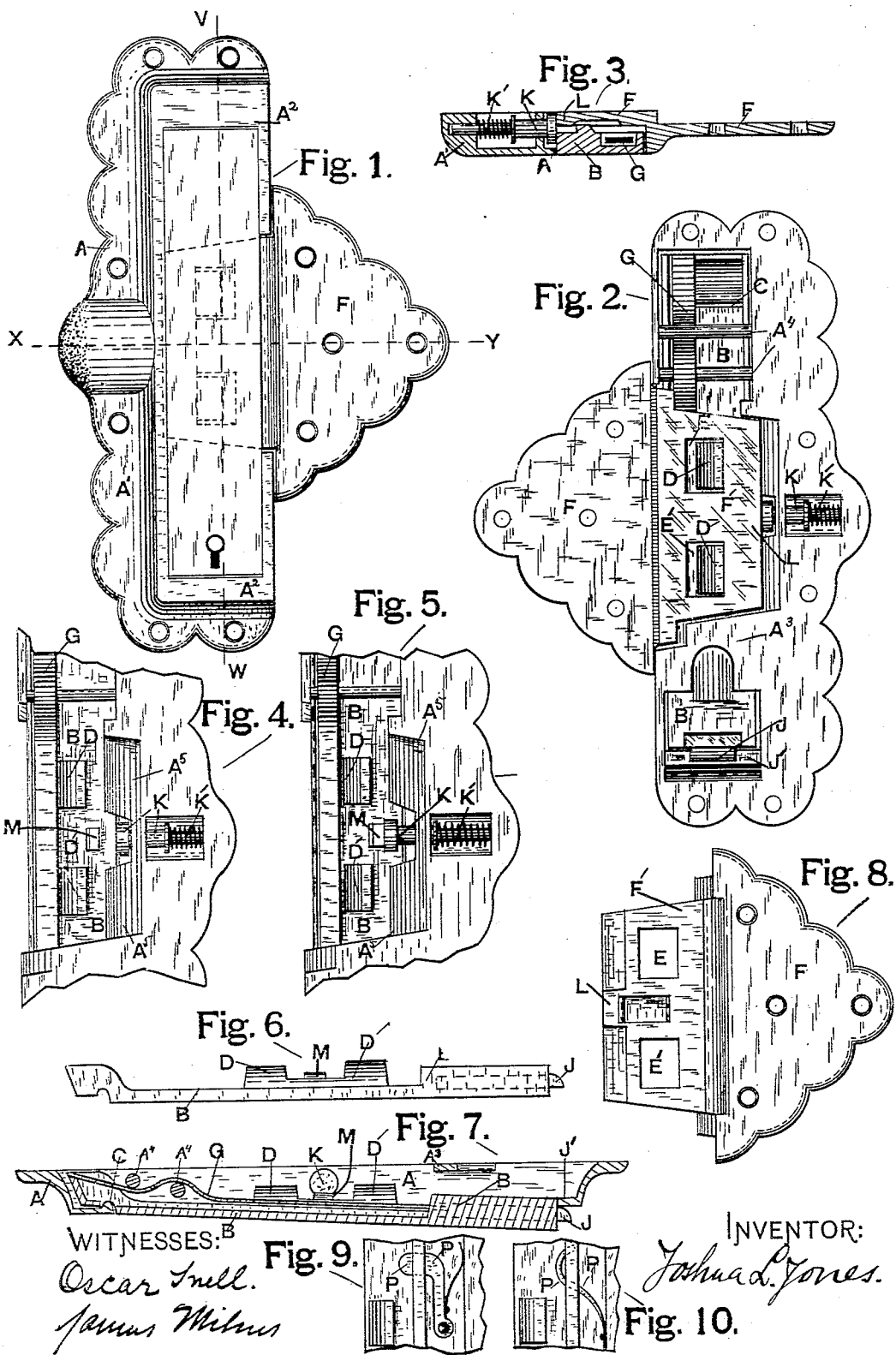


(No Model.)

J. L. JONES.
LOCK.

No. 504,785.

Patented Sept. 12, 1893.



UNITED STATES PATENT OFFICE.

JOSHUA L. JONES, OF CHICAGO, ILLINOIS.

LOCK.

