

No. 741,925.

PATENTED OCT. 20, 1903.

R. S. OILER.

CASING OR DRIVE PIPE SCREWER FOR WELL RIGS.

APPLICATION FILED AUG. 7 1902.

NO MODEL

Fig. I

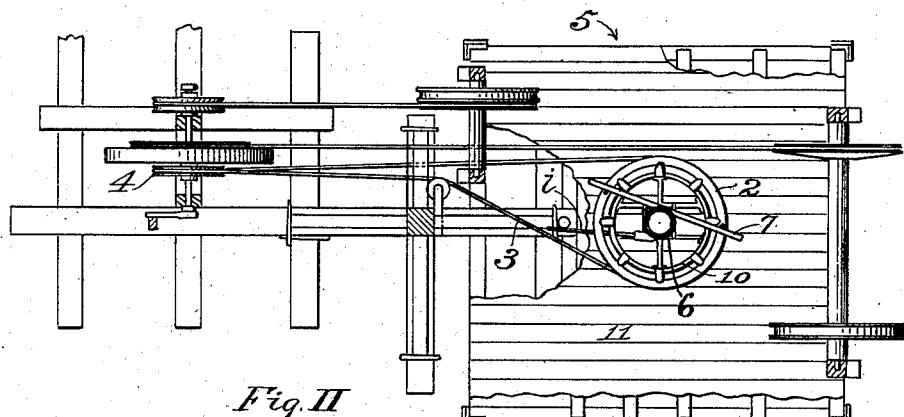


Fig. II

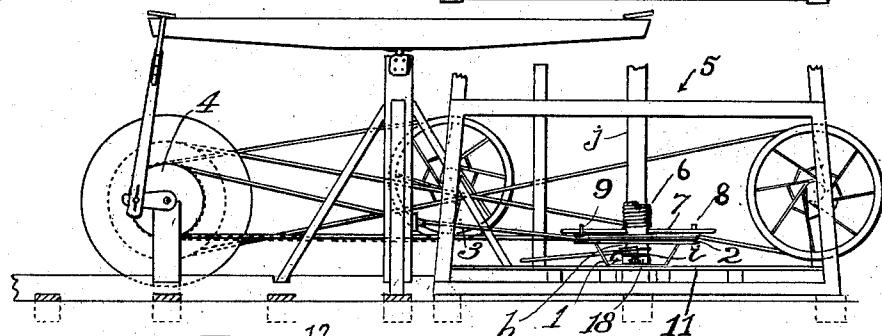


Fig. III

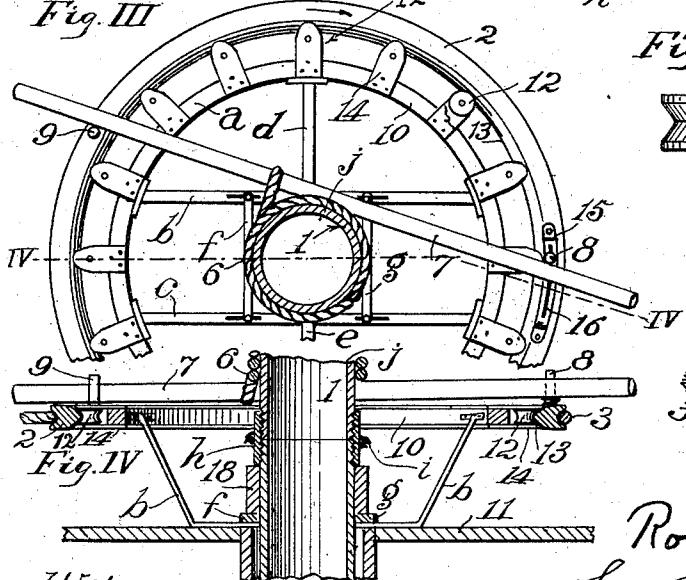


Fig. V

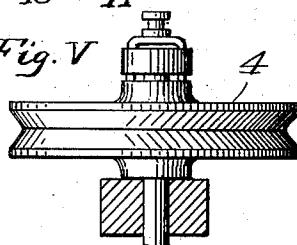
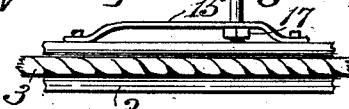


Fig. VI



Inventor
Robin S. Oiler

by Townsend Bros
his atty.

