No. 629,630. Patented July 25, 1899.

H. G. VOIGHT.

CYLINDER LOCK.

(Application filed Aug. 1, 1898.)

(No Model.)

Fig. 1.

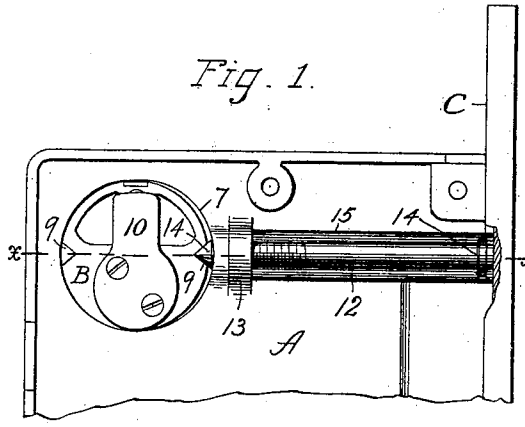
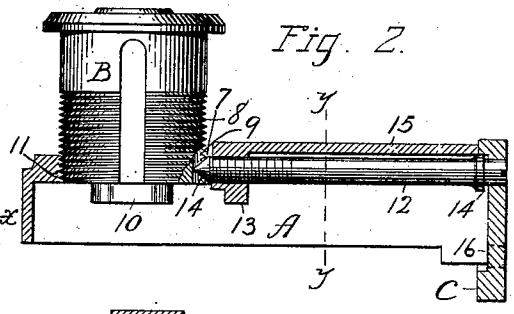


Fig. 2.



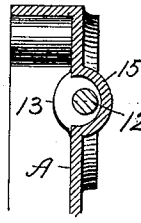


Fig. 3.

Fig. 4.

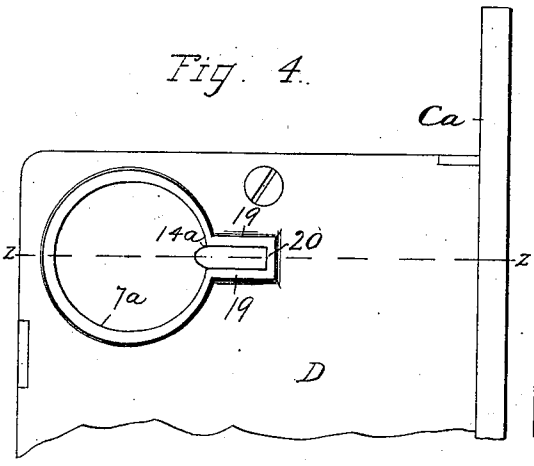


Fig. 5.

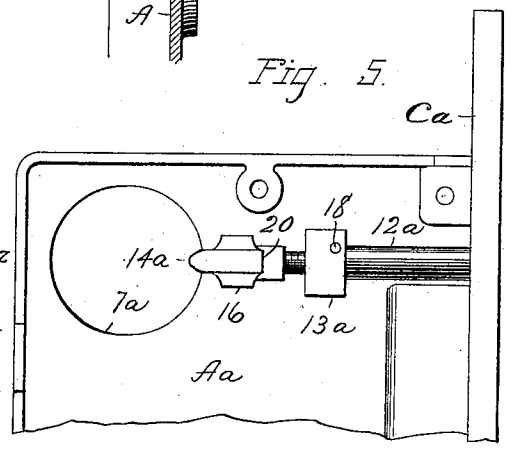
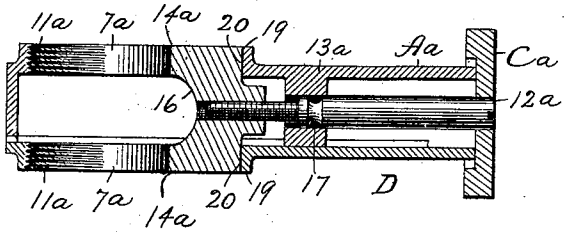


Fig. 6.



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UNITED STATES PATENT OFFICE.

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CYLINDER-LOCK.

SPECIFICATION forming part of Letters Patent No. 629,630, dated July 25, 1899.

Application filed August 1, 1898. Serial No. 687,400. (No model.)

To all whom it may concern:

Be it known that I, HENRY G. VOIGHT, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Pin-Tumbler Locks, of which the following is a specification.

My invention relates to improvements in pin-tumbler or cylinder locks; and the objects of my improvement are simplicity and economy in construction and efficiency in use.

In the accompanying drawings, Figure 1 is a rear elevation of the main portion of my lock, the cap-plate being removed. Fig. 2 is a horizontal section of the same on the line *x x* of Fig. 1. Fig. 3 is a sectional view of the same on the line *y y* of Fig. 2. Fig. 4 is a broad side view of a lock-case for my lock in a modified form. Fig. 5 is a like view of the same with the cap-plate removed, and Fig. 6 is a horizontal section on the line *z z* of Fig. 4.

