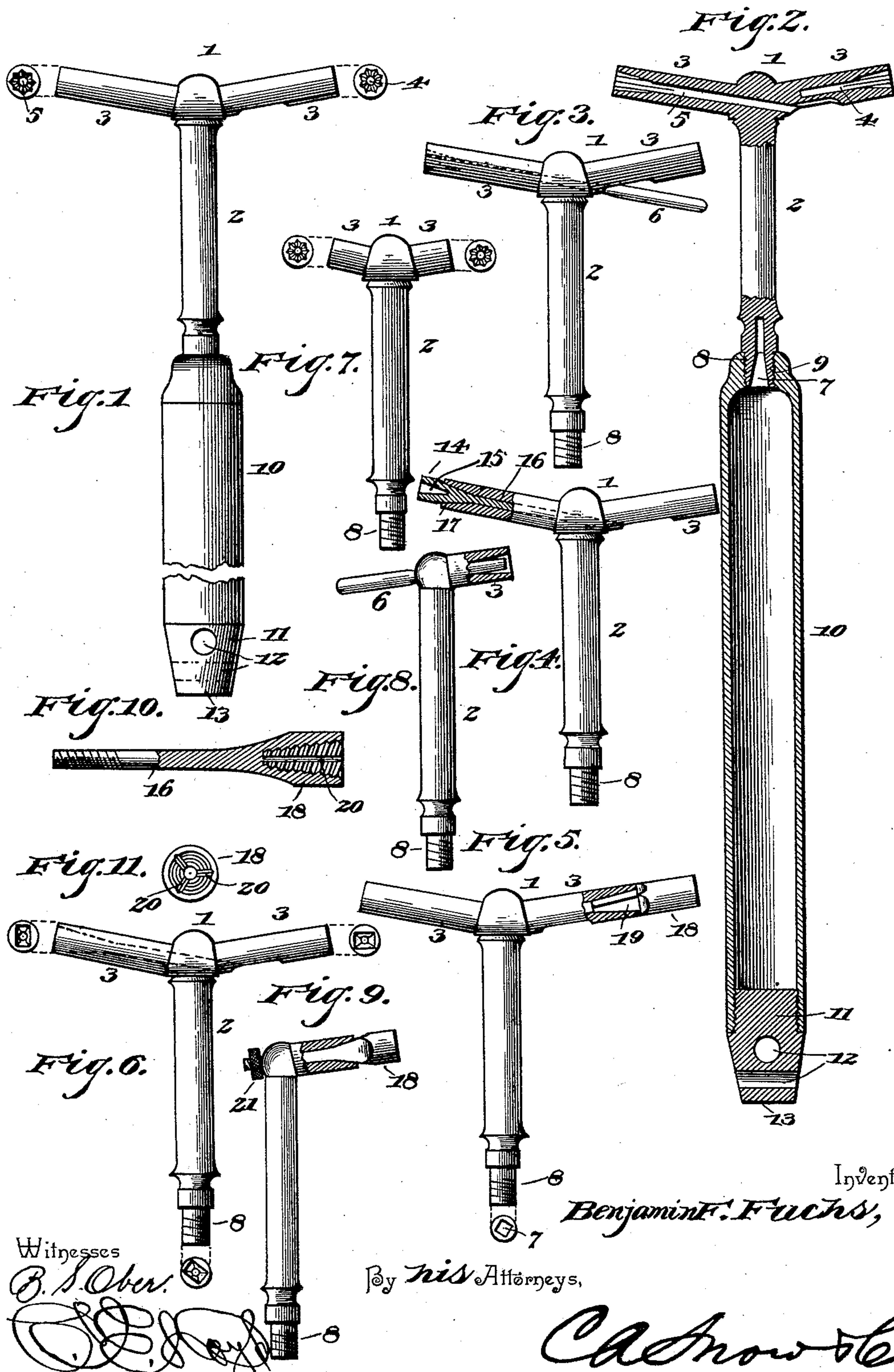


(No Model.)

B. F. FUCHS.  
PIANO TUNING HAMMER.

No. 528,154.

Patented Oct. 30, 1894.



Inventor

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Witnesses

B. S. Ober.

By his Attorneys,

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# UNITED STATES PATENT OFFICE.

BENJAMIN F. FUCHS, OF MARBLE FALLS, TEXAS.

## PIANO-TUNING HAMMER.

SPECIFICATION forming part of Letters Patent No. 528,154, dated October 30, 1894.

Application filed May 10, 1894. Serial No. 510,771. (No model.)

*To all whom it may concern:*

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

My invention relates to tuning implements for pianos, and has for its object to provide a combination tool adapted for turning, driving, extracting, and otherwise manipulating tuning-pegs and other parts of a piano-action, whereby one tool is capable of performing the functions of a series of ordinarily independent instruments.

Further objects and advantages of the invention will appear in the following description and the novel features thereof will be particularly pointed out in the appended claims.

