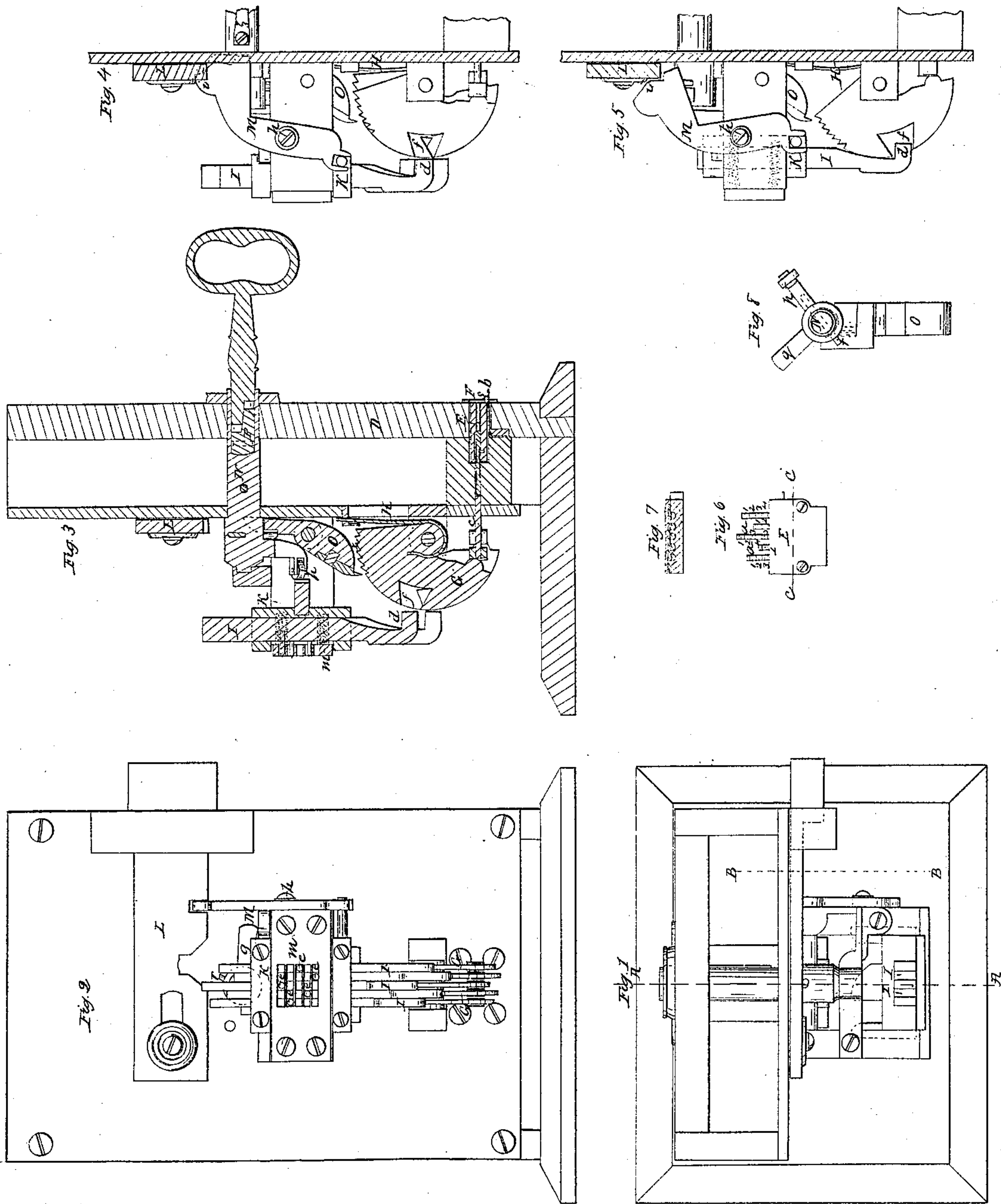


Whiting & Pickford,

Bank Lock.

No 17,815.

Patented July 14, 1857.



UNITED STATES PATENT OFFICE.

WM. WHITING, OF ROXBURY, AND HENRY PICKFORD, OF BOSTON, MASSACHUSETTS.

LOCK.

Specification of Letters Patent No. 17,815, dated July 14, 1857.

