

Sept. 9, 1924.

S. SEGAL

1,508,029

BOLT

Original Filed Jan. 29, 1920

Fig. 1.

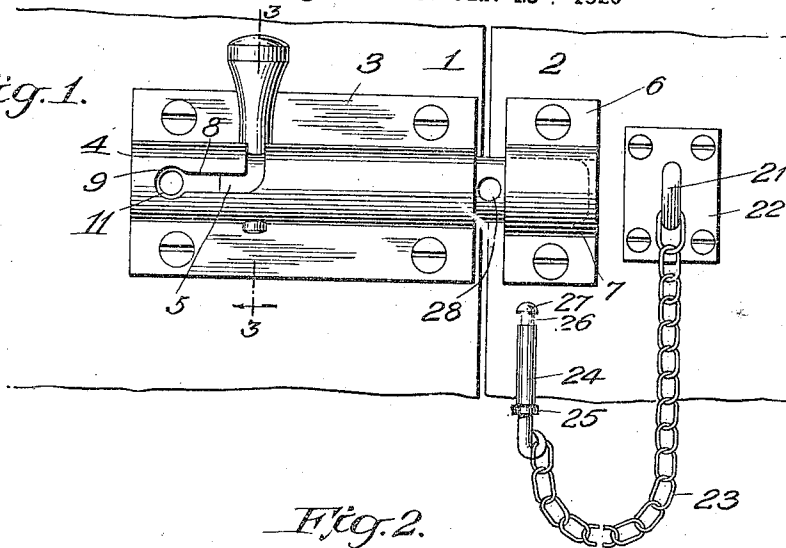


Fig. 2.

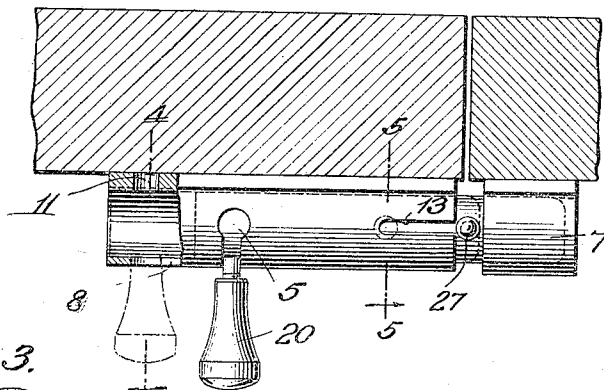


Fig. 3.

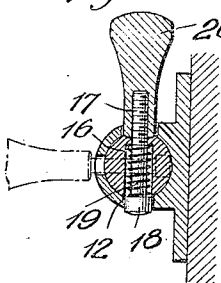


Fig. 4.

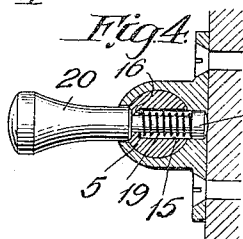


Fig. 6.

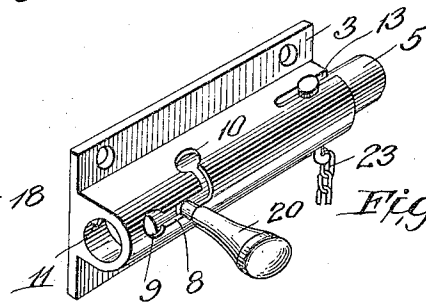
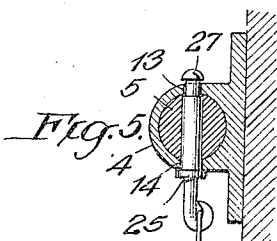


Fig. 5.



By *Samuel Segal* Inventor
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UNITED STATES PATENT OFFICE.

SAMUEL SEGAL, OF NEW YORK, N. Y.

BOLT.

Application filed January 29, 1920, Serial No. 354,766. Renewed July 22, 1922. Serial No. 576,867.

To all whom it may concern:

Be it known that I, SAMUEL SEGAL, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Bolts, of which the following is a specification.

My invention relates to bolts adapted to be fastened to doors or other structures for locking the same against intruders and has for its object the production of a novel and simple form of bolt having rigidity and strength which shall be so constructed as to become automatically locked when the operating knob for throwing the bolt-bar into retracted or projected position is moved into extreme position in its guiding slot.

