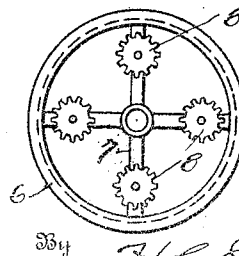
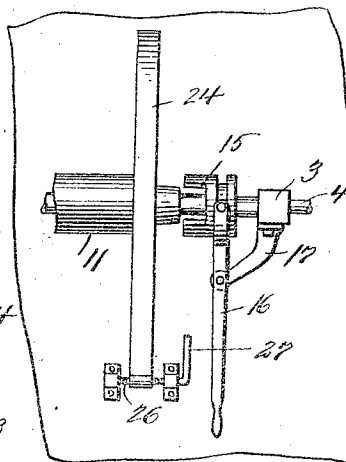
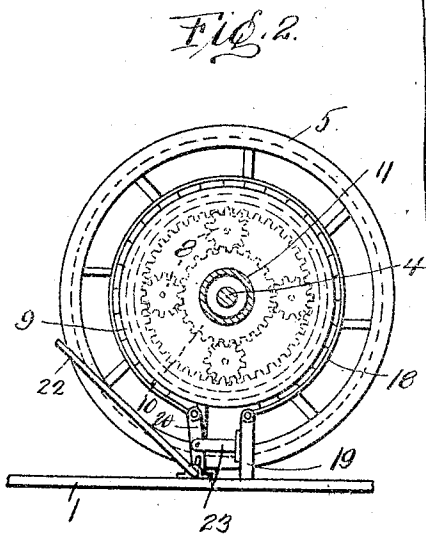
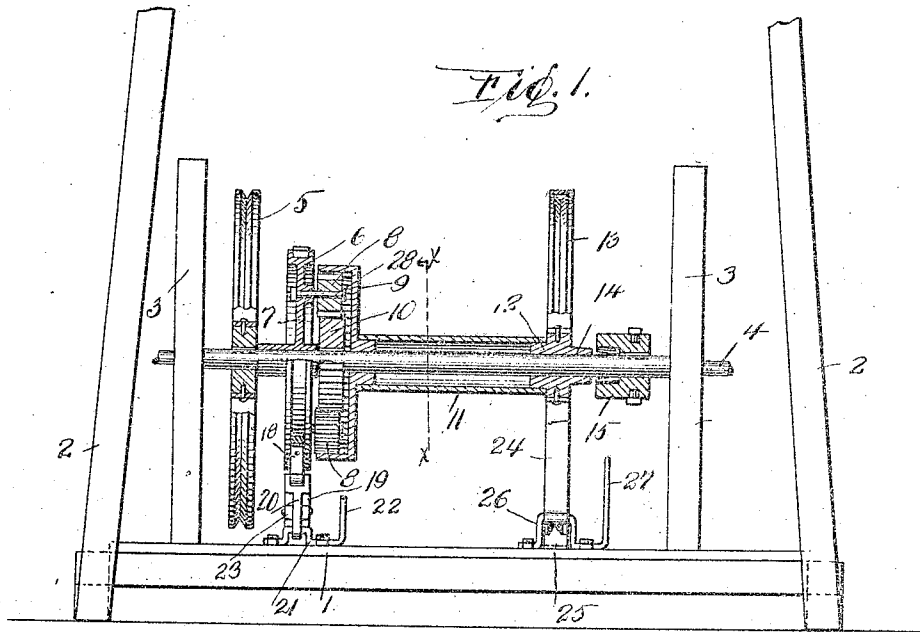


V. H. PALM.
 REVERSING MECHANISM.
 APPLICATION FILED MAR. 12, 1908.

934,343.

Patented Sept. 14, 1909.



Witnesses

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UNITED STATES PATENT OFFICE.

VICTOR H. PALM, OF BUTLER, PENNSYLVANIA.

REVERSING MECHANISM.

984,843.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed March 13, 1908. Serial No. 420,636.

To all whom it may concern:

Be it known that I, VICTOR H. PALM, a citizen of the United States of America, residing at Butler, in the county of Butler and State of Pennsylvania, have invented certain new and useful Improvements in Reversing Mechanisms, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a reversing mechanism, particularly designed for the bull-wheels of oil and Artesian well drilling or pumping machines, the bull-wheels commonly being used for pulling rods, tubing, casing and tubes of a well.

