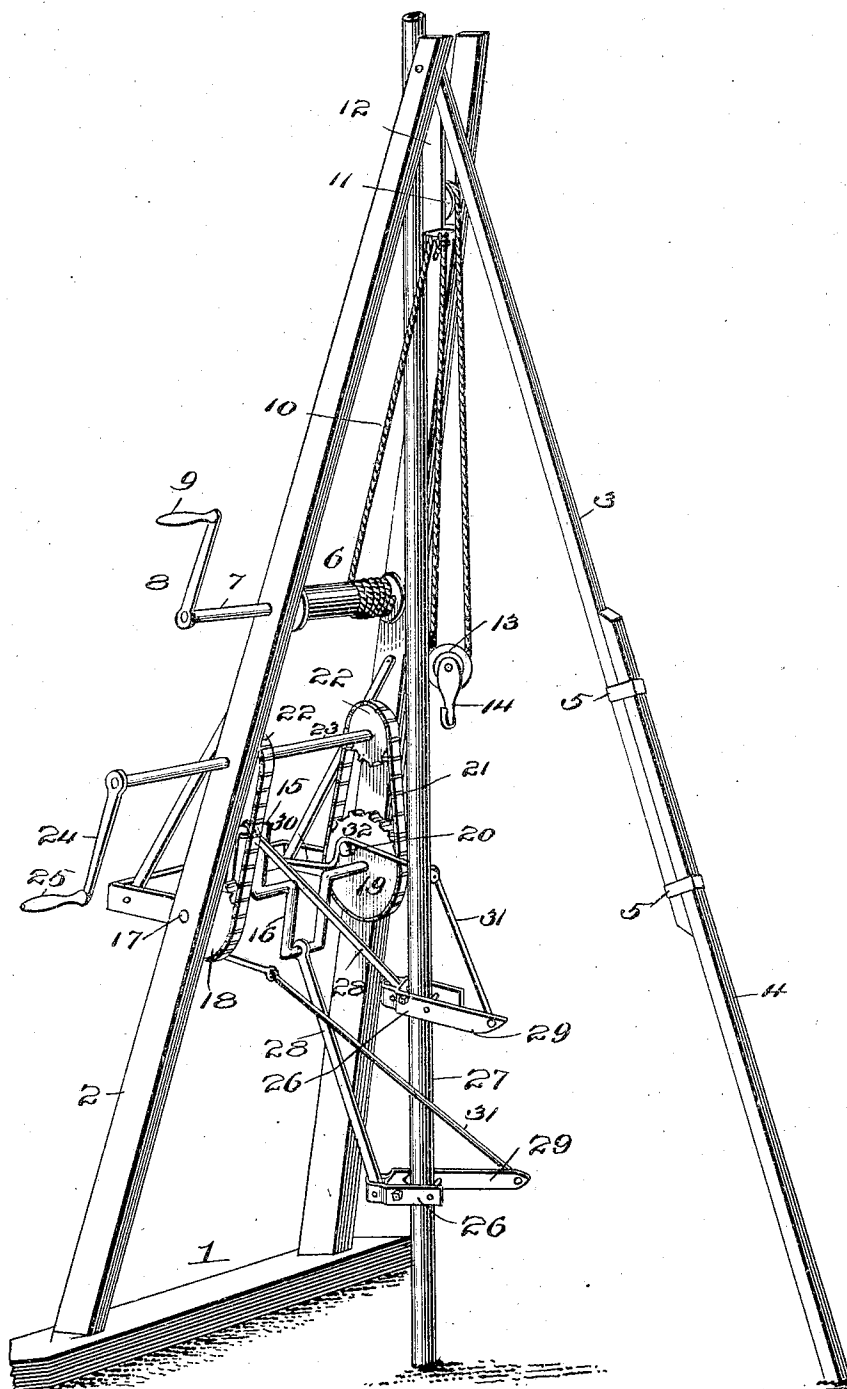


No. 790,741.

PATENTED MAY 23, 1905.

T. OGDEN.
HOISTING APPARATUS.
APPLICATION FILED OCT. 18, 1904.



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UNITED STATES PATENT OFFICE.

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HOISTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 790,741, dated May 23, 1905.

Application filed October 18, 1904. Serial No. 228,977.

To all whom it may concern:

Be it known that I, THOMAS OGDEN, a citizen of the United States, residing at Footville, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Hoisting Apparatus; 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.

My invention relates to a hoisting appliance, and more particularly to an appliance of the character specified, designed primarily for lifting and lowering tubing and pump-rods from and into a well or hole in which they have been or are to be placed; and my invention consists of certain novel features of combination and construction of parts the preferred form whereof will be hereinafter clearly set forth, and pointed out in the claims.

The main object of my invention, among others, is to provide a hoisting appliance which while possessing great strength or lifting power will comprise the greatest simplicity in construction and combination of parts.

A further object is to provide means whereby the pump-rod or tubing may be gripped successively by two grippers, each coöperating with the other to securely engage and hold the pipe until the other gripper has taken hold thereof.

Other objects and advantages will be hereinafter made clearly apparent, reference being had to the accompanying drawing, which is made a part of this application and in which the figure shows a perspective view of my hoisting appliance complete as applied to use in lowering well-tubing.

