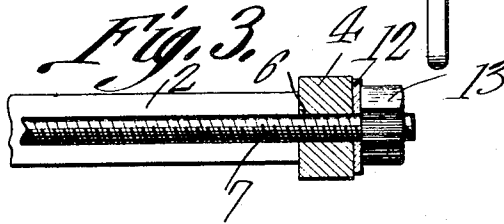
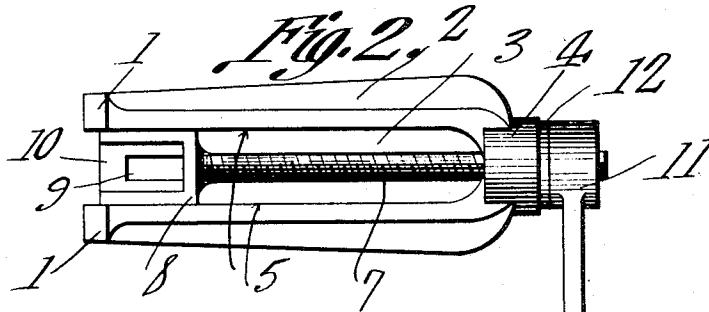
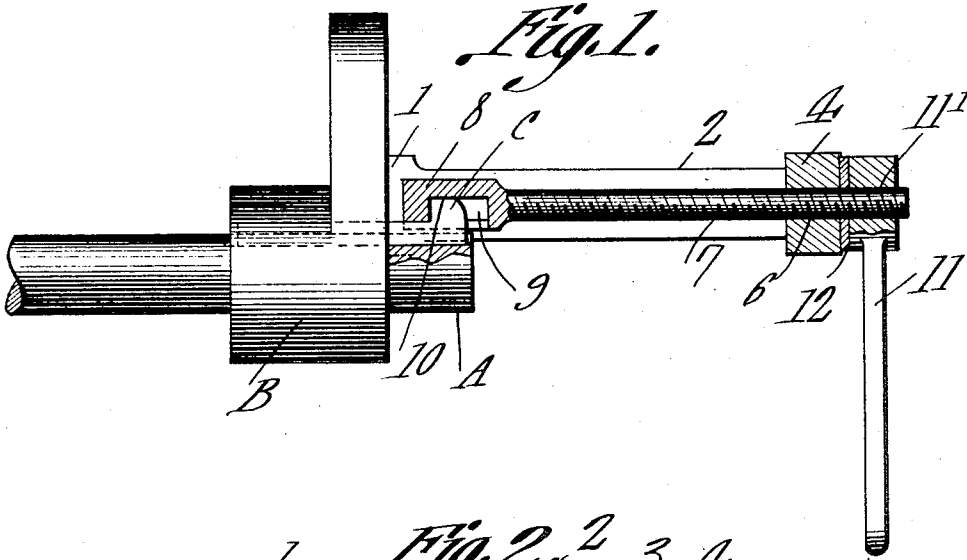


J. O. WILSON.
KEY PULLER.
APPLICATION FILED MAY 16, 1911.

1,060,872.

Patented May 6, 1913.



Witnesses

J. H. Tamm
L. H. Wilson

J. O. Wilson,

Inventor

by *C. A. Snowles*
Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH O. WILSON, OF CHESTER, PENNSYLVANIA.

KEY-PULLER.

1,060,872.

Specification of Letters Patent.

Patented May 6, 1913.

Application filed May 16, 1911. Serial No. 627,589.

To all whom it may concern:

Be it known that I, JOSEPH O. WILSON, a citizen of the United States, residing at Chester, in the county of Delaware and State of Pennsylvania, have invented a new and useful Key-Puller, of which the following is a specification.

This invention relates to improvements in key pullers, and the primary object of the invention is the provision of a device for removing the keys from engine shafts, valve shafts and the like without in any way marring the key or injuring the end or base of the shaft, crank or fly wheel.

A further object of this invention is the provision of a yoke provided with a screw mounted therein, said screw carrying upon its inner end means for engaging the key, while the end of the yoke will either engage the valve stem, fly wheel or the end of the shaft, combined with means for actuating the screw and thereby removing the key.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a view of a valve shaft and crank with the key puller in section and in operable relation thereto. Fig. 2 is a detail plan view of the key puller with the lever attachment. Fig. 3 is a sectional view showing a nut in lieu of the lever.

Referring to the drawings, A designates the shaft which may be the shaft of an engine or of a valve, and B the crank of the valve. This however may be the fly wheel of an engine. The ordinary key C retains the crank relatively to the shaft A so that the said crank will move with the shaft. When it is desired to remove the key from the shaft and crank, the puller D is employed. The puller comprises the two-head-

ed ends or studs 1, which are adapted to 50 either abut the face of the crank or the fly wheel, or may abut the end of a shaft. The terminals 2 forming the yoke of the puller are provided at their junctions with the boss or collar 4, and provide the central 55 slot 3, with the parallel walls 5. The boss 4 is provided with the central cylindrical channel or bore 6 for the reception of the screw 7, the inner end of which is provided with a draw-bar or frame 8, having the 60 socket 9 for the reception of the head of the key C and with the rim or wall 10 in engagement with the shoulder of the key, as clearly illustrated in Fig. 1. The outer face of the 65 boss 4 is parallel to the inner ends of the studs 1 of the frame, and has mounted thereon a removable washer 12 which loosely surrounds the projecting end of the screw 7, and mounted upon the extended end of screw 7 is a lever 11 having a threaded channel 11', 70 whereby as the said lever 11 is rotated, the friction is taken care of by the washer 12 and the screw is operated so as to pull the draw bar 8 to coact with the studded portions 1 of the terminals 2 and thereby pull 75 the key from the shaft, separating the same so that the crank B and the shaft A are free from movement, and so that the crank B may be removed from the shaft.

When it is desired and it is not possible to 80 use the lever 11, a nut 13 may be substituted in lieu thereof, in which case a wrench is employed to rotate the nut 13.

What is claimed is:

A key-puller, comprising a yoke having 85 two spaced terminals, the inner walls of which are parallel and the extreme ends of which are wider than the body portion, the yoke end being provided with a cylindrical bore centrally of the space between the terminals, 90 a stem screw threaded in said bore, a washer surrounding the stem exteriorly of the yoke, a handled nut mounted upon the threaded stem beyond the washer, and a key-engaging head carried upon the other end of the 95 threaded stem and within the space between the terminals of the yoke, said head having parallel sides contacting in parallel walls of

the space between the terminals to prevent the head and stem from rotating when the handled nut is rotated, said head and stem adapted to have a sliding motion within the
5 terminals, and said head having at one side thereof a key-engaging socket.

In testimony that I claim the foregoing

as my own, I have hereto affixed my signature in the presence of two witnesses.

JOSEPH O. WILSON.

Witnesses:

ALEXANDER B. GEARY,
CHARLOTTE O. WILSON