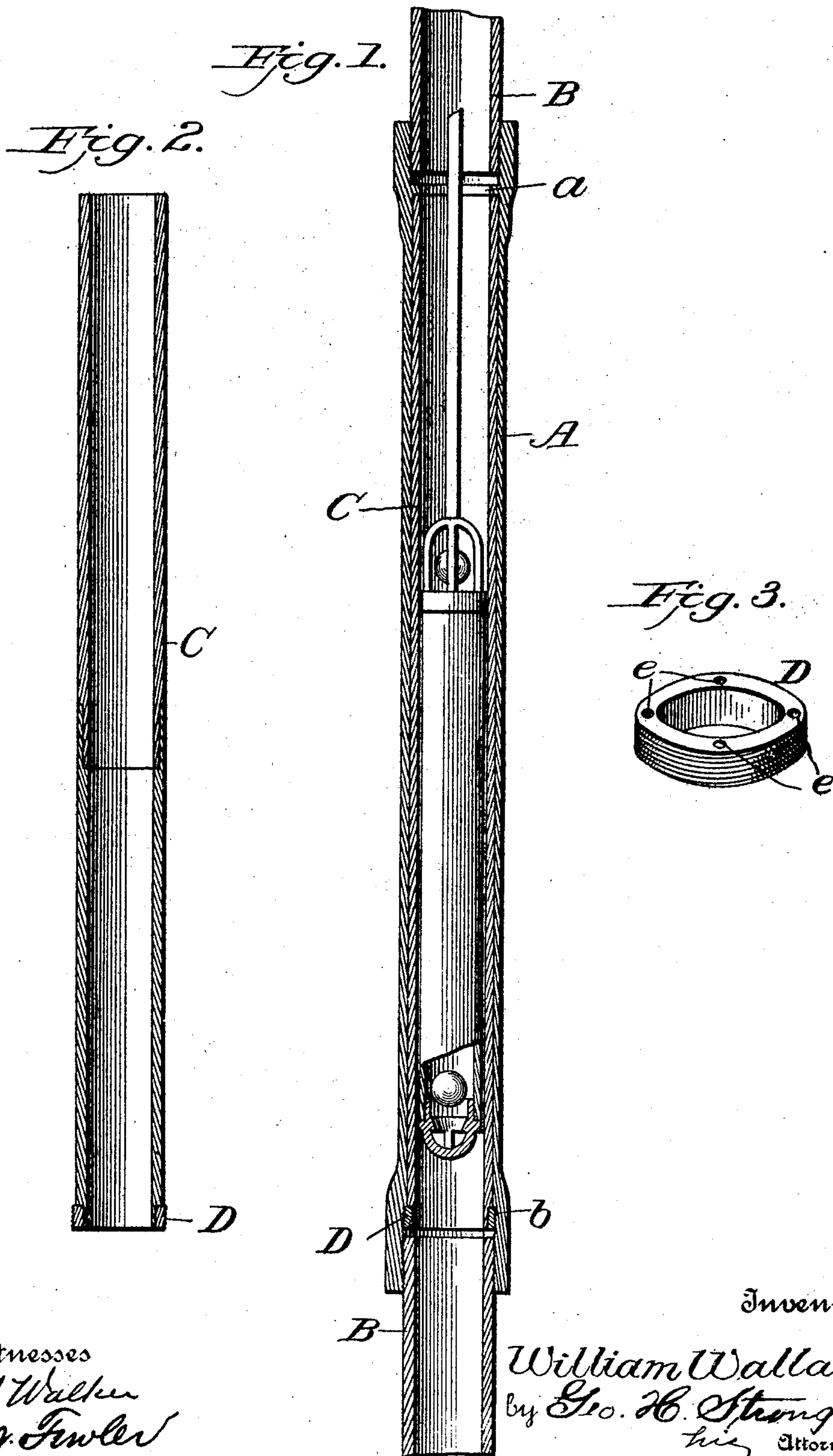


No. 795,667.

PATENTED JULY 25, 1905.

W. WALLACE.
BUSHING FOR OIL WELL PUMPS.
APPLICATION FILED DEC. 15, 1904.



Witnesses
C. M. Walker
C. M. Fowler

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UNITED STATES PATENT OFFICE.

