

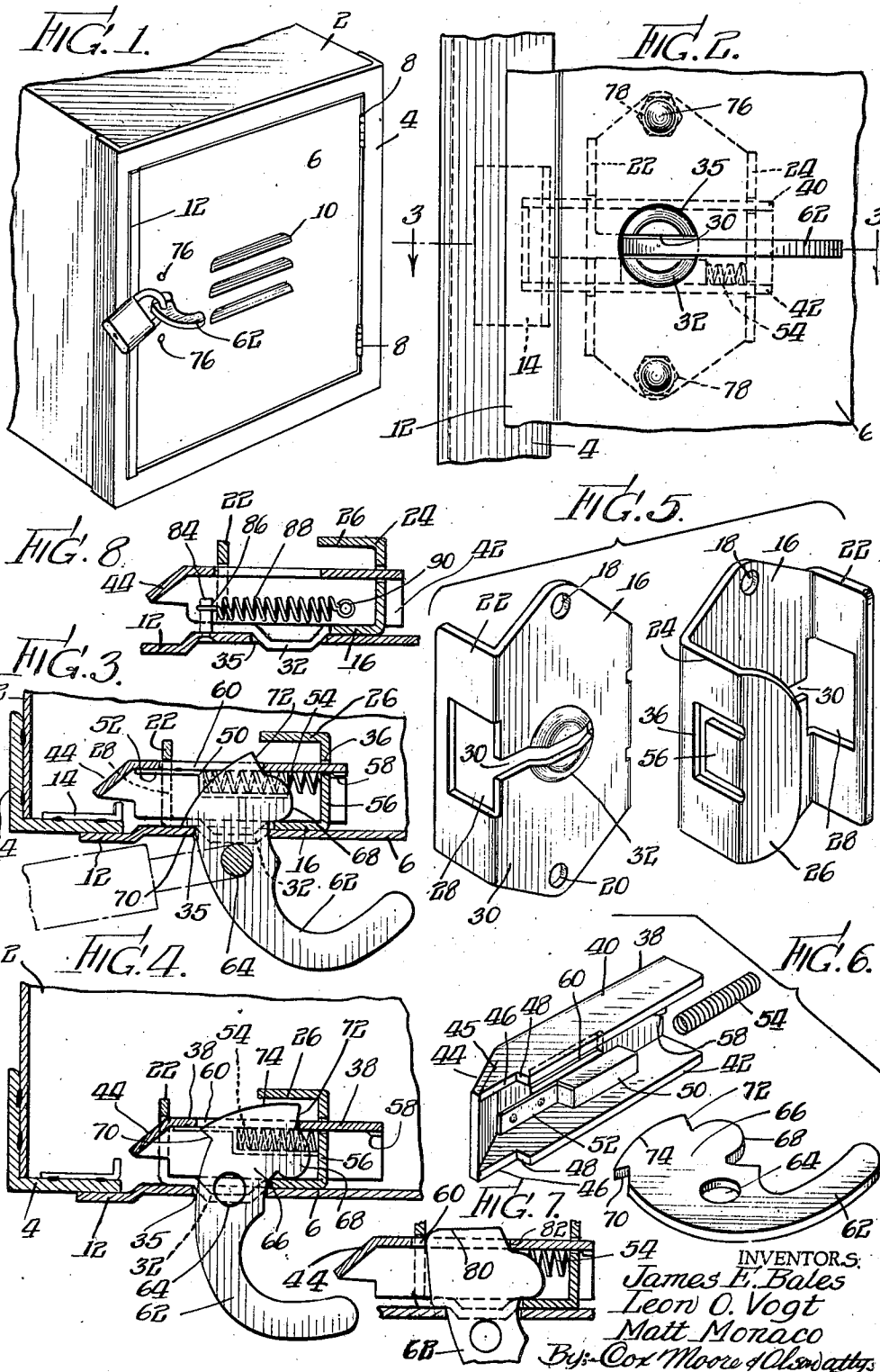
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LOCKING DEVICE

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LOCKING DEVICE

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This invention relates to locking means for lockers, door closures, drawers, boxes or other installations or devices to be locked.

