Nov. 10, 1925. 1,560,868

L. B. SHINN

LOCK

Filed Dec. 3, 1923

Fig. 1

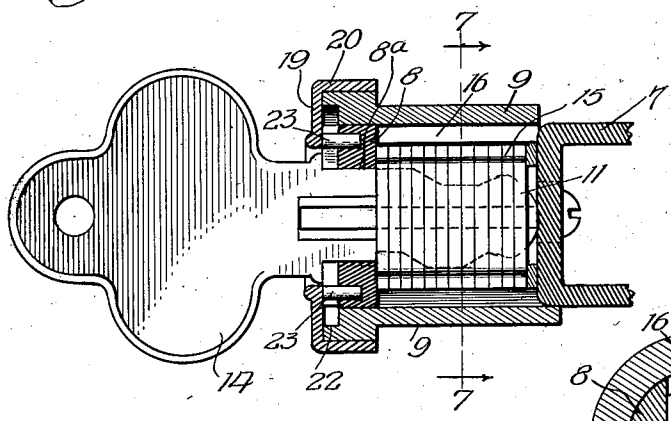


Fig. 7

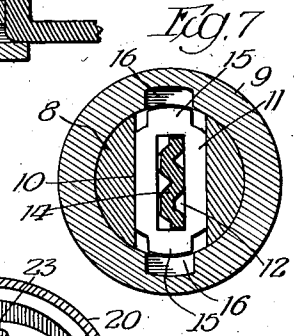


Fig. 2

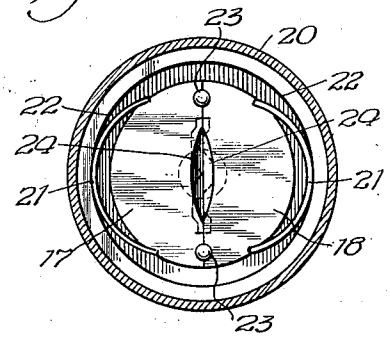


Fig. 3

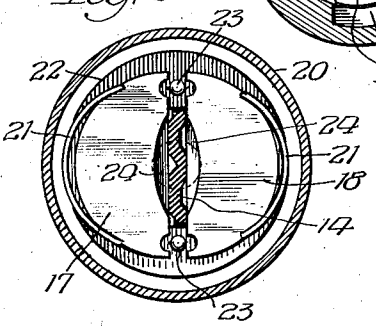


Fig. 4

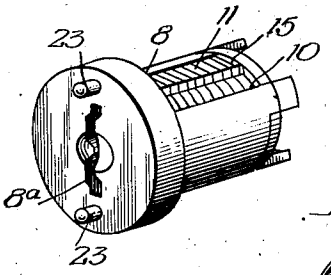


Fig. 5

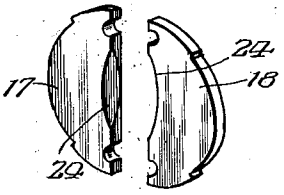


Fig. 6



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UNITED STATES PATENT OFFICE.

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LOCK.

Application filed December 3, 1923. Serial No. 678,085.

To all whom it may concern:

Be it known that I, LYLE B. SHINN, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Locks, of which the following is a full, clear, and exact description.

The invention relates to locks and its object is to provide an improved closure or dust-guard for the key-slot in the lock.

This object is attained by providing a closure consisting of relatively movable members which are adapted to be automatically spread by the point of the key in its movement to insert it in the key slot.

The invention consists in the several novel features hereinafter set forth and more particularly defined by claims at the conclusion hereof.

In the drawings: Fig. 1 is a longitudinal section of a lock embodying the invention. Fig. 2 is a front view, the key-slot closure being shown in closed position and the retaining ring therefor being shown in section. Fig. 3 is a similar view showing the closure members spread apart by the key. Fig. 4 is a perspective of the lock cylinder. Fig. 5 is a perspective of the plates forming the key-slot closure. Fig. 6 is a detail of one of the springs for closing the plates. Fig. 7 is a section on line 7—7 of Fig. 1.

