To all whom it may concern:

Be it known that I, Joseph Lopez, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented and useful Improvements in Spark-Plug Tools, of which the following is a specification.

This invention relates to tools for spark-plugs, and has for its object to provide in a unitary structure an implement whereby the points of a spark-plug may be cleaned, gauged, and tested.

A good understanding of the invention may be had from the following description of a specific form of embodiment thereof, reference being had to the accompanying drawing, in which:

Figure 1 is a side elevation of one form of tool embodying my invention;

Fig. 2 is a front elevation of the tool of Fig. 1, shown in operative position for testing a spark-plug; and

Fig. 3 is a section of Fig. 2 on line 3--3, looking in the direction of the arrows.

In the drawing, reference numeral 1 designates a handle preferably of wood or other insulating material, provided at its upper edge with a wire bristle brush 2, the bristles being mounted in the handle in any suitable manner. At its opposite end the handle is provided with a double-edged, pointed blade 3, this blade being mounted in the handle by means of an inner portion 9 integral with the blade and embedded in the material of the handle. Intermediate its ends the tool is provided with a sheet-metal gage 4 having a thickness equal to the distance at which it is desired to set the points of spark-plugs. This gage is mounted on the handle by being partially embedded in the material thereof, as best shown in Fig. 2. The embedded portions of 3 and 4 are pointed to form electrodes 8 and 4 which extend into an opening 5 in the handle, these electrodes being spaced from each other the proper distance for forming a test spark gap.

The manner in which the blade 3 and the gage 4 are embedded in the handle is preferably by sharpening the tapered edges 6 thereof, and thereafter hammering or otherwise driving them into the material of the handle, until the electrode points are the proper distance apart in opening 5. The frictional engagement between the material of the handle and the embedded portions will ordinarily be sufficient to retain the said members 3 and 4 in their proper positions, as illustrated in Fig. 1. When desired, however, additional security may be had by means of pins 7 (Figs. 2 and 3), the ends of which are preferably countersunk and filled with insulating material so as to prevent shock to the user of the instrument, when the same is employed for testing, as hereinafter described. When the handle is made of molded material the members 3 and 4 will of course be placed into their proper position during the molding operation.

The manner in which the tool is used will now be readily understood. By means of the wire brush the mechanic effects a general cleansing of the various parts of the plug. He then employs the pointed blade 3 for scraping the terminals of the plug and picking off small particles of carbon or other foreign matter lodged in the recesses thereof. He then uses the gage 4 to determine whether the points of the plug are set the proper distance apart, and makes any adjustment found necessary. He may then test the plug by placing the gage member against the upper terminal of the spark plug, the point of the blade 3 being rested on a part of the casing of the motor or other surface having electrical connection with the base of the plug. By applying potential to the plug and observing the test spark gap 8--4 he is able to ascertain whether the desired spark is being obtained.

It will thus be observed that the tool of the present invention is of extraordinarily simple and inexpensive construction, nevertheless being capable of performing all the various operations necessary for a complete cleansing, gauging, and testing of the sparkplug.

Although I have herein shown and described only one specific form of embodiment of my invention, it will be readily understood that many changes and modifications may be made therein without departing from the spirit and scope of the invention, it being my intention to claim the same broadly in whatever form its principle may be employed.

What I claim is:

1. In a tool of the character described, a handle provided with an opening, a pair of conducting members associated with said
handle and projecting into said opening to form a test spark gap, one of said conducting members comprising a blade portion extending from the end of the handle, and the other of said members comprising a portion extending from the side of the handle, the extending portions forming contact members for the testing of spark plugs.

2. A spark-plug tool, consisting of a handle of insulating material provided with an opening, a scraping and picking blade mounted in said handle and provided with a pointed member extending into said opening, a gage mounted in said handle and provided with a pointed member extending into said opening, the points of said members being spaced at sparking distances from each other.

3. In a tool of the character described, a handle of insulating material, a scraping blade member, and a spark-gap gage member associated with said handle, each of said members being formed of sheet material partially embedded in the material of the handle and frictionally retained therein.

In testimony whereof I have affixed my signature to this specification.

JOSEPH LOPEZ.