July 8, 1924.

1,500,852

C. A. SHEPHARD

SPARK PLUG CLEANER

Filed Dec. 1, 1922

Fig. 1

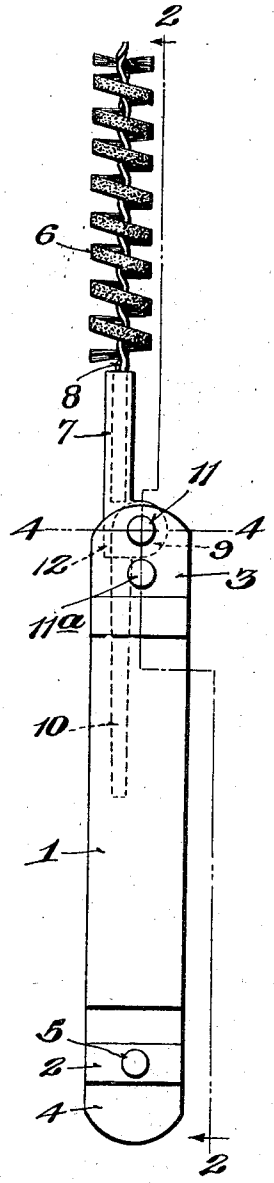


Fig. 2

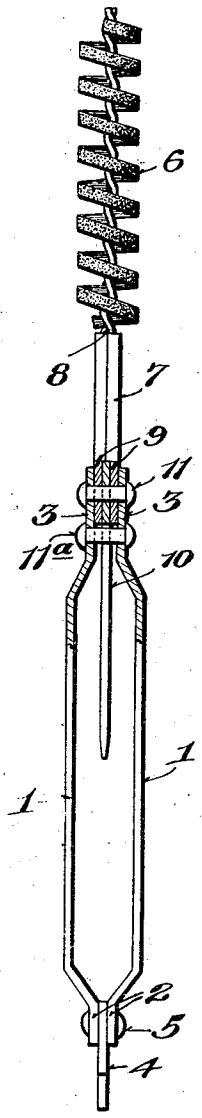


Fig. 3

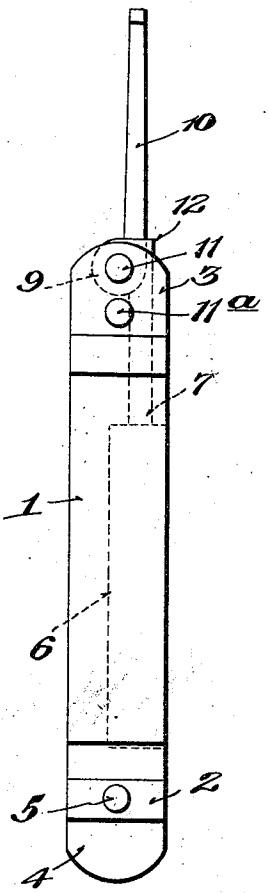
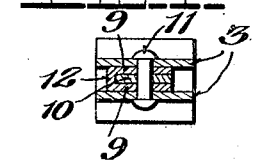


Fig. 4



Inventor

Clarence A. Shephard.

By J. D. Crabbe

Attorney

Patented July 8, 1924. 1,500,852

UNITED STATES PATENT OFFICE.

CLARENCE A. SHEPHARD, OF BRIDGEPORT, CONNECTICUT.

SPARK-PLUG CLEANER.

Application filed December 1, 1922. Serial No. 604,318.

To all whom it may concern:

Be it known that I, CLARENCE A. SHEPHARD, a citizen of the United States, residing at the city of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Spark-Plug Cleaners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in a combined spark plug cleaner and screw-driver, and the primary object thereof is to provide an implement which embodies a blade for scraping off the carbon encrustation and a brush for cleaning the plug on both the inside and outside thereof, the blade being also formed to enable use thereof as a screw-driver and electrode point adjusting means.

The invention further aims to provide a compound tool of this type which is simple, and economical in manufacture, and one wherein the parts are compactly assembled within the handle and can be easily and quickly moved into and out of operative position.

