(No Model.)

J. H. WOOLASTON.

CYLINDER LOCK.

No. 452,588. Patented May 19, 1891.

Fig. 1

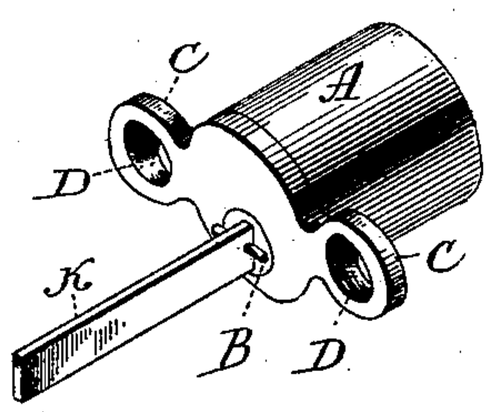


Fig. 2

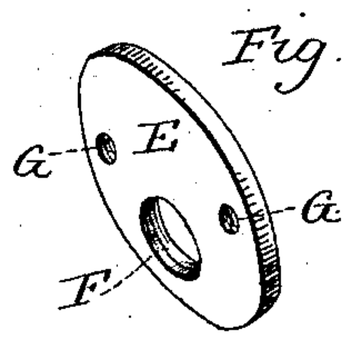


Fig. 3

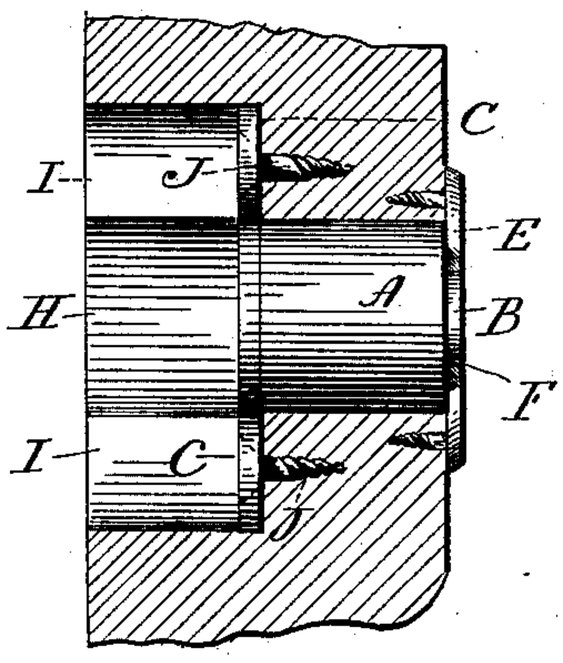


Fig 4

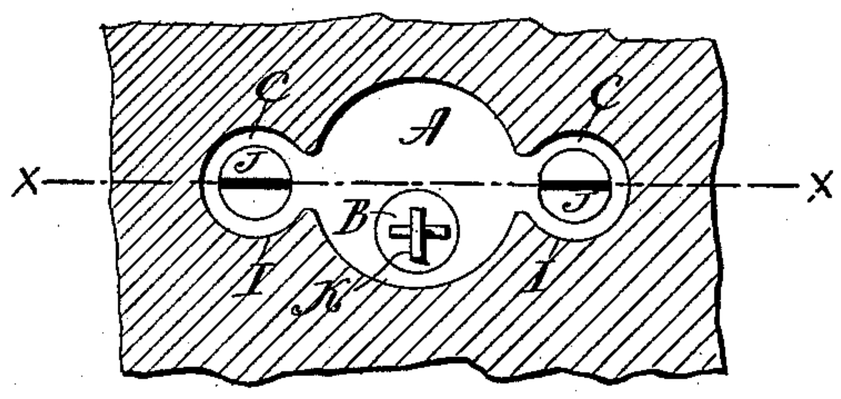


Fig. 5

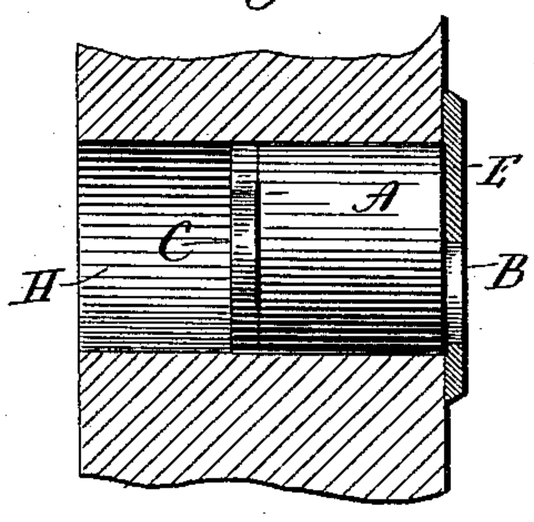
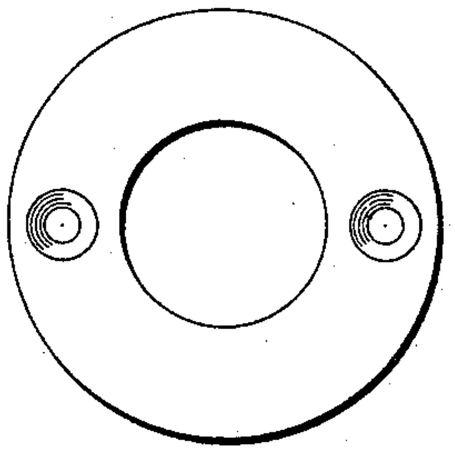


Fig. 6



Witnesses.
J. H. Shumway
Lillian D. Haley.

Joseph H. Woolaston.
Inventor.
By Allyn
Earle & Seymour

UNITED STATES PATENT OFFICE.

