

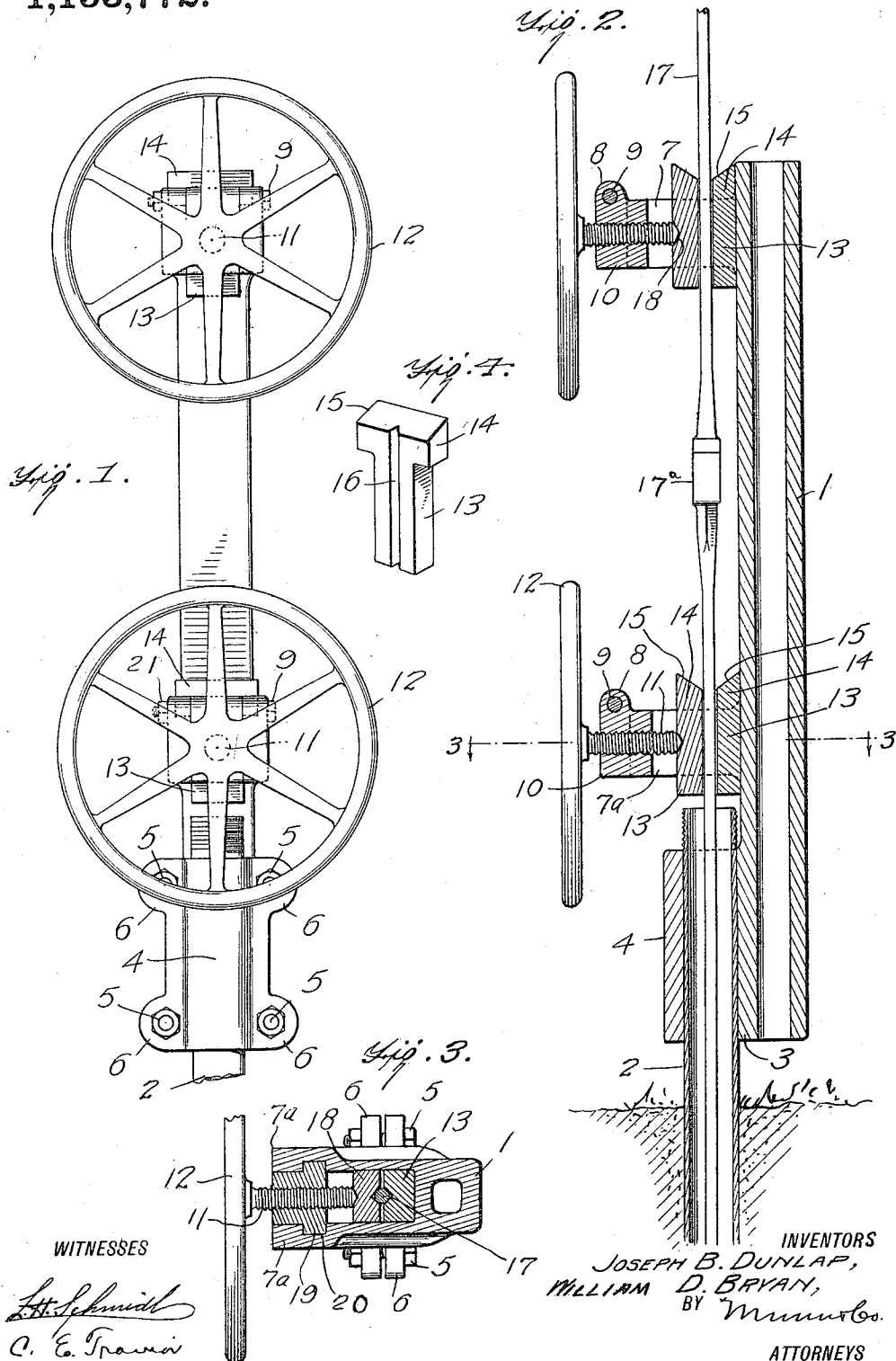
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SIMPLEX ROD SLIP.

