

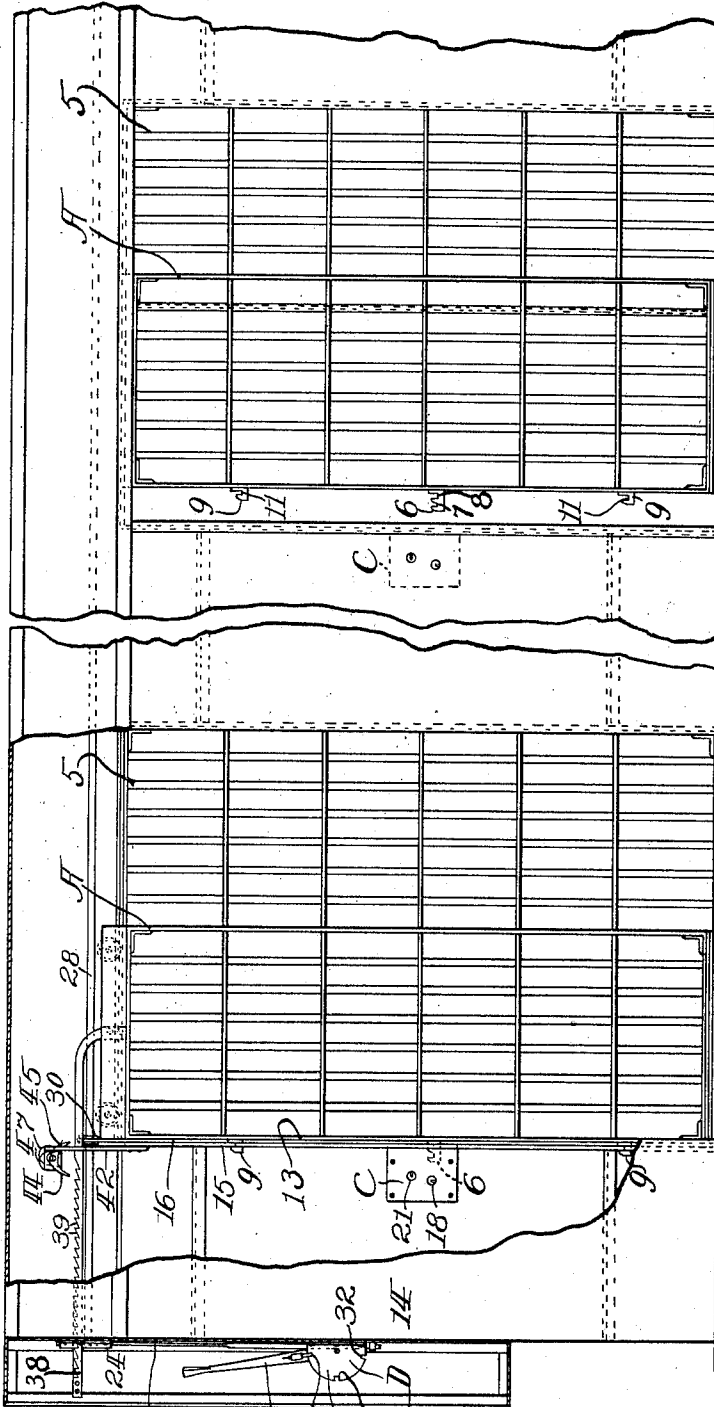
F. ADAM.
JAIL LOCKING DEVICE.
APPLICATION FILED SEPT. 30, 1910.

1,043,747.

Patented Nov. 5, 1912.

4 SHEETS—SHEET 1.

Fig. 1.



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Fig. 3.

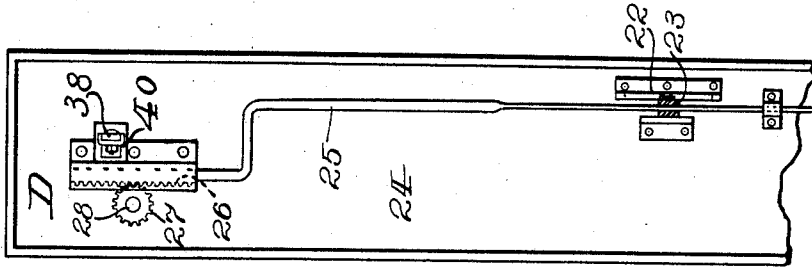


Fig. 2.

