W. HAINES.

Adjustable Watch-Key.

No. 209,340. Patented Oct. 29, 1878.

Fig. 1.

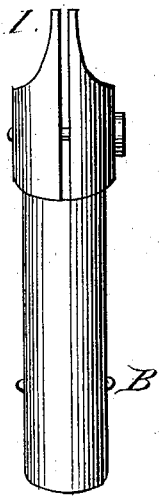

Fig. 2.

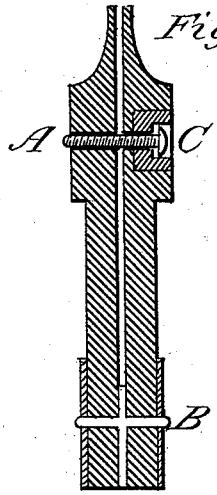

Fig. 5.

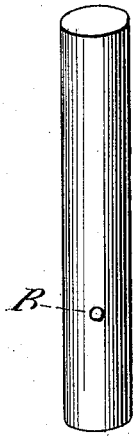

Fig. 3.

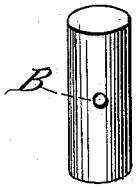

Fig. 6.

Fig. 4.

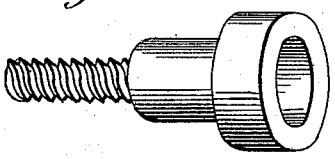

Fig. 7.

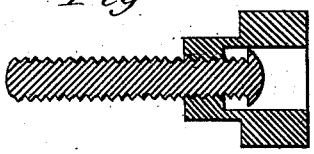

Fig. 8.

Attest:

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Inventor.

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UNITED STATES PATENT OFFICE.

WILLIAM HAINES, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN ADJUSTABLE WATCH-KEYS.

Specification forming part of Letters Patent No. **209,340**, dated October 29, 1878; application filed May 10, 1878.

To all whom it may concern:

Be it known that I, WILLIAM HAINES, of Philadelphia, in the county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in the Manufacture of Adjustable Watch-Keys, of which the following is a specification:

Heretofore such keys have been made in most inventions for this purpose dependent on the strength of the jaws only for winding the watch, having no fastener near the point of action to prevent the jaws twisting on each other. (Patents November 12, 1867, April 13, 1869, and July 11, 1871.)

I have taken into consideration, also, the fact that a patent for an adjustable watch-key was issued to me on the 16th day of April, in the current year, which device consisted of a right-and-left-hand movable screw, in connection with a pinion and gear-wheel for opening and closing the same; but the invention for which I now apply for a patent is a simpler and cheaper form of adjustable key, with a stationary screw and movable nut; and I claim that this invention makes the jaws of the key perfectly rigid in the action of winding the watch; and it has also the advantage, from its peculiar construction, of the jaws standing parallel to each other when open to their widest extent, and when screwed down to wind a smaller square it is always narrower at the point than any other part, thus giving a most perfect gripe of the winding-square, and which cannot slip when properly set to size.

In the accompanying drawings, in which similar letters of reference indicate the parts, Figure 1 is a perspective view of the key. Fig. 2 is a sectional view of the key, the jaws of which are made from two half-round pieces of steel, made small and tapered into the shape of a watch-key pipe at their upper ends, and made one-half thinner than the original thickness of the steel at their lower ends. Each jaw is milled out one-half square at its point on the flat face of the steel, sufficiently long and deep to receive a watch-winding square. The jaws are set with their flat faces opposite each other, each jaw having a hole drilled through it at its upper end at A. Said holes are at right angles with the flat faces of the steel, and one of them is tapped to receive a screw, which screw is placed there and riveted tightly in its place, and so made a fixture. The other jaw has its hole large enough to work freely over and along said screw, and is also countersunk at its outer side to receive the small part of screw-nut, Fig. 4, and both jaws are drilled at their lower ends, at B, to receive a rivet, which shall fasten them into the tubes, Figs. 5 and 6.

Fig. 3 is an oblong piece of sheet metal, with a hole drilled through at it B, to be placed between the jaws at their lower ends to keep them asunder parallel, when the points of the key are at their greatest distance apart.

Fig. 4 shows a nut and screw for closing the jaws to any required size to wind a watch, and which is placed at A C, Fig. 2.

Fig. 5 is a large tube of metal, or other substance suitable for a handle for the key, into which the lower part of the jaws, Fig. 2, are placed, said jaws having previously been made separate by means of the piece of metal, Fig. 3, having been placed between them and bound together outside by the small tube, Fig. 6, being driven tightly over them.

Fig. 6 is a perspective view of the small metal tube referred to in connection with Fig. 5, and fits over the lower part of the jaws tightly, and inside of the large tube also tightly. It is made with a rivet-hole at B, to fasten it, the jaws, and the metallic piece, Fig. 3, into the large tube with one rivet through the whole of them.

Fig. 7 is a sectional view of the nut and screw referred to in Fig. 4, and it will be seen the screw has a head on it to prevent the nut coming out of place.

Fig. 8 is a front view of the point of the key-jaws, showing its two half-square millings to receive the watch-winding square.

What I claim as my invention is—

The combination and application of a nut and fixed screw, and the metal piece, Fig. 3, to be placed between the jaws at their lower ends, for the opening and closing of a watch-key, in the manner described.

WILLIAM HAINES.

Witnesses:

BENTON O. SEVERN,

W. R. SCOTT.