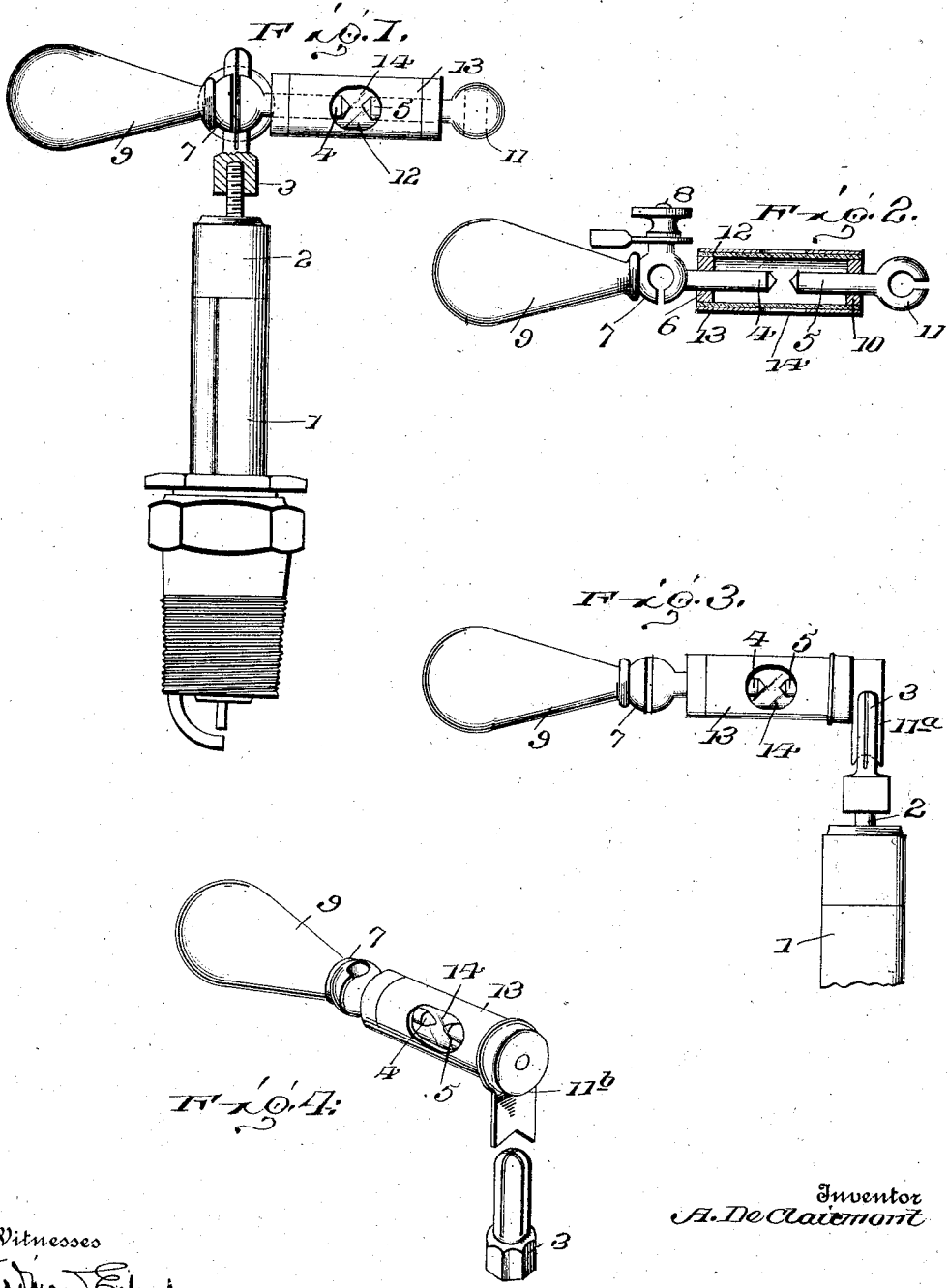


A. DE CLAIRMONT.
 SPARK PLUG TESTER.
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Patented Mar. 4, 1913.



Witnesses
Edmund Espey
James H. Tallin

Inventor
A. De Clairmont

By

A. H. Macy Attorney.

UNITED STATES PATENT OFFICE.

ADOLFO DE CLAIRMONT, OF TOLEDO, OHIO.

SPARK-PLUG TESTER.

1,054,909.

Specification of Letters Patent.

Patented Mar. 4, 1913.

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To all whom it may concern:

Be it known that I, ADOLFO DE CLAIRMONT, citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Spark-Plug Testers, of which the following is a specification.

This invention comprehends certain new and useful improvements in automobile appliances and accessories, and relates particularly to a spark plug tester, whereby the operator or owner of an automobile or similar vehicle may always have at hand means for determining whether or not the spark plugs of the internal combustion engine are in proper condition.

The invention has for its primary object a simple, durable and efficient construction of device of this character which is so arranged that it may constitute a permanent adjunct to the electric circuit and be held permanently applied to the spark plug so as to remove the possibility of its being misplaced in the tool box or pocket, a device of this type which will be durable and not liable to become broken, one which may be easily secured in a relatively inactive or inoperative position to the spark plug and easily shifted whenever desired, to an operative position for testing purposes, and one which may be so applied to the spark plug that it may be swung around in a circle in order to suit the convenience of attaching, according to the particular position of the plug and the parts of the cylinder to which the plug is attached.

