No. 671,942. Patented Apr. 9, 1901.

C. E. SMITH.

LOCK.

(Application filed July 11, 1900.)

(No Model.)

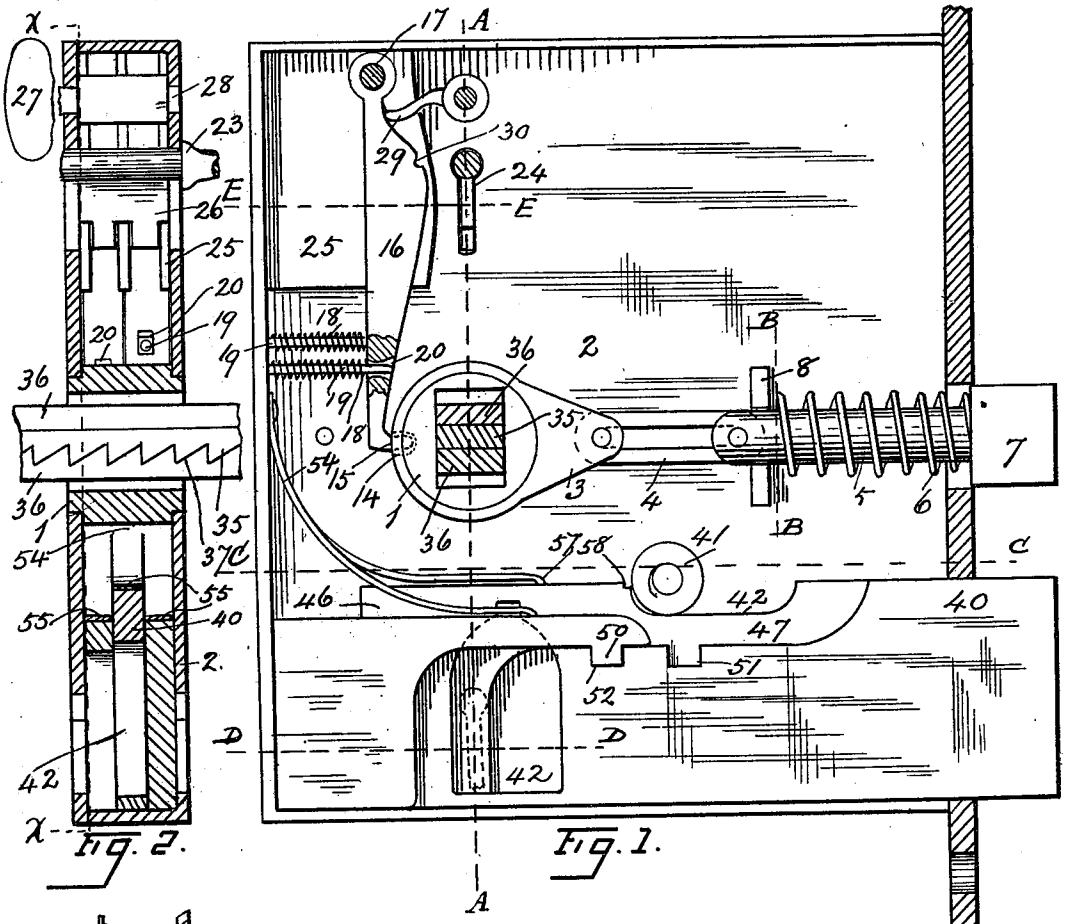


Fig. 2.

Fig. 1.

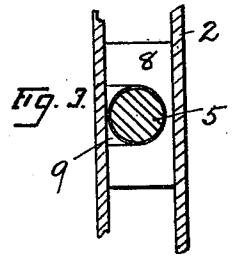


Fig. 3.

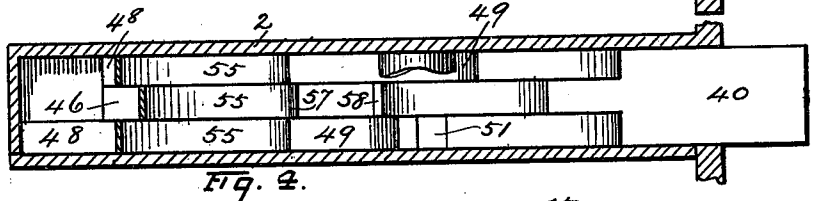


Fig. 4.

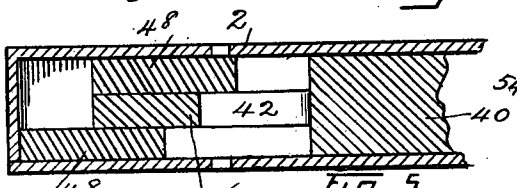


Fig. 5.

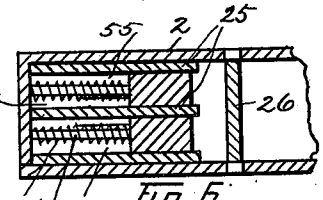


Fig. 6.

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CHARLES E. SMITH, OF OROVILLE, CALIFORNIA, ASSIGNOR OF ONE-HALF TO CHRIS KEISER, OF OAKLAND, CALIFORNIA.

LOCK.

SPECIFICATION forming part of Letters Patent No. 671,942, dated April 9, 1901.

Application filed July 11, 1900. Serial No. 23,245. (No model.)

To all whom it may concern:

Be it known that I, CHARLES EDMOND SMITH, a citizen of the United States, residing at Oroville, in the county of Butte and State of California, have invented certain new and useful Improvements in Door-Locks, of which the following is a specification.

My invention relates to improvements in door-locks, and especially to improvements on the door-lock illustrated and described in a patent granted to me December 5, 1899, No. 638,404; and the object of my invention is to convert the latch there shown into a night-latch.

