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J. P. RATIGAN

GRIP

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Fig. 3

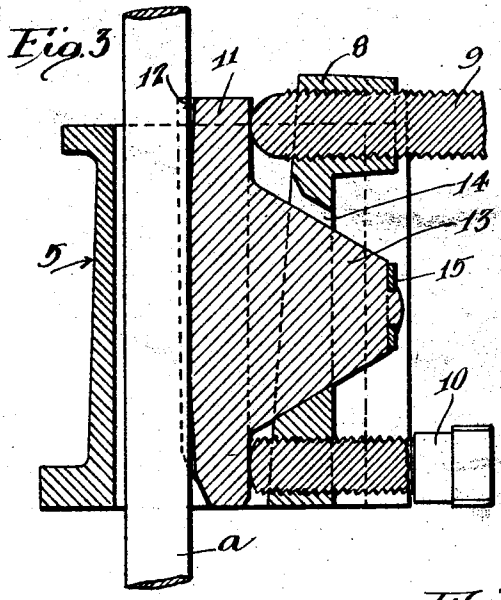


Fig. 2

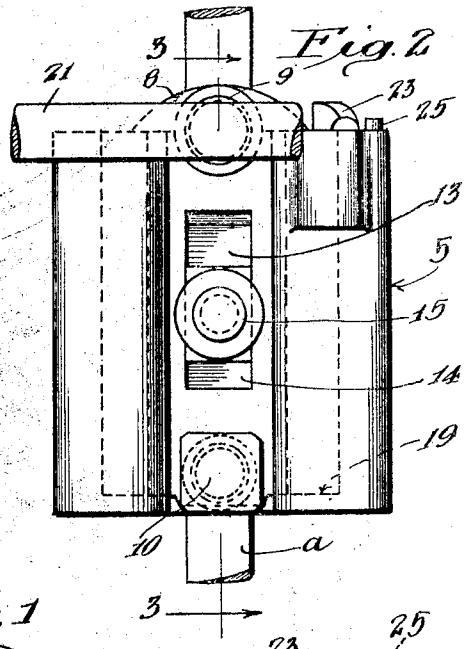


Fig. 1

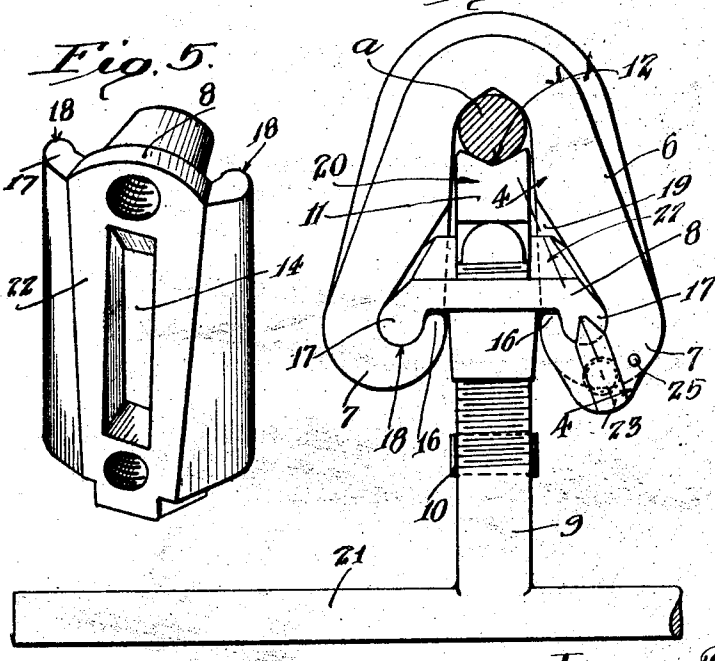


Fig. 5.

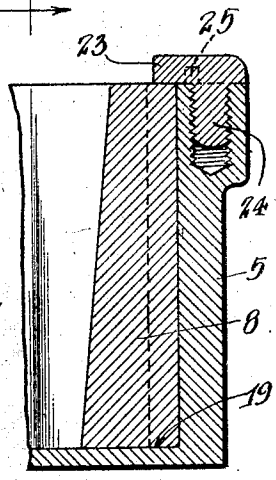


Fig. 4

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UNITED STATES PATENT OFFICE.