SPECIFICATION forming part of Letters Patent No. 504,785, dated September 12, 1893.

Application filed May 8, 1893. Serial No. 473,380. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA L. JONES, 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 Locks, of which the following is a specification.

My invention relates to an improvement in a form of lock which is used for fastening the lids of trunks, tool boxes or sliding doors such as are used in ordinary freight cars and my object is the introduction of a new feature in such locks which greatly increases their efficiency and durability without greatly increasing their cost the manner of applying this new improvement being described hereinafter and is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a lock of the general construction to which my improvement may be applied. Fig. 2 is an elevation of the rear side of Fig. 1 and showing my new improvement. Fig. 3 is a cross section of Fig. 1 on line X Y. Figs. 4 and 5 show a portion of Fig. 2 with the catch plate removed for the purpose hereinafter stated. Fig. 6 is an edge elevation of a vibratory or swing locking bar. Fig. 7 is a longitudinal section of Fig. 1 on line V W with the swing locking bar in the open position and the catch plate removed, as will be again referred to. Fig. 8 is a front elevation of the catch plate as it appears when detached from Fig. 1. Figs. 9 and 10 show modifications of my new improvement which will be described.

Similar letters indicate like parts throughout the several views.

A is the main body or case of the lock in which is mounted to swing on a pivotal ridge C the locking bar B.

The body portion of the lock consists of a base A', with an extension A² at each end, each of the extensions being preferably recessed, and the ends of the bar B being adapted to be connected with said recesses while the central portion spans the space between the extensions. The portions of the bar near each end rest against the bottom portions or cross pieces, A³ and A⁴, of the extensions, and one edge of the central por-

tion rests on a ledge A⁵ of the base, while the other edge rests upon the catch plate, thus affording a firm support for the bar at all points, whereby it is able to withstand the blows and rough usage it is liable to receive in handling. The bar B really serves as a hasp and is furnished with a bolt J at one end which is locked and unlocked by means of a key which is inserted in the key hole shown in Fig. 1, as is well known.

Locking bar B is provided with two lugs D and D', at its rear face, which lugs engage in holes E and E' of catch plate F, when the catch plate is in the closed position shown in Figs. 1, 2 and 3, the catch plate being free to be released when the locking bar B is swung out to the position shown in Fig. 7 against the pressure of spring G. A form of spring which I have found efficient and which is shown in the drawings, is secured at one end to the bar B, near its central portion, and the other end, which may be curved as shown in Fig. 7, is passed between the cross pieces A⁴ at that end, or the bottom of the extension may be provided with a hole or opening through which the end of the spring projects. The free end of the spring after projecting through the opening is adapted to engage with the end of the bar and tends to force it outward, which will assist the main portion in drawing the bar into locking engagement with the plate.

It will be understood that when this lock is in use the main body of the lock A is attached to the body portion of the trunk or car while the catch plate is attached to the trunk lid or car door, as the case may be.

In locks in which there is a vibratory locking bar and a catch plate capable of engaging therewith at right angles to the plane of its vibration the locking bar B must be swung out to the position shown in Fig. 7 before the nose F' of catch plate F can enter the lock case A to the position shown in Figs. 1 and 2 for, if the locking bar is in the closed-in position and an attempt be made to close a trunk or door furnished with this lock the nose of catch plate would strike the beveled surface of the lugs D and D' and acting as a wedge force out the center of length portion

of the locking bar and either break it, or bend it outward and thus ruin it for the purpose intended, this being a common fault in locks of this class and to prevent which I have introduced a stop which operates automatically to prevent the closure of the swinging lock bar until the nose F' of the catch plate is clear in to the position where lugs D and D' can enter the holes E and E', as will be shown.

By omitting the portion of the case at the point where the catch plate enters, I am able to make a long narrow lock which will add to the strength of the sides of the trunk when made of thin material, as rawhide, and, when the lock is swung open, it will also give the largest opening or space for the entrance of the catch plate between the bar and the side of the trunk without making the lock so thick as to be too heavy and cumbersome.

