J. SCHADE.

KEYS FOR LOCKS.

No. 189,503. Patented April 10, 1877.

Fig 1.

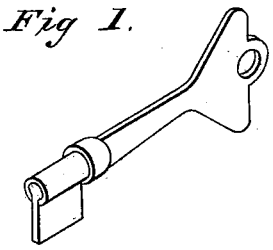


Fig 2.

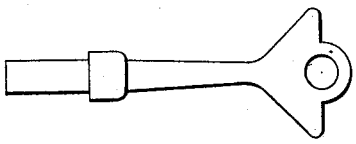


Fig 3.

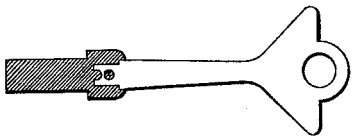


Fig 4.

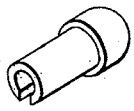
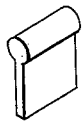


Fig 5.



WITNESSES.

Wm A. Skinkle.

F. Stick

INVENTOR

John. Schade.

By his Attorneys.

Baldwin, Hopkins & Peyton.

UNITED STATES PATENT OFFICE.

JOHN SCHADE, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE YALE LOCK MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN KEYS FOR LOCKS.

Specification forming part of Letters Patent No. **189,503**, dated April 10, 1877; application filed March 13, 1877.

To all whom it may concern:

Be it known that I, JOHN SCHADE, of Stamford, in the county of Fairfield and State of Connecticut, have invented certain Improvements in the Manufacture of Keys, of which the following is a specification that will enable persons skilled in the art to make and use the same, reference being had to the accompanying drawings.

My improvements relate to composite keys of that class in which the bow and shank are stamped from one piece of sheet metal, and afterward secured to the stem or spindle which carries the bit; and they consist in an improved construction of such a key, as hereinafter specifically set forth and claimed.

In the drawings, Figure 1 is a perspective view of my key complete. Fig. 2 is a view of the bow and stem united. Fig. 3 is a longitudinal section through the stem, showing the mode of uniting it to the shank. Fig. 4 is an end view of the stem bored and slotted to receive the bit. Fig. 5 is a view of the bit detached.

In the manufacture of my key, I first stamp out the bow and shank from a single piece of sheet-steel. I then bore one or more holes through the small end, place it in a suitable mold, and cast upon it a cylindrical stem, usually of brass. The molten metal surrounds and enters the holes in the ends of the shanks, and when cooled the shank and stem become practically riveted very securely together, as shown in the sectional view, Fig. 3. Instead of boring holes, notches might be formed in the shank to receive the cast metal. The next step is to bore a hole longitudinally in the end of the stem, and saw open one side of it, forming a slotted recess for the reception of the bit, as indicated in Fig. 4. The bit, Fig. 5, made from rolled or drawn stock, is then inserted and secured in the stem, and the key finished in the usual way.

I do not claim the tenon on the end of the shank shown in Fig. 3 as my invention, nor the recess in the end of the tenon.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A composite key formed of a sheet-metal shank and bow, a cast-metal stem, and a bit secured in a slotted recess in the stem, substantially as described.

2. The combination of a sheet-metal key shank and bow, unprovided with a bit, and a solid cast-metal stem, unprovided with a bit, substantially as and for the purpose described.

3. The process of forming a key, substantially as described, consisting in stamping out the bow and shank, casting the stem upon it, and then forming a slotted recess in the stem, and securing the bit within it.

In testimony whereof I have hereunto subscribed my name.

JOHN SCHADE.

Witnesses:

WALTER FULLER,

E. D. OGDEN, Jr.