WILLIAM WALLACE, OF BAKERSFIELD, CALIFORNIA.

BUSHING FOR OIL-WELL PUMPS.

No. 795,667.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed December 15, 1904. Serial No. 236,918.

To all whom it may concern:

Be it known that I, WILLIAM WALLACE, a citizen of the United States, residing at Bakersfield, in the county of Kern and State of California, have invented new and useful Improvements in Bushings for Oil-Well Pumps, of which the following is a specification.

This invention relates to certain new and useful improvements in working barrels for oil or other well pumps; and it comprehends the employment of a peculiarly-constructed bushing or lining for a rebored working barrel and means whereby said bushing is removably secured, as I will hereinafter describe and claim.

The object of the invention is to provide a bushing or inner lining for the working barrel and to provide suitable means by which the bushing is securely seated in the barrel and yet may be readily removed and a new lining substituted when necessary or desired.

In the accompanying drawings, forming part of this specification, and in which similar letters of reference indicate like parts in the several views, Figure 1 is a sectional view of a rebored working barrel, showing my improved bushing in position. Fig. 2 is a sectional view of the bushing detached. Fig. 3 is a perspective view of one of the threaded collars which is secured to the lower end of the bushing.

It is a fact well recognized in this art that the active or working section of the pump-barrel of an oil or other well pump soon becomes so much worn by sand and other gritty matter or from other causes that the pump valves or piston do not fit it accurately, and the efficiency of the pump is therefore lessened. It then becomes necessary to supply a new barrel, which is quite expensive, or to rebores the old barrel, so that it will have a uniform internal diameter throughout its working surface; but this reboring increases the inner diameter of the barrel to such an extent that the pump valve or piston either will not satisfactorily and operatively fit the same, or, if made to fit the rebored working section, it cannot be passed inside the barrel without injury to the valves or suckers. To overcome the foregoing objections, bushings or linings have been employed to compensate for the reboring of the barrel and to provide a uniform interior diameter for the working of the valves or plunger.

My present invention relates to the construction of the bushing and the manner in which the same is detachably secured.

Referring to the accompanying drawings, A represents the working barrel of an oil or other well pump, which barrel I have rebored to give uniformity to its working section. This reboring has extended from the lower end to a point short of the upper end, but beyond the plane of the working stroke of the valve or plunger, to provide an annular ring or shoulder *a* at said point and which shoulder forms a stop or seat to limit the insertion of the bushing or lining. The lower end of the barrel is provided with the usual threads for the connection of a section of well-tubing B. In addition to the threaded portion last-above named I also form a second or supplemental threaded surface *b* on the inside of the barrel above its lower end for a purpose I will presently describe.

The lining or bushing C, I make of any of the materials commonly employed for such uses, and this bushing may be formed of a single piece, as in Fig. 1, or it may be formed of sections, as in Fig. 2, suitably assembled and interchangeable and removable and replaceable at pleasure. On the lower end of the bushing is shrunk or otherwise fitted or secured a collar D, the outer surface of which is externally threaded to engage the internally-threaded portion *b* of the pump-barrel, and to facilitate the insertion and removal of the bushing I provide the collar D with holes *e*, which may be engaged by the usual spanner or spider wrench, whereby the bushing upon being inserted within the barrel until the threaded collar engages the threaded portion *b* may be turned by the wrench to cause the collar to screw into engagement with the threads *b*, and thus advance the bushing longitudinally in the barrel until the upper end of the bushing securely seats against the under side of the shoulder *a* and is thus securely held in place at both ends, providing a renewed surface for the working action of the valves or plunger. When the bushing becomes too much worn for efficient work, it may be removed by engaging the wrench with the collar D and unscrewing the latter from the threaded portion *b* of the barrel, and finally removing the bushing endwise through the barrel.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

The combination with a working barrel of a pump said barrel having an internal shoulder formed near one end and having a threaded portion on its interior above the lower opposite end, of a bushing fitting the barrel, having one end to abut against said shoulder, and an externally-threaded collar on the lower end of the bushing adapted to engage said threaded portion of the barrel, said collar pro-

vided with means for the engagement of a tool whereby the bushing may be screwed into and out of engagement with the barrel.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM WALLACE.

Witnesses:

A. D. M. OSBORNE,
D. I. DUMBLE.