Referring to the drawings:—Figure 1 is a side view of a piano tuning-hammer embodying my invention. Fig. 2 is a longitudinal central section of the same. Fig. 3 is a side view of the hammer-head, showing the driving-pin arranged in the operative position. Fig. 4 is a similar view, showing a removable tip attached to one of the arms of the head. Fig. 5 is a similar view, showing the peg-extracting socket attached to one of the arms. Fig. 6 is a view of a head provided with oblong sockets. Fig. 7 is a view of a head having arms of reduced length for operating in positions where a minimum amount of space is provided. Fig. 8 is a view of a head having a single lateral arm with a peg-driving pin arranged therein. Fig. 9 is a view of the single armed head shown in Fig. 8 with the peg-extractor attached thereto. Fig. 10 is a detail sectional view of a peg-extractor. Fig. 11 is an end view of the same.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates the hammer-head having a shank 2 and one or more oppositely disposed lateral arms 3, which are inclined upward from their points of junction with the shank, whereby the axes of the arms are out of alignment. These arms are provided with annular peg-receiving sockets 4, and communicating with the sockets of one of the arms of the

head is an axial bore 5, adapted for the reception of a peg-driving pin 6. The shank of the head terminates in a peg-receiving socket 7, similar to those which are formed in the ends of the lateral arms, and in addition thereto is exteriorly threaded, as shown at 8, to fit in a threaded opening 9 in one end of the hollow handle 10. The opposite end of said handle is fitted with a removable plug 11 threaded therein and having a plurality of transversely disposed openings 12 of different sizes, the function of these openings being to engage the bolts of the piano-action for the purpose of bending the same, as will be understood by those skilled in the art to which this invention appertains. The extremity of this plug forms a driving head 13 which may be employed to drive pegs or other parts when it is impossible to use a hammer of the ordinary shape and construction.

The above description of the hammer-heads applies to all of the forms or shapes illustrated in the drawings except in this respect that the short armed head, shown in Fig. 7, is not provided with the axial bore for the reception of a driving-pin, but it is obvious that if desired this head as well as the others may be so constructed.

The form of head which is shown in Figs. 1, 2 and 3 is preferably provided with star-shaped sockets in its arms, as fully described in my former patent, No. 458,568, granted September 1, 1891, in which the points of one socket are opposite the intervals between the points of the other socket, whereby when the space in which the tool may be operated is limited a peg may be turned a sixteenth of a revolution at each movement and thus brought into position for engagement by the socket of the other arm.

It will be understood that in using the driving-pin, the socket, with which communicates the bore for receiving the driving-pin, is engaged with the pin to prevent the latter from turning backward or loosening during the driving operation, and as the pin is of sufficient length to project at its upper or rear end beyond the bore, said upper or rear end may be struck by a hammer or similar device.

In Fig. 4 I have shown the head provided with a removable tip 14, having a peg-receiving socket 15 of a different size from those



which are formed in the arms of the head, said tip being provided with a stem 16 having an angular portion 17, of such size and shape as to fit snugly in the socket in one arm of the head. By this arrangement I am enabled to change the size of the sockets to suit the pegs of the particular piano to be tuned. It will be understood that any number of these removable tips may be employed, but I have shown but one in the drawings, as this will be sufficient to illustrate the members and the manner of attachment to the hammer-head.

In Fig. 5 I have shown a peg-extracting socket 18 also provided with an angular stem 19 to fit in the socket in one of the arms of a hammer-head. It will be understood that this also is a removable tip, and is provided with substantially the same means for attachment to a head. The bore of the extracting socket is provided with a left hand thread cut at intervals by the grooves 20 to form sharp points for engagement with the sides of a broken or injured peg to facilitate the removal of the latter.

In Fig. 9 I have shown a peg-extracting socket of slightly different construction from that just described in the respect that its stem is extended, as is the tip 14, and is threaded at its extremity for engagement with a nut or tap 21.

It will be understood that when the removable tips are used in connection with the heads having arms of the ordinary length, the nut or tap cannot be applied and is not necessary to insure the proper operation of the tool, but when the tip is applied to the single-armed head, shown in Fig. 8, it is desirable to apply the nut, as shown in Fig. 9, to prevent accidental displacement. It will be understood also that the extracting socket shown in Fig. 5 may be provided with an extended stem, but is preferably provided with the short tapered angular stem 19, as described, whereby it may be fitted in those peg-receiving sockets which are not in alignment with the bores provided for the reception of the driving-pin.

From the above description it will be understood that either of the heads may be applied to the handle to suit the character of the work to be performed; that peg-driving pins are provided for use in connection with the heads, whereby the operator may hold

the peg from turning while the pin is driven firmly to place; and that a series of removable tips are provided for attachment to the heads, said tips being constructed respectively with peg-receiving and extracting sockets.

The removable plug in the end of the handle enables the above described tips, driving-pins, and other small articles employed in this art to be stored in the cavity of the handle for transportation.

Having described my invention, what I claim is—

1. The combination of a hollow handle provided at one end with a threaded opening, a removable plug threaded in the opposite end of the handle provided with transversely disposed openings and terminating in a driving-head, and a hammer-head having a shank threaded for engagement with the threaded opening, substantially as specified.

2. A tuning hammer having a lateral arm terminating in a peg-receiving socket and provided with an axial bore communicating with said socket for the reception of a driving-pin, substantially as specified.

3. A tuning hammer having lateral oppositely disposed arms terminating in peg-receiving sockets and arranged out of alignment with each other, one of said arms being provided with an axial bore for the reception of a driving-pin, substantially as specified.

4. A tuning hammer having arms provided with peg-receiving sockets, and removable tips provided with stems to fit in said sockets, substantially as specified.

5. A tuning hammer having arms provided with peg-receiving sockets and communicating axial bores, and removable tips provided with stems having angular portions to engage the peg-receiving sockets, and reduced extensions to fit in said communicating bores, substantially as specified.

6. The combination with a tuning hammer, of a peg-extracting socket having a threaded bore, and grooves intersecting the threads, substantially as specified.

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

BENJAMIN F. FUCHS.

Witnesses:

W. H. BADGER,  
W. W. GARDNER.