July 12, 1927. 1,635,743

M. S. DAVENPORT

PISTON PACKING REMOVING APPLIANCE

Filed Jan. 9. 1926

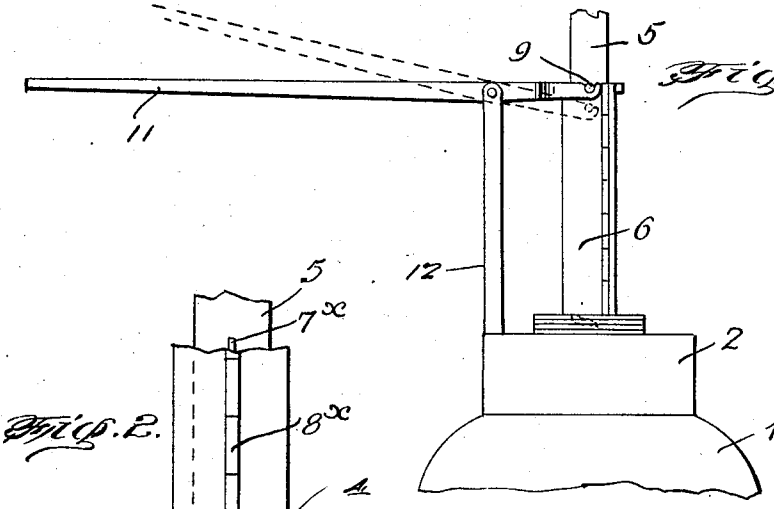


Fig. 1.

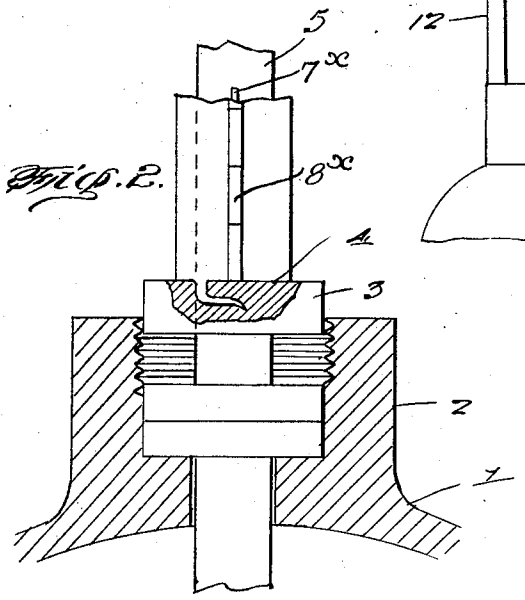


Fig. 2.

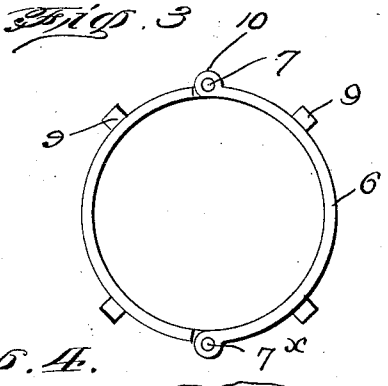


Fig. 3

Fig. 4.

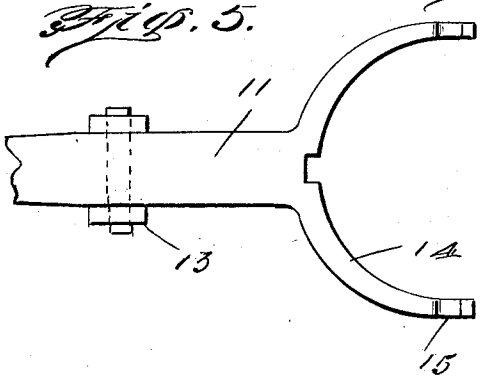
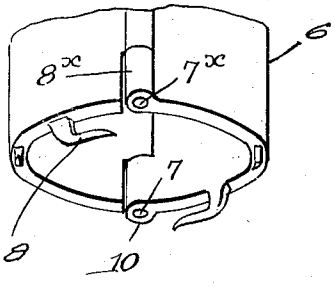


Fig. 5.



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UNITED STATES PATENT OFFICE.

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PISTON-PACKING-REMOVING APPLIANCE.

Application filed January 9, 1926. Serial No. 80,302.

My present invention has to do with the removal of piston packings; and it contemplates the provision of an appliance, susceptible of ready application, and adapted when properly applied and operated to enable a person to expeditiously remove packing rings and this with the expenditure of but little effort.

To the attainment of the foregoing, the invention consists in the improvement as hereinafter described and definitely claimed.

In the accompanying drawings, forming parts of this specification:—

Fig. 1 is a view showing the appliance constituting the preferred embodiment of my invention in working position;

Fig. 2 is a fragmentary view illustrative of the manner in which the pointed hooks are embedded in the packing rings at the top of the gland;

Fig. 3 is a view showing one end of the cylinder comprised in my improvement;

Fig. 4 is a detail perspective illustrating the lower end of the cylinder and the hooks thereof; and

Fig. 5 is a detail plan view showing a portion of the hand lever and the supporting post in connection therewith.

