No. 645,840.

Patented Mar. 20, 1900.

W. H. TAYLOR.

LOCK.

(Application filed Nov. 4, 1899.)

(No Model.)

2 Sheets—Sheet 1.

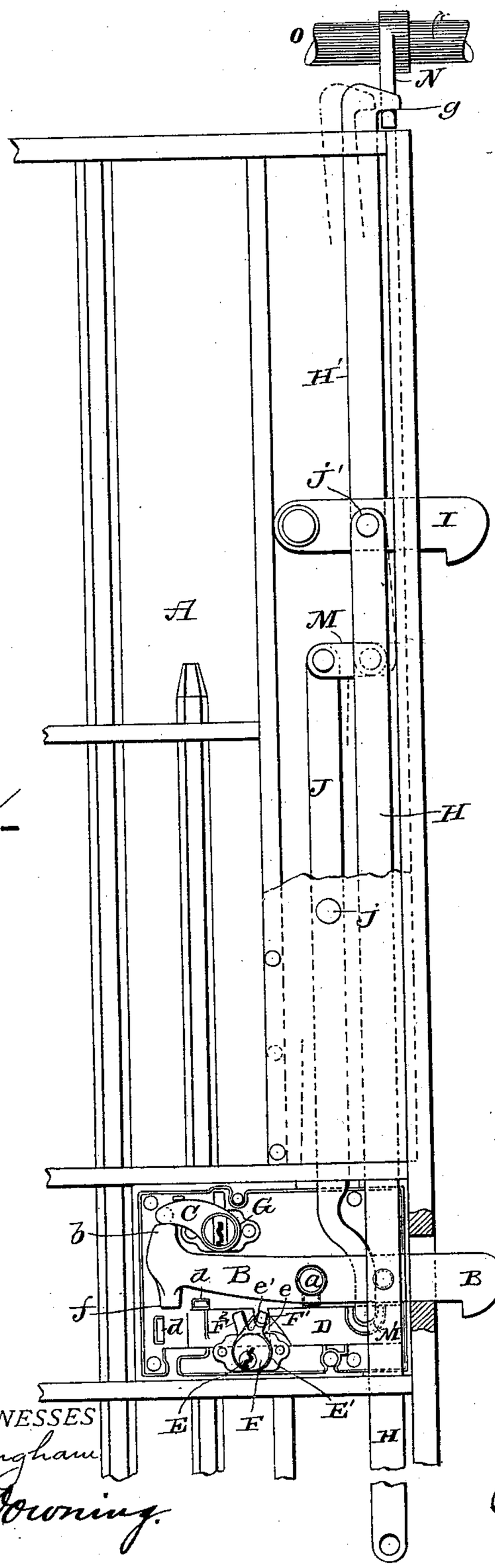

FIG. 1.

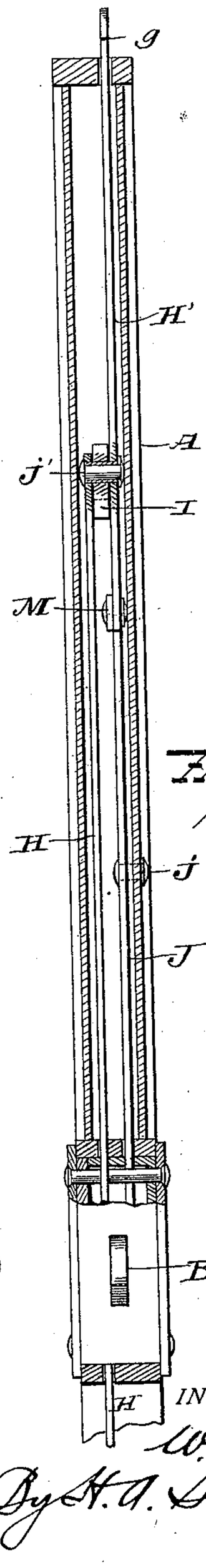

FIG. 2.

WITNESSES

E. J. Nottingham

G. F. Downing.

INVENTOR

W. H. Taylor

By H. A. Seymour

Attorney

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FIG. 3.

