

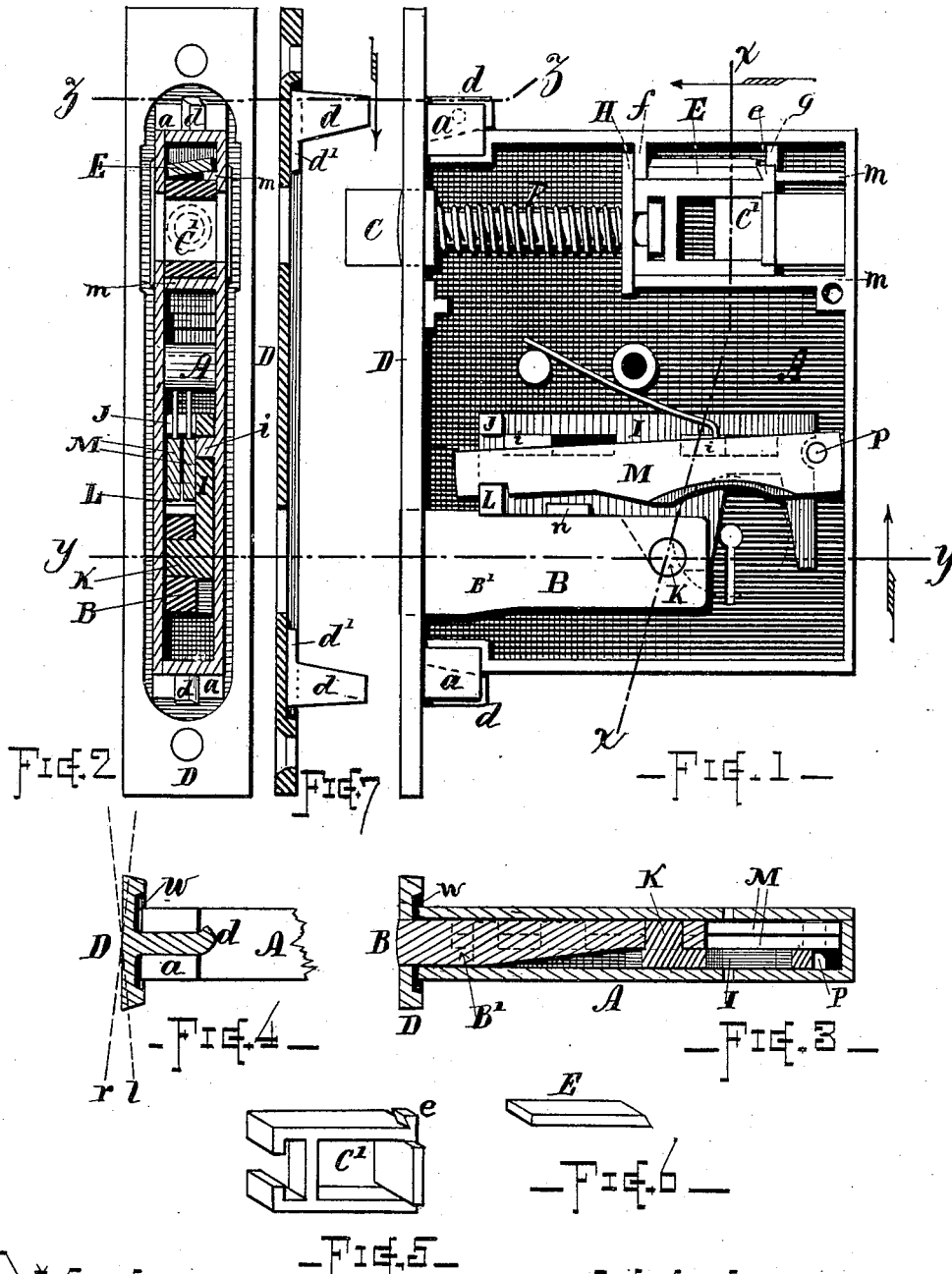
(Model.)

A. B. PROUTY.

LOCK.

