March 2, 1926. 1,575,560

G. B. ENGLUND

TAPPET ADJUSTING TOOL

Filed Jan. 31, 1925

Fig. 1.

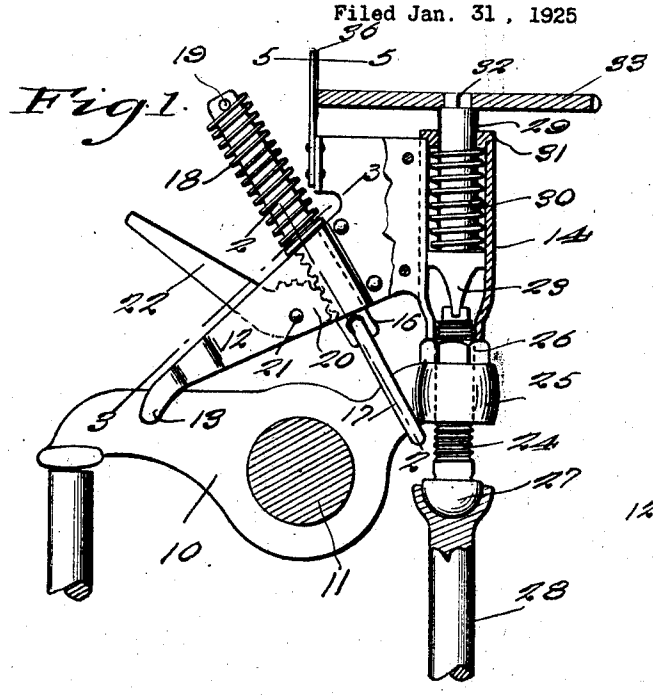


Fig. 2.

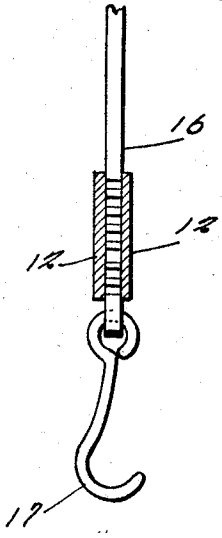


Fig. 4.

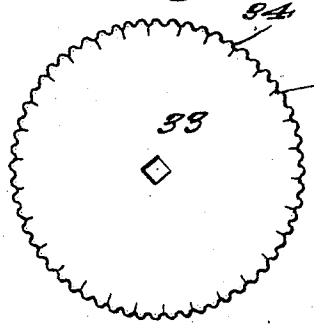


Fig. 3.

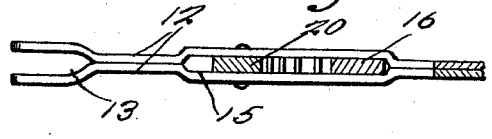
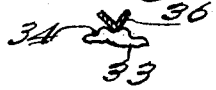


Fig. 5.



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UNITED STATES PATENT OFFICE.

GIDEON B. ENGLUND, OF ST. PETERSBURG, FLORIDA.

TAPPET-ADJUSTING TOOL.

Application filed January 31, 1925. Serial No. 6,086.

To all whom it may concern:

Be it known that I, GIDEON B. ENGLUND, a citizen of the United States, residing at St. Petersburg, in the county of Pinellas and State of Florida, have invented new and useful Improvements in Tappet-Adjusting Tools, of which the following is a specification.

This invention relates to improvements in valve-tappet adjusting tools and contemplates the provision of means which may easily and readily fitted upon a rocker arm of a valve in head motor.

Another object of the invention is the provision of spring retractile means included upon the tool in order that the same may firmly engage the rocker arm whereby the tool will be held firmly in position and ready for use.

A further object of the invention is the provision of calibrated means included upon the upper portion thereof and adapted to engage the upper portion of the valve-adjusting tool whereby upon the successive turnings of the calibrated means upon the upper portion of the tool the clearance between the valve stem and rocker arm may be checked in adjusting the valves to approximately 6/1000 of an inch, being the correct clearance between the valve stem and rocker arm.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawing, and pointed out in the appended claims.

In the drawing:—

Figure 1 is a side elevation of a rocker arm and showing the valve adjusting means positioned thereon;

Fig. 2 is a longitudinal section taken on line 2—2 of Fig. 1;

Fig. 3 is a section taken on line 3—3 of Fig. 1;

Fig. 4 is a top plan view of the calibrated adjusting means; and

Fig. 5 is a transverse section taken on line 5—5 of Fig. 1 and showing the dog included thereon which is adapted to selectively engage the notched calibrated portions of the calibrated means.

Referring to the drawing in detail, wherein like characters of reference denote corresponding parts, the reference character 10 indicates a rocker arm which is mounted in its usual manner upon a rocker arm shaft 11 which extends longitudinally of the motor (not shown), and is of the usual and well-known construction and forms no part of this application for Letters Patent, but is merely shown for purposes of illustration in bringing out the purposes and advantages of the above entitled invention.

