No. 744,134. PATENTED NOV. 17, 1903.

H. G. VOIGHT.

LOCK AND LATCH.

APPLICATION FILED FEB. 9, 1903.

NO MODEL.

Fig. 1.

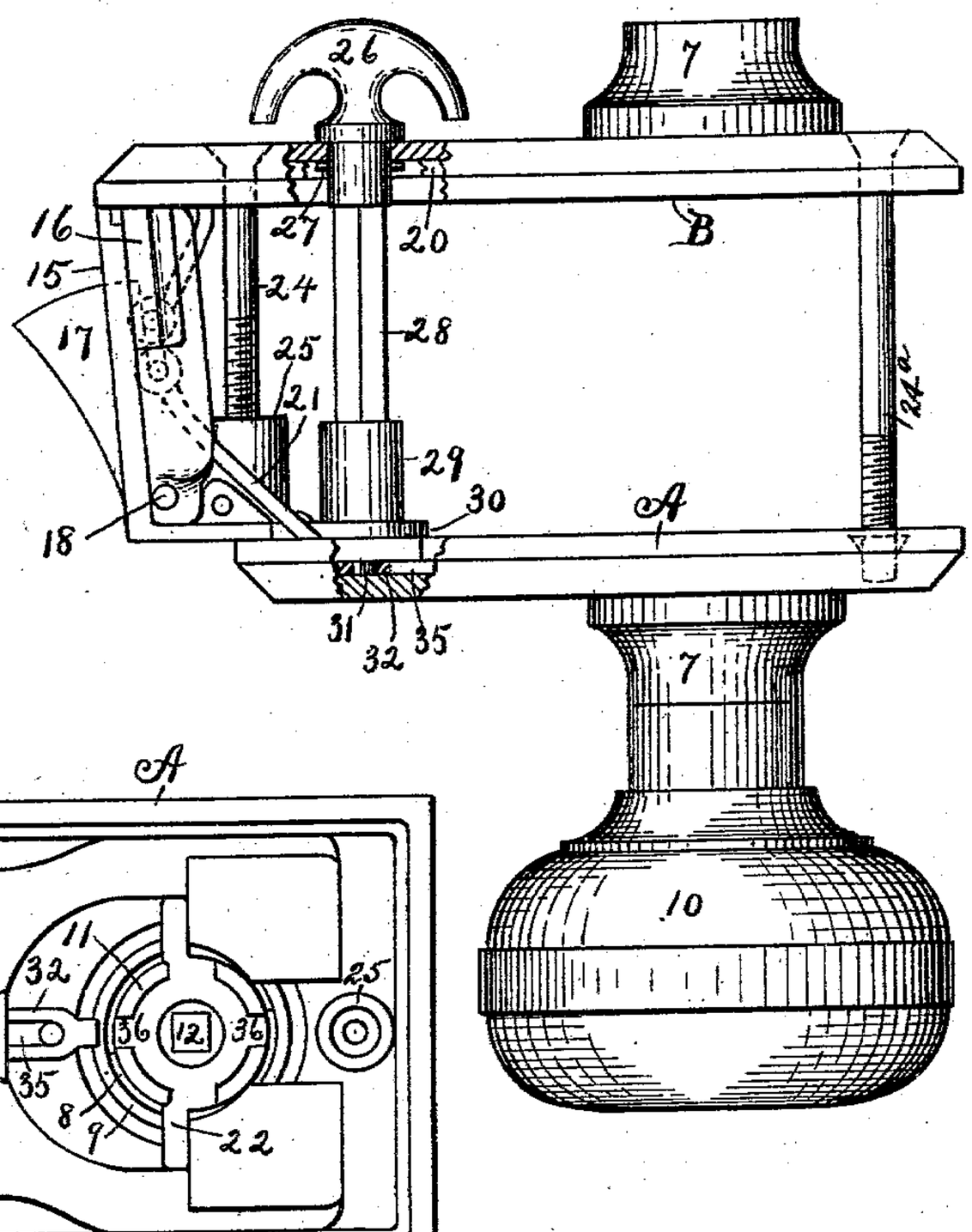


Fig. 2.

