C. IRION.

LATCHING MECHANISM.

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1,335,375. **Patented Mar. 30, 1920.**

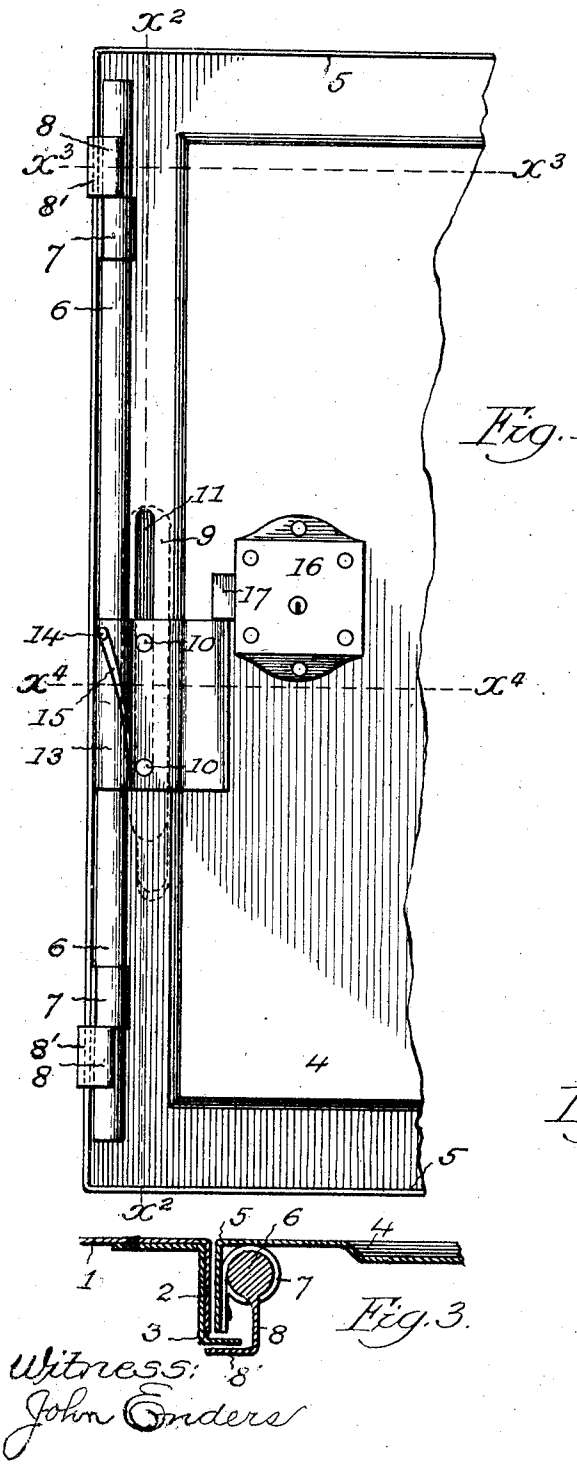


Fig. 1.

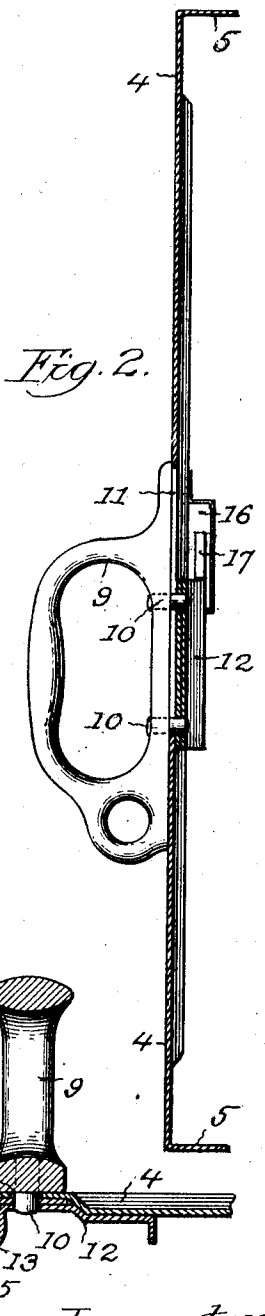


Fig. 2.

