

No. 610,427.

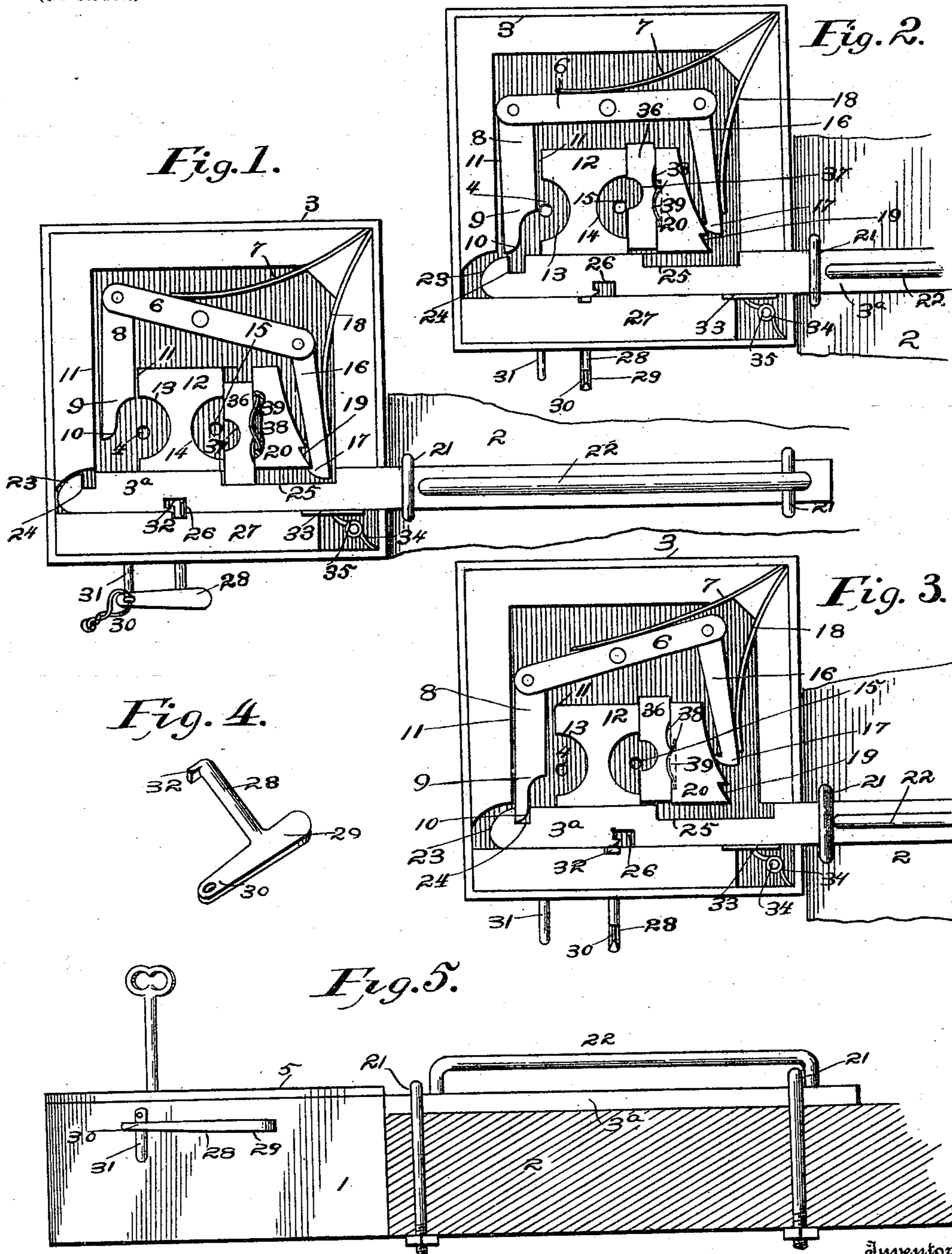
Patented Sept. 6, 1898.

J. M. BEDFORD.

CAR DOOR LOCK.

(Application filed Jan. 10, 1898.)

(No Model.)



Witnesses

*W. H. Walker.*  
*Harry L. Amer.*

Inventor  
*John Moran Bedford*  
by *V. S. Shockbridge,*  
his Attorney.

# UNITED STATES PATENT OFFICE.

JOHN MORAN BEDFORD, OF MILLERSBURG, KENTUCKY.

## CAR-DOOR LOCK.

SPECIFICATION forming part of Letters Patent No. 610,427, dated September 6, 1898.

Application filed January 10, 1898. Serial No. 666,200. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MORAN BEDFORD, a citizen of the United States, residing at Millersburg, in the county of Bourbon and State of Kentucky, have invented certain new and useful Improvements in Car-Door Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in locks, and particularly to that class known as "seal-locks," for securing car-doors and preventing the improper opening of the same without detection.

