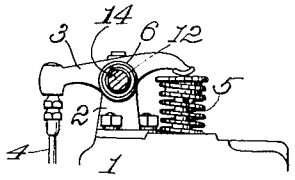
E. W. OHRT.

SPRING DAMPER FOR VALVE MECHANISM.

APPLICATION FILED JUNE 19, 1919.

1,349,089. Patented Aug. 10, 1920.

Fig. 2.



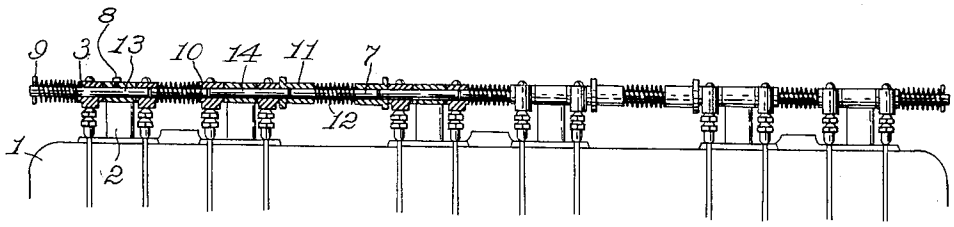


Fig. 1.

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SPRING-DAMPER FOR VALVE MECHANISM.

1,349,089. Specification of Letters Patent. Patented Aug. 10, 1920.

Application filed June 19, 1919. Serial No. 305,265.

To all whom it may concern:

Be it known that I, EMIL W. OHRT, a citizen of the United States of America, and a resident of Reinbeck, Grundy county, Iowa, have invented certain new and useful Improvements in Spring-Dampers for Valve Mechanism, of which the following is a specification.

My invention relates to improvements in spring-dampers for valve-mechanism, and the like, and the object of my improvement is to supply means for yieldingly and resiliently damping or preventing side-play in moving parts of mechanisms, such as rocker-arms in engines by simple and effective means applied removably thereto.

This object I have accomplished by the means which are hereinafter described and claimed, and which are illustrated in the accompanying drawings, in which Figure 1 is a front elevation of my improved resilient damping-means as applied to and bearing upon the rocker-arms of valve-actuating mechanism of a multi-cylinder block of an internal-combustion engine, and Fig. 2 is a slightly enlarged end elevation of a standard and rocker-arm with the resilient means applied to the latter, other parts being removed or broken away.

Similar numerals of reference denote corresponding parts throughout the several views.

The numeral 1 denotes the single block of a multi-cylinder internal-combustion engine, in which are arranged six cylinders, but the particular number of cylinders is unimportant, as my invention is applicable in practice to one or more.

These cylinders are each supplied at one head with a fixed bracket or standard 2, and the standards 2 have alined bearing-orifices.

The numeral 3 denotes a pair of rocker-arms such as are usually employed as part of the valve-actuating mechanisms of such engines, and are mounted in contact with and to rock upon opposite sides of each of said standards. The rocker-arms usually have flat circular bosses 6 contacting with like abutting bosses on the standards. The rocker-arms have operative connections or engagements respectively at their opposite ends with the push-rods 4 and with the resiliently-controlled valve-stems 5. The rocker-arms have medial transverse bearing-orifices alined and registered with said bearing-orifices in the abutting standards 2.

Cylindrical bearing-pins or pintles 14 are usually mounted loosely within the alined orifices of the standards 2 and the rocker-arms 3 to serve to support the latter to rock as actuated by said push-rods 4.

In order to prevent side-play of the rocker-arms and the noises incident thereto, I have supplied the following means for yieldingly and resiliently keeping them securely in contact with the abutting bosses of said standards.

The said means comprise cylindrical rods similar to the rods or pintles 14, associated with and alined with the latter, and helical compression-springs 12 mounted on the rods to bear yieldingly against the abutting outer bosses 6 of said rocker-arms 3, as shown in Fig. 2.

The rods may be in different lengths, as shown, in order to be properly proportioned to bridge the varying interspaces of the standards 2. Relatively short rods 10 may be used to bridge the narrow interspaces of pairs of standards, in which case the ends of the rods 10 are supported loosely within the outer parts of the orifices of the rocker-arms.

To bridge the wider interspaces of other pairs of standards 2, longer rods 7 are used, and in this case, end-parts of the pintles 14 are allowed to project outwardly a short distance. Upon these end-parts and upon the interposed rods 7, sleeves 11 are mounted loosely in contact with the abutting bosses 6 of the adjacent rocker-arms. Springs 12 are located between and engage the opposed ends of said sleeves 11, whereby the latter, used as spacing-means, as the springs are preferably all of the same length, are kept engaged with the rocker-arms.

The outermost standards 2 have longer pintle-rods 13 fixedly secured by screws 8, the outer parts of the pintles 13 projecting sufficiently outwardly to receive the springs 12, and split-pins 9 at the outer ends of the pintles engage the abutting ends of the springs.

It will be seen that the assemblage of resilient devices shown are mounted and act efficiently in preventing side-play of the rocker-arms, obviating excessive wear and irritating noises.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is:

1. The combination with an engine cylin-

der block having a plurality of alined spaced standards all orificed in alinement, certain adjacent standards being spaced farther apart than others, a plurality of pintles loosely mounted in the orifices of said standards and across the interspaces thereof, rocker-arms transversely orificed and mounted to rock at opposite sides of each standard on said pintles, helical compression springs mounted on said pintles between the narrowly-spaced standards and yieldingly engaging the adjacent rocker-arms, sleeves positioned partially across the wider interspaces of said standards to support bridging ones of said pintles, and helical compression springs mounted on said bridging pintles and yieldingly engaging abutting ends of said sleeves to force the latter against the adjacent rocker-arms.

2. In combination with an engine cylinder block having a transversely-orificed standard, a rocker-arm positioned in contact with said standard and transversely orificed in alinement therewith, a pintle loosely mounted in said alined orifices and projecting therebeyond, and a helical compression spring mounted on the projecting part of said pintle, secured at one end, and bearing yieldingly against the abutting part of said rocker-arm to prevent side-play thereof.

Signed at Waterloo, Iowa, this 31st day of May, 1919.

EMIL W. OHRT.