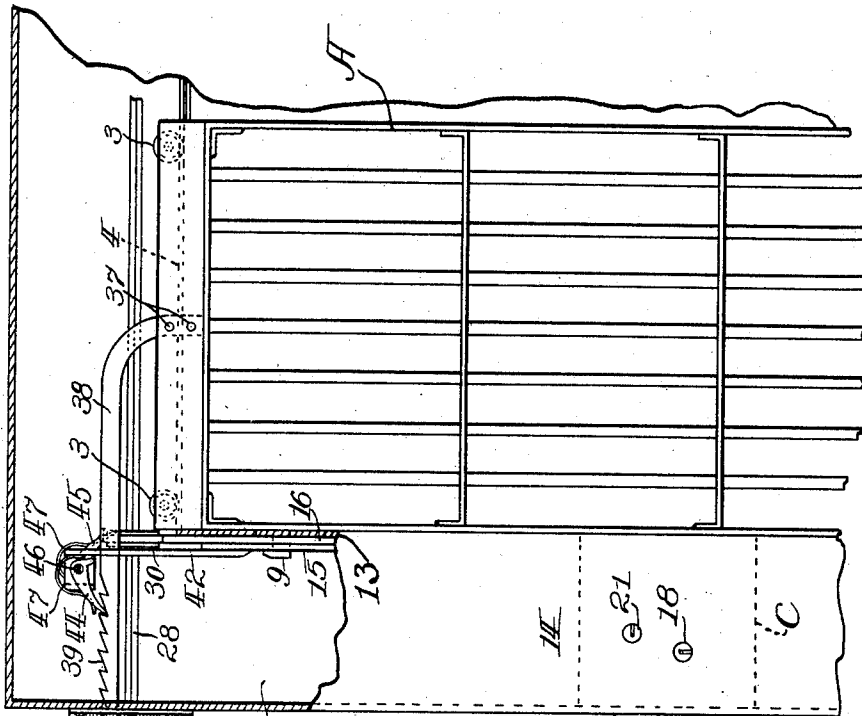
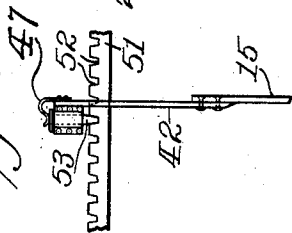


Fig. 11.



