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PATENTED AUG. 28, 1906.

H. G. VOIGHT.
LATCH MECHANISM.
APPLICATION FILED APR. 26, 1905.

Fig. 1.

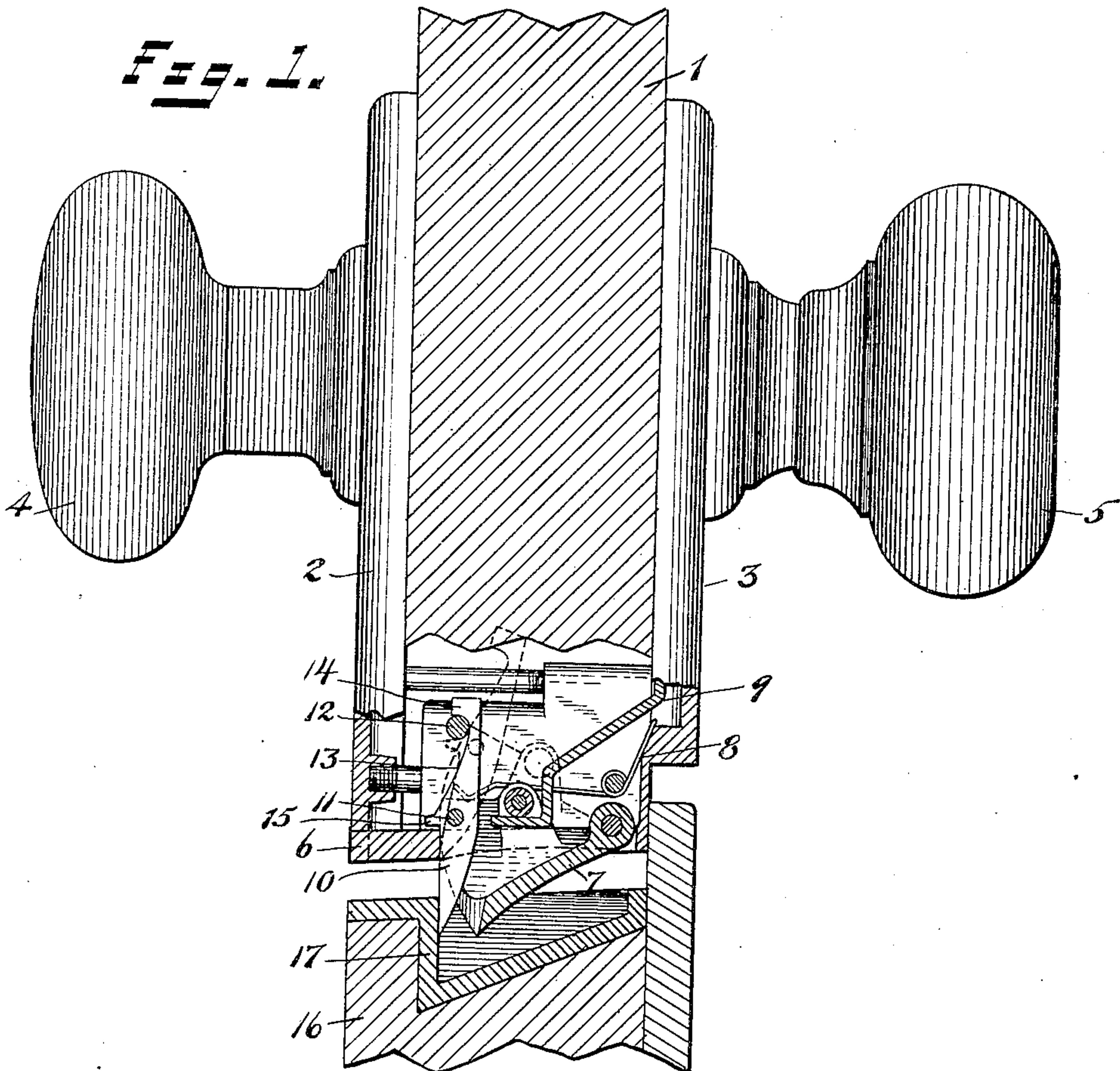
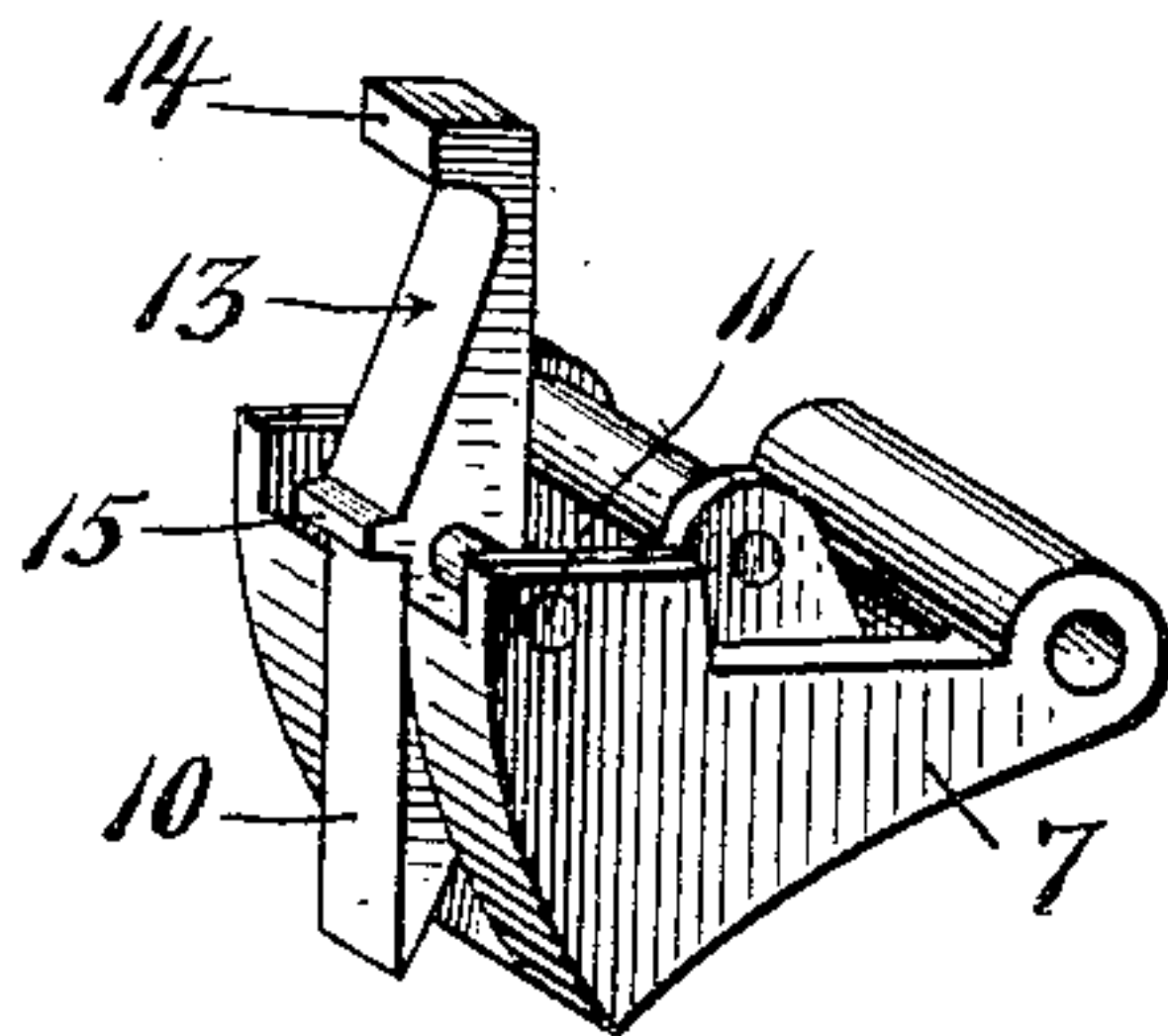


