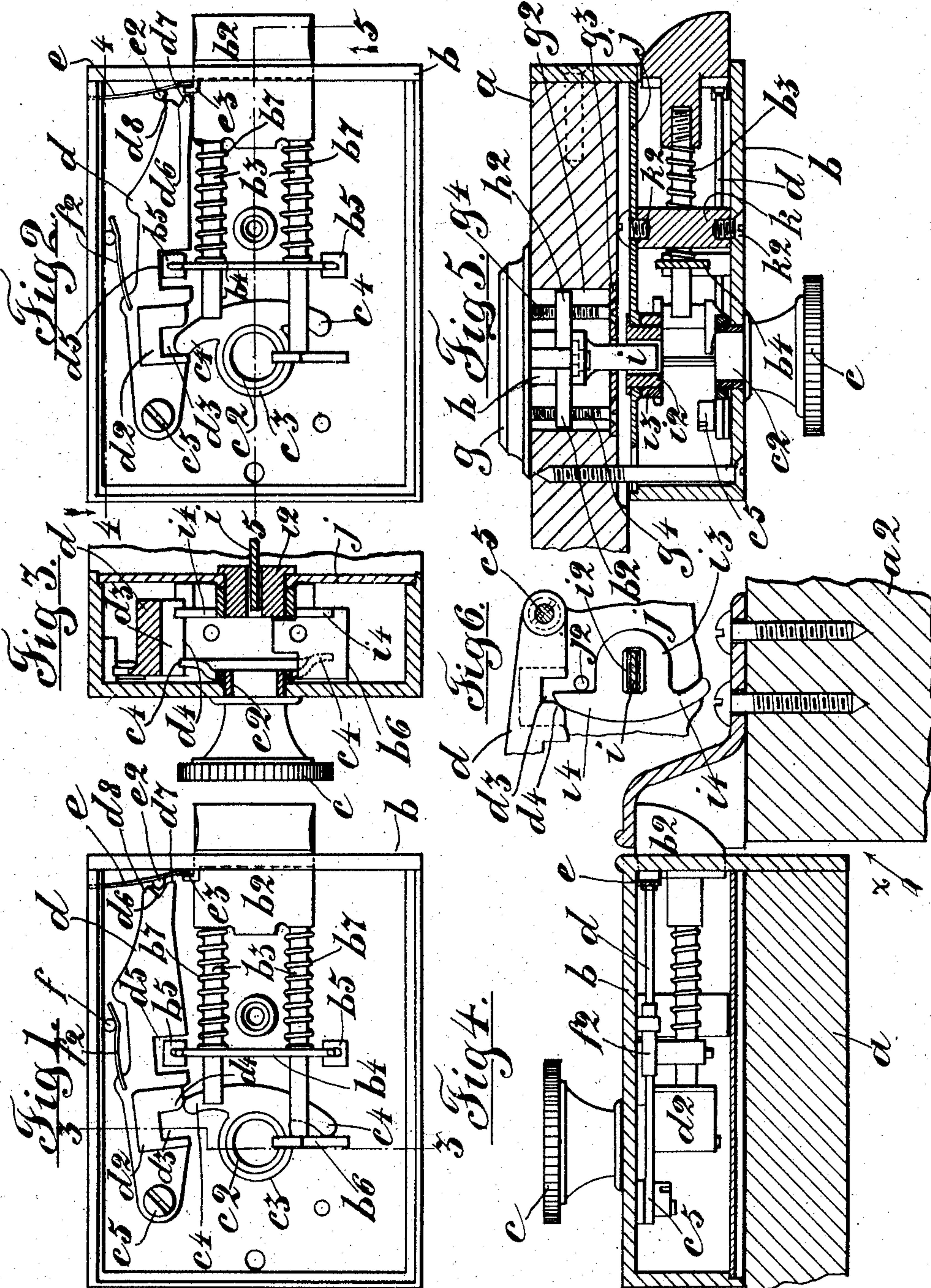


No. 778,284.

PATENTED DEC. 27, 1904.

