(No Model.)

B. F. FUCHS.

TUNING HAMMER.

No. 458,568. Patented Sept. 1, 1891.

Fig. 3.

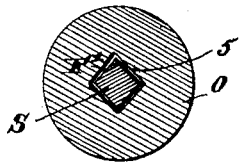


Fig. 1.

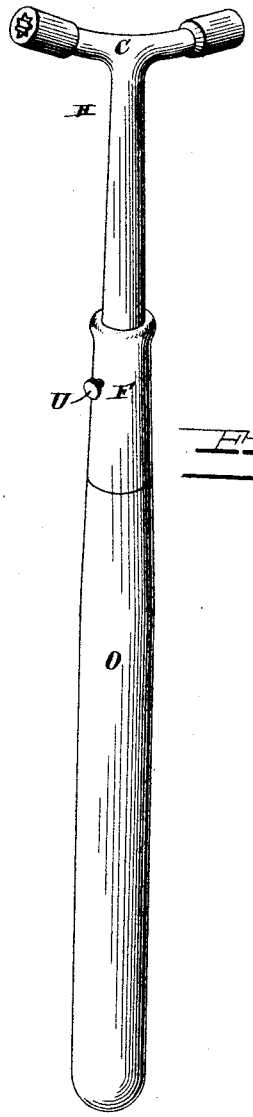


Fig. 2.

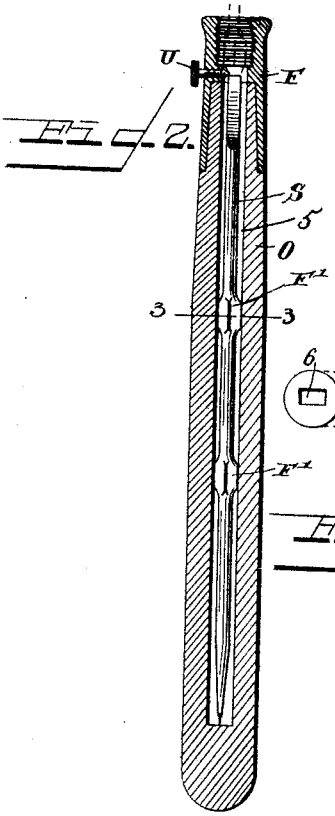


Fig. 4.

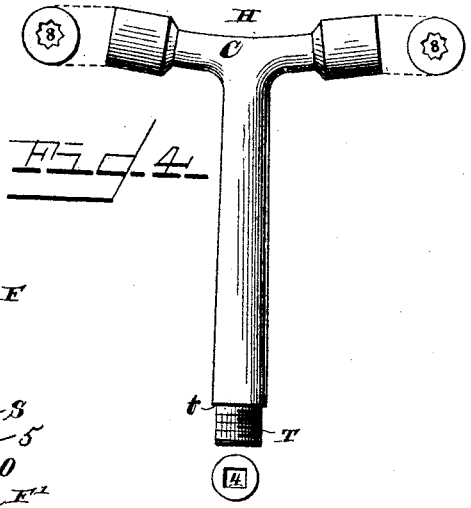
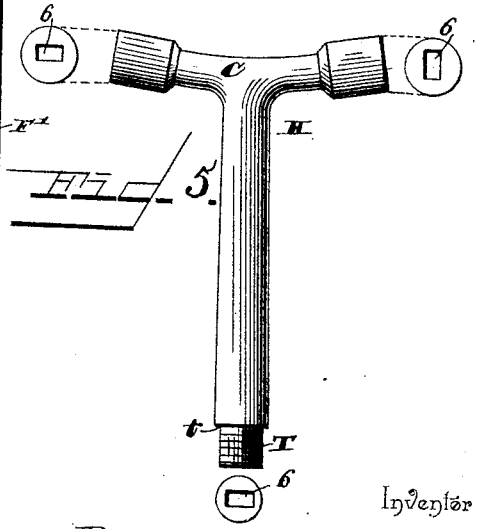


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

BENJAMIN F. FUCHS, OF TIGER MILL, TEXAS.

TUNING-HAMMER.

SPECIFICATION forming part of Letters Patent No. 458,568, dated September 1, 1891.

Application filed March 4, 1891. Serial No. 383,774. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. FUCHS, a citizen of the United States, residing at Tiger Mill, in the county of Burnet and State of Texas, have invented a new and useful Tuning-Hammer, of which the following is a specification.

This invention relates to tuning implements for pianos; and the object of the same is to effect certain improvements therein.

To this end the invention consists of a tuning-hammer of a specific construction, substantially as hereinafter more fully described and claimed, and as illustrated on the sheet of drawings, wherein—

Figure 1 is a perspective view of this hammer. Fig. 2 is a central longitudinal section of the handle, showing the screw-driver in full lines as housed and in dotted lines as in operative position. Fig. 3 is a cross-section of Fig. 2 on the line 3 3. Figs. 4 and 5 are elevations of slightly different forms of heads for this handle.