An object of the present invention is to provide a simple locking mechanism which is adapted to provide a portion projecting outwardly from the door forming a handle and means for operating a lock bolt member and which may or may not be provided with means to receive a padlock and arranged so that the locking mechanism may be spring operated to close even when the padlock is in position and the door open or which locking mechanism may be converted, if desirable, to the dead bolt or combination type; to provide a locking mechanism which is interchangeable with a regular flat key type of lock; to provide a locking mechanism of sheet metal adapted for attachment to a sheet metal or other type door in a manner such that the door will not require a special punch to be able to mount the device thereon, the door requiring only a regular lock punching to adapt it for mounting the present type of locking mechanism thereon; to provide a door locking mechanism of the character described having a shiftable handle projecting forwardly from the door and arranged so that a rocking movement thereof operates the lock bolt and permits the door to open after the padlock hasp has been removed from the padlock hole or to open irrespective of the application of the padlock thereto; to provide a locking mechanism of the foregoing character which is free locking, that is, the mechanism may be placed in locking position even while the door is open; to provide a locking mechanism of the foregoing character which is free locking and which is arranged so that a padlock hasp can be placed on the device and locked and the door can still be closed and will then be automatically locked and cannot be opened without releasing the padlock hasp; to provide a locking mechanism of the foregoing character which with a slight change in the lever mechanism can eliminate the free locking feature if so desired; to provide a locking mechanism formed particularly of sheet metal, which is simple in construction and design and cheap in manufacturing costs and assembly; to provide a locking mechanism of the foregoing character comprising only five pieces all formed of sheet material and including a coil spring; to provide these and other objects of the invention which will be apparent when taken in connection with the fol-

lowing specification and the claims and the drawing, wherein:

Figure 1 is a perspective view of the locker and door with the padlock attachment;

Figure 2 is a fragmentary front elevational view of the padlock attachment for the locker door;

Figure 3 is a plan sectional view taken on the line 3—3 of Figure 2, showing the door in locked position;

Figure 4 is a view similar to Figure 3, showing the door in unlocked position;

Figure 5 is a front and rear perspective view of the lock bolt housing;

Figure 6 is a perspective view of the lock bolt member and associated parts;

Figure 7 is a sectional view showing a modified construction of the lock bolt member, and finger and lock operating member;

Figure 8 is a detailed view of a more simplified construction, wherein the spring housing or retainer catch is eliminated whereby to form the construction with four pieces instead of five pieces.

Our invention is illustrated in connection with a sheet metal locker of the type shown in the drawing, the same being a one-box locker with a hinged door. It is to be understood that the invention is adaptable where any regular flat key lock may be used.

In the illustration of the invention we have the receptacle or locker or box 2, or whatever structure is to be provided with a closure, shown with a frame 4, providing a door opening. The door 6 is hinged to the frame as at 8. In the present instance the locker is preferably formed of sheet metal side walls which are joined to the rigid reinforcing frame 4, preferably by welding. The door 6 is likewise preferably formed of sheet metal and may be provided with ventilating louvers 10, if desired.

The edge of the door is provided with a somewhat offset flange portion 12, which is adapted to overlie the edge of the frame member 4 at the opening. In addition, the inner face of this frame member 4 is provided with a reinforcing flange 14, which is adapted to cooperate with the shiftable lock bolt member of the lock hereinafter described.

The lock mechanism comprises mounting means in the form of a lock plate shown in perspective in Figure 5, preferably formed of sheet metal properly bent into a flat front plate-like portion 16 having punch-outs 18 and 20, by which the same may be fastened to the rear face of the

door 6. In addition, the mounting plate is provided with two lateral opposed flanges 22 and 24, which are preferably bent at right angles to the flat plate-like portion 16.

The side face 24 in turn has an angularly bent flange 26 which extends at right angles from the portion 24 toward the opposing side wall 22 of the mounting plate. The flange 22 is provided with a substantially square cut-out 28, a narrow cut-out portion of which as at 30 extends into the flat portion 16 of the plate and through a substantially circular bumped-out centering boss 32 thereof, which, as shown in Figure 3, projects outwardly through a circular opening 35 in the door so that the front face of this boss 32 lies beyond the exterior of the face of the door 6, as shown in Figures 3 and 8, for a purpose hereinafter to be explained.