Witnesses

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UNITED STATES PATENT OFFICE.

ROBIN S. OILER, OF LOS ANGELES, CALIFORNIA.

CASING OR DRIVE-PIPE SCREWER FOR WELL-RIGS.

SPECIFICATION forming part of Letters Patent No. 741,925, dated October 20, 1903.

Application filed August 7, 1902. Serial No. 118,823. (No model.)

To all whom it may concern:

Be it known that I, ROBIN S. OILER, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Casing or Drive-Pipe Screwer for Well-Rigs, of which the following is a specification:

An object of this invention is to provide simple and convenient means for screwing and unscrewing well-casing or drive-pipe by motive power. I accomplish this object by providing a wheel adapted to encircle the well-casing, a support for said wheel, means for connecting the wheel with the well-casing, and means for rotating the wheel. Said wheel is desirably an annular rim, and the same is supported and held against lateral displacement by antifriction-rollers.

The accompanying drawings illustrate the invention.

Figure I is a plan of the invention applied in a standard well-rig, a portion of which is shown. Fig. II is a side elevation of the same. Fig. III is a fragmental detail plan of the wheel, its antifriction-support, and the devices by which it is connected with the well-casing for turning the same. Said well-casing is also shown. Fig. IV is a vertical section on irregular line IV IV, Fig. III, a fragment of the casing being shown. Fig. V is a detail of the pulley for driving the bull-rope. Fig. VI is a detail of a fragment of the wheel and the adjustable device for holding one end of the casing-pole.

1 designates a well-casing. 2 is a wheel mounted to turn coaxially of such casing. 3 is a bull-rope for driving the same.

4 is a driving-pulley of a standard well-rig, (indicated in a general manner by 5.)

40 Means are provided for detachably connecting the wheel 2 with the casing 1. Any suitable means may be employed for this purpose. Such means, as shown, comprise a casing-rope 6, a casing-pole 7, and pins 8 and 9, connected with the wheel 2 for engagement with the casing-pole 7 to turn the same around the axis of the casing when connected with the casing by the casing-rope 6, as shown in Fig. III.

50 10 is a frame mounted on any suitable support, as the derrick-floor 11, and provided with rollers 12, which support the wheel 2.

Said wheel is desirably formed in a grooved ring the inner face 13 of which is convex in cross-section, and the support is formed with 55 grooved rollers 12, in which the convex face 13 runs, so that the wheel 2 is supported by the rollers 12 practically against both vertical and lateral movement.

14 designates brackets fastened to the frame 60 10 for supporting the grooved rollers 12, which are arranged in a circle coaxially with the well-casing 1.

15 is a slotted bracket fastened to the rim or wheel 2 in order to adjustably mount the 65 pin 8 on the same. Said pin is desirably passed through the slot 16 of the bracket and fastened by a nut 17. The purpose of this adjustment is to enable the workman to bring the casing-pole tight against casing of any of 70 the sizes of well-casing in use, thus enabling the device to be readily applied to screw or unscrew any-sized casing.

The frame 10 may be composed of an outer ring *a*, cross-bars *b* *c*, forming supports for 75 the frame, and stays *d* *e*, fastened to said ring *a*.

f and *g* designate two bars adjustably connected with the cross-bars *b* *c* and adapted to be brought into position to support the casing-elevator and to thereby cause the weight 80 of the casing to hold the frame.

