

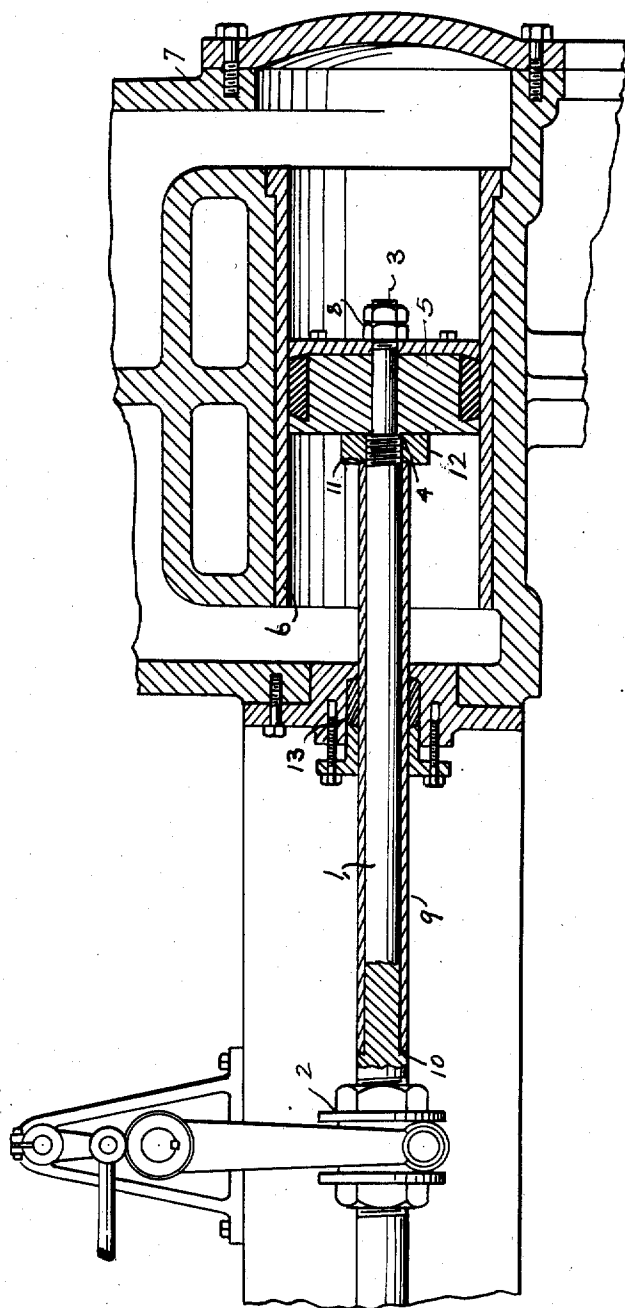
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PUMP ROD ASSEMBLY

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PUMP ROD ASSEMBLY

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6 Claims. (Cl. 74—579)

This invention relates to a pump rod assembly.

An object of the invention is to provide a pump rod having a removable sleeve thereon and secured thereto in a novel manner and through which the piston of a pump may be connected to the power.

The pump rod assembly is especially designed for use on slush pumps or pumps handling gritty fluid, although the rod assembly is capable of general use.

Another object of the invention is to provide a rod of the character described having a sleeve thereon which is readily removable for replacement when the sleeve becomes worn, whereby it is only necessary to replace the sleeve in case of wear, and which will protect the rod proper from wear.

Another object of the invention is to provide a pump rod assembly of such construction that it may be readily connected to the pump piston.

A further object is to provide a pump rod assembly wherein both the rod and sleeve take the end thrust of the piston.

With the above and other objects in view, the invention has particular relation to certain novel features of construction, arrangement of parts and use, an example of which is given in this specification, and illustrated in the accompanying drawing, wherein:

The figure shows a fragmentary sectional view of a slush pump showing the rod assembly partly in section.