This lateral cut-out portion 30 is for the reception of the handle hereinafter described to permit the handle to move laterally to actuate the lock bolt mechanism of the lock. In addition, the flange 24 is provided with a substantially C-shaped cut-out or slot 36 directly opposite the cut-out 28 which guides the lock bolt mechanism in sliding movement.

The lock bolt mechanism is shown in detail in perspective in Figure 6 as preferably formed of a single piece of sheet metal having a main face 38 and two right angularly extending flanges or side walls 40 or 42. The front edge of the lock bolt is formed on the diagonal as at 44 by cutting out triangularly shaped pieces to form an edge 45 and bending over the forward flange 44 against the edge 45. The front portion is also provided with a straight wall 46 and a shoulder 48. The angularity of the diagonal portion 44 is preferably substantially 45 degrees with respect to the wall 38.

In addition, the lock bolt is provided with a spring housing which is formed of a strip of sheet metal bent to provide a relatively small box-like structure 50 having a laterally extending tongue 52, by which the same is welded to the inner face of the wall 38 and prior to this assembly a coil spring 54 is inserted in the spring housing of the lock bolt. The bolt is then inserted with its unbeveled end passing through the larger opening and thence through the slotted guide. This operation causes the spring in the housing 50 to press against the lug 56 formed between the C-shaped slots to compress the spring. After the spring has been compressed, the end of the bolt is then embossed as at 58 to prevent its removal.

In addition, the bolt is provided with a longitudinal slot 60 which is adapted to receive the cam-shaped portion of the bolt operating finger hereinafter described.

The bolt operating member or finger is shown in perspective in Figure 6. It is preferably formed of sheet metal and comprises an arcuate finger-like portion 62, a hole 64 forming a padlock hasp opening and a main body portion 66 having a rounded laterally projecting lug 68, which forms a fulcrum by contacting the inner wall 16 of the mounting plate so as to permit the bolt operating member 62 to rock thereon to actuate the bolt. In addition, the finger is provided with a notch forming a shoulder 70 which, as shown in Figure 3, is adapted to cooperate with the inner face of the door adjacent the circular hole 35 therein to form a stop whereby to limit the lateral rocking movement of the finger in one direction.

In addition, the portion 66 is provided with an opposed shoulder 72 adapted to cooperate with an edge of the slot 60 formed in the bolt to push the bolt to the right to an unlocked position against the tension of the spring 54. This shoulder limits the arcuate swing of the bolt operating finger in the opposite direction.

There is an arcuate segment 74 formed on the bolt operating member between the shoulders 70 and 72, which, as shown in Figures 3 and 4, is adapted to operate through and in the slot 60 of the bolt. This arcuate segment is cut away for clearance so as to permit the spring to throw the bolt forwardly to locking position in one direction and likewise to prevent the finger 62 from being rocked in the opposite direction manually to withdraw the bolt from locking position. The shoulder portion 72 accomplishes this latter function.

In assembling the finger the same is first inserted through the slotted opening 30 of the mounting plate 16 in the proper operating position with relation to the slot 60 and then when in this position the outer end of the finger is inserted from the rear face of the door through opening 35 therein, and at this time the plate 16 is secured to the rear face of the door.

The fastening means comprising the bolts 76 project slightly from the outer face of the door 6 and extend rearwardly and have their threaded shank portions extending inwardly to pass through the openings 18 and 20 of the plate 16 to be engaged by nuts 78 for holding the assembly in position.

Thus it will be seen that by removing the fasteners 76 and 78 an entirely different type of lock may be applied to the locker door.

The flange portion 26 protects the inadvertent manipulation of the lock by means of wires inserted through the louvers.

With the bolt operating member or finger 62 assembled in the lock and the lock on the rear face of the door, the spring 54 will throw the bolt forwardly into locking position, at which time the padlock opening 64 on the finger 62 will be disposed in the position shown in Figure 3, at which time a padlock may be inserted there-through and locked thereto.

It will be noted that in this position the padlock will contact the outer face of the projecting boss 32. In this position the spring 54 is normally pressing the lock bolt to the left as shown in Figure 3, which corresponds to normal locking position. Now, if the door be open, upon closing the door the beveled edge 44 will contact the edge of the door opening to shift the lock to the right, as shown in Figure 3, whereby the beveled edge will resiliently snap past the edge of the door and the reinforcing plate 14, so that the door will then be in locked position.

