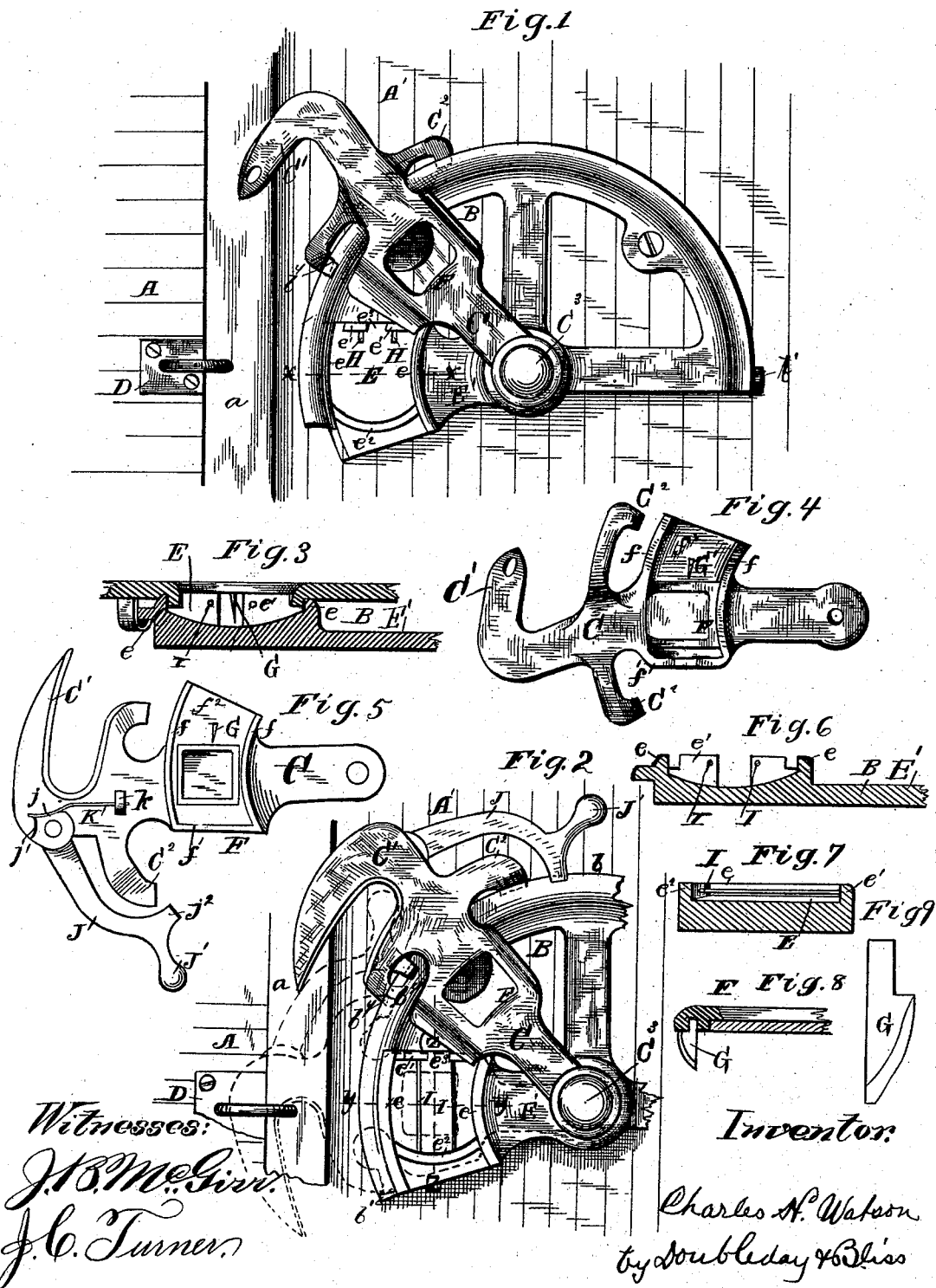


(No Model.)

C. H. WATSON.
SEAL LOCK.

No. 384,221.

Patented June 5, 1888.



UNITED STATES PATENT OFFICE.

CHARLES H. WATSON, OF OMAHA, NEBRASKA, ASSIGNOR TO JOHN L. McCAGUE, OF SAME PLACE.

SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 384,221, dated June 5, 1888.

Application filed January 27, 1888. Serial No. 262,158. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. WATSON, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, 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.

This invention relates to improvements in seal-locks, especially locks of the character used on freight-cars; and it is also applicable to locks used in connection with other receptacles or vehicles.

Figure 1 is a face view of a portion of a car and car-door having applied thereto a lock embodying my improvements. Fig. 2 is a partial face view of a device substantially similar and embodying some additional features of improvement. Fig. 3 is a section on the line *x x*, Fig. 1. Fig. 4 is an inside face view of the hasp or latch arm in Fig. 1, detached. Fig. 5 is an inside face view of the hasp in Fig. 2, detached. Fig. 6 is a cross-section on the line *y y*, Fig. 2. Fig. 7 is a section on the line *z z*, Fig. 2. Figs. 8 and 9 are details.

A represents a portion of a car-wall, and A' a portion of an adjacent sliding door, the wall having preferably the ordinary post at *a*. To the wall or post is secured a fixed fastener, D, preferably of the form of the ordinary staple.

To the door is secured the vibrating passed latch, having the shank C and the hook C', the latter being adapted to engage with the aforesaid fixed fastener D when the door is locked to the wall. The hasp or latch is pivoted by means of a bolt, C², which is preferably passed entirely through the door and secured upon the inside.

In order to hold the latch or hasp in the proper plane relatively to the fixed fastener D and to the pivot, I provide a guide for it, comprising a stationary flanged plate, B, secured to the door, and arms or projections C³, secured to the latch or hasp, and adapted to fit under and engage with the flange at *b*, as is clearly shown in Fig. 2. The guide flange or plate B is concentric with the pivot C², and extends, preferably, far enough around the same to permit the latch or hasp to be carried past the vertical line, so that it can be held on

that side of said line opposite to the fixed fastener D by its own gravity. As shown, it is approximately semicircular in shape, and is provided with a stop at *b'*, upon which one of the arms or projections C³ can rest.

With the parts above described I combine a seal-receptacle. This receptacle in the construction shown has a comparatively shallow seal-chamber at E, surrounded by walls or flanges *e e' e''*. In order to have this seal-receptacle durable and adapted to be fastened in place strongly and in such way as to maintain the proper position relatively to the hasp or latch, I cast it with a plate, E', which extends to the pivot C², and has an aperture for said pivot to be passed through, and, moreover, cast this plate E' integral with the aforesaid flanged guide-plate B; but I do not wish to be limited to these details of construction and arrangement, for the essential parts of the invention can be preserved in any suitable way so long as the seal-receptacle and the hasp or latch are kept in proper relation. This seal-receptacle is adapted to have a seal inserted into it when the latch or hasp is disengaged from its fastener. The walls *e e e'* are concentric with the pivot, and the wall *e'* has an opening formed therein at *e''*, to provide a knife-passage, and the wall *e''* has an offset or is carried down somewhat at the center to provide a guard below the knife, which assists in rendering the knife inaccessible when the parts are in the locked position.

The latch or hasp carries a seal-cover, (indicated generally by F,) it being preferably cast integral with the part C C' of the latch. In this cover there is an aperture adapted to receive a glass, which, when the latch is in the fastener D, lies over the central part of the seal-receptacle, so that the latter can be inspected at any time. The seal-cover has flanges *f f'* concentric with the pivot and contiguous to the flanges *e e e'* of the seal-receptacle. The flanges, when adjacent to each other, prevent access to the seal-chamber from the sides thereof, and also prevent the entrance of snow, rain, dirt, &c. The top and bottom walls, *e' e''*, serve the same purpose for the ends of the seal-receptacle, the cover having a projection or plate, *f'*, adapted to fit over the aforesaid

opening e^3 in the wall e' . This projection or plate f' serves as a stop to arrest the downward movement of the hasp.

G indicates the knife or device used for cutting, tearing, or marring the seal. It is secured to and projects inward from the part f^2 of the seal-cover. When the seal is in place, it is held in substantially the position shown in Fig. 3, and the knife is of such length and is so situated that it intersects the plane of the seal. The knife and the seal-cover are so fastened by the pivot that they vibrate in planes substantially parallel to that of the seal.

