July 20, 1926. 1,592,898

C. B. MUMMERT

VALVE SPRING COMPRESSOR

Filed Feb. 12, 1926 2 Sheets-Sheet 1

Fig. 1.

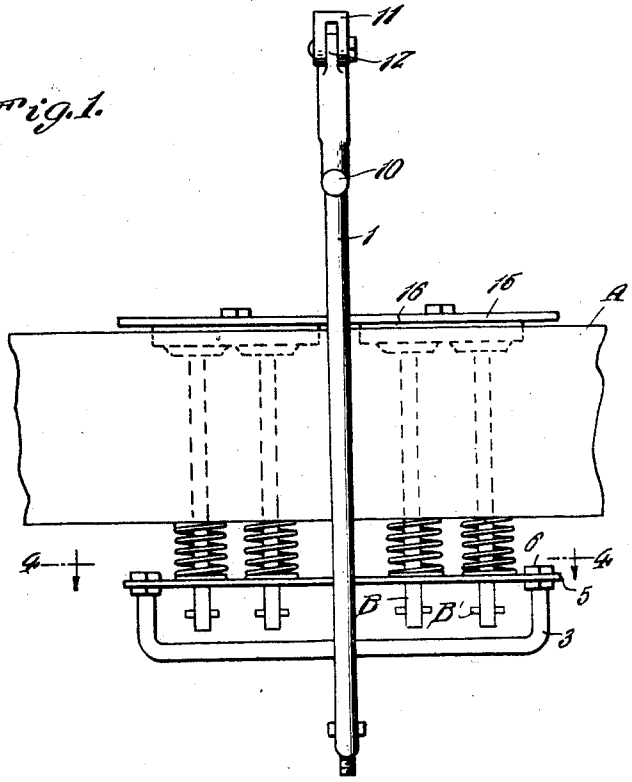
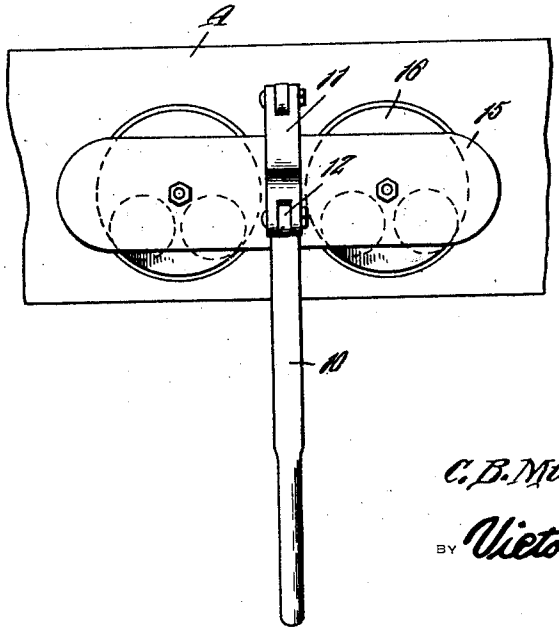


Fig. 3.



Fig. 2.



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Fig. 3.

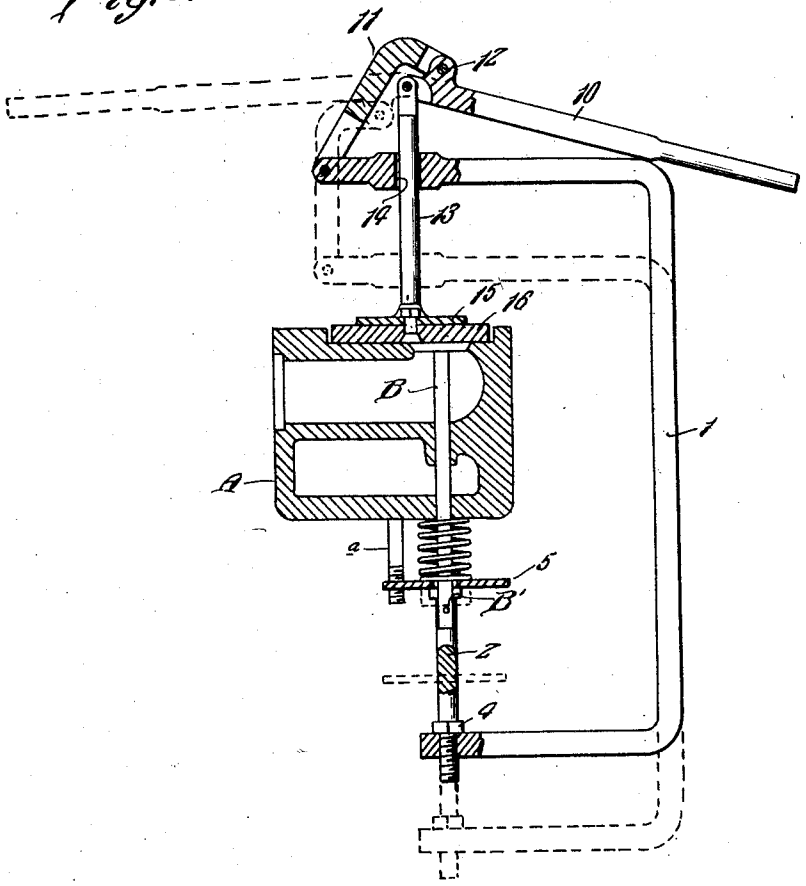
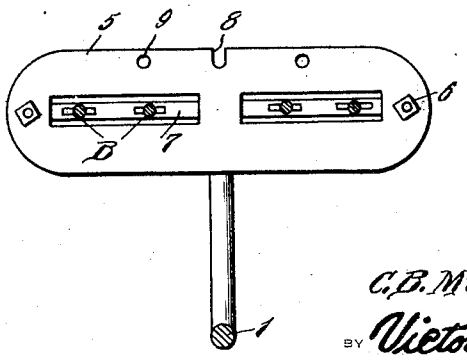


Fig. 4.



