Dec. 25, 1928. 1,696,543

J. C. GARROTT

DETACHABLE SUCKER ROD GUIDE

Filed July 5, 1927

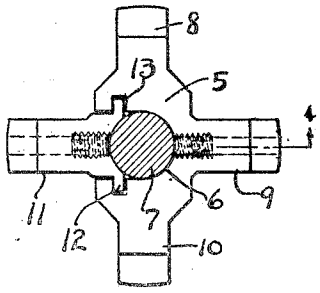


Fig. 3

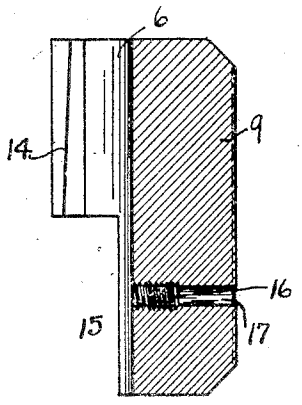


Fig. 4

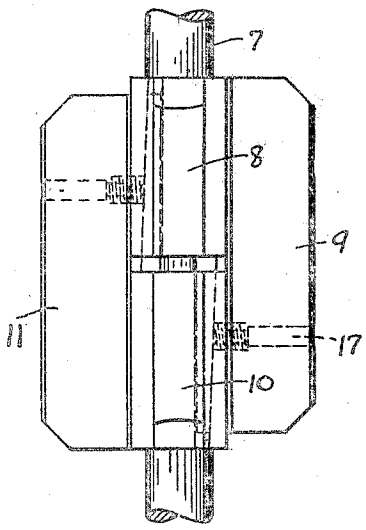


Fig. 1

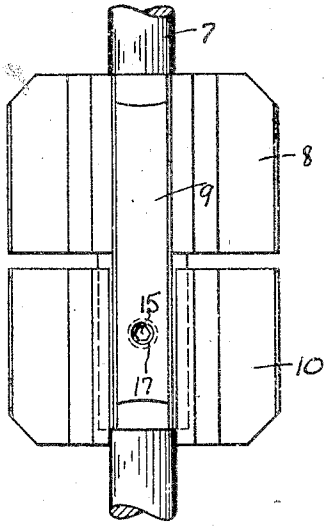


Fig. 2

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UNITED STATES PATENT OFFICE.

JOHN C. GARROTT, OF HOUSTON, TEXAS.

DETACHABLE SUCKER-ROD GUIDE.

Application filed July 5, 1927. Serial No. 203,376.

My invention relates to guide members to be placed upon pump, or sucker rods employed in pumping deep wells.

In deep wells, such as those drilled for oil, the bore of the well hole is rarely straight, but has curves therein throughout its length so that the pump rod is apt to rub on the tubing at the crooked parts of the well and difficulty is experienced, due to the wear upon the rods and tubing, such wear often requiring replacement of the rods and tubing at considerable expense of time and material.

It is an object of the invention to provide a guide, or protector to be placed upon the rod and serve to keep the rod from wearing against the tubing.

It is my aim to provide a guide of rigid material designed to reduce the friction between the parts, and which may be mounted on the rod quickly and easily. It is desired that the tool be adapted to be manufactured economically so as to make the price within the reach of the consumer, the structure thereof being made of few and simple parts.

Referring to the drawing, Fig. 1 is a side elevation of the device shown mounted upon a rod.

Fig. 2 is a similar view taken at right angles to that shown in Fig. 1.

Fig. 3 is a top plan view of the device; and Fig. 4 is a longitudinal section through the main body of the device with the wedge block removed, the section being approximately on the line 4—4 of Fig. 3.

The guide is formed so that, when assembled upon the rod, it will be approximately cross shaped in end view. It has a body 5 with a central channel 6 for the rod 7, and four radial ribs 8, 9, 10 and 11.

