

April 28, 1925.

1,535,336

J. D. NIXON

ROD PROTECTOR

Filed Dec. 5, 1924

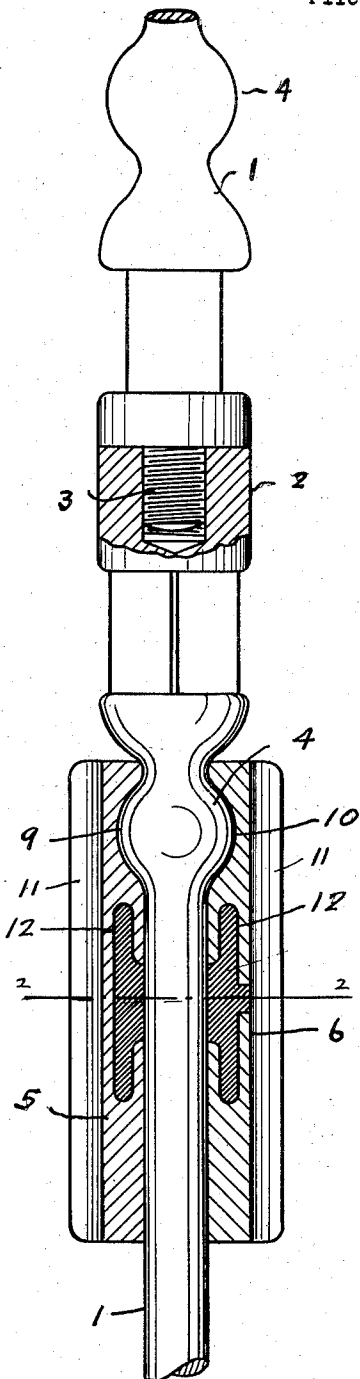


Fig. 1.

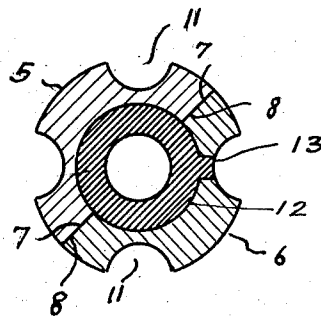


Fig. 2.

Jeddy D. Nixon INVENTOR.

BY

Hardway Cuthbert ATTORNEYS.

UNITED STATES PATENT OFFICE.

JEDDY D. NIXON, OF HOUSTON, TEXAS.

ROD PROTECTOR.

Application filed December 5, 1924. Serial No. 754,051.

To all whom it may concern:

Be it known that I, JEDDY D. NIXON, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in a Rod Protector, of which the following is a specification.

This invention relates to new and useful improvements in a rod protector.

One object of the invention is to provide a protector for reciprocating rods, particularly pump sucker rods, which may be readily applied thereto, and removed therefrom, and which will protect said rods against wear. As is well known the plunger, or traveling valve, of a deep well pump is reciprocated through a pump rod, or sucker rod, and inasmuch as the well bore is not always straight this rod bears against the casing or liner, in the bore, at the bends, or turns, of the bore and soon wears by reason of friction. The sucker rod is made up of sections, usually connected together by enlarged threaded joints, and this friction with the walls of the bore often wears away one or more of these joints. The weakening of the sucker rod sometimes causes it to part, and in all cases makes it too weak for safe use. It is the chief object of this invention to afford protection of the rod against wear.

Another object of the invention is to provide a rod protector of the character described which may be cheaply produced and readily applied to, or removed from, the rod, and which will sustain all the friction and wear incident to the reciprocation of the rod.

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

Figure 1 shows a fragmentary side view of a pump rod, partly in section, with a protector applied thereto, and shown in section, and

Figure 2 shows a sectional view thereof taken on the line 2—2 of Figure 1.

Referring now more particularly to the drawings, wherein like numerals of reference designate similar parts in each of the figures, the numerals 1, 1 designates the adjacent sections of a pump rod. One section has an enlarged internally threaded end

2 and the adjacent end of the other section has a reduced threaded pin 3 adapted to be threaded into the end 2. On opposite sides of the joint, thus formed, the sections 1 have the enlargements 4, 4, usually ball shaped or spherical in form.

The protector is preferably formed of two lengthwise sections 5 and 6, with flat abutting faces 7 and 8 adapted to fit closely together when the protector is assembled. Each section 5 and 6 is arcuate in cross sectional contour and thus adapted to fit closely around the rod, and they may be provided with registering cavities 9 and 10, to form a recess to receive the corresponding enlargement 4.

Each protector has suitable vertical fluid courses 11 to provide ample space for the upward passage of the fluid being pumped. The inner side of each section of the protector has an arcuate groove 12, preferably dovetailed in form, said grooves registering when the sections are assembled around the rod, and forming, in effect, a mold. A port 13 is provided through one of the protector sections, leading into the mold. When the sections are assembled around the rod fusible metal may be poured, in molten state through said port 13 to fill said mold and this metal, when it cools will form a tie or anchor to secure the protector around the rod.

The protector may be made of any suitable metal, as for example bronze, and any fusible metal, as lead, may be used to form the securing mold or tie to secure the protector sections together. The mold may also be formed, if desired, of registering arcuate bores, instead of the arcuate grooves shown.

These protectors are placed around the rod at suitable intervals and obviously will protect the rod against wear and will prevent the enlarged end, or head 2 from wearing off on one side to such an extent that it will release the pin 3 and permit the rod to part.

When the protector has worn down to such an extent that it is advisable to replace it with a new one the sections may be forced apart by the use of a chisel, or other similar implement, so as to break the molded tie and the sections will then fall apart.

The enlargements 4 may be utilized, as illustrated, to prevent the protector from moving lengthwise on the rod, but this is not

absolutely necessary, as the protector may be fitted to the rod so closely that it will not have any lengthwise play thereon.

What I claim is:—

- 5 1. A rod protector formed of lengthwise sections designed to conform to and fit around a rod when in assembled relation, and a tie member within the protector and securing the sections in assembled relation.
- 10 2. A rod protector formed of lengthwise sections designed to conform to and fit around a rod, when assembled, said assembled protector having a lengthwise rod bearing through it formed with an enlarged
- 15 cavity and a single, annular fusible metal tie securing said sections assembled.
3. A rod protector including sections designed to fit around a rod, when assembled, said protector having an annular mold, and
- 20 a tie of fusible metal in said mold.
4. A rod protector including sections de-

signed to fit around a rod, or the like, when assembled, said assembled sections having an internal mold provided with an inlet port, and a tie of fusible metal in said mold.

5. A rod protector including sections adapted to be fitted around a rod, and the like, each section having a transverse cavity, said cavities registering, when the sections are assembled, to form a mold.

6. A rod protector formed of sections designed to fit around a rod, when assembled, and a fusible metal tie securing said sections in assembled relation.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JEDDY D. NIXON.

Witnesses:

E. V. HARDWAY,

AUG. S. KOTHMANN.