P. MATHES.

Manufacture of Key-Blanks.

No. 225,227. Patented Mar. 9, 1880.

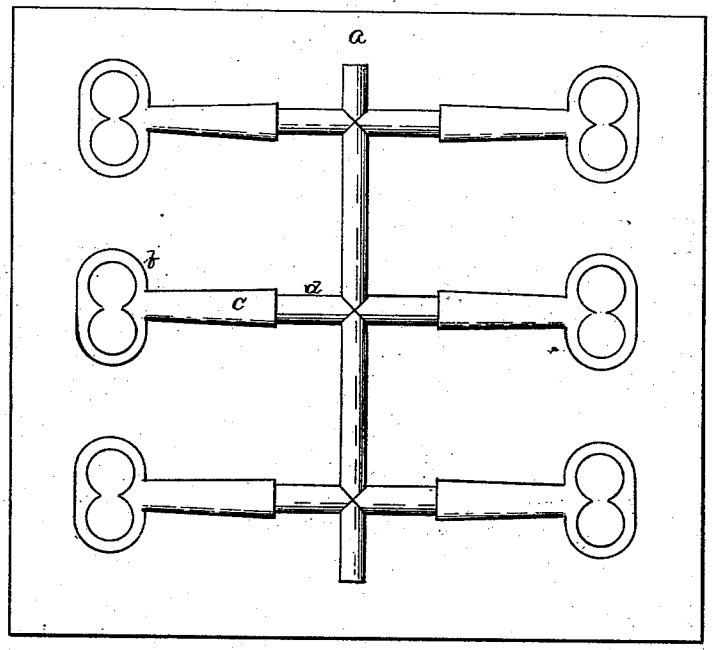



Fig. 1.

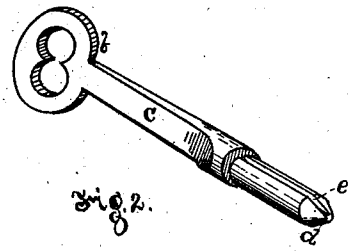



Fig. 2.

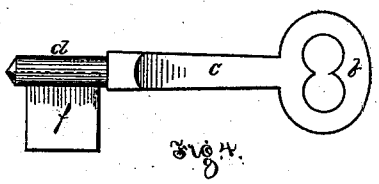



Fig. 4.

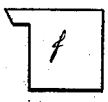



Fig. 3.

Witnesses:
J. W. Friend
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Inventor.
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N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

PHILIP MATHES, OF IDLEWOOD, ASSIGNOR TO JACOBUS & NIMICK MANUFACTURING COMPANY, OF PITTSBURG, PENNSYLVANIA.

## MANUFACTURE OF KEY-BLANKS.

SPECIFICATION forming part of Letters Patent No. 225,227, dated March 9, 1880.

Application filed December 11, 1879.

*To all whom it may concern:*

Be it known that I, PHILIP MATHES, of Idlewood, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Manufacture of Key-Blanks; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 illustrates the method of casting the bow, stem, and shank of the key in one piece. Fig. 2 is a view of the bow, stem, and shank of the key after the bow and stem have been stamped to flatten and stiffen them and the shank grooved for the reception of the steel bit. Fig. 3 is a view of the bit, and Fig. 4 is a view of the key complete.

Like letters of reference indicate like parts in each.

My invention has for its object the production of a cheap, strong, and handsome key for fine locks; and to this end it consists in casting the bow, stem, and shank of malleable iron, then flattening and compacting the bow and stem under a hammer-die to strengthen and stiffen them, then grooving the shank for the bit, and, lastly, securing a steel bit in the groove by riveting or soldering.

In this way I am enabled to make a key of this class with less skilled labor than heretofore was necessary, and, without increase of weight or amount, to use an inferior metal for the bow and stem, which require strength and rigidity. The bit, being exposed to wear, requires to be made of steel.

To enable others skilled in the art to make use of my invention, I will now describe it in detail.

I cast the bow, stem, and shank of the key of malleable iron in one piece in a mold, *a*, which, being provided with a number of prints, will form a number of key-blanks at each casting. The blanks are then removed, cleaned, and turned in the usual way. The bow and stem are parts which require strength, as the strain of shooting the bolt comes upon them.

The malleable casting as it comes from the mold has not the requisite strength for a good key, being small in cross-section and loose in texture. I therefore place it under a drop or hammer die of suitable shape, and by a sufficient number of blows flatten, widen, and compact the bow *b* and stem *c*. This adds greatly to its strength, and enables me to use an inferior metal for these parts without increasing their size and weight or destroying the form or appearance of the key. I then groove the shank *d*, as at *e*, and into this groove I insert a steel bit, *f*, of suitable shape, and secure it there by riveting or soldering. The key is then finished for the market in the usual way. The result is a cheap, strong, and handsome key. The bow and stem may be flattened after grooving the shank or after the insertion of the bit, if desired.

What I claim as my invention, and desire to secure by Letters Patent, is—

The method herein described of forming key-blanks, which consists in first casting the bow, stem, and shank with shoulder of malleable iron and in a single piece, swaging the stem or stem and bow to stiffen and compact the same, grooving the shank, and inserting a steel bit therein, substantially as specified.

In testimony whereof I, the said PHILIP MATHES, have hereunto set my hand.

PHILIP MATHES.

Witnesses:
JAMES H. PORTE,
T. B. KERR.