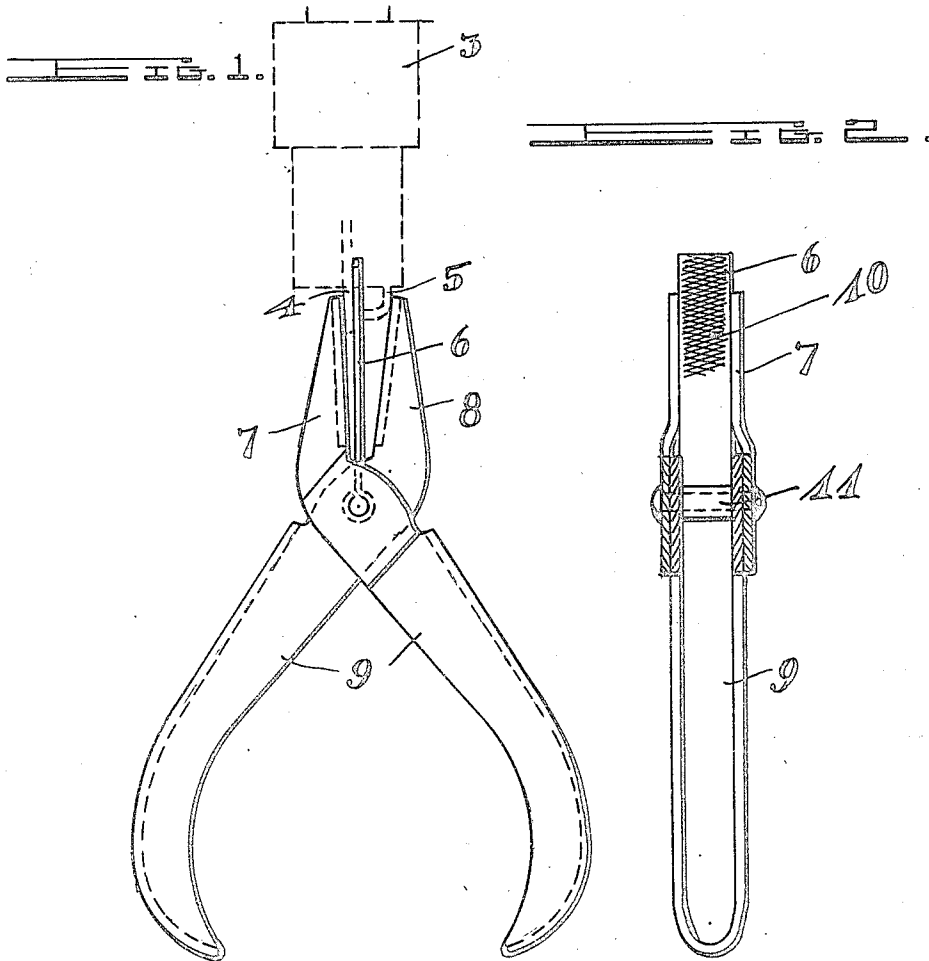


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SPARK PLUG ADJUSTING DEVICE:
APPLICATION FILED JULY 3, 1920.

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SPARK-PLUG-ADJUSTING DEVICE.

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To all whom it may concern:

Be it known that I, JOHN O'TOOLE, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Spark-Plug-Adjusting Device, of which the following is a specification.

This invention relates to devices for adjusting and cleaning the gap between the opposite terminations in so-called spark plugs, used in internal combustion engines.

One of the objects of this invention is to enable a layman to properly take care of the spark plugs of his internal combustion engine.

Another object is to provide a device by which the gap in a spark plug can be properly adjusted.

Another object is to provide a device by which a spark plug can be properly adjusted for a certain and predetermined gap between its terminals according to the requirements of certain internal combustion engines in which such certain spark plugs are to be used.

Another object is to provide such a device with means for cleaning the terminals of such spark plugs without influencing or changing the space in the gap between the terminals.

Other objects will appear from the following description and appended claim as well as from the accompanying drawing, in which—

Figure 1 is a side view of the device illustrated as applied to a spark plug, the spark plug being shown in dotted lines and only to such an extent as to make an understanding of the applying of the device to the terminals of a spark plug easy.

Fig. 2 is a sectional view on line 2—2 of Fig. 1, illustrating the spacing member in a plane at about right angles to the illustration of Fig. 1.

The spark plug 3, in Fig. 1, is only shown in outline, and only the lower portion of the spark plug is illustrated, normally provided with oppositely arranged and spaced terminals 4 and 5. The device to be disclosed by this application is not necessarily to be used with certain types of spark plugs or certain types of spaced terminals of spark plugs, for that reason these details are only outlined in dotted lines and only so far as absolutely necessary to make an applying

of the device understood and clear to anyone interested in devices of this kind.