In the present invention, I provide a pair of companion plate members 12 which include a bifurcated portion 13 at one end thereof and which end is adapted to rest upon the upper side of the rocker arm 10, while the opposite end portion provides a vertically extending tubular portion 14 which has its lower end portion reduced and resting upon the upper portion of a jam nut included upon the upper portion of the rocker arm and encircling the adjusting screw which extends or protrudes therein an appreciable distance. In order to provide holding means for the companion plate members 12 I provide a recess or opening 15 between the companion plate members 12 and in which is mounted for reciprocation therein a ratchet bar 16 and which includes a hook 17 upon the lower end portion thereof and which is adapted to be received and engage the under side of the rocker arm 10 adjacent the adjusting screw; the opposite end of the ratchet bar 16 includes a compression spring 18 which encircles the same and which is held between the upper side of the companion plate members 12 and the outer end portion of the ratchet bar 16 through the instrumentality of a transversely extending pin member 19 in order that the said ratchet bar 16 will be forced outwardly in order to insure a firm grip of the hook 17 upon the under side of the rocker arm 10. Also included in this recess portion 15 provided between the companion plate members 12 is semicircular gear member 20 which is pivotally secured as at 21 therein and

adapted to mesh with the ratchet bar 16 and which further includes an operating handle 22 upon the outer end portion thereof in order to facilitate the engagement or disengagement of the hook 17 with the underside of the rocker arm 10. It will thus be seen that from the foregoing description and accompanying drawing that a very novel and efficient form of holding means has been provided in order that the tool per se will not readily become disengaged or held against accidental displacement thereon.

It is generally known when adjusting valves of a valve in head motor that an open end wrench and screw-driver are employed to loosen the jam nut and utilize the screw-driver in the rotation of the adjusting screw for the push-rod in order that the opposite end portion of the rocker arm is adjusted as to its clearance and in order to provide means in this device whereby the saving of time as well as labor and also to insure the correct clearance between the valve stem and the rocker arm I have provided a screw-driver bit 23 within the housing or tubular member 14 and which is adapted to engage within the slotted portion provided in the upper end portion of the adjusting screw 24 which extends through the opposite end portion 25 of the rocker arm 10 and which includes upon the upper end portion thereof a jam nut 26 in order that the lower balled portion 27 may be held in adjusted position with respect to the push rod 28, this is of the usual and well-known construction in valve in head motors.

Extending upwardly and vertically from the screw-driver bit 23 is a shaft 29 which is encircled by a compression spring 30 included within the housing or tubular member 14 and which spring has its upper end portion engaging a collar member 31 in order that the opposite end portion thereof will force the screw-driver bit 23 downwardly and insure its fitting within the upper end portion of the adjusting screw 24. The upper end portion of the shaft is hexagonally shaped as at 32 and is fitted or received within a correspondingly shaped opening provided in a disk member 33 in order that the same may not become disengaged from the upper portion of the shaft 29 whereby the same will turn equally with the shaft 29. The outer periphery of the disk 23 is provided with a plurality of notched portions 34 each of which is calibrated as every other one is calibrated as at 35 to indicate 2/1000 of an inch in order that upon the successive turnings or rotations of the disk 33 with the shaft 29 that the adjusting screw 24 will be adjusted with respect to the push-rod 28. In order to provide means for holding the disk member in proper or desired position and also to indicate the number of thousandths of an inch that the disk member 33 is to traverse there is provided a dog member 36 which is provided upon the upper and opposite end portions of the companion plate members 12 and which includes a substantially V-shaped portion which is adapted to be tensioned against the outer periphery of the disk 33

In the use and operation of the present invention and in order to adjust the tappets of a motor and to check the clearance between the valve stem and the rocker arm; if the clearance is 10/1000 therebetween and is to be set at 6/1000, turn the disk member 33 to the right four notches, then tighten the jam nut 26 and check the clearance between the valve stem and the rocker arm and it will be found that the clearance will now register as 6/1000

The invention is susceptible of various changes in its form, proportions and minor details of construction, and the right is herein reserved to make such changes as properly fall within the scope of the appended claims.

Having thus described my invention what is claimed is:

1. A valve-tappet adjusting tool of the character described, comprising a pair of substantially offset companion plate members, the opposite end portions of the plates providing hollow cylindrical and bifurcated end portions respectively, the hollow cylindrical portion being positioned upon the upper face of a jam nut and receiving the upper end portion of an adjusting screw therein, and the bifurcated end portion engaging the opposite end portion of the rocker arm, spring-tensioned reciprocating means positioned between the plate and engaging the under side of the rocker arm, a shaft member extending vertically within the tubular portion of the plate, and a calibrated disk member included upon the upper portion thereof, for the purpose set forth.

2. A valve-tappet adjusting tool of the character described, comprising a pair of substantially offset companion plate members, said plate members including hollow cylindrical and bifurcated end portions repectively, said cylindrical portion having the lower end portion reduced and snugly received over the upper end portion of an adjusting screw and lying flush with the upper side of a jam nut, and the opposite bifurcated end portion engaging the upper portion of a rocker arm, a ratchet bar mounted for reciprocation between the companion plate members and including a hook member upon the lower end portion thereof and received under the lower side of the rocker arm, a compression spring included upon the upper portion of the ratchet bar, an operating lever pivotally mounted between the companion plate members and engaging the toothed portion of the ratchet bar, a spring-tensioned screw-driver bit in-

cluded within the hollow cylindrical portion of the companion plate members and engaging the slotted portion provided in the upper end portion of the adjusting screw, a calibrated disk member having a plurality of notched portions around the outer periphery thereof, and a spring-tensioned dog member included upon the upper portion of the companion plate members and selectively engaging the notched portions provided in the calibrated disk member.

In testimony whereof I affix my signature.

GIDEON B. ENGLUND.