

D. F. YOUNGBLOOD.
LOCKING SYSTEM FOR JAIL DOORS.

NO MODEL.

APPLICATION FILED MAR. 31, 1902.

2 SHEETS—SHEET 1.

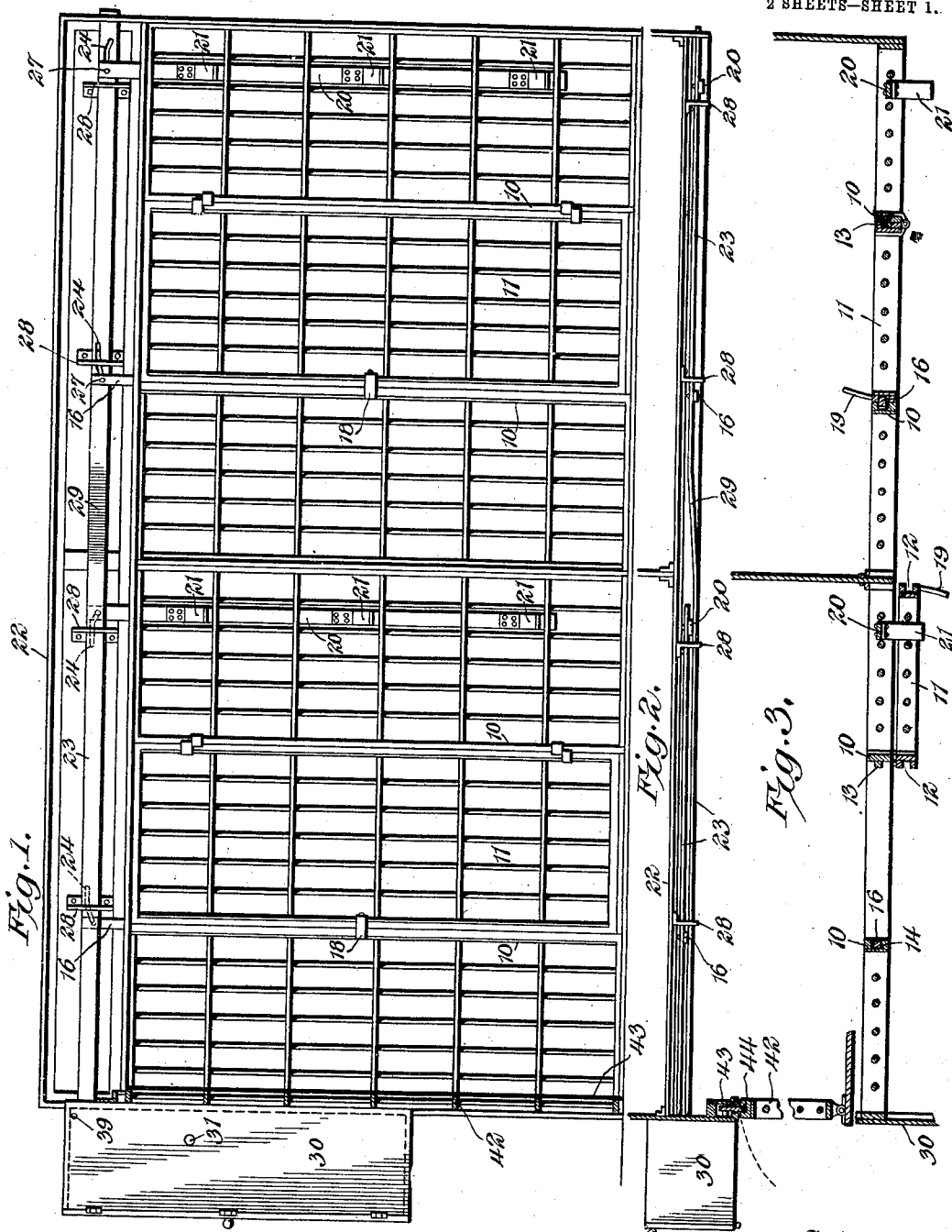


Fig. 1.

Fig. 2.

Fig. 3.

