V. Draper,

Making Watch-Keys,

No. 69,547. Patented Oct. 8, 1867.

Fig 1

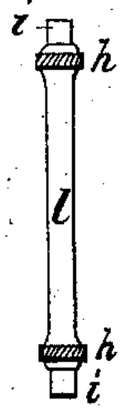


Fig 2

Fig 3.

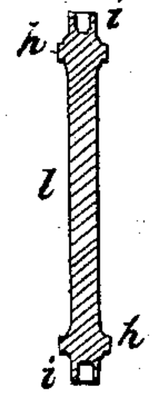


Fig 4

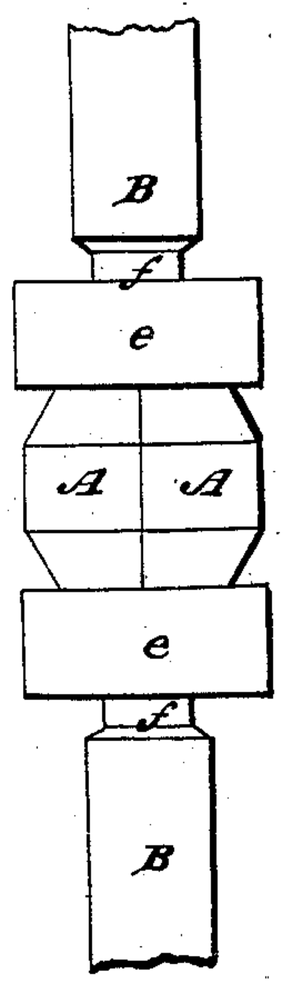


Fig 5.

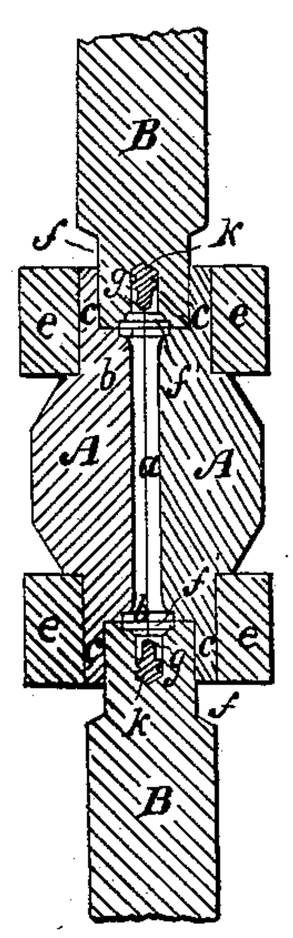


Fig 7

Fig 8

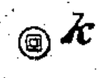


Fig 9.

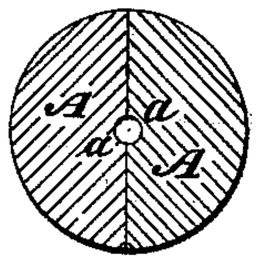
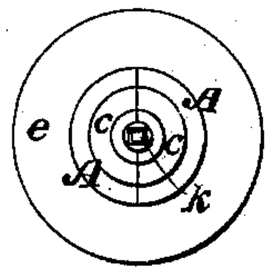


Fig 6



WITNESSES:

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VIRGIL DRAPER, OF NORTH ATTLEBORO, MASSACHUSETTS, ASSIGNOR TO OSCAR M. DRAPER, OF SAME PLACE.

Letters Patent No. 69,547, *dated October* 8, 1867.

IMPROVED DEVICE FOR THE MANUFACTURE OF WATCH-KEYS.

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

TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME:

Be it known that I, VIRGIL DRAPER, of North Attleboro, in the county of Bristol, and State of Massachusetts, have made a new and useful invention having reference to Watch-Keys; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a side view,

Figure 2 an end view, and

Figure 3 a longitudinal section of a duplex watch-key made in accordance with my invention.

Figure 4 is a side elevation, and

Figure 5 a longitudinal section of the shank-holder and dies employed in the formation of such key.

Figure 6 is a top view of the shank-holder and its upper annulus.

Figure 7 is a side view, and

Figure 8 a lower end view of one of the cavity dies.

Figure 9 is a horizontal section taken through the middle of the shank-holders.

The watch-key, shown in figs. 1, 2 and 3, has a shank, *l*, two bulbs or heads *h h*, and two winding pipes or socketed projections *i i*, they being arranged as represented in such drawings. Each of the pipes or socketed projections is to be made so as to receive within it and fit to the prismatic end of the arbor of a watch, and, consequently, has a prismatic cavity made in each end of it, the head at either end serving to enable a person to revolve the key when the pipe next the opposite head is in use. Each of these keys I make from a piece of metallic wire, of suitable length, and by means of dies or mechanism to be hereinafter explained.

The first part of such mechanism is the shank-holder, which consists of two separate blocks of steel A A, (see figs. 6 and 9,) each of which is formed with a semi-cylindrical passage, *a*, extending through its face, and terminating in two semi-dies *b b*, each of which opens into one of two semi-cylindrical chambers, *c c*, formed in the block. Each block A has two semi-cylindrical necks, on which, when the two blocks are placed one against the other, annuli or rings *e e* are arranged or driven for the purpose of holding the two blocks A A together. A plunger, B, provided with a cylindrical neck, *f*, having a diameter corresponding with that of each chamber, *c*, is formed with a concave die, *f'*, and a cylindrical or slightly tapering recess or die, *g*, leading from the said die *f'*. The dies *b* and *f'* are for forming the heads *h h*, (see figs. 1, 2 and 3,) of the watch-key. The dies or parts *g* are for forming the pipe projections *i i* of such key, and also to hold the movable dies *k k* by which the prismatic cavities or recesses of the pipe projections are formed. These dies *k k*, are made with prismatic shanks, each of which is pointed or made pyramidal at its end. The grooves *a a* of the blocks A A, and which may more properly be termed the shank-holders, are to hold the piece of wire firmly while it is in the act of being upset and headed and otherwise formed.

In using the dies, a piece of round wire of the proper length, and having a diameter equal to that of the shank-holders, and each of its two ends bored into a short distance, is to be placed within the shank-holders or grooves *a a*, after which the pieces A A are to have the annuli *e e* driven on their necks.

Next, by means of a press, the two plungers B B, having the cavity dies *k k* in them, are to be forced into the chambers *c c* and against the two opposite ends of the rod or blank, so as to upset them and form the heads, the pipe projections, and the prismatic cavities thereof. After this the heads may be milled and otherwise finished, the shank turned down, and a suspension clasp put on the middle of the shank of the duplex key thus made.

The duplex watch-key thus made will have two pipes, and it will also have two heads, by the aid of one of which it may be revolved when either of the pipes is used for winding or revolving a watch-arbor. It will often be found convenient to have a key provided with two pipes of the same size or different sizes of cavities. By putting dies of suitable form in the cavities *g g*, or by using plungers made without such cavities, but with the dies *f f*, double-headed watch-chain bars may be made from wire and with the shank-holding grooves *a a* and the dies *b b*. The article made by the dies, before being finished, is usually termed the "bar" or the "blank," as the case may be.

I claim the combination of the shank-holders, the dies for forming the heads, those for forming the pipe projections, and those for forming the cavities in such projections, as set forth.

VIRGIL DRAPER.

Witnesses:

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