July 17, 1923. 1,461,904

G. A. HOYEM

CLEANING IMPLEMENT

Filed Sept. 28, 1921

Fig.1.

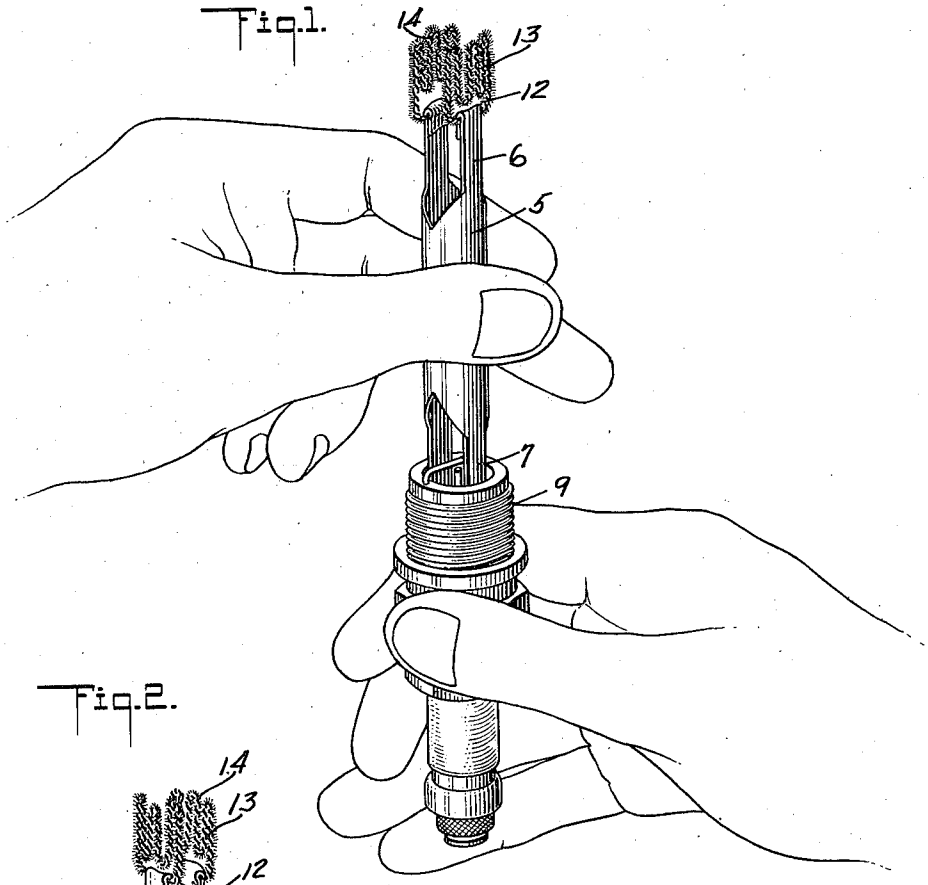


Fig.2.

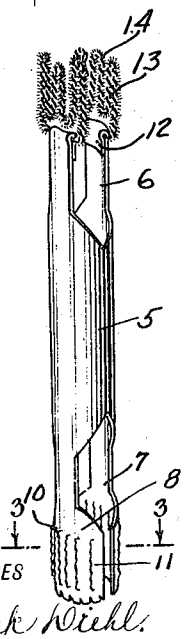
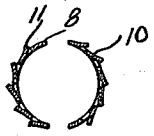


Fig.3.



WITNESSES

Frederick Diehl.

H. H. Diehl

INVENTOR

GEORGE A. HOYEM

BY Munn & Co

ATTORNEYS

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GEORGE ARTHUR HOYEM, OF LENNEP, MONTANA.

CLEANING IMPLEMENT.

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To all whom it may concern:

Be it known that I, GEORGE ARTHUR HOYEM, a citizen of the United States, and resident of Lennep, in the county of Meagher and State of Montana, have invented a new and Improved Cleaning Implement, of which the following is a full, clear, and exact description.

My invention relates to a cleaning implement, and aims to provide a device of this nature, more particularly adapted for use in connection with the cleaning of spark plugs.

It is a well appreciated fact that due to a number of well known reasons, that the spark plug of an internal combustion engine often becomes carbonized.

It has heretofore been necessary, to effect a complete removal of these carbon deposits, to completely disassemble the plug, preferably immersing the parts of the same in kerosene, or a similar fluid, subject to which these parts are scraped to remove the foreign deposits thereon.

