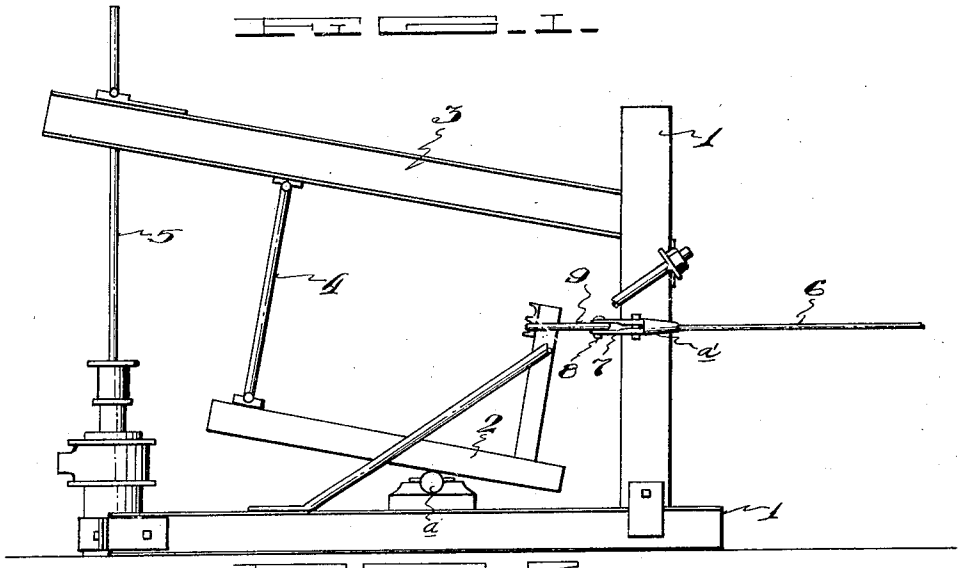
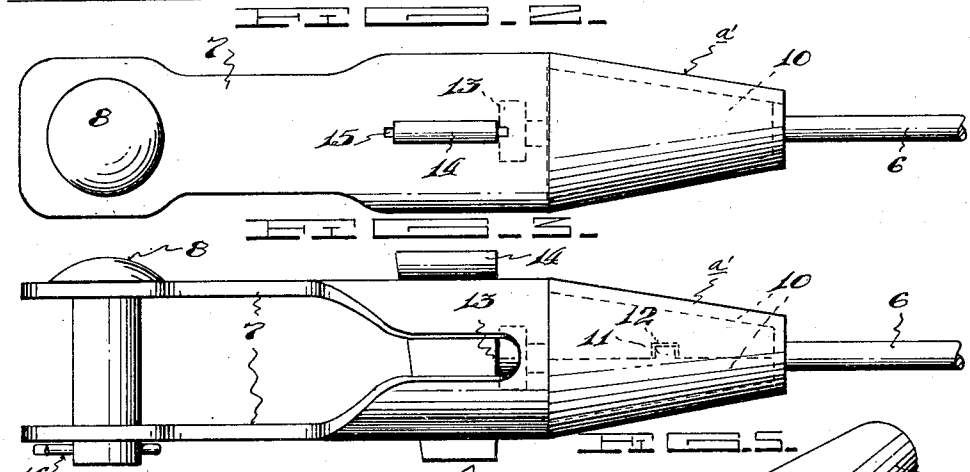
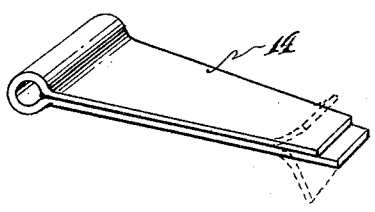
June 14, 1932. R. C. DUBLIN 1,862,886

PULL ROD SLIP CLAMP

Filed Jan. 30, 1931







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UNITED STATES PATENT OFFICE

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PULL ROD SLIP CLAMP

Application January 30, 1931. Serial No. 512,324.

This invention relates to machine elements and particularly to pull rod slip clamps for well pumping jacks and the principal object of the invention resides in the provision of a durable, practical and wholly efficient device capable of ready attachment to a pull rod whereby said rod may be conveniently secured to a moving element, such, for instance as the reciprocating element of a well pumping jack.

Another and equally as important object of the invention resides in a device of the character specified in which is contained cooperating gripping elements, which are adapted to engage the smooth surface of a cylindrical object, such as a pumping jack pull rod in such manner that increased strain upon the rod will increase the tension of the gripping elements and will thereby prevent any possible release of the device from the pull rod, such as has been experienced in the use of other devices dependent upon threads for rigid connection. Moreover, these last named devices have proven impractical, due to the fact that threads, after having become worn or covered with rust are likely to strip or break and release the rod, which may result in considerable loss of time in re-assembling the pull rod line.