Fig. 2.



Witnesses
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LATCH MECHANISM.

No. 829,745.

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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 Latch Mechanism, of which the following is a full, clear, and exact description.

My invention relates to improvements in latch mechanism, and particularly to what is termed a "latch-bolt."

The object of the invention is to construct a latch-bolt of the swinging or pivoted type which will operate freely upon closing the door and will serve to hold the door in place without rattling, even though the door or frame should shrink and open up a considerable space between the edge of the door and the jamb.

The invention consists in improvements the principles of which are illustrated in the accompanying single sheet of drawings.

Briefly speaking, it comprises the employment of a pivoted member adapted to protrude through the end plate and carrying a face member, which is substantially parallel to the door when the latch is protruded into the pocket in the striker-plate. The parts are so dimensioned as to leave no unnecessary openings in the face-plate and to operate by the same means as is commonly employed in lock and latch mechanisms.

I have shown the invention as applied to a simple type of latch mechanism; but it is obvious that the improvement is adapted to other constructions.

Figure 1 is a plan view of a section of a latch mechanism embodying the improvements of my invention and showing the latch-bolt extended into the striker-plate. Fig. 2 is a perspective view of the latch-bolt embodying my invention.

1 indicates the fragment of a door to which the mechanism is attached.

2 and 3 are the inner and outer frame-plates of the mechanism: 4 and 5 are the inner and outer knobs carried thereby.

