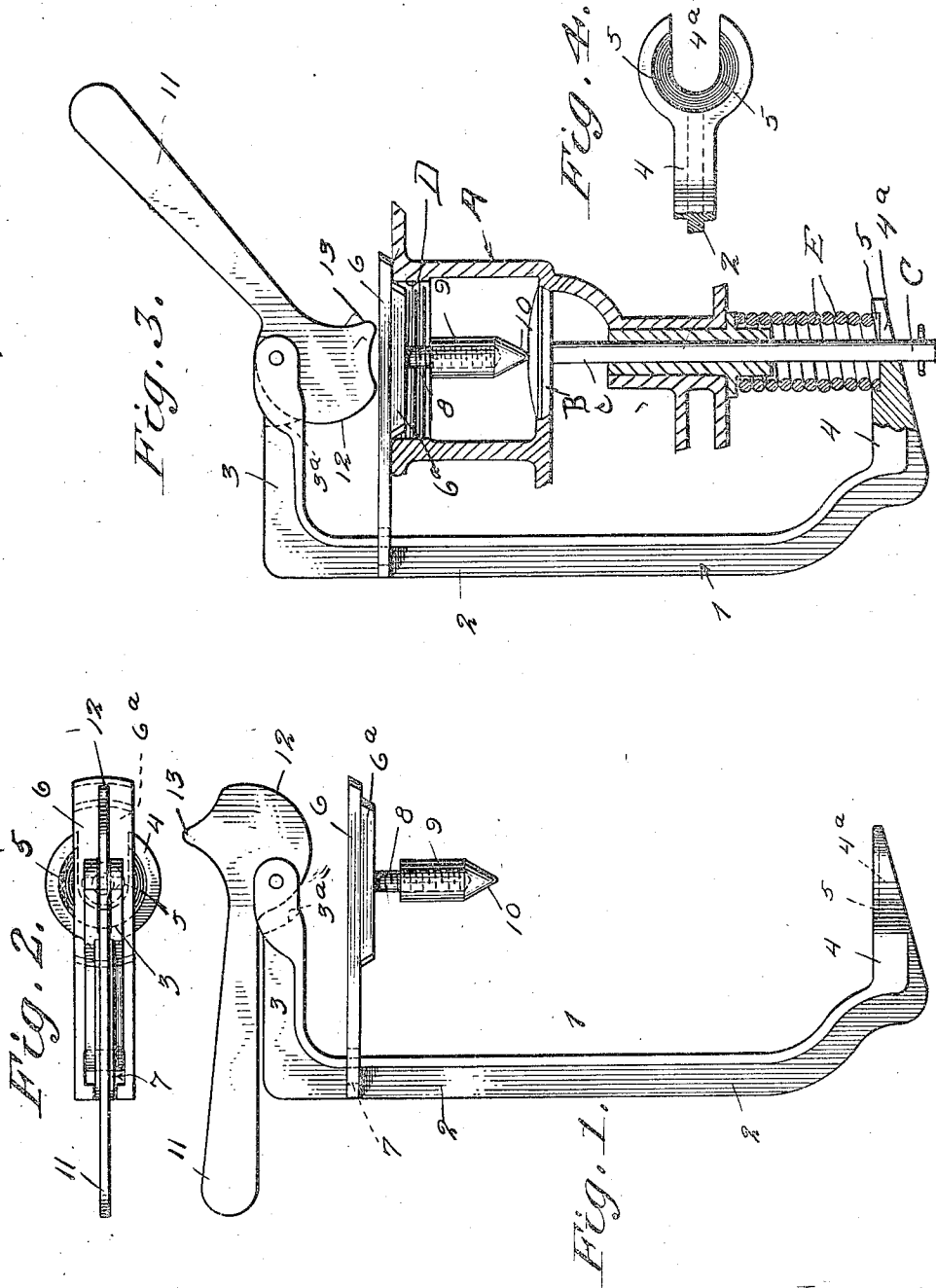


W. M. HALLBAUER.
VALVE SPRING LIFTER.
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Patented June 10, 1913.



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UNITED STATES PATENT OFFICE.

