No. 643,957. Patented Feb. 20, 1900.

A. R. FERGUSSON.

LOCK.

(Application filed May 31, 1899.)

(No Model.) 2 Sheets—Sheet 1.

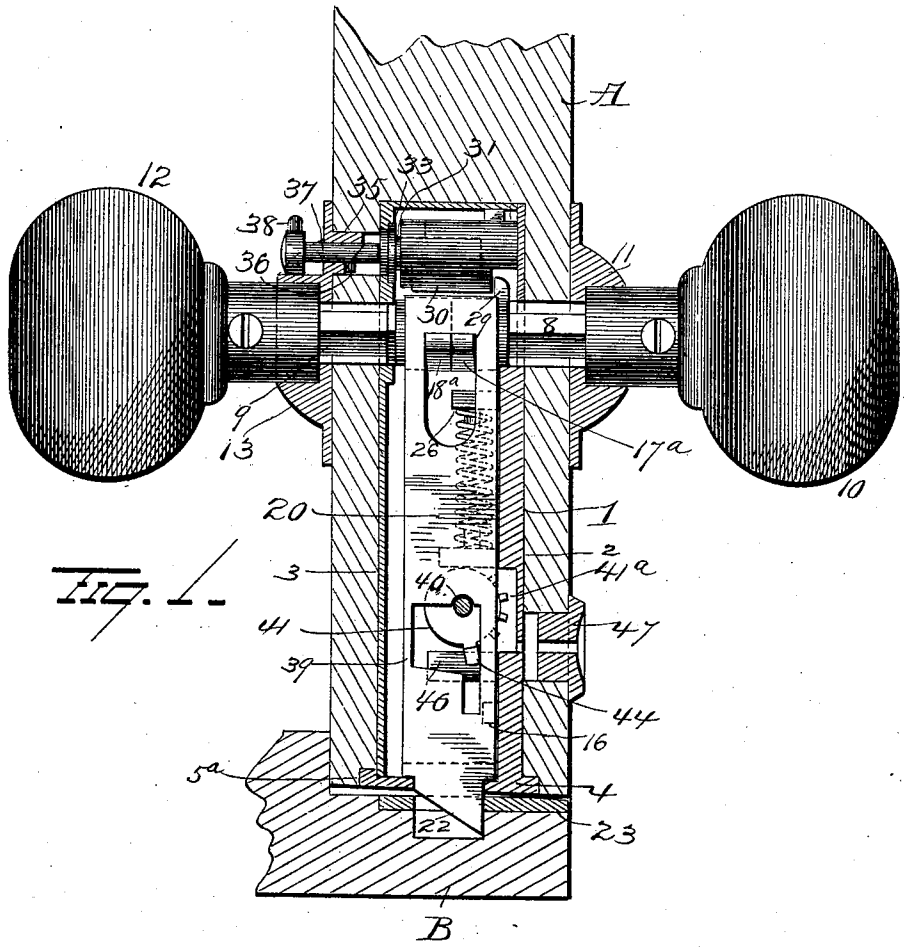


FIG. 1.

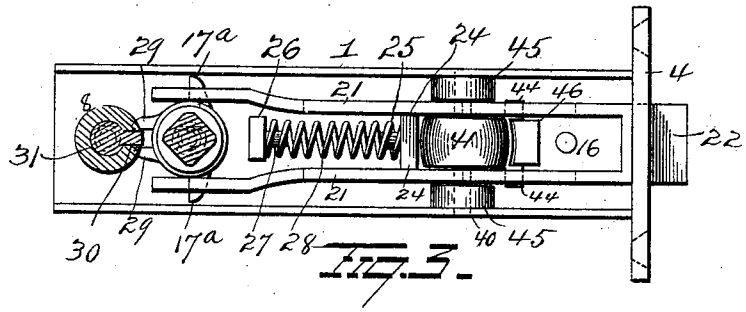


FIG. 3.

