

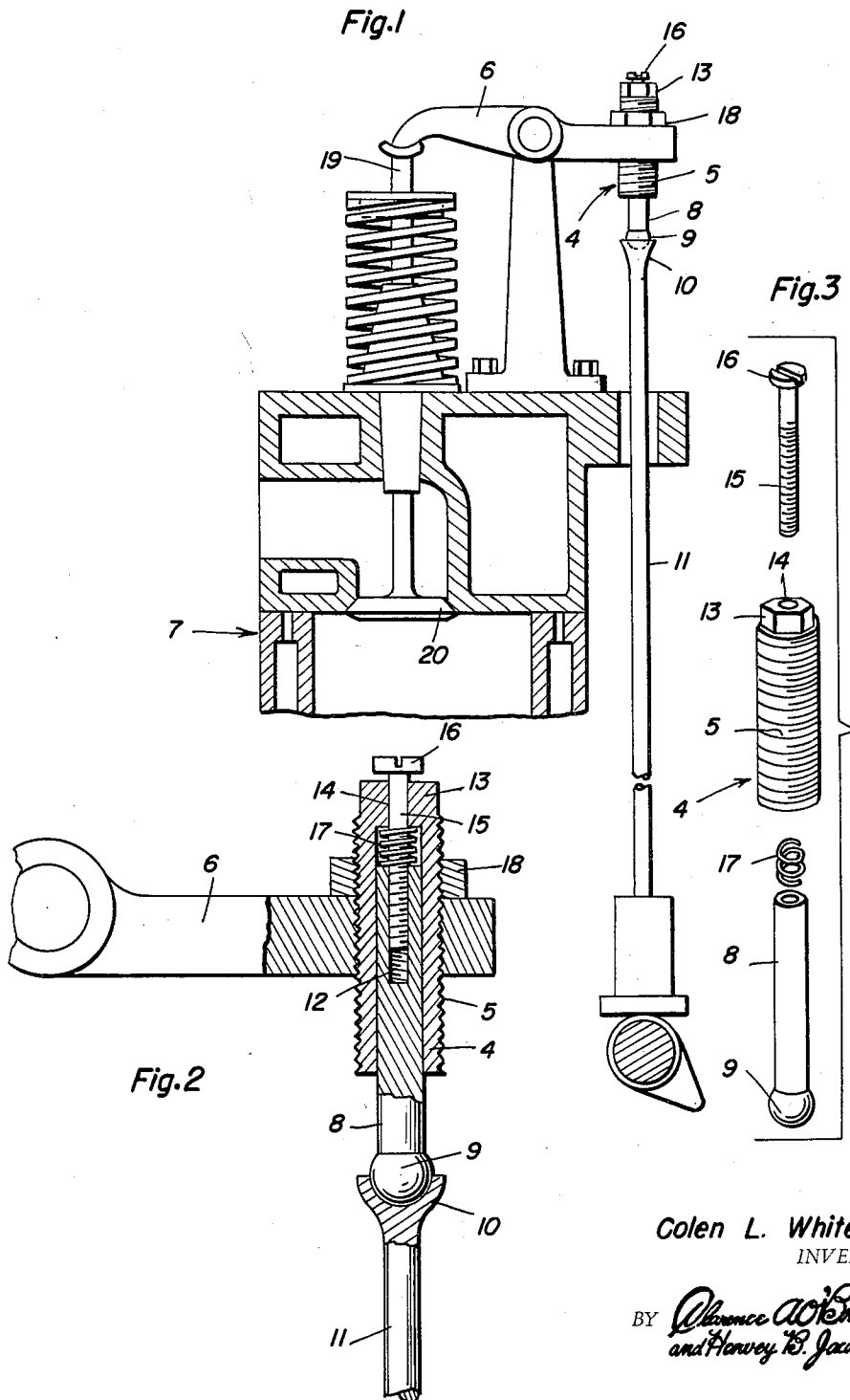
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ENGINE VALVE TAPPET

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ENGINE VALVE TAPPET

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4 Claims. (Cl. 123—90)

This invention relates to new and useful improvements in tappets particularly for internal combustion engines of the overhead valve type and has for its primary object to provide, in a manner as hereinafter set forth, a tappet of this character comprising novel means for preventing noise in the valve train or mechanism.

Another very important object of the present invention is to provide an engine valve tappet of the character described which may be expeditiously and accurately adjusted for the desired clearance.

Other objects of the invention are to provide a silent engine valve tappet of the aforementioned character which will be comparatively simple in construction, strong, durable, compact, of light weight and which may be manufactured at low cost.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a view in transverse section through a portion of an overhead valve internal combustion engine equipped with a tappet embodying the present invention;

Figure 2 is a vertical sectional view through the installed tappet; and

Figure 3 is a perspective view, showing the component parts of the tappet separated.