Still further, the invention aims to provide novel means for pivotally mounting the two tools and novel stop means which limits movement of both of the tools into handle-housed position.

The invention has still further and other objects which will be later set forth and manifested in the course of the following description.

In the drawings:—

Figure 1 is a side elevation, illustrating the brush in operative position;

Fig. 2 is a section on line 2—2 of Fig. 1;

Fig. 3 is a view similar to Fig. 1, but showing the blade in operative position; and

Fig. 4 is a section on line 4—4 of Fig. 1.

In proceeding in accordance with the present invention, a handle is employed embodying a pair of similar sides 1, the ends of which are bent inwardly at 2 and 3, the ends 2 embracing a stub-blade 4 and being riveted thereto as indicated at 5.

The brush 6 has a shank 7 formed of a strip of metal folded about the stem 8 of the brush, the base of the shank being provided with spaced ears 9 that are formed of enlargements of the sides of the shank. A blade 10 has its inner end received between the ears 9, a rivet 11 being projected through the ends 3 of the handle, through ears 9, and through the inner end of the blade 10, whereby the rivet serves to not only connect the several recited parts, but also affords a common pivotal mounting for the brush and blade. The back 12 resultant from the folded formation of the shank 7, also provides a stop for the blade limiting movement thereof in one direction, so that when the parts are in the position of Fig. 3, the blade 10 will be held in operative position, and by virtue of the hand of the operator embracing the handle, the brush 6 will be held within the handle and will afford a substantial support for the blade during the scraping movements of the latter.

A rivet 11^a is extended through the handle ends 3 and located adjacent to rivet 11, its opposite sides affording stops for limiting the inward movements of both blade 10 and the brush shank 7 as illustrated in dotted lines in Figs. 1 and 3.

In operation, the blade 10 is initially moved to the position of Fig. 3 and the plug parts scraped, whereupon the parts are moved to the position of Figs. 1 and 2 and the plug parts brushed. The stub blade 4 can also be used as a screw-driver and with blade 10 employed to adjust and space the points.

When both shank 7 and blade 10 are housed within the handle, each engages the stop rivet 11^a, as is believed obvious. The blade 10 and brush move into and out of the respective opposite sides of the handle.

What is claimed is:—

1. In a spark plug cleaner, a handle having spaced sides, a member having a shank formed of a folded piece of metal providing a back and having ears at its inner end, a second member mounted between the ears and engageable with said back, said ears being mounted between the handle sides, a rivet passed through the handle sides, through the ears and through the second member to pivotally connect the shank and second member to the handle, and a second rivet located adjacent to the first-named rivet and located to have its opposite sides engaged by the shank and second member.

2. In a spark plug cleaner, a handle, a member having a shank provided with spaced sides and a back, a second member mounted between the shank sides and engageable with the back, means common to

the shank and second member for independently and conjointly pivotally connecting each to the handle, and stop means for the two members.

3. In a spark plug cleaner, a handle, a member having a shank provided with spaced sides and a back, a second member mounted between the shank sides and engageable with the back, means common to the shank and second member for independently and conjointly pivotally connecting each to the handle, and stop means common to the shank and second member for engaging each to limit inward movement thereof relative to the handle.

4. In a compound tool, a handle, a member having a shank provided with spaced sides and a back, a second member mounted between said sides and engageable with the back to be braced thereby, means to pivotally mount the two members on the handle and stop means carried by the handle to engage each of the members.

5. In a compound tool, a handle, a plurality of independent elements, means common to all of the elements to pivotally connect same to the handle, means carried by one element and engageable with the adjacent element to restrict relative movement of said elements in one direction and stop means carried by the handle to engage each of the elements.

6. In a compound tool, a handle, a plurality of independent elements, means common to all of the elements to pivotally connect same to the handle, means carried by one element and engageable with the adjacent one to hold said elements in alinement, and stop means carried by the handle and engageable on its opposite sides with each of the elements to restrict movement thereof relative to the handle to hold the elements in the plane of the handle.

In testimony whereof I affix my signature hereto.

CLARENCE A. SHEPHARD.