This invention is in the nature of specific improvements upon the generic invention described and claimed in my application for cylinder-locks of even date herewith. Like that invention it is applicable to either reversible or non-reversible locks.

A designates the body of the lock-case, having the socket 7 for receiving the shell B of an ordinary pin-tumbler or cylinder lock. The said shell is provided with peripheral ribs and grooves 8, which may be in the ordinary form of screw-threads. I also provide said shell with a longitudinal groove 9 on one or both sides. Said pin-tumbler lock is also provided with the ordinary wing 10 for throwing the ordinary lock-bolt. (Not shown.) The socket 7 in the body A of the lock-case is preferably of a slightly-oval form, the longest diameter extending from side to side in the position shown in Figs. 1 and 2. That side wall of the socket 7 which is farthest from the face-plate C is provided with ribs and grooves 11, (see Fig. 2,) corresponding with the ribs and grooves 8 of the shell B. On the side diametrically opposite the ribbed and grooved side 11 of the socket 7 is a set-screw 12, with its threaded portion extending into the threaded hole in the lug 13 and with its head end in a hole in the face-plate C. Said screw is also provided with a shoulder 14 for engaging the inner wall of the face-plate to limit the endwise movement of the set-screw in the outward direction, said shoulder being so related to the face-plate and the pointed end 14 of the set-screw that said end cannot be withdrawn from the socket far enough to permit the shell B of the pin-tumbler lock to be rotated when within the socket 7. The said pointed end of the set-screw constitutes a moving projection for engaging the longitudinal groove in the shell B in the manner hereinafter described. I arrange said set-screw within a recessed extension 15, whereby the screw is outside of the inner wall of the case-body A, as best shown in Fig. 3. If desired to provide the cap-plate with a like socket and set-screw, the face-plate C may be provided with a second hole for the outer end or head of the set-screw, as indicated by the broken lines at 16 in Fig. 2.

The pin-tumbler lock is attached to the case by turning the screw 12 to partly withdraw its pointed end 14 from the socket 7, then inserting the shell B endwise into the socket 7, (to do which the longitudinal groove 9 must be in a position to receive the pointed end of the set-screw,) and when the shell is inserted as far as may be desired turning the set-screw to force its end into the groove 9, and thereby force the ribs and grooves on the opposite side of the shell into engagement with the ribs and grooves of the socket.

In the construction shown in Figs. 4, 5, and 6, D is the cap-plate; A^a, the body of the case; C^a, the face-plate, and 7^a the socket, having ribs and grooves 11^a, Fig. 6, in its left-hand wall. As a substitute or equivalent for some purposes of the set-screw with its pointed end I provide the sliding projection 14^a and its operating-screw 12^a. I prefer to make duplicate projections 14^a, one for each broad side of the lock-case, the same being integral with one body 16, which body has a threaded hole to receive the threaded portion of the screw 12^a. The head of this screw has its bearing in the face-plate C^a, and its body has a bearing in the stud 13^a, and said screw is provided with a groove 17, Fig. 6, and the stud with a pin 18, Fig. 5, for engaging said groove to hold the freely-rotating screw against longitudinal movement in a well-known way. The body

of the case and the cap-plate are both provided with suitable ways 19 for guiding the sliding projections 14^a, while said projections are provided with shoulders 20, which, coming in contact with the case-body or the cap, limit the movement of said projections in one direction and prevent said projections from being wholly withdrawn from the socket 7^a or from being withdrawn far enough to permit the shell B to rotate within the socket 7^a. This form of case is intended for use with a pin-tumbler or cylinder lock like that shown in Figs. 1 and 2, and the said lock is attached to the case in the same way, the sliding or moving projection 14^a and the pointed end 14 of the screw having practically the same functions and operating in substantially the same way, only that one has a rotary movement and the other has not.

I claim as my invention—

1. The combination of a pin-tumbler lock, with the lock-case having the shell-receiving socket provided with ribs and grooves on one side, and having a fixed lug provided with a threaded hole; the longitudinally-moving set-screw extended through the said lug and with its end projecting into the said socket for impinging on the said shell, and a shoulder on said set-screw coacting with the lock-case for preventing the impinging end of the said set-screw from being wholly withdrawn from said shell-receiving socket, substantially as described.

2. The combination of the shell of a pin-tumbler lock having a longitudinal groove and peripheral ribs and grooves, with a lock-case having a shell-receiving socket provided with ribs and grooves on one side, the said socket having a diameter in excess of that of the ribbed and grooved portion of said shell, and a moving projection on the side of said socket that is opposite said ribs and grooves for forcing the shell laterally to bring it into position for engagement with the said ribs and grooves, and means for preventing said moving projection from being withdrawn far enough to permit the rotation of said shell within said socket, substantially as described.

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