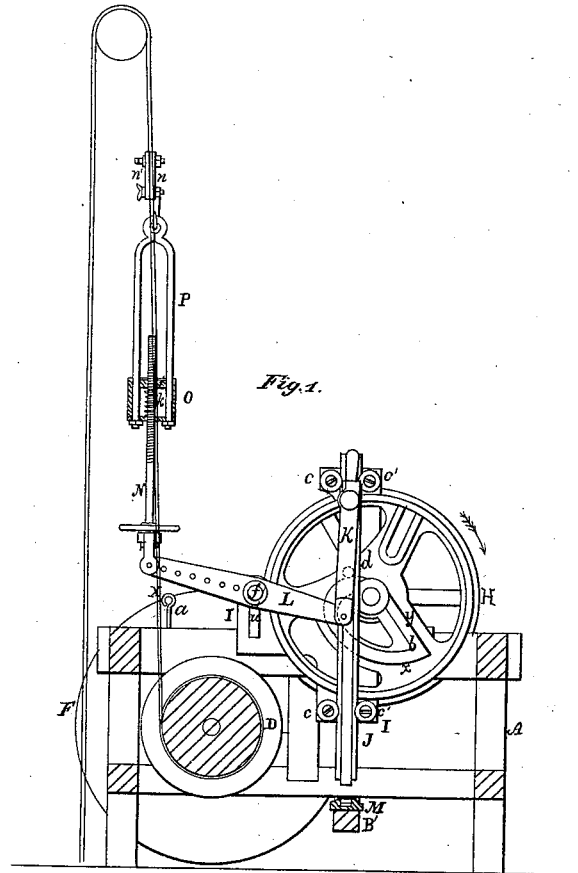


*T. J. Parke,*

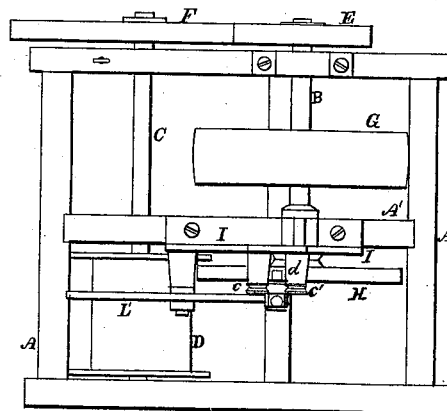
*Boring Artesian Wells.*

*N<sup>o</sup> 53,232.*

*Patented Mar. 13, 1866.*



*Fig. 2.*



*Witnesses.*

*W. Albert Steel*  
*W. R. Delaney*

*Inventor.*

*T. J. Parke*  
*By his Att'y*  
*Henry Howden*

# UNITED STATES PATENT OFFICE.

THOMAS J. PARKE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF, JOSIAH BRYAN, ISRAEL GILLESPIE, AND E. A. HUNTSICKER, OF SAME PLACE.

## IMPROVED WELL-BORING APPARATUS.

Specification forming part of Letters Patent No. 53,232, dated March 13, 1866; antedated November 8, 1865.

### *To all whom it may concern:*

Be it known that I, T. J. PARKE, of Philadelphia, Pennsylvania, have invented certain Well-Boring Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists of an arrangement, fully described hereinafter, of devices which form an efficient and economical apparatus for boring Artesian wells.

In order to enable others skilled in the art to make and use my invention I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form part of this specification, Figure 1 is a sectional elevation of my improved well-boring apparatus, and Fig. 2 a plan view.

A is the frame-work of the machine in suitable bearings, secured to which turn the two shafts B and C, the latter carrying a drum, D. On one end of the shaft B is a friction-pulley, E, and on the end of the shaft C is a similar but larger pulley, F, and to the bearing of the latter pulley is secured a rod, *a*, by means of which the said bearing may be elevated and the pulley F be brought in contact with the pulley E.

To the shaft B is secured a band-pulley, G, and on the end of the shaft nearest the drum D is a wheel, H, in the face of which is a cam, *b*, the latter having a curved edge, *x*, and a straight edge, *y*.

From a plate, I, which is secured to a cross-piece, A', of the frame *a*, projects four grooved guide-pulleys, *c c c' c'*, between which slides a bar, J, and from the latter projects a pin, *d*, which bears against the edge of the cam *b*.

To the upper end of the plate J is jointed one end of a link, K, the other end being jointed to a lever, L, hung to a pin, *f*, which is adjustable in a slot, *n*, in the plate I, and which has a number of openings, for a purpose described hereinafter.

To a cross-piece, B', directly under the lower end of a plate, J, is a metal cup, M, in which is a block of rubber or other elastic material.

To the outer end of the arm L is connected the lower end of a screw-rod, N, which passes

through a box, O, and on the said rod is a nut, *i*, which fits nicely in a circular opening in the said box O, and between the nut and the bottom of the box is a spiral spring, K. To this box O is secured a yoke, P, at the upper end of which is an eye adapted to receive a hook attached to a plate, *n*, and to the said plate is clamped a plate, *n'*, for a purpose described hereinafter.

The rope X, to which the drill is attached, is wound round the drum D, and passes from the latter between the plates *n* and *n'*, the plates being clamped together so as to secure the rope. Motion in the direction of the arrow is then imparted to the shaft B, and the plate J is thus gradually raised, while the curved edge of the cam remains in contact with the pin *d*, but falls suddenly when the straight edge of the cam is in contact with the pin, a corresponding motion being imparted to the lever L and the parts connected therewith, so that the drill is alternately gradually raised and suddenly lowered. As the bar J descends its lower end is brought in contact with the rubber in the cup M, and the machine is thus relieved from the sudden jars it would otherwise be subjected to owing to the repeated shocks imparted by the descent of the plate. By the use, also, of the box O with its spring K the slack in the rope, which results from the rebound in the drill, or from other causes, is taken up.

As the drill descends the rope is continually fed upward by turning the rod N, so as to elevate the box O with its yoke P. When, however, the box is at the upper end of the rod the rope is released from the clamp-plates *n n'*, the box O is again brought to the lower end of the rod, and the clamp-plates are secured to the rope at a point below that to which they were first attached.

It will be apparent that the height to which the drill is raised may be readily regulated by the distance from the fulcrum of the lever L at which the lower end of the rod N is secured.

When the drill has to be raised from the well the rope X is released from between the clamp-plates *n n'*, and the rod *a* is raised so as to bring the pulley E into contact with the pulley F, which, with its shaft and the drum, will thus be caused to revolve in the direction

of the arrow, Fig. 1, so as to wind up the rope on the drum and raise the drill. When the drill has to be lowered it is allowed to descend by its own weight, the rope X is again secured between the clamp-plates, and the operation proceeds as before.

I claim as my invention and desire to secure by Letters Patent—

1. The cam-wheel H, plate J, with its pin *d*, and the arm L, constructed and operating in combination with each other, and the rope to which a rock-drill is attached, substantially as described.

2. The screw-rod N secured to a vibrating

lever in combination with the adjustable box O, yoke P, and clamp-plates *n n'*, or their equivalents, substantially as and for the purpose specified.

3. The box O, with its spring *k*, combined with the rod N, its nut, and the rope X, substantially as and for the purpose described.

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

THOS. J. PARKE.

Witnesses:

CHARLES E. FOSTER,  
JOHN WHITE.