Referring more particularly to the drawing, the numeral 1 designates the rod proper one end of which is connected to the operating cross head 2 and whose other end, as 3, is reduced forming an external annular shoulder 4. The reduced end of the rod is fitted through a central bearing in the piston 5 which works in the cylinder 6 of the slush pump 7. The shoulder 4 abuts the piston on one side and screwed onto the end of the reduced portion 3 are the nuts 8 which abut the piston on the other side, and secure said rod to the piston.

Fitted over the rod 1 is the removable sleeve 9 whose ends may be tapered. One end of the sleeve 9 may be fitted into an undercut groove in the annular shoulder 10, adjacent one end of the rod 1, and the other end of the sleeve may be fitted into an undercut groove 11 in the adjacent side of the nut 12. This nut is screwed on to the rod 1 between the corresponding end of the sleeve 9 and the piston 5 and may abut also against the said piston. The sleeve reinforces the rod, and also tapes a portion of the end thrust of the piston and the assembly of the rod, sleeve, nut and

piston is such as to protect the reduced end 3 of the rod and to render it less liable to become broken off.

During the operation of the pump the pump rod assembly operates through the stuffing box 13 and the sleeve 9 is subjected to considerable wear, particularly when gritty fluids are being pumped. In case of wear when it becomes necessary to replace the sleeve 9, the piston and nut 12 may be removed and the sleeve 9 readily slipped off of the rod 1 and a new one substituted for it and the nut 12 and piston 5 may then be replaced. In this manner, the rod 1 may be used for an indefinite length of time without replacement.

The drawing and description disclose what is now considered to be a preferred form of the invention by way of illustration only, while the broad principle of the invention will be defined by the appended claims.

What we claim is:

1. A pump rod assembly comprising a rod one end of which is reduced to be fitted through a piston, said rod having an abutment formed by the reduction of said end, a nut screwed onto said rod, one end of which has an undercut groove and whose other end is approximately flush with said abutment so as to bear against the piston, a sleeve on the rod of less diameter than the nut and one end of which is tapered to fit into said groove, an annular shoulder on the rod adjacent the other end of the sleeve, said shoulder and the adjacent end of the sleeve being formed one with an undercut groove and the other being reduced in diameter to fit into said groove.

2. A pump rod assembly comprising a rod, one end of which is reduced and adapted to be fitted through a piston, a nut threaded on to the rod, one end of which has an annular bearing face to bear against the piston around the rod and to thus reinforce the said end of the rod, a single, continuous, sleeve on the rod one end of which abuts against said nut, an annular shoulder integral with the rod adjacent the other end of the sleeve, said shoulder and said other end of the sleeve being formed one with an undercut groove and the other with a reduced extension which fits into the groove.

3. An assembly of the character described comprising a pump piston rod having an external abutment and having an externally threaded portion spaced from said abutment, a nut on said threaded portion, a single, continuous removable sleeve on the rod, one end of which abuts said abutment and the other end of which is countersunk into said nut, said rod having a reduced

extension beyond the threaded portion to receive a piston thereover.

4. A pump rod assembly comprising a rod, one end of which is reduced to be fitted through a piston, said rod having an abutment formed by the reduction of said end, a nut screwed onto said rod one end of which has an undercut groove and whose other end is approximately flush with said abutment, so as to bear against said piston, a sleeve on the rod of less diameter than the nut and one end of which is tapered to fit into said groove, an annular shoulder on the rod adjacent the other end of the sleeve and formed with an undercut groove, the end of said sleeve adjacent said last mentioned groove being tapered to fit into said groove.

5. A pump rod assembly comprising a rod, one end of which is reduced to be fitted through a piston, said rod having an abutment formed by

the reduction of said end, a nut screwed onto said rod, one end of which is approximately flush with said abutment so as to bear against the piston and to reinforce the rod, a sleeve on the rod of less diameter than the nut, one end of which abuts said nut, an annular shoulder on the rod against which the other end of the sleeve abuts.

6. A pump rod assembly comprising a rod one end of which is reduced and thus adapted to be fitted through a piston bearing, a nut secured onto the rod adjacent the reduced end of the rod, an abutment on the rod spaced from the reduced end thereof, a single continuous sleeve on the rod one end of which is in abutting relation with said abutment and the other end of which is counter-sunk into said nut.

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