J. F. BURKE.

TOOL HANDLE ATTACHING MEANS.

APPLICATION FILED JULY 30, 1918.

1,305,688. Patented June 3, 1919.

Fig. 1.

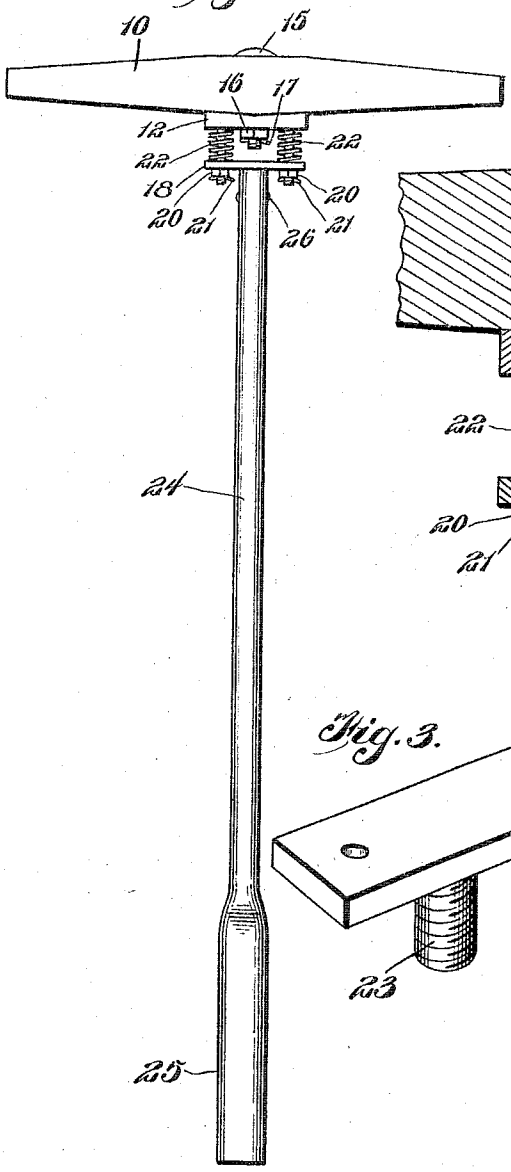


Fig. 2.

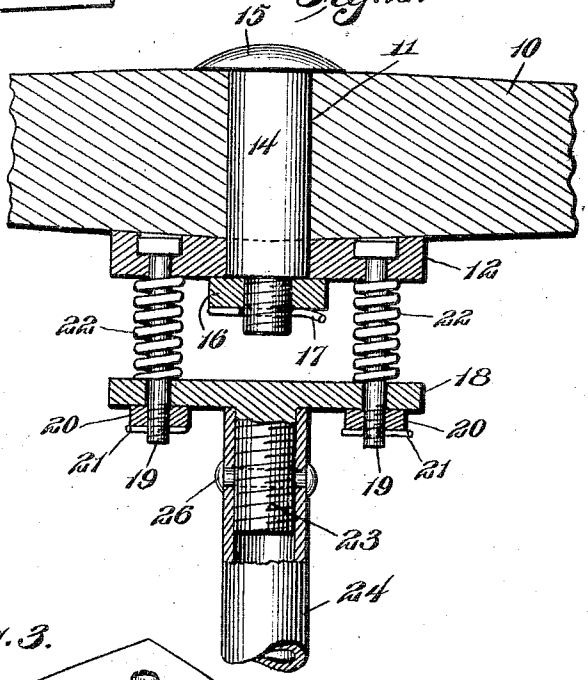
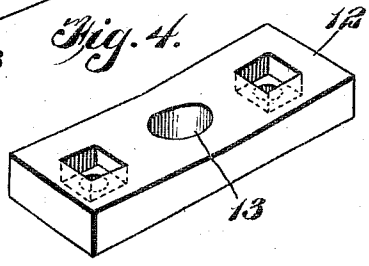


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

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TOOL-HANDLE-ATTACHING MEANS.

1,305,688. Specification of Letters Patent. Patented June 3, 1919.

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To all whom it may concern:

Be it known that I, JAMES F. BURKE, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented new and useful Improvements in Tool-Handle-Attaching Means, of which the following is a specification.

The object of the invention is to provide a simple and efficient attaching means for the handles of sledges, spike mauls and similar tool heads, to permit of the use in connection with such tools of metallic handles, of tubular or similar form without the disadvantages heretofore experienced in that connection. In the present practice wooden handles of hickory or its equivalent are used in this connection and possess certain characteristics in operation such as a sufficient yielding quality to absorb the jar and thus relieve the strain upon the hands of the operator, and it has been found, in attempts to substitute metallic handles, that the vibration is such as to be prohibitive. On the other hand the scarcity of suitable wood for handles of ordinary construction is rapidly increasing, and it is with a view to providing in this contingency for the use of metallic handles that the hereindescribed means of handle attachment or connection has been devised.