Heretofore use has been made of knives of several forms in seal-locks. Any one of the said forms may be employed in connection with the devices above described. In the patent to Miller, No. 143,831, a knife rigid with its carrier is employed, adapted to move under the seal in one direction without cutting it, and then, when traveling in the opposite direction, to engage with the edge of the seal and effect a cutting thereof. In the patent to Brooks, No. 151,747, January 9, 1874, a hinged cutter is employed, which is inoperative when moving in one direction, and cuts when traveling in the opposite direction. Such various forms of knives being thus well known, I do not limit all of the features of the present invention to any particular form of knife.

In order to guide the seal into its proper place in the receptacle, use may be made of studs or pins such as shown at H H, Fig. 1, these projecting inward from the end wall or walls of the receptacle; but from considerable experience with seal-locks I have found that it is desirable, and, when using the lighter kinds of card-board seals, necessary, to employ a retainer or support adapted to bear against the outer or upper face of the seal, and at the central part thereof, in order to prevent it from being crowded upward by the knife. As the knife approaches the center of the seal, there is a tendency for it to tear or break unless it is firmly gripped along and in proximity to the line of cut and from one end of said line to the other. For this purpose the aforesaid studs or pins H H are not available, as they do not retain in place or support the seal at the central part. Such a support can be provided in several ways. On account of cheapness and easy manufacture, I prefer to employ wires such as shown at I I, these extending from one side of the seal-chamber to the other, and being rigidly fastened at their ends. With seals of some sorts a single wire arranged properly in relation to the line of cut is sufficient; but in most cases I prefer to have them as shown—that is, one situated upon one side and the other upon the other side of said line of cut. By using wires they can be placed directly over the words or characters printed or otherwise marked upon the seal without preventing said characters being easily read. Moreover, steel wires are particularly advantageous, in that their elasticity allows them to yield, so that the seal can be

readily inserted, and at the same time provide an elastic grip upon its surface.

The parts that have now been described can be relied on for attaining the main purposes aimed at. The gravity of the latch or hasp may be depended upon to hold it down in the fastener until it is desired to remove it entirely therefrom; but I have found that when the cars are in motion the latch is liable to be jolted or thrown out of proper position, and that as a result the seal is sometimes partially cut or marred. I have herein shown devices by which this can be remedied. I combine with the latch or hasp a positive lock, which shall prevent any vertical movement of the latch.

J represents a lock-arm pivoted to the latch or hasp at or near the hook part C'. The pivoted end of this arm lies behind the latch, there being preferably two shoulders, $j j'$.

K indicates a spring secured to the latch, preferably by means of an ear, k , cast on the inner side. The end of this spring is adapted to engage with the edges $j j'$ and hold the arm J in either of two positions. This arm is provided with a projection, j^2 , adapted to engage with a shoulder, b^4 , preferably provided by forming a notch in the flanged guide-plate B. There is a thumb-piece at J', with which to operate the lock. A supplemental lock or catch of this sort is of considerable importance in another respect, also, namely, in that it provides a visible gage by which the party closing the door can accurately tell whether the knife has reached the end of its path—that is, the position where it is adapted to engage with the edge of the seal and cut it. If, from inadvertence or other cause, the hasp-hook C' should not be moved down far enough to carry the knife entirely across the seal, but it (the knife) should be allowed to remain against the face of the latter, there is a possibility of opening the latch without cutting the seal, the normal cutting action of the knife not coming into play until it has been carried sufficiently far beyond the seal to engage with its edge during the reverse movement. When a visible gage of the character of the catch J is employed, the one locking the door can easily tell whether the knife has moved far enough to escape from the seal and lie opposite its edge.

The manner of operating the device herein described will be readily understood.

When a seal is to be inserted and the door locked, the hasp or latch is pushed up far enough to expose the seal-chamber, after which a seal can be readily inserted edgewise under the wires I I. Then the latch or hasp is turned down until the hook C' has become seated in the fixed fastener D. At the instant the hook reaches the locking position the knife (which during this movement of the hasp has been moving across the face of the seal) should escape from the seal and be opposite its edge, and the catch J should drop into engagement with the shoulder b^4 . It will now be impossi-

ble to lift the hasp or latch from the fastener—that is, impossible to open the door without causing the knife to cut or mar the seal—and thus provision is made for detecting any attempts to open the door. When the door is to be opened by the proper person, he throws the hook C' out of engagement with the fastener D and simultaneously cuts the seal, the latter being preserved by him as evidence, if desired.

