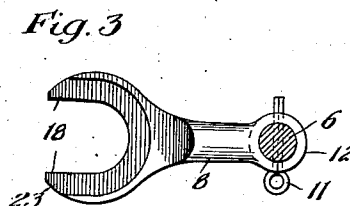
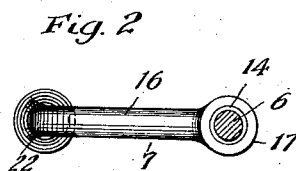
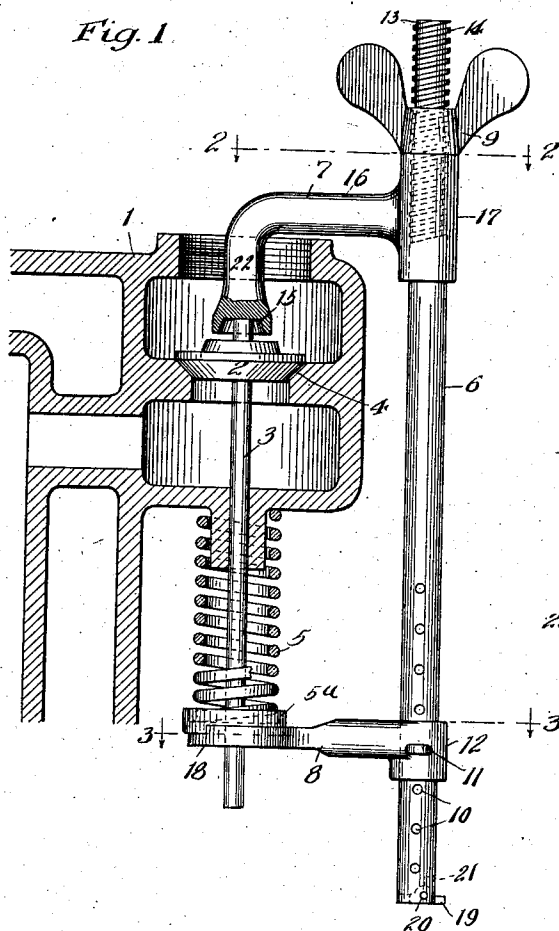


C. J. WOLFF.
VALVE SPRING LIFTER FOR AUTOMOBILE AND OTHER ENGINES.
APPLICATION FILED FEB. 23, 1911.

1,027,164.

Patented May 21, 1912.



Witnesses:

Wm. Geiger
H. M. Munday

Inventor:
Christian J. Wolff

By Munday, Davis, Adams & Volante,

Attys

UNITED STATES PATENT OFFICE.

CHRISTIAN J. WOLFF, OF CHICAGO, ILLINOIS.

VALVE-SPRING LIFTER FOR AUTOMOBILE AND OTHER ENGINES.

1,027,164.

Specification of Letters Patent.

Patented May 21, 1912.

Application filed February 23, 1911. Serial No. 610,311.

To all whom it may concern:

Be it known that I, CHRISTIAN J. WOLFF, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Valve-Spring Lifters for Automobile and other Engines, of which the following is a specification.

My invention relates to improvements in valve spring lifters for automobile and other engines.

The object of my invention is to provide an improved construction of valve spring lifter capable of being used upon almost every make of engine, regardless of the room taken up by intake, exhaust, water pipes, etc., which will be of a simple construction, composed of few parts and not liable to get out of order, in which the lifting of the valve spring may be effected near the valve and without danger of bending or damaging the valve stem, in which the holder on top of the valve will be stationary and subjected to no screwing or turning action, by which the lifting of the spring may be done quickly and conveniently, and whereby when the spring is compressed, the lifter will be firm and rigid and held in position until released, and which may be quickly and easily released and removed.

My invention consists in the means I employ to practically accomplish this object or result as herein shown and described, the same being more particularly pointed out in the claim.

In the accompanying drawing forming a part of this specification, Figure 1 is an elevation, partly in vertical section, of a valve spring lifter embodying my invention. Fig. 2 is a section on the line 2—2 of Fig. 1 and Fig. 3 is a section on line 3—3 of Fig. 1.

In the drawing, 1 is a valve casing of an automobile or other engine, 2 the valve, 3 the valve stem, 4 the valve seat and 5 the valve spring, all of these parts being of any suitable or well known construction and being herein shown to enable the con-

struction and operation of my valve spring lifter to be more clearly understood.

My improved valve spring lifter comprises four parts or pieces, namely, a stem 6, a valve holder arm 7, a lifter arm 8 and a thumb nut 9. The stem 6 is furnished at its lower portion with a plurality of holes for adjustably connecting the lifter arm 8 to the stem by means of a removable cotter or pin 11, which is inserted through the socket 12 of the lifter arm to adjustably connect the lifter arm in different positions as may be required for operation upon different machines. At its upper end the lifter stem 6 is furnished with double screw threads 13, 14 for engagement with the corresponding threads of the thumb nut 9 so as to provide for a quick lifting action. The valve holder 7 has at its lower end a socket 15 for engagement with the valve or its stem, and a horizontally bent arm 16 furnished with an integral sleeve 17 through which the lifter stem 6 may slide under action of the thumb nut 9. The lifter arm 8 is furnished at its free end with a fork 18 adapted to fit astride the valve stem and engage the washer 5^a against which the lower end of the valve spring bears. This fork enables the lifter arm to be laterally removed from the valve stem.

To prevent the lifter arm 8 from slipping off of the lifter stem 6, the stem 6 is provided at its lower end with a hinge dog 19 connected by a pivot pin 20 to the stem 6, and which dog is adapted to shut into a recess 21 in the stem 6 to permit the socket 12 of the arm 8 to be removed from the stem 6 when desired. The lifter stem with its valve holder and lifter arm may be placed horizontally or into any position that may be required by a particular valve. The upright or depending arm 22 of the valve holder 7 enables the valve holder to be inserted within the valve shell as required for engagement with the valve or upper end of its stem. The fork 18 of the lifter arm 8 is furnished with a recessed seat 23 to receive the washer 5^a at the lower end of the valve spring.

I claim:—

In a valve spring lifter, the combination with a lifter stem furnished with a screw thread at one end, of a lifter arm connected
5 to the lifter stem at its other end and a valve holder having a horizontally extending arm furnished with a sleeve in which the lifter stem may slide, and an operating

nut on the lifter stem, said lifter stem having a hinge dog at its lower end to prevent 10 accidental removal of the lifter arm, substantially as specified.

CHRISTIAN J. WOLFF.

Witnesses:

PEARL ABRAMS,
H. M. MUNDAY.

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