My invention therefore resides in the novel construction, combination, and arrangement of parts for the above ends hereinafter fully specified, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal vertical section of the lock-case on the line X X of Fig. 2. Fig. 2 is a transverse vertical section on the line A A of Fig. 1. Fig. 3 is a broken transverse vertical section on the line B B of Fig. 1. Fig. 4 is a longitudinal horizontal section on the line C C of Fig. 1. Fig. 5 is a similar section on the line D D of Fig. 1, and Fig. 6 is a similar section on the line E E of Fig. 1.

Referring to the drawings, 1 represents a cylindrical socket revolubly mounted in the casing 2 of the lock. From said socket projects an arm 3, to which is fixedly attached by a link 4 the latch-bolt 5. Said bolt 5 is removably pressed outward by a coiled spring 6, interposed between the head 7 of the bolt and lugs 8 9, fixedly secured on the casing 2 and the side plate 10 thereof. Said lugs 8 9 are channeled, as shown in Fig. 3, and when the casing 2 and plate 10 are fitted together said lugs form a circular aperture or bearing for the bolt 5. By this construction it is rendered unnecessary that the arm 3, link 4, and bolt 5 shall be connected detachably.

The socket 1 has in its rear face a recess 14, (shown in dotted lines in Fig. 1,) and into said recess the noses 15 of dogs 16, pivoted at 17, are normally pressed by means of coiled springs 18 around guide-rods 19, said rods passing through apertures 20 in said dogs, elongated vertically to allow for the circular movement of the aperture. Said dogs will thus normally prevent movement of the door-latch. To retract said dogs and permit the door-handle to be turned from the outside of the door, the latch-key is used, as shown at 23, inserted through the latch-keyhole 24, the wards of which avoid plates 25, forming part of the lock-casing. The bit 26 of said key engages said dogs 16 and moves them out of engagement with the socket 1. To retract said dogs from the inner side of the door, a thumb-piece 27 is provided on the end of a shaft 28, carrying arms 29, which avoid the plates 25 in the same manner as the wards of the key, said arms 29 engaging the dogs 16 to retract said dogs out of engagement with the socket 1 and release the same. In order to permanently hold said dogs out of engagement with said socket, the dogs 16 are notched on their front edges, as shown at 30, said notches being adapted to receive the ends of the arms 29 when turned somewhat more than is necessary to merely withdraw the dogs from the recess, so that said notches then hold the arms in engagement with the dogs.

The knob-shank which turns the socket 1 is made as disclosed in my prior patent above referred to—that is, it has a plate 35, attached to one knob, inserted between prongs 36, attached to the other knob, and held in engagement with one of said prongs by means of coengaging teeth 37.

The lock-bolt 40 is slidable through the proper opening in the edge of the lock-case and is guided in its movements by the screw-threaded standard 41, which is engaged to secure the two parts of the case together. The upper edge of the bolt is cut away, as shown at 42, to engage this standard. Said locking-bolt has an opening made in the rear portion, as shown at 45, and when the key is introduced and turned if the bolt is extended the key will strike against the rear edge of this opening and retract the bolt. If the bolt is retracted, the key will in turning strike against the front edge and will extend the bolt. The rear end of the bolt is made thinner than the body, as shown at 46, and this thin portion of the bolt extends forwardly from the opening 45 at the top of the bolt, as shown at 47. The thin portion or web of the

bolt is central in a vertical plane, leaving spaces or channels upon each side, and in these channels fit plates 48, having extensions 49, fitting upon each side of the thin portion 47 of the bolt. The extensions 49 have lugs 50, and the thicker portion of the bolt has at each side of the portion 47 of the web front notches 51 and rear notches 52, into which the lugs 50 of the plates 48 drop. Said plates maintain their position not only by gravity, but by the force of a spring 54, secured at the upper end to the casing and at the lower end being divided into three branches or tines 55, whereof the outer tines rest upon the top of the plates 48 and hold them down in their places, while the central tine has its end 57 bent over the shoulder 58, formed by the cut-away portion 42, and thereby holds the bolt against accidental extension due to a sudden jar or shock. When the bolt is retracted, both the lugs 50 of the extensions 49 are in engagement with the front notches 51; but when the key is inserted from either side—say from the house side—and turned in the lock then the turn of the key causes it first to engage the under side of the nearer of the extensions 49 and raise the same against the spring 54, and thus raise the corresponding lug 50 out of its front notch, and the farther turning of the key moves the bolt outward, and since the lug 50 of the farther extension has not been moved out of the front notch on the farther side the plate 48 in the farther side is drawn forward with the bolt and covers the keyhole against access from the street, effectually preventing the picking of or otherwise tampering with the lock from the outside.

I claim—

1. In a door-lock, the combination, with a latching-bolt comprising a turnable socket, an arm extending therefrom, a spring-actuated bolt, and an operative connection between said arm and bolt, of a spring-actuated pivoted dog engaging a recess in said socket, said dog having a protuberance arranged to be engaged by a key inserted through a key-hole from the outside to disengage said dog from the socket, and a thumb-piece on the inner side of the lock having an arm in the lock engaging said dog to disengage it from the socket, substantially as described.

2. In a door-lock, the combination, with a latching-bolt comprising a turnable socket, an arm extending therefrom, a spring-actuated bolt and an operative connection between said arm and bolt, of a spring-actuated pivoted dog engaging a recess in said socket, and a thumb-piece having an arm in the lock engaging said dog to disengage it from the socket, said dog having a notch to engage and hold said arm, substantially as described.

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

CHARLES E. SMITH.

Witnesses:

FRANCIS M. WRIGHT,

Z. A. DANIELS.