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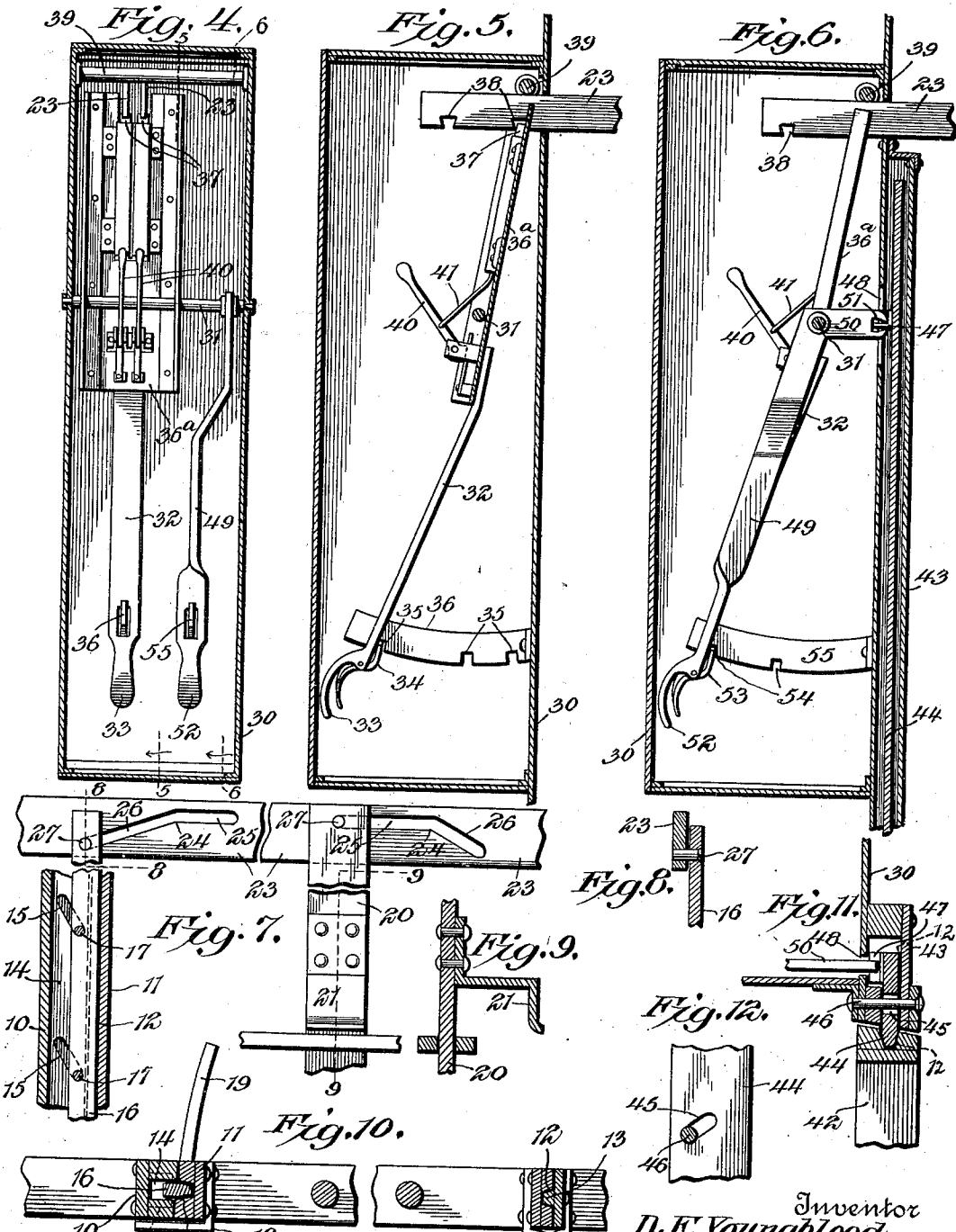
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UNITED STATES PATENT OFFICE.

DAVID FRANKLIN YOUNGBLOOD, OF SAN ANTONIO, TEXAS.

LOCKING SYSTEM FOR JAIL-DOORS.

SPECIFICATION forming part of Letters Patent No. 719,169, dated January 27, 1903.

Application filed March 31, 1902. Serial No. 100,809. (No model.)

To all whom it may concern:

Be it known that I, DAVID FRANKLIN YOUNGBLOOD, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Locking System for Jail-Doors, of which the following is a specification.

This invention relates to systems for locking the doors of jail-cells; and the object, broadly stated, is to provide a system of this character which is simple, inexpensive, and effective.

More particularly, one of the features of the invention resides in novel mechanism whereby all the locks of a series of cell-doors may be operated simultaneously or any one or more actuated independently of the others.

