Dec. 29, 1942. C. MORTENSEN 2,306,489

VALVE ADJUSTING TOOL

Filed Feb. 12, 1941

Fig. 3

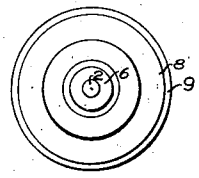


Fig. 4

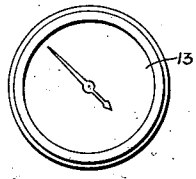


Fig. 1

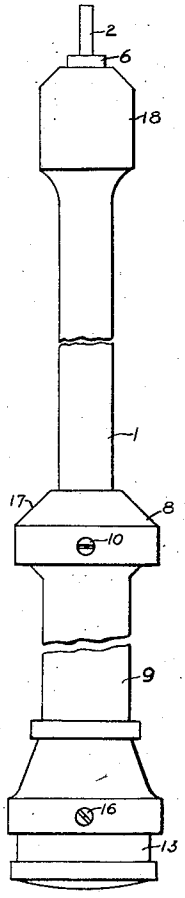
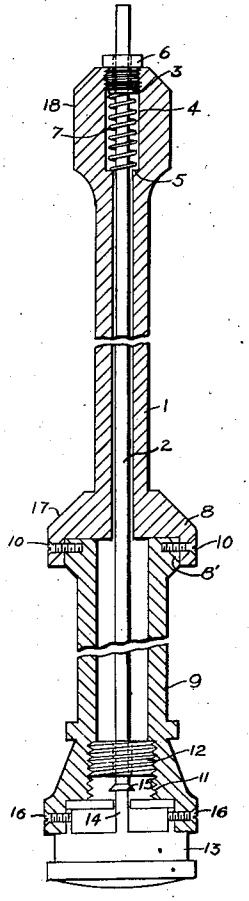


Fig. 2



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VALVE ADJUSTING TOOL

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3 Claims. (Cl. 33—172)

This invention relates to a valve adjusting tool.

The general object of the invention is to provide an improved tool enabling the distance between the cam shaft and the valve seat of a motor to be measured.

A more specific object of the invention is to provide means permitting installation of a proper size tappet in a particular port, and in order to do this I provide a tool which enables the distance between the valve seat and the cam shaft to be readily and accurately determined after which the clearance may be subtracted and the proper size tappet selected.

Another object of the invention is to provide means whereby the proper size valve may be installed in a particular port, and in order to do this I provide a tool which readily and accurately determines the distance from the end of a tappet to the corresponding valve seat.

Other objects and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawing wherein:

Fig. 1 is an elevational view showing my improved valve adjusting tool;

Fig. 2 is a central longitudinal section view of the tool;

Fig. 3 is a front end view; and

Fig. 4 is a rear end view.

As shown, my valve adjusting tool includes a hollow body 1 within which a plunger 2 is disposed. The plunger has a flange 3 near one end thereof. The hollow body at the end nearest the plunger flange has an enlarged bore 4 which provides a shoulder 5 at the inner end thereof. The bore 4 is threaded for a portion of its length adjacent the outer end thereof to receive a hollow lock nut 6 through which the plunger 2 extends.

A spring 7 is disposed about the plunger 2 within the bore 4. One end of the spring engages the flange 3 and urges the flange towards the inner face of the lock nut 6. The other end of the spring engages the shoulder 5 thus normally holding the plunger 2 in advanced position (see Fig. 2).

The body 1 includes a countersunk head 8 which receives an enlarged collar 8' on a hollow handle 9. The body 1 is removably secured in the handle by suitable means such as screws 10. By removing the screws 10 the body 1 may be removed and another body placed on the handle.

The handle includes an enlarged threaded bore 11 near the free end thereof. A hollow lock nut 12 through which the plunger 2 slides threadedly engages the bore 11. The upper end of the handle is recessed to receive a dial indicator 13. The indicator has a depending operating member 14 with a head 15 thereon. The head 15 engages the end of the plunger 2 so that as the plunger is depressed the dial indicator will register. The indicator is removably held in place by screws 16.

The head 8 of the body is bevelled as at 17 forming a valve seat engaging position thereon. Remote from the head 8 the body 1 includes a boss 18 at the end thereof. This boss serves as a guide member in inserting the tool.

In operation the tool is inserted into the valve port so that the boss 18 fits snugly into the tappet hole. The bevelled portion 17 engages the valve seat and the end of the plunger 2 engages the cam shaft thus determining the proper size tappet to be used in each tappet hole. To determine the proper size valve to be used, the body is removed and another body of slightly different shape is mounted on the handle to determine the distance from the valve seat to the top of the tappet.

From the foregoing description it will be apparent that I have invented a novel apparatus for use in adjusting valves which can be economically manufactured and is highly efficient for its intended purpose.

Having thus described my invention I claim:

1. In a valve adjusting tool, an elongated hollow body, a plunger slidably mounted in said body, said plunger having a flange thereon, a spring engaging said flange, said body having a recess receiving said spring, said recess having a shoulder engaging said spring, a hollow handle on said body, a nut threadedly engaging the interior of the handle, a second nut, said second nut engaging the end of the body remote from the handle, said nuts having axial bores, said plunger passing through said bores, and a dial indicator mounted on said handle, said plunger engaging said dial indicator to actuate the same, said body having a boss at the free end thereof, said boss constituting a guide.

2. In a valve adjusting tool, an elongated hollow body, a plunger slidably mounted in said body, said plunger having a flange thereon, a spring engaging said flange, said body having a recess receiving said spring, said recess having a shoulder engaging said spring, a hollow handle on said body, a nut threadedly engaging the interior of the handle, a second nut, said second nut engaging the end of the body remote from the handle, said nuts having axial bores, said

plunger passing through said bores, a dial indicator mounted on said handle, said plunger engaging said dial indicator to actuate the same, said body having a collar adjoining to said handle, said collar constituting a guide, said collar defining an annular recess, said handle having a cylindrical portion fitting said recess, means passing through the collar and engaging the cylindrical portion to hold the handles in place.

3. In a valve adjusting tool, an elongated hollow body, a plunger slidably mounted in said body, said plunger having a fixed flange thereon, a spring engaging said flange, said body having a recess receiving said spring, said recess having a shoulder at the inner end engaging said spring, a hollow handle on said body, a guide member in the interior of the handle, a second guide member, said second guide member being disposed remote from the handle, said guide members having axial bores, said plunger passing through said bores, and a dial indicator mounted on said handle, said plunger engaging said dial indicator to actuate the same, said body having a guide at the free end thereof.

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