For convenience of reference to the various details and coöperating accessories of my invention numerals will be employed, the same numeral applying to a similar part throughout the view, and, referring to the numerals on the drawing, 1 designates the base-section, upon which I erect a pair of inwardly-inclined standards 2, which receive between their upper ends the adjustable stay-rod, which latter is preferably formed in two telescopic sections 3 and 4, held in coöperative relationship to each other by the band-like members 5, and it is obvious

that the standards 2 may be inclined at any desired angle.

I rotatably mount near the upper ends of the standards 2 the winding-drum 6, rigidly secured upon the shaft or axle 7, which latter is provided with the crank 8, having the controlling-handle 9, whereby the drum 6 may be freely turned in either direction to wind thereon the cable 10, which latter passes upward through the pulley-block 11, mounted in the bracket 12 at the upper end of the standards 2. After passing over the pulley-wheel 11 the cable is passed around the pulley-block 13, having the hoisting hook or gripper 14, the end of the cable being secured in the end of the bracket 12, as clearly shown, and this appliance is intended for raising the pump from the platform, also for holding the upper section of the pipe when it has been disconnected to uncouple the inside rod and for other purposes. I also mount between the standards 2 a crank-shaft 17, having the crank extensions 15 and 16, the ends of the crank-shaft being provided with suitable bearings in the standards 2. I secure upon the shaft 17 the wheels 18 and 19, each having the inwardly-projecting lug or roller 20, for a purpose hereinafter set forth. The wheels 19 may be gear-wheels or sprockets, whichever may be deemed most desirable, and while I have in the present instance shown said wheels as being sprocket-wheels to coöperate with the sprocket-chains 21 I wish to reserve the right to employ gear-wheels or sprockets, as may be found most desirable in practice. If sprocket-wheels are formed, then the sprocket-chain 21 is designed to be driven by the sprocket-wheels 22 upon the shaft 23, which latter is provided with the crank-arm 24 and the controlling-handle 25.

The grippers 26 are designed to surround and engage the tubing 27 or the pump-rod, as the case may be, and each gripper is pivotally connected to one of the cranks 15 or 16 by an intermediate link-section 28, as clearly set forth in the drawings. Each of the grippers is also provided with the extension 29, which extension is connected to the lifting-rod 30 by means of the link 31, and the rod 30, it will be observed, is so bent as to form the curved

section 32, which fits partly around the lug 20, and it is therefore obvious that when the wheels 18 and 19 are turned through the mediation of the crank-arm 24 the crank-shaft 17 will also be rotated and successively raise and lower the crank-sections 15 and 16, and thereby operate the grippers 26, whereby said grippers will be alternately raised and lowered, one of the grippers holding and lowering the rod while the other gripper is moving into a new position to engage the same.

It will be understood that the link-sections or rods 31 are only intended to be used or connected to the extensions 29 when lowering the tubing and pump-rod, the same being disconnected when raising the tubing or rod—that is to say, when the link-sections 31 are disconnected from the extensions 29 both of the grippers will be left free to move down upon the pipe for the purpose of securing a new hold thereon, one of said grippers securely holding until the other shall have engaged a new hold. The device as shown in the figure is used for lowering a pipe or pump-rod, and it will be seen that by employing the lifting-rod 30 and links 31 the grippers 26 will be successively released and raised to gain a new hold upon the pipe. This result is accomplished by the lugs or rollers 20 coming in contact with the curved section of the lifting-rod 30, whereby the extensions 29 will be alternately raised and the gripper released and elevated upon the pipe for a new hold. The several parts of my invention are so arranged that the ascending gripper will have reached its highest point and gripped the pipe before the descending gripper has released its hold.

When the device is being used to extract a pipe, the lifting-rods 30 and links 31 are dispensed with, allowing the extensions 29 to remain normally downward, in which event said grippers will engage the pipe when ascending and move freely thereon when descending.

The various parts of my invention may be very cheaply and expeditiously manufactured and each assembled in its respective operative position, and, while I have described the preferred construction and combination of parts,

I desire to comprehend in this application all substantial equivalents and substitutes.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The herein-described hoisting device for rods, tubing, &c., comprising the combination with a frame designed to be adjustably secured in an upright position, of a shaft rotatably mounted in said frame and having crank-sections, a link-section carried by each of said crank-sections, a gripper secured to the free end of each link-section and means to rotate said shaft whereby said grippers will be operated, substantially as set forth.

2. In a hoisting and lowering device for rods, tubing, &c., the combination with a frame, of a shaft rotatably mounted in said frame and having crank-sections, a link secured to each crank-section, a gripper carried by the outer end of each of said links, adapted to engage the pump rod or tubing, each of said grippers having an extension, lifting-rods carried by said frame, links 31 interposed between said lifting-rods and the extensions upon said grippers, means to rotate said crank-shaft, and lugs carried by said means adapted to engage said lifting-rods, whereby said grippers will be released from the rod and permitted to freely move upward thereon, substantially as set forth.

3. In a hoisting and lowering device for rods, tubing, &c., the combination with a frame, of a shaft rotatably mounted therein, said shaft having crank-sections, a link carried by each of said crank-sections, a gripper secured to the outer end of each of said links, an extension for each gripper, means to rotate said crank-shaft, and additional means to lift the extension ends of said grippers whereby said grippers may freely ascend, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS OGDEN.

Witnesses:

F. W. OWEN,
FLORA M. OWEN.