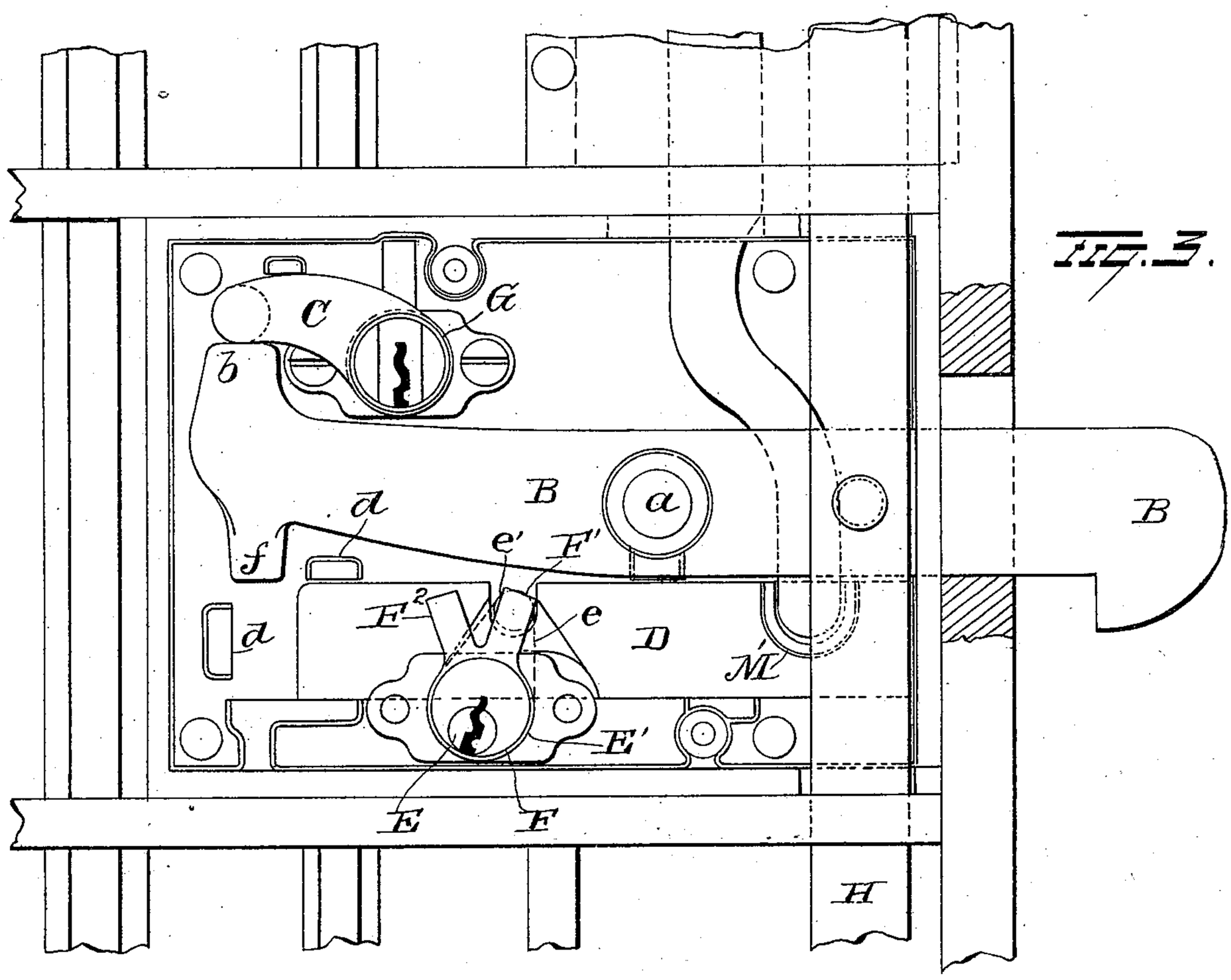
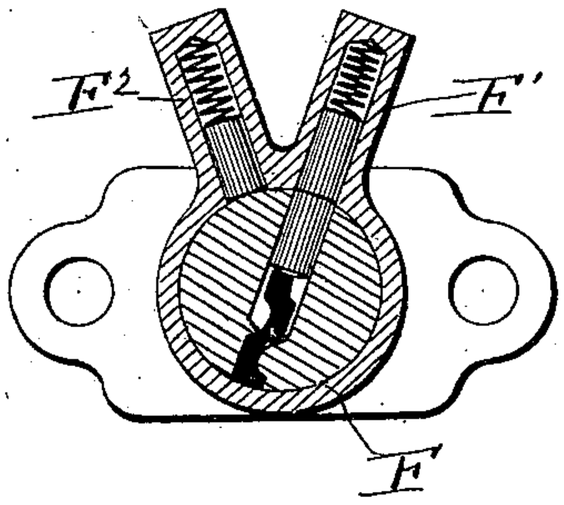


FIG. 4.



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G. F. Downing.

INVENTOR

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By H. A. Seymour

Attorney

UNITED STATES PATENT OFFICE.

WARREN H. TAYLOR, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE YALE & TOWNE MANUFACTURING COMPANY, OF SAME PLACE.