By having the knife arranged to vibrate, and at the same time having it concealed and inaccessible until the door is unlocked, I provide a much simpler, more durable, and more efficient device than are those which have been heretofore in use.

I am fully aware of the fact that numerous rectilinearly-sliding seal-cutters and seal-receptacles have been employed, and also that a vibrating tearing-pin has been used, this tearing-pin being arranged to be at all times accessible and being operated independently of the lock proper. In my case both the seal-holder and the knife-carrier are permanently secured in place to the door, and are not necessarily mutually dependent one upon the other for being retained in position. By having the knife secured to a vibrating bar—such as the hasp or latch herein—I can provide a powerful leverage to be brought to bear in cutting, the pivot being the fulcrum.

While I have herein described and shown the part lettered C as forming a hasp with a hook upon it to engage with the staple, yet it will be understood that this part C is an arm or projection attached to or formed with the seal-cover, and is adapted to be grasped by the hand for causing the knife to move curvilinearly across the seal-receptacle. I prefer to have it provided with a hook, so that it can serve as the hasp; but it will be seen that the construction can be modified in this respect so that the part C can be used simply as a lever-arm.

I do not herein claim the combination of a pivoted hasp, a seal receptacle, a seal-cover, and a seal-marring device, all secured to the hasp and the marring device being movable independently of the hasp—that is to say, movable while the hasp remains in the locked position—such an arrangement of devices being essentially different from mine.

While I have shown both the seal-receptacle and the knife carrier as being secured to the door, yet it will be readily understood that there may be inversion here without departing from the invention—that is to say, both may be secured to the stationary wall and the fastener may be attached to the door, or one may be fastened to the door and the other to the wall—so far as concerns some of the features of the invention. In another respect there may be an inversion of parts—namely, in the position of the seal-receptacle and the knife—that is, the seal-receptacle may be attached to the vibrating latch or hasp and the knife may be stationary.

I herein refer to the knife as being “immovable independently of the hasp” and to the fact that the “knife is operated at the time the hasp is moving out of the locked position,” and mean to be understood as referring to the fact that the knife in my construction, whether it be rigid with the seal-cover or be hinged thereto, cannot be caused to move until the hasp has commenced to move. This is in contradistinction to those constructions in which the knife is so supported, either upon the hasp or upon the door, that it can be moved while the hasp, as a whole, remains stationary.

I do not herein claim lock J when combined with a spring, as herein shown and described, nor do I herein claim any of the following subjects-matter, to wit: first, in a seal-lock, the combination of a lock-plate having a semicircular flanged rim, with a swinging latch pivoted to said plate and provided with arms adapted to take under said flange; second, in a seal-lock, the combination of a lock-plate having a seal-plate provided with flanges or guides, and a stop with a pivoted swinging latch carrying a knife and having flanges adapted to pass within said flanges in the seal-plate; third, in a seal-lock, the combination of a seal-plate provided with a spring extending partly across the same, with a latch carrying a knife bent to project back of the spring and seal when in its lowest position; and, fourth, in a seal-lock, the combination of a semicircular lock-plate having a peripheral flange, a central perforated boss, and radiating arms, one of which is provided with a seal-plate having guiding-flanges and a flat spring extending partly across the same, with a latch pivoted to said central boss and provided with a hook at one end perforated to receive a lock, and with guiding-arms adapted to take under said peripheral flange, and having a knife-plate and guides adapted to be swung down over the seal-plate and take under the seal therein, whereby when raised the seal is cut or canceled, I having heretofore filed an application—to wit, Serial No. 252,834—wherein the said subject-matter is shown and described, and reserve to myself the right to claim in said other application that part of the said subject-matter which is patentable.

What I claim is—

1. The combination, with the door and the wall, of the hasp or latch which vibrates about a pivot and which fastens the door to the wall independently of the seal, the seal-receptacle, and means, substantially as described, connected with the hasp or latch for marring the seal at the time when the locking hasp or latch is rocked on its pivot out of its locked position, substantially as described.

