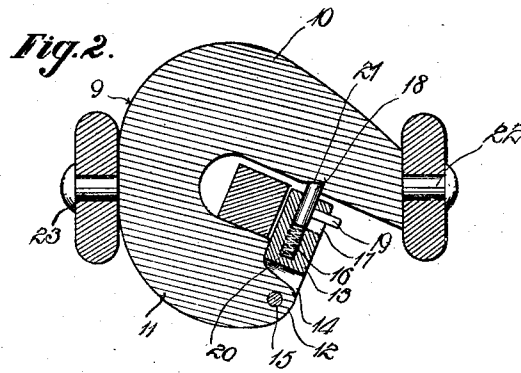
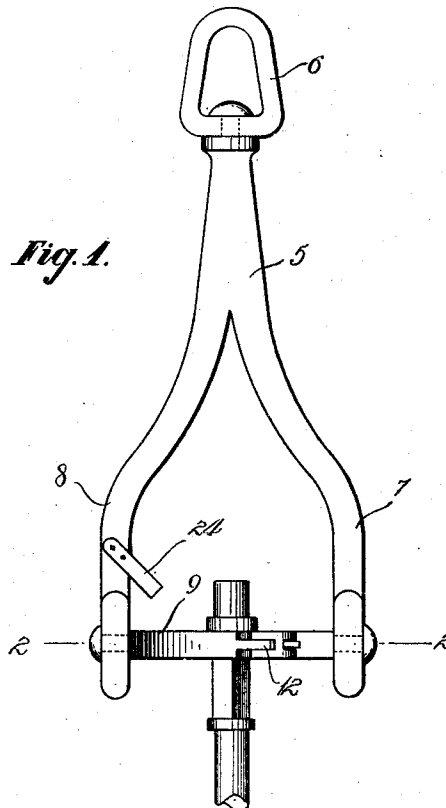


G. B. ROGERS.
 ROD ELEVATOR.
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953,976.

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Witnesses
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By *[Signature]*

Attorney.

UNITED STATES PATENT OFFICE.

GEORGE B. ROGERS, OF BARTLESVILLE, OKLAHOMA.

ROD-ELEVATOR.

953,976.

Specification of Letters Patent.

Patented Apr. 5, 1910.

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To all whom it may concern:

Be it known that I, GEORGE B. ROGERS, a citizen of the United States, residing at Bartlesville, in the county of Washington, State of Oklahoma, have invented certain new and useful Improvements in Rod-Elevators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in rod elevators and more particularly to that type employed for pulling sucker or drill rods from oil wells.

One object of the invention is the provision of an improved form of gripper to engage with the non-cylindrical end of the rod to be pulled in such manner that during the pulling operation it will be impossible for the rod to accidentally slip or become disengaged from the gripper.

With the above and other objects in view as will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claims; it being understood that various changes in the form, proportion, size and minor details of the device may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of the specification:—Figure 1 is a front elevation of the device showing its application to the upper end of a drill or sucker rod. Fig. 2 is a sectional plan view on the line 2—2 of Fig. 1.

Similar numerals of reference are employed to designate corresponding parts throughout.

The device consists essentially of a stem portion designated by the numeral 5, the upper end of which has swiveled thereon an engaging eye 6. The lower end portion of the stem is forked, whereby the limbs 7 and 8 are provided, the terminals of which are rounded and provided with alining transverse openings.

The gripper in the present instance is designated by the numeral 9 and is shown to be a hook shaped structure, the shank of which is designated by the numeral 10. The

shank terminates at one end in a curved bill 11, the extremity of which extends to a point substantially intermediate the middle and the free end of the shank and its inner side is spaced from the corresponding side of the shank for a distance somewhat greater than the thickness of the ordinary sucker rod.

The outer side of the shank 10 is curved and extends continuously with the curved outer side of the bill 11, while the inner side of the shank is perfectly straight and parallel with the straight inner side of the bill. The extremity of the bill is straight and perpendicular to the straight side of the shank 10. A knuckle 12 of less thickness than the bill is formed integral with the end of the latter and projects considerably in advance thereof, its terminal lying in a plane with the point intermediate the middle and free end of the shank, or substantially so.