Fig. 4.

Fig. 3.

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UNITED STATES PATENT OFFICE.

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LATCHING MECHANISM.

1,335,375. Specification of Letters Patent. Patented Mar. 30, 1920.

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To all whom it may concern:

Be it known that I, CHRISTIAN IRION, a citizen of the United States of America, and a resident of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Latching Mechanisms, of which the following is a specification.

This invention relates to that class of latching mechanisms for the doors of metal lockers and the like in which the door is fastened at remote points in the door opening from a central and accessible point on the door, and has for its object:—

To provide a simple and economical structural formation and association of parts adapted to afford a strong and substantial door fastening mechanism in which friction and wear is reduced to a minimum, and which is adapted for ready and convenient association with a key operated locking mechanism to prevent unauthorized opening of the latching mechanism, all as will hereinafter more fully appear.

In the accompanying drawing:—

Figure 1, is a detail rear elevation of a locker door having the present invention applied.

Fig. 2 is a detail vertical section on line x^2—x^2, Fig. 1.

Fig. 3, is a detail horizontal section on line x^3—x^3, Fig. 1, with a portion of the door frame of the locker shown in section.

Fig. 4, is a detail horizontal section on line x^4—x^4, Fig. 1.

Like reference numerals indicate like parts in the several views.

Referring to the drawings, 1 designates a portion of the plate metal front wall of a locker having an inturned flange 2 to constitute the margin of the doorway or entry to the locker.

3 designates one of a plurality of plate metal stop lugs secured to the front wall 1 and flange 2 in widely spaced vertical relation with their free ends extending into the doorway for engagement with the hereinafter described semi-rotary latching mechanism of the locker door.

4 designates a portion of the hinged door of the locker, which in the construction shown has the usual inwardly extending border flange 5 for imparting the required stiffness to the door.

6 designates a vertically arranged latch rod supported in journal collars 7 arranged in widely spaced vertical relation on the inner face of the locker door 4 and its flange 5, and adapted for a turning or semi-rotary movement in the journal collars 7 aforesaid.

8 designates upper and lower radial latching arms fixedly attached to the latch rod 6 aforesaid, in widely spaced vertical relation corresponding with the vertical spacings of the stop lugs 3 and journal collars 7 aforesaid, and adapted to move into engagement behind the stop lugs 3 to attain the required latching engagement of the parts, and to such end each arm 8 will have an angular end portion 8′ adapted to effect such engagement as illustrated more particularly in Fig. 3.

9 designates a sliding handle or hasp having vertical movement on the outer face of the locker door 4 and operatively connected by studs 10 moving in vertically elongated slots 11 in the door 4, with an inner operating head or plate arranged as follows:—

12 designates the operating plate or head above referred to, arranged on the inner face of the locker door 4 and moving in unison with the handle or hasp 9 aforesaid.

13 designates a sleeve arranged as a fixture on the plate or head 12 and adapted to encircle and slide on the vertical latch rod 6 aforesaid, and operatively connected thereto by a pin 14 and cam groove or slot 15 to impart a turning movement to said latch rod 6 in the vertical movement of the operating plate or head 12. So that an upward movement of the plate or head 12 will cause the latching arms 8, 8′ of the latch rod 6 to turn out of engagement from behind the stop lugs 3, while a downward movement of the plate or head 12 will cause said latching arms 8, 8′ to move into engagement behind the stop lugs 3 aforesaid.

16 designates a key operated lock of any ordinary type and provided with the usual reciprocating bar or bolt 17. In the present improvement the lock 16 is secured to the inner face of the locker door 4 in associated relation to the operating plate or head 12, and so that with said plate or head 12 in its down position, the bolt 17 can be shot above said plate or head 12 to present an upward and opening movement of the same.

