

No. 812,904.

PATENTED FEB. 20, 1906.

H. G. VOIGHT.
LOCK AND LATCH MECHANISM.
APPLICATION FILED MAR. 18, 1905.

Fig. 1.

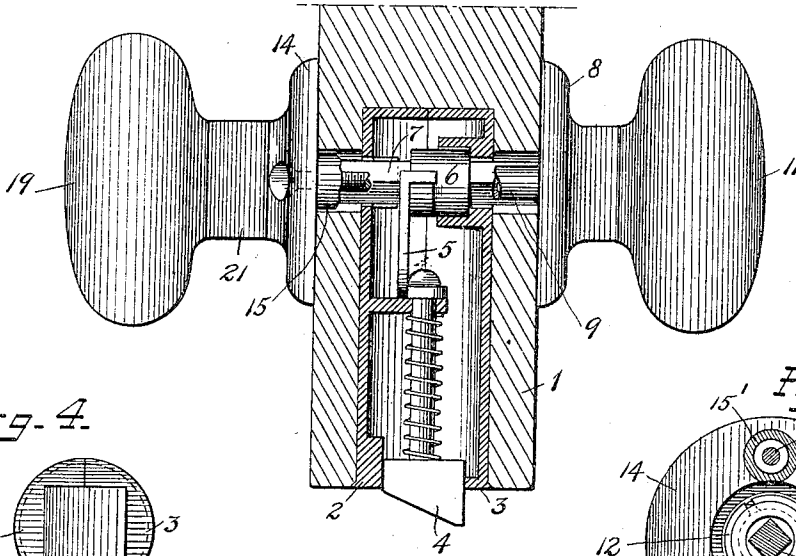


Fig. 4.

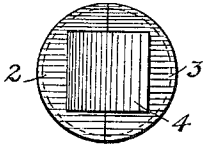


Fig. 2.

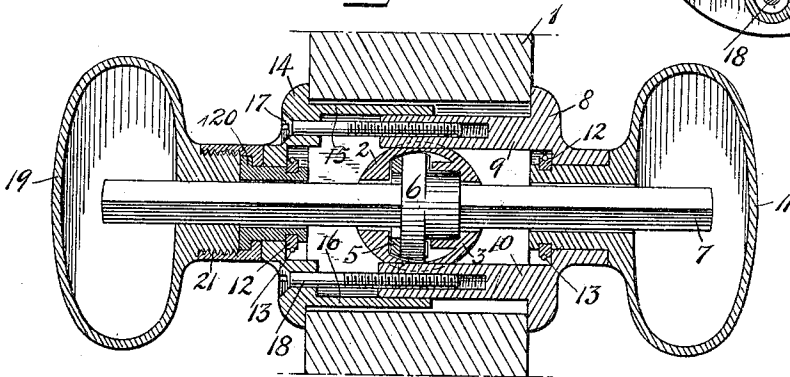


Fig. 5.

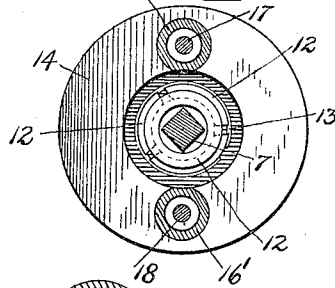
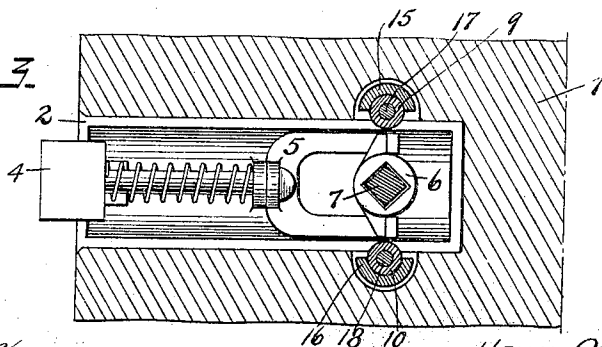


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

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LOCK AND LATCH MECHANISM.

No. 812,904.

Specification of Letters Patent.

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To all whom it may concern:

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

My invention relates to lock and latch mechanism, and particularly to what are termed "door locks and latches."

The object of the invention is to provide a simple cheap construction which may be readily set up and applied to doors of different thicknesses without interfering with its proper adjustment as determined at the factory prior to shipment.

The invention consists in a lock-operating mechanism adapted to be inserted into a mortise in the edge of a door, together with bearings and alining plates for the actuating mechanism.

Details of a construction illustrating the principles of my invention are shown in the accompanying single sheet of drawings, in which—

Figure 1 is a horizontal sectional view of mechanism embodying my invention as inserted in the edge of a door. Fig. 2 is a vertical transverse section of the same. Fig. 3 is a vertical longitudinal section of the mechanism. Fig. 4 is a front view of the latch-bolt and casing. Fig. 5 is an inner view of the bearing and alining plate for the inner knob, showing the method of attachment of the knob, the alining member being, however, slightly modified.

