April 6, 1926. 1,579,850

A. WITTIG

VALVE TAPPET

Filed Jan. 13, 1925

Fig. 1

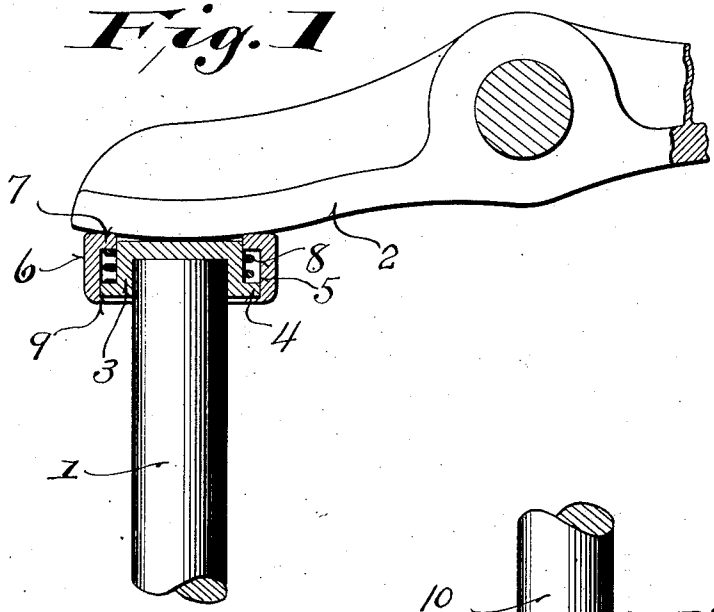


Fig. 2

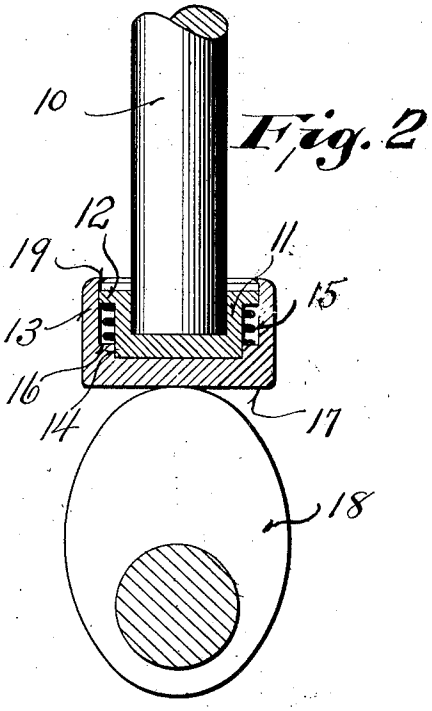
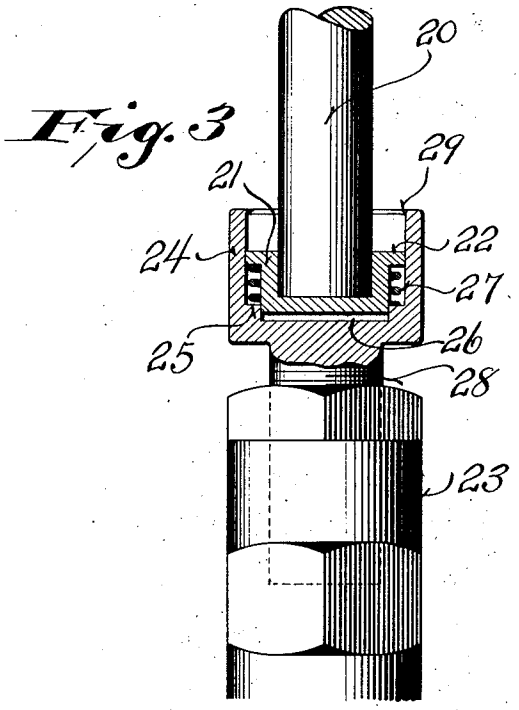


Fig. 3



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UNITED STATES PATENT OFFICE.

ARTHUR WITTIG, OF WEST ALLIS, WISCONSIN.

VALVE TAPPET.

Application filed January 13, 1925. Serial No. 2,130.

To all whom it may concern:

Be it known that I, ARTHUR WITTIG, a citizen of the United States, and resident of West Allis, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Valve Tappets; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to valve tappets.