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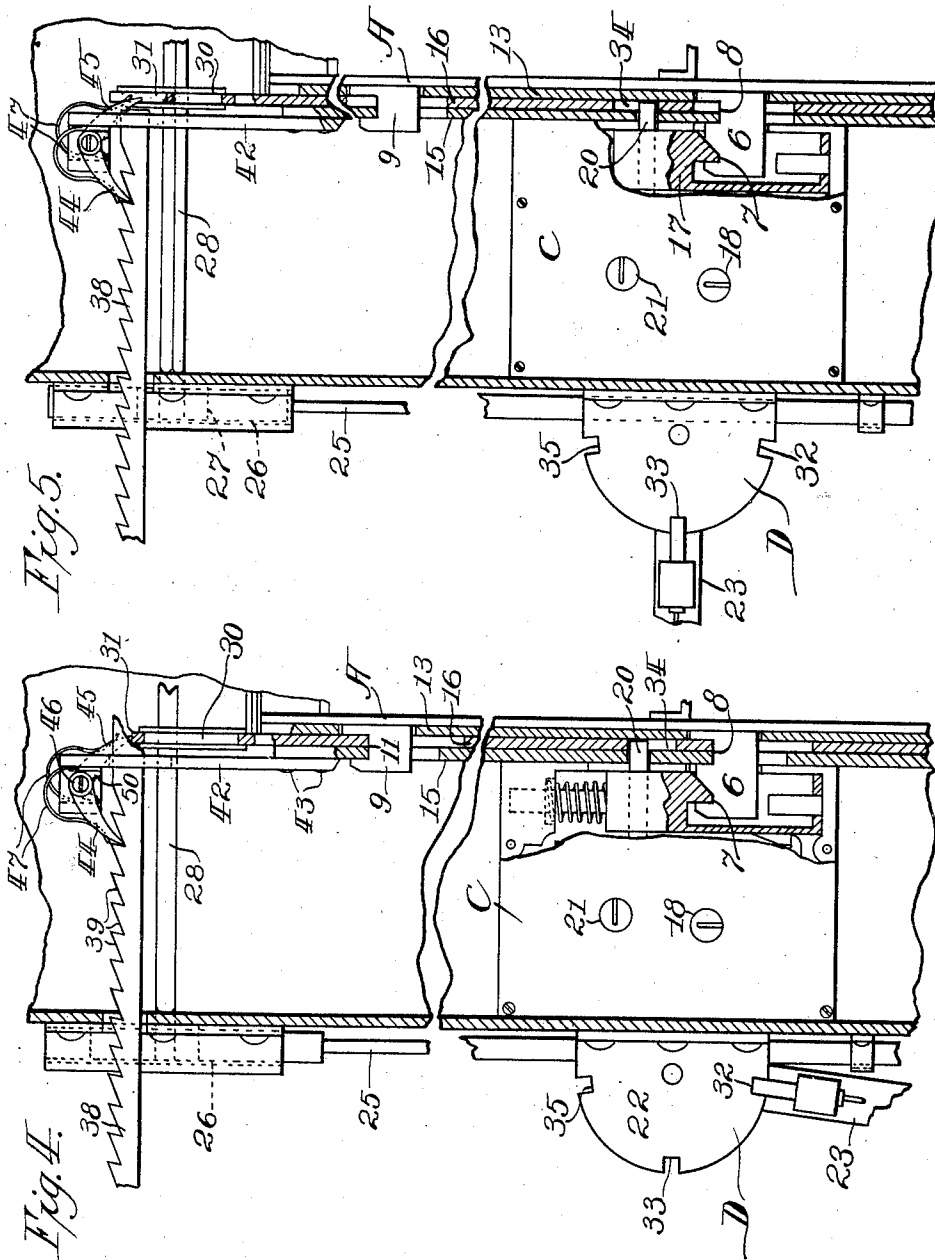
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4 SHEETS—SHEET 3.



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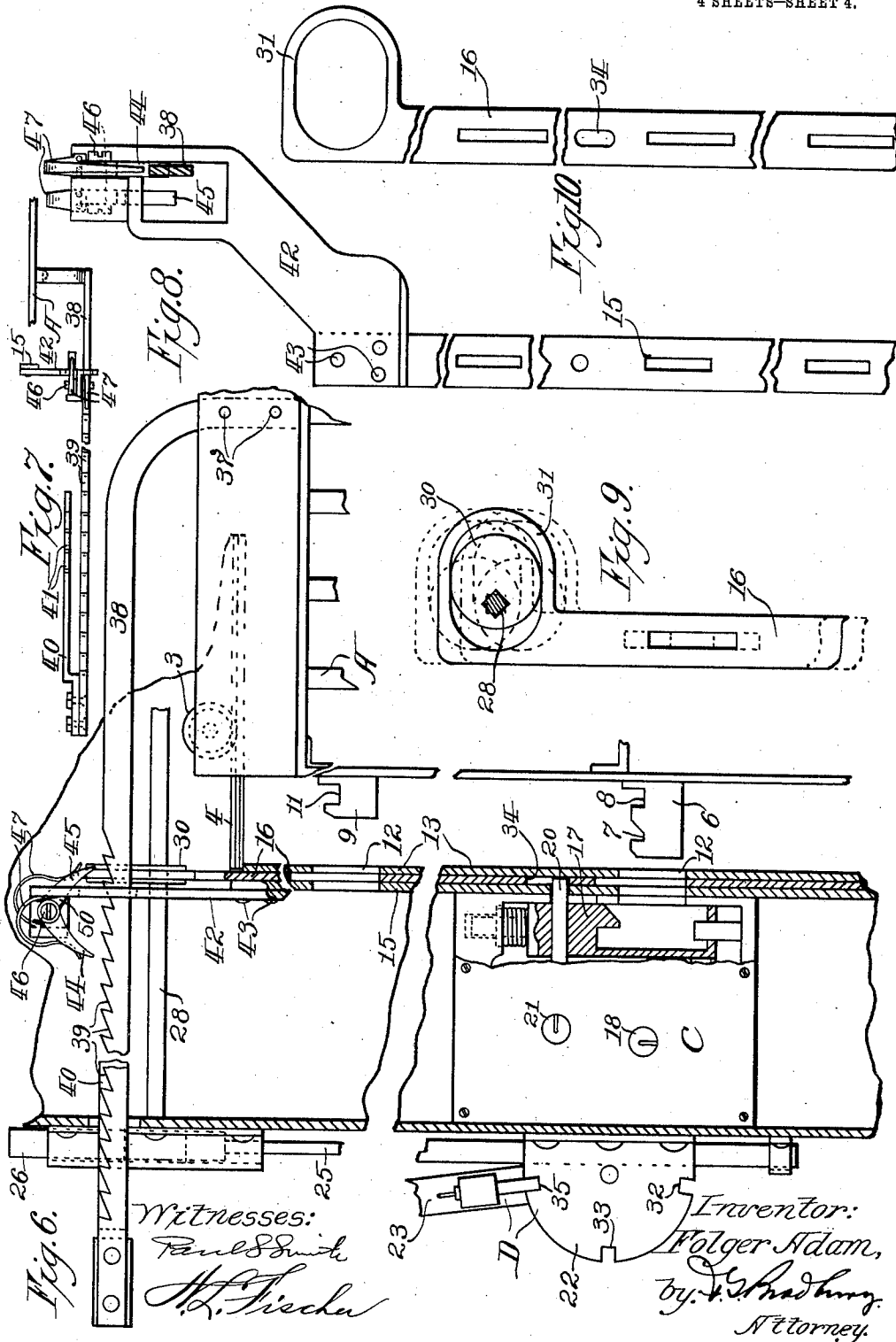
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4 SHEETS—SHEET 4.