To all whom it may concern:

Be it known that we, WILLIAM WHITING, of Roxbury, in the county of Norfolk and State of Massachusetts, and HENRY PICKFORD, of Boston, in the county of Suffolk and State aforesaid, have invented certain new and useful Improvements in Burglar-Proof Bank-Locks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan; Fig. 2, an elevation; Fig. 3, a vertical section upon the line A, A; Fig. 4, a vertical section on the line B, B, of Fig. 1, the bolt in all these figures being shot and the key not yet removed from the lock. Fig. 5 is a similar section upon the line B, B, of Fig. 1, the lock being unlocked and the key withdrawn. Fig. 6 is a plan of the key and Fig. 7 a section through the same upon the line C, C, of Fig. 6; Fig. 8, a view of the wrench shaft.

This lock is of that class in which when the tumblers are arranged and the lock is locked by a certain combination of the bits of the key, it can only be unlocked by the combination employed to lock it.

To enable others skilled in the art to understand our invention we will proceed to describe the manner in which we have carried it out.

In the lock represented in the accompanying drawings D is the front plate, through a suitable opening F, in which the key is inserted. This key E, Figs. 3, 6 and 7, is of a well known construction and is furnished with adjustable bits *a*, which may be more or less elongated for the purpose of changing and multiplying the combinations. As the key is entered in the lock (as in Fig. 3) the bits *a*, press upon the pins *c*, and raise the tumblers G, against the action of their springs H.

The slides I, carry at their lower extremities hooks *d*, which enter slots *f*, in the tumblers, when these slides are forced back by their springs *g*. From these slides also project pins *e*, which enter the spaces in a grid *m*, when the slides are raised and forced forward. These slides move freely up and down in a frame or carriage K, which is forced forward by the roller *p*, upon an arm projecting from the wrench shaft. When relieved from the pressure of this roller, the carriage and its slides are forced back by the

springs *g*, provided the tumblers are in position to admit the hooks *d*, into the slots *f*.

L is the bolt which when shot is locked by the catch M. This catch is pivoted at *h*, and at its lower extremity embraces a pin projecting from the carriage K, and thus as the latter is thrown forward in the act of locking the lock, the opposite end *i*, of the catch enters a notch in the bolt and a hole in the plate and holds the bolt from being withdrawn.

The wrench shaft N, seen detached in Fig. 8, carries the roller *p*, which throws forward the frame K, the bit *q*, for shooting the bolt, and a pin *r*, which raises the pawl O, out of the teeth *x*, of the tumblers G. The roller *p*, which forces forward the slides I, and the pin *r*, are in such relative positions with respect to each other, that whenever the slides are permitted to touch the tumblers, the pawl shall enter the teeth in the tumblers and hold them stationary. It is evident were it not for this connection of the slides with the pawl, that the lock could be easily picked, as it would only be necessary to bring the slides to bear upon the tumblers, and raise the latter one by one until the hooks *d*, enter the slots *f*. The slides would then be thrown back and the bolt could be withdrawn. With the above construction, if the wrench be turned so as to raise the pawl from the teeth *x*, the slides will be thrown out of contact with the tumblers, and if the wrench be turned so as to bring the slides in contact with the tumblers, the latter cannot be tampered with as they will be held by the pawl O.

That the lock may not be opened, or the parts strained by force applied to the wrench the latter is connected with its shaft by a friction joint so arranged that when more force is applied to the wrench than is required to unlock the lock, the wrench shall turn without its shaft, the wrench locking with a block P, which is held to the shaft by the pressure of the spring *z*.

When the key E is pushed into the opening F, in the front plate D, it is retained by a stop S on the spring *b*. To take the key out, it is only necessary to press down on the end of the spring *b*. To prevent the carriage K, from being thrown forward by turning the wrench shaft when the key E, is not in its place, the pins *e*, on the slides I, strike against the lower part of the grid *m*,

when the slides are not raised by the tumblers.

What we claim as our invention and desire to secure by Letters Patent, is—

- 5 1. The combination of the slides I, with the pawl O, so arranged that whenever the slides are allowed to touch the tumblers, the pawl shall engage the teeth of the tumblers and hold them stationary.

2. Operating the slides, the bolt, and the 10 pawl O, directly from the wrench shaft in the manner substantially as herein set forth.

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Witnesses:

P. E. TESCHEMACHER,
SAM. COOPER.