The invention is exemplified in a lock comprising a casing 9 in which is rotatably mounted a cylinder 8, in which is formed a transverse slideway or guide 10 for a series of transversely movable plate tumblers which are provided with end tongues 15 adapted to enter grooves 16 in the casing to secure the cylinder against rotation except when all of the tumblers are properly positioned by the correct key to permit rotation of the cylinder in the casing. The cylinder operates a member 7 which is connected in any suitable manner to the latch controlled by the lock. Each tumbler 11 is provided with a slot 12, through which a suitable key 14 is adapted to pass, the edges of the key cooperating with the ends of the slots to position the tumblers so they will all be withdrawn from the casing. A slot 8^a, aligned with the slots in the tumblers, is formed in the front wall of the cylinder for the insertion and withdrawal of the key.

The present invention relates more particularly to locks used in places where it is desirable to exclude dust and water from the opening into which the key fits, so that when the key is withdrawn, the opening will be closed to exclude dust and water from the lock. Locks of this type are generally used for doors and lever-locks of motor vehicles. For this purpose, a pair of substantially semi-circular plates 17 and 18 are held against the front face of the cylinder by the inwardly extending flange 19 of a ring 20 which is fixedly secured to the casing 9. The contiguous edges of plates 17 and 18 meet and extend on a line which is in front of the key-slot 8^a in the cylinder and the tumblers therein. Each closure plate is pressed inwardly to close the key slot by a bowed leaf spring 21 which has its edges held in notches formed in the outer margin of the plate and has its central portion engaging the inner periphery of an annular shoulder 22 in casing 9. Pins 23, secured in the cylinder, extend between the closure plates to cause them to be aligned with the key-slot in the cylinder. The meeting edges of plates 17 and 18 are bevelled, as at 24, so that when the inner end or point of the key is pushed against the plates with its flat plane substantially aligned with the key-slot, the key will automatically spread the plates against the force of springs 21 to permit it to enter the key-slot in the cylinder and the tumblers. When the key is turned, the closure plates will be positively rotated thereby, and the meeting edges of the plates will remain substantially aligned with the key-slot. When the key is withdrawn, the springs will automatically shift the closure plates together to close the key-slot in the cylinder and by means of pins 23 the meeting edges of the plates 17 and 18 will be aligned with respect to the key-slot.

The invention exemplifies a key-slot closure for cylinder-locks which is adapted to be automatically opened by the movement of the key necessary for the insertion of the key into the key-slot, thus dispensing with the necessity of a separate movement for this purpose. In utilizing the movement in the same direction as that necessary for the insertion of the key, the opening of the closure is rendered easy and facilitated. The device is simple in construction and can be produced at a low cost.

The invention is not to be understood as

restricted to the details set forth, since these may be modified within the scope of the appended claims, without departing from the spirit and scope of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:

1. The combination with a lock comprising a casing having a bearing surface adjacent its front end, a cylinder in and rotatable relatively to the casing and provided with a key-slot, and tumblers for securing the cylinder and casing against relative movement, of a pair of members for closing the slot having meeting edges in front of the slot and provided with means by which they may be spread apart by the insertion of a key between them, and leaf springs for shifting the members to close the slot, said springs being secured to rotate with said members respectively and slidable on said bearing surface.

2. The combination with a lock comprising a casing having a bearing surface adjacent its front end, a cylinder in and rotatable relatively to the casing and provided with a key-slot, and tumblers for securing the cylinder and casing against relative movement, of a pair of members for closing the slot, having meeting edges in front of the slot and provided with means by which they may be spread apart by the insertion of a key between them, and centrally bowed leaf springs for shifting the members to close the slot, each of said springs having its ends secured in notches formed in one of the members and its central portion engaging said bearing surface of the casing and slidable thereon.

3. The combination with a lock comprising a casing, a cylinder in and rotatable relatively to the casing and provided with a key-slot, and tumblers for securing the cylinder and casing against relative movement, of a pair of transversely movable plates for closing the slot having meeting edges in front of the slot and provided with means by which they may be spread apart by the insertion of a key between them, and means to align the meeting edges of the plate with the key-slot in the cylinder.

4. The combination of a lock comprising a casing, a cylinder in and rotatable relatively to the casing and provided with a key-slot, and tumblers for securing the cylinder and casing against relative movement, of a pair of transversely slidable plates for closing the slot having meeting edges in front of the slot and provided with means by which they may be spread apart by the insertion of a key between them, and means to align the meeting edges of the plates with the key-slot in the cylinder comprising a pin and slot connection between said cylinder and said plates.

Signed at Chicago, Illinois, this 1st day of December, 1923.

LYLE B. SHINN.