June 30, 1931. H. RABEZZANA 1,812,496

SIDE WIRE GAP WRENCH FOR SPARK PLUGS

Filed Nov. 25, 1929

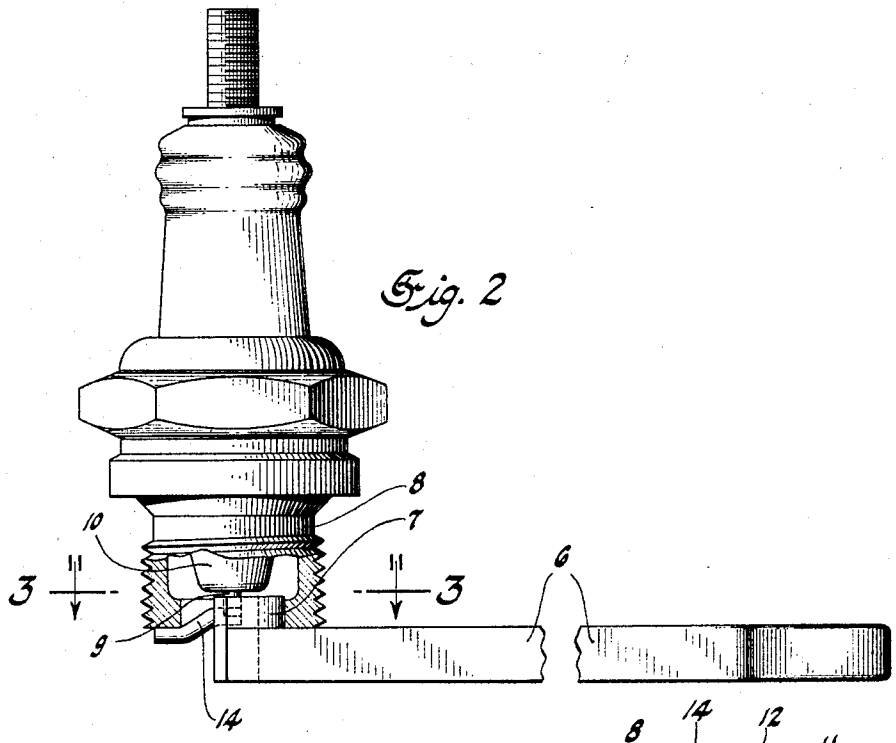


Fig. 2

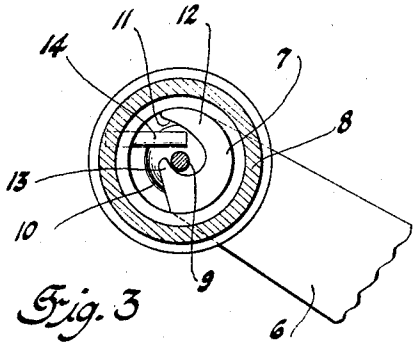


Fig. 3

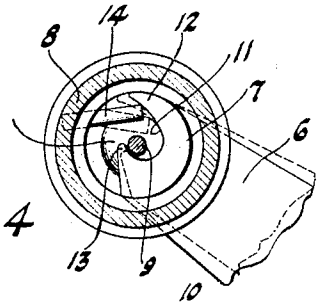


Fig. 4

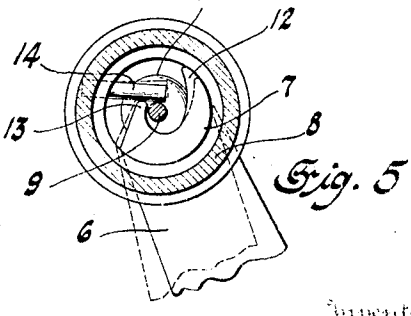


Fig. 5

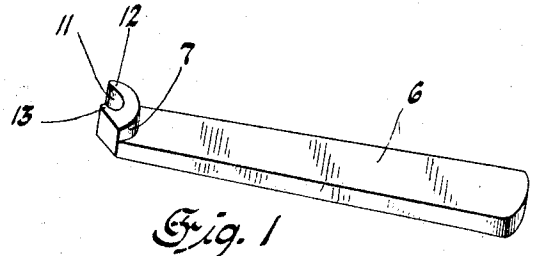


Fig. 1

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SIDE WIRE GAP WRENCH FOR SPARK PLUGS

Application filed November 25, 1929. Serial No. 409,607.