The spaced terminals 4 and 5 are normally in certain suitably relative position. A too far spacing, or a too narrow gap, will eventually cause overheating of the cylinders in which such spark plug is being used or prevent the developing of a proper spark; either, naturally preventing an economical operation of an internal combustion engine in which such spark plug is being used.

To have the gap or space between the terminals in a spark plug properly adjusted or arranged is naturally hard for a layman, since it really requires an expert to tell from the operation of an internal combustion engine whether the gap should be enlarged or narrowed.

Gages have been put on the market to be disposed between the terminals or held so as to allow a person to see whether the gap is right.

A lip member 6 is disposed between the jaw members 7 and 8 of the tong-like device 9. This lip-member forms the gage of the device by which a person may see whether the gap or space of a spark plug is proper, by simply holding the lip-member between the terminals of a spark plug; at the same time it forms a spacing member, automatically spacing and holding the terminals of a spark plug spaced when the device is applied, as will be more fully described hereafter. The lip-member is furthermore provided with roughened faces or surfaces (file-like) as indicated at 10 in Fig. 2, to enable a cleaning of the two oppositely arranged faces or surfaces of the spark plug when the lip-member is disposed between the terminals of such spark plug. Such opposing surfaces or points are normally supposed to be real clean and bright to give satisfactory results in a spark plug in internal combustion engines. Since, then, the lip-member is of such thickness that it easily slips between the opposing points in a spark plug, it may naturally easily be used for cleaning and brightening such points while adjusting the gap of such spark plug.

For adjusting the gap of a spark plug, the lip member 6 is simply disposed between the opposing terminals of such spark plug (in the drawing, it is between the members 4 and

5), and the jaw members 7 and 8 are placed so as to come outside over the terminals between which the lip-member is placed. A pressing of the tong-like device then naturally operates to bring the opposing terminals to one another, automatically becoming properly spaced since the lip-member remains between the opposing points during such operation.

10 With a device like this it is naturally immaterial how the opposing points are shaped or of what type the spark plug is, the result naturally is always the same as long as the lip member is provided of material of such thickness as to make up the gap or space normally required in such spark plug in which the device is being used.

The lip member 6 is illustrated in the drawing as being provided with a rolled-in end swingably engaging around the pin 11 of the tong-like device in the drawing, but it will easily be understood that this is only one way of engaging the lip-member to the tong-like device as illustrated in the drawing which may naturally vary without departing from the principle of the device as a whole. The principle naturally is to have the lip-member in a position to space and hold so spaced such opposing points of a spark plug when such points are pressed one toward the other for the purpose of adjusting the gap between the opposing points in a spark plug.

Such arrangement of a spacing lip can naturally best be accomplished in tongs, and for that reason is illustrated so. Tongs vary very much in construction and for that reason, the engaging of the spacing lip member 6 to the tongs may vary just as much as long as the spacing lip 6 is located so that it may be disposed between the insulated terminals of a spark plug while the jaw members of the tongs engage outside over the terminals, as will easily be understood from the illustration.

The lip member 6 is preferably of such length that it projects and extends beyond

the front edges and ends of the jaw-members of the tongs, as it is illustrated in the drawing, to make a cleaning of the opposing points of the terminals of the spark plug easy without necessitating the opening of the tongs, thereby avoiding a touching of the adjusted terminals by the jaw members, in case such points are in properly adjusted condition.

The roughened surfaces of the lip member, as indicated at 10, serve to clean the opposing points while the tongs and thereby the lip-member are withdrawn from the spark plug after the device has been applied to a plug in the manner described above, as will easily be understood.

The lip member 6 may also be used to space such opposing terminals by simply plying and twisting the lip member between such terminals to such an extent that such terminals will come farther apart than they had been adjusted previously, as will also easily be understood. In this manner, the individual parts as well as the whole device forms a complete means for properly adjusting the gap in spark plugs in any desired manner.

Having thus described my invention, I claim:

In a device of the class described, in combination with tongs, a spacing member disposed between the jaws of the tongs so as to come between the points of a spark plug when the jaws are placed over such points for forming a proper gap between the points automatically when the tongs are applied to the points, the spacing member having means for cleaning such points and thereby automatically spacing the points properly when the tongs are applied and removed.

In testimony that I claim the foregoing as my invention I have signed my name in the presence of two subscribing witnesses.

JOHN O'TOOLE.

Witnesses:

OTTO H. KRUEGER,
JESSIE A. MANOCH.