

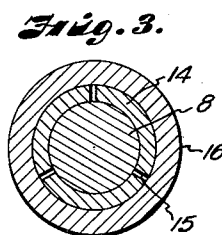
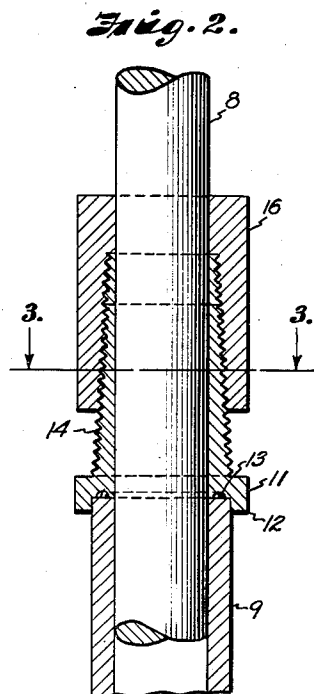
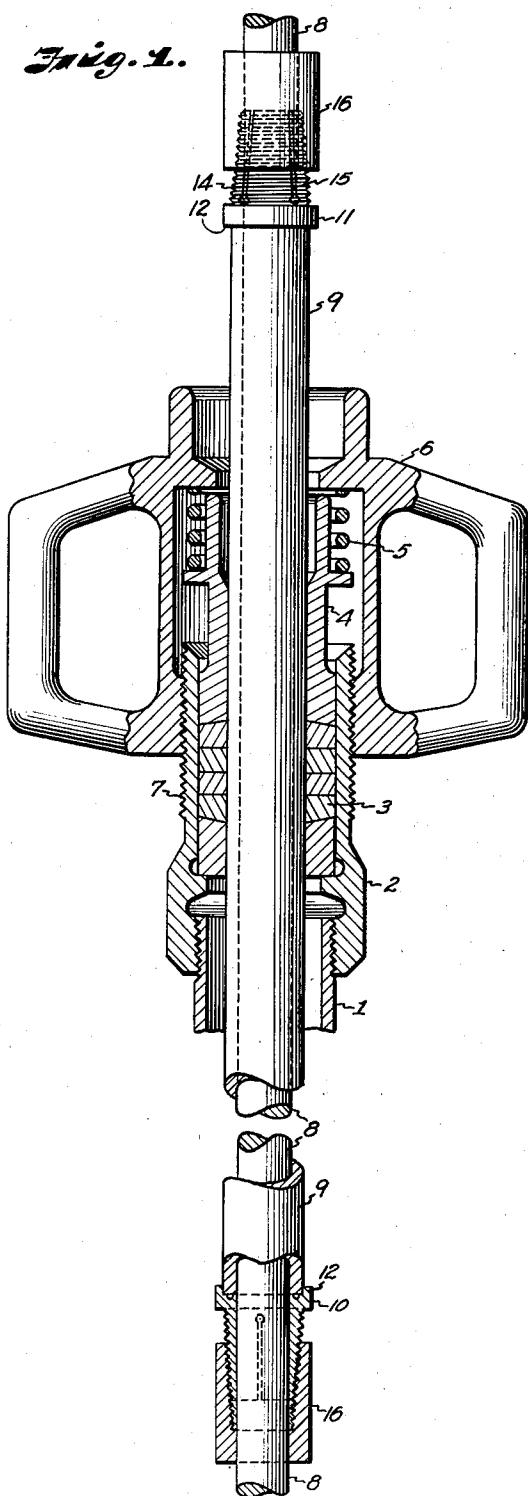
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PUMPING ROD ASSEMBLY

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PUMPING ROD ASSEMBLY

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2 Claims. (Cl. 286—16)

My invention relates to pumping rod assemblies and more particularly to an improvement in an oil well pumping rod. In the pumping of oil wells, it is customary to use a long string of pump rods, which are generally five eighths of an inch or three quarters of an inch in diameter. These rods are secured to a walking beam which imparts to them a reciprocating motion. In order to prevent the leakage of oil and the escape of gas and the like from the well, the casinghead is provided with a stuffing box through which the pumping rod passes. In the vicinity of the stuffing box, a section of rod thicker than the remaining rods is usually inserted. This section is generally from 10 to 12 feet long and its diameter is usually from 1 1/8 inch to 1 1/4 inch. This rod section passes through a stuffing box and is usually formed with a highly polished surface to minimize friction between the rod and the stuffing box packing rings. This section of the rod is known to the oil field workers as a "polish rod".