A further object of the invention is the production of a bolt of the general type indicated above which shall have removable means adapted to interlock with the bolt-bar and to be held against removal in interlocked position when the bolt-bar is in retracted position so as to permit the door to which the bolt is fastened to be opened partially only.

Still other and further objects of the invention will appear from the accompanying description, the invention consisting in the novel parts and combinations of parts hereinafter more particularly described and then specified in the claims.

In the accompanying drawing:

Fig. 1 is a front elevation of my improved bolt as applied to a door.

Fig. 2 is a plan view of the same.

Fig. 3 is a vertical cross-section on the line 3—3 of Fig. 1.

Fig. 4 is a vertical cross-section on the line 4—4 of Fig. 2.

Fig. 5 is a vertical cross-section on the line 5—5 of Fig. 2.

Fig. 6 is a perspective view of the bolt.

Referring in detail to the several figures of the drawing:

1 indicates a door and 2 the door frame. 3 indicates the base plate of the bolt which is attached to the door by suitable screws as shown, 4 the barrel of the bolt and 5 the bolt-bar which is adapted to slide within the barrel 4. 6 indicates the base plate of a keeper fastened to the frame 2 of the door by suitable screws and which is provided with the usual housing or thimble 7 for receiving the end of the bolt-bar when in projected position, as shown, to lock the door.

8 indicates an L-shaped guiding slot terminating at one end in the side of the barrel 4 in an enlarged annular opening 9 and at the other end in the top of the barrel in an enlarged annular opening 10. The base plate 3 is provided with a hole 11 therein in alignment with the annular opening 9 and the lower side or bottom of the barrel 4 is provided with a hole 12 in alignment with the annular opening 10. Said barrel 4 is also provided with upper and lower slots 13 and 14 respectively.

The bolt-bar 5 has a hole 15 extending through the body thereof which may be brought into alignment with the hole 11 and opening 9 or the hole 12 and opening 10 as desired. Said bolt-bar 5 is provided adjacent the top of the hole 15 with a shoulder 16. 17 indicates a pin extending through the hole 15 in the bolt-bar 5 adapted to be received by the slot 8 in the barrel 4 and which is provided with an upper screw-threaded end as shown and a lower headed end 18. 19 indicates a spring encircling said pin 17 and bearing against the lower headed end 18 of the pin and the shoulder 16 within the hole 15, the action of said spring tending, as is obvious, to force the pin downwardly. 20 indicates an operating knob which is screwed on the upper end of the pin 17, the lower end of which is of a diameter permitting it to fit within the annular openings 9 and 10 of the guiding slot 8, but not within said slot, whereby it will bear against the bolt-bar 5 when received by said annular openings.

The bolt-bar 5 which is actuated by the operating knob 20 is shown in projected or locked position in Fig. 1 with the end thereof extending within the housing 7. When in this position the end of the operating knob fits within the annular opening 10 where it is held by the action of the spring 19 and the headed end 18 of the pin 17 extends through the hole 12 in the barrel 4, thereby securely holding the bolt-bar in locked position. Also the operating knob extends vertically upward, as shown, when the bolt-bar is in projected position so that it is then conveniently out of the way and is not apt to become caught in a person's clothing. To retract the bolt so as to open the door the operating knob 20 is pulled upwardly against the action of the spring

19 so as to release the end thereof from engagement with the annular opening 10 as well as the headed end of the pin 17 from engagement with the hole 12. The operating knob is then pressed downwardly and to the left, the pin 17 riding in the L-shaped slot 8 and the end of the operating knob bearing against the barrel 4 over the slot 8. This movement, as is obvious, retracts the bolt-bar 5 and releases the end thereof from its engagement with the housing 7 to unlock the door. When the bolt-bar has reached its extreme retracted position the end of the operating knob automatically slips into the annular opening 9 and the headed end 18 of the pin into the hole 11 due to the action of the spring 19 (see Fig. 4) and thus the bolt-bar is firmly held or locked in retracted position from which it may only be released by pulling up the operating knob against the action of the spring. The bolt-bar may then be thrown into projected position by pressing the operating knob to the right and then upwardly and when it reaches the end of its upward movement the end thereof automatically slips into the annular opening 10 and the headed end 18 of the pin into the hole 12 due to the action of the spring to effectively hold the bolt-bar in projected or locked position.

To permit the door to be partially opened but at the same time locked in said partially opened position, which is desirable in some cases as it will permit the person on the outside of the door to be seen before the door is completely opened, I have provided improved and novel means which will now be described.