Another feature relates to mechanism for locking the cell-doors in their open positions, said mechanism being operable by the same actuating devices employed for locking the doors closed.

Still other features reside in improved means for locking the corridor-doors and also in structural details having advantages which will be readily apparent when the construction is fully understood.

The preferred forms of construction are clearly illustrated in the accompanying sheets of drawings, wherein—

Figure 1 is a view in elevation of two cells, showing the improved locking mechanism for the doors thereof. Fig. 2 is a top plan view of the same, the corridor-door and locking mechanism therefor being, however, shown in section. Fig. 3 is a horizontal sectional view. Fig. 4 is a vertical sectional view, on an enlarged scale, through the box that incloses the controlling-levers. Fig. 5 is a vertical sectional view on the line 5 5 of Fig. 4. Fig. 6 is a vertical sectional view on the line 6 6 of Fig. 4. Fig. 7 is a detail view, on an enlarged scale, of the connections between the actuating-bar and the locking-bars. Fig. 8 is a detail sectional view on the line 8 8 of Fig. 7. Fig. 9 is a detail sectional view on the line 9 9 of Fig. 7. Fig. 10 is a horizontal sectional view, on an enlarged scale, through one of the cell-doors. Fig. 11 is a horizontal sectional view through the locking device for the corridor-doors. Fig. 12 is a detail section on the line 12 12 of Fig. 11.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

The front walls of the cells may be of any desired or well-known construction and are provided with doorways surrounded by frames 10, to which are hinged doors 11, said doors being preferably grated and formed of horizontal and upright bars. The opposite upright edges of the doors are constructed of plates or strips and are provided with longitudinally-disposed grooves 12, the groove in the hinge edge being arranged to receive a lip 13, secured to the adjacent portion of the door-frame, as clearly shown in Fig. 10. The opposite vertical portion of the frame is in the form of a boxing having a chamber 14, the side walls of which are provided with inclined slots 15, and in this boxing is slidably mounted an upright locking-bar 16, having transverse pins 17, the ends of which are movably mounted in the slots 15. This locking-bar has its outer edge tapered and arranged to fit in the groove 12 of the adjacent or coacting edge of the door, as clearly shown in Fig. 10. Said door is provided with a stop 18, arranged to limit the inward movement of the same and properly position the groove 12 with relation to the locking-bar, while an inwardly-extending finger 19, secured to the free upright edge of the door, prevents the outward movement of the locking-bar until the door is completely closed. In view of the fact that this locking-bar extends from the top to the bottom of the door, as does also the lip 13, it will be evident that when the door is closed and fastened it will be interlocked with the wall of the cell and cannot, therefore, be displaced, even if the hinges are broken. Furthermore, both the lip and locking-bar are located within the planes of the outside edges of the door and jamb, so that they are completely housed or inclosed and are not in a position to be pried off or sprung.

As it has often happened that prisoners while in the corridors have tampered with and broken hinges of the open doors by inserting wedges or other articles between the same and the adjacent cell-wall, there is provided in this structure means for locking the doors in open position. This means is in the form of a vertically-movable locking-bar

20, slidably mounted in the cross-bars of the cell-wall and having outstanding depending keeper-hooks 21, arranged to engage over the horizontal bars of the door when said door is thrown to completely open position against the cell-wall, as shown in Fig. 3.

Located upon the front walls of the cells is a suitable open framework 22, and the several locking-bars of the cell project into this framework. Slidably mounted upon the framework are horizontally-disposed actuating-bars 23, one of which is provided for each cell and is connected with the locking-bars 16 and 20 thereof to consecutively operate the same. This is accomplished by providing the actuating-bars with longitudinally-disposed slots 24, having horizontal and inclined portions 25 and 26, the inclined portions being disposed in opposite directions and the horizontal portion of one being equal in length to the inclined portion of the other, all of which is illustrated in Fig. 7. Both of the locking-bars have their upper ends disposed adjacent to the actuating-bar and are provided with pins 27, that engage in the slots. Assuming, therefore, that the actuating-bar is in the position shown in Fig. 7, it will be seen that the locking-bar 16 is in lowered position and in engagement with the door, while the locking-bar 20 is raised. If now the actuating-bar 23 is moved in the direction of the arrow, it will be apparent that the locking-bar 16 will be raised because of the pin 27 engaging in the inclined portion of the groove, and at the same time said locking-bar will be moved rearwardly out of engagement with the door because of the engagement of the transverse pins 17 in the inclined slots 15. There will be no movement, however, to the locking-bar 20, as the pin 27 thereof is located in the horizontal portion of the slot 24. When the actuating-bar 23 has been moved a distance sufficient to bring the pins 27 at the angles formed by the dispositions of the slots, said bar is stopped, and as the door is now released it may be swung to open position. When this position has been obtained, a further movement of the actuating-bar in the direction indicated by the arrow will permit the locking-bar 20 to drop, thus bringing the depending keeper-hooks 21 into engagement with the cross-bars of the door, consequently locking it in open position. During this latter movement, however, the pin 27 of the locking-bar 16 will be located in the horizontal portion 25 of its slot and there will be no vertical movement. It will of course be evident that a reverse movement of the actuating-bar will unlock the door in its open position and relock it when closed.