The body and ribs are made up of two like, interfitting parts adapted to be slidably connected around the rod. The body portion of the guide is divided transversely across the ribs 8 and 10, the ribs 9 and 11 being left integrally attached to a portion of the body; rib 9 being made a part of the upper half of the body, and rib 11 being a part of the lower half, as will be seen from Fig. 1.

The end of each of the ribs 9 and 11, projecting beyond its portion of the body, is formed with laterally extending flanges or keys, 12, as seen in Fig. 3. The body has opposed grooves or keyways 13 to receive said keys and said keyways are tapered toward the end, the outer wall 14 of the groove being inclined inwardly toward the rod at its outer end. The keys are formed with their outer faces inclined inwardly at their inner ends, as shown in dotted lines in Fig. 1, so that when the two parts of the guide are fitted about the rod and then moved toward each other, the keys on one end will engage the keyways on the other. Then when the parts are driven together, the engagement of the inclined surfaces of keys and keyways will wedge the parts toward the rod, and clamp them frictionally thereon.

I have shown set screws 15 threaded within recesses 16 in the ribs 9 and 11, said recesses extending outwardly from the central rod channel a sufficient distance to house the set screw 15. Beyond the set screw a smaller passage 17 is extended through to the outside so that a wrench may be inserted into a recess in the head of the screw to rotate the same when the set screw is tightened against the rod. This arrangement prevents the loss of the screw during operations and makes it possible to avoid any sliding of the guide upon the rod.

In assembling this device upon the rod it is merely necessary to place the channeled face of each of the sections upon the rod with the cooperating ends toward each other. By then sliding the parts together the keys will automatically engage within the keyways so that when the parts are driven together they will be wedged against the rod so that there will be little danger of their becoming detached in use. The set screws will guard against any tendency of the two sections to be uncoupled. When thus mounted on the rod it will be seen that the outer faces of the ribs will bear against the tubing and prevent the rod from rubbing thereon, thus preventing wear on the rod and practically eliminating wear upon the tubing. The guide is made of material softer than the tubing so that such wear as occurs will be upon the guide.

The advantage of this construction lies in its simplicity and in the ease with which it may be assembled upon the rod and locked in position.

What I claim as new and desire to protect by Letters Patent is:

1. A sucker rod guide comprising a body with a central longitudinal channel for a sucker rod, four symmetrical ribs extending radially from the body to engage the tubing,

said body being divided transversely through two opposite ribs, the other ribs being formed integrally with a section of said body and adapted to interfit with the adjacent body portion, to clamp the parts upon a rod.

2. A sucker rod guide comprising a body with a central longitudinal channel for a sucker rod, four symmetrical ribs extending radially from the body to engage the tubing, said body being divided transversely through two opposite ribs, the other ribs being formed integrally with a section of said body, said integral ribs having keys thereon to interfit with inclined keyways in the adjacent body portion to clamp said body upon said rod.

3. A sucker rod guide comprising a body with a central longitudinal channel for a sucker rod, four symmetrical ribs extending radially from the body to engage the tubing, said body being divided transversely through two opposite ribs, the other ribs being formed integrally with a section of said body, said integral ribs having keys thereon to interfit with inclined keyways in the adjacent body portion to clamp said body upon said rod, and set screws upon said ribs to engage said rod in the manner described.

4. A sucker rod comprising a central body with a rod-receiving channel longitudinally thereof, radial ribs on said body, said body being divided transversely into two sections, each section having one of said ribs formed integrally thereon, lateral keys on said integral ribs shaped to interfit with keyways in the other body section so as to clamp the parts together frictionally upon the said rod.

5. A sucker rod comprising a central body with a rod-receiving channel longitudinally thereof, radial ribs on said body, said body being divided transversely into two sections, each section having one of said ribs formed integrally thereon, lateral keys on said integral ribs shaped to interfit with keyways in the other body section, the faces of said keys and keyways being inclined to wedge the sections toward the rod so as to clamp the parts together frictionally upon the said rod.

In testimony whereof I hereunto affix my signature this 30th day of June, A. D. 1927.

JOHN C. GARROTT.