Similar numerals of reference designate corresponding parts in all of the views of the drawings.

The cylinder 1 is of conventional construction as is also the offset 2 of the cylinder in which is threaded a gland 3 containing packing rings 4 arranged in the usual manner about a piston rod 5.

Among other elements my novel appliance comprises a cylinder 6 made up of two semi-circular sections hingedly connected at one side by a pintle 7^x in knuckles 8^x and detachably connected together at the opposite side of the cylinder through the medium of a removable pin 7. The said cylinder 6 is provided at its lower end with a suitable number, preferably four, hooks 8, which hooks 8, are so fashioned and so disposed that turning of the cylinder attended by downward pressure thereon will bring about embedding of the pointed hooks 8 in the uppermost packing ring in the gland 3. The upper portion of the cylinder 6 is characterized by opposite lugs 9 disposed laterally to the cylinder as shown in Fig. 3, it being understood that the term laterally is intended to comprehend a radial disposition of the lugs 9. I show the cylinder 6 as provided with two pair of lugs 9 in Fig. 3, but it will be understood that without departure from my invention the cylinder may have one or more pairs of lugs 9, the lugs 9 of each pair being arranged diametrically opposite each other.

The removable pin 7 is located in coincident knuckles 10 on the cylinder sections as illustrated.

In addition to the cylinder 6 characterized as described, my novel appliance comprises a hand lever 11, and a supporting post 12, the latter being adapted to be disposed on the upper end of the offset portion 2 of the cylinder as illustrated in Fig. 1, to afford a fulcrum support for the lever 11. The post or support 12 is provided with a yoke 13 at its upper end in which the lever 11 is fulcrumed, and the forward arm of the lever 11 is provided with a yoke 14 in the arms of which are depressions 15, designed to receive a pair of lugs 9 after the manner illustrated in Fig. 1.

In the practical use of my novel appliance, the cylinder 6 is placed around the piston rod 5, and the pin 7 is placed in working position to hold the cylinder about the rod 5. Then with the cylinder 6 grasped in the hand or fixed in a Stillson or other appropriate wrench, the cylinder is turned about its axis, and if necessary incident to the said turning of the said cylinder, the same may be forced or pressed downwardly, whereupon the hooks 8 which are preferably provided with the downwardly deflected points will be embedded in the uppermost packing ring in the gland 3. After the hooks are embedded in the packing or packing ring, the post or support 12 is positioned on a portion of the cylinder, and the hand lever 11 is manipulated to engage the depressions 15 with a pair of lugs 9 on the cylinder 6. The outer arm of the lever 11 is then forced downwardly whereupon the ring of packing engaged on the hooks 8 will be extracted.

Incident to the operation indicated, the cylinder 6 is prevented from retrograde turning and consequent release of the packing ring from the hooks 8 because of the stress or strain applied to the lever 11.

Manifestly it is within the purview of my invention to make the several parts of my novel appliance of any material or materials consonant with the functions of the said parts; and I would also have it understood that the hooks or the cylinder equip-

ments for attachment of the cylinder to packing may be of any description compatible with the purpose of my invention, the invention in its broad aspects covering any means adapted to be interlocked with or engaged with packing, and capable of being moved endwise for the extraction of packing whether in the form of rings or otherwise.

It will be manifest from the foregoing that through the medium of my novel appliance packing may be extracted with but little effort on the part of an operator, and it will also be appreciated that the appliance is susceptible of ready application and easy operation and is entirely free of delicate parts such as are likely to get out of order after a short period of use.

I have entered into a detailed description of the construction and relative arrangement of the parts embraced in the present and preferred embodiment of my invention in order to impart a full, clear and exact understanding of the said embodiment. I do not desire, however, to be understood as confining myself to the specific construction and relative arrangement of parts as disclosed, my invention being defined by my appended claims within the scope of which structural changes and changes in arrangement may be made without departure from my invention.

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

1. Packing pulling means comprising an endwise movable and turnable element, means on said element for the connection thereof to packing on turning movement of the element, opposite lugs on the endwise movable and turnable element, and means associated with said element for the said endwise movement of the same; the said means for moving said element endwise being in the form of a lever having means to engage said lugs, and the said lever being equipped with a fulcrum support.

2. Packing pulling means comprising an endwise movable and turnable element, means on said element for the connection thereof to packing on turning movement of the element, and means associated with said element for the said endwise movement of the same; the said element being in the form of a cylinder including sections and means for detachably connecting the sections together about a piston rod, and the sections being equipped with hooks to engage packing and connect the same to the sections on turning movement of said element, and being also equipped with opposite lugs, and the means for moving the said element endwise being in the form of a lever with a yoke at one end and depressions in the arms of the yoke to receive said lugs, and being provided with a post hingedly connected thereto and adapted to be located on a suitable support.

In testimony whereof I affix my signature.

MAYON. S. DAVENPORT.