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LOCK MECHANISM.

APPLICATION FILED SEPT. 21, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

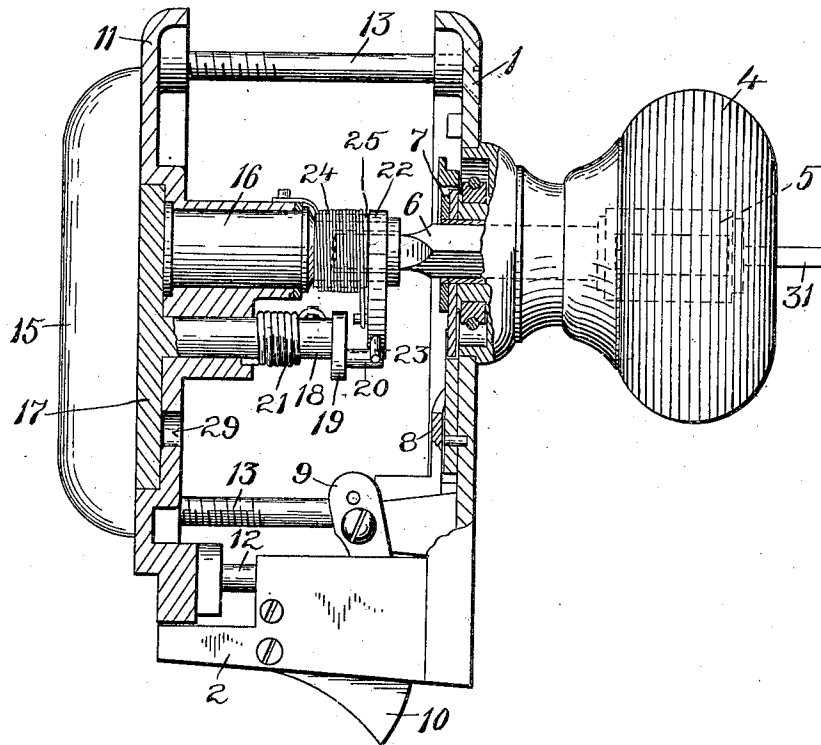
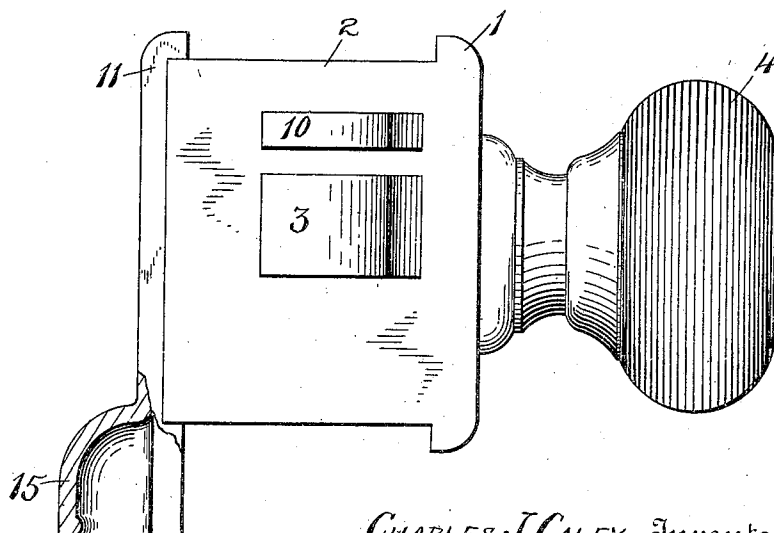


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

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LOCK MECHANISM.

No. 836,300.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, CHARLES J. CALEY and HENRY G. VOIGHT, citizens of the United States, residing at New Britain, Hartford county, Connecticut, have invented certain new and useful Improvements in Lock Mechanisms, of which the following is a full, clear, and exact description.

Our invention relates to improvements in lock mechanism, and particularly for the doors for cells or rooms in asylums.

The object of the invention is to provide in a lock mechanism means for operation from both sides of the lock, that at the inner side being so arranged that it cannot be tampered with by the inmate of the room or serve as a means to injure himself in any way.

The invention consists in improvements the principles of which are illustrated in the accompanying two sheets of drawings.

Briefly, it comprises a frame having outer and inner side plates connected by an end plate, a locking-bolt, together with key-operable actuating means carried by the outer plate, and key-operable actuating mechanism carried by the inner plate, together with a guard for normally covering the point of admission of the key on the inner plate. The inner plate is so constructed that only the handle or grip portion protrudes and no part thereof will serve to support means that will in any way injure one. The two plates are so attached to the door that the inner plate cannot be removed except from the outside, and the mechanism is adjustable to doors of different thicknesses.