UNITED STATES PATENT OFFICE.

FOLGER ADAM, OF JOLIET, ILLINOIS.

JAIL-LOCKING DEVICE.

1,043,747.

Specification of Letters Patent.

Patented Nov. 5, 1912.

Application filed September 30, 1910. Serial No. 584,738.

To all whom it may concern:

Be it known that I, FOLGER ADAM, a citizen of the United States, residing at Joliet, in the county of Will and State of Illinois, have invented a new and useful Improvement in Jail-Locking Devices, of which the following is a specification.

My invention relates to improvements in jail locking devices and has as its principal object the prevention of manipulating and tampering by unauthorized persons, with cell doors when unlocked.

When open cell doors are to be closed by prisoners, it is possible for the prisoner to prevent the locking of the door by the snap lock, and to maintain the door in that condition, unnoticed, until he desires to reopen the door and escape.

My device is adapted to prevent the reopening without the knowledge of persons in authority, of a door so closed, and to prevent tampering with open doors by unauthorized individuals.

My device may be operated in connection with the gang mechanism or by means of the door lock associated with the sliding door and is especially adapted to be used in connection with the cell lock and gang mechanism specified in my companion application filed on November 6, 1909, Serial Number 526,526.

In the drawings with which I have illustrated my device and which form part of the specification, Figure 1 illustrates a series of cell doors in connection with the lever box of the gang locking device and with a portion of the front panel of the cell broken away to show my device in its unlocked or inoperative position; Fig. 2 is an enlarged detail of a portion of the view shown in Fig. 1 showing the gang lever in its middle position with my locking device operative; Fig. 3 is a side elevation of the gang lever box shown in Fig. 2; Figs. 4, 5, and 6 are partly sectional views showing the operation of my ratchet lock in connection with the door lock at different positions of the gang lever; Figs. 7, 8, 9, and 10 are detailed views of different locking members, and Fig. 11 shows an alternate construction of the pawl or dog used in connection with the ratchet and adapted to perform the function of the two pawls illustrated in the preceding figures.