1 indicates a fragment of a door. In the form herein shown, since the lock-case is round in cross-section, it is simply necessary to bore a hole in the edge of the door of proper diameter to receive the lock-case and to cut a transverse slot for the actuating-spindle and alining mechanism.

2 and 3 represent the two halves of the lock case or frame for supporting and guiding the operating members of the lock mechanism. The form or construction of the case is immaterial, but it should be held snugly in the hole in the door.

4 is the bolt or latch member, provided with suitable longitudinal guides. 5 is a retracting member or slide therefor.

6 is a roll-back suitably supported in the case.

7 is an actuating-spindle.

8 is a plate having projecting posts 9 and 10 rigidly connected thereto. This plate 8 forms a bearing, as a rose or thimble, for the outer knob 11. The shank of the knob has an annular groove in its inner end, in which are seated the segmental pieces 12 12 12.

13 represents a split ring, formed of spring-wire, which rests in a groove in the outer surfaces of the segmental pieces 12, and thus holds them securely in place and locks the knob to the bearing-plate 8. The knob may be removed when the plate is off the door by releasing the spring 13 and taking out the pieces 12.

14 is a bearing-plate for the inner knob.

15 and 16 are guide members carried by the inner plate and coöperating with the posts 9 and 10.

The top and bottom of the lock-case or guiding-frame for the operating mechanism are grooved transversely above and below the passage for the actuating-spindle, and the distance between the inner surfaces of the posts 9 and 10, carried by the outer plate 8, is just enough greater than the diameter of the case at the bottom of the grooves to permit the posts to be slid in place after the lock-case is inserted in the edge of the door. This holds the bearing-plate 8 in perfect accurate alinement relative to the lock-case and operating mechanism contained therein, so that the knob 11 will be brought into the proper position for coöperating with the actuating-spindle 7, and thence the roll-back 6. Similarly the two members 15 and 16, coöperating with the posts 9 and 10, bring the outer bearing-plate 14 into proper alinement.

In the form shown in Fig. 5 the inner plate 14 is provided with tubular members 15' and 16', the distance between the inner edges of which is the same as the diameter of the lock-case at the bottom of the transverse grooves. Thus the inner plate is guided and alined by direct contact with the lock-case, while the members 9 and 10 of the outer plate will telescope therein.

17 and 18 are screws which take into the posts 9 and 10 for drawing the inner plate 14 up into position. By reason of this construction the adjustment may be effected

within reasonable limits irrespective of the thickness of the door.

19 is the inner knob.

20 is a shouldered member or shank whose inner end is grooved and provided with segmental members 12 and retaining-spring 13, similar to the outer knob.

21 is a locking sleeve or collar having a shoulder corresponding to the shoulder of the shank member 20 and screw-threaded for the purpose of drawing up the knob 19 into position. This knob is then provided with a proper bearing and held in absolute alignment relative to the lock-case and operating mechanism, so that no binding or cramping of the parts is possible when they are attached to a door.

What I claim is—

1. In a lock and latch mechanism, a lock-case adapted to be inserted in the edge of a door and surrounded by the material thereof on both sides, a bolt, slide and roll-back guided and supported in said case, inner and outer bearing-plates connected to said case, telescopic means of connection for permitting the adjustment of said bearing-plates to and fro for doors of different thicknesses, and yet maintaining their alinement relative to each other and to said operating mechanism, and actuating knobs or members mounted in each of said plates.

2. In a lock and latch mechanism, the combination of a case adapted to be supported in a hole in the edge of a door, a bolt and operating mechanism supported therein, said case having grooves at the top and bottom, bearing-plates for the actuating members,

and projecting members carried thereby cooperating with said grooves and with each other for permitting adjustment to and fro and maintaining proper alinement.

3. In a lock and latch mechanism, the combination of a case adapted to be supported in a hole in the edge of a door, a bolt and operating mechanism supported therein, said case having a transverse groove and a passage for the actuating-spindle, bearing-plates, a projection from one of said plates fitting said groove, means of connection between the other plate and said first plate and said case whereby said plates may be adjusted to and fro and held in alinement, and actuating-knobs carried by said plates.

4. In a lock and latch mechanism, a bearing-plate having a longitudinal passage with a shoulder at the inner end, a knob-shank fitting said passage and having an annular recess at its inner end, a plurality of segmental pieces fitting said recess and grooved in their outer surfaces, and a split spring-ring fitting the grooves and holding said pieces in place to prevent the withdrawal of said shank member, substantially as described.

5. In a lock and latch mechanism, the combination of two rose-plates adapted to the opposite sides of the door, operating-knobs having bearings therein, and cooperating telescopic means projecting from said plates with screws for attaching one to the other.

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Witnesses:

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