Figure 1 is a plan view and partial section of the lock mechanism involving the improvements of our invention. Fig. 2 is a front view of the same, the grip portion of the inner plate being shown in section. Fig. 3 is a view of the lock from the inner side. Fig. 4 is a view of the inside of the inner plate with attaching mechanism.

1 is the outer plate, carrying an end plate 2, which extends across the edge of the door.

3 is the locking-bolt.

4 is a stationary knob secured to the outer plate and carrying suitable cylinder-locking mechanism 5.

6 is the spindle connected to the hub of the cylinder-lock adapted to be rotated when the key is inserted.

7 is a roll-back for withdrawing the slide 8 and locking-bolt when the spindle is rotated. 55

9 is a dog adapted to be operated by the auxiliary latch 10 when the door is closed for preventing tampering with the locking-bolt 3 from the outside. This lock is adapted to be attached to a door which opens outwardly. 60

11 is the inner side plate.

12 12 are dowel-pins rigidly carried by the front edge thereof and adapted to fit snugly in holes in the back of the edge plate 2.

Four screws 13 are passed through the outer side plate and seated in four tapped lugs 14 in the inner side plate for clamping the two parts of the mechanism securely to the door. 65

15 is a grip portion on the inner plate arranged at the bottom for the grasp of the hand in drawing the door to. 70

16 is a hub rotatable in a projection from the rear of the inner plate 11, adapted to telescopically connect with a reduced portion of the spindle 6. This hub has preferably a keyhole to correspond with the outer keyhole, so that the same key may serve to operate the mechanism from both sides. The shape or character of the opening in the hub 16 is, however, immaterial. The spindle 6 is connected to the plug of the lock 5, so as to have a limited rotative movement relative thereto. The operation of the spindle in the outer side of the door by means of a key retracts the locking-bolt and partially rotates the hub 16, which is free. The operation of the key in the hub 16 rotates the spindle and roll-back before being stopped by its engagement in the plug of the lock 5. 80

17 is a guard-plate whose shaft 18 is rotatable in a bearing projecting from the rear of the inner plate 11. This plate has an opening 18', which is normally, as shown in Fig. 3, out of line with the hub 16. 19 is an arm carried by the shaft 18 of the guard-plate and having a projecting pin 20. 21 is a spring normally holding the guard-plate under tension to throw it clockwise, as shown in Fig. 4. 22 is a dog mounted on the end of the hub 16, having a projection 23, against which the projecting pin 20 of the guard normally presses, as shown in Fig. 4. 24 is a spring normally holding the dog in the normal position. (Shown in Fig. 4.) The spring is preferably mounted on a sleeve 25, so as to prevent friction between the spring and the hub 90 105

16. 26 is a projection from the hub 16. The slot 27 in the dog 22 provides a limited swinging movement of the dog relative to the hub and projection 26. 28 is a pin projecting from the rear of the guard 17 into a slot 29 in the inner plate 11. 30 is a recess preferably provided in the face of the guard 17. The thumb and finger of the hand can be pressed into the opening 18' and recess 30 of the guard-plate for rotating it.

The parts as shown in the drawings are in the position which they occupy when the lock is applied to the door and the door is closed. The action of unlocking the door from the exterior by means of the key 31 retracts the lock-bolt 3 by means of the spindle 6, roll-back 7, and slide 8, and at the same time the spindle 6 also rotates the hub 16 and by the projection 26 rotates the dog 22, releasing pin 20 and allowing the arm 19 and guard to rotate clockwise, as viewed in Fig. 4, until the stop 28 strikes the upper end of slot 29. This will bring the opening 18' opposite the hub 16, permitting the insertion of a key or other instrument into the hub 16 for operation of the lock from the inside for retracting the bolt 3. Turning the hub 16 from the inner side rotates the spindle 6 and roll-back 7, and thus retracts the slide 8 and bolt 3, so that the door may be opened.

When the door has been opened from the interior, the attendant rotates the guard-plate 17 clockwise, as viewed in Fig. 3. This permits the dog to swing back as the stop 28 strikes the lower end of the slot 29, bringing the end of the dog under the pin 20 and holding the guard when it is released.

What we claim is—

1. In a lock and latch mechanism, a bolt, means for operating the bolt from the outer side of the lock, a hub with connections for operating the bolt from the inner side of the lock, a guard-plate normally preventing access to the hub and means for releasing said guard-plate when the bolt is withdrawn by the operation of the mechanism on the outer side of the lock.

2. In a lock and latch mechanism, a bolt, means for operating the bolt from the outer side of the lock, a hub with connections for operating the bolt from the inner side of the lock, a guard-plate normally preventing access to the hub, means for releasing said guard-plate when the bolt is withdrawn by the operation of the mechanism on the outer side of the lock, said releasing means permitting the resetting of said guard-plate from the inner side of the lock.