This invention has for its object to provide a small and low cost hand tool or gap wrench for spark plugs, intended primarily for distribution among motor car owners and garage mechanics to enable them by its use to quickly and easily adjust to proper size the spark gap or space between the spark plug electrodes.

A preferred embodiment of the invention is shown in the accompanying drawings, wherein Figure 1 is a perspective view of the wrench.

Figure 2 is a side elevation showing the wrench applied to a spark plug, part of the plug being shown in section.

Figure 3 is a transverse sectional view taken on line 3—3 of Figure 2.

Figures 4 and 5 are transverse section views, similar to Figure 3, showing the parts in different positions of adjustment.

The wrench as shown in the drawings, and which for convenience and economy of manufacture may be a forging, comprises a lever 6 to fit in the operator's hand, having at one end a lateral semi-cylindrical projection or boss 7. This boss is adapted for insertion within the bore at the lower end of the spark plug shell 8, with its peripheral parti-circular surface fitted or seated against the inside corresponding surface of the bore, thereby providing a bearing for the lever which permits the lever to be swung about the longitudinal axis of the spark plug. In order to clear the central electrode 9 projecting through the core 10, the boss or head 7 is provided with a substantially U-shaped notch 11, leaving a pair of legs or wedge like members 12 and 13 spaced on opposite sides of the center or axis of the peripheral surface, and receiving therebetween the central electrode.

Figure 4 shows in a somewhat exaggerated manner the side wire or electrode 14 which projects laterally from the shell beside the central electrode 9 spaced quite a distance from the central electrode, so that there is a very large gap across which the spark must jump. To correct this condition the lever 6 with its head inserted in the bore may be swung in a counter-clockwise direction whereby the leg 12 will enter and wedge itself between the free end of the electrode 14 and the side wall of the shell, and the inner cam-like surface of this leg will upon continued movement of the lever cause the electrode 14 to be bent inward or toward the central electrode to shorten the gap therebetween. The dotted lines in Figure 4 illustrate the position of the parts when the gap is reduced to proper size.

If, on the other hand, the gap should be too small, as is illustrated in Figure 5 where the electrodes are in actual contact, then the swinging movement of the lever is reversed and the tip of the leg 13 contacts with the electrode 14 and wedges it away from the central wire until the parts assume the position indicated by the dotted lines in Figure 5.

From the above description it will be apparent that an efficient but simple and inexpensively manufactured gapping tool is provided by which the sparking gap in a plug, such as that shown in the drawings, may be easily and quickly adjusted.

While the description has been more or less specific, it will be understood that the invention is not limited to the exact details referred to, but that such modifications may be made as come within the scope of the appended claims.

I claim:

1. In a tool for adjusting the gap between electrodes of a spark plug or the like, including a hand lever, a boss on the hand lever insertable into the central opening thru the plug shell and engageable with the wall of the shell to provide a fulcrum for the lever, whereby the lever may be swung about the axis of the plug, and a part engageable with one of the electrodes to bend the same when the lever is swung.

2. A tool for adjusting the spark gap in a spark plug wherein the shell electrode projects laterally from the shell and along side the central core electrode, including a substantially U-shaped part insertable into the shell bore and slidable on the interior surface of the shell about the plug axis, with the open space of the U receiving the central electrode and its legs projecting therebeyond for engagement with the shell electrode by one or

the other thereof upon movement of the part about said axis to bend said shell electrode toward or from the central electrode.

3. A tool for adjusting the gap between spark plug electrodes, including a rockable lever having a curved bearing surface for sliding engagement on a corresponding surface of a spark plug shell, and a pair of electrode engaging parts spaced from each other and on opposite sides of the axis of said bearing surface, whereby one or the other of said parts engage the electrode upon lever movement to move the electrode to or from the other electrode.

4. A tool for adjusting the gap between spark plug electrodes, including a part having a curved bearing surface movable over a corresponding surface of the spark plug shell, and an abutment spaced from the axis of said curved surface for engagement with one of the electrodes to vary the position of the same upon movement of said part.

5. A tool for adjusting the gap between spark plug electrodes, including a hand lever having a lateral boss provided with a particircular bearing surface and an electrode engaging surface eccentric to said bearing surface.

6. A tool for adjusting the gap of a spark plug, including a part insertable in the bore of the spark plug shell and having a peripheral surface adapted to ride on the inner surface of the shell, and a cam surface to engage an electrode, and means to rotate said part to bend the electrode by the engagement therewith of the cam surface.

In testimony whereof I affix my signature.

HECTOR RABEZZANA.