

Jan. 31, 1939.

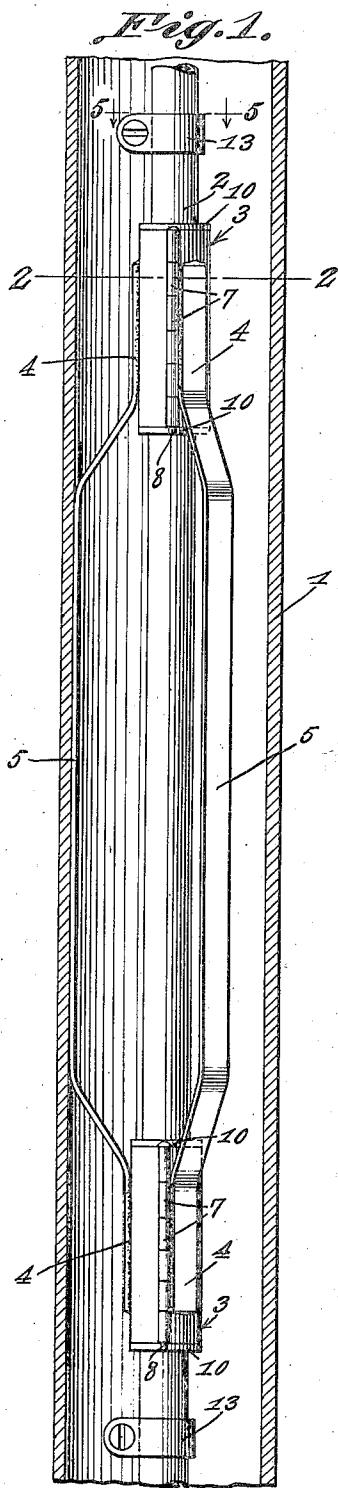
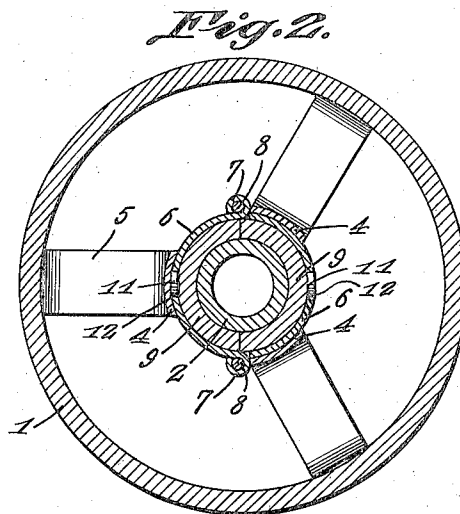
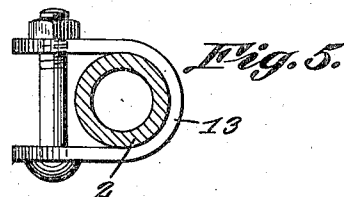
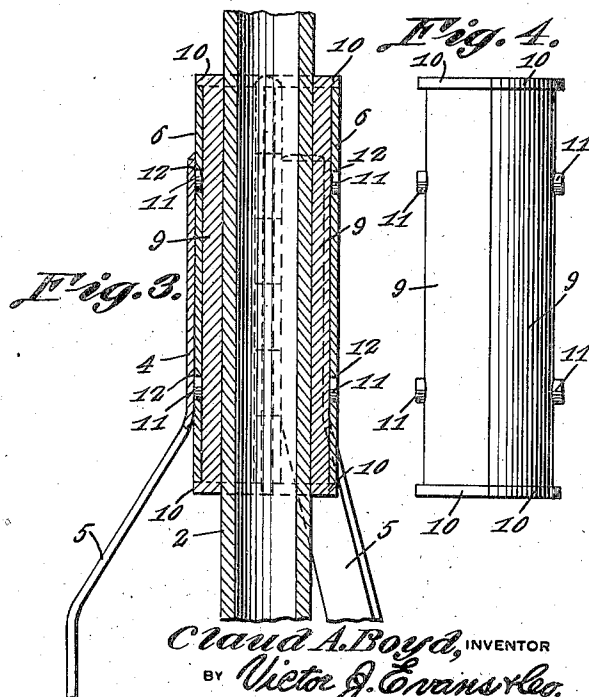
C. A. BOYD

2,145,336

ROD GUIDE

Filed March 27, 1937

2 Sheets-Sheet 1



Claud A. Boyd, INVENTOR
By Victor J. Enns & Co.

