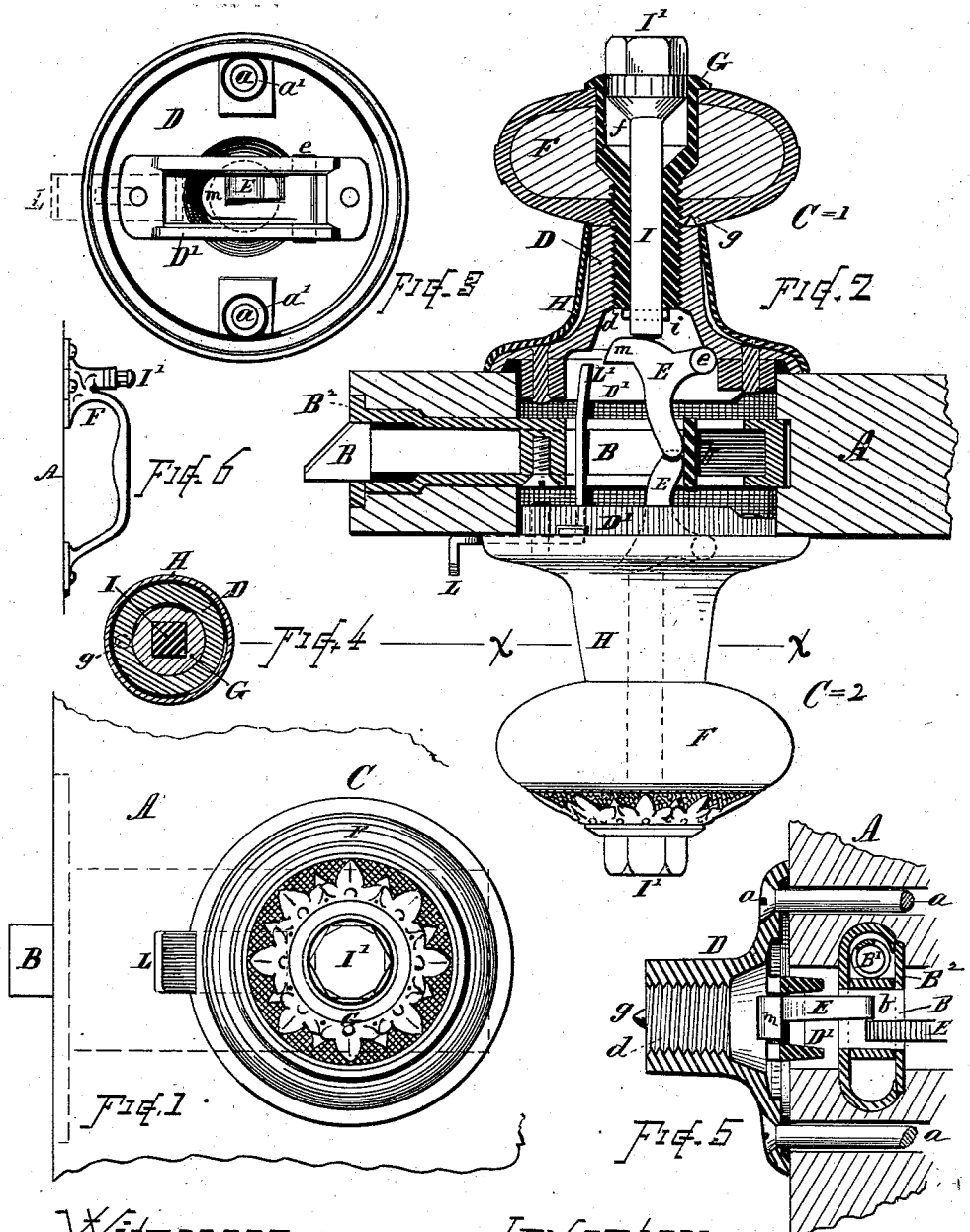
A. B. PROUTY.
Latch.

No. 224,040. Patented Feb. 3, 1880.



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AUGUSTUS B. PROUTY, OF WORCESTER, MASSACHUSETTS.

LATCH.

SPECIFICATION forming part of Letters Patent No. 224,040, dated February 3, 1880.

Application filed March 17, 1879.

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 Door-Knobs; 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, and in which—

Figure 1 represents a front view of my improved door-knob. Fig. 2 is a sectional and plan view of the same, showing the detail of construction and the relative arrangement of the parts in connection with the door and latch-bolt. Fig. 3 is a view of the inner side of the attaching-plate or base-casting. Fig. 4 is a transverse section of the knob-spindle at line X X, Fig. 2; and Fig. 5 is a vertical central section through attaching-plate, latch-bolt case, and a portion of the door.

The nature of my invention consists in a device for operating the latch-bolts of doors constructed with a hand-knob or griping portion adapted to be rigidly secured in position upon the door, a central reciprocating thumb stud or spindle, and a swinging connecting-piece for moving the latch-bolt, said parts being of the peculiar construction shown and hereinafter described.

Other features of my invention comprise the combination and arrangement, with the bolt-operating mechanism, of a locking device, as described; also, the manner of constructing the knob devices.

The minor features of this invention will be understood from the following detailed description, the particular subject-matter claimed being hereinafter definitely specified.