Other objects and advantages will appear later it being understood that changes under varying conditions and with tools designed for different purposes may be resorted to within the scope of the appended claims without departing from the spirit of the invention.

In the drawing,

Figure 1 is a side view of a tool having a handle and head connecting means constructed in accordance with the invention.

Fig. 2 is a sectional view of the same taken longitudinally of the tool head.

Fig. 3 is a detail view of the handle clip.

Fig. 4 is a similar view of the head clip.

In the illustrated embodiment of the invention a spike maul head 10 has been shown, the same being provided with the usual elongated eye 11, and applied to the inner surface of said head is a clip, hereinafter referred to as the head clip 12 constructed and formed to lie in close contact with the surface of the tool head and having an elongated opening 13 which corresponds in size and shape with the eye of the tool head for engagement mutually therewith by the cross sectional elongated body portion 14 of a bolt 15 in which the head, suitably enlarged, is adapted to lie in contact with the outer surface of the tool head. Said bolt is threaded at its inner end for the reception of a tap or nut 16 which may be permanently locked against accidental displacement or removal by jar or otherwise by a split key or pin 17.

Spaced from and connected with said head clip is a handle clip 18, also consisting essentially of a plate which corresponds substantially in area with the head clip and is engaged in common with the latter by bolts 19, the heads of which may be countersunk in the outer surface of the head clip so as to afford no objectionable projection from the outer surface of the latter. Said bolts may also be fitted with taps or nuts 20 and split keys or pins 21 to guard against accidental disengagement.

Mounted upon these bolts and interposed between the clips, with their terminals respectively seated upon the same, are coiled springs 22 serving as a yielding means of connection between the clips, but adapted by the adjustment of the bolts 19 to be drawn down so that their coils are in contact. Moreover said springs are of such a diameter as to insure a relatively snug fit between the inner surface of the coils, constituting the bore of the spring, and the surfaces of the bolts. This arrangement secures a sufficient lateral resilience or yielding quality between the head and handle clips, to absorb the jar due to a stroke or blow of the tool head, while preventing vibration or objectionable movement of the head relative to the handle in the plane of the latter. In other words this arrangement of the parts insures a yielding movement to a sufficient extent in the line in which the blow is struck, to relieve the hands of the operator from jar or destructive vibration while interfering in no way with the accuracy of the blow delivered by the operator.

Said handle clip is provided with a threaded tang or stem 23 upon which is threaded the inner end of a tubular handle 24 which may consist of gas pipe or any other suitable tubing of which the inner portion 25 may be slightly flattened or reduced to a cross sectional elliptical form to afford a grip by which the turning of the handle in the hands of the operator may be prevented. As a further means of preventing

relative displacement of the parts a rivet 26 may be engaged transversely with the interlocked portions of the tubular handle and tang 23.

Having thus fully described my invention, I claim:—

1. A handle attaching device for tool heads having spaced, yieldingly connected head and handle clips consisting of plates, bolts connecting the plates and compressed springs interposed between the plates, and means for rigidly securing the head and handle respectively to said clips.

2. A handle attaching device for tool heads having spaced, yieldingly connected head and handle clips consisting of plates, interposed compressed coiled springs terminally seated upon the plates and means connecting the plates to hold the springs in compression, together with means for rigidly securing the head and handle respectively to said clips.

3. A handle attaching device for tool heads having spaced, yieldingly connected head and handle clips consisting of plates respectively secured to the head and handle, bolts connecting the plates on a line perpendicular thereto, and coiled springs held in compression thereby.

4. A handle attaching device for tool heads having spaced, yieldingly connected head and handle clips, the former having an elongated opening to register with the eye of the head, and a bolt having a transversely elongated body to engage the head eye and said opening of the head clip, and also having a head and a tap for securing the clip to the tool head.

5. The combination with a tool head of spaced, yieldingly connected head and handle clips, the same consisting of plates connected by bolts and interposed coiled springs held in compression by said bolts, means for securing the head clip to a tool head, the handle clip being provided with an inwardly projecting threaded tang or stem, and a tubular handle threaded upon said tang or stem and secured against accidental turning movement with reference thereto.

6. In a handle attaching device for tool heads, a pair of plates, bolts connecting said plates, one of said plates being slidable upon said bolts, expansion springs encircling said bolts and interposed between said plates, a projection upon one of said plates to receive a handle, and the other of said plates having an opening alined with said projection to permit of a head being attached to the said plate.

In testimony whereof I affix my signature.

JAMES F. BURKE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."