The mechanism may be provided with suitable key-operable locking means.

6 is the end plate, having an opening through which the latch-bolt is adapted to operate. This end plate in the particular

mechanism herein shown is attached to the outer frame-plate.

7 is a latch-bolt pivoted to the end plate 55 and having a suitable face for cooperation with the striker-plate.

8 is a spring for normally extending the latch-bolt.

9 is a latch-slide for the purpose of retracting the latch-bolt.

10 is a member pivoted to the latch-bolt on a pin 11 and which bears against the edge of the opening in the end plate 6.

12 is a stationary pin or post carried by the mechanism.

13 is the bearing-face of the member 10, which is adapted to cooperate with the member 12 as the latch-bolt is retracted into the position shown dotted in Fig. 1.

14 is a shoulder carried by the member 10, adapted to coact with the member 12 and stop the latch-bolt on its outward movement.

15 is a second projection carried by the member 10 and adapted to coact with the member 12 to stop the inward retraction of the latch-bolt. Since the member 10 bears against the pin 12 and the edge of the opening in the end plate 6, it is not allowed any substantial play, which might permit the parts to rattle.

16 is a fragment of the frame of the door.

17 is the striker-plate, having the usual pocket for the latch-bolt.

The relative positions of the door and frame often vary by the shrinkage of the wood or otherwise. With the old type of pivoted latch-bolt this change of the relative positions of the door and frame allows different amounts of play between the latch-bolt and the striker-plate when the door is closed.

It is impossible to fix upon any mean position, and rattling of the door or loose play invariably results, excepting under the most perfect conditions. In my construction, however, the member 10 of the latch-bolt when the latch-bolt is extended or protruded through the end plate presents a substantially straight bearing-surface for coaction with the face of the pocket in the striker-plate and irrespective of the space between the edge of the door and the frame. When, therefore, the door is once properly adjusted, the parts of the mechanism will always be in their

proper relation and all rattling or lost motion prevented, the member 10 acting as a take-up device.

What I claim is—

- 5 1. In a latch mechanism, a slide, a pivoted latch-bolt connected thereto and having a suitable surface for coöperation with the edge of a striker-plate, and a take-up member movable with said latch-bolt but independent of said slide and having a face substantially parallel to the frame of the mechanism when the latch-bolt is protruded.
- 10 2. In a latch mechanism, a slide, a pivoted latch-bolt connected thereto, a take-up member carried thereby and independent of said slide, and means for normally causing said take-up member to extend with its face parallel to the frame of the mechanism when the latch-bolt is extended.
- 15 3. In a latch mechanism, the combination of a slide, a pivoted latch-bolt connected thereto, but retractable independently thereof, and a pivoted take-up member movable with said latch-bolt, for the purpose specified.
- 20 4. In a latch mechanism, the combination of a spring-pressed pivoted latch-bolt, a stationary member, a take-up member carried by the latch-bolt for coacting with said stationary member for preventing excessive inward or outward movement of said latch-bolt.
- 25 5. In a latch mechanism, a pivoted latch-bolt, a take-up member movably carried thereby and independent of the latch-slide, and a stationary member, said take-up member having a surface adapted to coact with said stationary member.
- 30 6. In a latch mechanism, a face-plate having an opening, a latch-bolt pivotally mounted and adapted to protrude through said opening, a take-up member carried by said

latch-bolt, and a stationary member, said take-up member coacting with said stationary member and the edge of the opening in said face-plate. 45

7. In a latch mechanism, a latch-slide, a pivoted spring-pressed latch-bolt connected thereto, a take-up member pivoted to said latch-bolt, and a stationary guide for said take-up member, said take-up member having shoulders acting to limit the inward and outward movement of said bolt, for the purpose specified. 50

8. In a latch mechanism, a latch-slide, a pivoted spring-pressed latch-bolt, and a take-up member movable with said latch-bolt independently of said latch-slide and adapted to form a straight engaging shoulder when the latch-bolt is extended. 55

9. In a latch mechanism, a frame including plates adapted to the opposite sides of a door, an end plate adapted to the edge of a door and having an opening, a pivoted latch-bolt adapted to protrude through said opening, a spring directly engaging said latch-bolt and normally holding it in its protruding position, a latch-slide for retracting said latch-bolt and a take-up member retractable with said latch-bolt, said latch-bolt being retractable independently of said slide. 60

10. In a latch mechanism, the combination of a pivoted latch-bolt, a striker-plate, a movable take-up member extending substantially parallel to the frame of said mechanism when said bolt is extended for coöperation between said bolt and said striker-plate, and means for retracting said bolt, said take-up member being independent of said retracting means. 65 70 75

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