However, in this position it will then be impossible to open the door, because the bolt operating the finger 62 cannot be unlocked due to the padlock engaging the outer face of the boss 32 and therefore the lock bolt 40 cannot be shifted. With the padlock removed the lock bolt can be shifted clockwise as shown in Figure 4, due to the fact that the bolt operating finger will move bodily inwardly through the opening 35 of the door and the slotted opening 30 of the lock plate to a position such that the shoulder 72 will engage the right-hand end of the slot 60, as seen in Figure 4, to clear the beveled edge 44 from the edge of the door when the door is opened.

It will be noted that the overlapping flange 12

prevents the passage of a knife through the doorway opening to give access to the beveled edge 44 of the bolt.

In Figure 7 there is illustrated a construction of the finger 62 which is arranged for a construction which eliminates the free locking feature if desired. In this construction the inner end of the bolt operating finger is provided with a portion 80 of sufficient width to practically occupy the entire width of the slot 60 in the bolt 40 thereby providing a substantially rigid connection between the bolt and the finger through the intermediary of the portion 80 projecting through the slot of the bolt. Hence, when it is desired to close the door, it is necessary first manually to shift the finger 62 in a clockwise direction, to shift the bolt to the right manually, to permit the bolt thereafter to be shifted reversely to engage the beveled tongue 44 behind the edge of the door frame after the door has been closed.

Figure 8 illustrates another simplification of the structures shown in Figures 3 and 7, wherein the spring housing 50 is eliminated by providing the door with an internally projecting pin 84 adapted to receive one end 86 of a spring 88, the opposite end of the spring being pinned as at 90 to the flange 42 of the bolt.

We have thus seen that we have provided a locking mechanism for closure formed of sheet metal of few parts quickly assembled, wherein the bolt itself is slidably retained in the detachable mounting plate, which in turn is detachable from the inside face of the door for replacement with any type of standard lock, that the mounting plate is provided with a circular boss having an opening therethrough, which boss is adapted to project through a correspondingly shaped hole in the door so as to constitute an abutment engageable by the hasp of a padlock when the padlock is inserted through an opening such as 64 in the finger, whereby to lock the door when the latter is closed.

This construction also permits a free locking of the door when the door is in open position, which will permit the bolt resiliently to shift even though the locking mechanism is latched to thereby cause the door to be closed in this state, and automatically locked in such a manner as to preclude subsequent opening of the door.

It is also to be observed that the finger is formed of a sheet metal stamping and constitutes not only a handle but also a bolt operator and a padlock attachment device, that the finger is readily assembled to the mounting plate and to the door during the process of assembling the lock on the rear face of the door and without any further connecting or attaching means such as bolts or rivets and the like.

It is also to be noted that the sheet metal doors do not require special punchings to be able to mount the present lock on them. All that is needed is a regular lock punching.

The construction provided permits an easy actuation of the locking mechanism by a forward and slightly to the left or right pull to operate the lock bolt and permit the door to open after the padlock hasp has been removed from the padlock hole. In addition, by a slight change of the inner conformation of the locking finger, the free locking feature may be eliminated to provide a lock which can only be unlocked or locked by a manual positive shifting of the bolt operating finger.

In addition, the device is cheaply manufac-

tured and assembled. The construction itself is made of only five or four parts and the device can be used as an ordinary type of latching device by eliminating the hole 64 in the finger through which the padlock hasp is to be placed.

Obviously the invention is not limited to the specific forms disclosed herein but is capable of other modifications and changes without departing from the spirit and scope of the claims appended hereto.

The invention is hereby claimed:

1. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a mounting plate having a slideway, a bolt shiftable in said slideway into and out of door locking position, said plate having an opening therein registering at least in part with said opening in the door, a bolt shifting handle having a portion which is too large to pass through the opening provided by said openings in the door and in the mounting plate, in registration as aforesaid, and another portion which is freely receivable in said provided opening, said larger portion being operably disposed rearwardly of said door within said bolt and within said mounting plate, said portion of the handle which is freely receivable in said provided opening extending through said provided opening and forwardly of said door, and means for attaching said plate to the rear face of said door, said plate serving to hold said handle in assembled position with respect to said door, said mounting plate and said bolt.

2. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including mounting means having a projection formed thereon corresponding in size and shape with said opening in the door and projecting through said opening in the door, a bolt shiftable mounted on said mounting means, a combined handle and bolt actuator having a portion which is too large to pass through said opening in the door and another portion which is freely receivable in said opening in the door, said larger portion of said handle being assembled to the rear of said door within said mounting means and with said smaller portion of the handle projecting through said opening in the door, the larger portion of said handle serving to prevent said handle from moving out of assembled position in a direction forwardly of the door, means for preventing said handle from moving out of assembled position in a direction rearwardly of said mounting means and means for attaching said mounting means to the rear face of said door to hold said handle in assembled position with respect to said door, said mounting means and said bolt.

3. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including means for mounting the same on the rear face of said door, a shiftable bolt, spring means urging said bolt into door locking position, means for shifting said bolt out of door locking position, said bolt shifting means extending through said opening in the door and having a portion located forwardly of the door, means on said forwardly extending portion adapted to receive a locking mechanism in position adjacent the front face of said door when said bolt shifting means occupies its door locking position, said bolt shifting means, when moved to door unlocking position, carrying said locking mechanism receiving means at least partially rearwardly of the front face of said

door, whereby said locking mechanism when assembled in said locking mechanism receiving means precludes movement of said bolt shifting means out of its door locking position.

4. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including mounting means attached to the rear face of said door and having a portion projecting forwardly into said opening in the door into a position such that the front face of said portion lies substantially flush with the front face of said door, said portion having an opening therein, a shiftable bolt, spring means urging said bolt into door locking position, a bolt operating member engaging said shiftable bolt to shift the same out of said door locking position upon predetermined movement of said bolt operating member, said bolt operating member, when assembled on said door, extending through the opening provided by said opening in the projection and said opening in the door and having a portion located forwardly of the door, an opening in said forwardly extending portion of the bolt operating member adapted to receive the arm of a padlock in position adjacent the front face of said projection on the mounting means when said bolt shifting means occupies its door locking position, said bolt shifting means, when moved to door unlocking position, carrying said padlock receiving opening at least partially rearwardly of the front face of said projection, whereby said padlock when assembled in said padlock receiving opening precludes movement of said bolt operating member out of its door locking position, said bolt being free to move into and out of said locking position independently of said bolt operating member when said bolt operating member occupies its door locking position, and said bolt having means thereon for shifting said bolt against the tension of said spring means upon movement of said door from open to closed position, whereby said bolt may be brought into door locking position, engaging the frame surrounding the opening in which said door is mounted, when said bolt operating member is precluded from moving out of its door locking position.

5. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a mounting plate having a slotted projection formed thereon, fastening means securing said mounting plate to the rear face of said door, said slotted projection extending through said opening in the door, an elongated shiftable bolt, spring means urging said bolt into door locking position, the outer end of said bolt being provided with a rearwardly facing surface forming an acute angle with the face of said door and providing a camming surface adapted to engage the frame surrounding the opening in which said door is mounted to shift said bolt against the tension of said spring means upon movement of said door from open to closed position, said mounting plate including opposed flanges having openings therein forming bolt guides and said shiftable bolt being mounted in said guides, and a bolt operating member having a portion which is too large to pass through the opening provided by said slot in the projection and said opening in the door and another portion which is freely receivable in said provided opening, said large portion of the bolt operating member being positioned to the rear of the door with said other

smaller portion of said bolt operating member passing through said provided opening and extending forwardly of the door, said larger portion of the bolt operating member serving to prevent said bolt operating member from moving out of assembled position in a direction forwardly of the door and including means engaging a wall adjacent the opening in which said bolt operating member extends to form a fulcrum and also including means engaging said shiftable bolt, the bolt operating member rocking on said fulcrum with respect to said door and said mounting plate to shift said bolt out of door locking position upon predetermined movement of said bolt operating member.

