No. 836,065. PATENTED NOV. 13, 1906.

R. G. COATES.

PIPE PULLING DEVICE.

APPLICATION FILED JAN. 13, 1906.

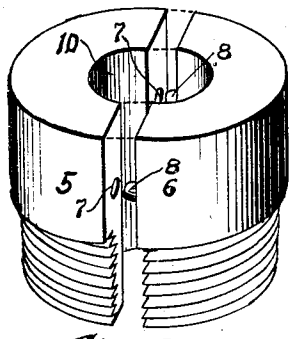


Fig. 2.

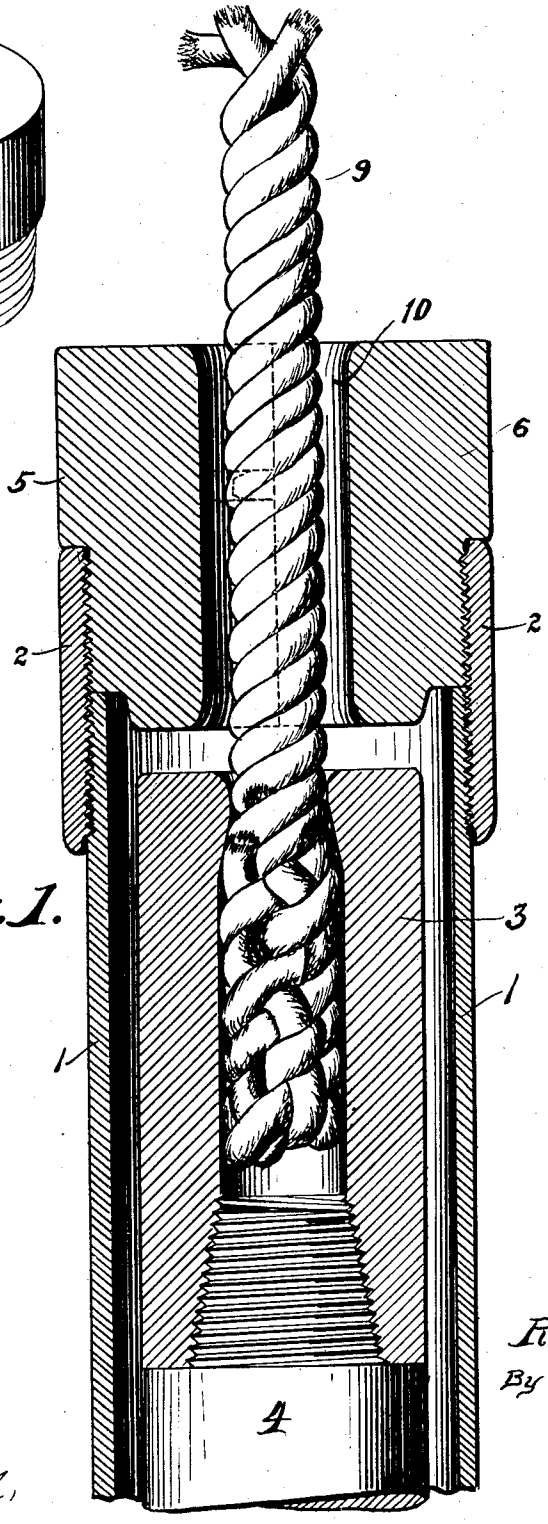


Fig. 1.

Witnesses
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UNITED STATES PATENT OFFICE.

RAY G. COATES, OF LOS ANGELES, CALIFORNIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE CYCLONE DRILL COMPANY, A CORPORATION OF OHIO.

PIPE-PULLING DEVICE.

No. 836,065. Specification of Letters Patent. Patented Nov. 13, 1906.

Application filed January 13, 1906. Serial No. 295,980.

To all whom it may concern:

Be it known that I, RAY G. COATES, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Pipe-Pulling Devices; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the numerals of reference marked thereon, in which—

Figure 1 is a vertical section of the top or upper end of a pipe-section and the different parts of my invention properly assembled. Fig. 2 is a detached view of the separable pipe-pulling head.

The present invention has relation to devices for pulling or removing pipe from wells, commonly known as the "casing;" and it consists in the novel arrangement hereinafter described, and particularly pointed out in the claim.

