(No Model.)

M. L. MANLEY.

CAR DOOR LOCK.

No. 347,185. Patented Aug. 10, 1886.

Fig. 1.

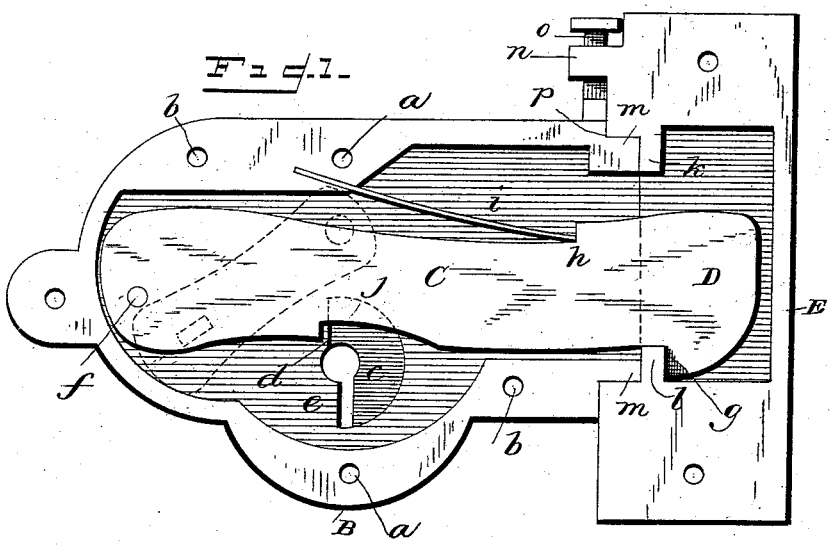
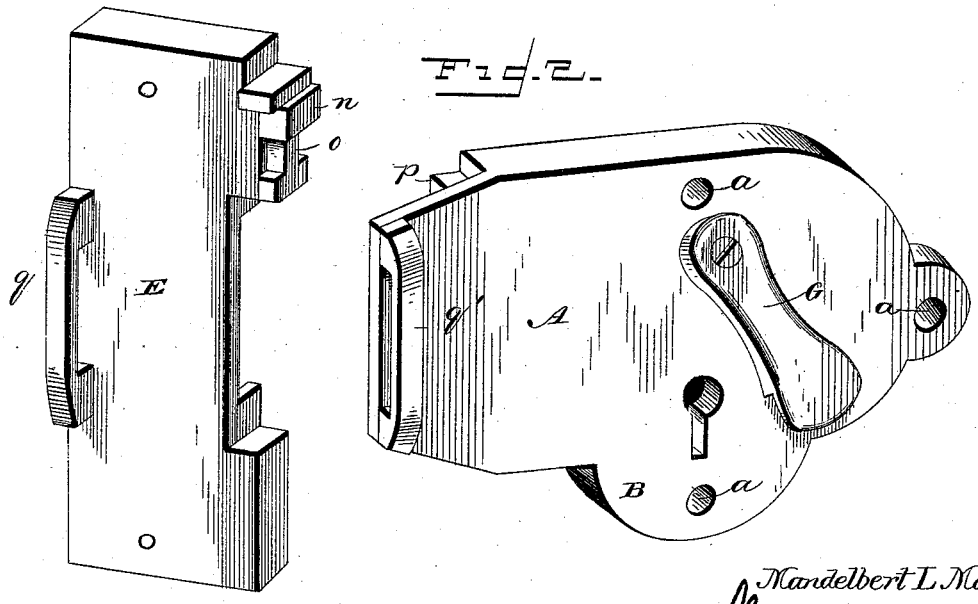


Fig. 2.



WITNESSES

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CAR-DOOR LOCK.

SPECIFICATION forming part of Letters Patent No. 347,185, dated August 10, 1886.

Application filed June 3, 1886. Serial No. 204,067. (No model.)

To all whom it may concern:

Be it known that I, MANDELBERT L. MANLEY, a citizen of the United States of America, residing at Ferry, in the county of Oceana and State of Michigan, 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention has reference to car-door locks; and it consists in the improvements hereinafter described, whereby a simple and efficient lock is provided, one that will be automatic in its operation, and which can be readily prevented from becoming fastened or secured, notwithstanding such automatic operation, and which, furthermore, embodies certain details of construction which greatly increase the efficiency of the lock.

In the accompanying drawings, forming part of this specification, Figure 1 is an elevation of the inner side of the lock proper, together with the keeper; and Fig. 2 is a perspective view looking at the opposite side of the lock, the lock proper being disconnected from its keeper.

