

(No Model.)

G. B. COWLES.
MANUFACTURE OF KEY BLANKS.

No. 505,440.

Patented Sept. 26, 1893.

Fig. 1.

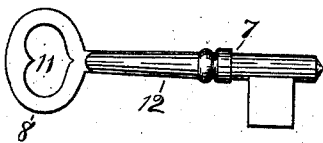


Fig. 2.

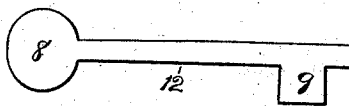


Fig. 3.

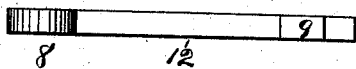


Fig. 4.

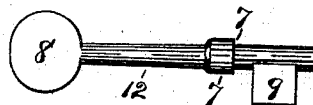


Fig. 5.

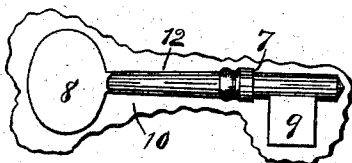
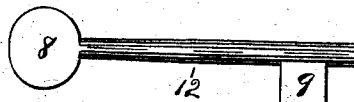


Fig. 6.



Witnesses.

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MANUFACTURE OF KEY-BLANKS.

SPECIFICATION forming part of Letters Patent No. 505,440, dated September 26, 1893.

Application filed February 27, 1893. Serial No. 463,826. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. COWLES, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in the Manufacture of Key-Blanks, of which the following is a specification.

My invention relates to improvements in the manufacture of wrought metal key blanks, and the objects of my improvement are economy in construction and to produce an efficient solid key blank.

In the accompanying drawings: Figure 1 is a side elevation of one of my finished key blanks. Fig. 2 is a side elevation of a blank for making the same as cut from a piece of sheet metal. Fig. 3 is an edge view of the same. Fig. 4 is a side elevation of the result of the next step in the formation of my key blank. Fig. 5 is a side elevation of the succeeding step, and Fig. 6 is a side elevation of an intermediate sub step which may be practiced if desired.

I first cut the blank, Figs. 2 and 3 from a sheet of metal preferably of wrought steel, the same being best cut by means of dies which cut the blank substantially in the form shown in the said Figs. 2 and 3, thereby making a blank which is substantially of uniform thickness from end to end. I prefer to next place this blank in suitable gripping dies of an upsetting machine, grasp the same with sufficient lateral pressure to somewhat round the stem and then upset the blank to form the shoulder 7, Fig. 4. I next strike this blank,

Fig. 4, in suitable dies to complete the general form of the key blank, flattening the bow 8 and bit 9. I then by means of suitable dies, trim off the fin or surplus metal 10 and punch the hole 11 in the key bow, thereby changing the form from that shown in Fig. 5 into that of the finished key blank shown in Fig. 1. While I prefer to round the stem of the key 12 in the same machine and by substantially the same operation with the act of upsetting the shoulder 7, it is evident that this step of the process, the result of which is shown in Fig. 4, may if desired be practiced by first performing the sub-step of rounding the shank 12 without upsetting it as shown in Fig. 6, and then subsequently upsetting to form the enlargement for the shoulder shown in Fig. 4. By my process, I produce a solid key blank with but few operations of a simple character and thereby I produce an efficient and durable key blank at a small cost.

I claim as invention—

That improvement in the manufacture of key blanks which consists in cutting the blanks into an approximate form from sheet metal, rounding up the stem and forming the shoulder enlargement therein by means of lateral and endwise pressure, then striking the same in dies and removing the surplus metal, substantially as described and for the purpose specified.

GEORGE B. COWLES.

Witnesses:

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