WITNESSES
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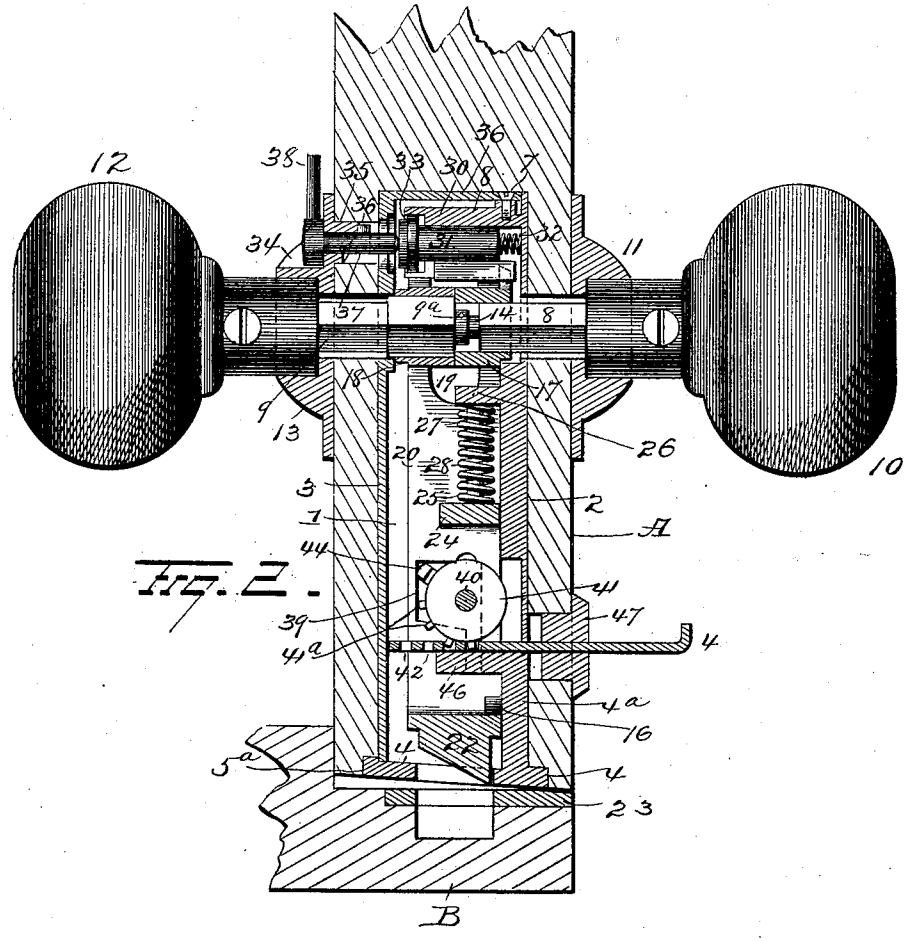


Fig. 2.

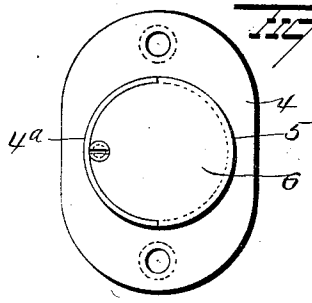


Fig. 4.

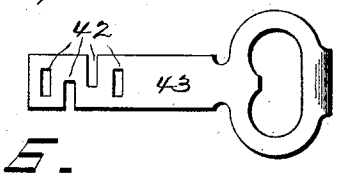


Fig. 5.

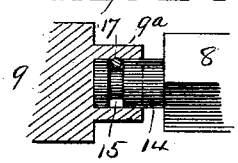


Fig. 6.

WITNESSES

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UNITED STATES PATENT OFFICE.

ALAN ROBB FERGUSSON, OF NEW YORK, N. Y., ASSIGNOR TO THE FERGUSSON LOCK COMPANY, OF NEW JERSEY.

LOCK.

SPECIFICATION forming part of Letters Patent No. 643,957, dated February 20, 1900.

Application filed May 31, 1899. Serial No. 718,873. (No model.)

To all whom it may concern:

Be it known that I, ALAN ROBB FERGUSSON, a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Locks; and I do hereby 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.

My invention relates to an improvement in locks, the object of the invention being to so construct a combined lock and latch that the outer knob can be secured against rotation without affecting the operation of the latch by the inner knob.

A further object is to provide a lock which will be simple in construction, cheap to manufacture, and most effectual when in use.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation, showing the parts in their locked position. Fig. 2 is a similar view showing the parts in their unlocked position, and Figs. 3, 4, 5, and 6 are detail views.

A represents a door, and B a jamb, of any approved construction. The door A is bored to receive a casing 1, composed of two half-sections 2 and 3. The section 2 comprises the front plate 4 and a semicircular side section 4^a, and the section 3 comprises a side section 5, which is disposed in a recess 5^a in the front plate 4, and the end plate 6, secured to the section 2 by means of a screw 7 passing through the plate 6 and into a casting 8^a on the inner face of the section 2.

It will be seen that with my improved lock it is only necessary to make a cylindrical mortise in the door, as the lock-casing is cylindrical in form, and such mortise can readily be made with an ordinary auger.

The casing 1 is provided at diametrically-opposite points near its inner end with holes or openings for the accommodation of spindle-sections 8 9. The spindle-section 8 projects outward from the outside of the door and has secured to it any approved knob 10, which is mounted to turn in an escutcheon 11, secured to the outside of the door. The spindle-section 9 projects beyond the inside face of the door and has secured thereon a knob 12, mounted to turn in the escutcheon 13. The inner end of the spindle-section 8 is provided with a cylindrical projection 14, having a peripheral groove 15 therein, and the end of the spindle-section 9 is provided with a socketed boss 9^a to receive the projection 14, and a pin 17^b is secured in the boss 9^a and made to pass through the groove 15 in the projection 14 and secures the spindle-sections against longitudinal movement and at the same time permits of independent revoluble movement of said spindle-sections.