JAMES P. RATIGAN, OF WALNUT PARK, CALIFORNIA.

GRIP.

Application filed February 16, 1925. Serial No. 9,508.

To all whom it may concern:

Be it known that I, JAMES P. RATIGAN, a citizen of the United States, residing at Walnut Park, in the county of Los Angeles and State of California, have invented a new and useful Grip, of which the following is a specification.

This invention relates to grips of the type employed, for example, in the art relating to oil wells. This grip is capable of use in the connecting of the polish rod to the walking beam so as to effect operation of the pump, and it may also be employed in clamping the sucker rods in the operations of pulling and inserting said rods. The grip may be used for other purposes for which it is adapted.

An object of the invention is to provide a grip of this character of great strength relative to the amount of metal employed in its construction.

Another object is to construct the grip so that tightening the grip upon the member that is to be clamped will not tend to spread the jaws and thus break the grip.

Various other objects and advantages will appear hereinafter.

Fig. 1 is a plan view of a grip constructed in accordance with the provisions of this invention, a rod being shown in the grip in section.

Fig. 2 is a front elevation of Fig. 1, portions of the handle for operating one of the screws being broken away.

Fig. 3 is a sectional elevation on the line indicated by 3—3, Fig. 2.

Fig. 4 is a fragmental sectional elevation on the line indicated by 4—4, Fig. 1.

Fig. 5 is a perspective view of one of the body sections.

There is provided a body indicated in general by the character 5. The body is preferably triangular in cross section and preferably entirely surrounds the rod *a* which is to be gripped. In the instance illustrated in the drawings, to obtain certain advantages the body 5 is of sectional construction, one of the sections 6 being channeled and having longitudinally extending shoulders 7 on opposite sides of the channel. The shoulders 7 constitute spaced jaws which are movably engaged by the other section 8. The jaws 7 are preferably hook-shaped, and the channel or opening extending longitudinally in the section 6 is indicated at 20. The section 8 forms a wall that closes the open side of the channel 20. The section 8 is provided with suitable clamping means which, in this instance is constituted by one or more screws 9, 10, threaded through the section 8 and projecting into the channel 20 and positioned at points along the longitudinal axis of said section 8. The inner ends of the screws 9, 10 engage a loose block 11 which is preferably provided with a longitudinally extending groove 12 to approximately fit a portion of the curved face of the member that is being clamped in the grip. This member is indicated at *a*.

Preferably the section 8 and block 11 are held assembled by a tongue 13 projecting from the rear face of the block 11 through a slot 14 extending longitudinally in the section 8. Further insurance against separation of the section 8 and block 11 is provided by a shoulder or shoulders 15 on the tongue, the lateral extent of said shoulders being sufficient to engage the rear face of the section 8 when the block is moved away from the section 8. Thus, the section 8 and block 11 are loosely connected.

The inner faces of the jaws 7 preferably extend aslant inwardly as indicated at 16 and said faces are engaged by projections 17 on the rear face of the section 8. The projections 17, in this instance, constitute longitudinally extending ribs. The inner faces 18 of said ribs are preferably aslant inwardly to correspond more or less with the slanting faces 16. This particular construction of the jaws 7 and section 8 is of advantage, for it will be seen that, when the screws 9, 10 are tightened to clamp the block 11 against the member *a*, the strain that comes upon the jaws 7 tends to hold said jaws toward one another, thus tending to prevent breakage of said jaws under the immense strain that results when the grip is employed for supporting a string of sucker rods that may be five or six thousand feet in length.

The section 6 is provided at its lower end with shoulders 19 that project into the channel 20 so as to engage and support the section 8 when the screws 9, 10 are loosened, thus supporting the section 8 until said screws have been tightened to clamp the block 11 against the member *a*, the section 8 then being held tightly against the jaws 7 by the reaction of the screws 9, 10.

In practice, the grip may be engaged with the sucker rod by sliding upwardly the sec-

tion 8, with its attached block 11, out of the channel 20 and moving the section 6 toward the rod that is to be clamped to cause the rod to be received in the bottom of the channel 20. Then the section 8 with the attached block will be replaced in the channel 20 and the screws 9, 10 tightened against the block to press the block against the rod. The screw 10 may be tightened first and then the screw 9, which is provided with a handle 21 to multiply the leverage for turning the screw 9, is tightened.

