Sept. 5, 1944. W. D. MINSER 2,357,534

INSPECTION TUBE FOR OIL-LEVEL STICKS

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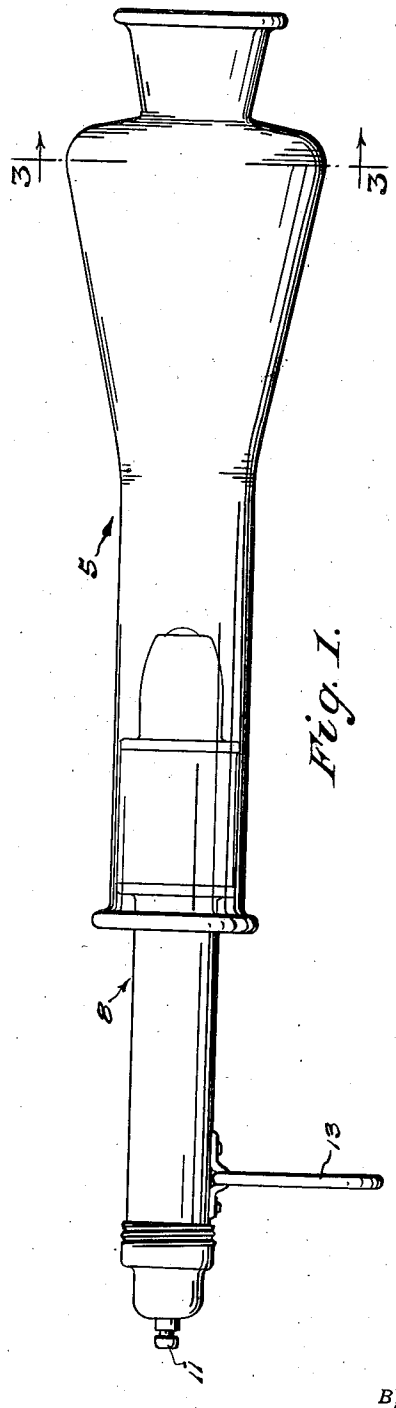


Fig. 1.

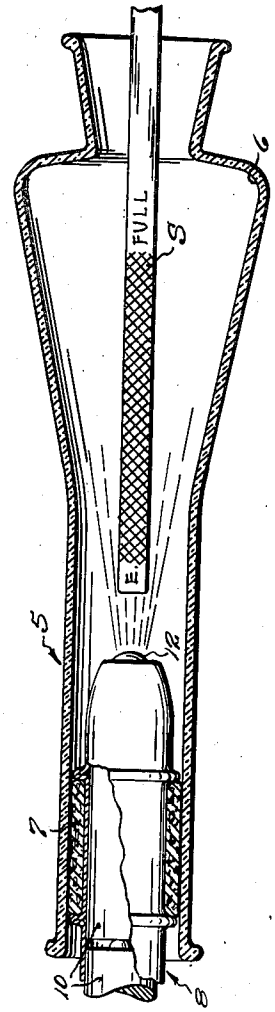


Fig. 2.

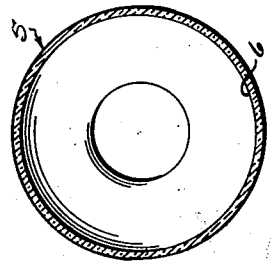


Fig. 3.

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INSPECTION TUBE FOR OIL-LEVEL STICKS

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5 Claims. (Cl. 240—6.4)

This invention relates to inspection tubes and especially to a tube particularly designed for use in reading the removable oil-sticks which are provided for automobile engines as a means of ascertaining the level of the oil in the crank case. For its general object, the invention aims to devise a tube, transparent in nature, into which the oil-stick may be inserted by the operator of a service station following removal of the stick from the engine and, so housed, be presented for the inspeciton of the driver, thereby precluding oil drippings from spotting either the clothing of the driver or the exterior finish or upholstery of the car. It is a further and a particular object to provide an inspection tube having means for illuminating the surface of the housed stick to facilitate a reading of the indicated oil level.

Having the foregoing and still further objects and advantages in view, the nature of which will appear in the course of the following description and claims, the invention consists in the novel construction and in the arrangement, adaptation and combination of parts hereinafter described and claimed.

In the drawing:

Figure 1 is an elevational view representing the now preferred embodiment of the invention.

Fig. 2 is a fragmentary longitudinal vertical section thereof indicating the application of an oil-stick to the same and illustrating by dash lines the projection of light rays from the illuminating source provided by the device; and

Fig. 3 is a transverse vertical section on line 3—3 of Fig. 1.