W. R. TABB.
LOCK.

APPLICATION FILED FEB. 24, 1904.



WITNESSES

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LOCK.

SPECIFICATION forming part of Letters Patent No. 778,284, dated December 27, 1904.

Application filed February 24, 1904. Serial No. 195,080.

To all whom it may concern:

Be it known that I, WILLIAM R. TABB, a subject of the King of Great Britain, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Door-Locks, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to spring-latch locks for doors of the class known as "Yale" locks; and the object thereof is to provide a lock of this class with a supplemental lock to prevent the lock-bolt from being forced backwardly from the outside of the casing of the lock, said supplemental lock being adapted to be operated by a knob in the usual manner and also by a key inserted from the outside of the door.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is an inside view of the casing of my improved lock; Fig. 2, a similar view showing the parts in a different position; Fig. 3, a section on the line 3 3 of Fig. 1; Fig. 4, a section on the line 4 4 of Fig. 2; Fig. 5, a section on the line 5 5 of Fig. 2, and Fig. 6 an inside view of details of the construction which I employ.

In the drawings forming part of this specification I have shown at *a* a part of a door and at *a'* a part of a door-frame, and in the practice of my invention I provide a lock-casing *b*, in one end of which is mounted the usual lock-bolt *b'*, which is movable through said end of said casing and provided with two inwardly-directed parallel arms *b'*, which pass through and are movable in a transverse plate *b'*, secured in the lock-casing and supported by posts *b'*, connected with the outer side of the lock-casing. One of the arms *b'* is longer than the other and is provided with a transverse head *b'*, and mounted on each of said arms is a spring *b'*, and the springs *b'* normally serve to force the lock-bolt *b'* outwardly. The outer side of the lock-casing is also provided with a knob *c*, having a tubular journal *c'*, which

passes through said side of the lock-casing, and mounted on the inner end of said tubular journal and secured thereto is a collar *c'*, provided with oppositely-directed and vertically-arranged cam-fingers *c'*, and the bottom cam-finger *c'* is adapted to operate on or in connection with the head *b'* of the longer arm *b'* of the lock-bolt *b'*, so as to draw the lock-bolt inwardly when the knob *c* is turned to the left.

Pivoted at *c'* in the top portion and near the inner end of the casing *b* is a supplemental lock member or arm *d*, having an inwardly-directed projection *d'*, in which is formed a recess *d'*, which ranges longitudinally of said projection and transversely of the arm *d*, and the upper cam-finger *c'* operates in the recess *d'* and in connection with the forward wall *d'* thereof, which is preferably beveled, as shown in Fig. 1. The arm *d* is also provided with a notch or recess *d'*, adapted to receive the upper post *b'*, which forms one of the supports of the transverse plate or member *b'*, and said arm is provided at its front end with a V-shaped notch or recess *d'*, forming a bottom nose *d'* and a top nose *d'*, and secured to the top plate of the casing *b* is a depending spring *e*, having an inwardly-directed V-shaped lug or projection *e'*, and the lower end of which fits within a shoulder *e'*, secured to the bolt *b'* and which moves inwardly with said bolt.

Secured in the top portion of the casing over the central portion of the arm *d* at *f* is a spring *f'*, which normally bears on said arm *d*, and said spring *f'* normally serves to force the free end of the arm *d* downwardly.

The normal position of the parts of my improved lock is that shown in Fig. 2, and the bolt *b'* cannot be forced inwardly by reason of the fact that the nose *d'*, at the adjacent end of the arm *d*, bears on the shoulder *e'*, which is secured to said bolt, and the bolt cannot be forced inwardly by any means. It is a well-known fact that with locks of this kind the door-frame *a* may be cut away in the direction of the arrow *x* of Fig. 4, so as to insert an instrument or tool to force back the bolt *b'*, and one of the objects of my improvement is to render this operation impossible.