In the drawings, A denotes the door. B indicates the latch-bolt, and C the knobs or handles, that shown in section C′ being at the outer side of the door, and that shown in plan view C^2 being on the inner side of the door.

The latch-bolt B is made with a flat cross-bar or plate, *b*, against which the tumblers or connecting-pieces act, that from the inner knob, C^2, and that from the outer knob, C′, being independent of each other. Said bolt is provided with a suitable return-spring, B′, and inclosing-case B^2, and is fitted into a mortise in the door in the ordinary manner.

The parts of my improved knob are constructed as follows: A flanged supporting-casting or base-plate, D, (see Figs. 2, 3, and 5,) having a central hollow hub or boss with screw-thread *d*, is rigidly secured to the door by screws *a a*. Said screws preferably pass through the door and connect the two opposite plates D with each other, their points screwing into bosses *a′* on one of said plates, while their heads hold in the other, thus rigidly clamping both knob devices in position on the door by means of one pair of screws, *a a*. When only one knob is required upon a door the screws may be set into the wood without passing through the door.

A slotted cross-bar, D′, is riveted to the inner side of the plate D, which bar supports the connecting lever or tumbler E, the latter being pivoted in recesses formed at the back of said bar at one side of the center in such manner that the piece E can swing on its pivot *e*, for pressing back the plate *b* of the bolt B, by bell-crank action.

The knob-handle or griping-piece F is clamped against the end of the hub or boss of the base-casting D by means of the screw-threaded sleeve or hollow bolt G, which screws into the threaded opening *d* of the base-piece, as indicated. A small pin or dowel-stud, *g*, is provided, to prevent the knob F from turning on its support.

A shield or finishing-thimble, H, is fitted over the casting D between the hand-knob F and door A. Said shield may be formed or spun from thin sheet metal, and silver plated or otherwise properly finished. It serves to cover the screw-heads and roughness of the casting D, and forms a perfectly smooth and complete surface-finish about the neck of the knob.

Said shield H is placed over the part D before the part F is put on, and it is clamped in position between the knob F and door-surface when the sleeve G is screwed to place.

I indicates the reciprocating spindle-bar or thumb-stud by means of which the latch devices are actuated. Said stud is arranged through the center of the sleeve G, at the axis

of the knob, and is provided with an enlarged head or projecting thumb-boss, I′, at its outer end, and is retained within the sleeve G by a small pin, *i*, near its inner end. The outer end of the sleeve G is recessed, as at *f*, so that the bar I can have a limited motion in the direction of its length.

The inner end of the bar I rests against the rounded outer arm of the tumbler-piece E in the manner indicated, whereby, when the pressure of the hand is applied to the boss I′, the bar I, by swinging the tumbler E, effects the withdrawal of the latch-bolt B. The spring B′, by pressing outward the bolt B, causes the bar I to return to its projected position when it is freed from pressure.

A locking-slide, L, is arranged on the plate D of the inner knob, having a finger, L′, that extends through to the opposite side of the latch device. When the slide L is moved inward the end of the finger passes under and engages the lug *m* of the tumbler E and locks it in position, so that the latch-bolt cannot be moved by said tumbler and its bar I; hence the door cannot then be opened from the outer side.

The spindle I is in the present instance formed square with a hexagonal thumb-boss, I′, to facilitate turning in the screw-sleeve by means of a wrench applied to said head or boss I′; but I do not confine myself to this particular shape, since the form of the spindle and design of its head I′, as well as the design of the hand-knobs F, can be varied or modified without departing from the nature of my invention.

Fig. 6 illustrates a modification in the form of the handle or griping portion F. In this the construction and action of the stud I, tumbler E, and locking device L L′ would be substantially the same as with a knob-handle.

Among the advantages incident to my invention may be mentioned its permanence and durability. The action devices are not subject to strain and derangement by pulling on the knob in case the door is warped or swollen and sticks in the jambs. The device is more convenient to operate than either a turning-knob or a lever-latch, and can be worked by pressure of the knee, even, by a person having both hands occupied.

The neck of the knob is perfectly smooth, with no pins or screw-heads on the surface, and since there is no turning or shaking of the knob there is no liability of the screws working loose.

The parts G I could, if preferred, be retained by means of a pin or small screw set in the side of the neck in lieu of the screw-thread *d*, for connecting them with the base or supporting-casting.

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

1. In combination, as hereinbefore described, the hand-knob or griping portion F, the stationary base-piece D, the guiding-sleeve or hollow bolt G, the movable bar I, with projecting head I′ and pin *i*, and the bell-crank tumbler E, with its fulcrum-pivots *e*, supported by the slotted cross-bar D′ of the base-piece, said parts being constructed and arranged in relation to each other substantially as set forth.

2. In combination, the base-plate or supporting-casting D, with screw-thread *d* and dowel-stud *g*, the hand-piece F, and hollow flanged sleeve or bolt G, substantially as shown and described.

3. In combination with the base plate or casting D and hand-piece F, the shield or finishing-thimble H, substantially as shown and described.

4. The locking-slide L, having finger L′, in combination with the stud I and tumbler-piece E, substantially as and for the purpose stated.

Witness my hand this 12th day of March, A. D. 1879.

AUGUSTUS B. PROUTY.

Witnesses:

CHAS. H. BURLEIGH,

LORING COES.