April 20, 1943. J. J. EAGAN 2,317,263

TESTING DEVICE

Filed Sept. 15, 1942

Fig. 1.

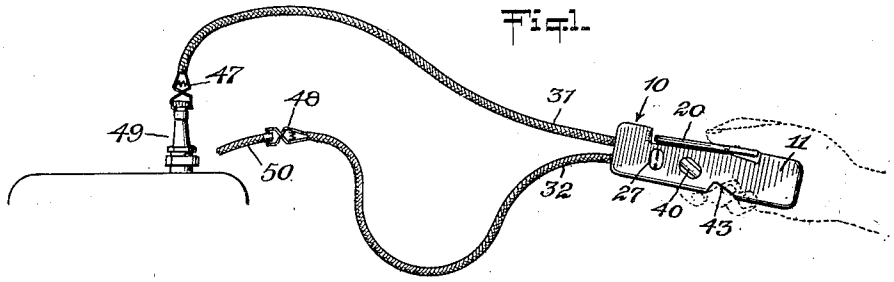


Fig. 2.

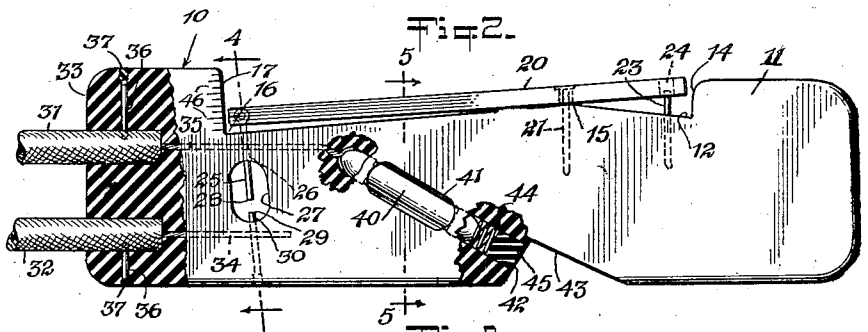


Fig. 3.

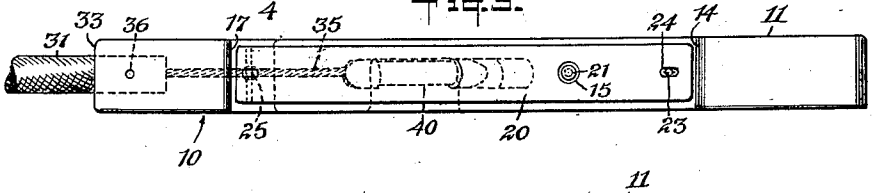


Fig. 4.

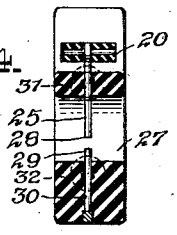


Fig. 5.

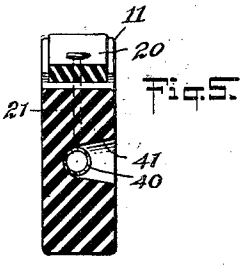
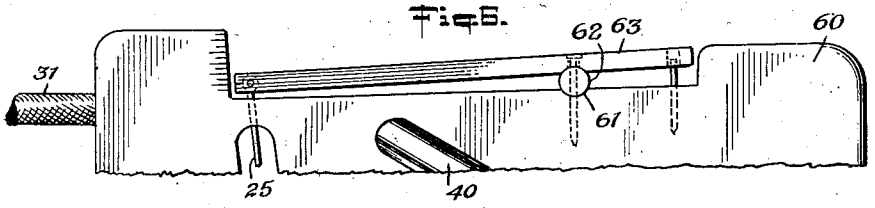


Fig. 6.



WITNESSES

Geo. W. Taylor

John H. Glaccum

INVENTOR

John J. Eagan

BY

Munn, Liddy & Glaccum

ATTORNEYS

Patented Apr. 20, 1943

2,317,263

UNITED STATES PATENT OFFICE

2,317,263

TESTING DEVICE

John J. Eagan, Yonkers, N. Y.

Application September 15, 1942, Serial No. 458,433

4 Claims. (Cl. 175—183)

This invention relates to testing devices, and more particularly to a device adapted to test electrical systems, such as ignition systems, spark plugs, etc.

In the accompanying drawing, I have shown my device adapted to be used to test ignition systems, and particularly spark plugs, but it will be readily appreciated that it may be used to test any electrical system.

An object of the invention is to provide a simple, inexpensive but efficient testing device by which the system being tested may be visually checked.