JOSEPH H. WOOLASTON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE BARNES MANUFACTURING COMPANY, OF SAME PLACE.

CYLINDER-LOCK.

SPECIFICATION forming part of Letters Patent No. 452,588, dated May 19, 1891.

Application filed February 16, 1891. Serial No. 381,672. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. WOOLASTON, of New Haven, in the county of New Haven and State of Connecticut, have invented new Improvements in Cylinder-Locks; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a perspective view of the lock-case looking from the rear; Fig. 2, a perspective view of the face-plate, looking from the rear; Fig. 3, a section through the door-cutting on line *x x* of Fig. 4, showing side view of the case and sectional view of the face-plate; Fig. 4, a rear view of the door, showing the recess for the lock with the lock in place; Fig. 5, a section cutting at right angles to the section of Fig. 3; Fig. 6, a modification.

This invention relates to an improvement in that class of locks in which the tumblers are arranged in a cylinder and adapted for use of a flat key, and so that when the key is in place the tumblers are brought to a position to disengage the cylinder to permit it to revolve within its case, and particularly to those locks of this class in which the cylinder is detached from the bolt and the connection made between the cylinder and the bolt through the door, whereby the rotating of the cylinder will, through such connection, operate the bolt, the cylinder being a structure independent of the bolt and its case.

In the more general construction of this class of locks the cylinder is constructed to be introduced from the face side of the door, and in the door on the face side a cavity is formed for the introduction of the case containing the cylinder, the face-plate projecting around the cylinder, so as to cover the joint around the case, and the case is secured in place by screws or bolts introduced through a clamping-plate on the reverse side of the door into the case or projecting lugs on the case, these bolts serving to draw the case into the door and so as to bring the face-plate to a firm bearing upon the outside of the door. This construction necessitates the making of the screws or bolts of an extreme length for the thickest door to which the lock may be applied, the bolts being cut or broken off, as the door is thinner than the maximum thickness for which the lock is adapted. This construction and arrangement of bolts is expensive, and the application of the lock to the door is a difficult one to properly make.

The object of my invention is a construction in which the plate upon the reverse side of the door and the bolts through the door may be dispensed with and the application of the lock to the door very greatly simplified; and it consists in the construction, as hereinafter described, and particularly recited in the claim.

A represents the case, in which the cylinder B is arranged in the usual manner, it being provided with tumblers, as usual. The construction and arrangement of the tumblers may be any of the known constructions and arrangements, not necessary to be described, as they constitute no essential part of this invention.

The case A is of cylindrical shape. At its rear end it is constructed with a laterally-projecting ear C on each side. These ears are of circular shape, and each is pierced with a hole D for the introduction of a screw. The cylinder B preferably projects from the face end of the case to a slight extent, as seen in Fig. 3. The face-plate E is made separate from the case. It is of somewhat larger diameter than the case, and is constructed with a hole F, corresponding to the projecting end of the cylinder, and so that the said projecting end may locate the face-plate in its proper relation to the case. The face-plate is constructed with screw-holes G more or less in number, by which it may be secured to the face of the door. This completes the construction.

The lock is applied to the door by first boring a hole H through the door of a diameter corresponding to the diameter of the case A. Then at each side or at points corresponding with the ears C C other holes I are bored, the said holes being of a diameter corresponding to the ears C. The holes for the ears are bored to a depth so as to leave between the bottom of the holes and the face of the door a thickness corresponding to the length of the

cylinder, as seen in Fig. 3, and so that the ears may come to a bearing upon the bottom of the holes I, when the face end of the case is substantially flush with the face surface of the door. The case is set into the recess thus formed in the door, as seen in Figs. 3 and 4. Then screws J are introduced through the ears C to secure the lock to the door. The face-plate E is then applied, it being set on over the projecting end of the case, as seen in Fig. 3, and is secured to the door by screws or otherwise, thus covering the end of the case, but exposing the cylinder through the face-plate for the introduction of the key, as in other constructions of cylinder-locks. The cylinder is provided at its rear end with a projecting flat spindle K, through which connection is made with the bolt on the reverse side of the door, this connection being, as usual, for this class of locks. By this construction the plate on the reverse side of the door and the long bolts by which the lock is secured through the door so as to clamp the door between the face-plate and the securing-plate on the reverse side are avoided.

The preparation of the recess in the door for the lock is extremely simple, it being produced by the boring of three holes only, and when in place it is firmly and easily secured.

I have described and prefer to construct the cylinder with two ears diametrically opposite each other; but one ear may be omitted, a single ear serving to hold the cylinder in place, the cylinder being supported by the walls of its recess in the door and the face-plate upon the outside.

The projection on the rear end of the case as a means for securing the case in the door may be in the form of annular flange around the rear end of the case, as represented in Fig. 6, the flange projecting a sufficient distance to contain the screw-holes. In this case the lock would be applied by first boring a hole on the reverse side of the door of a diameter corresponding to the diameter of flange, and then boring a concentric hole through the door corresponding to the diameter of the cylinder.

The projection of the cylinder through the face-plate is not essential, but desirable, as it serves for the ready adjustment and location of the face-plate, and to a considerable extent serves to support the case.

I claim—

In a cylinder-lock, a cylindrical case constructed with one or more lateral projections at its rear end, the said projections being circular in shape and pierced for the introduction of screws, combined with a face-plate of larger diameter than the case, but detached therefrom, the said case being adapted to be introduced into a recess formed from the rear side of the door and the face-plate adapted to be set upon the face side of the door against the outer end of said cylinder, substantially as described.

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

JOSEPH H. WOOLASTON.

Witnesses:
AMBROSE V. BEECHER,
CHAS. S. HAMILTON.