No. 642,413. Patented Jan. 30, 1900.

A. ARMSTRONG & A. F. PATTERSON.

DOOR LOCK.

(Application filed Jan. 26, 1899.)

(No Model.)

FIG. 1

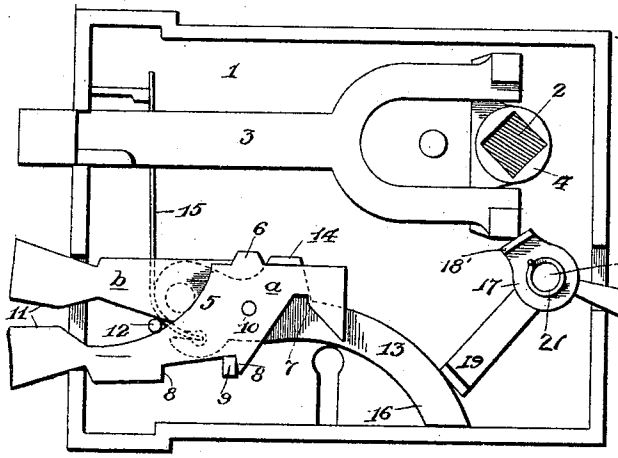


FIG. 3

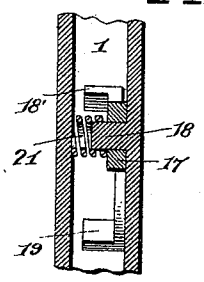


FIG. 4

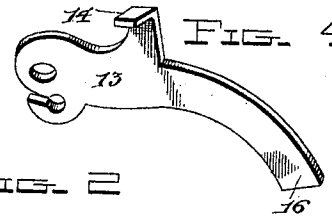


FIG. 2

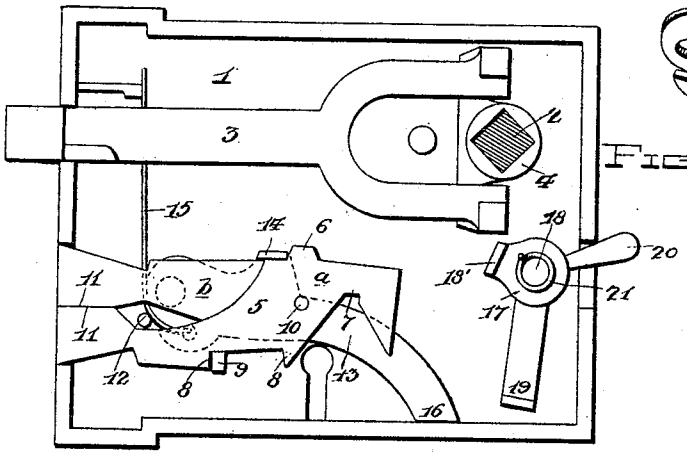


FIG. 5

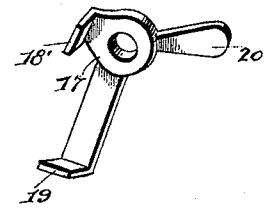


FIG. 6

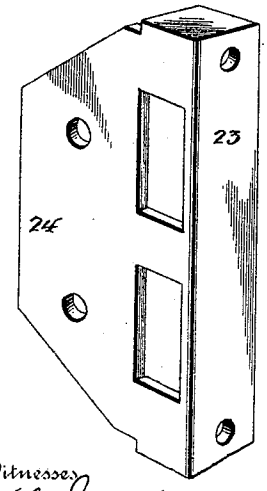
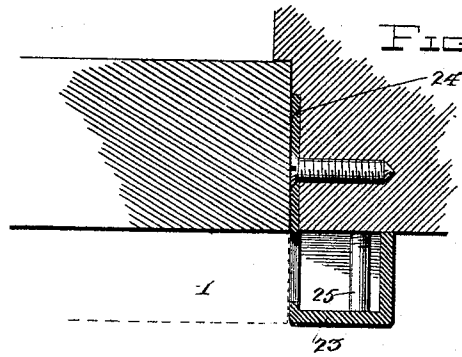


FIG. 7



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALEXANDER ARMSTRONG AND ARCHIBALD F. PATTERSON, OF MOUNDSVILLE, WEST VIRGINIA, ASSIGNORS TO HERMAN MOORE, OF SAME PLACE.

DOOR-LOCK.

SPECIFICATION forming part of Letters Patent No. 642,413, dated January 30, 1900.

Application filed January 26, 1899. Serial No. 703,518. (No model.)