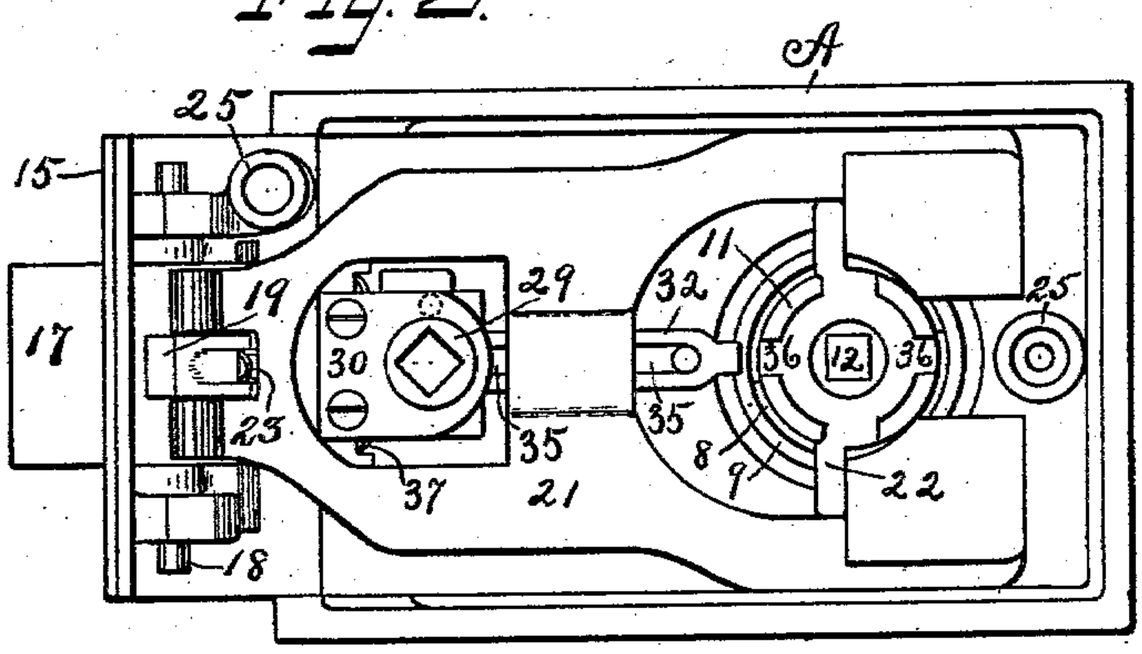


Fig. 3.

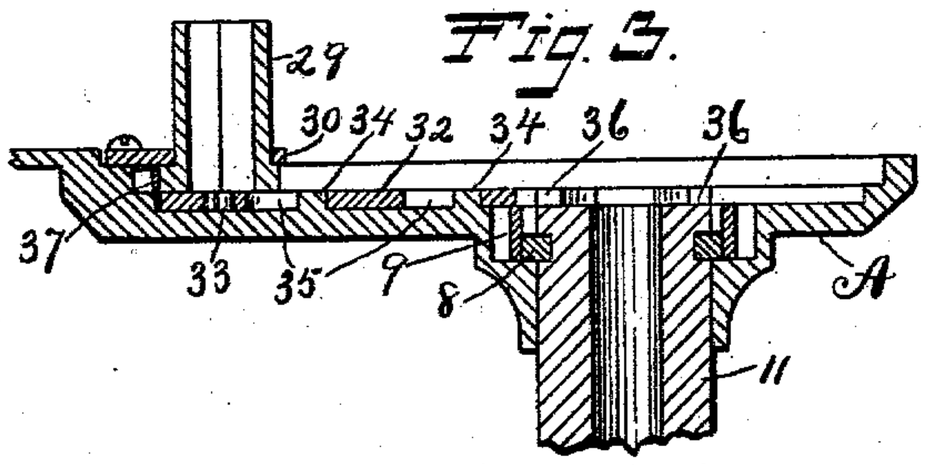


Fig. 4.

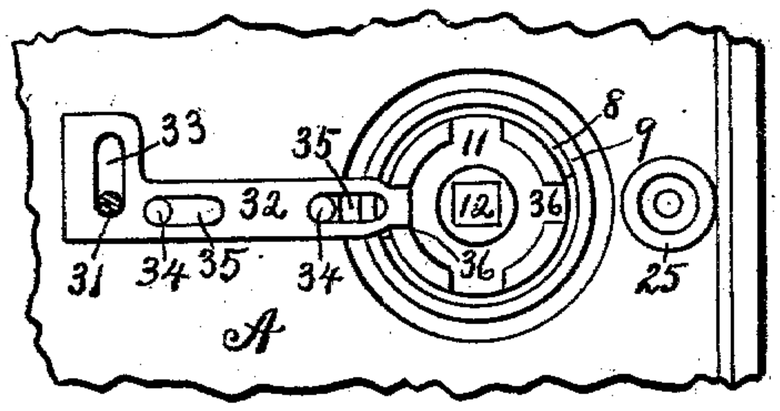


Fig. 5.