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1,153,772.

Patented Sept. 14, 1915.



UNITED STATES PATENT OFFICE.

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SIMPLEX ROD-SLIP.

1,153,772.

Specification of Letters Patent.

Patented Sept. 14, 1915.

Application filed August 15, 1914. Serial No. 856,975.

To all whom it may concern:

Be it known that we, JOSEPH B. DUNLAP and WILLIAM D. BRYAN, citizens of the United States, and residents of Tulsa, in the county of Tulsa and State of Oklahoma, have invented a new and useful Improvement in Simplex Rod-Slips, of which the following is a specification.

Our invention is an improvement in simplex rod slips, and has for its object to provide a device of the character specified, adapted for lowering a sucker rod into a well casing wherein a stand is provided having means for clamping the upper end of the well casing, the stand being provided with a plurality of mechanisms for clamping the rods alternately or together.

In the drawings: Figure 1 is a front view of the improved slip, Fig. 2 is a vertical section, Fig. 3 is a section on the line 3—3 of Fig. 2, looking in the direction of the arrows adjacent to the line, and Fig. 4 is a perspective view of the brake block.

In the present embodiment of the invention, a tubular stand 1 is provided having at its lower end a sectional clamp for clamping the stand on the upper end of the well casing 2. The clamp consists of two sections, a section 3 integral with the stand and a section 4 which may be clamped to the section 3, by means of bolts and nuts which pass through laterally extending ears 6 on the sections.

The stand is provided at its upper end with a pair of laterally extending parallel arms 7, and near its lower end with a similar pair of arms 7^a. The arms of each pair are provided at their outer ends and on their upper sides with upwardly extending perforated lugs 8, and a bolt 9 is passed through the openings of the lugs, each bolt connecting a nut 10 to the adjacent pair of arms.

Each of the nuts is provided with a transverse threaded opening for engagement by a threaded stem 11, having at its outer end a hand wheel 12 for convenience in turning the stem.

A sectional clamp is arranged at each pair of arms, each clamp consisting of a pair of similar sections. Each of the sections as shown in Fig. 4, is of T shape, comprising a body 13 and a cross head 14, at its upper end. The upper end of the cross head is beveled toward one face of the section as indicated at 15, and the face toward

which the head is beveled is provided with a vertical V-shaped groove 16.

The bodies of the clamp are of a width to pass downwardly between the pair of arms, and the ends of the heads are adapted to rest upon the upper edges of the arms to limit the downward movement of the sections.

The rod 17 is clamped between the sections of each clamping device, and that section of each device adjacent to the threaded stem 11 is provided with a depression or recess 18 in its outer face for engagement by the pointed inner end of the stem.

It will be noted from an inspection of Fig. 3 that each of the nuts is provided at its inner surface with a pair of oppositely extending ribs 19, and the said ribs engage vertical grooves 20 in the inner faces of the arms. The nut is thus held from swinging movement on the bolt 9, while by removing the bolt, the nut may be easily lifted out of place from between the arms. Each bolt 9 is engaged by a nut 21 on the opposite side of the head, and the lower ends of the nuts 10 are flush at their lower ends with the under edges of the arms 7 and 7^a.

In operation, the stand being secured to the upper end of the well casing by means of the clamping device 3—4, the sectional clamping devices at the arms 7—7^a are engaged with the rods 17. It will be understood that before the stand is clamped on the well casing the nuts 10 and the clamping devices of the arms 7 and 7^a are removed from the said arms by loosening the nuts 21 and removing the bolt 9 from the arms.

After the stand has been placed and secured to the upper end of the well casing the sections of the clamping device are inserted between the arms by dropping them between the arms from above. The heads 14 limit the downward movement of the arms and the sections are arranged with the grooves 16 inwardly. The nuts 10 are now placed between the arms from above, the ribs 19 engaging the grooves 20 in the inner faces of the arms and the bolts 9 are passed transversely of the openings in the nuts and in the lugs 8 of the arms. The stems are engaged with the threaded openings of the nuts, and it will be evident that either set of clamping devices may be clamped on the rod, by means of the hand wheel 12.