The invention consists of a sliding bolt attachable to a car-door, a lock proper adjacently supported by a door-casing, and a pivoted lever operated by a key having a sliding bar movably attached thereto for engagement with the sliding bolt on the door to lock the latter, and a pivoted pawl on the opposite end of said lever to hold the sliding bolt out of the path of the sliding bar, together with a second lock to secure the car-door independently of the seal-lock.

The invention further consists in the details of construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In seal-locks as heretofore constructed an entrance to the car and removal of the contents could be easily effected by breaking the seal, and particularly when a car remains standing in a yard overnight or at a distance from protective surroundings. Furthermore, most of the locks have been ineffectual in resisting a rearrangement and the reuse of the car by a railroad to which it does not belong, thereby distributing the rolling-stock of one railroad over the different parts of the country or in a large territory and rendering it difficult to obtain a return of said stock without great inconvenience to the road so crippled.

The object of the present invention is to produce a seal-lock which will not only operate to seal the door of the car, but may also be arranged by a specific manipulation to prevent one road from reusing or resealing the cars of another road and forcing the return

of the empty cars to the road owning the same before they can be set or released for resealing.

In the accompanying drawings, Figure 1 represents a front elevation of the improved lock, the front plate being removed to expose the interior and the parts in an unlocked position. Fig. 2 represents a similar view with the sliding bolt in the position it occupies just before unlocking. Fig. 3 represents the same in its locked position. Fig. 4 represents a detail perspective view of the sealing-pin. Fig. 5 represents a bottom plan view of the lock with the seal in its closed position.

Referring to the drawings, wherein similar numerals of reference are employed to represent corresponding parts in the several views, the numeral 1 designates a door-casing; 2, a portion of the car-door; 3, the casing of the improved lock; and 3<sup>a</sup> a sliding bolt attached to the car-door. The casing 3 is of any desired form of construction and is preferably composed of metal. Arranged within said casing is a recess 4 to receive the inner end of a key passed through a suitable keyhole-slot cut in the front plate 5 of said casing. Opposite the said recess 4 and longitudinally of the upper portion of the lock is a pivoted lever 6, engaged by a spring 7, whereby the forward end of said lever is held normally down. This latter end of the lever is bifurcated and has pivoted therein the upper end of a vertically-sliding locking-bolt 8, the lower portion of which is formed with a recess 9, located at the inner edge thereof and terminating with a slight bevel, as at 10. The locking-bolt 8 is mounted and moves between the guides 11, formed by the adjacent part and surrounding supports of the various parts of the lock, also a substantially central block 12, having a recess 13 in the edge thereof adjacent to the said bolt 8, whereby portions of the said block surround the recess 4. The opposite edge of the block 12 is also recessed, as at 14, and in the back of the lock in line with the said recess 14 is a key-end recess or socket 15 for a purpose which will be presently set forth. The opposite end of the lever 6 is also bifurcated, and therein is pivotally mounted a dog 16, with a lower shouldered nose 17, and bearing against the outer side of the dog is a spring 18 to keep the shouldered nose normally pressed inward. The said

shouldered nose of the dog is adapted to engage a notch or seat 19 in the lower outer portion of the block 20, secured to or forming a part of the interior of the lock-casing, and  
 5 between the opposite edge of the said block 20 and the block 12 a space is formed in which is located an independent lock or sliding bolt, which will be presently described. The outer edge of the block 20 is inclined in a curved  
 10 line to lead the nose 17 downwardly to its notch or seat 19 and also to hold the said dog 16 in proper position for operation at all times.

The sliding bolt 3<sup>a</sup> is attached to the car-  
 15 door 2 by means of staples 21, passing over the same and through the door and provided on their inner ends with suitable securing-nuts. The said sliding bolt is prevented from becoming detached from said staples in a lon-  
 20 gitudinal direction by means of the looped bar 22, mounted upon the same and covering one of the said staples, thus permitting the said sliding bolt to move outwardly until the inner termination of the looped bar strikes the  
 25 inner staple. The forward end of the sliding bolt is adapted to pass through a suitable aperture cut in the adjacent side of the casing 3 and enters the said casing just below the locking-bolt 8 and the dog or bolt 36. The forward end  
 30 of the sliding bolt is beveled, as at 23, and is also provided with a locking-notch 24 in the upper edge of the front portion of the same. The upper edge of the sliding bolt is provided with an elongated substantially rectangular  
 35 recess 25, and between the said recess and the locking-notch in the lower edge of said sliding bolt a bayonet-slot 26 is formed. Just below the sliding bolt and supported within the casing is a block 27, in which is rotatably and  
 40 slidably mounted a sealing-pin 28, having a sealing-head 29 and an outer apertured headed end 30. A hook 31 is driven into the bottom of the lock, also having an upwardly-projecting eye which passes through the aper-  
 45 tured end of the said sealing-head of the sealing-pin 28, and when these parts are so arranged the sealing-wire is secured in the said eye of the hook and the lock thereby held in a sealed condition until the said wire is broken  
 50 by proper persons. To hold the sliding bolt 3<sup>a</sup> by the sealing-pin 28, the latter has an angularly-projecting nose 32 on its inner end, which engages the bayonet-slot in the lower portion of said sliding bolt, and the latter can only be  
 55 released by breaking the sealing-wire, turning the seal-pin until the angularly-projecting nose is released from the bayonet-slot in said bolt, and withdrawing the said sealing-pin to clear the said sliding bolt. When it is  
 60 desired to lock the sliding bolt 3<sup>a</sup> in addition to sealing it, a suitable key is inserted through the keyhole-slot in line with the recess 4 and, turned through a half-revolution, engages the nose 10 of the locking-bolt 8 until the shoul-  
 65 dered nose 17 of the pawl 16 snaps over the lower end at the outer corner of the said block 20. Upon the car reaching its destination