In the drawings I have shown three forms of stops which could be used for the purpose but I do not desire to confine myself to any particular stop since many other forms could be easily devised which would operate equally well to carry out the spirit of the invention in preventing the closing of the bar B until it can engage with and lock the catch plate, as described. Figs. 2, 3, 4, 5 and 7 show a simple bolt stop K which is mounted in bearings in the case A to slide longitudinally in one direction by means of a spring K' and is made to slide in the opposite direction by the pressure of the extreme end L of the nose F' of catch plate F. The outward motion of bolt stop K is limited by means of a lug M on locking bolt B between lugs D and D'. It is obvious that, should the lock have the several parts in the closed position shown in Figs. 2 and 3 the outer end of bolt stop K will be under the edge of the locking bar B, and, if now the locking bar is unlocked and pulled out to the position shown in Fig. 7 the bolt K will be free to slide outward and stand in contact with lug M at the rear of the locking bar to prevent the bar being closed inward. As the spring for operating the stop is compressed when the stop is forced back from under the bar, as soon as the bar is moved out of the path of the spring, which is done when the lock is opened, the spring will be released and the stop will be forced out strong enough to throw the catch plate out of the case. If now, by the closing of a trunk or door, to which the lock is attached, the nose F' of catch plate F is moved to pass down into the lock case until it strikes upon the end of bolt stop K the bolt will be forced inward to the position shown in Figs. 2, 3 and 4 out of the way of the closing of the locking bar so that lugs D and D' can enter and engage with the catch plate F in holes E and E'.

In the modifications of the stops shown in Figs. 9 and 10 the arm P is provided with a leaf spring in one instance while in the other the arm and spring are made of one piece of

material and either of these stops will serve the same purpose as stop K hereinbefore described.

I claim as my invention—

1. In a lock, in combination, a case, a locking bar pivotally secured thereto at one end, a catch plate capable of engaging with the bar at substantially right angles to the plane of its vibration, a stop for automatically engaging with the bar and holding it in its unlocked position, and automatic means for moving the bar into its locked position when it is released from the stop, substantially as set forth.
2. In a lock, in combination, a case, a spring actuated vibratory locking bar pivotally secured thereto at one end, a catch plate and a spring actuated stop, each capable of engaging with the bar at substantially right angles to the plane of its vibration, and also capable of engaging with each other, and the bar being in engagement with the plate when locked and with the stop when unlocked, whereby, when the plate engages with the stop and forces it back, the bar automatically engages with the plate, and when the bar is disengaged from the plate, the stop automatically engages with the plate and forces it out of the case, substantially as set forth.
3. In a lock, in combination, a case, a vibratory locking bar therein, provided with lugs upon its under side, a spring actuated stop normally resting with one end under the bar, and a perforated catch plate capable of engaging with the bar at substantially right angles to the plane of its vibration, and having its nose adapted to engage with the stop and force it back from under the bar when the plate is in such a position that the lugs on the bar will enter the holes of the plate when the bar is released from the stop, substantially as set forth.
4. In a lock, in combination, a case having a base portion and an extension at each end, a locking bar having its central portion spanning the space between the extensions and with one end pivotally secured to one extension and having the other end adapted to be secured to the other extension, and a catch plate capable of engaging with the bar between the extensions, substantially as set forth.
5. In a lock, in combination, a case having a base portion and an extension at each end and having a ledge between the extensions, a catch plate between the extensions, and a locking bar, the ends of which rest upon the bottoms of the extensions, and the central portion rests upon the ledge and the catch plate, substantially as set forth.
6. In a lock, in combination, a case, a locking bar pivotally secured thereto at one end, a spring secured to the central portion of the bar at one end and having its opposite end passed through the bottom of the extension at that end and adapted to bear against the

end of the bar beyond its pivotal point, and a catch plate for engaging with the bar, substantially as set forth.

7. In a lock, in combination, a case having
5 a base portion and an extension at each end thereof, a locking bar between the extensions, with each end in engagement with its respective extension, a longitudinally movable spring actuated stop mounted in the base of
10 the case, one end of which, normally engages with the under side of the bar and holds it in

an unlocked position, and a catch plate for engaging with the stop and moving it longitudinally from under the bar, substantially as set forth.

In testimony that I claim the foregoing I
have hereunto set my hand, this 3d day of
May, 1893, in the presence of witnesses. ¹⁵

JOSHUA L. JONES.

Witnesses:

OSCAR SNELL,
H. F. BEST.