The above drawings show sliding cell doors A supported upon grooved wheels 3

traveling on a suitable track 4 on the cell front 5. The front edge of the door is provided with a locking member 6 having engaging notches 7 and 8, and two lugs 9 having notches 11 in vertical alinement with the notch 8 of the member 6. Suitable apertures 12 are provided in the jam strip 13 for the entrance of the lugs 6 and 9. Behind the jam strip 13 and protected by the metal panel 14 lie two parallel and adjacent locking bars 15 and 16 which are operated in connection with the lock C and the gang mechanism D. The lock C is provided with a snap lock latch member 17 adapted to engage with the notch 7 on the member 6 of the door and operable through the snap lock key-hole 18.

In connection with the latch member 17 is a bolt 20 slidable horizontally in a slot in the latch 17 and the bars 15 and 16 and operated by means of the dead lock key-hole 21 into and out of engagement with the locking bar 16, as described in detail in my companion application above referred to, in this way disconnecting the door lock C and the locking bar 15 from the gang locking mechanism D which operates through the bar 16. The gang locking mechanism D operating the locking members of the different cell doors consists of a gang lever 23 situated in a lever box 24 on each tier of cells. The lever 23 is provided with a quadrant 22 having three positions, and operates a rack bar 25 and rack 26 (see Fig. 3) rotating the pinion 27 mounted on the gang bar 28 which extends along each tier of cells above the doors of the cells.

On the gang bar 28 is fixed an eccentric cam 30 operating within the eccentric strap 31 (see Fig. 9) at the head of the locking bar 16 and so placed that when the gang lever 23 is in its lower position as shown in Fig. 4, engaging the notch 32, on the quadrant, the eccentric 30 will be in its lowest position holding the bar 16 down against the bolt 20 and in locking engagement with the notches 8 and 11, and through the bolt 20 holding the locking bar 15 in engagement with notches 8 and 11. At the same time the latch member 17 is held in engagement with the notch 7 on the locking member 6 by bolt 20. The gang mechanism is so proportioned that the movement of the gang lever to its middle position, engaging the notch 33 in the quadrant, raises the bar 16 out of engagement with the notches 8 and 11 while

the slot 34 in the bar 16 receiving the bolt 20, is elongated, allowing this movement of the bar without raising the bolt 20 and the bar 15 which rests upon it. Further movement of the gang lever to its upper position in notch 35 of the quadrant, however causes the bar 16 to raise the bolt 20 and the bar 15 is withdrawn from engagement with notches 8 and 11 while the snap lock latch 17 is raised from notch 7, thus completely freeing the doors from the locking devices and allowing them to be opened at pleasure.

Attached to the top of each door A by rivets 37, is a ratchet arm 38 which extends across the top of the door horizontally in such a position that its free end portion lies behind the bar 15 when the door is in its wide open position. The arm 38 has ratchet teeth 39 on its upper side pointing in the direction of opening of the door and extending from the free end of the arm to that point which is behind the bar 15 when the door is in its closed position. Attached to the free end of the arm 38 is an off-set ratchet arm 40, having teeth 41 pointing in the direction of closure of the door. This ratchet, as shown, is short, having few teeth, but may be of any desired length. The pawls or dogs adapted to engage these ratchets are carried by the bar 15 which has an off-set portion 42 either integral with the bar or fixed to it by the rivets 43 as shown in Figs. 6, 7 and 8. The pawl 44 when in an operative position engages the ratchet teeth 39 while the pawl 45 extends in the other direction and engages the off-set ratchet teeth 41. The pawls 44 and 45 are shown mounted upon a common pivot 46 and are held in position by springs 47. A lug 50 on each pawl impinges on the mounting 42 and prevents the pawl from dropping too low when the bar 15 is raised out of engagement with the ratchets. The pawls and ratchets are so positioned that when the bar 15 is raised by the gang lever in its upper position the pawls are thrown out of engagement with the ratchets and do not effect the movement of the door in either direction. When the gang lever is in its middle position with the bar 16 disengaged from the door, the unlocking of the individual doors is effected by means of a suitable key operating in the snap lock key-hole 18 which raises the latch 17, the bolt 20, and through the bolt 20, the bar 15. This movement of the bar 15, which is equivalent to its movement when produced by the gang lever, disengages the pawls from the ratchets and allows the free movement of the doors so unlocked. The pawls are thrown into operative position by reversing the movement of the key in the snap lock key-hole, lowering the bar 15 and the pawls carried by it. The pawl 44 then engages teeth 39 and prevents any further opening

