F. O. ALBERTSON.

BUSHING REMOVER.

APPLICATION FILED JUNE 20, 1918.

1,286,897. Patented Dec. 10, 1918.

Fig. 1

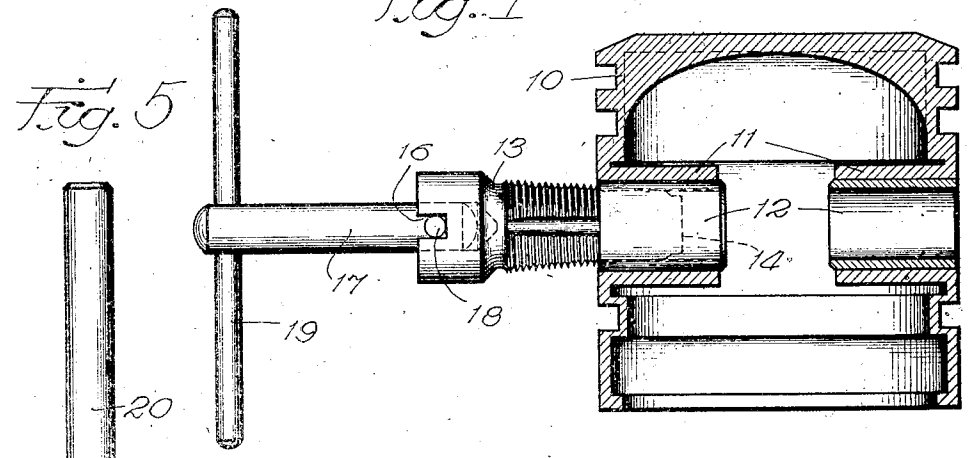
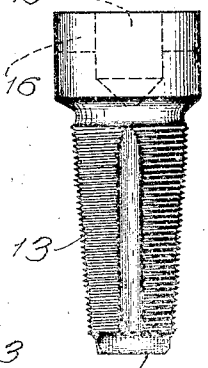


Fig. 5

Fig. 2



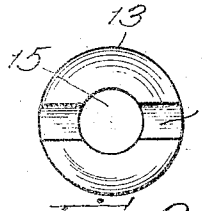


Fig. 3

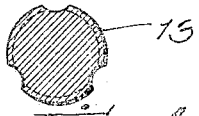


Fig. 4

Witnesses:
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UNITED STATES PATENT OFFICE.

FRANS O. ALBERTSON, OF SIOUX CITY, IOWA, ASSIGNOR TO ALBERTSON & COMPANY, OF SIOUX CITY, IOWA, A CORPORATION OF IOWA.

BUSHING-REMOVER.

1,286,897. Specification of Letters Patent. Patented Dec. 10, 1918.

Application filed June 20, 1918. Serial No. 240,977.

To all whom it may concern:

Be it known that I, FRANS O. ALBERTSON, a subject of the King of Sweden, residing at Sioux City, in the county of Woodbury and State of Iowa, have invented a certain new and useful Improvement in Bushing-Removers, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to bushing removers.

The objects of the invention are:

First: to provide a simple and efficient means for removing bearing bushings from various pieces of apparatus;

Second: to provide means of the type described which, by requiring a minimum amount of tool steel, is comparatively economical to manufacture; and

Third: to provide means for removing bushings the parts of which function in a novel manner.

Other objects will appear as the description progresses, reference being had to the accompanying drawings, in which—

Figure 1 discloses a piston of an internal combustion engine provided with a bearing bushing into which the tap member of my bushing remover is being inserted by means of a wrench, the tap member being shown in side elevation;

Fig. 2 is a side elevation of the tap member taken at right angles to Fig. 1;

Fig. 3 is an end elevation of the wrench end of the tap member;

Fig. 4 is a transverse section therethrough;

Fig. 5 is a side elevation of a drift pin used in combination with the tap member for expelling the bushing.

In the several views similar parts are represented by similar reference characters.

Referring to Fig. 1 the reference character 10 indicates a piston provided with two inwardly extending bosses 11, which are provided with alined bores, in which the bushings 12 have a driving fit, it being of course understood that these bushings 12 receive the pin connecting the piston 10 and the pitman rod (not shown). In order to remove the bushings 12 from the piston head I provide a threaded tap member 13, which tapers from one end to the other, as shown in Figs. 1 and 2. This tap member is very similar in construction to an ordinary tap, except that it has a somewhat greater taper in order to adapt it to be used for removing bushings of varying diameters. At one end the tap member 13 is provided with an impact surface 14, which, as shown in Fig. 2, is spaced longitudinally from the adjacent end of the thread of the tap. The opposite end of the tap member is provided with a bore 15 and a diametrical slot 16 which is intersected by the bore 15. The bore 15 is adapted to receive one end of the shank 17 of a wrench member which is provided with a transverse rod or pin 18, which is received in the slot 16. A handle 19 is secured to the other end of the shank 17, by means of which the shank 17 and the tap 13 may be rotated to insert the tap in the bushing. After the tap is inserted to the desired degree in the bushing, the drift pin 20 is inserted through the opposite bushing until one end of it engages the impact surface 14 of the tap member. A hammer or other means is then employed for driving the drift pin and the tap member 13 in a direction to remove the bushing 12 from the piston.

In constructing my improved bushing remover I make the tap member 13 of tool steel and the wrench member and drift pin of cheaper grades of steel. By this means I am enabled considerably to reduce the cost of manufacture of the bushing remover.

While I have disclosed the preferred embodiments of my invention, it is to be understood that it is capable of other adaptations and modifications within the scope of the appended claims.

Having thus described my invention, what I claim is;

1. The combination with a tapered threaded tap member having an impact surface spaced from the threads at the smaller end of said tap member, the other end of said tap member being provided with a central bore and a slot intersected by said bore, of a wrench member having a shank and a cross member adapted to be received in said bore and slot respectively.

2. The combination with a tapered threaded tap member having an impact surface at the smaller end of said tap member, the other end of said tap member being provided with a central bore and a slot intersected by said bore, of a wrench member having a shank and a cross member adapted

to be received in said bore and slot respectively.

3. A bushing remover comprising a tapered threaded tap member having an impact surface at its smaller end and provided at its other end with a bore, and a slot intersected by said bore.

In witness whereof, I hereunto subscribe my name this 12 day of June, 1918.

FRANS O. ALBERTSON.

Witnesses:
ETHEL M. JOHNSON,
A. F. OLSEN.