T. M. KINNAIRD.

AUTOMOBILE TOOL.

APPLICATION FILED MAY 6, 1922.

1,437,252. Patented Nov. 28, 1922.

Fig. 1.

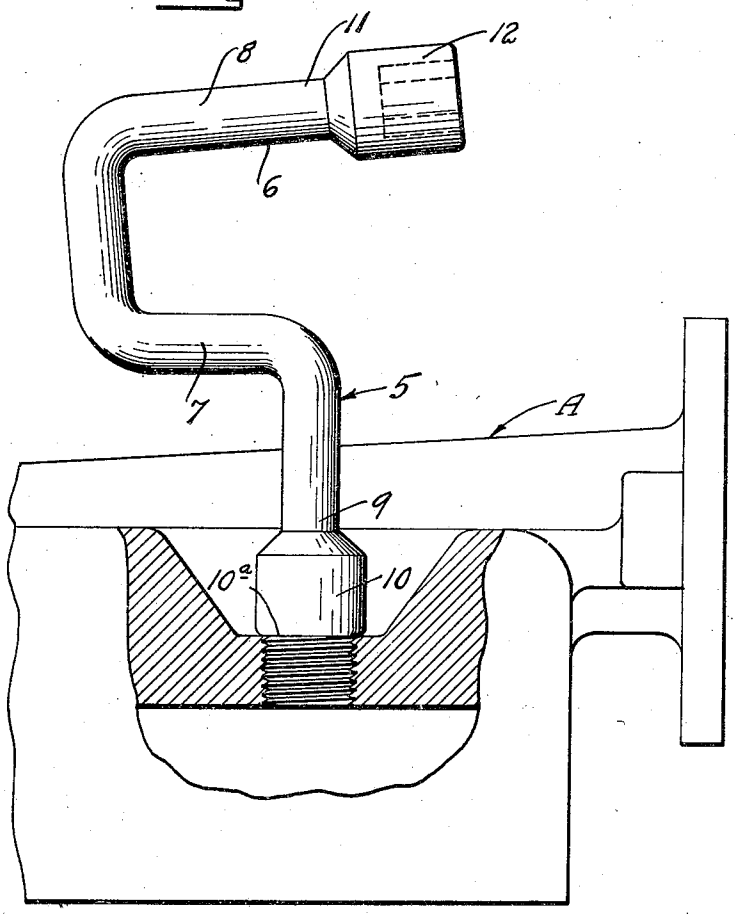


Fig. 2.

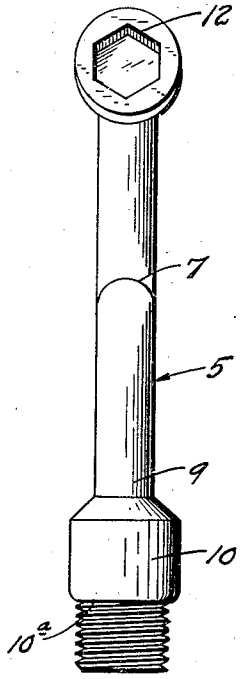
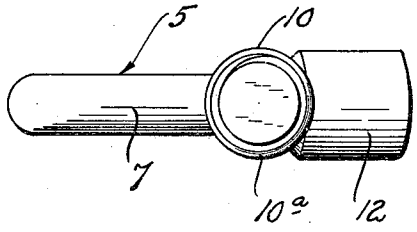


Fig. 3.



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UNITED STATES PATENT OFFICE.

THOMAS M. KINNAIRD, OF CLARKSBURG, WEST VIRGINIA.

AUTOMOBILE TOOL.

Application filed May 6, 1922. Serial No. 558,977.

To all whom it may concern:

Be it known that I, THOMAS M. KINNAIRD, a citizen of the United States, residing at Clarksburg, in the county of Harrison and State of West Virginia, have invented certain new and useful Improvements in Automobile Tools, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to tools, and more particularly to tools for use in connection with the engines of automobiles.

An object of the invention is to provide a tool of this character capable of being readily applied to the cylinder head of the engine of an automobile to permit said cylinder head to be conveniently removed and carried to the desired place.