Aside from the fact that this operation necessitates the expenditure of quite an amount of time, it is also to be noted that it is extremely difficult to re-assemble the parts of the plug in such a manner that no leakage of fluid will be possible between the parts of the same and when fluid has escaped through the parts of the plug the motor becomes sluggish and fails to develop its maximum power.

With this in mind my present invention aims to provide a cleaning implement, more particularly adapted for use in connection with spark plugs, and by means of which implement, an operator will be enabled to effectually clean all of the parts of the plug without going to the necessity of dis-assembling the same. Thus the objections noted in the preceding paragraph will be avoided.

An object of my invention is the construction of a device of the nature stated which shall be extremely simple, and be capable of being placed upon the market at a nominal figure; and

Still further objects of this invention will appear in the annexed specification taken in connection with the drawings which latter illustrate one practical embodiment of the same, and in which;

Figure 1 is a perspective view of a cleaning implement embodying my improved construction and showing the same in use.

Figure 2 is a similar perspective view showing all of the parts of the cleaning implement, and

Figure 3 is a transverse sectional view taken along the line 3—3 and in the direction of the arrows indicated in Figure 2.

In these views the reference numeral 5 indicates the body of the implement which, in the embodiment illustrated is in the nature of a metal sleeve or handle portion, the ends of which are extended to provide two pairs of legs 6 and 7.

The outer ends of the legs 7 are enlarged as has been indicated by the reference numeral 8 to form heads which in aggregate present an almost annular outer face. It will be understood by this construction that the legs 7 will incorporate a certain amount of resiliency when pressed to converge towards each other, so that upon the heads 8 being inserted between the jacket and core of a spark plug 9 the outer faces of the heads 8 will press against the inner face of the jacket of the plug.

Further it will be noted that a number of blades or blade elements 10 are associated with each of the heads these blade elements being preferably formed by striking portions of each of the heads outwardly, and the outer edges of these blades are preferably serrated or cut irregularly, as has been indicated at 11 for a purpose hereinafter specified.

Thus upon this end of the tube being inserted into the plug in the manner aforestated, it will be appreciated that the blades 10 will be forced into intimate contact with the face of the jacket of the plug. If the operator will now rotate the implement with respect to the plug it will be found that the blades 10 will bite into the deposits of carbon, and scrape the same from the face of the jacket, this biting or scraping operation being further facilitated by virtue of the irregularity 11 of the blades.

After the accumulation of carbon has been loosened in the manner aforestated, the scraping end of the implement is removed from the plug and the opposite end of the same is inserted into this member. In this connection it will be noted that the legs 6 have their outer ends bent upon themselves, as has been indicated at 12. This

construction is resorted to, to provide a mounting for a brush affixed to each leg, it being understood however, that these latter elements may be secured in any desired manner.

Referring now more particularly to these brushes it will be noted that the same each preferably comprise a plurality of twisted wires having bristles 13 associated with them, these wires being bent in the form of the letter W, as has been indicated at 14. By this construction an operator is enabled, after having scraped the plug, to remove the loosened carbon deposits by means of the brush thus provided, and to oscillate the end of the implement so that the electrodes of the plug will be efficiently cleaned.

Thus all of the objects set forth in the preamble of this specification have been accomplished and it will be seen that by virtue of the peculiar construction of the implement that it will be readily impossible for any of the loosened deposits to settle into the parts of the implement, which would obviously preclude an efficient cleaning of the plug thereby.

It will further be understood that numerous modifications of structure might readily be resorted to without in the least departing from the scope of my claims; which are:

1. A spark plug cleaner, comprising a cylindrical body provided at one end with opposed, reduced, resilient legs, each leg terminating in an enlarged arcuate head, said heads having scraper blades struck outwardly therefrom, said blades extending in the same general direction as said body.

2. A spark plug cleaner, comprising a handle portion provided at one end with opposed, resilient legs, each leg terminating in an arcuate head, said heads having scraper blades struck outwardly therefrom completely within the bounds of the heads, said blades extending in the same general direction as said legs.

3. A spark plug cleaner, comprising a handle portion provided at one end with opposed, resilient legs, each leg terminating in an arcuate head, said heads having scraper blades struck outwardly therefrom, said blades extending in the same general direction as said legs, each blade having a serrated outer edge.

GEORGE ARTHUR HOYEM.