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2 Sheets-Sheet 2

Fig. 6.

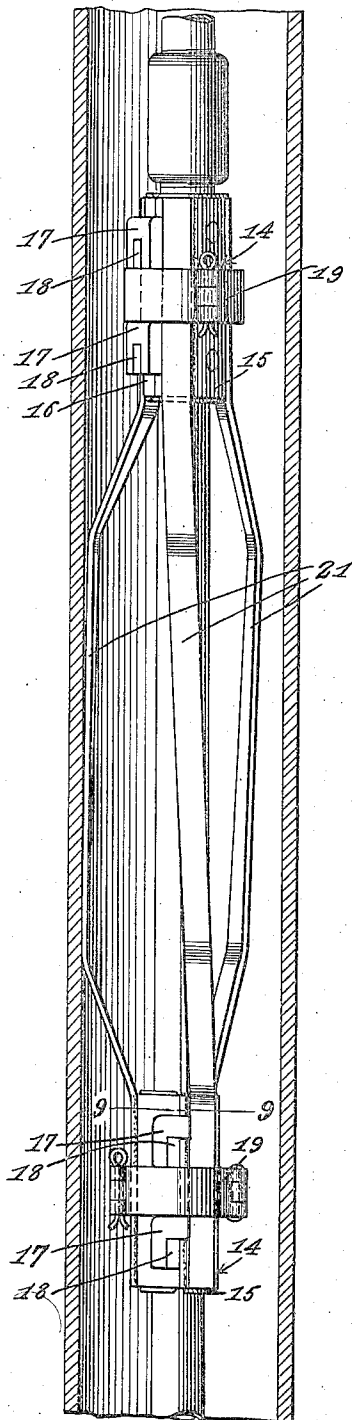


Fig. 7.

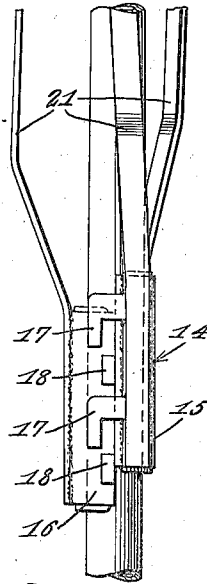


Fig. 8.

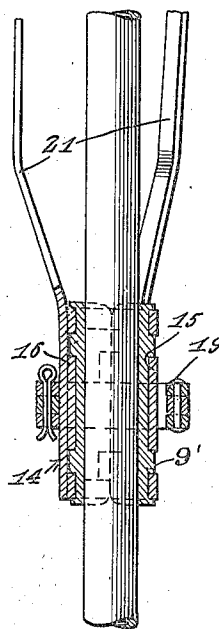
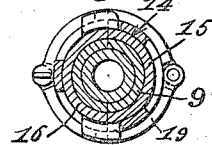


Fig. 9.



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UNITED STATES PATENT OFFICE

2,145,336

ROD GUIDE

Claud A. Boyd, Dallas, Tex.

Application March 27, 1937, Serial No. 133,469

1 Claim. (Cl. 308—4)

This invention relates to pump rods or tube guides for oil wells and has for the primary object the provision of an efficient and inexpensive device which may be easily and quickly installed to maintain a pump rod or tube from engaging and dragging against a well casing, consequently eliminating wear on the walls of the casing and on the rod or tube and its couplings.

Another object of this invention is the provision of a device of the above stated character which is so constructed that its interference with the flow of fluid from the well will be reduced to a minimum and will act to remove paraffin and other foreign matter from the walls of the well casing during the withdrawal of the pump rod or tube from the well casing.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a vertical sectional view showing a pump rod or tube equipped with a guide constructed in accordance with my invention and showing it contacting with the walls of a well casing for centering the pump rod or tube in the casing.

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

Figure 3 is a fragmentary vertical sectional view illustrating one of the bearings.