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Patented July 20, 1926. 1,592,898

UNITED STATES PATENT OFFICE.

CHESTER B. MUMMERT, OF HARRISBURG, PENNSYLVANIA.

VALVE-SPRING COMPRESSOR.

Application filed February 12, 1926. Serial No. 87,893.

This invention relates to a valve spring compressor for valves in the head motors, the general object of the invention being to provide means for compressing the springs of a number of valves simultaneously so that the spring locks can be removed from the valve systems in the minimum amount of time.

Another object of the invention is to provide a hand lever for causing the device to compress the springs, with means whereby the hand lever will hold the parts with the springs compressed when said lever has been moved to a certain position.

A further object of the invention is to make the device adjustable so that it can be used with different types of motors.

This invention also consists in certain other features of construction, and in the combination and arrangement of the several parts to be hereinafter fully described, illustrated in the accompanying drawings, and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings, wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Fig. 1 is a fragmentary elevation of a motor head showing the device in use,

Fig. 2 is a plan view of Fig. 1,

Fig. 3 is a transverse sectional view,

Fig. 4 is a section on line 4—4 of Fig. 1, and

Figure 5 is a view of the L-shaped connecting link.

In these views, 1 indicates a yoke-shaped stem which has a screw-threaded hole in its lower arm to receive the end of a depending stem 2 of a yoke-shaped member 3, so that the yoke-shaped member is adjustably connected with the stem 1, a nut 4 being provided on the stem 2 to hold the parts in adjusted position. A plate 5 has holes at its ends for receiving the threaded ends of the member 3, the plate being connected with the said member by the nuts 6 on the said threaded ends. This plate is provided with the slots 7 through which the valve stems pass and with a notch 8 and holes 9 for receiving the lugs *a* of the head A of the cylinder block, these lugs acting as guiding means for the plate and for preventing twisting movement of the same.

A hand lever 10 is pivoted to the upper arm of the stem 1 by means of an inverted L-shaped link 11, the link having its ends forked to engage the parts and its upper end is connected with the lever through means of an ear 12 formed on the lever. A rod 13 is pivoted to one end of the lever and said rod passes through a hole 14 formed in the upper arm of the stem 1 and a plate 15 is connected with the lower end of the rod. Disks 16 are fastened to the plate and these disks are adapted to enter the combustion chambers of the head to hold the valves B upon the seats.

After the head is removed from the cylinder block, it is taken to a bench or other support and inverted. The device is then put in position with the disks 16 engaging two of the combustion chambers of the head and the slots 7 in plate 5 will come in line with the ends of the valve stems. The handle is then swung upwardly and outwardly from its dotted line position to the full line position in Fig. 3, which will cause the stem 1 to move upwardly so that the plate 5 is raised and will engage the valve springs and compress the same so that the locks B′ can be removed from the stems. During this movement of the hand lever, the rod 13 acts as a stationary support so that the link 11 exerts a pull on the top of the stem 1 and causes the upper arm of said stem 1 to slide up the rod 13. As the pivotal point between the link and the hand lever passes the longitudinal center of the rod 13, the parts will act as a lock to hold the device with the springs compressed.

After the locks B′ have been removed, the hand lever can be swung back to its normal position and the device moved over to engage the second set of valves, and then the first set of valves can be ground in the usual manner. The device is handled in the same manner to replace the locks B′ in position after the valves have been ground.

As will be seen, a whole group of valve springs can be compressed simultaneously, so that the work can be done easily and quickly. It will of course be understood that the device can be made to handle various numbers of valve springs at the same

time, the drawings showing a device designed to raise four springs at once.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent. I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A valve-spring compressor comprising a yoke-shaped member having a hole in its upper arm, a rod passing through the hole, a hand lever pivoted to the upper end of the rod, an L-shaped link pivoted to the lever and to the end of the upper arm of the yoke-shaped member, a valve-engaging member carried by the lower end of the rod, a support carried by the lower arm of the yoke-shaped member, and a plate carried by the support and having slots therein for receiving the valve stems.

2. A valve-spring compressor comprising a yoke-shaped member having a hole in its upper arm, a rod passing through the hole, a hand lever pivoted to the upper end of the rod, an L-shaped link pivoted to the lever and to the end of the upper arm of the yoke-shaped member, a valve-engaging member carried by the lower end of the rod, a support carried by the lower arm of the yoke-shaped member, a plate carried by the support and having slots therein for receiving the valve stems, and means for adjustably connecting the supporting member with the lower arm of the yoke-shaped member.

3. A valve-spring compressor comprising a yoke-shaped member having a hole in its upper arm, a rod passing through the hole, a hand lever pivoted to the upper end of the rod, an L-shaped link pivoted to the lever and to the end of the upper arm of the yoke-shaped member, a valve-engaging member carried by the lower end of the rod, a support carried by the lower arm of the yoke-shaped member, a plate carried by the support and having slots therein for receiving the valve stems, and said plate having openings therein for receiving the lugs on the cylinder head as the plate moves to compressing position.

4. A valve-spring compressor comprising a yoke-shaped member having a hole in its upper arm, a link pivoted to the end of said arm, said link being of inverted L-shape, a rod passing through the hole, a hand lever pivoted to the upper end of the rod and having a part adjacent its pivoted end to which the link is pivoted, a plate fastened to the lower end of the rod, disks carried by the plate for engaging the valve-heads, a support adjustably connected with the lower arm of the yoke-shaped member, and a slotted plate carried by the support.

In testimony whereof I affix my signature.

CHESTER B. MUMMERT.