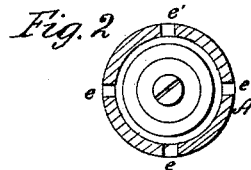
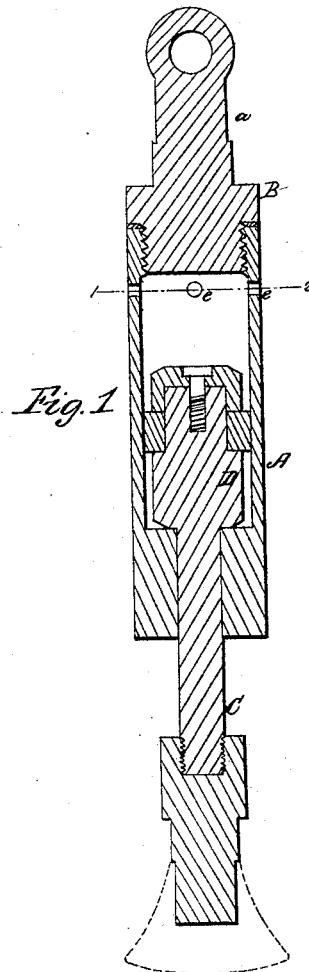


T.J. Parke,

Rock Drill,

Nº 50,881,

Patented Nov. 7, 1865.



Witnesses;
Wm. Albert Steel
John Parker

Inventor;
T. J. Parke
By his attorney
H. H. H. H.
per C. C. H. H.

UNITED STATES PATENT OFFICE.

THOMAS J. PARKE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF, J. BRYAN, T. GILLESPI, AND E. A. HINTSICKER.

IMPROVED WELL-BORING APPARATUS.

Specification forming part of Letters Patent No. 50,881, dated November 7, 1865.

To all whom it may concern:

Be it known that I, T. J. PARKE, of Philadelphia, Pennsylvania, have invented an Improved 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 in a case or cylinder with openings near its upper end, containing a piston and a rod, which is secured at the upper end to the piston and at the lower end to the drill, the water in the well flowing through the openings into the case above the piston, and serving as a cushion to relieve the drill from the concussions and strains which are so detrimental to the drill when the same is rigidly secured to the operating apparatus.

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 a part of this specification, Figure 1 is a sectional elevation of my improved well-boring apparatus; and Fig. 2, a section on the line 1 2, Fig. 1.

A is a hollow case or cylinder, into the upper end of which is screwed a block, B, and to a projection, *a*, on the latter is secured the lower end of the drill rope or rod X.

In an opening in the lower end of the case A slides a rod, C, to the lower end of which is secured a drill or cutter of any suitable character, and at the upper end of the rod is a head or piston, D, which is provided with suitable packing, so that it will fit nicely within the case.

In the case, near the upper end of the same, are a number of openings, *e e*, for a purpose described hereinafter.

The apparatus is suspended within the well, by means of rods or ropes, in the usual man-

ner, and a reciprocating vertical motion is imparted to the same, so as to bring the face of the cutter rapidly against the rock. As the apparatus descends within the well the water in the latter will flow through the openings *e* into the case above the piston D, so that when the cutter is brought against the rock the water will be compressed in the case above the piston and will escape slowly through the openings *e*, a cushion being thus formed, of greater or less elasticity, in proportion to the size and number of the openings *e*.

When drills or cutters are secured rigidly to the heavy apparatus usually employed they are subjected to such severe concussions and excessive strains that they are frequently broken, and much time and labor, entailing great expense, are required to raise the detached portions from the well.

It will be apparent that injury to the drill from the causes mentioned will be effectually prevented by the use of the above-described apparatus.

It will also be seen that should the drill become wedged in the well, by suddenly raising the drill rope or rod, and bringing the end of the case smartly against the under side of the piston, the apparatus may be made to answer the purpose of a "jar" for extracting the drill from its position.

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

The case A, with its openings *e e*, piston D, and rod C, combined and operating with a drill or cutter, substantially as and for the purpose specified.

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.