

D. K. MILLER.
Plate-Keys for Locks.

No. 156,645.

Patented Nov. 10, 1874.

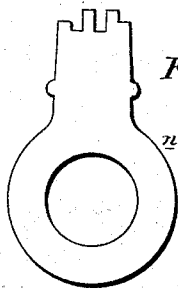


Fig. 3.

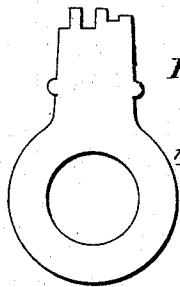


Fig. 4.

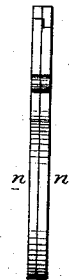


Fig. 2.

Fig. 5.

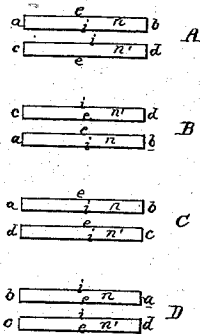
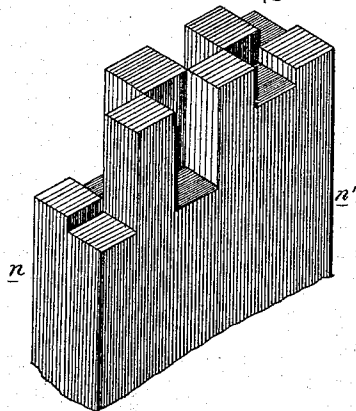


Fig. 1.



Witnesses:
Fred Benjamin
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By his attys
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UNITED STATES PATENT OFFICE.

DANIEL K. MILLER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PLATE-KEYS FOR LOCKS.

Specification forming part of Letters Patent No. **156,645**, dated November 10, 1874; application filed September 18, 1872.

CASE B.

To all whom it may concern:

Be it known that I, DANIEL K. MILLER, of the city and county of Philadelphia, State of Pennsylvania, have invented an Improved Key for Tumbler-Locks, of which the following is a specification:

The object of my invention is a key consisting of two or more flat plates, *n n'*, secured together side by side, and notched to form the series of recesses and projections required to operate two or more series of tumblers in a lock, as shown in the accompanying drawing, in which—

Figure 1 is an enlarged perspective view, showing the end of the key; Fig. 2, an edge view; Figs. 3 and 4, side views, showing the plates of which the key is composed; and Fig. 5, a diagram illustrating the different positions in which the plates may be arranged.

Heretofore this class of keys for locks having two or more series of tumblers have consisted each of a single block of metal cut away to form series of projections and recesses corresponding in number to the series of tumblers in the lock to be operated on, the labor and time required to produce the keys in this manner greatly enhancing their cost.

By making the key in sections of flat plates, each notched at one edge to form one series of projections and recesses, and secured side by side, with their notched edges in their proper relative positions, the cost of manufacture is much reduced, as each section may be stamped in its proper form from a plate at one operation, or it may be stamped to form a blank, the recesses of which are made by means

of a milling-tool having a series of milling-disks and blanks properly arranged. The sections thus produced may be fitted together in various positions, so that a number of different keys may be made from a comparatively small variety of sections. Thus the two sections *n n'* may be fitted together, with the edges *a c* coinciding and faces *i i* in contact, as shown at A in diagram, Fig. 5, or with the edges *c a* coinciding and the faces *i i* outermost, as at B; or one of the sections may be turned and applied to either face of the other, as at C and D, four different arrangements of the notches being thus secured, and, consequently, keys adapted to four different locks being produced, while only two punches or milling-tools are required to produce the blanks.

The notched portion of the key may be either at the end or at one side, and, instead of the two sections being in contact throughout their entire extent, they may be separated to leave a space between them at the notched side or end.

I claim—

A key consisting of two or more notched plates, secured together so as to present two or more irregular edges, each differing in the arrangement of its notches and projections from that next to it, all as set forth.

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

D. K. MILLER.

Witnesses:

WM. A. STEEL,
J. SHERBORNE SINGER.