F. P. PFLEGHAR.

LATCHES FOR CARRIAGE-DOORS.

No. 193,723. Patented July 31, 1877.

Fig. 1.

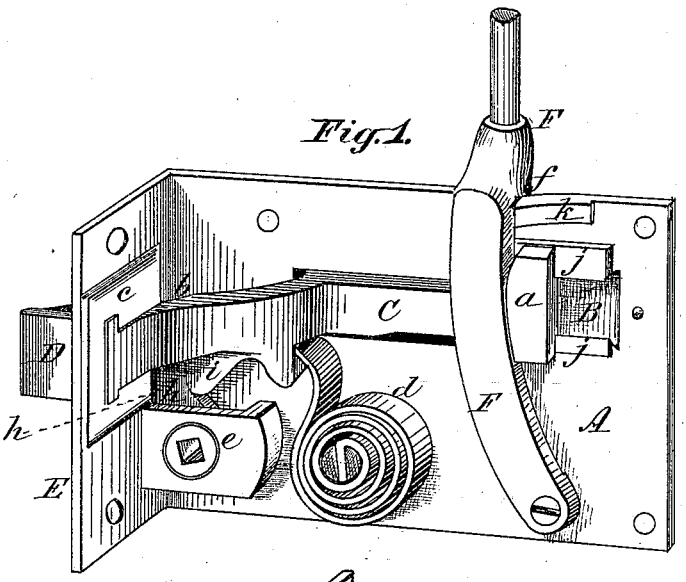


Fig. 2.

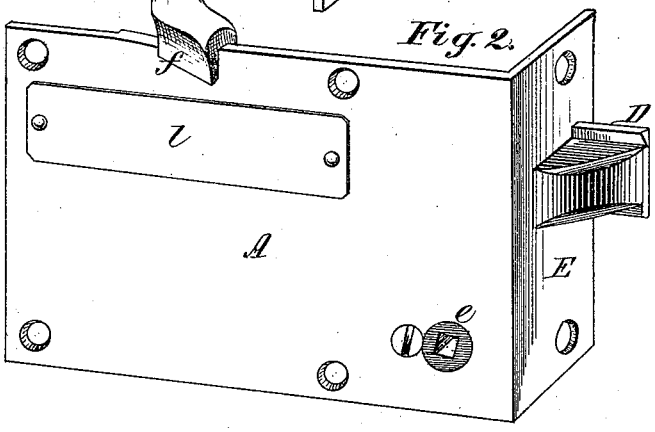


Fig. 5.

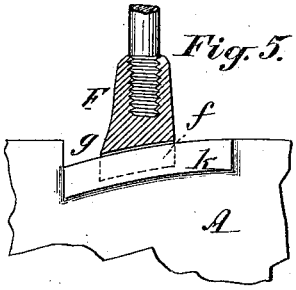


Fig. 3.

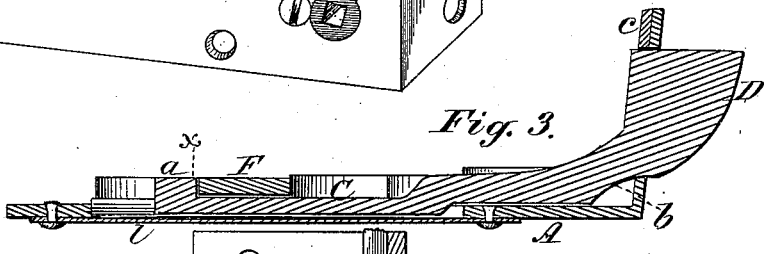
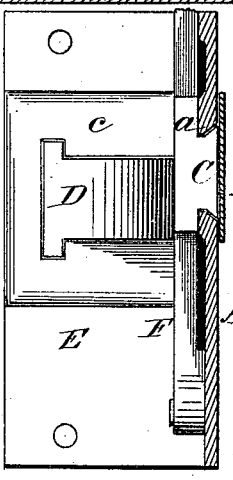


Fig. 4.



Witnesses:

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FRANK P. PFLEGHAR, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN LATCHES FOR CARRIAGE-DOORS.

Specification forming part of Letters Patent No. 193,723, dated July 31, 1877; application filed May 31, 1877.

To all whom it may concern:

Be it known that I, FRANK P. PFLEGHAR, of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Carriage-Door Locks, which improvements are fully set forth in the following specification and accompanying drawings.

My object is to simplify the construction, reduce the cost of manufacture, lessen the weight, and add to the strength of carriage-door locks.

My improvements relate to that class of carriage-door locks which are operated by a hand-lever from the inside of the carriage and a spindle-handle from the outside.