movement of the door. If the pawls are thrown into operative position when the door is in its wide open position, or in such position that the pawl 45 engages the teeth 41 on the offset ratchet arm 40, the door is locked from closing and can be freed for closing only by the operation of the snap lock or the gang lever. If the pawls are in operative position with the door partly opened, the pawl 44, only being in engagement, the door is locked against further opening and the door may be closed to any point without manipulation of the locking members, being locked in any position, against opening. In the construction shown, the pawl 45 becomes operative only when the door is in a substantially wide open position at which point both pawls are in engagement and the door is locked from movement in either direction.

In Fig. 11 I have illustrated what I consider to be a fundamental form of my invention consisting of an arm 51 having a series of indentations 52, and a coacting latch member or dog 53; these elements being operable into and out of engagement with each other and associated with a door and door frame in such relation that they may lock the door from movement in one or both directions at any different points in its opening or closing movement. And while I prefer the design disclosed, I consider any form of dog associated with a door and door frame for the purposes specified as its equivalent.

In accordance with the patent statutes I have described the principles of operation of my invention together with the apparatus which I now consider to represent the best embodiment thereof but I desire to have it understood that the construction shown is only illustrative and that the invention can be carried out by other means and applied to uses other than those above set forth within the scope of the following claims.

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

1. A gang locking device for cell doors comprising, in combination, a plurality of sliding doors, locking means associated with each of said doors and adapted to lock said doors in a closed position, a gang operating device adapted to lock and unlock said locking means, a dog and ratchet associated with each of said doors and adapted to prevent the motion of an unlocked door in one direction, and gang means for operating said dog and ratchet into and out of engagement.

2. In a connection with a door locking device, a ratchet mounted on said door and movable therewith, and a pawl adapted to engage said ratchet and operable into and out of engagement with said ratchet by means of said door locking device, whereby

said door may be prevented from further opening at any point at which the pawl may be thrown into engagement with the ratchet.

3. In a gang locking device for cell doors, each having a locking member operated by a gang lever, a second locking member having an operative connection with the gang lever and with a lock, and means for disengaging said second member from the gang lever, a ratchet movable with said door and a dog carried by said second locking member and adapted to engage said ratchet in any position of the door when said second bar is in its locking position, for the purposes specified.

4. In a gang locking device for cell doors, each having a locking member operated by a gang lever, a second locking member having an operative connection with the gang lever and with a lock, and means for disengaging said second member from the gang lever, a ratchet movable with said door, a dog carried by said second locking member and adapted to engage said ratchet in any position of the door when said second bar is in its locking position, a second ratchet, an engaging dog associated with said door and locking bar and adapted to prevent motion of the door in a direction opposite to that guarded by the first ratchet and dog.

5. Cell door locking mechanism, comprising in combination, a cell front, a door slidable thereon, two separate door locks associated with said door and adapted to lock the same in its closed position and a ratchet lock operatively connected with one of said door locks and adapted when in operative position, to automatically lock said door against opening in any position thereof, and

means connecting said door locks to operate each of them through the other, whereby the ratchet becomes operable through each of said locks.

6. In a locking mechanism for a door having an engaging member thereon, a latch engaging said member, a locking bar engaging said member, a cam yoke connected with said bar, a cam cooperating with said yoke to lock and unlock said door, a ratchet connected with said door and horizontally slidable therewith, a pawl cooperating with said ratchet to prevent the opening of said door from any position, and means connected with said cam yoke to raise said pawl out of engagement with said ratchet when said locking bar is in its unlocking position.

7. In a locking mechanism for a sliding door having an engaging member thereon, a latch engaging said member, a locking bar engaging said member, a cam yoke connected with said bar, a cam cooperating with said yoke to lock and unlock said door, a ratchet connected with said door and horizontally slidable therewith, a pawl cooperating with said ratchet to prevent the opening of said door from any position, means connected with said cam yoke to raise said pawl out of engagement with said ratchet when said locking bar is in its unlocking position, and gang means for operating said cam.

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

FOLGER ADAM.

Witnesses:

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CARRIE HOFFER.