6. A door latching mechanism for use in combination with a door having an opening, said door latching mechanism including a mounting plate mounted on the rear face of said door adjacent an edge thereof, said mounting plate having bolt guiding means thereon, a bolt shiftable guided in said bolt guiding means, said bolt having a portion adapted to engage the frame surrounding the opening in which said door is mounted to lock the door, spring means urging said bolt into door locking position, said bolt having an elongated slot therein, and a bolt operating member having a portion which is too large to pass through said opening in the door and another portion which is freely receivable in said opening in the door, the larger portion of said bolt operating member being positioned rearwardly of said door with the smaller portion extending through said opening in the door and forwardly thereof, whereby said larger portion prevents said bolt operating member from being moved out of assembled position in a direction forwardly of said door, the larger portion of said bolt operating member having means thereon engaging an end wall in said slot in the bolt to shift said bolt out of door locking position on predetermined movement of said bolt operating member.

7. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a sheet metal plate having a relatively flat portion and two spaced apart confronting flanges angularly disposed with respect to said flat portion, one of said flanges having a bolt guiding opening therein, the opposite flange having a generally C-shaped slot therein in alignment with said bolt guiding opening, a box-like elongated bolt slidably mounted in said aligned openings, a spring housing within said bolt, a spring in said housing compressed between a wall of said housing and the portion of said opposite flange lying between the legs of said C-shaped opening, and urging said bolt in a predetermined direction, said flat portion of said sheet metal plate having an outwardly projecting boss formed thereon corresponding in size and shape with said opening in the door and positioned therein, a bolt operating member having a portion which is too large to pass through said opening in the door and another portion which is freely receivable in said opening in the door, the larger portion of said bolt operating member being positioned rearwardly of said door with the smaller portion extending through said opening in the door and forwardly thereof, whereby said larger portion prevents said bolt operating member from being moved out of assembled position in a direction forwardly of said door, the larger portion of said bolt operating

member extending into said bolt and having a shoulder thereon engaging said bolt to shift said bolt in a direction opposite to that in which it is urged by said spring, and means securing said plate to the rear face of said door, said plate holding said bolt and said bolt operating member in assembled position on said door.

8. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a mounting plate mounted on the rear face of said door and having an opening therein registering, at least in part, with said opening in the door, a bolt shiftably mounted on said mounting plate and having a slot formed therein providing spaced walls, said bolt having a portion which in one position of said bolt is adapted to engage the frame surrounding the opening in which said door is mounted to lock said door, a bolt operating handle having a portion which is too large to pass through the opening provided by said opening in the door and said opening in the mounting plate, in registration as aforesaid, and another portion which is freely receivable in said provided opening, said larger portion of the bolt operating handle being positioned rearwardly of said door with the smaller portion extending through said opening in the door and forwardly thereof, whereby said larger portion prevents said bolt operating member from being moved out of assembled position in a direction forwardly of said door, said bolt operating handle having on its rear end opposed spaced apart bolt operating shoulders adapted to engage said spaced apart walls on said bolt provided by said slot formed therein, the distance between said shoulders on said bolt operating handle being approximately the same as the distance between said spaced walls on the bolt, said bolt operating handle being thereby adapted to operate said bolt and said bolt being movable only when said handle moves and means attaching said mounting plate to the rear face of said door, said plate serving to secure said bolt and said handle in assembled position on said door.

9. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a sheet metal mounting plate attached to the rear face of said door, said sheet metal mounting plate having a projecting boss formed thereon, said boss being disposed in said opening in the door, said mounting plate having flanged portions angularly disposed with respect to the body of said mounting plate and providing bolt guides, a sheet metal bolt slidably mounted in said bolt guides, a spring, carried by said bolt, for shifting said bolt to door locking position and a sheet metal handle extending through said opening in the door and having portions lying on opposite sides of said door, the inner portion of said handle being too large to pass through said opening in the door and preventing movement of said handle out of assembled position in a direction forwardly of the door, said inner portion of the handle having a bolt engaging shoulder and a curved periphery formed thereon, said bolt engaging shoulder engaging said bolt to shift the same on predetermined movement of said handle and said curved periphery engaging a wall adjacent the opening in which said handle extends and to form a fulcrum upon which said handle is rocked, said handle having an opening therein which is positioned directly in front of and adjacent said projecting boss when said handle

occupies its door locking position and which opening moves, at least partially, rearwardly of the front face of said door when said handle is moved out of its door locking position, whereby when a padlock is inserted through said opening in the handle said handle is precluded from moving out of door locking position.

10. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a shiftable bolt mounted on the rear face of said door, a curved handle extending through said opening in the door and having portions lying on opposite sides of said door, the inner portion of said handle being too large to pass through said opening in the door and the outer portion of said handle being freely receivable in said opening in the door, said inner portion of the handle having a curved surface engaging a wall adjacent the opening in which said handle extends to provide a fulcrum upon which said handle is rocked, means on the inner end of said handle engaging said bolt to shift said bolt out of door locking position upon rocking movement of said handle as aforesaid, and spring means urging said bolt to door locking position.

11. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a shiftable bolt mounted on the rear face of said door, a curved handle extending through said opening in the door and having portions lying on opposite side of said door, the inner portion of said handle being too large to pass through said opening in the door and the outer portion of said handle being freely receivable in said opening in the door, said inner portion of the handle having a curved surface engaging a wall adjacent the opening in which said handle extends to provide a fulcrum upon which said handle is rocked, means on the inner end of said handle engaging said bolt to shift said bolt out of door locking position upon rocking movement of said handle as aforesaid and spring means urging said bolt to door locking position, said bolt under the action of said spring in turn engaging said bolt engaging means on the inner end of said handle to urge said handle to door locking position and said handle having an opening therein which lies adjacent the front wall of said door when said handle occupies its door locking position and which moves, at least partially, rearwardly of the front face of said door when said handle is moved out of its door locking position, whereby when fastening means is inserted through said opening in the handle said handle is precluded from moving out of door locking position.

12. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a sheet metal mounting plate having a substantially flat central portion provided with a centrally disposed boss projecting forwardly of the front face of said flat portion and lying in said opening in the door, said mounting plate also having opposed flanges extending rearwardly from said flat portion, one of said flanges having a cut-out, one side of which cut-out is provided with a laterally extending cut-out passing diametrically through said boss, the opposite flange having a cut-out aligned with the cut-out in said first mentioned flange, an elongated trough-like sheet metal bolt shiftably mounted in said aligned cut-outs and provided on one end with a forwardly facing locking shoulder and a rearward-

ly facing camming surface, both of which are adapted to engage the frame surrounding the opening in which said door is mounted, said locking surface when engaged with said frame serving to lock said door and said camming surface engaging said frame for shifting said bolt out of door locking position on movement of said door from open to closed position, spring means urging said bolt to door locking position and a flat sheet metal handle extending through the opening provided by said cut-out in the boss and said opening in the door and having portions lying on opposite sides of said door, the inner portion of said handle being too large to pass through said provided opening and the outer portion of said handle being freely receivable in said provided opening, said bolt having an elongated slot formed therein and said inner portion of the handle having a curved surface engaging a wall adjacent the opening in which said handle extends to provide a fulcrum upon which said handle is rocked, means on the inner end of said handle engaging a wall of said slot in said bolt to shift said bolt out of door locking position upon rocking movement of said handle as aforesaid.

13. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a mounting plate mounted on the rear face of said door, said mounting plate having an opening therein registering at least in part with said opening in the door, a bolt shiftably guided on said plate, a bolt operating handle loosely projecting through the opening provided by said openings in the door and in the mounting plate in registration as aforesaid, said handle having means engaging said bolt for shifting said bolt out of door locking position, spring means associated with said mounting plate and bolt urging said bolt to door locking position, said handle having a curved portion engaging a wall adjacent said provided opening to form a rocking fulcrum upon which all portions of said handle rock with respect to said plate and door during movement of said handle to retract said bolt from door locking position and said handle having an opening therein which lies adjacent the front wall of said door when said handle occupies its door locking position and which moves at least partially rearwardly of the front face of said door when said handle is moved out of its door locking position, whereby when fastening means is inserted through said opening in the handle said handle is precluded from moving out of door locking position.

14. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a mounting plate mounted on the rear face of said door, said mounting plate having an opening therein registering at least in part with said opening in the door, a bolt shiftably guided on said plate, a bolt operating handle loosely projecting through the opening provided by said openings in the door and in the mounting plate in registration as aforesaid, said handle having means engaging said bolt for shifting said bolt out of door locking position, said last named means and the portion of said bolt engaged thereby providing a lost motion connection between said bolt and said handle permitting movement of said bolt into and out of door locking position independently of said handle, spring means associated with said mounting plate and bolt

for urging said bolt to door locking position and said handle having a curved portion engaging a wall adjacent said provided opening and forming a rocking fulcrum upon which all portions of said handle rock with respect to said plate and door during movement of said handle to retract said bolt from door locking position, said handle having an opening therein which lies adjacent the front wall of said door when said handle occupies its door locking position and which moves at least partially rearwardly of the front face of said door when said handle is moved out of its door locking position, whereby when fastening means is inserted through said opening in the handle said handle is precluded from moving out of door locking position.

15. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a mounting plate mounted on the rear face of said door, said mounting plate having an opening therein registering at least in part with said opening in the door, a bolt shiftably guided on said plate, spring means for urging said bolt to door locking position, a bolt operating handle loosely projecting through the opening provided by said openings in the door and in the mounting plate in registration as aforesaid, said handle having a lost motion connection with said bolt for moving said bolt out of door locking position, said lost motion connection permitting said bolt to move into and out of door locking position independently of said handle and said handle having an opening therein which lies adjacent the front wall of said door when said handle occupies its door locking position and which moves at least partially rearwardly of the front face of said door when said handle is moved out of its door locking position, whereby when fastening means is inserted through said opening in the handle said handle is precluded from moving out of door locking position.

16. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a mounting plate mounted on the rear face of said door, said mounting plate having a boss formed thereon projecting through said opening in the door, the front face of said boss being substantially flush with the front face of said door, said boss having an opening therein, a bolt shiftably guided on said plate, spring means urging said bolt to door locking position, a bolt operating handle loosely projecting through the opening provided by said opening in the door and said opening in the boss, and said handle having an opening therein which lies adjacent said boss when said handle occupies its door locking position and which moves at least partially rearwardly of the front face of said boss when said handle is moved out of its door locking position, whereby when fastening means is inserted through said opening in the handle said handle is precluded from moving out of door locking position.

17. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a mounting plate secured to the rear face of said door, said mounting plate having an opening therein registering at least in part with said opening in the door and being formed with integral extensions to provide a guide housing for a bolt, a bolt shiftably mounted within said guide housing, spring means housed within said

bolt for urging said bolt to door locking position, a handle having a shank passing through the opening provided by said openings in the door and in the mounting plate in registration as aforesaid, a portion of said handle being positioned within said housing and having formed thereon a curved surface and means engaging said bolt to shift said bolt out of door locking position, said curved surface engaging a wall adjacent said opening in which said handle extends and loosely pivoting thereon to provide a rocking fulcrum about which said handle rocks during bolt shifting movement of said handle.

18. A door latching mechanism for use in combination with a door having an opening therein, said door latching mechanism including a mounting plate, means fastening said mounting plate to the rear face of said door, said mounting plate having a projecting boss formed

thereon and fitting snugly in and projecting through said opening in the door, said mounting plate having rearwardly extending flanges and having an opening in one of said flanges connected with a slot extending through said projecting boss, another of said flanges having an opening in alignment with said opening in the first mentioned flange, a bolt shiftably mounted in said aligned openings in the flanges of said mounting plate, and a handle having a shank projecting through the opening provided by said openings in the door and boss, said bolt having a slot therein and said handle having a shoulder on its inner end working in the slot of said bolt and engaging a wall of said slot for shifting said bolt out of door locking position.

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MATT MONACO.

CERTIFICATE OF CORRECTION.

Patent No. 2,336,458.

December 14, 1943.

JAMES E. BALES, ET AL.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 1, second column, line 51, before "plate" strike out "lock"; page 2, second column, line 63, before "finger" strike out "the"; line 68, before "that" insert --fact--; page 3, second column, line 4, for "elimiating" read --eliminating--; page 5, second column, line 33, for "side" read --sides--; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 30th day of May, A. D. 1944.

Leslie Frazer

(Seal)

Acting Commissioner of Patents.