Referring to the said drawings, the letter O designates the operating-handle, which is tubular, as shown in Fig. 2, the interior bore being closed at one end, but opening at the other end through the ferrule F, and within this handle is located a screw-driver S, having squared portions F′ loosely fitting the similarly-shaped bore of the handle, as seen in Fig. 3. The opposite ends of this screw-driver are flattened, as shown, so as to produce screw-drivers of different sizes and strengths. In use the screw-driver is drawn out, as shown in dotted lines, and the set-screw U through the ferrule is turned so as to bear upon the screw-driver and hold it in proper position. At other times the tip of this set-screw projects into the bore of the handle, as seen in full lines, and prevents the screw-driver from falling out.

The letter H designates the head of my improved hammer, which is of T shape, as is usual in devices of this character, and the end of the shank of this head is threaded, as at T, so that it may be screwed into the ferrule F, a shoulder *t* adjacent the threads abutting against the end of the ferrule. Heretofore considerable difficulty has been experienced in devices of this character, owing to the fact that when it was desired to tune certain kinds of pianos where there was only a limited amount of room for the movement of the outer end of the handle the operator could not give the wire-holding screws a complete quarter-revolution before disengaging the head and re-engaging it for the next quarter-revolution. In order to overcome this difficulty the head has been provided with holes in the ends of its cross-bar C, which have been of the shape of an eight-pointed star—that is, two concentric squares whose corners are located one-eighth of a circle apart; but even this construction is found to possess certain objections which I have sought to overcome.

In the ends of the cross-bar C of the head H (shown in Fig. 4) are holes 8, each of which has the contour of an eight-pointed star; but these holes are so set relatively to the shank of this head that the points of one would come between the points of the other if the shank were rotated on its axis. With this construction when the tuner engages one of the holes over a wire-holding screw and commences to turn it, he has only to give it one-sixteenth of a complete revolution before he can disengage this hole from the screw, rotate the handle O on its axis so that the other hole is above the screw, move the free end of the handle to the point of starting, and engage this new hole with the screw-head so as to turn it further.

It is well known in the art of piano-tuning that it is highly desirable to have a long handle to the tuning-hammer in order that the turning of the wire-holding screws may be done with great nicety and fineness, and this is permitted by a device of the above construction. It is obvious that the end of the handle must move through only one-half of the space when there are sixteen positions for engaging the wire-holding screw that it would when there were only eight positions. It is also well known that it is highly desirable that the operator shall have a place to rest his forearm in order that a wire-holding screw which may stick slightly will not be turned suddenly and to a too great extent, and obviously he can have such a rest for his forearm with this hammer where it would often be impossible with one having only eight positions.

In the threaded end of the head H is a square hole 4, and the head may be detached from the handle and used as an ordinary key by

putting this square hole over the wire-holding screw when the latter is to be given several complete revolutions and when the shape of the piano will permit. The head H (shown in Fig. 5) has oblong holes 6 in the ends of its cross-bar C, but obviously these holes are set at exact right angles to each other. This head is useful for turning screws having flattened heads, as are sometimes used in pianos. The threaded end of this head is also provided with a similarly-shaped hole 6 for the purpose of that numbered 4 and described above.

This tool is preferably made of aluminum suitably hardened and finished in any preferred manner, although I do not confine myself to this material.

Various changes in the details of construction may be made without departing from the spirit of my invention.

What is claimed as new is—

1. The combination, with a handle having a central square hole closed at its upper end, a ferrule around its lower end adapted to receive a tool, and a set-screw through said ferrule, its tip normally projecting into said bore, of a screw-driver comprising a body having squared portions loosely fitting within said bore and flattened ends of different sizes, as and for the purpose set forth.

2. In a tuning-hammer, the combination, with a handle having a ferrule provided with a threaded opening, of a head of T shape having holes in the ends of its cross-bar, and the end of its shank adapted to fit the wire-holding screws, a shoulder on said shank near its lower end, and threads beyond said shoulder engaging those in the ferrule, as and for the purpose set forth.

3. The herein-described tuning-hammer, comprising a handle and a T-shaped head, the latter having holes in the ends of its cross-bar which are set at angles to each other, as and for the purpose set forth.

4. The herein-described tuning-hammer, comprising a handle and a T-shaped head, the latter having in the ends of its cross-bar holes of the contour of an eight-pointed star, said holes being set so that the points of one are opposite positions between the points of the other, as and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

BENJAMIN F. FUCHS.

Witnesses:
WALTER GIESECKE,
F. STRUVE.