With these and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a side elevation of one form of embodiment of my improved spark plug tester, showing the same applied in an inoperative position to a spark plug; Fig. 2 is a sectional side elevation of the device; Fig. 3 is a side elevation of another embodiment of the invention hereinafter specifically described; and Fig. 4 is a perspective view of still another form of the device.

Corresponding and like parts are referred

to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

In the particular manner of applying my improved spark plug tester, the plug, which is designated 1, has secured to its terminal threads 2, a split post 3 which may be manifestly easily secured at any of the automobile supply shops. The tester itself includes spaced electrodes 4 and 5. In the present embodiment of the invention, the electrode 4 passes through a bushing 6 and is formed as an integral part of a split spring collar 7 which is provided at any convenient point with an outstanding terminal post 8 provided with the usual binding nut. The collar 7 is also formed with a threaded or similar tang to which a wooden or other handle 9 is attached, whereby the device may be easily manipulated. The electrode 5 correspondingly passes through a bushing 10 like the bushing 6, the electrode 5 in the present embodiment of the device being formed as an integral part of a split collar 11. The two bushings 6 and 10 are encircled by a glass cylinder 12, and said cylinder is in turn incased in a sheathing 13 of paste-board, fiber, or the like so as to protect the parts from rough handling. The sheathing 13 is formed with one or more openings 14 located at a point in registry with the spark space or gap between the spaced electrodes 4 and 5, whereby said electrodes may be viewed when the device is in an operative position, so as to determine by the spark jumping gap, whether or not the spark plug to which the device is applied is properly working.

From the foregoing description in connection with the accompanying drawing, the operation of my improved spark plug tester will be apparent.

In the practical use of the device, the wire from the battery, magneto or the like is secured to the terminal post 8 and the device is secured to the spark plug by having the split collar 7 thrust over and upon the split post 3 which is threaded upon the spark plug 1. This is the inoperative position of the tester, and it is manifest that so long as the device is in this position, the current will pass uninterruptedly through the spark plug in the ordinary service of the sparking apparatus. Whenever it becomes necessary to test the plug to see whether it is properly working, it is only necessary for

the operator to grasp the handle 9 and slip the collar 7 from the post 3 and to then apply the device in another position upon the post 3 by having the collar 11 slipped down thereupon. In this position of the parts, it is evident that a spark will leap across the gap between the electrodes 4 and 5 if the spark plug is properly working and consequently the operator can at once see whether or not the spark plug is in good condition. If desired, the device may be left upon the spark plug with the collar 11 in engagement with the post 3, but preferably the normal inactive or inoperative position of the tester is with the collar 7 upon the post, for in this position the parts are evenly balanced, that is, the handle 9 is counterbalanced by the parts on the opposite side of the collar 7 and there will be practically no liability of the tester being accidentally disconnected from the plug.

It is to be understood that my invention is not limited to the exact details of construction, arrangement and proportions of the parts hereinbefore described and illustrated in the correlated figures of the drawing, but that various changes may be made in the construction, arrangement and proportions of the parts without departing from the scope of the appended claims. For instance, Fig. 3 of the drawing illustrates a construction in which the device, instead of being formed with the split collar 11, has in lieu thereof a metal plate 11^a, whereby the device may be grasped by the handle 9 and inserted down between the splits of the post 3 and the spark plug thereby tested; but it will of course be understood that in this device, the tester could not well be left on the plug, as the jar incidental to the operation of the motor would cause the tester to become disengaged.

Fig. 4 illustrates another modification of the device, in which the outer end thereof is formed with an attaching member 11^b substantially similar to the attaching member 11^a, except that the attaching member 11^b extends transversely of the device, while the attaching member 11^a extends longitudinally, as shown. I prefer the construction in which the device is provided with two split collars such as 7 and 11, although as before stated, it is to be understood that the invention is not limited in this regard.

Having thus described the invention, what is claimed as new is:

1. A spark plug tester, embodying spaced electrodes, and provided with means where-

by it may be permanently engaged with and carried upon a spark plug with either electrode directly in circuit therewith.

2. A spark plug tester, embodying spaced electrodes formed with means whereby either of them may be detachably engaged with a spark plug and supported thereby.

3. A spark plug tester, comprising spaced electrodes, bushings to which said electrodes are connected, a transparent cylinder encircling the said bushings, means connected to the respective electrodes whereby either of them may be directly connected to a spark plug in a detachable manner, and a handle connected to one of said electrodes.

4. A spark plug tester, comprising spaced electrodes, bushings to which said electrodes are connected, a transparent cylinder inclosing said electrodes, a protective sheathing encircling said cylinder and formed with an opening registering with the space between the electrodes, the electrodes being formed with means whereby either of them may be detachably engaged with a spark plug and supported thereon, one of said electrodes being formed with a terminal post, and a handle connected to one of the electrodes.

5. A spark plug tester, embodying spaced electrodes formed with means whereby either of them may be detachably engaged with a spark plug and supported thereon, one of said electrodes being formed with a terminal binding post.

6. A spark plug tester, embodying spaced electrodes formed with means whereby either of them may be detachably applied to a spark plug and supported thereon, one of said electrodes being formed with a terminal binding post, and a handle connected to said electrode.

7. A spark plug tester, comprising spaced electrodes, bushings to which said electrodes are connected, a transparent cylinder inclosing said electrodes, the electrodes being each formed with a collar designed for detachable engagement with a spark plug so as to support the tester thereon, one of said electrodes being formed with a terminal binding post, and a handle connected to one of the electrodes.

In testimony whereof I affix my signature in presence of two witnesses.

ADOLFO DE CLAIRMONT [L. S.]

Witnesses:

E. M. KEINATH,
S. V. LANG.