the seal is broken and removed, as before de-  
 scribed, and the sliding bolt 3<sup>a</sup> is withdrawn  
 70 from the lock-casing. This operation of with- drawing the said sliding bolt from the casing causes the wall of the recess 25 to engage the nose 17 of the dog 16 to release the latter from the under side of the block 20, thus per-  
 75 mitting the spring 7 to act and force the slid- ing locking-bolt 8 down into locking position. When the sliding bolt 3<sup>a</sup> is again inserted in the lock-casing, the inclined surface at the front of said bolt engages the inclined surface at the lower end of the said locking-bolt 8  
 80 and forces the latter upward against the tension of the spring 7 and permits the end of the said locking-bolt to spring downwardly into the recess 24, and thus locks the said slid-  
 85 ing bolt 3<sup>a</sup> against withdrawal from the cas- ing. The car cannot now be opened unless the lock is operated by a suitable key to dis-engage the lower end of the locking-bolt 8 from the said recess 24, and the keys for this  
 90 purpose will be retained only by the railroads owning the stock or car upon which the par- ticular lock is placed, thereby forcing a re-  
 95 turn of the car to the road to which it be- longs. Therefore the key for releasing the locking-bolt 8 after this arrangement in the  
 100 last position described can only be obtained when the car is returned to its owners or the road to which it belongs.

When the locking-bolt 8 is in connection with the sliding bolt 3<sup>a</sup>, as set forth, it will  
 105 be impossible to seal the lock, in view of the fact that the bayonet-slot in the lower edge of the sliding bolt 3<sup>a</sup> will not be in a position to be engaged by the inner end of the seal-pin. When the key is inserted in the lock by proper  
 110 parties to release the locking-bolt 8 from the sliding bolt 3<sup>a</sup>, the bit of said key engages the recess 9 and bearing against the upper termination thereof raises said locking-bolt, and in this operation the said bit of the key turns  
 115 in the recess 13 in the block 12 at the same time that the locking-bolt 8 is released from the sliding bolt 3<sup>a</sup>. The dog 16 is also clear of the said sliding bolt 3<sup>a</sup>, and the latter is thereby permitted to be inserted or withdrawn  
 120 from the casing of the lock at will. The opening in the casing of the lock through which the sliding bolt 3<sup>a</sup> passes is closed when said bolt is not in position therein by a plate 33, mounted upon a spiral spring 34, which in  
 125 turn moves on a suitable pin 35, attached to the adjacent portion of the base of the casing. When the sliding bolt 3<sup>a</sup> is inserted into the lock-casing, this spring-pressed closing-plate is pressed back on its pivot out of the way.

When a car is left standing in a yard over night or at some point along the route, it can be easily opened where the ordinary lock is used by breaking the seal-wire, and the same would be true in the present lock if other  
 130 means, which will be presently described, were not provided to prevent this tampering, and thus it will be seen the contents of the car are otherwise made accessible and can be stolen

and removed. To avoid this, a supplementary lock is provided and located in the space between the ends of the blocks 12 and 20 and comprises a vertically-movable bolt 36, having a notch 37 in the side thereof next to the adjacent end of the block 12 and the recess 14. The opposite edge of the said bolt is formed with recesses 38, with which spring 39, adjacent to the block 20, cooperates. The bolt 36 is locked by inserting a suitable key through an opening in the outer portion of the lock-casing and causing the inner end thereof to engage the recess or socket 15 and then giving the same a half-revolution until the bit thereof strikes into the notch 37 and forces the said bolt 36 downwardly until it enters the elongated recess 25 in the upper edge of the sliding bolt 3<sup>a</sup>. This will prevent the withdrawal of the bolt even though the seal be broken, and the keys for operating this supplemental lock will be retained in the possession of the proper parties at different points to prevent entrance into the car by improper persons, and thereby insuring protection of the contents of said car. This supplemental lock can be operated at any time, either to open or close the same, without affecting the seal attachments, and it will be observed that though the seal attachments should be broken or disconnected the sliding bolt could not be withdrawn, in view of the fact that the lower end of the bolt 36 would strike the innermost termination of the elongated recess 25. The said vertical bolt 36 will be mounted in suitable guides fixed to the lock-casing at proper points.

