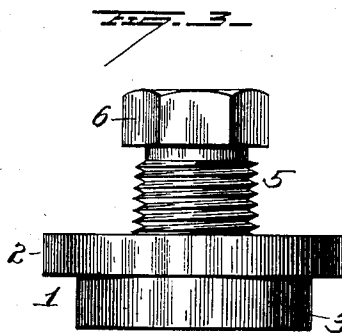
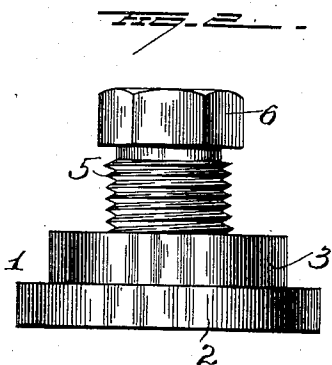
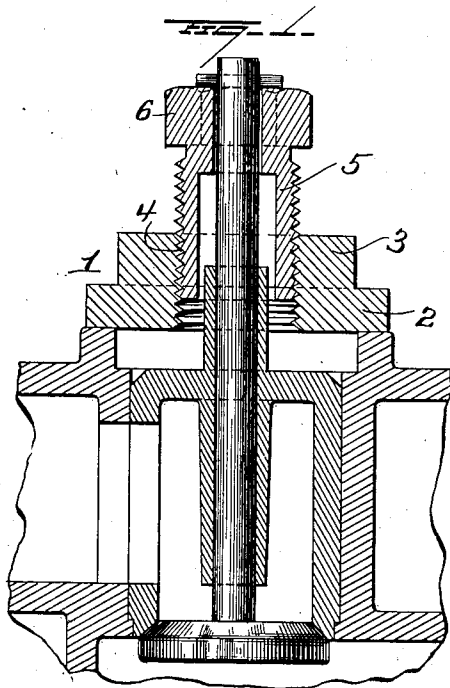


P. BORDEAUX.
 DEVICE FOR REMOVING VALVES AND THEIR SEATS OR CAGES.
 APPLICATION FILED JAN. 27, 1919.

1,328,362.

Patented Jan. 20, 1920.



Witnesses
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UNITED STATES PATENT OFFICE.

PEARL BORDEAUX, OF MOUNT DESERT, MAINE.

DEVICE FOR REMOVING VALVES AND THEIR SEATS OR CAGES.

1,328,362.

Specification of Letters Patent.

Patented Jan. 20, 1920.

Application filed January 27, 1919. Serial No. 273,359.

To all whom it may concern:

Be it known that I, PEARL BORDEAUX, a citizen of the United States, and a resident of Mount Desert, in the county of Hancock and State of Maine, have invented certain new and useful Improvements in Devices for Removing Valves and Their Seats or Cages; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to devices for removing valves and their seats or cages,—the object of the invention being to provide a simple and efficient tool whereby a valve and its stem, together with the cage or bushing which forms the seat for the valve may be easily and quickly removed from an engine casing or other structure in which the valve may be located.

With this object in view, the invention consists in certain novel features of construction and combinations of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view showing the application of my improvements. Fig. 2 is a separate view of the tool, and Fig. 3 is a view showing another way in which the parts may be assembled for use.

1 represents the body of the tool, which may consist of a circular disk having parts of different diameters as indicated at 2 and 3 respectively. The body or disk 1 is made with a central opening 4 having a threaded wall and through this opening, a tubular bolt or extractor 5 is threaded. The upper end of the tubular bolt is provided with an angular head 6 to receive a wrench for turning the same, and its bore is made of two diameters, the lower section being of a size to receive the sleeve at the upper end of the cage, and the upper section being smaller and of a size to receive and snugly fit the stem so as to prevent any lateral movement of the stem and prevent any binding due to a lateral pulling stress on the stem.

After the valve spring and spring-retaining disk shall have been removed from the valve stem, the disk will be placed against the engine casing so that the valve stem will

pass through the tubular bolt or extractor 5. The pin or key which had been employed for holding the valve spring and disk in place, will then be passed through the valve stem over the nut. The operator will now apply a suitable wrench to the angular head 6 of the tubular bolt or extractor and by turning the latter, the valve, its stem and cage or bearing member will be withdrawn from the engine.

In order that the device may be applicable to different engines and different sizes of valves, the body or disk is made with the portions 2 and 3 of different sizes, and instead of assembling the device as shown in Figs. 1 and 2, the disk may be reversed and the tubular bolt or extractor passed through the same in the reverse direction as indicated in Fig. 3.

Slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope and hence I do not wish to restrict myself to the precise details herein set forth.

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

1. A device of the character described comprising a disk shaped body having a threaded opening through same from one surface to the other so that it may be used either side down and a tubular extractor threaded externally to engage the threads in said body, the said extractor having a bore of two diameters, the larger of which is adapted to receive the sleeve on the valve cage and the smaller one, the valve stem.

2. A device of the character described, the combination of a disk shaped body having a threaded opening through the same, the said body being made of two diameters so that it may be used either side down, and a tubular extractor threaded externally to engage the threads in said body and provided at its upper end with an angular head for a wrench.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

PEARL BORDEAUX

Witnesses:

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E. A. HODGDON.