Referring now to the drawing in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a tube or barrel 4 of suitable metal. The barrel 4 is externally threaded, as indicated at 5, for threadedly mounting said barrel for vertical adjustment in one end portion of a rocker arm 6 of an internal combustion engine 7 of the overhead valve type.

The barrel 4 is open at its lower end for rotatably and slidably receiving a stem or plunger 8. The plunger 8 is provided on its lower end with a ball head 9 for engagement in a socket or cup 10 on the upper end of the push rod 11 of the engine. The upper end portion of the plunger 8 is provided with a threaded bore or socket 12.

The barrel 4 further comprises a closed upper end 13 having therein a smooth or unthreaded opening 14. The opening 14 rotatably and slidably accommodates a screw 15 which is threadedly engaged in the bore 12 of the plunger 8. The screw 15 comprises, on its upper end, a kerf head 16 for receiving a screwdriver.

Encircling the screw 15 in the barrel 4 between the upper end 13 thereof and the plunger 8 is a cushioning spring 17. The spring 17 is of the coil type and said spring is compressed between the plunger 8 and the upper end 13 of the barrel 4. A lock nut 18 is threaded on the barrel 4 and engaged with the rocker arm 6 for securing said barrel in adjusted position.

It is thought that the operation of the tappet will be readily apparent from a consideration of the foregoing. Briefly, to adjust for clearance, the screw 15 is tightened

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on the upper end of the barrel 4 for drawing the plunger 8 upwardly therein and compressing the spring 17. Thus, the unit is solidified. The lock nut 18 is loosened and a feeler gauge of the desired thickness is inserted between the other end of the rocker arm 6 and the upper end of the stem 19 of the engine valve 20. A wrench is then applied to the hexagonal upper end portion 13 of the barrel 4 for adjusting said barrel in the rocker arm 6. The lock nut 18 is then tightened for securing the adjustment. The screw 15 is then backed off or loosened sufficiently to permit the coil spring 17 to expand and push the plunger 8 downwardly in the barrel 4. With correct adjustment of the tappet complete contact is maintained at all points in the valve train or mechanism for insuring quiet operation. The cushioning effect of the coil spring 17 also prevents rocker arm flutter at high speeds, valve "float" and push rod rattle.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A tappet for an engine valve mechanism of the type including a push rod and a rocker arm, said tappet comprising: a barrel mounted on the rocker arm, a plunger slidably mounted in one end portion of the barrel and engageable with the push rod for actuation thereby, a screw mounted in the other end portion of the barrel and threadedly connected to the plunger for securing and slidably adjusting the same in said barrel, and a cushioning spring in the barrel encircling the screw and operatively engaged with the plunger.

2. A tappet for an engine valve mechanism of the type including a push rod and a rocker arm, said tappet comprising: a barrel mounted on the rocker arm and including a closed end and an open end, a plunger slidably mounted in the open end portion of the barrel and engageable with the push rod for actuation thereby, a screw rotatably and slidably mounted in the closed end portion of the barrel and threadedly connected to the plunger for securing and adjusting the same in said barrel, and a cushioning spring mounted under compression in the barrel between the closed end thereof and the plunger.

3. A tappet for an engine valve mechanism of the type including a push rod, a rocker arm, said tappet comprising: an externally threaded barrel adjustably mounted in the rocker arm and including a closed end and an open end, a lock nut threadedly mounted on the barrel and engageable with the rocker arm for securing said barrel in adjusted position, a plunger slidably mounted in the open end portion of the barrel and engageable with the push rod for actuation thereby, a coil spring mounted under compression in the barrel between the closed end thereof and the plunger, and a screw rotatably and slidably mounted in the closed end portion of the barrel and threadedly connected to the plunger for adjusting the same longitudinally in the barrel for regulating the tension of the coil spring.

4. A tappet for an engine valve mechanism of the type including a push rod and a rocker arm, said tappet comprising: a barrel mounted on the rocker arm and including a closed end portion and an open end, a plunger slidably mounted in the open end portion of the barrel and including a ball head on one end engageable with the push rod for actuation thereby, said plunger having a threaded bore in its other end portion, a cushioning spring mounted under compression in the barrel between

the closed end thereof and the plunger, and a screw rotatably and slidably mounted in the closed end portion of the barrel and threadedly engaged in the bore of the plunger for securing said plunger in the barrel and adjusting said plunger longitudinally in said barrel, said 5 coil spring encircling said screw.

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