March 25, 1924. 1,487,832

W. R. BARNEY

SHOCK ABSORBER FOR SUCKER RODS

Filed Oct. 22, 1921

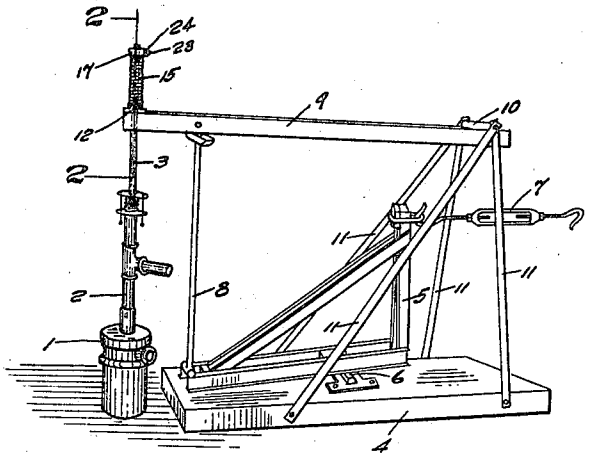


Fig. 1.

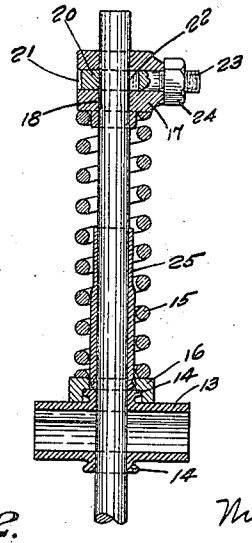


Fig. 2.

William R. Barney
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By

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Patented Mar. 25, 1924. 1,487,832

UNITED STATES PATENT OFFICE.

WILLIAM R. BARNEY, OF TULSA, OKLAHOMA, ASSIGNOR TO WILBUR C. NORRIS, OF TULSA, OKLAHOMA.

SHOCK ABSORBER FOR SUCKER RODS.

Application filed October 22, 1921. Serial No. 509,568.

To all whom it may concern:

Be it known that I, WILLIAM R. BARNEY, a citizen of the United States, residing at Tulsa, in the county of Tulsa and State of Oklahoma, have invented new and useful Improvements in Shock Absorbers for Sucker Rods, of which the following is a specification.

In pumping deep wells especially with pumping jacks it is desirable to relieve the parts from the shock due to slack or other causes arising from the pull lines. The present invention is designed to cushion the connection between the jack and the sucker rods so as to relieve the parts of shock.

The invention is illustrated in the accompanying drawings as follows:—

Fig. 1 shows a perspective view of a jack and pump connection.

Fig. 2 a section on the line 2—2 in Fig. 1.

1 marks the casing head, 2 the tubing extending from the casing head and 3 the sucker rod.

The jack is mounted on the base 4. It is provided with a rocker 5 operating on the bearing 6 on the base. The pull rod 7 operates on one arm of the rocker and the push rod 8 extends from the other arm of the rocker to the pump beam 9, the beam being pivotally mounted at 10 on the frame 11 extending upwardly from the base.

A trunnion bearing 12 is mounted on the beam 9 and a trunnion 13 operates on this bearing. The trunnion has the hollow extensions 14 through which the polished rod of the sucker rod extends. A spring 15 is arranged around the polished rod and supported by the trunnion. The upper end of the spring engages a clamping block 17. The block has an opening 18 through which the polished rod extends. A clamping plate 20 extends through a lateral slot 21 in the clamping block. It has an opening 22 through which the polished rod extends. The plate is provided with a screw-threaded shank 23 on which is arranged a nut 24 for exerting pressure on the plate to clamp the rod in the opening in the clamping block.

A sleeve 25 is arranged within the spring 15 and extends upwardly a sufficient distance to limit the compression movement of the spring where the load is greater than can be handled by the spring and also to assure a certain amount of movement of the sucker rod. The lower end of the sleeve is provided with a base 16 which is centered on the extension 14. A spring 15 rests on this base.

What I claim as new is:—

In a pumping apparatus, the combination of an oscillating beam; a trunnion on the beam having vertical hollow extensions adapted to receive a sucker rod of an oil pump; a spring supported by the trunnion; an enlargement on the sucker rod resting on the spring; and a sleeve within the spring limiting the movement of the sucker rod relatively to the trunnion, said sleeve having a base on which the spring rests, said base centering on the upwardly extending extensions on the trunnion.

In testimony whereof I have hereunto set my hand.

WILLIAM R. BARNEY.