Similar numerals of reference indicate corresponding parts in both figures of the drawings.

In the accompanying drawings, 1 represents a portion of a pipe or casing which is of the ordinary construction and of course is provided with screw-threaded ends, which are primarily for the purpose of connecting a series of sections together by means of the ordinary and common coupling 2, which coupling is provided with internal screw-threads. The rope-socket 3 is of the ordinary construction, to which rope-socket is attached the drill-stem 4 in the ordinary manner. The parts just above described do not pertain to the present invention, but are illustrated for the purpose of showing the application and use of the present invention, which consists in providing a separable screw-threaded pipe-pulling head and means for connecting the members 5 and 6 together in such a manner that the convolutions of the screw-threads will register properly, thereby providing a means for entering the screw-threaded portion of the divided members of the head proper into the internal screw-threaded collar or coupling 2. In order that the members may properly register, as above described, the member 5 is provided with the apertures 7 and the member 6 with the pins 8, which pins are adapted to enter the apertures when the divided members are brought together.

It is well understood that the drill-operating rope 9 is extended over and around the drill-operating pulleys and a winding-drum, and therefore it is impossible without considerable trouble to locate an undivided pulling plug or head; but by forming the pulling-plug in two portions or parts or in divided parts, regardless of the number of parts, the parts composing the pulling-plug can be placed in the coupling-collar 2 without disturbing in any manner the drill-operating rope 9. The pulling-plug proper is provided with the opening 10, produced by semicircular grooves formed in the members 5 and 6 of the pulling-plug, which opening should be of a diameter greater than the diameter of the rope, so that the rope is free to pass through the opening either up or down without friction or wear upon the rope. The drill-operating rope 9 is attached to the rope-socket 3 in the usual manner and of course moves up and down with the movement of the rope. In use when it is desired to pull the casing the divided pulling-plug proper is connected to the coupling 2, as illustrated in Fig. 1, thereby closing the top of the uppermost pipe-section 1, and when the rope-socket is elevated the top or upper end of the rope-socket 3 will strike the bottom or lower faces of the divided pipe-pulling plug, which faces are struck by the upper face of the rope-socket, said socket being provided with a suitable striking face or end. The faces of the plug-sections and the face of the rope-socket are formed so as to provide for suitable contact with each other, or, in other words, a striking contact.

It will be understood that the same mechanism for imparting a striking movement to the drill proper is employed to produce a striking effect upon the pulling-plug after the drill has been elevated sufficiently to bring the rope-socket into contact with the pulling-plug, after which a succession of blows or taps can be given to the bottom or lower ends of the pipe-pulling-plug sections 5 and 6.

It is well understood that in deep wells and where a number of sections, such as 1, are connected together a continuous pull will not as a rule move or pull the pipe-sections without danger of breaking the rope, but by a series of sharp quick blows upon the pull-

ing-plug will impart an upward movement to the sections or section of pipe. The blows designed to be given to the pulling-plug will be imparted by the same mechanism employed to operate the drill; or, in other words, the spudding device of the drilling-machine is employed, thereby doing away with the necessity of adding additional parts to the drilling-machine to accomplish the purpose of the present invention.

In use the operation and arrangement of my invention is as follows: In the beginning the drill should be hoisted to the top derrick, the driving-cap removed, a coupling put on in its place, the drill lowered into the casing until the rope-socket was a little below the top of the casing, the two parts of the plug assembled around the rope and screwed home in the coupling that was placed on the casing. Then the casing is pulled up until the first joint of pipe is above the ground. At this point the upper coupling carrying the split plug is unscrewed without loosening the split plug. Then the upper joint of pipe and the coupling at its lower end is unscrewed and removed from the pipe in the ground. Finally the drill is again lowered into the pipe and the coupling carrying the plug screwed onto the pipe in the ground. The split plug does not require removal from the coupling until the job is finished.

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

In a pipe-pulling device, the combination of a pipe-pulling plug formed in sections, said sections provided with semicircular grooves, the lower portions of the sections provided with screw-threads, and the lower ends of said plug-sections provided with striking-faces, and means for registering the screw-threads of the plug-sections, and a rope-socket provided with a striking-face upon its top or upper end, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

RAY G. COATES.

Witnesses:
JOHN A. MORRIS,
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