Referring to said drawing it will be seen that the inspection tube proper is comprised of a barrel denoted by the numeral 5 and which desirably is of clear glass, and this barrel is open at both ends with its rear part being cylindrical and the frontal part preferably produced to a pear-shaped or bulbous form presenting a peripheral sump, as 6, immediately adjacent the admission throat of the barrel. It is the purpose of this sump to collect oil drippings from an oil-stick S introduced through said admission throat to the chamber described within said bulbous front part of the barrel, and it will be self-evident that the advantage of enclosing said chamber on all sides lies in the fact that a collecting basin thus lies below the introduced stick at all times, or which is to say irrespective of how the barrel may be rotated on an approximate horizontal axis. However, it is to be ununderstood that, the salient end to be accomplished is the provision of a basin or the like underlying the introduced stick for collecting the said drippings. The said collecting basin should terminate at the forward end in an abrupt wall for trapping the oil, and it is desirable that the admission opening to the chamber, where bounded on all sides in the manner indicated, should be flared to facilitate the introduction of the stick.

Removably introduced through the rear opening of the barrel to the cylindrical part of the latter and finding a friction fit through the instrumentality of a cork collar 7 is an electric flash-light 8 which is or may be of the usual construction containing one or more dry-cell batteries 10 and having an exposed button 11 in its rear end which, by compression, functions to close an electric circuit through a lamp bulb 12, the said button acting in opposition to a spring and having a circumferential groove permitting the button to be locked in circuit-closing position by the act of shifting the same laterally—following depression—to lodge the marginal wall of the guiding orifice within the groove. Carried by the flash-light casing is a ring 13 arranged to engage over a hook or the like for hanging the device from a post of the service station convenient to the gas pumps.

From the foregoing description, taken with the drawing and particularly Fig. 2 thereof which illustrates the insertion of the stick within the bulbous front end of the barrel and the projection of light rays by an energizing of the bulb 12 to illuminate the surface of such introduced stick, it will be apparent that the operator may safely insert the device through the window-opening of the automobile to permit easy inspection of the stick by the driver. Any oil which may drip from the stick runs down the sloping wall of the sump and is trapped therein by the precipitate forward wall of the latter. It may be pointed out, in furtherance of the utility of the bulbous or pear-shaped design of the barrel, that the reflective function of such precipitate sump wall advances the illuminating efficiency of the light rays projected from the bulb.

For cleaning, the flash-light casing is removed from the barrel and the latter dipped in gasoline or other cleaning fluid.

Although somewhat less efficient, it will of course be apparent that an operative assembly might be devised deleting the sump feature of the invention. Also obvious is the fact that a transparent barrel is not essential to the operativeness of the device, and that the tube proper

might be opaque with a sight opening in the wall through which the introduced stick is exposed to observation. Considering the objectionable care necessary in properly presenting such an opaque barrel to the driver's observation, its substitution for a transparent tube would hardly be desirable.

While I can visualize other possible structural modifications, it is believed unnecessary to refer thereto. The following claims are presented with the intention that no limitations be read into the same excepting as such restrictions are specifically recited to distinguish over such previous structures as may be known in the art.

What I claim is:

1. A device for the inspection of oil-level sticks comprising, in combination: a transparent barrel open at both ends and produced with a bulbous front part merging toward the rear of the barrel with a relatively cylindrical neck; an electric flash-light, having a self-contained source of electric energy, arranged to be removably introduced through said rear opening into the cylindrical neck of the barrel for projecting light rays forwardly onto the surface of an oil-level stick introduced into said bulbous part through the front opening of the barrel; and means for frictionally holding the introduced flash-light in said functioning position.

2. An inspection device according to claim 1, the casing of the flash-light being formed with a peripheral groove and, as the friction means, a cork collar seated within said groove to engage the cylindrical neck of the barrel.

3. A device for the purpose described comprising the combination of an electric flash-light complete in itself including a casing, a lamp, and a source of electric energy functional to the lamp carried within the casing; an elongated barrel providing an inspection chamber at one end open for the insertion of an oil-stick thereto and being exposed to the view of the user for reading the introduced stick, and at the other end being formed with a socket arranged and adapted to permit the flash-light, lamp foremost, to be applied and removed bodily to and from a position functional to project light rays from the lamp onto the level-reading surface of the stick being inspected, said barrel being formed to describe a basin underlying the inspection chamber for collecting drippings of oil from the introduced stick and terminating at the forward limit of the chamber in a relatively abrupt end wall acting to trap said collected drippings against escape from the basin; and means for frictionally holding the flash-light in said functioning position.

4. A device for the inspection of oil-level sticks comprising, in combination: an electric flash-light complete in itself including a casing, a lamp, and a source of electric energy functional to the lamp; and a body member removably associated with the flash-light formed at its rear end with a hollow neck open at both the front and rear and adapted to receive the flash-light, lamp foremost, through said rear opening to have the lamp cast light rays forwardly through the front opening, and produced upon the forward end with a body extension of a length exceeding the span of an oil-level stick from the bottom end to the upper limit of the oil-measuring portion thereof, said body extension being given a curvilinear configuration, considered in transverse vertical section, terminating at the forward limit in an inturned end wall and thus, by the location of said curvilinear body extension in underlying relation to an oil-level stick held in the path of light rays projected from the lamp, serving to collect and trap oil dripping from the stick.

5. The device of claim 4 having a cork collar carried upon the casing of the flash-light and arranged and adapted to engage the inner wall of the neck for frictionally holding the flash-light in its operating position within the neck.

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