

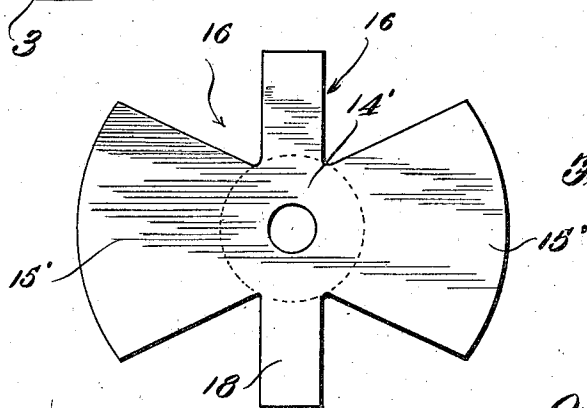
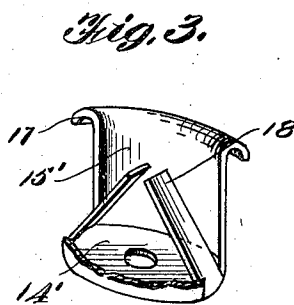
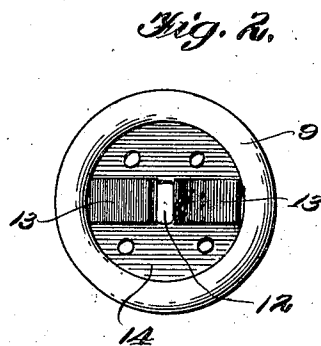
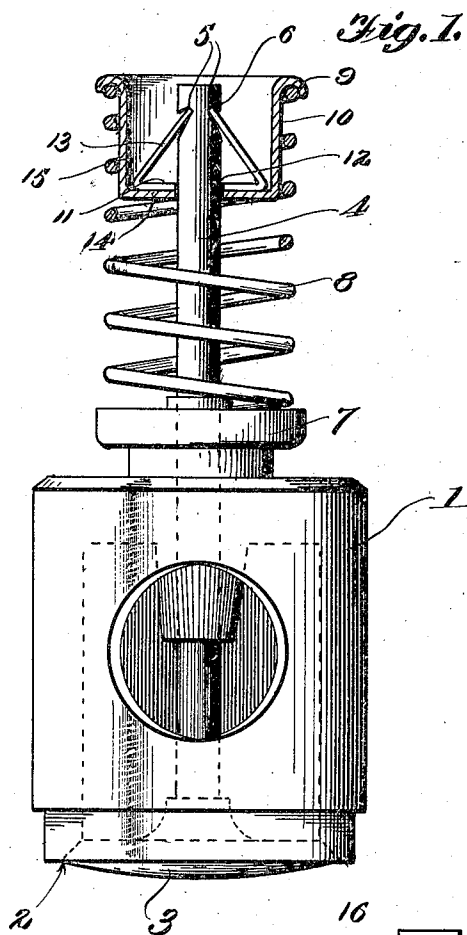
Mar. 13, 1923.

1,448,221

O. C. JOHNSON

VALVE SPRING SADDLE

Filed Aug. 18, 1921



Inventor
O.C. Johnson.

By

Fred P. Lorin

Attorney

UNITED STATES PATENT OFFICE.

OSCAR C. JOHNSON, OF SEATTLE, WASHINGTON.

VALVE-SPRING SADDLE.

Application filed August 18, 1921. Serial No. 493,482.

To all whom it may concern:

Be it known that OSCAR C. JOHNSON, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, has invented certain new and useful Improvements in Valve-Spring Saddles, of which the following is a specification.

This invention relates to valve spring saddles and particularly to a saddle formed of one piece with means for engaging a valve stem to hold the saddle in position thereon.

An object of this invention is to construct a valve spring saddle which can be positioned on the valve stem for holding the spring without the use of the usual pin.

Another object of this invention is to make the saddle of one piece with means formed thereon to engage the valve stem so that it may be removed therefrom by a quarter turn around the stem.

Other objects and the details of construction are particularly pointed out in the following description and claims.

In the drawings:

Fig. 1 is a view of an overhead valve assembly with the invention applied thereto.

Fig. 2 is a plan view of the invention.

Fig. 3 is a perspective view of a modified form of saddle with a portion broken away.

Fig. 4 is a view of the blank from which the form shown in Fig. 3 is made.

1 indicates the usual overhead valve structure of an engine having a port 2 therein closed by a valve 3 having its stem 4 extending above the casing.

The end of the valve stem is provided with transverse grooves 5 each having a lip portion 6 extending above the bottom of the groove. A cap 7 seats against the valve structure 1 around the valve stem and receives one end of the valve spring 8, the other end seating in the overturned portion 9 of the improved saddle 10, which is held in position on the valve stem by a clip 11, having an opening 12 through which the valve stem passes and having the outer ends turned inwardly to form tongues 13, and seated in the transverse grooves 5 in the valve stem, as shown in Fig. 1. The saddle 10 is formed of one piece, an end wall 14 formed with an opening for the valve stem, and a cylindrical portion 15 extending from

the end portion and terminating in the overturned portion 9, which is adapted to receive one end of the valve spring as above described.

The saddle structure shown in Figs. 3 and 4 is formed from a blank shaped as indicated in Fig. 4. This blank is a substantially circular piece having V shaped portions, indicated at 16, cut from it, so that it may be shaped to have the end wall 14', and curved side walls or portions 15' extending from the end wall corresponding with the cylindrical portion 15 previously described, the ends of the portions 15' being overturned as indicated at 17 to receive the end of the valve spring. The portions 18 of the blank are bent inwardly so that the free ends are adjacent the axial center of the cylindrical portion in order that these ends will seat in the grooves 5 of the valve stem and thereby hold the saddle in position thereon. This saddle can be stamped from sheet metal and is easily placed in operative position on the valve stem by pushing the saddle inwardly on the valve stem until the ends 13 of the clip 11 or the ends 18, as shown in Fig. 3, snap into the grooves 5 in the end of the valve stem. This saddle may be easily removed from the stem by simply turning it a quarter of a turn with respect thereto so that the ends 13 of the clip 11 or the ends 18 of the form shown in Fig. 3 will ride up over the lips 6 and out of the grooves 5, which may be obvious from the showing in Fig. 1.

What I claim is:

1. A valve spring saddle comprising a cylindrical body, having an end wall formed with an opening for the passage of the valve stem and formed at the other end with an overturned edge adapted to receive and seat one end of a valve spring, and means for securing the saddle to the valve stem adapted to be released in the rotation thereof about the stem.

2. A valve spring saddle comprising a cylindrical body member having an overturned edge portion at one end adapted to receive one end of the valve spring, a valve stem having transverse grooves in the end portion thereof and inwardly projecting tongues from the body member adapted to seat in the grooves in the valve stem for securing said member in position.

3. A valve spring saddle comprising a body member having an end portion formed with an opening to receive the valve stem, a cylindrical portion extending from the end portion and provided with an overturned edge at the opposite end to seat a valve spring, and inwardly projecting tongues extending from opposite sides of the end portion adapted to seat in transverse grooves formed in the end portion of the valve stem. 10
In testimony whereof I affix my signature.

OSCAR C. JOHNSON.