A refers to the housing or casing of the lock proper, which is of the form shown, and is provided with perforations *a*, for attaching the same to the car-door, while the second series of smaller perforations, *b*, are provided for the attachment of the housing to an inner guard-plate. (Not shown.) The said housing has depending from its under side a curved offset, B, to provide for one of the openings for the securing-screws, and also to admit of the housing-recess being extended down, as shown in Fig. 1. A key-hole perforation is formed in the housing, the vertical depending portion of which key-hole extends for a slight distance in the direction of the recessed portion in the housing, and the front plate of the housing is cut away or recessed to form a recess, *c*, on one side of the key-hole, concentric with the circular portion of the latter, and thereby present vertical shoulders *d e*, to limit the movement of the key when inserted in the key-hole.

C refers to the latch, which is pivotally connected at its rear end by a pin, *f*, in the rear portion of the housing, and extends or projects at its front end beyond said housing to form a catch-head, D, the said projecting end being provided with a hook, *g*, for such purpose. The said latch is provided on its upper side with a shoulder, *h*, against which abuts one end of a spring, *i*, the other end of which is located in a slot formed in the housing, the said spring tending normally to maintain the latch in the position illustrated in Fig. 1. The latch is cut away to a slight extent on its under side, as represented at *j*, so as to form a curved depression approximately coinciding with the upper part of the curved recess *c*.

E refers to the keeper, which is perforated above and below for attachment to the car, and is provided with a vertical recess, the entrance to which is guarded by projecting shoulders *k* and *l*, respectively, above and below the same. As will be noted in Fig. 1, the shoulders *k* and *l* project beyond the inner edge of said keeper, so as to form in connection with the same recesses in which the angular portions or shoulders *m* on the front of the lock-housing are designed to bear when the door with the said housing is slid toward the keeper. The keeper of the housing is provided upon its upper inner side with an offset, *n*, vertically perforated for the passage of a tongue, *o*, of a gravity-dog, which is enlarged at its upper and lower ends.

In operation, the keeper being secured to the car and the lock proper to a sliding door thereof, the door is locked when the parts are in the position represented in Fig. 1. To unlock the door, it is only necessary to insert the key, which can only be moved after its insertion in the direction defined by the recess *c*, in which recess the ward of the key travels until it contacts with the curved portion of the latch F, whereupon it raises said latch on its pivot and comes in contact with the vertical shoulder *d*. The spring-pressure of the latch will be sufficient to retain the key in the position which it has now reached, thus enabling said key to retain the latch in its elevated position, or the key may be turned just sufficient

to elevate the head D out of engagement with the shoulder *l*, after which the door may be slid open. It will be noticed that the lower front face of the head D is curved, so that it will contact with the shoulder *l*, and will be gradually elevated in order to engage the same. When the key is not turned in the lock or removed therefrom, the door may be slid toward the keeper, so that the latch will automatically engage the shoulder of the former. Should it be desired to prevent any accidental engagement of the latch with the keeper, the gravity-dog is dropped so that its lower enlarged portion will be interposed between the part *p* of the housing and the adjacent face of the keeper.

G refers to a metal guard pivoted upon the outer face of the housing, and provided at its lower inner side with a rectangular offset, (indicated by dotted lines in Fig. 1,) which offset is designed to enter the ward portion of the key-hole. As seen in Fig. 2, the lower part of the guard is cut away on its inner side, so as to form a lip to permit the guard to be pulled out slightly from the housing, in order to withdraw the offset from the key-hole, after which the said offset will bear upon the housing and slightly exert an outward pressure upon the guard G, which is preferably made of spring metal. By employing the said guard, when the latter is moved in the direction of the key-hole, the offset, by reason of the spring of said guard, will be projected into said key-hole, so as to lock said guard against vibration on its pivot, occasioned by the jar of the car, and insure the proper protection of the key-hole against dirt or other foreign matter.

If desired, a tumbler or series of tumblers may be employed in connection with the latch to effect the locking operation of the latter.

q q' refer to loops formed, respectively, on the keeper and lock-housings for the application of a seal.

I claim—

1. The combination, in a car-door lock, of a housing, A, provided with a key-hole and latch, C, pivoted therein, a spring exerting a pressure upon the upper side of said latch, a key-hole formed in said housing, and a recess, *c*, located on the inner side of said housing at one side of said key-hole to permit the ward of the key to travel therein and contact with the latch to elevate the same, substantially as set forth.

2. The combination, in a car-door lock, of a keeper and housing, a key-hole formed in said housing, a latch, C, pivoted therein, and a spring exerting a downward pressure thereon, a shoulder, *l*, in said keeper for engaging the latch, and a gravity-dog mounted upon the upper side of the keeper to be interposed between the same and the lock-housing, the parts being organized substantially as shown.

3. The combination, in a car-door lock, of a key-hole guard, G, pivoted upon the outer face of said lock and provided with an offset adapted to enter the ward-slot of the key-hole, substantially as set forth.

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

MANDELBERT L. MANLEY.

Witnesses:

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