2. The combination, with the door and the wall, of the seal-receptacle and the hasp or latch which fastens the door to the wall independently of the seal, of which two parts one rocks relatively to the other about a pivot, and means, substantially as described, connected with one of said parts for marring the seal

during the time that the said rocking part is moving around said pivot, substantially as described.

3. The combination, with the door and the wall, of the vibrating hasp or latch which locks the door to the wall independently of the seal, and is directly accessible from the outside of the door, the seal-receptacle adapted to be covered by the hasp when the parts are locked, and a knife which after the parts are locked is immovable until the hasp has commenced to move from the locked position, substantially as set forth.

4. The combination, with the door and the wall, of the vibrating hasp or latch which locks the door to the wall and is situated entirely on the outside of the door, the seal-receptacle, and a knife operated at the time the hasp is moving out of its locked position for marring the seal, substantially as set forth.

5. The combination, with the hasp or latch which rocks about a pivot and which locks the door to the wall and the seal-receptacle, of the knife which is inaccessible when the parts are locked, and is immovable across the seal independently of the door, substantially as set forth.

6. The combination of the hasp or latch vibrating about a pivot, the fixed fastener with which it engages, the seal-receptacle stationary relatively to the hasp or latch, and the vibrating seal-cover, said seal receptacle and cover being situated between the said pivot and the said fixed fastener for the hasp or latch, substantially as described.

7. The combination of the vibrating hasp or latch, the seal-receptacle stationary relatively to the hasp or latch, and the seal cover formed with or rigidly attached to the hasp or latch, and having an aperture closed with a glass that vibrates relatively to the receptacle in a plane parallel to the face of the seal, substantially as set forth.

8. The combination of the vibrating hasp or latch, the pivot therefor, the seal-receptacle having flanges concentric with the said pivot, and the seal-cover having flanges also concentric therewith, substantially as set forth.

9. The combination, with the door and the wall, of the vibrating locking hasp or latch pivoted to one of the aforesaid parts, the seal-receptacle rigidly secured to the same, said part, the knife, said knife and seal-receptacle being immovable relatively one to the other, the seal-cover, and the fixed fastener for the hasp or latch secured to the other of said parts, substantially as set forth.

10. The combination, with the door and the wall, of the seal-receptacle secured to one of said parts, the knife, also secured to the same part, the pivot about which the knife vibrates curvilinearly across the seal-holder, and an

imperforate seal-cover, substantially as described, whereby the knife is rendered inaccessible while the door and the wall are locked together, substantially as set forth.

11. The combination, with the seal-receptacle secured to the door, of the vibrating seal-cover, the pivot which holds the seal-cover, the knife carried by the seal-cover and projecting inwardly therefrom, and the hooked hasp attached to the seal-cover and adapted to be grasped by the hand for causing the knife to move curvilinearly across the seal-receptacle, substantially as set forth.

12. The combination, with the seal-receptacle and the cover therefor, of which parts one rocks relatively to the other about a pivot, the knife secured to one of said parts and immovable independently of the hasp, and the hasp connected to the rocking part, of a lock supplemental to the hasp which positively holds the seal and the knife in their closed position relatively to each other, and which is movable relatively to the hasp while the latter is in its closed position, substantially as set forth.

13. The combination, with the seal-receptacle, the hinged hasp, and the staple or fixed fastener, of the lock supplemental and pivoted directly to the hasp and movable relatively to the hasp while the latter remains in the locked position in the staple or fastener, substantially as set forth.

14. The combination of the door and the wall of the seal receptacle, the rocking hooked hasp, and the knife, all situated entirely outside of the door or wall, the staple or fixed fastener with which the hooked hasp engages, the locking-dog supplemental to the hasp and pivoted thereto above the staple or fastener, and the stationary abutment on the exterior surface of the car or wall for the said dog and situated above the staple, substantially as described.

15. In a seal-lock, the combination, with the knife and the seal-receptacle, of a seal retainer or support independent of the knife bearing against the central part of the upper or outer face of the card or seal to hold said central part from displacement by the knife, substantially as set forth.

16. In a seal-lock, the combination, with the knife and the seal-receptacle, of the seal retainer or support independent of the knife, arranged across the printed or marked portion of the seal, and bearing against the surface on lines in proximity to the line of cut, substantially as set forth.

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

CHARLES H. WATSON.

Witnesses:

I. H. SMITH,
ISAAC W. HALL.