Some oil wells produce large volumes of salt or sulphur waters. The polish rod in its pumping movements is of necessity first subjected to these corrosive waters and then to the air and, if ordinary steel polish rods are used, excessive corrosion results. In the prior art, non-corrosive or corrosive resisting alloys have been used for the polish rod section.

One object of my invention is to provide a construction whereby the customary polished rod may be dispensed with and the ordinary sucker or pump rods may be used throughout.

Another object of my invention is to provide a construction which will enable the corrosion of salt and sulphur waters to be eliminated.

In general, my invention contemplates the provision of a tubular hollow section which may be slipped over an ordinary pump rod. This tubular section may be made out of such substances as "micarta", "bakelite", brass, copper, stainless steel, or other material which will withstand the corrosive action of fluids being handled. Means are provided for securing it to the pump rod in a manner whereby the sleeve will act as a covering or bearing surface protecting the rod and carrying no load.

In the accompanying drawing which forms part of the instant specification and in which like reference numerals are used to indicate like parts in the various views,

Figure 1 is a sectional elevation showing a pump rod fitted with one mode of carrying out my invention.

Figure 2 is an enlarged detail view of the form of the invention shown in Figure 1.

Figure 3 is a sectional view taken on a line 3—3 of Figure 2.

More particularly referring now to the drawing, the casinghead of the oil well tubing or casing 1 is provided with a stuffing box 2 containing stuffing rings 3 held in place by follower 4. A spring 5 is provided to exert a pressure upon the follower. Tension on the spring may be adjusted by screwing the nut 6 upon screw threads 7. The upper end of pump rod 8 is suitably fastened to a walking beam not shown, which imparts a vertical reciprocating motion to the rod as is well known in the art. A length of tube 9 whose internal diameter is such that it may be slipped over the pump rod 8 while fitting snugly thereto, is held in place by clamp stops 10 and 11. The tube 9 may be made of any suitable material and may be such that it will be resistant to corrosion. The clamp stops 10 and 11 are provided with a seat formed by a flange 12. The bottom of the seat is provided with a groove 13 in which may be placed a plastic sealing compound to prevent the seepage of water or the like into the capillary space between the protective sleeve 9 and the pump rod 8. The clamp stops 10 and 11 are likewise provided with a tapered, threaded section 14 which is provided with slots 15. Tapered nuts 16 are adapted to be screwed upon tapered threads 14, causing the slotted portions to flex and grip the pump rod 8, clamping the stops in place.

It will be observed that I have accomplished the objects of my invention. The protective sleeve 9 is securely held in place and forms a smooth non-corrosive bearing surface for working in the stuffing box. There is no load upon the sleeve 9 except that resulting from friction at the stuffing box packing. If the protective sleeve 9 becomes worn, it may be very easily and expeditiously replaced at considerably less expense than the replacement of each section of pump rod.

It will be understood that certain features and subcombinations are of utility and may be employed without reference to other features and sub-combinations. This is contemplated by and is within the scope of my claims. It is further obvious that various changes may be made in details within the scope of my claims without departing from the spirit of my invention. It is, therefore, to be understood that my invention is not to be limited to the specific details shown and described.

Having thus described my invention, what I claim is:

1. In a well pumping assembly having a stuffing box, a pump rod passing through said stuffing box and a bearing sleeve for said pump rod adapted to cooperate with said stuffing box to form a sealing and wearing surface, means for supporting said bearing sleeve comprising clamping members

adapted to be clamped around said pump rod at each end of the bearing sleeve, and sealing means between said clamping members and said bearing sleeve.

2. A well pumping assembly as in claim 1 in which said bearing sleeve is of corrosion resisting, non-metallic material.

EDWIN O. BENNETT.