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

1. In a latching mechanism, the combination of a latch rod mounted for a turning

movement and provided with a radial latching arm, means for holding said rod against longitudinal movement, an outer operating handle having a sliding motion, an inner operating head fixed to and moving with said handle, the said handle and head being arranged at one side of and in parallel relation to the latch rod, and means intermediate said operating head and the latch bolt for converting the sliding motion of said head into a turning motion of said bolt, substantially as set forth.

2. In a latching mechanism, the combination of a latch rod mounted for a turning movement and provided with a radial latching arm, means for holding said rod against longitudinal movement, an outer operating handle having a sliding motion, an inner operating head fixed to and moving with said handle, and means intermediate said operating head and the latch bolt for converting the sliding motion of said head into a turning motion of said bolt, the same comprising a sleeve fixed on said operating head and formed with a cam slot, and a stud on the latch rod engaging said slot, substantially as set forth.

3. In a latching mechanism, the combination of a latch rod mounted for a turning movement and provided with a pair of radial latching arms in widely spaced relation, means for holding said rod against longitudinal movement, an outer operating handle having a sliding movement and disposed midway of the latching arms aforesaid, an inner operating head fixed to and moving with said handle, and means intermediate said operating head and the latch bolt for converting the sliding motion of said head into a turning motion of said bolt, substantially as set forth.

4. In a latching mechanism, the combination of a latch rod mounted for a turning movement and provided with a pair of radial latching arms in widely spaced relation, means for holding said rod against longitudinal movement, an outer operating handle having a sliding movement and disposed midway of the latching arms aforesaid, an inner operating head fixed to and moving with said handle, and means intermediate said operating head and the latch bolt for converting the sliding motion of said head into a turning motion of said bolt, the same comprising a sleeve fixed on said operating head and formed with a cam slot, and a stud on the latch rod engaging said slot, substantially as set forth.

5. In a latching mechanism, the combination of a latch rod mounted for a turning movement and provided with a radial latching arm, an outer operating handle having a sliding motion, an inner operating head fixed to, and moving with said handle, means intermediate said operating head and the latch bolt for converting the sliding motion of said head into a turning motion of said bolt, and a locking mechanism associated with said operating head and adapted to engage and lock the same against movement in a latched condition of the parts, substantially as set forth.

6. In a latching mechanism, the combination of a latch rod mounted for a turning movement and provided with a radial latching arm, an outer operating handle having a sliding motion, an inner operating head fixed to and moving with said handle, means intermediate said operating head and the latch bolt for converting the sliding motion of said head into a turning motion of said bolt, the same comprising a sleeve fixed on said operating head and formed with a cam slot and a stud on the latch bolt engaging said slot, and a locking mechanism associated with said operating head and adapted to engage and lock the same against movement in a latched condition of the parts, substantially as set forth.

7. In a latching mechanism, the combination of a latch rod mounted for a turning movement and provided with a pair of radial latching arms in widely spaced relation, an outer operating handle having a sliding movement and disposed midway of the latching arms aforesaid, an inner operating head fixed to and moving with said handle, means intermediate said operating head and the latch bolt for converting the sliding motion of said head into a turning motion of said bolt, and a locking mechanism associated with said operating head and adapted to engage and lock the same against movement in a latched condition of the parts, substantially as set forth.

8. In a latching mechanism, the combination of a latch rod mounted for a turning movement and provided with a pair of radial latching arms in widely spaced relation, an outer operating handle having a sliding movement and disposed midway of the latching arms aforesaid, an inner operating head fixed to and moving with said handle, means intermediate said operating head and the latch bolt for converting the sliding motion of said head into a turning motion of said bolt, the same comprising a sleeve fixed on said operating head and formed with a cam slot and a stud on the latch bolt engaging said slot, and a locking mechanism associated with said operating head and adapted to engage and lock the same against movement in a latched condition of the parts, substantially as set forth.

Signed at St. Louis, Mo., this 24th day of March, 1919.

CHRISTIAN IRION.