LOCK.

SPECIFICATION forming part of Letters Patent No. 645,840, dated March 20, 1900.

Application filed November 4, 1899. Serial No. 735,802. (No model.)

To all whom it may concern:

Be it known that I, WARREN H. TAYLOR, of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in locks, and is designed more particularly for use on cell-doors, one object of the invention being to provide a lock of such construction that the position of the keyhole of the lock shows or indicates the position of the slide or bolt employed for deadlocking the latch.

A further object is to provide means for simultaneously locking or unlocking a series or gang of cell-doors and with means whereby when any one or more of the series or gang are deadlocked such door or doors are automatically disconnected from the gang-locking mechanism.

With these ends in view my invention consists in the parts and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation, partly in section, of a portion of a cell-door embodying my invention, the face-plate of the lock being removed, so as to expose the mechanism of the lock. Fig. 2 is a front edge view of the door, showing some of the parts in section. Fig. 3 is an enlarged view of the lock mechanism, and Fig. 4 is a view in cross-section of the pin-lock having two sets of pins or drivers.

A represents a door of any desired construction and represented in the present instance as a sliding door carrying a lock designed to be manipulated to release or unlock the door either independently of the lock of other doors of the gang or series or simultaneously with said other locks, and it comprises a latch B, pivoted at *a* and constructed at its outer end to engage a keeper in the door jamb or casing and at its rear or inner end with an upwardly-projecting shoulder *b*, adapted to be engaged by the unlocking-lever C, and a depending heel *f*, adapted to engage the deadlocking-slide D. This slide D is seated within the lock-casing, at the base thereof, and is adapted to be moved longitudinally therein and is sustained in its position by the guides or stops *d*. This slide is moved longitudinally by the stud *e'* of the lever *e*, carried by the escutcheon-plug of a Yale pin-lock E'. This plug E is mounted in the escutcheon F in the ordinary manner, and it will be seen that by inserting the key and turning the plug the lever *e* and its stud *e'* will be moved in a direction to slide the deadlocking-slide D longitudinally, the stud *e'* resting within a recess in the upper face of said slide.

One object of my invention is to positively lock this slide D in its two positions and visually indicate by the position of the keyhole the position of the slide. This is accomplished by providing the escutcheon F with two sets of pin-chambers F' F^2, the locking pins or drivers in both of said chambers are adapted to lock the escutcheon-plug carrying the sliding or pin tumblers against rotation. The pins in chamber F' hold the plug E in a position to lock the slide D against movement toward the heel *f* of the slide D, while the pins in chamber F^2 lock the slide under said heel and positively lock the latch B against movement. Thus it will be seen that when the upper end of the keyhole is pointing outwardly or toward the outer edge of the door the latch is not deadlocked and when pointing rearwardly the latch is deadlocked.

Located above the latch B and adjacent to the inner end thereof is a Yale pin-lock G, to the escutcheon-plug of which the unlocking-lever C is secured.

When the slide D is in its forward position, the rotation of the plug of lock F operates to depress the rear end of the latch B and release the latter from its keeper, thus permitting the door to be opened. Instead of using a lock and key for depressing the latch a crank or lever bearing against the latch or a handle connected directly to the latch might be used.

The construction thus far described relates to the mechanism for locking and releasing each door independently of the others. In addition to this, however, I have provided means for locking and unlocking a series or

gang of doors simultaneously. This mechanism comprises latch-operating bars H H′, running lengthwise the door near the outer end of the latter, the bar H being pivoted to the latch B and to an auxiliary latch below latch B and to an auxiliary latch above latch B, the bar H preferably terminating adjacent to the latch I. The bar H′ is pivoted to latch I, and its upper end projects above the door and is provided with a nose or hook *g*, the function of which will be referred to later on, while the lower end of said bar H′ projects below latch I and is connected by link M with the lever J. Lever J is pivoted at *j* to the armor-plate covering these several bars and lever and passes downwardly and terminates within a recess M′, formed in the upper face of the slide D. From this it will be seen that when the slide D is moved longitudinally the lever J turns on its pivot *j* and rocks the bar H′ on its fulcrum *j′*.