The outer side of the door is provided with the usual key or escutcheon plate *g*, which

covers a transverse opening g^2 , formed in the door, and at the inner side of the door said opening is closed by a plate g^3 , and said key or escutcheon plate is provided with the usual inwardly-directed drum h , having lateral side members h^2 , and the plate g^3 is secured in position by screws g^4 , passed through the members h^2 . The drum h is provided with the usual interior devices, which form no part of this invention, and is therefore not shown in detail, and connected with these devices is the usual tongue i , which passes inwardly into the lock-casing and through a sleeve i^2 , secured in the inner wall of said casing and to which is secured a collar i^3 , having oppositely-directed and vertically-arranged fingers i^4 , and the fingers i^4 occupy the same relative position as the fingers c^4 , and the lower finger i^4 operates in connection with the transverse head b^6 of the longer arm b^3 of the bolt b^2 in the same manner as the corresponding finger c^4 , while the upper finger i^4 operates in the recess d^3 of the arm d in the same manner as the upper finger c^4 , and in Fig. 3 of the drawings the lower fingers c^4 and i^4 are shown in dotted lines, while the upper fingers c^4 and i^4 are shown in full lines.

When a party having a key desires to open the door from the outside thereof, the key is inserted through the key or escutcheon plate g in the usual manner and the tongue i is turned in the usual manner, and this operation causes the upper finger i^4 to raise the arm d into the position shown in Fig. 1, and the same operation causes the lower finger i^4 to press on the head b^6 of the longer arm b^3 of the bolt b^2 and draw said bolt inwardly, and the door may be opened, as will be readily understood.

The back wall of the casing b of the lock is designated in Figs. 3, 5, and 6 by the reference character j , and secured thereto is a pin j^2 , which serves to hold the fingers i^4 of the collar c^3 in operative position, and the front and back walls of the lock-casing b are connected by a center post k and screws k^2 , passed through said front and back walls.

All the parts of the lock herein shown and described are of the usual and well-known construction except the supplemental locking-arm d , the springs e and f^2 , which operate in connection therewith, and the collar i^3 , which is turned by the tongue i and provided with the fingers i^4 , together with the upwardly-directed finger c^4 of the collar c^3 , and by means of the supplemental locking-arm d the forcing inwardly of the bolt b^2 is prevented, and the operation of this arm so as to release said bolt is accomplished by the usual knob from the inner side of the door or by the insertion of the usual key from the outer side of the door and the turning of the tongue i by said key, as hereinbefore described.

The normal position of the parts of my improved lock is shown in Fig. 1, and the latch or lock-bolt is not normally locked against backward movement, and the door may thus be closed in the usual manner without manipulating the knob e ; but otherwise the operation will be as hereinbefore described. It will also be observed that my invention is described herein as applicable to Yale locks of the class referred to; but it will be apparent that the said invention is not limited in its application to locks of this class, as the same may be applied to any spring-latch lock of any form or construction, and changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages, and I reserve the right to make all such alterations in and modifications of the construction described as fairly come within the scope of the invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A spring-latch lock for doors provided with the usual spring-operated bolt, a supplemental locking-arm mounted over said bolt and adapted to lock the same against inward movement, a knob connected with the casing of said lock and provided with a journal which passes through said casing, oppositely-directed fingers connected with the inner end of said journal and adapted to raise said arm out of connection with said bolt and to force said bolt inwardly, a key-operated tongue passing through a sleeve in the side of the lock-casing opposite said knob and oppositely-directed fingers connected with said sleeve and also adapted to operate to raise said arm out of engagement with said bolt and to force said bolt inwardly, substantially as shown and described.

2. A lock of the class described, provided with a spring-projected bolt, a vertically-movable arm pivoted over said bolt and parallel therewith and adapted to engage therewith and to prevent its inward movement, a spring adapted to engage the free end of said arm and operated by said bolt, means whereby said arm may be operated from one side of said lock by a knob and devices whereby said arm may be operated from the other side of said lock by a key, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 23d day of February, 1904.

his
WILLIAM X R. TABB.
mark

Witnesses:

E. A. STEWART,
C. E. MULREANY.