No. 266,390.

Patented Oct. 24, 1882.



WITNESSES.

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UNITED STATES PATENT OFFICE.

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LOCK.

SPECIFICATION forming part of Letters Patent No. 266,390, dated October 24, 1882.

Application filed December 17, 1881. (Model.)

To all whom it may concern:

Be it known that I, AUGUSTUS B. PROUTY, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Combined Latches and Locks for Doors; and I declare the following to be a description of my said invention sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My present invention relates to improvements in the construction of combined latches and locks for doors, with a view to facilitating their manufacture and rendering the mechanism simple, inexpensive, efficient, and convenient for use.

The features of my invention include, first, the peculiar manner of attaching the face-plate to the lock-case; second, the manner of constructing and arranging the latch-bolt with the devices for permitting the reversal of its end; third, the improved form and construction of the locking-bolt and the manner of combining it with the tumbler and guard devices, all of which are hereinafter specifically explained, the particular subject-matter claimed being definitely stated.

In the drawings, Figure 1 represents a side view of a combined latch and lock illustrating the nature of my invention. Fig. 2 is a vertical section of the same at line *xx*. Fig. 3 is a horizontal section at line *yy*, and Fig. 4 is a horizontal section at line *zz*, each viewed looking in the direction indicated by the respective arrows. Fig. 5 is a perspective view of the latch-bolt slide. Fig. 6 is a perspective view of the drop-bar; and Fig. 7 is a vertical section through the face-plate, showing the form of the attaching-lugs.

A denotes the lock-case, B the locking-bolt, C the latch-bolt, and D the face-plate, which parts are located substantially in the ordinary positions.

The case A is provided with bosses or projections *aa* at its upper and lower front corners, and through the central part of said bosses, in a direction parallel with the sides of the case, are milled channels or otherwise formed openings or recesses to receive the studs or projec-

tions, by means of which the face-plate D is connected thereto.

The attaching-studs *d* are formed upon the back of the face-plate D, and are preferably made of the shape illustrated, having flat sides or of rectangular section, and of a thickness suitable to fill the channels through the bosses *a*. The projections or studs *d* are located on the plate D in positions to correspond with the respective bosses *a*, and the connection is made by entering the studs into or through the bosses *a*, and there securing them by upsetting or riveting them in place, or by clinching the projecting part of the stud *d* down upon the back of the boss *a*, as shown. The plate D is set so as to leave an open space, *w*, between its rear side and the edge of the lock-case, and to insure its proper adjustment small flanges, *d'*, are formed at the base of the stud *d*, which flanges, by striking the front of the bosses *a*, indicate the proper position for the face-plate D. The longest diameter of the studs *d* is in direction longitudinal with the plate.

By constructing the studs and bosses as described and adjusting and securing the face-plate to the lock-case in the peculiar manner set forth, the attachment is quickly and conveniently effected, and the plate is firmly and rigidly secured to the case, while, if desired, right or left inclination to match bevel-edged doors can be readily imparted to the plate (see dotted lines *r l*, Fig. 4) by simply placing its side angle against a board or other rest and pressing it in the direction required with a force sufficient to bend the studs *d*, this being easy of accomplishment by reason of the space between the case A and plate D.

If desired, the studs *d* could be made cylindrical and be set into holes drilled through the bosses *a*; but I prefer the form illustrated.

The latch-bolt C is made, as shown, with a round spindle, the inner end of which is swivel-connected to the slide-piece C', which is engaged by the knob mechanism for actuating the bolt. The slide-piece C' works between the guiding-flanges *m m*, and is located at a short distance from the top rim of the case A. A projection or under-beveled lug, *e*, is formed on the upper rear part of the piece C', (see Figs. 1 and 5,) and a loose bar or dog-piece, E, is laid into the space above the slide-piece C', where

it is loosely confined by flanges *f g* or other suitable means in such manner that it is free to move up or down, but not forward or backward, or in the direction of movement of the bolt devices C C'. The bolt C is provided with the usual spring, F, and bearing-plate H, as indicated.