Another object is to provide a device which may be used at a convenient distance from the place being checked. This is particularly advantageous in checking ignition systems in modern cars where the construction of the hood makes work under the hood difficult and cumbersome.

In the accompanying drawing—

Fig. 1 is a perspective view of an embodiment of my invention showing it in use in testing a spark plug;

Fig. 2 is a side elevation partly broken away to show the structure;

Fig. 3 is a top plan view;

Fig. 4 is a cross-sectional view on the line **4—4** of Fig. 2;

Fig. 5 is a cross-sectional view on the line **5—5** of Fig. 2;

Fig. 6 is a modified form of handle.

My device comprises a handle member **11** made of wood or any other cheap insulating material. The handle member **11** is notched at **12** to form a shoulder **14**. It has a raised point **15** which slopes away to form the notch **16** and the shoulder **17**.

An operating lever **20** is pivoted on the high point **15** by the simple expedient of a nail **21** being driven therethrough. Another nail **23** operating in the hole **24** serves as a simple and efficient guide. At the other end of the operating lever **20** a nail **25** is positioned to extend through the hole **26** in the handle **11** and into the opening **27**. By the movement of the operating handle **20**, the gap between the end **28** of the nail **25** and the end **29** of the nail **30**, positioned in the bottom of the handle, may be varied.

Insulated cables **31** and **32** are embedded in the end **33** of the handle and the wire **34** is pierced by the nail **30**. Similarly, the nail **25** pierces the stranded wire **35**. The wire **35** extends into the handle member **11** and engages the neon tube **40** which is placed in the slot **41** by means of an opening **42** in the notch **43** of the handle member **11**. The neon tube may be held in place by the spring **44** and the plug **45**. The cables may be positioned in the end **33** of the handle by the pins **36** which are insulated by the plug **37**. Graduations **46** may be placed on the shoulder **17** to indicate the distance between the points.

The cables **31** and **32** may be provided with conventional clamps **47** and **48** for use when it is desired to test an electrical circuit, such as the strength and regularity of the secondary of an automobile ignition system. The clamp **47** may be attached to the spark plug **49** and the clamp **48** to the lead wire **50**. The neon tube will then indicate the passage of the spark through the plug, and not only can the actual passage be noted but the kind and strength of the spark may be determined by the manipulation of the operating lever **20** increasing or decreasing the gap between the ends **28** and **29** of the wires **25** and **30**.

In the modified form shown in Fig. 6, the handle member **60** is grooved slightly at **61** to accommodate a dowel **62** which serves as a pivot for the operating lever **63**. In all other respects the deivce would work in the same manner.

It will be seen that I have provided a simple, inexpensive and practically foolproof testing device which may be efficiently used by the ordinary mechanic or car owner to make routine checks or to locate difficulties in the ignition system of his car. It will also be seen that my device may be connected to the plug and lead-in wire and then manipulated from outside of the car without difficulty. Moreover, due to the construction of the device, there is little danger of the user receiving a shock.

I claim:

1. A testing device comprising a handle member, an opening in said handle member adjacent one end, two cables embedded in said handle member, one of said cables engaging a pin extending into said opening, a cut-out portion having a high point in the upper end of said handle member, an operating lever in said cut-out portion adapted to pivot on said high point, and a pin in said operating lever extending through said second-mentioned cable into said opening.

2. A testing device comprising a handle member, an opening in said handle member adjacent one end, two cables embedded in said handle member, one of said cables engaging a pin extending into said opening, an operating lever pivoted on said handle member, and a pin in said operating lever extending into said handle member through said second-mentioned cable into said opening.

3. A testing device comprising an insulated handle member, an opening in said handle member through one end, a neon tube visibly mounted in said handle member, two cables embedded in said handle member, one of said cables engaging a pin extending into said opening, a second-mentioned cable running to said neon tube, a cut-out portion having a high point in the upper end of said handle member, an operating lever in said cut-out portion adapted to pivot on said high point, and a pin in said operating lever extending through said second-mentioned cable into said opening.

4. A testing device comprising a handle member, an opening through said handle member adjacent one end thereof, two cables embedded in said handle member, one of said cables engaging a pin extending into said opening, a cut-out portion defining a shoulder at one end, said cut-out portion having a high point, an operating lever in said cut-out portion adapted to pivot on said high point having one end thereof adjacent said shoulder, a pin in said operating lever extending through said second-mentioned cable into said opening, and graduations on said shoulder whereby the relative position of said pins may be gaged by the position of said operating lever with respect to said graduations.

JOHN J. EAGAN.