

J. ROBERTSON.
LATCH LOCK.
APPLICATION FILED MAR. 8, 1912.

1,045,891.

Patented Dec. 3, 1912.
2 SHEETS—SHEET 1.

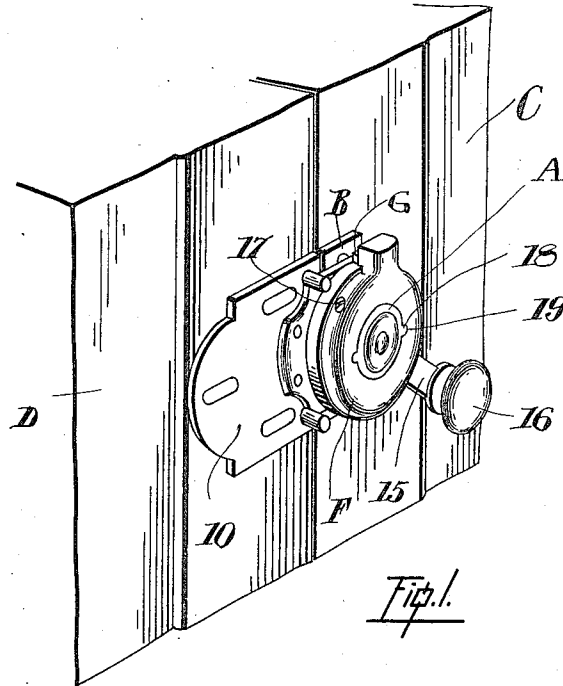


Fig. 1.

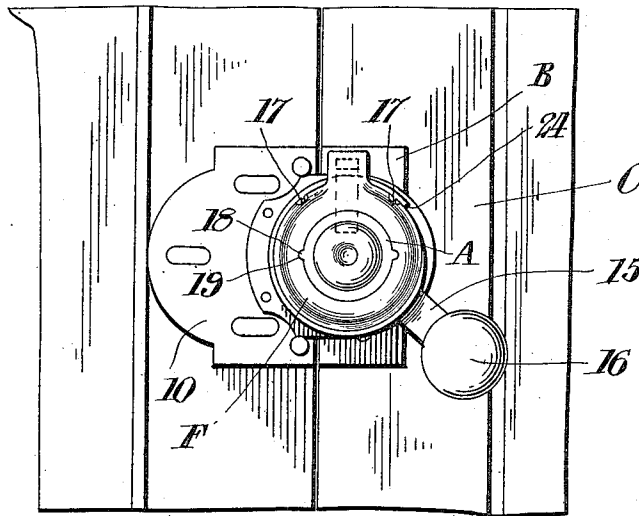


Fig. 2.

WITNESSES

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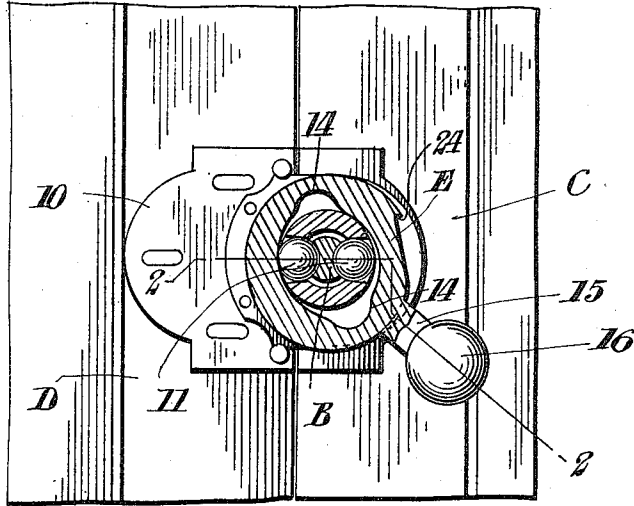


Fig. 3.

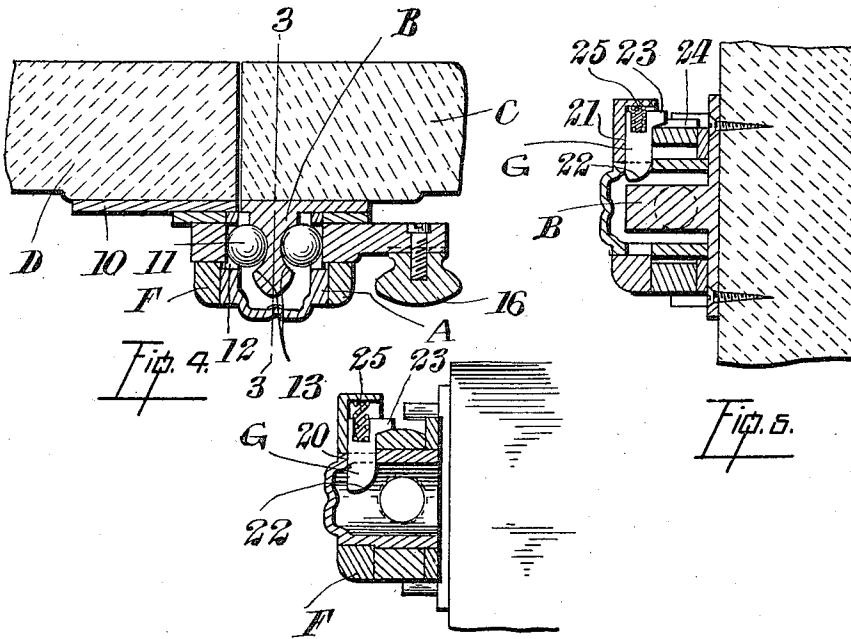


Fig. 4.

