

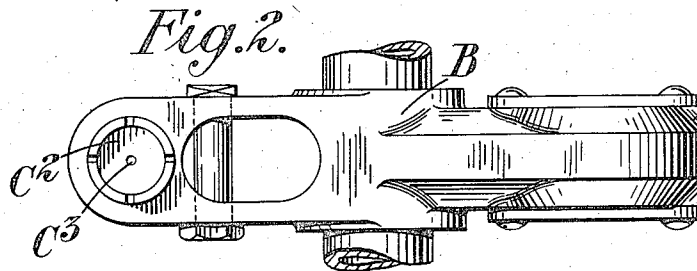
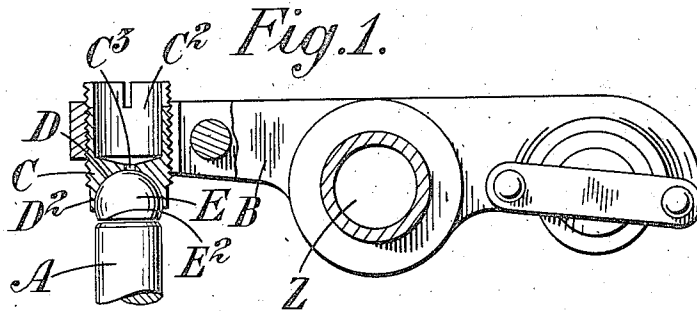
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1,515,201

H. S. HEWITT

TAPPET MECHANISM

Filed March 19, 1924



INVENTOR:

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By Spear, Macdonald & Macdonald, Attys.

UNITED STATES PATENT OFFICE.

HERBERT STAYTON HEWITT, OF FARNBOROUGH, ENGLAND.

TAPPET MECHANISM.

Application filed March 19, 1924. Serial No. 700,333.

To all whom it may concern:

Be it known that I, HERBERT STAYTON HEWITT, a subject of the King of England, residing at Farnborough, Hampshire, England, have invented certain new and useful Improvements in Tappet Mechanism, of which the following is a specification.

This invention relates to tappet mechanism, preferably such as is used on internal combustion engines, of the kind wherein one part of the mechanism moves in a straight line and the other is a rocker which moves about a pivot. For example, on many internal combustion engines a valve is moved axially by a pivoted rocker which is operated either by a camshaft or push rod. It will be clear that the engaging ends of the rocker move in a curved path and that the valve stem and push rod travel in straight lines. Generally there is only a line contact between the engaging parts which results in rapid wear, varying the clearance and, by making a groove, rendering correct adjustment of the clearance difficult. It is the object of the present invention to avoid this in a simple manner.

Accordingly, to the rocker is pivoted about an axis parallel to that of the rocker a shoe or the like having a flat face adapted to engage the flat face of the tappet so as to have surface contact therewith.

The shoe preferably takes the form of a parti-spherical member in a socket on the rocker, a flat portion of the member engaging the flat end of the tappet, which moves in a straight line.

In the accompanying drawings,

Figure 1 is a side elevation partly in section of a valve rocker of an internal combustion engine to which this invention has been applied in the preferred manner.

Figure 2 is a plan of the same.

Like letters indicate like parts throughout the drawings.

In the construction shown in Figures 1 and 2, the top of the valve stem A is flat as usual. The end of the rocker B adjacent the valve stem is drilled through and tapped to receive a screwed plug C which can be adjusted towards and away from the end of the valve stem to adjust the clearance, in the usual manner. Instead of this plug

engaging the valve stem it is formed on the underside with a parti-spherical recess D in which is mounted a part of a sphere E, the recess being sufficiently large that the edges D² are below the centre of the sphere and the sphere is held in place. For example, these edges may be spun on to the sphere after the latter has been fitted.

The flat face E² on the sphere is adapted to have a surface engagement with the head of the valve stem A, with any suitable clearance, and, to provide lubrication, the top of the plug is recessed at C² and a hole C³ at the bottom of the recess leads oil from the recess on to the face of the sphere.

In manufacture, a ball would be inserted in the recess D in the plug and either before or after insertion one face of the ball would be ground flat.

Thus the ball can twist in every direction although it is only necessary that it should be capable of oscillation about an axis parallel with the axis of oscillation Z of the rocker.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. In tappet mechanism the combination of a pivoted rocker, a plug screwed in said rocker, a parti-spherical recess in one end of said plug, a ball formed with a flat face located in said recess, and arranged so that its flat face engages the flat face of a tappet, substantially as set forth.

2. In tappet mechanism, the combination of a rocker, a plug screwed in said rocker, a parti-spherical recess in one end of said plug, a ball formed with a flat face located in said recess and arranged so that its flat face engages the flat face of a tappet, a recess in said plug, and an oil hole at the bottom of said recess whereby oil collecting in the recess can be conducted to the surface of the ball, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HERBERT STAYTON HEWITT.

Witnesses:

RUSSELL H. RHODES,
JOHN T. CLAFFEY.