereby it is prevented from being inserted within the lock in but one position, substantially as and for the purpose specified.

2. The staple M, provided with the short arm m, the long arm m', having a threaded inner end, the nut m'', and the collar m''', substantially as and for the purpose shown.

3. The lock-casing consisting of the plate C, provided with the ∩-shaped flange C′, the plate C″, having the flange C‴, and the screw G, passing through said plate C″ into said flange C′, substantially as and for the purpose shown and described.

4. A combined seal and key in which the key is first formed, and the seal then cast upon its end, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of May, 1877.

FREDERICK J. KIMBALL.

Witnesses:

JNO. H. SCOTT, Jr.,

HENRY F. GORIN.