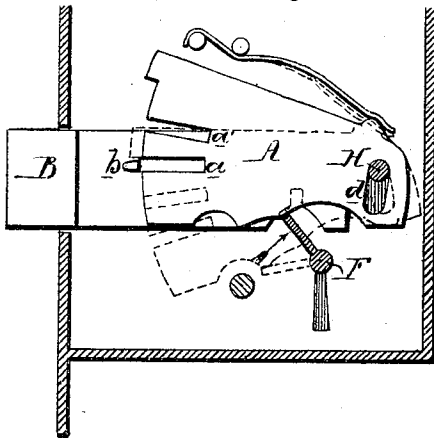


**A. RANKIN.**  
**Master Key Locks.**

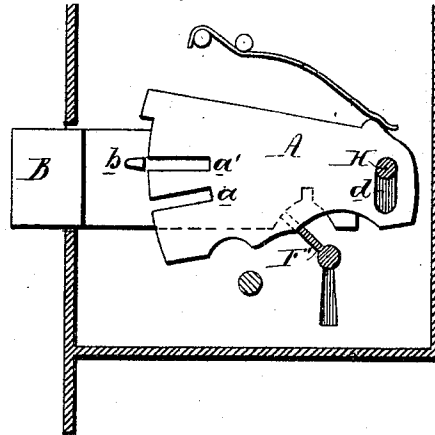
No. 141,381.

Patented July 29, 1873.

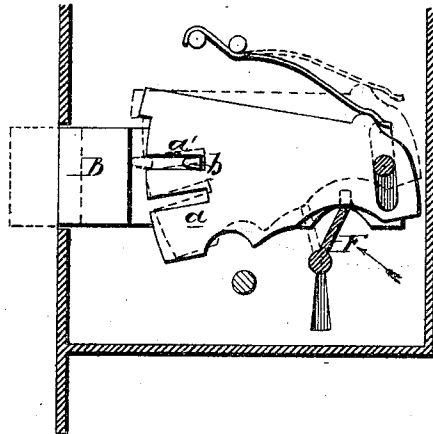
*FIG. 1.*



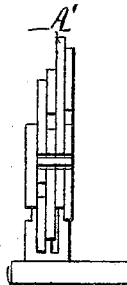
*FIG. 2.*



*FIG. 3.*



*FIG. 4.*



Witnesses, *Thomas M. Glavin*  
*Harry Smith*

*Andrew Rankin*  
*by his Atty.*  
*Horsens and Son*

# UNITED STATES PATENT OFFICE.

ANDREW RANKIN, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN MASTER-KEY LOCKS.

Specification forming part of Letters Patent No. **141,381**, dated July 29, 1873; application filed July 2, 1873.

*To all whom it may concern:*

Be it known that I, ANDREW RANKIN, of Philadelphia, Pennsylvania, have invented certain Improvements in Master-Key Locks, of which the following is a specification:

The object of my invention is to enable a lock having "gated" tumblers to be unlocked and locked by a master-key, as well as by its own key; and I attain this object by providing some or all of the tumblers A with two gates or notches, *a* and *a'*, one to be brought opposite the stump *b* of the bolt by the ordinary key F; the other by the master-key F'; and by adapting slotted openings *d* of the said tumblers to the pivot-pin H, so as to permit the yielding of the same at this point, all as fully described hereafter, and as illustrated in the sectional views, Figures 1 and 2, of the accompanying drawing.

In master-key locks the tumblers must be capable of adjustment to two different positions, either of which will permit the drawing back of the bolt, the whole of the locks of a class being precisely alike as regards one adjustment, so as to permit any of them to be unlocked or locked by one master-key, while they may be all different as regards the other adjustment, which is effected by the ordinary key sold with the lock.

In locks of this class the bolt has generally been provided with a series of stumps or projections adapted to corresponding projections riveted to the faces of the tumblers, such locks being necessarily complicated and expensive—objections which I have overcome by the use of gated tumblers, slotted at their pivoting-points.

In using the ordinary key F, as shown in Fig. 1, each tumbler of the series, of which but one is represented in the present instance, is raised from the position indicated by dotted lines to that shown by full lines, or until its gate *a* is brought opposite the stump *b* of the bolt B, the said gate receiving the stump, and thus permitting the free rearward movement of the bolt on continuing to turn the key. In like manner, when the master-key F' is used, as shown in Fig. 2, the gates *a'* of the tumblers are brought opposite to and receive the

stump *b* of the bolt in drawing back the latter, by means of the said key, to the position illustrated by full lines in Fig. 3.

It will be observed that as the master-key gate *a'* of the tumbler, shown in the drawing, is above the gate *a*, the said tumbler is not moved to as great an extent by the master-key as by the ordinary key. Consequently, if the latter be used to move the bolt forward, as shown in Fig. 3, after it has been drawn back by the master-key, the tumblers would require to be lifted at their rear ends, turning upon the stump *b* as a shifting fulcrum, as indicated by dotted lines, in order to permit the operation of the said ordinary key; and to enable this peculiar but necessary movement to be imparted to the tumblers is the object of slotting the same at *d*, where they are adapted to the pivot-pin H.

In the present instance the master-key is shorter than the ordinary key, and imparts a less degree of movement to the tumblers; but if the reverse were the case, and the gate *a'* were beneath instead of above the gate *a*, as it might be with one or more of the other tumblers in the same lock, such tumbler or tumblers would have to yield at the pivoting-point in using the master-key, while a simple vibrating movement would be imparted to them by the ordinary key.

One or more of the tumblers of the lock can, if desired, in carrying out my invention, be provided with one gate only for both keys, as shown at A' in the transverse diagram, Fig. 4; and in such case it will be understood there would be no necessity of slotting the said tumbler at the pivoting-point.

I claim as my invention—

A master-key lock in which some or all of the tumblers are provided with two gates, and have slotted openings adapted to the pivot-pin, as specified.

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

ANDREW RANKIN.

Witnesses:

WM. A. STEEL,  
HARRY SMITH.