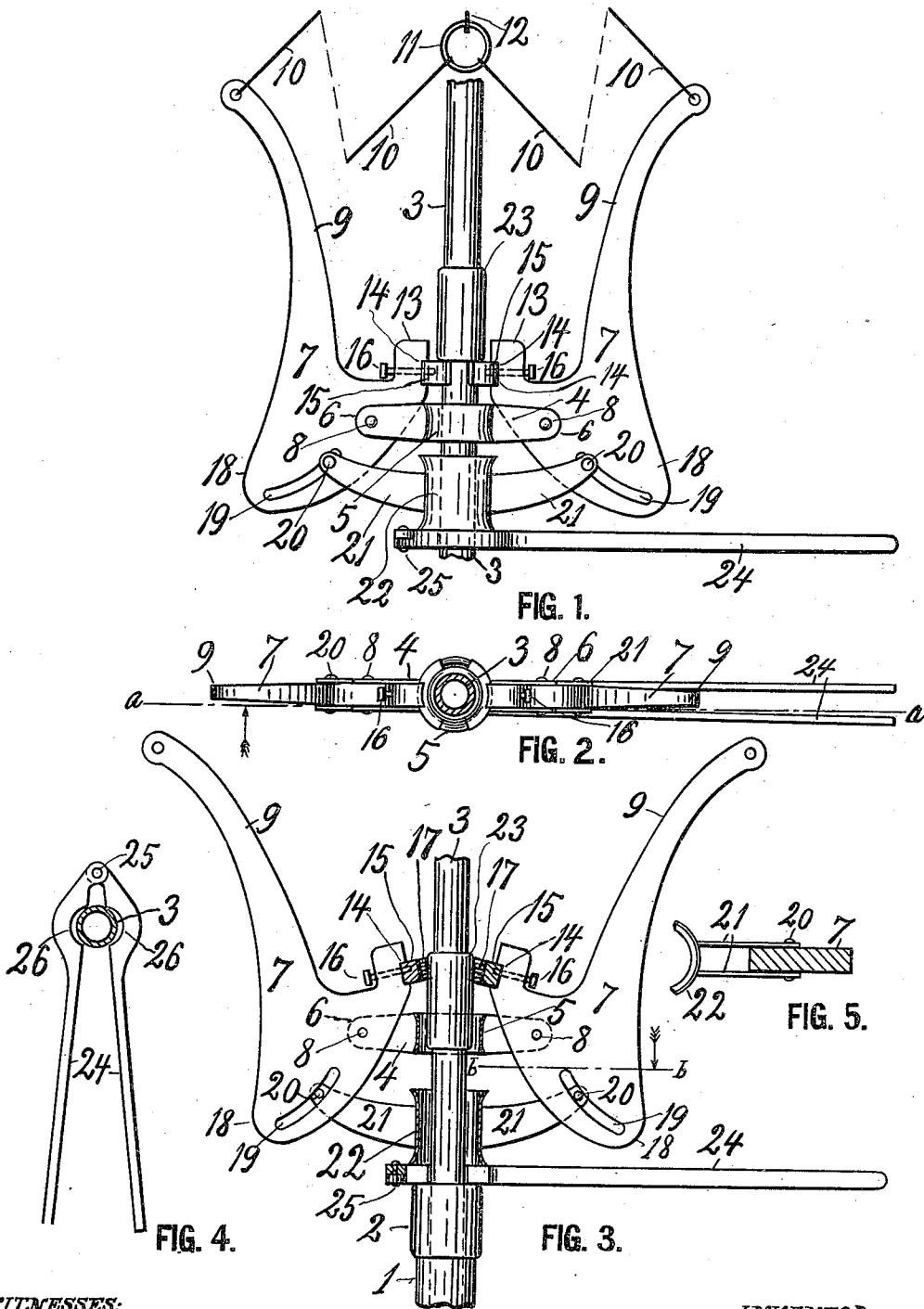


C. J. ATLESON.
WELL ROD LIFTER.
APPLICATION FILED MAY 1, 1909.

945,902.

Patented Jan. 11, 1910.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CARL J. ATLESON, OF ELM, NORTH DAKOTA.

WELL-ROD LIFTER.

945,902.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CARL J. ATLESON, a citizen of the United States, residing at Elm, in the county of Morton and State of North Dakota, have invented a new and useful Well-Rod Lifter, of which the following is a specification.

My invention relates to devices used by well drillers for raising the drill rod out of the well when so desired; and the object is to provide an efficient device of said kind.

In the accompanying drawing, Figure 1 is a side elevation of my improved drill rod lifter shown in operative position upon a drill rod. Fig. 2 is a top view of Fig. 1 with the ropes and ring in the top thereof removed. Fig. 3 is a section on the line *a-a* of Fig. 2. Fig. 4 is a top view of the slider tongs employed in connection with my device. Fig. 5 is a section as on line *b-b* in Fig. 3 of the device.