WILLIAM M. HALLBAUER, OF ST. LOUIS, MISSOURI.

VALVE-SPRING LIFTER.

1,064,640.

Specification of Letters Patent.

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Application filed May 8, 1911. Serial No. 625,935.

To all whom it may concern:

Be it known that I, WILLIAM M. HALLBAUER, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Valve-Spring Lifters, of which the following is a specification.

My invention relates to tools for compressing the springs on the stems of valves to permit a retaining nut or cross pin to be attached to the stem, and has for its object the provision of a device having an adjustable pin to engage the valve piston, a slotted, lifter arm to receive the stem of the valve, a circular socket to receive the lower end of the valve spring, and a cam lever for actuating the lifter arm, the whole combining to comprise a very efficient tool that is simple in construction and easy to operate.

My invention will be described in detail hereinafter and illustrated in the accompanying drawings in which—

Figure 1 is a side view of the tool with the operating cam lever shown in an inoperative position, Fig. 2, a top plan view, Fig. 3, a view similar to Fig. 1 showing the cam lever in operative position applied to a valve, and Fig. 4, a sectional detail of the spring engaging arm.

In the drawings similar reference characters will be used to designate corresponding parts in the several views.

The frame 1 of my improved valve spring lifter is formed of a bar T-shaped in cross section, and consisting of an upright portion 2, having arms 3 and 4 on its upper and lower ends respectively. Arm 3 has its free end bifurcated as shown at 3^a, while arm 4 is provided with an open slot 4^a and a circular recess 5 in its upper face.

6 indicates a plate provided with a plate 6^a upon its lower surface, and also provided with a notch 7 in one end to engage the upright 2 and is slidably mounted thereon.

8 indicates a screw threaded pin secured to the underside of plate 6^a, and 9 an interiorly threaded adjusting thimble mounted

ed on pin 8 and having its lower end tapered as shown at 10.

11 indicates a lever fulcrumed in the bifurcated end of arm 3 and having a cam face 12 and stop 13 that engages the upper side of plate 6 when in operation.

My device is adapted to be applied to a valve structure A as shown in Fig. 3. The thimble 9 engages the disk B, the plate 6 engages the top of the casing and the plate 6^a fits within the opening D in the valve casing and centers the device. The valve rod C extends through the opening 4^a in the arm 4 and the spring E is seated in the recess 5. When the cam lever is thrown from the position shown in Fig. 1 into the position shown in Fig. 3 the frame of the device is raised relatively to the plate 6, and it is obvious that the spring will be compressed so that the spring retaining nut or cross-pin may be readily attached to or detached from the valve rod.

Having thus described my invention what I claim is—

1. In a valve spring lifter, a U shaped frame, a cam lever fulcrumed upon one arm of said U, a plate slidably mounted on said frame and engageable by said cam, the other arm of said U being provided with a slot for the reception of a valve rod and a recess for seating a valve spring, and a pin on said slidable plate adapted to engage said valve rod.

2. In a device of the character described, an upright, an arm extending from one end of said upright, said arm being provided with a slot and a recess, a second arm extending from the other end of said upright, a cam lever pivoted upon said second named arm, a plate slidably mounted on said upright and adapted to be engaged by said cam lever, a screw threaded pin depending from said slidable plate, and a screw threaded thimble in engagement with said pin and adapted to engage a valve rod, said first named arm being adapted to engage a valve spring.

3. In a device of the character described, a rigid supporting frame, a laterally extending arm formed upon one end of said frame, a cam lever provided with a stop and pivoted upon said arm, a slidable plate mounted upon said frame and adapted to engage a valve rod, a second laterally extending arm formed upon the other end of said frame, said second named arm being provided with a slot for receiving said valve rod and being adapted to engage a valve spring.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."