As already described, a separate actuating-bar is provided for the locks of each cell-door, and while two are shown it will be evident that a greater number may be employed, if desired. These bars are mounted in suitable brackets 28, secured upon the frame 22,

the longer bar being disposed outside of the shorter and having an inset portion 29 at the end of said shorter bar. These several bars are moved by means of a master-controller, which is preferably constructed and operated as follows: A box or casing 30 is located at one end of the series of cells, and within the same is arranged a horizontal pivot-bar 31, upon which is journaled a controlling-lever 32, the lower portion of which is provided with a suitable handle 33 and a pivot-latch 34, that is arranged to engage in notches 35, made in a holding-arm 36, secured within the boxing and passing through the lower portion of the lever. The upper portion of this lever is formed into a flat plate or head 36^a, upon which are slidably mounted separate and independent coupling-bolts 37, the upper ends of said coupling-bolts being arranged to engage in notches or sockets 38, made in the lower edges of the ends of the actuating-bars 23, that project into the upper end of the casing 30, an antifriction-roller 39 being located above said bars. The coupling-bolts are actuated by means of levers 40, pivoted upon the head of the controlling-lever and connected to the bolts by means of links 41. The operation of this device will be perfectly apparent. When the doors are located in closed position and it is desired to unlock all of them, the coupling-bolts 37 are engaged in the rearmost notches of the respective bars, whereupon by moving the master controlling-lever the several bars will be correspondingly moved and the locks simultaneously operated, as above described. Should it be desired, however, to leave any cell-door locked, it is only necessary to uncouple the actuating-bar therefor from the lever. After the other doors have been opened and locked in open position, the controlling-lever being also fastened against movement, it will of course be necessary to secure the closed cell-door; but as the upper end of the lever is now out of alinement with the rearmost notch of the unmoved actuating-bar the other notch is provided therein, which will now be in alinement, and the coupling-bolt therefor may be engaged in this latter notch.

Suitable means are also provided for locking the corridor-door, (designated 42,) which door is preferably located directly adjacent to the casing in which the master controlling-lever above described is placed. This door is hinged at one edge and the opposite portion of the door-frame is constructed with the usual boxing 43, in which is mounted a locking-bar 44, having inclined slots 45, through which pass pins 46, this construction being more clearly shown in Figs. 11 and 12. The bar is furthermore provided on one side with a projection 47, located in rear of an opening 48, made through the box 43 and in communication with the interior of the casing 30. An actuating-lever 49, journaled upon the pivot-rod 31, has an upper offset arm 50, that is provided in its end with a notch 51, in

which the projection 47 engages, as clearly shown in Fig. 6. The lower end of this lever is formed into a handle 52 and carries a pivoted latch 53, that is arranged to engage in notches 54 of a quadrant-arm 55, located within the casing. The operation of this part of the structure will be readily apparent. When the lever is moved in one direction, the locking-bar 44 will be raised, consequently carrying its coacting edge out of engagement with the corridor-door, so that the latter may be readily opened. Upon a reverse movement the locking-bar is dropped and at the same time is carried forward into engagement with the door, securely locking the same.