The object of my invention is to provide simple and effective means for easily and quickly reversing a bull-wheel, said means being either constructed upon a derrick floor or upon the frame-work of a portable drilling or pumping machine.

With the above and other objects in view, which will more readily appear as the invention is better understood the same consists in the novel construction, combination and arrangement of parts to be presently described and then specifically pointed out in the appended claim.

In the drawings: Figure 1 is a longitudinal sectional view of a bull wheel constructed in accordance with my invention and located upon a derrick floor, Fig. 2 is a cross sectional view taken on the line *a-a* of Fig. 1, illustrating the internal gear in dotted lines, Fig. 3 is a plan of a clutch and brake band forming a part of the mechanism, Fig. 4 is an elevation of a wheel and gear wheels carried thereby.

In the accompanying drawings, 1 designates a derrick floor having derrick frames 2. Upon the floor 1 are arranged bearings 3 for a revolvable shaft 4, said shaft being driven by a tug wheel 5 keyed upon said shaft contiguous to one end thereof.

Loosely mounted upon the shaft 4 adjacent to the tug wheel 5 is a grooved wheel 6. The spokes 7 of said wheel are provided with stub-shafts upon which are mounted pinions or gear wheels 8. These gear wheels 8 are adapted to mesh with an internal gear 9 loosely mounted upon the shaft 4, and with a gear wheel 10 keyed upon said shaft. The internal gear 9 forms one end of the bull-wheel or drum 11, while the opposite end of said drum 11 is suitably secured to the hub 12 of a brake wheel 13. The hub 12 is

provided with a clutch member 14 adapted to be engaged by a clutch member 15, said member being moved through the medium of a lever 16 fulcrumed upon a bracket 17, carried by one of the bearings 3.

Engaging in the groove of the wheel 6 is a brake band 18 of a conventional form, this band having one end secured to a post 19, carried by the derrick floor, while the opposite end is secured to an arm 20 fulcrumed to a support 23 projecting from the post 19. The lower end of the arm 20 is connected to a crank shaft 21 journaled in suitable keepers upon the derrick floor and which is provided with a handle 22.

Surrounding the brake wheel 13 is a brake band 24, having one end fixed to the derrick floor as at 25 and the opposite end secured to a crank shaft 26 which is fulcrumed upon the derrick floor 1 and moved through the medium of the lever 27.

The operation of the mechanism as above described is as follows: When the clutch member 15 is moved into engagement with the tapering extension 14 of the hub 12, the drum 11 revolves in the same direction as the shaft 4. When the clutch member 15 is moved out of engagement with the hub 12 and the brake band 18 tightened to hold the wheel 6 stationary, the drum 11 revolves in the opposite direction from that of the shaft 4. The gear wheels 8 revolve upon their bearing pins 28, when the wheel 6 is held stationary, consequently a reverse movement will be imparted to the internal gear 9 and the drum 11 by the gear wheel 10, which is keyed upon the shaft 4. The brake band 24 is simply used for braking and holding the drum 11, when the brake band 18 and clutch member 5 are disengaged. The brake band 24 is used principally when lowering the load into a well.

Having now described my invention what I claim as new, is:—

In a reversing mechanism, the combination with a support and bearings carried thereby, of a driven shaft mounted in said bearings, a peripherally grooved wheel loosely mounted thereon and provided with a plurality of spokes, stub-shafts projecting from said spokes, a pinion carried by each of the stub-shafts, a gear wheel keyed upon said driven shaft and meshing with said pinions, an internally geared housing inclosing said pinions and gear wheel and meshing with said pinions, a brake wheel loosely mounted

upon said shaft, said housing and said brake wheel having extended hubs, a drum arranged between said brake wheel and said housing and secured to said extended hubs, a clutch member provided on the hub of said brake wheel, a clutch member keyed upon said driven shaft and adapted to engage the clutch member formed on the brake wheel, a brake band surrounding said grooved wheel and adapted to hold the same stationary whereby said drum is forced to revolve in a direction opposite to that of

the driven shaft, means mounted upon said support and engaging said band for operating it, a second brake band engaging said brake wheel for holding and braking said drum, and means mounted upon said support for operating said second brake band. 15

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

VICTOR H. PALM.

Witnesses:

MAX H. SROLOVITZ,
A. J. TRIGG.