The wall of the groove 12 preferably is convex longitudinally of the block 11. The curvature is relatively slight and is somewhat exaggerated in Fig. 3 so that it may be seen clearly. The advantage of this is that a wedging action is thereby obtained on the rod, for the screw 10 will be operated first to set the lower end of the block 11 fairly tight against the rod, and then the screw 9, by operation of the handle 21, will rock the block 11 slightly on the rod, thus increasing the pressure of the screw 10 against the block, and, in fact, equalizing the pressure of the screws 9, 10.

The front or inner face 22 of the body section 8 preferably is aslant inwardly and downwardly relative to the ribs 17, thus permitting the section 8 and block 11 to be easily inserted in the channel 20 after the rod *a* is in place in said channel.

To hold the sections 6, 8 assembled when the block is released and it is desired to pick up the grip by the handle 21, a rotatable latch 23 is pivotally mounted at 24 on the upper face of the body section 6 so that, when said latch is turned to latching position, it will project over the upper face of the section 8 and retain said section against upward shifting and, when turned to retracted position, it will not thus project over the section 8, permitting said section to be slid out of the channel 20.

A stop 25 is provided on the upper face of the section 8 for the latch to engage when said latch is retracted so that the latch cannot be turned a greater distance than necessary to retract it from latching position.

I claim:

1. A grip comprising a body formed in sections, one section being channeled and the othe section forming a wall for the open side of the channel and being movably secured to the first mentioned section, a screw threaded through one of the sections and projecting into the channel, and cooperating parts between the sections tending to pull the side walls of the channeled member toward each other when the screw is tightened.

2. A grip comprising a body formed in sections, one section being channeled and the other section forming a wall for the open side of the channel and being movably secured to the first mentioned section, a grooved block loosely mounted in the channel, a screw threaded through one of the sections and projecting into the channel, and cooperating parts between the sections tending to pull the side walls of the channeled member toward each other when the screw is tightened.

3. A grip comprising a body formed in sections, one section being channeled and having hook-shaped jaws and the other section having projections engaging the bights of the hook-shaped jaws, and a screw threaded through one of the sections and projecting into the channel.

4. A grip comprising a channeled body, a grooved block in the channel, the wall of the groove being convex longitudinally of the block, means to force one end of the block toward the wall of the channel, and means to force the other end of the block toward the wall of the channel.

5. A grip comprising a channeled body, a grooved block in the channel, the wall of the groove being convex longitudinally of the block, and screws threaded into the body, one screw engaging the block near one end and the other screw engaging the block near its opposite end.

6. A grip comprising a channeled body adapted to receive a rod, screws threaded into the body and projecting into the channel, and a block engaged at its end portions by the screws and having a face engaging the rod only at a portion intermediate of the end portions to equalize pressure of the screws on the block.

7. A grip comprising a body formed in sections, one section being channeled to receive a rod, the other section having a longitudinally extending slot, a block having a tongue inserted in the slot, and means on one of the sections to force the block toward the rod.

8. A grip comprising a body formed in sections, one section being channeled to receive a rod, the other section having a longitudinally extending slot, a block having a tongue inserted in the slot, there being a shoulder on the tongue to engage one of the marginal walls of the slot, and means on one of the sections to force the block toward the rod.

9. A grip comprising a body formed in relatively movable sections, one of the sections having a channel to receive a rod, the other section closing the open side of the channel, one of the sections having its inner face extending aslant downwardly and inwardly, a block in the channel, and means on one of the sections to force the block away from the slanting face toward the rod.

10. A grip comprising a body formed in relatively movable sections, one of the sections having a channel to receive a rod, the other section closing the open side of the

channel and in sliding engagement with the first mentioned section, one of the sections having its inner face extending aslant downwardly and inwardly, a block in the channel, and means on one of the sections to force the block away from the slanting face toward the rod.

11. A grip comprising a channeled section having its side walls terminating in inwardly projecting hook-shaped jaws, the inner faces of the bights of the jaws extending aslant inwardly, a second section extending between the jaws and having projections to engage in the bights of the jaws, the inner faces of said projections being aslant inwardly to engage the slanting jaw faces, and means on one of the sections to force a rod within the channel toward the other section.

Signed at Los Angeles, California this 9 day of February 1925.

JAMES P. RATIGAN.