It is another object of the invention to provide a tool of this character adapted to be inserted in any one of the spark-plug openings or like ports in the cylinder head to provide a handle for the cylinder head.

It is also an object of the invention to provide a tool of this character having means on one end for attachment to a cylinder to convert the tool into a handle, and means on its opposite end to permit the device to be used as a wrench for removing nuts and bolts in obscure places.

It is still a further object of the invention to provide a tool of this character having a socket wrench on one end and means on the other end for insertion in the cylinder head of an engine, with the central portion of the tool formed into a hand-hold.

With these and other objects in view, the invention consists in the improved construction and arrangement of parts to be hereinafter more particularly described, fully claimed, and illustrated in the accompanying drawings, in which:—

Figure 1 is a fragmentary elevation of a cylinder head partly in section showing the tool applied;

Fig. 2 is a front elevation of the tool; and

Fig. 3 is a detailed end or bottom plan view of the tool.

Referring to the drawings, 5 designates a length of material which is formed substantially U-shaped to provide a hand-hold 6. The arm 7 of the hand-hold is longer than the arm 8, the end portion 9 of the arm 7 being extended at right angles to the arm portion 7 and outwardly of the hand-hold 6. The extremity of the end portion 9 is enlarged to provide a plug 10, the extremity of the plug being reduced and threaded for a purpose to be hereinafter described.

The end portion 11 of the arm 8 is also enlarged and formed into a socket 12, the inner face of the socket being many-sided, so as to permit said enlarged portion to serve as a socket wrench. It will be noted that the enlarged portion or socket 12 of the arm 8 extends beyond the end portion 9 of the arm 7 so as to hold said end portion in spaced relation to the surface over which the tool is operating when used as a wrench.

When it is desired to remove the cylinder head A of an engine, the spark plugs are removed from their ports and then the cylinder bolts or nuts removed through the medium of the socket wrench 12. In this instance, the end portion 9 of the tool serves as a handle for the wrench and as it is disposed at right angles to the socket member 12 considerable leverage is possible, so that a firmly set nut or bolt may be moved. After the bolts or nuts have been removed the plug 10 is screwed into any one of the spark-plug openings of the cylinder head A. In this instance, the arm 8, or bight portion of the U-shaped hand-hold, serves as a handle by means of which the cylinder head can be carried from place to place. With the use of two of these devices it is possible to apply a chain or cable and suspend the cylinder head from any suitable support if desired.

In the application of the device to the spark-plug openings, the arm 8 of the tool serves as a handle so that the plug may be firmly engaged with the cylinder head, inward movement of the plug being limited by the shoulder 10^a formed at the junction of the reduced end portion of the plug with the enlarged portion thereof.

From the foregoing it will be readily seen that this invention provides a novel tool for use in connection with automobiles to facilitate removal and conveyance of a cylinder head without any inconvenience to the operator and without employing a hoist or tackle and wherein the handle for the cylinder head may also be used as a wrench so that the utility of the tool is unlimited. All of these features are possessed by a device

that can be manufactured in large quantities from a small amount of material, and used in connection with any L-head type motor.

What is claimed is:—

1. A tool of the character described, comprising a length of material constructed to provide a U-shaped member, one arm of said U-shaped member being longer than the opposite arm, the end portion of said long arm being extended at right angles to the major portion of the arm, the extremity of said end portion being enlarged and threaded to provide a plug arranged to enter a spark-plug opening of a cylinder head.

2. A detachable handle for engine cylinder blocks, consisting of a bar having one end portion formed substantially U-shaped, the extremity of said end portion being enlarged, the opposite end portion of the bar extending substantially at right angles to the U-shaped end portion, the extremity of the second-mentioned end portion being enlarged, said enlarged portion having its extremity reduced and threaded and adapted to engage the threaded wall of a spark-plug opening of the cylinder block, said enlarged portion limiting movement of said reduced extremity inwardly of the spark-plug opening.

In testimony whereof I hereunto affix my signature.

THOMAS M. KINNAIRD.