With the foregoing objects as paramount, the invention has particular reference to its salient features of construction and arrangement of parts which will become manifest as the description proceeds, taken in connection with the accompanying drawing, wherein:

Figure 1 is a side elevational view of a pumping jack, showing the position of the invention relative thereto.

Figure 2 is a plan view of a device embodying the present invention.

Figure 3 is a side elevation of the device shown in Figure 2.

Figure 4 is a fragmentary sectional view of the casing and slips and further showing the safety key used in connection therewith.

Figure 5 is a detail view of the slips, and Figure 6 is a detail view of the safety key.

In continuing further, it may be stated that the invention is particularly adapted for use in connection with oil well pumping jacks, forming the connection between the operative elements of the jack and the pull rod or power line, whereby the sucker rod assembly in the well may be reciprocated, to produce the desired pumping action. Although it is adapted for such use, the invention is not intended to be so limited, it being apparent that the invention affords a very desirable attachment in any case requiring such connection as set out in the preceding statement.

Accordingly, 1 designates a frame of a conventional well pumping jack. The element 2, pivoted at *a* imparts movement to the beams 3 through the medium of rods 4. The beams 3, being connected to the sucker rod assembly 5, the latter is reciprocated for the required pumping action.

The foregoing briefly describes the conventional jack in order that the invention and its purposes will be better understood. It will be noted in Figure 1 that the power line or pull rod assembly 6 connects with the rocking element 2 and conventional devices by which this connection is established have been found to be wanting in strength and durability and usually does not resist the excessive strain imposed upon them from a view point of economy and practicability.

The invention is comprised of a housing shown in Figures 2 and 3, which has parallel portions 7 which are connected by means of a bolt 8 to a link 9, or its equivalent, which latter engages the element to be operated by the pull rod assembly, and in the present case, to a portion of the rocking member 2 of the conventional jack shown in Figure 1. The housing previously mentioned is a unitary structure and is further provided with a reduced portion *a* having a conical interior and exterior surface.

The fact that the end of the housing has the conical reduced portion at *a* is of great importance in that it is within this reduced portion that the sleeves or gripping elements 10 are container, which, when combined are also coniform, as apparent in the several figures, although they are in two or more sec-

tions, which may be determined by reference to Figures 4 and 5. There is provided on one of the slip sections an integral projection 11, which corresponds with a recess 12 in the other setcion, although the said recess is of such width as to loosely receive the said projection 11. The purpose of this recess and projection is to allow slight slippage of the slips 10 independently, but to limit this slippage to only the required degree. In fact, the arrangement merely knocks the slips loosely together in their relationship shown in Figure 4.

The slips 10, as apparent particularly in Figures 4 and 5 are knurled or threaded on their inner surfaces at *b*, to better grip the ends of a cylindrical object or a rod which they surround and in the relationship shown in Figure 4, it is apparent that any effort to withdraw the rod 6 from its position shown, will result in tightening the gripping effect of the slips and in fact, the gripping action of the slips will be increased in proportion to the strain on the rod 6 and will positively hold the latter against displacement. While the rod 6 is shown in Figures 2 and 3 as having an enlargement 13 upon its inner end, Figure 4 shows the rod having a smooth end, it being pointed out that in extreme cases, the enlargement 13 may be practicable but not wholly necessary and is applied only as a precaution against accident.

As a further precaution, a safety key 14 is inserted in slots 15 in the casing and, as apparent in the Figures, has a flat side and a tapered side, the former affording a surface against which the enlargement 13, or the end of the rod 6 may project. As shown in dotted lines in Figure 6, the bifurcated end may be turned outward to positively hold the key against accidental displacement from its operative position.

In assembling the invention. the connection is made between the casing of the invention and the link 9 through the medium of the bolt 8 and after having so connected the casing, the cotter pin 16 is inserted, as shown in Figures 3, to hold the bolt 8 in position. The end of the rod 6 is then inserted into the reduced end *a* of the casing and the slips 10 are inserted in the space between the parallel arms 7 and moved into the conical reduced portion of the casing in interlocked relationship. After this, the key 14 is inserted and locked, whereupon the device is in condition for operation. However, in some instances, especially when the head 13 is provided on the rod 6, it is desirable to apply the connector before joining the latter to the element which is required to be reciprocated, such for instance as the link 9. In this connection it may be mentioned that the mode of application has no bearing on the invention whatsoever.

Manifestly, the construction shown is capable of some modification and such modification as is considered within the scope and meaning of the appended claim is also considered within the spirit and intent of the invention.

What is claimed is:

In a pull rod slip clamp, a combination including a body having a pair of parallel arms integral therewith and perforated to receive a bolt, said body being swaged into conical shape at one end and having diametrically opposed slots at a point immediately forward of said conical end, trunco-coniform slips arranged to conform within the conical end of said body and capable of limited relative slidable movement and having roughened inner surfaces to engage and hold a rod and a wedge receivable in the slots in said body to prevent displacement of said slips.

In testimony whereof I affix my signature.

REAGAN C. DUBLIN.