No. 879,964. PATENTED FEB. 25, 1908.

J. HOGUE.

TUBE HOISTING APPLIANCE FOR OIL WELLS.

APPLICATION FILED SEPT. 5, 1906.

Fig. 3.

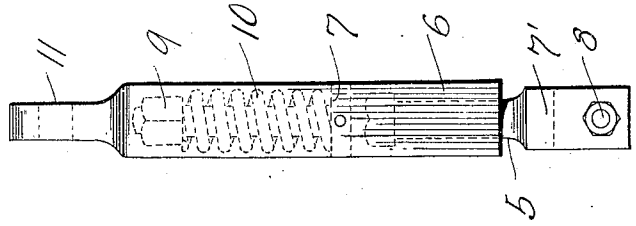


Fig. 2.

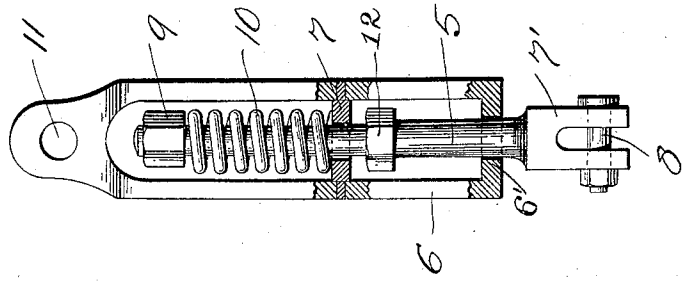
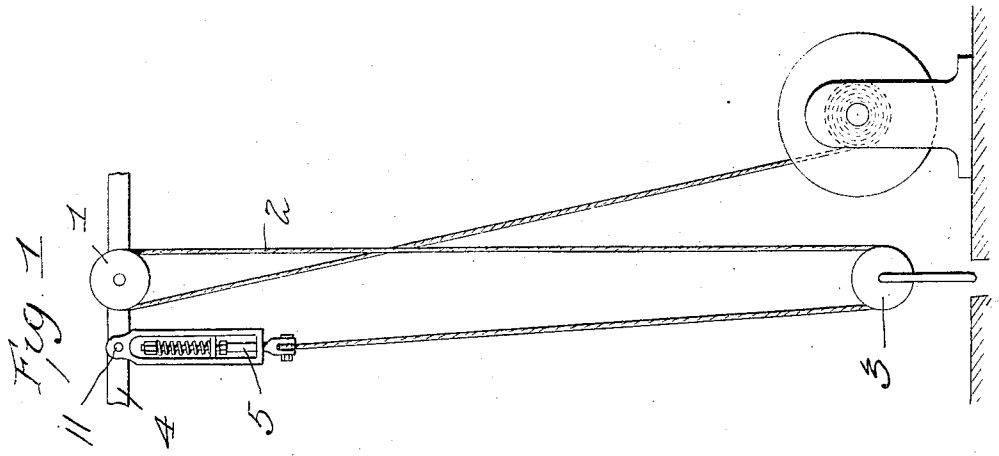


Fig. 1.



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TUBE-HOISTING APPLIANCE FOR OIL-WELLS.

No. 879,964. Specification of Letters Patent. Patented Feb. 25, 1908.

Application filed September 5, 1906. Serial No. 333,364.

To all whom it may concern:

Be it known that I, JAMES HOGUE, a citizen of the United States, residing at Bradford, Pennsylvania, have invented certain new and useful Improvements in Tube-Hoisting Appliances for Oil-Wells, of which the following is a specification.

My invention relates to an apparatus for pulling the tubing out of oil wells.

It has been customary to employ a tubing line or cable made of hemp rope having the quality of stretching and thus relieving strain on the derrick and the machinery used for pulling the tubing. As the art is at present practiced, however, wire rope is employed which has no elastic quality or power to stretch and relieve the strain, and therefore when the apparatus starts to pull the tubing and the slack of the wire rope is taken up, considerable strain is suddenly brought upon the derrick and the machinery, resulting in damage thereto.

It is the object of my invention to provide means for use in connection with a wire rope for pulling tubing from the well which will avoid the undesirable results mentioned above.

The invention consists of the features, combination and arrangement of parts hereinafter described and particularly pointed out in the claims.

In the accompanying drawing,—Figure 1 is a diagram of the parts used for pulling the tubing with my improvement applied thereto. Fig. 2 is a detail view of the device enlarged. Fig. 3 is a side elevation of Fig. 2.

My invention is applied to the derrick and pulling appliances without making any changes therein. As is well known, at the top of the derrick a crown pulley is journaled and over this the wire rope passes from the hoisting drum or bull wheel arranged near the lower part of the derrick. After passing over this crown pulley as indicated at 1, in Fig. 1, the wire rope 2 passes downwardly through a pulley arranged near the lower part of the derrick, as at 3, and thence upwardly, being attached at its upper end at a point adjacent the crown pulley. Heretofore when a hemp rope was employed the upper end of the said rope was attached directly to a crown block or beam 4 in which the crown pulley is journaled. The use of the hemp rope gave sufficient elasticity or stretch to relieve the parts of strain when the bull wheel hoisted the rope 2, together with the pulley block 3, which latter is, as is well known, connected by means of tubing elevators with the tubing to be lifted. This quality of the hemp rope was sufficient to prevent strain on the parts and damage. When a wire rope is employed, I attach the upper end of the wire rope to a stem 5 arranged to slide through a yoke 6 and through a cross piece 7 carried by the said yoke. This stem has a forked lower end at 7′ in which fork the wire rope is secured by a bolt 8 and the upper end of the stem has thereon a nut 9, between which and a cross piece 7 a spiral spring 10 is arranged. The upper end of the yoke is pivotally secured at 11 to the cross bar or crown block of the derrick, the parts being arranged and combined so that the stem 5 will have yielding movements when undue strain comes upon the wire rope, and thus the crown block at the top of the derrick and the hoisting machine will be relieved of strain at such time.

One effect of the spring as employed in my device is to take the slack out of the wire rope before it begins to take up its load and this avoids the sudden jerk or strain which results from the use of a slack rope when the same becomes taut. Another result accomplished by my device is that it takes the twist out of the wire rope and avoids the necessity heretofore experienced of taking the wire rope down in order to get out the twist. It will be noticed in this connection that the stem 5 is free to rotate or swivel in its bearings in the cross piece 7 and the yoke 6. The device also avoids slacking the elevators and giving the line a sudden jerk for the purpose of freeing the tubing from the collar after it has been unscrewed as the tension of the spring is sufficient to lift the tubing out of the collar at this time.

It will be observed that the lower end of the spring bears upon the cross bar 7 and that at the lower end of the yoke the second bar 6′ is employed which coacts with a projection or nut 12 on the stem at a point below the spring to limit the downward movement of the stem and the parts are so arranged that these stops will contact with the lower cross bar before the spring can be subjected to such weight and pressure as will tend to break the same.

I claim as my invention:

In combination in a tube hoisting appliance for oil wells, a frame, a wire rope, and the connection between the wire rope and said frame consisting of a yoke connected to

the frame, a stem arranged to slide and also turn in said yoke, a spring surrounding the stem, a nut on the stem bearing on one end of the spring, the said yoke having a cross bar upon which the other end of the spring bears and through which the stem extends, and having a second cross bar through which the stem extends, and a limiting stop or nut on the stem to contact with the second cross bar and limit the pressure of the stem on the spring, substantially as described.

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

JAMES HOGUE.

Witnesses:
E. J. JONES,
MARGARET A. LYNCH.