Keys of different construction will be supplied to the different roads or owners of rolling-stock for operating the locking-bolt 8, and thus always force the return of the car bearing a lock of this character back to the said owners before it can be resealed, and thereby prevent one railroad or owner of rolling-stock using that of another.

The improved lock is intended particularly for use upon such cars as are loaded and shipped to a certain destination, after which they are to be returned home without being further used. By means of the lock as set forth this object is effectually accomplished, in view of the fact that after the car has once been opened it cannot again be used without so locking itself that it will resist reopening thereof unless by the properly-authorized persons having a suitable key for the lock. It is also sometimes desirable to arrange the car to be opened at some intermediate point between its starting-point and its destination. To provide for this, the lock is set with the nose of the pawl below the lower end or outer lower corner of the block 20, so that when the car reaches the intermediate point of delivery the seal may be broken and the sliding bolt withdrawn to open the car-door. When the said sliding bolt is reinserted into the lock after again closing the door, it is automatically locked, and the contents of the car can-

not be reached until the latter has arrived at its destination. In this case the agent for receiving the car must be provided with a suitable key for unlocking the lock. This latter operation of course is intended to occur on branches or intermediate points of the same railroad.

The supplemental lock herein set forth for securing the sliding bolt against disengagement by breaking the seal under the circumstances specified does not in the least interfere with the remaining parts of the lock as an entirety and serves only as a valuable addition to the completeness of the device.

It is obviously apparent that changes in the proportion, arrangement, and minor details of construction might be made from those shown and described without in the least departing from the nature or spirit of the invention.

Having thus described the invention, what is claimed as new is—

1. In a car-lock of the character set forth, the combination with a sliding bolt attachable to a car-door, of a lock proper applicable to the car-body and comprising a suitable casing, a pivoted lever mounted therein, a sliding locking-bolt mounted upon one end of said lever to engage the said sliding bolt and hold it within said lock, and a dog pivoted to the opposite end of said lever and means for holding the said locking-bolt out of the path of the sliding bolt, substantially as described.

2. In a car-door lock of the character set forth, the combination with a sliding bolt attachable to a car-door and provided at one end with a bolt-receiving recess, of a lock proper applicable to a car-body and comprising a suitable casing, a lever pivoted therein, a locking-bolt mounted on one end of said lever and adapted to engage the recess in said sliding bolt, a dog pivotally mounted upon the opposite end of said lever a notched block for engagement by said dog to hold the pivoted lever in its adjusted position, and a key for releasing said locking-bolt, substantially as described.

3. In a car-door lock of the character set forth, the combination with a suitable sliding bolt attachable to a car-door, of a lock proper applicable to the car-body and comprising a suitable casing, and a spring-pressed pivoted lever mounted in said casing, of a pivoted spring-pressed dog attached to said lever and adapted to hold it in its shifted position, a locking-bolt pivoted to said lever and adapted to engage the said locking-bolt to lock it in position within the casing, and means for releasing said locking-bolt from the sliding bolt, substantially as described.

4. In a car-door lock, the combination of a sliding bolt attachable to a car-door and formed with a bayonet-slot in one edge thereof, means for securing said bolt, a sealing device comprising a sealing-pin having a head to enter the bayonet-slot, and revoluble to

lock said pin in the bolt, and an exterior sealing-head upon said pin, substantially as described.

5     5. In a car-door lock of the character set forth, the combination with a sliding bolt attachable to a car-door and provided with a locking-bolt-receiving recess, of a lock proper applicable to a car-body and comprising a suitable casing, a spring-pressed lever piv-  
10     oted in said casing, a spring-pressed dog pivoted to one end of said lever, a notched block for engagement by said dog, a locking-bolt pivoted to the opposite portion of said lever and adapted to enter the recess in said slid-  
15     ing bolt to lock the latter in position, and a key for releasing the said locking-bolt, substantially as described.

6. In a car-door lock, the combination of a sliding bolt attachable to a car-door having an elongated recess in the upper portion there- 20  
of, means to engage the bolt and hold the same in position to prevent it from being resealed until properly released, sealing mechanism for said bolt, and an independent, supplemental locking-bolt adapted to engage the re- 25  
cess in the upper portion of the slotted bolt to hold the bolt in locked position after the seal has been broken, substantially as described.

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

JOHN MORAN BEDFORD.

Witnesses:

GEO. W. BRYAN,  
A. J. HITT.