Objects of this invention are to provied a valve tappet construction which is noiseless, which will automatically take up wear or compensate for variations in relative length of the parts of the engine due to heat, and which prevents sudden shocks being applied to the valve and associated parts.

Further objects are to provide a valve tappet construction which is simple and may be easily applied to standard types of gas engines, and in which there are a small number of parts.

Embodiments of the invention are shown in the accompanying drawings, in which:—

Figure 1 is a side elevation partly in section showing one form of the invention.

Figure 2 is a view of a further form.

Figure 3 is a view of a still further form.

Figure 1, showing the first form of the invention will first be described. In this form of invention the valve rod or push rod 1 extends to a point beneath the rock arm 2. The upper end of the valve rod carries a cup-shaped cap 3 which receives such end. This cap is provided with a flange 4, and such flange fits within a relatively large aperture 5 formed in a cover 6. This cover is provided with an inwardly turned flange 7 which is apertured to receive the main body of the cap 3. A helical spring 8 is interposed between the flanges 4 and 7. If desired the inner edges 9 of the external shell 6 may be spun inwardly to retain the device in its assembled condition.

In operation, the spring 8 serves to cushion the valve rod and to maintain the member 6 in contact with the rock arm or tappeting arm 2 at all times. Further, when the temperature of the engine varies and relative elongation of the parts takes place, the spring 8 will compensate for such variation.

It is to be noted that the spring 8 prevents the sudden transmission of violent shocks to the tappet arm or lever 2 and otherwise cushions or smooths the action of this valve rod, or push rod.

Figure 2 shows a further form of the invention in which the push rod 10 carries a shell 11 similar to the cap 3 previously described. This shell is similarly provided with an outturned flange 12. It fits within an outer shell 13 and such outer shell has a reduced aperture 14 which receives main body of the cap 11, as shown in Figure 2. A helical spring 15 is interposed between the flange 12 and the shoulder 16 of the shell 13. Preferably, the shell 13 is provided with an imperforate flat outer face 17 which cooperates with the cam 18.

The action of this device is substantially the same as that of the device shown in Figure 1. If desired, the edges 19 may be spun inwardly to maintain the assembly of the device.

In the form shown in Figure 3 an extension push rod 20 is employed and carries a cap 21 at its lower end provided with an outwardly projecting flange 22 similar to the constructions previously described. However, the lower portion 23 of the push rod is threaded and adjustably receives the shell 24, such shell having a shoulder 25 and a reduced portion 26 within which the main body of the cap 21 is adapted to slide. A helical spring 27 is interposed between the shoulder 25 and the flange 22 and operates in the manner previously described.

It is to be noted that the shell 24 is adjustably carried by a threaded stem 28 which is screwed into the end of the member 23 and locked in place by means of a suitable lock nut, as shown. If desired, the upper edges of the shell 24 may be spun inwardly to maintain the assembly of the parts.

It will be seen that a tappet construction for engines has been provided which is substantially noiseless, which is smooth in its action, and which materially lessens the wear on the valve and associated parts.

Although the invention has been described in considerable detail, it is to be understood that the invention may be variously embodied and is, therefore, to be limited only as claimed.

I claim:

1. In a tappet construction for engines, the combination of a push rod, a cap having a socket housing the end of said rod, a pressure transmitting shell surrounding said

socket, and a spring interposed between said socket and said shell, said shell having an inwardly spun portion for retaining said cap.

2. In a tappet construction for engines, the combination of a push rod, a cap having a socket housing the end of said rod and having a body portion and an outwardly projecting flange, a pressure transmitting shell slidably holding said cap with the flange slidably contacting with its inner surface, said shell having an inwardly extending portion guiding the body portion of said cap, and a spring interposed between said flange and said inwardly extending portion.

3. In a tappet construction for engines, the combination of a push rod, a cap having a socket housing the end of said rod and having a cylindrical body portion terminating in an outwardly projecting flange, a pressure transmittting shell having a cylindrical aperture receiving said flange and having a cylindrical aperture receiving the cylindrical body portion of said cap, and a spring interposed between the flange of said cap and said shell and urging said cap and shell apart.

In testimony that I claim the foregoing I have hereunto set my hand.

ARTHUR WITTIG.