Figure 4 is a plan view illustrating one of the bearing sleeves.

Figure 5 is a detail sectional view taken on the line 5—5 of Figure 1.

Figure 6 is a vertical sectional view showing a modified form of my invention adapted to a pump rod or tube.

Figure 7 is a fragmentary side elevation showing one of the bearings of my modified form of invention positioned ready for coupling.

Figure 8 is a fragmentary vertical sectional view illustrating the bearing of my modified form of invention in a coupled position.

Figure 9 is a sectional view taken on the line 9—9 of Figure 6.

Referring in detail to the drawings, the numeral 1 indicates a well casing, 2 a pump rod or tube mounted for operation in the well casing. During the operation of the rod or tube it will contact the walls of the well casing if not guided and consequently place wear on the well casing as

well as upon itself and its coupling. To prevent this wear, my invention is adapted to the pump rod or tube during the assembling thereof in the well casing so as to guide the movement of the tube or rod during the pumping operation.

My invention consists of spaced bearings 3 joined together by resilient members 4 each provided with an offset portion 5 of considerable length and which contacts the well casing to steady or guide the movement of the pump rod or tube, the latter sliding freely in the bearings 3. The resilient members 5 contact the casing 1 with sufficient force to prevent displacement or endwise movement of the guide with the rod or tube 2.

Each bearing consists of a sectional housing 6 on which are secured the members 5. The sections of the housing have interfitting barrels 7 to receive pins or like fasteners 8 for joining the sections together. A sectional bearing sleeve or liner 9 is fitted in the housing 6 and has flanges 10 at its ends to engage with the ends of the housing. Projections 11 are formed on the sections of the bearing sleeve to fit in openings 12 of the housing. The projections 11 fitting in the openings 12 and the flanges 10 prevent accidental displacement of the sleeve within the housing. The bearing sleeve is constructed from any material suitable for the purpose.

U-clamps 13 are placed on the pump rod or tube above and below the guide so that when the pump rod or tube is pulled the guide will be removed therewith from the casing. By rotating the pump rod or guide during its withdrawal from the casing the members 5 of the guide will act as scrapers to remove paraffin and other foreign matter which may be adhered to the wall of the well casing. When the guide is inserted in the well casing the members 5 are contracted so that after being placed in the casing they will bear on the well casing with force sufficient to retain the guide in a selected or proper location within the well casing. The U-clamps 13 are positioned far enough apart on the pump rod or tube so as not to interfere with the guide during the pumping operation providing that the pump rod or tube is of the reciprocating type.

Referring to my modified form of the invention, the bearing housings are indicated by the character 14 and each consists of sections 15 and 16. Each bearing housing 14 has the sectional bearing sleeve 9' therein. The section 15 of the housing has formed thereon hook-shaped members 17 to engage with lugs 18 for holding the sections assembled. To assemble or disassemble

the bearings, the sections 15 and 16 are moved endwise of each other. After the assembling of the sections of the housing a hinge clamp 19 is placed about the housing.

5 The bearings 14 are connected by resilient members 21 each having offset portions and each having a limited spiral pitch thereto, as shown in Figure 6, so that during the rotation of the guide with the removal of the pump rod or tube
10 from the well casing the resilient members will efficiently scrape paraffin and other foreign matter from the walls of the casing.

A guide of the character described and shown in the drawings may be manufactured at a nominal cost and is easy to install and should it become accidentally disconnected from a pump rod or tube and fall in the well casing its removal can be easily accomplished by an ordinary fishing tool due to the construction of the guide permitting a fishing tool to readily hook therein.
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The resilient members 4 and 21 of the different forms of my invention contacting the well casing during the reciprocation of the pump rod will act as shock absorbers to absorb the vibration set up from the whipping of the pump rod.

What is claimed is:

A guide comprising bearings each including sectional housings and a sectional liner, one section of each housing having hooks formed thereon, lugs formed on the other section of said housing to be engaged by the hooks, flanges formed on the liner and engaging the ends of the housing, lugs formed on the liner, said housing having openings to receive the last-named lugs, resilient guide means connecting the bearings, and hinged detachable clamps surrounding the housings of the bearings.

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