In practical use the frame 10 will be brought into appropriate position coaxial with the well, and when the casing is to be screwed or 85 unscrewed the usual elevator 18 will be applied to the casing in the usual manner and will be allowed to rest on the cross-bars or supports *f*, which are fastened to the cross-bars *b* of the frame. When the weight of the 90 casing and the elevator is allowed to come upon the supports *f* *g*, the cross-bars *b* and the frame 10 to which they are secured are firmly held against rotation. The collar *h* will be held by casing-tongs *i* in the usual 95 way to prevent rotation, and the casing-joint *j*, which is to be screwed or unscrewed, will be connected with the wheel or rim 2 by some suitable means. For instance, the rope 6 will be hitched to the casing-joint *j* in the usual 100 way and the pole 7 will be passed through the loop of said rope 6 and brought against the casing *j* and into engagement with the pins 8 and 9. The bull-rope 3 being in place, the

engine (not shown) may be started and the bull-rope 3 driven to rotate the wheel or rim 2 in the desired direction.

In Fig. III the pole is shown adjusted for 5 screwing the casing, as indicated by the arrow on the rim.

By applying the rollers inside the rim 2 I have made it possible to drive the rim by a bull-rope, thus affording great simplicity of 10 construction and operation.

Having described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. An annular rim adapted to encircle a well-casing, upright rollers inside said rim and forming a support therefor to prevent lateral displacement, means for detachably connecting said rim to a well-casing, and means 15 encircling the rim for rotating the same.
2. In a well-rig, a wheel adapted to encircle a well-casing, a support therefor, means for detachably connecting the wheel to a well-casing, a bull-rope for driving the wheel, and means for driving the bull-rope.
3. An annular rim adapted to encircle a well-casing, upright antifriction-rollers inside the rim, and forming a support therefor to hold it against lateral displacement, a pole 20 spanning said rim, means for connecting the pole with the casing, means for connecting the pole with the wheel, and means for rotating the wheel.
4. An annular rim adapted to encircle a well-casing, antifriction-rollers inside the rim and forming a support therefor to hold it against lateral displacement, a pole spanning said rim, means for connecting the pole with the casing, pins for connecting the pole with the wheel, and means for rotating the wheel.
5. A frame, an annular rim, rollers connected with the frame and arranged in a circle, inside said rim to prevent lateral displacement, means encircling the rim for rotating the same, and means for detachably 25 connecting the rim with a well-casing.
6. A frame, rollers connected with the frame and arranged in a circle, a circular rim surrounding said rollers and carried thereby, means for rotating the rim, means for detachably connecting the rim with the well-casing, and means connected with the frame for supporting the elevator which supports the casing, whereby the frame is held from turning.
7. In a device of the class described, in com-

bination, an annular rim adapted to encircle a well-casing, a support therefor, a pole spanning said rim, means for connecting the ends of the pole to opposite sides of said rim, a bull-rope for driving said rim and therewith 60 said pole and operatively connecting said pole with said casing, and means for driving the bull-rope.

8. In a device of the class described, in combination, an annular rim adapted to encircle a well-casing, a support therefor, a pole spanning said rim, adjustable means connecting said pole to opposite sides of said rim, a bull-rope for driving said pole with said casing, and means for driving the bull-rope.

9. In an apparatus of the class described, in combination, an annular rim adapted to encircle a well-casing, a support therefor, a pole spanning said rim, bearings on said rim against which said pole bears during revolution, one of said bearings being adjustable, a casing-rope connecting said pole with said casing, and means for driving said casing-rope.

10. In an apparatus of the class described, in combination, an annular rim adapted to encircle a well-casing, a support therefor, a pole spanning said rim, a stationary pin on said rim, a second pin adjustably mounted in a slotted bearing on the opposite side of said 85 rim, said pole adapted to bear against said pins during the revolution of said rim, a bull-rope for driving said pole with said rim, and means for driving said bull-rope.

11. In a device of the class described, in combination, an annular rim adapted to encircle the well-casing, provided with a rope-engaging groove, and with bearings on opposite sides of its upper face, a pole spanning said rim and bearing against said bearings, a support for said rim, antifriction devices on said support engaging said rim, a bull-rope for driving said rim, means for driving said bull-rope, and a casing-rope engaging said casing and pole.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, at Los Angeles, in the county of Los Angeles and State of California, this 31st day of July, 1902.

R. S. OILER.

Witnesses:

JAMES R. TOWNSEND,
JULIA TOWNSEND.