To all whom it may concern:

Be it known that we, ALEXANDER ARMSTRONG and ARCHIBALD F. PATTERSON, citizens of the United States, residing at Moundsville, in the county of Marshall and State of West Virginia, have invented certain new and useful Improvements in Door-Locks; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention has relation to door-locks; and one object is to provide a simple, durable, and inexpensive lock of this character, one which it will be impossible to pick from without by inserting a tool between the edge of the door and door-frame and prying the bolt backward, and one which when set from within cannot be opened from without by a skeleton key or even by its own key.

A further object is to provide a bolt-keeper which cannot be removed while the door is locked.

With these objects in view the invention consists in certain features of construction and combination of parts, which will be hereinafter fully described, and particularly pointed out in the appended claim.

In the drawings, Figure 1 is an elevation of our lock with the face-plate removed, showing the key-bolt and the knob-bolt shot and locked against retraction by the detent. Fig. 2 is a similar view with the key-bolt retracted. Fig. 3 is a cross-section through the lock-casing, the detent, and its spring. Fig. 4 is a detail view of the tumbler removed. Fig. 5 is a similar view of the detent removed. Fig. 6 is a perspective view of the keeper. Fig. 7 is a sectional view of a portion of a door and door-frame, showing the manner of securing the keeper in position.

In the drawings, 1 denotes the lock-casing; 2, the knob-spindle; 3, the knob-bolt, and 4 its actuating-collar. These parts may be of any well-known or approved construction.

5 denotes the key-bolt, which consists of the two parts *a* and *b*, the former being provided on its upper edge with a stud 6 and on its lower edge with a key-slot 7 and stop-shoulders 8, adapted to contact with a fixed stop 9, secured in the back of the casing. The latter part *b* is pivoted to the part *a* by the pivot 10 and is adapted to have a longitudinal movement through the bolt-opening in the case. These two sections of the bolt have inclined meeting edges 11, which as the heads of the sections pass into the keeper come in contact with a guide-pin 12, projecting from the back of the case, as shown, or which may project from the front of the case. This guide-pin separates the heads of the bolt-sections, or, in other words, spreads them apart, so that after they have entered the keeper it will be impossible for the bolt to be retracted by a person inserting a tool or implement into the keeper behind the heads of the bolts and trying to pry them from engagement with the keeper.

To remove the bolt from the keeper, it will be necessary to bring its parts together, and this cannot be done by any tool, for the reason that the stud or pin 12 is in engagement with the inclined faces of the sections of the bolts and will not permit them being drawn together.

13 denotes a tumbler which is pivoted to the back of the lock-casing and has a laterally-projecting lug 14, adapted to engage the projection 6 on the upper edge of the bolt and hold the bolt in either a retracted or a shot position. This tumbler is controlled by a spring 15, as is also the knob bolt or latch. The tumbler is provided with rearwardly and downwardly projecting arms 16, with which the key engages for the purpose of elevating its lug from engagement with the projection 6, so that the bit of the key may shoot or retract the bolt, as the case may be.

To provide against the opening of the door from without, even though the person be provided with a key that fits the lock, we employ a latch 17, which is pivoted upon a stud 18, formed upon the back piece of the casing and has two arms 18 and 19 and an operating finger-piece 20. The arms 18 and 19 are adapted to be drawn, respectively, into the path of movement of the knob bolt or latch and of the arm on the tumbler, so that it will be impossible to rotate the knob to withdraw its bolt or to elevate the tumbler to permit the key to withdraw its bolt.

In order to hold the detent in either its

locked or unlocked position, we provide a coil-spring 21, which has a frictional engagement against the latch and holds it where it is set.

Referring to Figs. 6 and 7, 23 denotes the keeper, which is of the usual construction, with the exception that it is provided with a wing or extension 24, which lies against the inner face of the door-frame and when the door is closed is concealed by the edge of the door. This wing is adapted to be screwed in place, and by its employment it will be seen that should the screws 25 usually employed for holding the keeper in place be removed it would be impossible to remove the keeper until the door had been opened, because the screws that secure the wing to the inner face of the doorway would be protected by the edge of the door.

It will of course be understood that various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

The combination with the casing, of a split key-bolt the parts of which are pivoted together and the adjacent edges of which are inclined, one of said parts being provided on its upper edge with a stud and on its lower edge with stop-shoulders and with a key-slot, a fixed pin located between the inclined faces and serving to spread the sections of the bolt apart while being shot, a fixed stop to be engaged by the stop-shoulders, a pivoted tumbler provided with a laterally-projecting lug to engage the stud aforesaid and provided with a rearwardly-extending arm, a knob-bolt, and a pivoted locking-tumbler arranged at the rear of the casing and having two arms, one to engage the rearwardly-projecting arm of the first-named tumbler and the other to engage the knob-bolt and to lock the split bolt and the knob-bolt in shot position, substantially as and for the purpose set forth.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

ALEXANDER ARMSTRONG.
ARCHIBALD F. PATTERSON.

Witnesses:
H. M. RIGGS,
C. G. DAWSON.