

J. A. & D. J. HURLEY.  
APPARATUS FOR OPERATING PUMPS.

No. 195,508.

Patented Sept. 25, 1877.

Fig. 1.

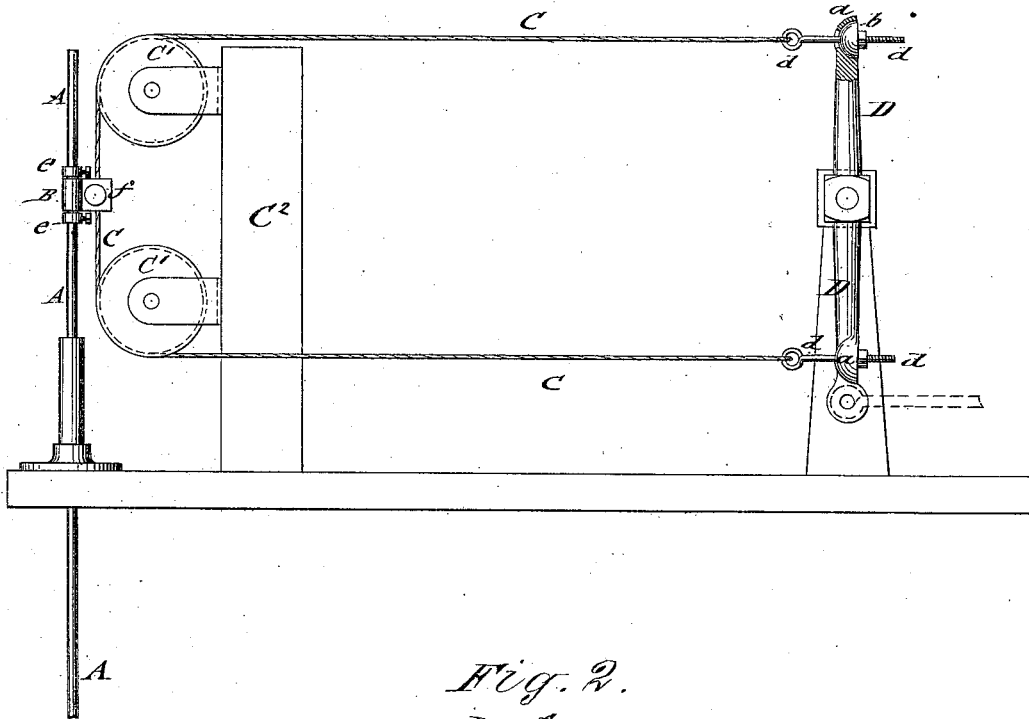
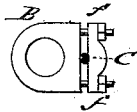


Fig. 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN APPARATUS FOR OPERATING PUMPS.

Specification forming part of Letters Patent No. 195,508, dated September 25, 1877; application filed August 24, 1877.

*To all whom it may concern:*

Be it known that we, JOHN A. HURLEY and DANIEL J. HURLEY, of Oil City, in the county of Venango and State of Pennsylvania, have invented a new and Improved Pumping Apparatus for Oil and Artesian Wells, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a side elevation of my improved pumping apparatus for oil and Artesian wells; and Fig. 2, a detail top view of the device for adjusting the pump-piston to the actuating chain or rope.

Similar letters of reference indicate corresponding parts.

This invention relates to an improved pumping apparatus for oil and Artesian wells; and consists of a rock-beam operated by the pitman of an engine, and connected by ball-joints with the ends of a cable or rope, passing over guide-pulleys, and being attached by an adjusting device on the pump-rod.

By reference to the drawing, A represents the pump or piston rod, which is guided in suitable manner at the head of the oil or artesian well, and connected by an adjusting mechanism, B, to a wire cable or chain, C, that is stretched over grooved pulleys C<sup>1</sup>, turning in bearings of a fixed vertical support, C<sup>2</sup>, and being attached at both ends to a centrally-fulcrumed rock-beam, D. The rock-beam D is provided at each end with concave recesses or seats *a* for the hemispherical washers *b*, that are retained by nuts on the bolts or other connections *d*, attached to the ends of the cable or chain C. The bolts pass through the washers *b* and through slots of the concave seats *a*, and have, on account of the ball-joints, free play, so as to accommodate themselves to the motion of the rock-beam and cable.

The adjusting mechanism B is retained on

the pump-rod A by collars and clamp-screws *e*, and the cable attached to the rigidly fastened adjuster B by a suitable clamping device, *f*, so that the adjuster is prevented from moving on the pump-rod, and the rod thereby compelled to follow the motion of the cable as produced by the rocking of the beam. The rock-beam is connected at the lower end with the pitman of a steam or other engine, by which oscillating motion is imparted to the rock-beam, which, by the cable and adjuster, gives vertical reciprocating motion to the pump-rod, so as to work the well by a simple and reliable apparatus.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A pumping apparatus for oil-wells, consisting essentially of a rock-beam oscillated by the pitman of the engine, of a cable or chain connected by ball-joints to the rock-beam, and stretched over guide-pulleys, and of an adjusting device by which the cable is rigidly connected with the pump-rod, substantially in the manner and for the purpose set forth.

2. The combination of the guided and reciprocated cable or chain C with the adjusting mechanism B, that is clamped to the cable and secured by collars to the pump-rod, substantially as described.

3. The combination of the reciprocating cable or chain C, having end bolts or connections *d*, with the slotted and concaved ends *a* of the rock-beam, ball-washers *b*, and fastening-nuts, substantially as specified.

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Witnesses:

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