H. H. Elwell,

Key.

No. 105,322. Patented July 12. 1870.

fig. 1

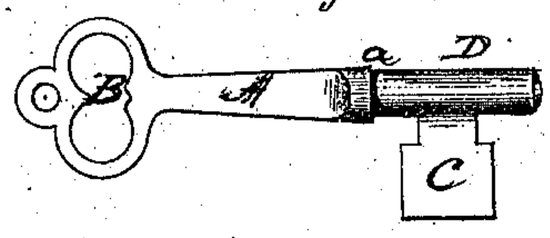


fig. 2.

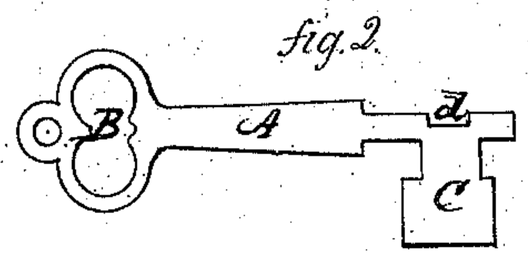
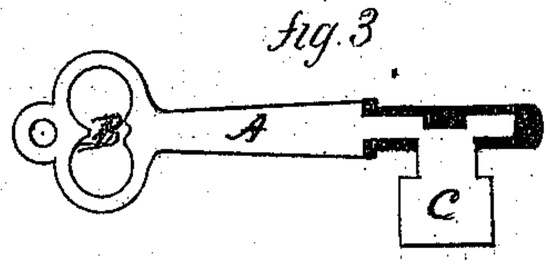


fig. 3



Witnesses
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HENRY H. ELWELL, OF SOUTH NORWALK, CONNECTICUT.

Letters Patent No. 105,322, *dated July* 12, 1870.

IMPROVEMENT IN KEYS.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, HENRY H. ELWELL, of South Norwalk, in the county of Fairfield and State of Connecticut, have invented a new Improvement in Door-Keys; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent in—

Figure 1, the key complete;

Figure 2, the blank, preparatory to casting the spindle thereon; and in

Figure 3, a section through the cast portion of the spindle.

This invention relates to the construction of a flat steel key to operate in that class of locks which is fitted for a key with a round spindle, the object being to make the key lighter than the keys in common use for this class of locks.

The invention consists in first forming a blank for the key from sheet metal, with the bow, spindle, and bit in a single piece, that portion of the spindle to which the bit is attached, and which forms the bearing, made less in width than that required for the diameter of the spindle when complete, then placing the blank in a suitable mold, and pouring molten metal into the mold around that portion of the stem, to enlarge and round the bit end of the spindle, so as to form a bearing for the support and turning the key in the lock.

Fig. 2 represents the blank.

A is the spindle, B the bow, and C the bit, all in one piece, and struck from sheet metal in substantially the form seen in fig. 2.

That portion of the spindle which is to form the bearing upon which the key turns, I make less in width than the diameter required for the spindle when complete, and on the side opposite the bit I cut a notch or recess, *d*, the purpose of which is more fully hereafter explained. I then place the sheet-metal blank into a mold prepared to receive it, and so as to leave a space around the spindle end of the key, as denoted in solid black, fig. 3. Then into this space in the mold any suitable metal, as brass or iron in a molten state, is poured, to enlarge or shape the bearing end of the key into the usual form for keys for this class of locks.

To prevent the molten metal from "blowing" around the bit, I make the notch *d* upon the back side, so as to supply a larger quantity of metal at that point, which prevents "blowing" or "cold-short." This notch is not essential, but it insures a successful cast, which would otherwise be uncertain.

Removed from the mold, the spindle D, as seen in fig. 1, is finished in the usual manner, with the shoulder *a*, and the bit is fitted for the guards and tumblers, also in the usual manner.

Thus I produce a flat key, fitted for use in common locks, at less expense than common keys are produced, as the blank is struck from sheet metal by suitable dies, so that no finishing is required, and the casting of the spindle in prepared molds costs much less than molding and casting common keys, and the key itself, when complete, is very much lighter and stronger.

I do not wish to be understood as broadly claiming a flat-metal key with an enlarged spindle, as such is not new; but

I do claim as my invention—

As an article of manufacture, a flat metal key-blank, having the spindle D cast thereon in the manner substantially as described.

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Witnesses:

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