21 indicates a staple whose base-plate 22 is fastened to the door frame 2 by suitable screws as shown. Attached to said staple is a chain 23 fastened to a locking pin 24, having a collar 25, a reduced neck 26 and a head 27. 28 indicates a transverse hole with which the bolt-bar 5 is provided and which has a diameter sufficient to receive the locking pin 24 and its head 27 but not the collar 25. When it is desired to open the door partially the locking pin 24 is pushed through the hole 28, its movement being limited by the collar 25 which acts as a stop and which bears against the barrel 4 over the lower slot 14. When the bolt-bar is retracted by operation of the operating knob 20 it is first moved through an angle of 90°, in an obvious manner, which accordingly changes the position of the locking pin 24 from a transverse horizontal one to a vertical one. A further opening or retracting movement of the bolt-bar by means of the operating knob carries the locking pin 24 with it, the body thereof sliding within the lower slot 14 and the reduced neck 26 within the upper slot 15 which is of a

width sufficient to receive said neck but not the head 27. When the bolt-bar has reached its extreme retracted position it becomes automatically locked in that position as has been described. The door may now be opened partially, the extent of said opening being limited by the length of the chain 23, but it may not be opened fully until the locking pin 24 is withdrawn as the head thereof 27 contacts and bears against the barrel 4 over the slot 15 through which it cannot be drawn. A complete opening of the door may only be effected by throwing the bolt-bar into locked position, withdrawing the locking pin 24 from the hole 28, and then again retracting the bolt-bar.

What I claim as my invention is:—

1. In a bolt, a barrel having a slot therein and provided with a hole remote from said slot, a bolt-bar adapted to slide within said barrel, an operating knob for actuating said bolt-bar, a pin carried by said operating knob and adapted to slide within the slot of the barrel and means for automatically forcing said pin to engage the hole in the barrel to lock the bolt-bar against movement.

2. In a bolt, a barrel having a slot terminating in an annular opening and provided with a hole registering with said annular opening, a bolt-bar adapted to slide within said barrel, an operating knob for actuating said bolt-bar and adapted to fit within said annular opening and a pin carried by said operating knob and adapted to slide within the slot of the barrel and to automatically engage the hole in the barrel to lock the bolt-bar against movement.

3. In a bolt, a barrel having a hole and a slot therein, a bolt-bar adapted to slide within said barrel and provided with a hole extending through the body thereof adapted to register with the hole in the barrel, an operating knob for actuating said bolt-bar, a pin carried by said operating knob adapted to slide within the slot and extending within the hole in the body of the bolt-bar and a concealed spring adapted to automatically project said pin into the hole of the barrel to lock the bolt-bar against movement.

4. In a bolt, a barrel having a hole and a slot therein, a bolt-bar adapted to slide within said barrel and provided with a hole extending through the body thereof adapted to register with the hole in the barrel, a shoulder on said bolt-bar adjacent said hole, an operating knob for actuating said bolt-bar, a pin carried by said operating knob adapted to slide within the slot in the barrel and extending within the hole in the body of the bolt-bar, a head on said pin and a concealed spring encircling said pin and engaging the head thereof and said shoulder

and adapted to automatically project said pin into the hole of the barrel to lock the bolt-bar against movement.

5 In a bolt for a door, a barrel, a bolt-bar adapted to slide within said barrel and detachable means adapted to extend through said bolt-bar and interlock therewith to permit the door to be partially opened only.

10 6. In a bolt for a door, a barrel, a bolt-bar adapted to slide within said barrel and means fastened to the door frame and detachably secured to the bolt bar and adapted to interlock with said bolt-bar and said barrel when said bolt-bar is in retracted
15 position and to permit the door to be partially opened only.

7. In a bolt for a door, a barrel, a bolt-bar adapted to slide within said barrel and provided with a hole therein and a locking
20 pin connected with the door frame and

adapted to be inserted in the hole in the bolt-bar and to engage the barrel to permit the door to be partially opened only.

8. In a bolt for a door, a barrel having slots in the end thereof, a bolt-bar adapted to slide within said barrel and provided with
25 a hole therein, a removable locking pin connected with the door frame and adapted to slide in the slots in the barrel and to be inserted in the hole in the bolt-bar and a head
30 on said locking pin adapted to engage the said barrel.

Signed at New York, in the county of New York and State of New York, this 27th day of January, A. D. 1920.

SAMUEL SEGAL.

Witnesses:

F. B. TOWNSEND,
W. R. WARNER.