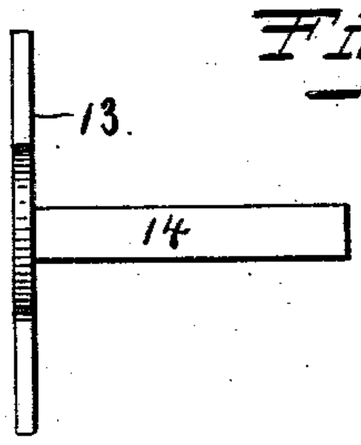
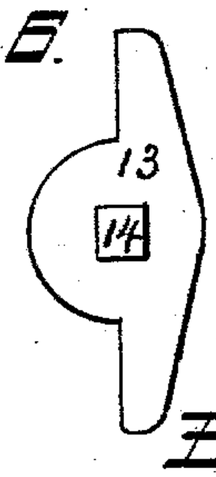


Fig. 6.



Witnesses.

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No. 744,134. Patented November 17, 1903.

UNITED STATES PATENT OFFICE.

HENRY G. VOIGHT, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO RUSSELL & ERWIN MANUFACTURING COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

LOCK AND LATCH.

SPECIFICATION forming part of Letters Patent No. 744,134, dated November 17, 1903.

Application filed February 9, 1903. Serial No. 142,586. (No model.)

To all whom it may concern:

Be it known that I, HENRY G. VOIGHT, a citizen of the United States, residing at New Britain, in the county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Locks and Latches, of which the following is a full, clear, and exact description.

My invention relates to improvements in locks, and particularly door-locks of that type in which the mechanism is secured to a door by cutting a notch in the door-stile and then inserting the lock in said notch, so that the "frame-plates," as they are termed herein, will overlie the outside and inside of the door to the rear of the latch-bolt or head proper. Each of these independent frame-plates carries an independent knob, each of which knobs is capable of operating the latch-bolt or head proper through the medium of a latch-slide and roll-back. These slides are so secured to the latch proper that the lock may be fitted to doors of varying thicknesses without requiring special adjustment of said connections.

The object of this invention is to improve and simplify this construction in certain features and to provide in the lock improved stop or locking mechanism for the outdoor-knob, so that the door cannot be opened from without until said locking mechanism is cast off. This locking mechanism operates directly upon the outdoor-knob shank and is provided with an actuating mechanism located at any convenient place upon the lock excepting upon the outdoor-frame plate.

Other features illustrated in the accompanying drawings are made the subject-matter of another one of my applications, Serial No. 142,585, filed February 9, 1903, and are set forth in the claims thereof. For this reason it is necessary to describe herein in detail only such features as are made the subject-matter of the accompanying claims. Other features are, however, referred to briefly in order that the reader may understand the general working of the mechanism.

In the accompanying drawings, Figure 1 is a plan view of my latch with portions broken out and in section and one of the knobs omitted. Fig. 2 is a detached inner face view of the outer one of the frame-plates with the cap and the lock roll-back removed. Fig. 3 is a horizontal section of a portion of the said plate and some of the connected parts, including the stop-bolt and knob-shank. Fig. 4 is a detached view of the stop-bolt and connected parts, together with a sectional view of the crank-pin for throwing the said stop-bolt, the said stop-bolt being in its locking position and the knob roll-back being removed. Fig. 5 is side view of the lock roll-back and its spindle, and Fig. 6 is an end view of the same.

A designates the frame-plate for the outer side of the door, and B the frame-plate for the inside of the door. Each plate has as a part thereof a hollow boss 7, forming a long bearing in which to mount a knob, so that they may rotate freely and at the same time be held in said plates against moving endwise. As shown, each knob-shank projects through the bearing 7 into a recess to the rear thereof and is there held by a split ring 8, set into a groove in said knob-shank and held therein by a ring 9, that embraces the said split ring. The knob 10 for the outer side of the door and its shank 11 are hollow, so that a lock of any proper construction may be placed therein in such a manner that its socket 12, Figs. 2 and 4, will extend into the hollow shank. A lock roll-back 13, having a spindle 14, is placed within the frame-plate A, with its spindle extending through the knob-shank to the socket 12 of the lock.