The device forming the subject matter of

the present application is especially designed for use in returning the rods to the well after they have been pulled by the sucker rod puller forming the subject matter of our copending application, Serial No. 856,974, filed August 15, 1914. In returning the rods the first or lowermost rod is inserted into the well casing 2, by permitting the said rod to slip through the two clamping devices on the stand 1, after the said stand has been connected to the top of the well casing, until the joint 17^a forming part of the joint between two rods is just above the uppermost clamp. The next rod is then engaged with the upper end of the first rod and the uppermost clamp is loosened sufficiently to permit the joint to pass through the same. The lowermost clamp is now loosened slightly just enough to permit the rod to slip, but not enough to permit the passage of the joint, and as soon as the joint passes the upper clamping device it is tightened on the rod not enough to stop the movement of the rod, but enough to enable the operator to control the movement of the rod. As soon as the joint is near the lower clamping device the said lower device is open or loosened sufficiently to permit the passage of the joint, the movement of the rod being controlled by the upper clamping device and the rods are permitted to slip until the next joint is just above the upper clamping device. This operation is repeated until all of the rods have been returned to the well casing. While the joint is passing through the upper clamp the movement of the rod is controlled by the lower clamp and this clamp is so arranged that the joint cannot by any chance pass the said lower clamping device. When the joint is passing through the lower clamping device the movement of the rod is controlled by the upper device.

We claim:—

1. A device of the character specified comprising a stand having at its lower end a clamp for detachable engagement with the upper end of a well casing, and a pair of clamping devices rigidly connected with the stand in vertical spaced relation, each of the said clamping devices comprising a pair of clamping jaws, and a support for each pair of jaws, said jaws being arranged with one member of each pair adjacent to the stand, and each support having releasable means for forcing the other jaw toward the stand, said clamping devices being adapted to be released and tightened in alternation to permit the lowering of a jointed rod into the casing.

2. A device of the character specified comprising a stand having means for detachably engaging the top of the casing, and clamp-

ing devices on the stand, each of the said devices comprising a pair of cooperating T-shaped jaws, the stand having a pair of laterally spaced rigid arms for supporting each pair of jaws, and the jaws being arranged between the arms with one jaw adjacent to the stand, and means detachably connected with each pair of arms for forcing the other jaw toward the first named jaw, said means comprising a nut detachably connected with the arms, and a set screw threaded through the nut and adapted to engage the outermost jaw.

3. A device of the character specified comprising a stand having means for detachably engaging the top of the casing, and clamping devices on the stand, each of the said devices comprising a pair of cooperating T-shaped jaws, the stand having a pair of laterally spaced rigid arms for supporting each pair of jaws, and the jaws being arranged between the arms with one jaw adjacent to the stand, and means detachably connected with each pair of arms for forcing the other jaw toward the first named jaw.

4. In a device of the character specified, a stand having a pair of laterally spaced arms, said arms being vertically grooved on their inner faces and near their outer ends, and the grooves being in register, a nut having ribs for engaging the grooves and having a threaded opening extending toward the stand when the nut is in place, a set screw threaded through the nut, said nut having a transverse opening at its top, and the arms having openings registering therewith, and a bolt passing through the registering openings, and a pair of T-shaped jaws adapted to engage between the arms between the set screw and the stand and to extend above the upper edges of the arms to limit the downward movement of the jaws.

5. In a device of the character specified, a stand having a pair of laterally spaced arms, said arms being vertically grooved on their inner faces and near their outer ends, and the grooves being in register, a nut having ribs for engaging the grooves and having a threaded opening extending toward the stand when the nut is in place, and a pair of T-shaped jaws adapted to engage between the arms between the set screw and the stand and to extend above the upper edges of the arms to limit the downward movement of the jaws.

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Witnesses:

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