A single carrying-plate serves, by a recessed guideway, to hold the latch securely in position, and thereby avoid the necessity of a closed case or confining-frame over the latch-movement, thereby reducing the lock to a minimum thickness. The latch has a curved neck, by which it is adapted to be thrown through the face-plate as far as possible from the corner edge or angle, thereby permitting additional strength in the door-casings of the carriage.

The front face of the carrying-plate is re-enforced by a supplemental plate, or otherwise thickening it, by which the latch-wearing surface is increased.

The lever has an acting bearing-surface against the latch-shank, and is pivoted at its lower end, and held in position by an upper outside guide, holding it to its proper movement against lateral displacement.

Referring to the drawings, Figure 1 represents a view, in perspective, of the inner side of a carriage-door lock embracing my invention; Fig. 2, a perspective view, showing the outside of the carrying-plate and its face-plate; Fig. 3, a horizontal section taken through the guide-recess for the latch, and showing the curved neck of the latch; Fig. 4, a cross-section, showing the dovetail form of the guide-recess of the latch; and Fig. 5 is a detail of the notched way for the guide-hold of the hand-lever.

The frame consists of a single plate, forming the carrier A and face-plate E. The carrying-plate has a horizontal recess, B, the sides of which are dovetailed, into which the shank C of the latch D works, being of corresponding dovetail form, This dovetail guide-recess, in connection with a latch-projection, *a*, which overlaps the recess-edges, forms a hold to confine the latch securely in its movement. The neck *b* of the latch is curved or crooked to increase the distance between the corner edge and the opening for the latch-head in the face-plate E, as shown in Fig. 2, and thereby obtaining the advantage stated. The face-plate is re-enforced by a supplemental plate, *c*, or its equivalent thickening medium, for giving an increased wearing-surface for the latch-head and preventing fracture of the face-plate.

The latch is provided with the usual spring *d* and spindle-hub device *e*, by which the latch is constantly projected and the door opened from the outside. The hand-lever F is secured by pivot at its lower end to the carrying-plate A, and has a bearing upon the latch-projection *a*, and a guide-hold, *f*, lapping over the outer side of the plate, thus holding the lever in secure position, and allowing it to give the proper latch-movement. The guide-hold works over a notched way, *g*, (see Fig. 5,) concentric with the lever-pivot. The shoulder of this notch may form a stop to limit the projection of the latch; or the spindle-tumbler *h* may, in connection with the latch-projection *i* and the inner side of the face-plate, form such stop. The projection *a* of the latch-shank, while serving to hold the latter in its guide-recess, serves the additional function of a free bearing for the hand-lever upon one side only, thus adapting the lever to its arc-movement. The guide-recess ways and concentric lever-way may be re-enforced by face-bearings *j j k*, as shown in Fig. 1. As the carrying-plate is only of the usual thickness, I prefer to make the guide-recess open, and rivet a thin back-plate, *l*, over said opening.

It is a matter of importance in coach-door latches that the latch and its carrying-plate should be as compact as possible, and for this purpose the latch-shank is countersunk or set in a recess or opening, so as to work within the thickness of said plate, and be held therein by dovetail guideways.

The shank for this purpose is bent to fill the recess or opening, and work therein flush, or

nearly so, with the sides of the carrying-plate, the dovetail guides avoiding all projections through the plate and screw-nut or other fastenings.

The face-plate E is a part of the carrying-plate, and the re-enforcing-plate *c* serves to brace the thin face-plate against the thrusts of a sliding latch in closing the door.

I claim—

1. The latch D *b* C of a carriage-door lock, the shank C whereof is countersunk within a recess in the carrying-plate, and held by dovetail guides.

2. In a carriage-door latch, the latch-shank C, bent and countersunk in the recess B in the carrying-plate A, the lever F, working over such countersunk shank and against an outside end lapping bearing, *a*, thereon, all constructed and combined as set forth.

3. In a carriage-door lock, the dovetail ways *j j* of the guide-recess B, the corresponding dovetail edges of said shank, and the lapping projection *a* of the latch-shank C, to hold the latch-shank in said recess within the thickness of said plate.

4. The hand-lever of a carriage-door lock, having the upper guide lapping hold, for the purpose described.

5. The hand-lever, secured by pivot to the plate at its lower end, and guide-hold at the top of said plate, in combination with the latch having the free projecting bearing, substantially as and for the purpose described.

6. A carriage-door lock consisting of a carrying-plate, a recessed guideway therein, a latch supported in said guideway, a curved latch-neck, and a hand-lever having a lapping upper guide-hold and a free bearing upon the latch-projection, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

FRANK P. PFLEGHAR.

Witnesses:

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