15 is an end plate at the forward edge of frames A and B. This end plate may be formed integrally with frame A, while frame B may have a subend plate 16. The end plate and subend plate may be fitted together by suitable ways, so as to slide one upon the other to adjust the two frame-plates to doors of different thicknesses. A latch-bolt 17 is pivoted on the pin 18 and may be provided with an extension-arm 19, by means of which it is adjustably connected with two latch-slides 20 and 21. The body of each latch-slide lies closely to the inner face of its plate A or B and slides therein, the said plates each acting as a case or frame therefor. The slide 20 for the plate B may be operated to retract

the latch by means of a roll-back on the inner end of the knob-shank. The slide 21 may be operated to retract the latch by means of a lock roll-back 13, operated by the proper lock-key or by a knob roll-back 22 in the end of the knob-shank 11. A spring 23, acting on the latch-bolt, has a tendency to project or advance said bolt, and this serves to move both of the slides 20 and 21 into their normal forward position whenever the roll-backs are released. The frame-plates A and B may be firmly secured in operative position by screws 24 and 24ª, which pass through the indoor-plate B into threaded sockets or bosses (for example 25) on the outdoor-plate A.

On the indoor-plate B is a stop-operating device in the form of a thumb-turn 26, preferably held therein by a pin 27 passing through its shaft or spindle 28 just inside the frame-plate. On the plate A is the socketed hub 29 for receiving the thumb-turn spindle 28. The said hub is mounted to turn in the bracket 30 and carries a crank-pin 31, that engages in a slot 33 in the head of a stop-bolt or detent 32. The position of the said crank-pin 31, when the stop-bolt is withdrawn, is indicated by broken lines in Fig. 2. This stop-bolt 32 is mounted to slide in any suitable ways or guides on the inner face of the plate A. As shown, it is guided by means of the pins or projections 34 on the said plate. These pins extend into the slots 35 in the said stop-bolt. The inner end of the knob-shank 11 is notched or recessed to receive the knob roll-back 22, and also notched at 36 (see Fig. 2) to receive the end of the stop-bolt 32 for locking the knob 10 against rotation. An opposite notch 36 in the knob-shank may be provided for use in locks for a different-handed door. That part of the socketed hub 29 that lies between the bracket 30 and the stop-bolt 32 may be of an angular form and may be pressed upon by a spring 37 (see Fig. 3) to hold the said stop-bolt out or in, as desired.

The thumb-turn 26 is on the inside of the door, while the stop-bolt is mounted on the inside of the outdoor-plate A, so that the said stop-bolt may directly engage and lock the shank of the outdoor-knob. When this stop-bolt is withdrawn and disengaged, the knob roll-back 22 and lock roll-back 13 may move together or independently to operate the latch-slide and withdraw the latch. When the stop-bolt is in engagement with the shank 11, the outside knob is locked against rotation, but the lock roll-back is free to be operated by a proper key at any time. A stop mechanism of this construction is particularly adapted for use in a lock in which the knobs are mounted in the plates independently of any other frame or case other than the said plates and independently of any knob-shank or spindle extending through the door or from plate to plate.

It is apparent that some changes from the specific construction herein disclosed may be made, and therefore I do not wish to be understood as limiting myself to the precise form of construction shown and described, but desire the liberty to make such changes in working my invention as may fairly come within the spirit and scope of the same.

What I claim is—

1. In a knob-latch in combination, a frame-plate, a hollow knob shank mounted in the said plate, a roll-back mounted on the inner end of the said shank, a roll-back and spindle said spindle extending into the said hollow shank, and a stop for directly engaging the said knob-shank to lock it.

2. In a knob-latch in combination, a frame-plate, a hollow rotatable knob-shank mounted in said plate, a separate spindle passing through said hollow knob-shank, and a stop for directly engaging one of said parts against rotation, a roll-back controllably carried at the inner end of said hollow shank and another roll-back controllable by said spindle and beyond the inner end of said knob-shank.

3. In a knob-latch in combination, a frame-plate, a hollow knob-shank mounted in said plate, a separate spindle passing through said shank beyond the end thereof, a longitudinally-reciprocating stop for directly engaging with one of said parts to lock it against rotation, and means controllable on the opposite side of the door from said knob-shank for operating said stop.

4. In a knob-latch in combination, a frame-plate, a hollow knob-shank mounted in said plate, a roll-back mounted on the inner end of said shank, a spindle, a roll-back thereon, said spindle extending into said hollow shank, a stop for directly engaging said knob-shank to lock it against rotation, said stop comprising a reciprocating bolt mounted inside said plate, and an operating-handle connected therewith and projecting to the opposite side of the door from said knob-shank.

Signed at New Britain, Connecticut, this 5th day of February, 1903.

HENRY G. VOIGHT.

Witnesses:
M. S. WIARD,
W. E. WIGHTMAN.