3. In a lock, a bolt, means operable from the inner side of the lock for retracting said bolt, a guard normally preventing access to said means, a dog for normally preventing movement of said guard and means accessible from the outer side of the lock for releasing said dog.

4. In a lock mechanism, a locking-bolt, actuating mechanism therefor, a spindle operable from the outer side of the lock connected to said actuating mechanism, a hub normally inaccessible from the inner side of the lock and means for rendering said hub accessible from the inner side of the lock when the spindle is rotated.

5. In a lock mechanism, a locking-bolt, key-operable means at the outer side of the lock for retracting the bolt, a hub at the inner side of the lock, with connections for retracting the bolt, a guard-plate at the inner side of the lock for covering said hub, and means for releasing said guard-plate when said key-operable means retracts said bolt.

6. In a lock, a bolt, means accessible from the outer side of the lock for retracting the bolt, a hub at the inner side of the lock, a dog carried thereby and having a limited swinging movement relatively thereto, a guard-plate normally covering the end of said hub, and means carried by said guard-plate coacting with said dog, when the parts are in their normal positions whereby said guard-plate is held by said dog.

7. In a lock mechanism, a locking-bolt, means for retracting said bolt accessible from the outer side of the lock, a hub on the inner side of the lock for retracting the bolt, a guard-plate having a limited movement normally covering said hub, a dog carried by said hub holding said guard-plate in its normal position, and means for automatically operating said guard-plate when said dog is operated.

8. In a lock mechanism, a bolt, a spindle, an actuating connection between said spindle and said bolt, a hub at the inner side of the lock in line with said spindle, a dog carried by said hub having a limited swinging movement relative thereto, a guard-plate held by said dog in its normal position, preventing access to said hub.

9. In a lock, a bolt, a hub at the inner side of the lock, operative connections between said hub and said bolt, a guard for said hub, a dog for said guard, and means operable from the outer side of the lock for retracting said dog.

10. In a lock, a bolt, a hub at the inner side of the lock, operative connections between said hub and said bolt, a guard for said hub, a dog for said guard, and means operable from the outer side of the lock for retracting said dog, and means for automatically moving said guard when said dog is retracted.

11. In a lock, a bolt, a hub at the inner side of the lock, operative means of connection between said hub and said bolt, a manually-operable guard for said hub, and means for engaging said guard to hold it over the end of said hub.

12. In a lock, a bolt, a hub at the inner side of the lock, operative means of connection

between said hub and said bolt, a manually-operable guard for said hub, means for engaging said guard to hold it over the end of said hub, and means operable from the outer side of the lock for releasing said guard.

13. In a lock, inner and outer side plates adapted to the opposite sides of a door, an end plate carried by one of said side plates, means of connection between said plates permitting their adjustment to doors of different thicknesses, a bolt, a hub carried by the inner side plate, operative means of connection between said hub and said bolt, a guard carried by said inner side plate for preventing access to said hub, and means accessible from the outer side of the lock for moving said guard to expose said hub.

14. In a lock, a bolt, an inner side plate, a hub carried thereby, operative means of connection between said hub and said bolt, a guard for said hub having a shaft extending through said plate, and an arm on said shaft with a projection, a dog, and a spring normally holding said guard with a projection on its arm engaging said dog, and means for retracting said dog.

15. In a lock, a bolt, a hub, operative means of connection between said hub and said bolt, a spring-pressed dog carried by said hub, a spring-pressed guard for said hub normally engaging said dog, and means for retracting said dog.

16. In a lock, a bolt, a hub at the inner side of the lock, operative means of connection between said hub and bolt, a guard for said hub, and a dog for holding said guard in position with the hub inaccessible.

17. In a lock, a bolt, mechanism for retracting said bolt from both sides of said lock, an exposed manually-operable guard

for preventing access to the mechanism at one side, and means for moving the guard operable from the opposite side.

18. In a lock, means for retracting the bolt from both sides of the lock, a movable guard for one side, means including a spring for holding the guard in position with one of the retracting means accessible, and means for holding said guard in position with said retracting means inaccessible.

19. In a lock, bolt-retracting mechanism for both sides of the lock, a rotatable guard for preventing access to the mechanism at one side, and means for moving the guard when retracting the bolt.

20. Lock mechanism, including a bolt, bolt-retracting means accessible from the inner side of the lock, a spring-pressed guard, a dog for holding said guard in position to prevent access to said retracting means, and means accessible from the outer side of said lock coöperating with said retracting means and with said dog to release said guard and retract said bolt.

21. Lock mechanism, including locking mechanism retractable from both sides of the lock, a manually-operable guard at the inner side of said lock, a dog for automatically engaging said guard when said guard is manually operated, and means for retracting said dog when retracting said bolt from the outer side of said lock.

Signed at New Britain, Connecticut, this 18th day of September, 1905.

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Witnesses:

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