Fig. 5.

Fig. 6.

WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES ROBERTSON, OF PERTH, ONTARIO, CANADA.

LATCH-LOCK.

1,045,891.

Specification of Letters Patent.

Patented Dec. 3, 1912.

Application filed March 8, 1912. Serial No. 682,415.

To all whom it may concern:

Be it known that I, JAMES ROBERTSON, a subject of the King of Great Britain, residing at Perth, in the Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Latch-Locks, of which the following is the specification.

This invention relates to improvements in latch locks and the objects of the invention are to provide a simple and effective form of lock which will also serve as a latch, and which will automatically move to closed position, in which it will securely remain until released manually or through the medium of a key.

Further objects are to construct the lock of few and simple parts readily placed together and adapted to effectually cooperate to perform the functions required of them.

The particular application of the invention is to latch locks of doors, cupboards and the like, in which the latch is held in locked position by means of the weight of the operating handle.

Other features of the invention will be pointed out hereinafter, or for a complete description thereof reference must be made to the accompanying specifications and drawings.

In the drawings, Figure 1 is a perspective view of the lock. Fig. 2 is an elevation. Fig. 3 is an elevation partially in section to more clearly show the construction of the lock. Fig. 4 is a section on the line 2—2, Fig. 3. Fig. 5 is a section on the line 3—3, Fig. 4. Fig. 6 is the same view as Fig. 5 with the locking pin withdrawn.

In the drawings like characters of reference indicate corresponding parts in all the figures.

The lock comprises two principal elements namely, a socket member A and a pin B, one of which is carried on the casing and the other on the door. As illustrated, the pin is carried on the casing C while the socket member is supported from a plate 10 on the door D. The socket member is provided with means adapted to lock the pin, which means are adapted to be thrown into operation by the insertion of the pin. These means include radially movable locking members such as balls 11, which are movable in radial perforations 12 in the socket member, and are adapted to take into engaging means, such as the recesses 13 on the side of

the pin. Means are provided for forcing the balls into, and holding them in engaged position, such means comprising a rotary locking member E mounted on the socket and having recesses 14, adapted at one point to register with the perforations 12 and permit the ball to move into them and out of locking position, the rotary member having weighted means which normally tends to move it to locking position. It is convenient to cause these weighted means to serve at the same time as a handle and to this end, I provide a radial arm 15 on the rotary member having a heavy knob 16 which may be moved from one side to the other of the arm to permit the rotary member to be turned to one side or the other, in order that it may be adapted to different doors. The rotary locking member is adapted to be maintained in position on the socket member by means of a collar F mounted on the socket member, and held thereon by suitable set screws 17, rotary movement of the collar being prevented by means of tongues 18 on the socket member fitting into recesses 19 on the inner side of the collar.

When the pin is withdrawn the rotary member is adapted to be maintained in released position by means which are releasable by the insertion of the pin, the means which I have devised for this purpose comprising a radially movable latch pin G, mounted in a radial perforation 20 in the socket member, and being also supported within a housing 21 on the collar F, this pin being normally adapted to project downwardly into the socket member as shown in Fig. 6 and having a rounded or beveled lower extremity 22 by which it is engaged and raised by the pin B.

The upper end of the latch pin carries a stop projection 23 adapted to engage a shoulder 24, provided on the periphery of the rotary locking member, as shown in Fig. 5. This latch pin is adapted to move by gravity downwardly, but its movement may be assisted by means of a compression pin 25 extending at the top of the latch pin and the housing 21.

The latch lock operates in the following manner: When the door is closed the pin B enters the socket A and raises the latch pin G, which disengages the stop 23 from the shoulder 24, and the locking member E under weight of the handle 15 and knob 16 turns to locking position, in which the balls

11 will be forced inwardly into the recesses 13, the balls before movement of the locking member being free to move into the recesses 14. By the movement of the rotary members, however, the recesses 14 are moved out of registration with the perforations 12, and consequently the balls are forced inwardly and lock against the pin preventing retraction of the pin until the locking member is restored to its first position.

To release the latch lock the knob 16 is grasped and raised and the door pulled open. The raising of the handle moves the rotary locking member back into that position in which the recesses 14 will register with the perforations 12, enabling the locking balls to move outwardly a distance from the pin, and the socket may then be freely withdrawn from the pin.

It will be understood that this is a very natural and rapid operation, and while the device provides a very secure form of lock, yet it also provides one which may be rapidly released by the person desiring to open the cupboard or other place on which it is used.

As many changes could be made in the above construction and many apparently widely different embodiments of my inven-

tion within the scope of the claims, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawings shall be interpreted as illustrative, and not in a limiting sense.

What I claim as my invention is:

In a latch lock, and in combination, a socket member, a pin adapted to enter the socket member, radially movable locking members in the socket member adapted to lock against the pin, a rotary locking member for moving said radially movable locking members to locked position, and being adapted to move itself by gravity to locked position, and means releasable by the insertion of the pin in the socket for releasing the rotary locking member from unlocked position, said last mentioned means comprising a radially movable latch pin, a collar having a housing formed thereon for the latch pin, and a spring for forcing the latch pin to engaged position.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JAMES ROBERTSON.

Witnesses:

J. A. STEWART,
E. M. READY.