What will subsequently be termed a keeper is designated by the numeral 13. This member, like the gripper and stem, is formed of metal and is of a length to approximately span the space between the outer side of the knuckle 12 and inner side of the shank 10. The keeper at one end is provided with a transverse recess 14, which receives the knuckle 12, the opposite sides of said recess being provided with alining openings which register with a similar opening formed through the knuckle, the said openings receiving a pivot pin 15. The keeper corresponds in width to the length of the knuckle, or approximately so, and in thickness to the thickness of the bill and shank.

The keeper is provided with a longitudinal bore 16 extending inwardly from its free end to a point adjacent the recess 14 and is further provided on its outer side with a lateral opening 17 communicating with the bore. Slidingly fitted in the bore 16 is a latch bolt 18 and screwed into or otherwise secured to the latch bolt and extending laterally therefrom is an operating pin 19 which extends through the lateral opening 17. The latch bolt 18 is pressed outwardly by a helical spring 20, the opposite terminals of which bear on the inner end of the latch bolt and inner end of the bore 16. Owing to the width of the radial opening 17 the outer end of the latch bolt will, by virtue of the spring 20, project con-

siderably in advance of the free end of the keeper and formed in the inner straight side of the shank 10 is a notch 21, to receive the free end of the latch bolt. When the
 5 keeper is closed, that is to say turned inwardly so that its free end will be adjacent the inner side of the shank 10, the latch bolt will be in engagement with the notch. When the parts are so positioned, it is evident that a non-cylindrical opening will be
 10 formed and bounded by the inner sides of the keeper, shank and bill and this opening will be of a diameter sufficient to receive the non-cylindrical end portion of the ordinary
 15 sucker or drill rod.

The free end of the shank 10 is provided with a trunnion 22 and at the juncture of the shank and bill a similar trunnion 23 is provided and in direct alinement with the
 20 trunnion 22, these trunnions being received by the alining openings at the outer ends of the limbs 7 and 8 of the stem.

With the construction just described it is evident when the parts are in position as
 25 shown in Figs. 1 and 2 that it will be impossible for the sucker or drill rod to be accidentally displaced from its position in the gripper until the latch bolt 18 is moved from engagement with the notch 21, such
 30 operation being performed by moving the latch bolt inwardly by forcing the operating pin 19 to the opposite end of the opening, after which the keeper may be swung outwardly on its pivot which will permit
 35 the engaged end of the rod to be moved from its position in the gripper.

Owing to the gripper being pivoted to the limbs 7 and 8 of the stem it frequently happens, during the operation of extracting
 40 the rod from the well that the strain is shifted to a point on one side or the other of the center of the gripper which naturally results in the gripper tilting and frequently breaking the rod or disconnecting itself
 45 from the stem after moving beyond a certain point. In order to prevent this a stop 24 is provided. This member is secured adjacent the lower end of the limb 8 and extends downwardly and inwardly therefrom
 50 and in the path of movement of the grip-

per so that during the pulling operation the gripper will be permitted to oscillate in a comparatively small arc by virtue of the free end of the stop 24 engaging with the upper side of the gripper.

From the foregoing it can be seen that I have provided a device which is exceedingly simple in structure and comparatively inexpensive to manufacture, embodying few parts and these so arranged that the danger
 60 of derangement will be reduced to a minimum.

What is claimed as new, is:—

1. In a rod elevator, a forked stem, a gripper consisting of a shank portion having a recess in its inner side and terminating at one end in a curved bill, the extremity of which extends to a point substantially intermediate the middle and one end of the
 65 shank, a keeper pivoted to the free end of the bill and of a length corresponding approximately to the distance between the free end of the bill and shank and a spring pressed locking bolt carried by the keeper, the free end of which is adapted to engage
 70 with the said recess in the inner side of the shank, and oppositely arranged trunnions on the gripper journaled in the ends of the forked stem.

2. In a rod elevator, a forked stem, a gripper consisting of a shank portion terminating at one end in a curved bill, the inner sides of said shank and bill being perfectly straight and spaced apart, and said shank having a recess in its inner side, a
 85 keeper having one end pivoted to the free end of the bill and provided with a longitudinal bore extending inwardly from its free end, a spring pressed locking bolt slidably fitted in the bore of the keeper and
 90 adapted to engage with said recess in the shank when said keeper is turned at right-angles to the bill and shank.

In testimony whereof, I affix my signature, in presence of two witnesses.

GEORGE B. ROGERS.

Witnesses:

GEORGE F. WOODRING,
 POWELL A. SOMPAYVAE.