Referring to the drawing by reference numerals, 1 designates the main pipe to be sunk in drilling a deep well, 2 is the coupling at the upper end thereof ready to receive the next higher section of pipe. In said pipe works the drill (not shown) whose rod 3 may be solid, or tubular as in Figs. 2 and 3. As is well known, in such well digging, the drill rod is reciprocated up and down to make the drill work, and the rod and drill is periodically removed from the pipe 1, to admit suitable means for cleaning out the sand and chips worked loose by the drill and then the drill is lowered again into the pipe and operated at the bottom end of it. It is for such removal and replacing of the drill that I provide my device, and the same is constructed as follows:

A yoke 4 is formed with an upwardly and downwardly flaring collar 5, and at the opposite sides thereof with a pair of arms 6, between which is fulcrumed at 8, a lever 7, each lever having an upwardly and outwardly disposed arm 9 connected by a cable or chain 10 to a ring 11, to which a hoisting cable 12 is attached. Near above said fulcrums the levers are formed with short arms 13, each of which has a notch 14, in which is fitted a steel jaw 15 retained by a screw 16 passed through the arm and threaded into the jaw. Said jaws are provided with segmental toothed or corrugated faces 17 adapted to grip the drill rod between them when the arms 9 are brought upward and relieve

the rod when the arms are brought downward. The dies or jaws 15 are thus detachable and exchangeable for smaller or larger ones as the occasion may require.

Each lever 7 has a downwardly projecting heel 18 with a preferably segmental slot 19 in it. In these slots move pins 20, which, are each inserted through two arms 21 of a yoke composed of said arms 21 and a central collar 22, through which the drill rod passes, said collar being flared at its upper and lower ends to enable couplings, like 23 of the drill rod to pass easily through the yoke without catching on it and for similar reason is likewise flared at both ends.

The regular "slider tongs" 24 consist of two levers pivoted together at 25 and provided with opposite notches 26 by which to grip the drill rod.

In the operation of the device the slider tongs are placed upon the top end of the well tube 1 or its coupling 2 in position to grip the drill rod, the device is reciprocated up and down by the cable 12 and any suitable power applied thereto when the device is lowered and the yoke 22 strikes the tongs 24 its pins 20, which may be provided with rollers (not shown) in the slots 19, throw the levers 7 upward simultaneously and cause the jaws 15 to grip the drill rod firmly and as the tongs are now released and the device is pulled upward the lever arms 9 cause the jaws to retain their grip and pull the well rod upward, the tongs are again closed about the well rod and the device is allowed to descend upon them again, and so on until the drill is brought out of the well. To lower the drill rod again into the well the tongs 24 are applied to the drill rod to support it while the gripping device is applied at a higher point on the rod and so operated that it lowers the drill rod step by step, the tongs holding the rod while the device is moved upward for a new hold. The device may also be used for pulling up the tubes of driven wells and Artesian wells.

It will be observed that the pivots 20 in the lower yoke are farther apart than the pivots 8 in the upper yoke, and that the lower yoke helps to guide and keep the device in its upright position, besides the other functions already described.

What I claim is:

1. In a device for the purposes set forth, a yoke having a central collar and two pairs of arms extending one pair from opposite

sides thereof, a lever pivoted between each pair of arms and having upwardly and normally outwardly disposed long arms, flexible connection between said arms and adapted to have hoisting means applied thereto, steel jaws carried by said levers and having adjacent roughened surfaces for gripping the object to be hoisted or lowered by the device, said levers having heels extending downwardly and outwardly beyond their fulcrums and provided each with a slotted hole, a second yoke similar to the first one and having each pair of its arms arranged in straddling position upon one of the heels and provided with a pivot passed through the arms and the slot in the heel.

2. In a device for the purposes set forth, a yoke having a central collar and two pairs of arms extending one pair from opposite sides thereof, a lever pivoted between each pair of arms and having upwardly and normally outwardly disposed long arms, flexible connection between said arms and adapted to have hoisting means applied thereto, steel jaws carried by said levers and having adjacent roughened surfaces for gripping the object to be hoisted or lowered by the device, said levers having heels extending downwardly and outwardly beyond their fulcrums and provided each with a slotted hole, a second yoke similar to the first one and having each pair of its arms arranged in

straddling position upon one of the heels and provided with a pivot passed through the arms and the slot in the heel, said second yoke being curved downward intermediate its ends.

3. In a device for the purposes set forth, a yoke having a central collar and two pairs of arms extending one pair from opposite sides thereof, a lever pivoted between each pair of arms and having upwardly and normally outwardly disposed long arms, flexible connection between said arms, and adapted to have hoisting means applied thereto, steel jaws carried by said levers and having adjacent roughened surfaces for gripping the object to be hoisted or lowered by the device, said levers having heels extending downwardly and outwardly beyond their fulcrums and provided each with a slotted hole, a second yoke similar to the first one, and having each pair of its arms arranged in straddling position upon one of the heels and provided with a pivot passed through the arms and the slot in the heel, said slots in the heels of the levers being of segmental form.

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

CARL J. ATLESON.

Witnesses:

JOHN JERDEN,
ALBIN PETERSON.