This invention has the following advantages: It will be seen that the actuating mechanism is located out of reach of the prisoners and that the locking mechanism for holding the doors in closed position is completely housed and inclosed, having no projecting portions which can be injured or broken. All the cell-doors may be unlocked and locked simultaneously or any one or more may be unlocked without in any manner affecting the others. Furthermore, the several doors can be locked in open position and the mechanism is greatly simplified, as the same means are employed for moving the locking devices that hold the doors in open position as for actuating the locks for the doors when closed. The actuating means for the corridor-doors is arranged in convenient relation with respect to the remainder of the mechanism and the whole is placed outside the prisoners' corridor.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a system of the class described, the combination with a plurality of doors, of a separate lock for each door, an actuating-bar connected to each lock, a master controlling-lever, and a plurality of coupling-bolts slidably mounted on the lever and detachably engaging the several actuating-bars.

2. In a system of the class described, the combination with a plurality of doors, of a separate lock for each door, an actuating-bar connected to each lock and having a socket, a master controlling-lever, a plurality of coupling-bolts slidably mounted on the lever and detachably engaging in the sockets of the bars, and levers pivoted upon the master-lever and connected to the bolts.

3. In a system of the class described, the combination with a plurality of doors, of a

separate lock for each door, an actuating-bar connected to each lock, a master controlling-lever, separate means for detachably connecting the lever to each bar at different points upon the latter independently of the other bars, and means for locking the controller against movement.

4. In a system of the class described, the combination with a plurality of doors, of a separate lock for each door, a separate actuating-bar connected to each lock and having a plurality of notches in its lower edge, a master controlling-lever pivoted beneath the bars, and a plurality of separate and independent coupling-bolts slidably mounted upon the controlling-lever, each bolt being arranged to engage in any of the notches of one of the bars.

5. In a system of the class described, the combination with a swinging door, of means for locking the door in closed position, means movable into and out of engagement with the swinging door for locking the same in open position, and actuating mechanism for consecutively operating both locking means.

6. In a system of the class described, the combination with a door, of means for locking the door in closed position, means movable into and out of engagement with the door for locking the same in open position, and a slidably-mounted actuating-bar having a connection with both locking means to operate the same.

7. In a system of the class described, the combination with a door, of a pair of upright locking-bars movable in an upwardly direction and arranged to respectively engage the door when the latter is in its open and shut positions, an actuating-bar movably located in transverse relation to the locking-bars, and connections between the actuating-bar and the locking-bars, whereby the latter are moved consecutively upon the movement of the former.

8. In a system of the class described, the combination with a door, of a pair of upright locking-bars movable in an upwardly direction and arranged to engage the door when in its open and shut positions respectively, an actuating-bar movably located in transverse relation to the locking-bars and having longitudinally-disposed slots that incline in opposite directions, and pins secured to the locking-bars and engaging in the slots of the actuating-bar.

9. In a system of the class described, the combination with a swinging door, of a vertically-movable locking-bar having a keeper arranged to engage the door, an actuating-bar disposed transversely to the locking-bar, and means connecting the two bars whereby upon the movement of the former, the latter will be raised or lowered.

10. In a system of the class described, the combination with a swinging grated door, of a vertically-movable locking-bar having a plurality of keeper-hooks arranged to engage over the grate-bars of the door, an actuating-

bar arranged transversely to the locking-bar and having a longitudinally-disposed inclined slot, and a pin secured to the locking-bar and engaging in the slot of the actuating-bar.

5 11. In a system of the class described, the combination with a swinging door, of a downwardly and upwardly movable locking-bar arranged to engage the door and having a projection on its outer face, and an actuating-
10 lever pivoted contiguous to the door and having an offset arm that engages the projection of the locking-bar.

12. In a system of the class described, the combination with a doorway, one of the jambs
15 of which is provided on its inner face with an intermediate longitudinal lip, the other jamb being provided in its inner face and within the plane of its edges with a longitudinally-disposed groove, of a door hinged to one side
20 of the doorway and provided in its opposite upright edges with longitudinal grooves, one of which receives the lip of one jamb, the other being arranged to aline with the groove of the other jamb, and a locking-bar located

in the latter groove and movable into and
out of the alined groove of the door. 25

13. In a system of the class described, the combination with a door, of a pair of upright locking-bars movable in an upward direction and arranged to respectively engage the door
30 when the latter is in its open and shut positions, and means for actuating the locking-bars.

14. In a system of the class described, the combination with a door, of a pair of upright
35 locking-bars movable in an upward direction and arranged to respectively engage the door when the latter is in its open and shut position, and common means for actuating the locking-
bars. 40

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

DAVID FRANKLIN YOUNGBLOOD.

Witnesses:

R. L. RUSHING,
JOHN WOODS.