When the case A is in upright position the bar E drops down upon the slide C' in front of the projection *e* and forms a stop between said projection and the flange *f* and prevents the slide-piece C from being drawn forward beyond a given position. (See Fig. 1.) But when the case A is inverted the bar E falls away from the lug *e*, and the slide C' can then be drawn forward sufficiently far to release the bolt end from the face-plate and permit of its reversal. Thus, for changing the latch-bolt from right to left hand position, it is simply necessary to invert the case A while effecting the change, since the bar E serves to secure the slide C' and latch-bolt C in place when the parts are in normal or upright position, and to release said bolt when inverted.

The form and position of the drop-bar or dog E may be variously modified to meet the requirements of various sizes and styles of bolts and cases without departure from the nature of my invention.

The lock-bolt B is made, as illustrated, of a separate piece from the action parts, and is connected thereto at its rear end. A slide plate or carrier, I, provided with suitable slots to fit the guide-lugs *i* on the back of the case is arranged just above the bolt B, while a dependent part of said carrier is joined to the bolt by means of a stud, K, that extends through an opening formed near its rear end, as shown. The carrier is provided with upper and lower guard-lugs, J and L, to engage with the forward ends of the tumbler-bars M, and near its rear end with a recess to engage the bit of the key. It also has a small flange, *n*, at its lower edge, which serves as a stop to prevent the tumbler-bars from dropping too far when the carrier I and bolt B are thrown forward.

The tumbler-bars M are pivoted on a stud, P, permanently fixed in the rear part of the case A, and they extend forward over the key-
 50 race, with their front ends playing between the guards J L, in a manner similar to that described in my Letters Patent No. 235,963.

By arranging the locking-bolt mechanism in the manner shown and described I am enabled to give the bolt great strength at the part B', so that it cannot be bent by a pressure against the side of its projecting end. Another advantage is the economy of construction when the bolt is of brass, as the carrier
 60 may be of iron, thus saving weight in the more expensive metal.

In lieu of the swivel-connection shown, the spindle of the latch-bolt C may be threaded and screwed into the end of the slide-piece C', the latter being formed for its reception, and the screw-thread may be upset at its end, so that it cannot be turned out while reversing the latch beyond a proper position.

I am aware that the face-plates and cases of locks have heretofore been secured to each other by means of clinching-studs, and I do not therefore herein make claim broadly to such means of connection irrespective of the special construction of the parts. Neither do I make claim broadly to a reversible latch-bolt device in which the dog or catch-piece for preventing withdrawal of the bolt-spindle is released by inverting the position of the latch-case, as I am aware that such feature has heretofore been employed, but in different construction from that herein shown and described.

What I claim as of my invention, and desire to secure by Letters Patent, is—

1. The combination, with the lock-case provided with channeled bosses *a*, as described, of the face-plate provided with flanges *d'* and studs or projections *d*, clinched or riveted within said bosses in the manner set forth, whereby a rigid connection is afforded while the face-plate is sustained at a short distance from the edge of the case, as and for the purpose specified.

2. The combination, with the slide-piece C', provided with a beveled lug, *e*, and the latch-bolt C, swivel-connected to said slide, of the loose bar or dog E, confined between said slide and the case by flanges *f g*, said parts being constructed and arranged for action in the manner shown and described, and for the purpose set forth.

3. The combination of the locking-bolt B, the bolt-carrier I, provided with key-seat and guards, and arranged to slide on guides *i* above the bolt, and a tumbler mechanism for engaging said guards, substantially as set forth.

4. The combination, substantially as shown and described, of the carrier or slide I, provided with key-seat, upper and lower guards, J L, flange *n*, and stud K, the tumbler-bars M, pivoted on the fixed stud P, with their forward ends acting in conjunction with said guards, and the bolt B, located as shown and connected for action with said carrier, as and for the purposes set forth.

Witness my hand this 18th day of January, A. D. 1881.

AUGUSTUS B. PROUTY.

Witnesses:

CHAS. H. BURLEIGH,
 S. E. KING.