Sleeves 17 18 are mounted to turn with the respective sections 8 9, and said sleeves are provided, respectively, with lugs 17^a and 18^a, which project through cut-out portions 19 in my improved latch-bolt 20. The latch-bolt 20 is made with two approximately-parallel strips or members 21, merging at their forward ends into a solid beveled head 22, which projects through an opening in the plate 4 and is adapted to engage a keeper 23, provided on the door-jamb. A projection 16 is provided in the casing 1 to limit the inward movement of the latch-bolt. One strip or member 21 of the bolt is provided on its inner face with an enlargement 24, having a pin or projection 25 thereon, and the casing 1 is also provided with an enlargement 26, having a pin 27 thereon. The pins are adapted to receive the ends of a coiled spring 28, which bears against the enlargements 24 and 26 to normally press the latch-bolt 20 outward. The sleeve 17 on the spindle 8 is provided with parallel lugs 29, adapted to receive between them a lip or flange 30 on a locking-pin 31, disposed in the casing 8^a, heretofore referred to, when it is desired to prevent any possibility of the knob on the outside of the door being turned. A coiled spring 32 is disposed between the end of the locking-pin 31 and the casing 1 to normally hold the flange or lip 30 out of engagement with the sleeve 17, and the other end of the pin 31 is provided with an enlarged head 33, adapted to be received in the recessed end of the casting 8^a.

The escutcheon 13 for the inside knob is

provided with a cut-out portion 34, and an inwardly-projecting sleeve 35 is mounted in the door and provided with a cam-shaped inner edge, against which a lug 36 on an arbor 37 bears, said arbor being disposed in the sleeve 35 and provided on its outer end with an arm 38 to facilitate turning the same. The inner end of the arbor 37 rests against the headed end of the locking-pin, and the lug 36 is held against the cam-shaped edge of the sleeve 35 by means of the spring 32. It will thus be seen that when the arbor 37 is turned to the position shown in Fig. 1 the locking-pin will be out of engagement with the lugs 29 on the sleeve 17 and that when the arbor is turned to the position shown in Fig. 2 the locking-pin will be in engagement with the sleeve 17 and prevent the turning of the spindle-section 8 and knob 10.

The strips or members 21 of the bolt are cut out at diametrically-opposite points, as shown at 39, and a shaft 40 is revolubly mounted in the casing. A revoluble tumbler 41 is mounted on the shaft 40 and is provided on its periphery with a series of projections 41^a, adapted to mesh with corresponding cut-out portions 42 on my improved key 43. The tumbler 41 is also provided at each side with a projection 44, disposed in the cut-out portion of each strip 21 and adapted, when the tumbler is turned, to move the latch-bolt inward. The shaft 40 is provided with enlargements 45 between the casing and strips 21 to form a guide for the latch-bolt.

A casting 46 is provided on the casing 1 in alinement with a hole in the door to form a keyway, and a keyhole-escutcheon 47 is provided in the hole in the door and coöperates with the casting 46 to guide the key against the periphery of the tumbler. It will thus be seen that the tumbler 41 can operate the latch-bolt independent of the knobs, and hence when the knob on the outside of the door is locked against movement the key can be used to open the door.

Various slight changes might be resorted to in the general form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I would have it understood that I do not wish to limit myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. The combination with a lock-casing, of a bolt therein comprising two parallel members united at one end to form the head of the bolt, each of said parallel members of the bolt having an elongated slot therein, a spindle passing transversely through the casing and between the separated ends of the members of the bolt, said spindle made in two independently-revoluble sections, a sleeve mounted to rotate with each section of the spindle, lugs projecting from said sleeves and entering the slots in the respective members of the bolt, a sliding locking-pin mounted in the casing and adapted to engage one of said sleeves and means for sliding said locking-pin.

2. The combination with a bolt having two holes therein, of a spindle made in two sections, a knob on each section, lugs connected with each section and entering one of said holes in the bolt, means for locking the outer spindle-section against rotation, a tumbler provided with a lug to enter the other hole in the bolt and coöperate with the wall thereof to withdraw the bolt when the tumbler is turned and a key for turning said tumbler.

3. The combination with a bolt, of a spindle made in two independently-revoluble sections, a sleeve on each section adapted to engage the bolt to withdraw it, parallel lugs on the sleeve on the outer spindle-section, a longitudinally-movable locking-pin, a lug on said pin to enter between said first-mentioned lugs to lock the outer spindle-section, a spring bearing against said pin to normally retain the lug thereon out of engagement with the lugs on the sleeve of the outer spindle-section whereby both spindle-sections will be normally operative to withdraw the bolt, a revoluble arbor bearing against one end of the locking-pin, a cam, and a pin on the arbor to coöperate with said cam to move the lug on the locking-pin between the lugs on the sleeve of the outer spindle-section.

4. The combination with a bolt, having an opening therein, of a revoluble tumbler disposed in said bolt, a lug on said tumbler disposed in the hole in the bolt and adapted to coöperate with the wall thereof to withdraw the bolt when the tumbler is rotated, peripheral projections on the tumbler and a key movable tangentially to the tumbler and adapted to mesh with said peripheral projections to rotate the tumbler.

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

ALAN ROBB FERGUSSON.

Witnesses:
DANIEL C. BEERMAN,
A. BERTON REED.