The nose or hook *g* of the bar H′ rests above the top of the door in a position to engage the ring or hook N, carried by the gang-shaft O. This shaft runs lengthwise the corridor or gallery of cells and is provided with a ring or hook for the nose of each bar H′. Hence it will be seen that when the shaft O is turned the bars H′ of the series or gang of doors are elevated and necessarily lift the latches I and the bars H, connected to said latches, and the bars H in their upward movement elevate the latches pivoted to them. It will be seen, however, that when the slide D is thrown so as to deadlock the latch B all longitudinal movement of the bar H is prevented, and as the bar H is connected to all the latches and also to the bar H′ of its respective door it follows that the latter bar is also locked against longitudinal movement. Hence it becomes necessary to disconnect the bar H′ thus deadlocked from the gang-shaft O, so as to permit the latter to turn in order to lock or unlock the other doors not deadlocked. This is accomplished by the lever J, which, as before stated, is connected at its upper end to the lower end of bar H′ and at its lower end to the slide D. As the latter is moved inwardly to deadlock its latch B it moves lever J on its fulcrum *j*, and the lever J in turn turns bar H′ on its fulcrum *j′*, thus withdrawing the nose or hook *g* from its ring or hook on the gang-shaft O, as shown in dotted lines in Fig. 1. When slide D is moved, as previously described, so as to release latch B, the lever J restores bar H to its position shown in full lines, so that the several latches of the door may be actuated by the gang-shaft. From this it will be seen that deadlocking any one door simply disconnects it from the gang, and the removal of the slide from under the latch again automatically connects all the latches of the door with the gang-shaft.

If desired, I might employ the slide as a bolt to be used on swinging doors, and the keyhole of the lock would indicate from the outside just the position of the bolt.

The secondary lock, which, as previously explained, is located over the tail of the latch B, may be actuated by the same key used in the lower lock F′ or, if desired, may be actuated by a different key, the keys being retained, if desirable, in the hands of different custodians.

It is evident that many slight changes might be resorted to in the relative arrangement of parts herein shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to confine myself to the exact construction and arrangement of parts herein shown; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a latch and a deadlocking-slide therefor, the said slide adapted to be locked in two positions, of gang locking and unlocking mechanism, means connecting said slide with said mechanism, and a lock adapted to lock the slide in its two positions.

2. The combination with a latch and a deadlocking-slide therefor, the said slide adapted to be locked in two positions, of gang locking and unlocking mechanism connected with the latch, a device connected with the slide for connecting and disconnecting parts of the gang locking and unlocking devices and a lock for moving the slide and for locking it in its two positions.

3. The combination with a latch and a deadlocking-slide therefor, the said slide adapted to be locked in two positions, of gang locking and unlocking mechanism, means connecting said slide with said mechanism, and a lock adapted to lock the slide in its two positions, the indicator or keyhole in the lock indicating visually the position of the slide or bolt.

4. The combination with a latch and a deadlocking-slide therefor, the said slide adapted to be locked in two positions, of a gang locking and unlocking mechanism connected with the latch, a device connected with the slide for connecting and disconnecting parts of the gang locking and unlocking devices, and a lock for moving the slide in its two positions, the indicator on the keyhole in said lock indicating visually the position of the slide or bolt.

5. In a lock the combination with a pivoted latch, of a longitudinally-movable slide for locking the latch against movement, a pin-lock for moving said slide and locking it in its two positions, a lever adjacent to the tail of the latch for disengaging the latch from its keeper and a lock for locking said lever.

6. In a lock the combination with a pivoted latch and a deadlocking-slide, of means for moving the slide in a position to lock the latch against movement, devices connecting

said latch with gang locking and unlocking mechanism, and means connecting the slide and said gang-connecting devices so that when the slide deadlocks the latch the gang-connecting mechanism is disconnected from the gang locking and unlocking mechanism.

7. In a lock the combination with a latch a deadlocking-slide, and means connecting said latch with gang locking and unlocking mechanism, of a lock adapted to lock the slide in its two positions, the keyhole of the lock indicating the position of the slide or bolt.

8. In a lock, the combination with a latch, a deadlocking-slide, means connecting said latch with gang locking and unlocking mechanism, and means actuated by said slide for connecting and disconnecting that portion of said gang locking and unlocking mechanism carried by the door, to and from the gang-operating shaft, of a lock for locking the slide in its two positions, the keyhole of the lock indicating the position of the slide or bolt.

9. The combination with a latch, a deadlocking-slide therefor and a gang-operating shaft, of means connecting the latch and gang-operating shaft, and devices actuated by said slide for disconnecting the said connecting means between the latch and shaft from the gang-operating shaft when the latch is deadlocked.

10. The combination with a latch, a deadlocking-slide therefor and a gang-operating shaft, of a connecting-bar adapted to engage the gang-operating shaft and connected to the latch, and means connected with the deadlocking-slide for moving said connecting-bar into or out of engagement with the gang-operating shaft as the slide is moved.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WARREN H. TAYLOR.

Witnesses:
SCHUYLER MERRITT,
W. C. FELL.