

O. P. Frantz,

Well Borer.

No. 102,245.

Patented Apr. 26. 1870.

Fig. 1

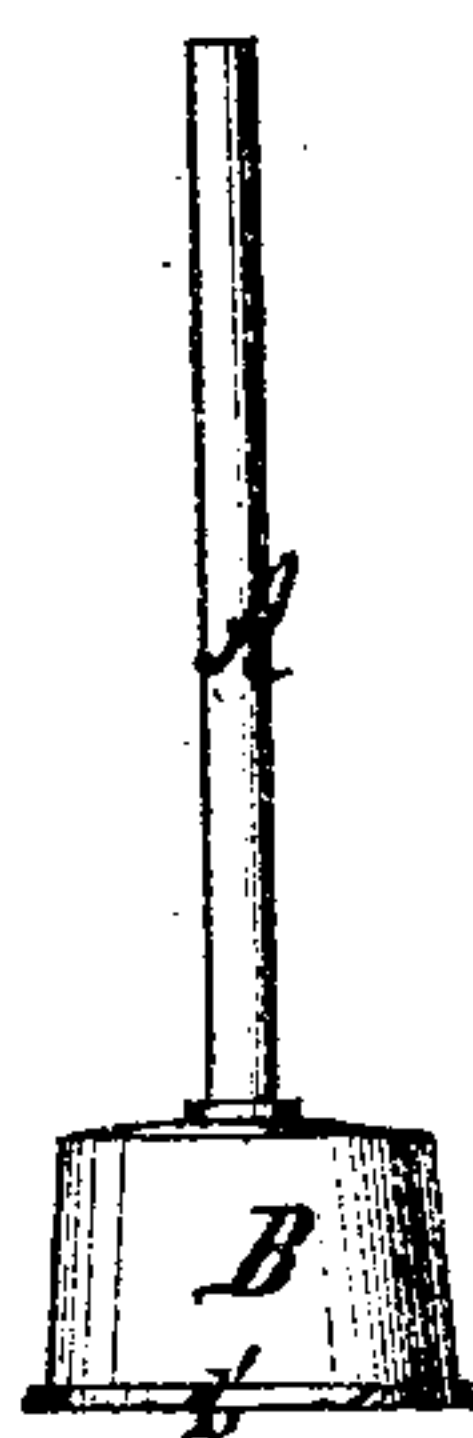


Fig. 2

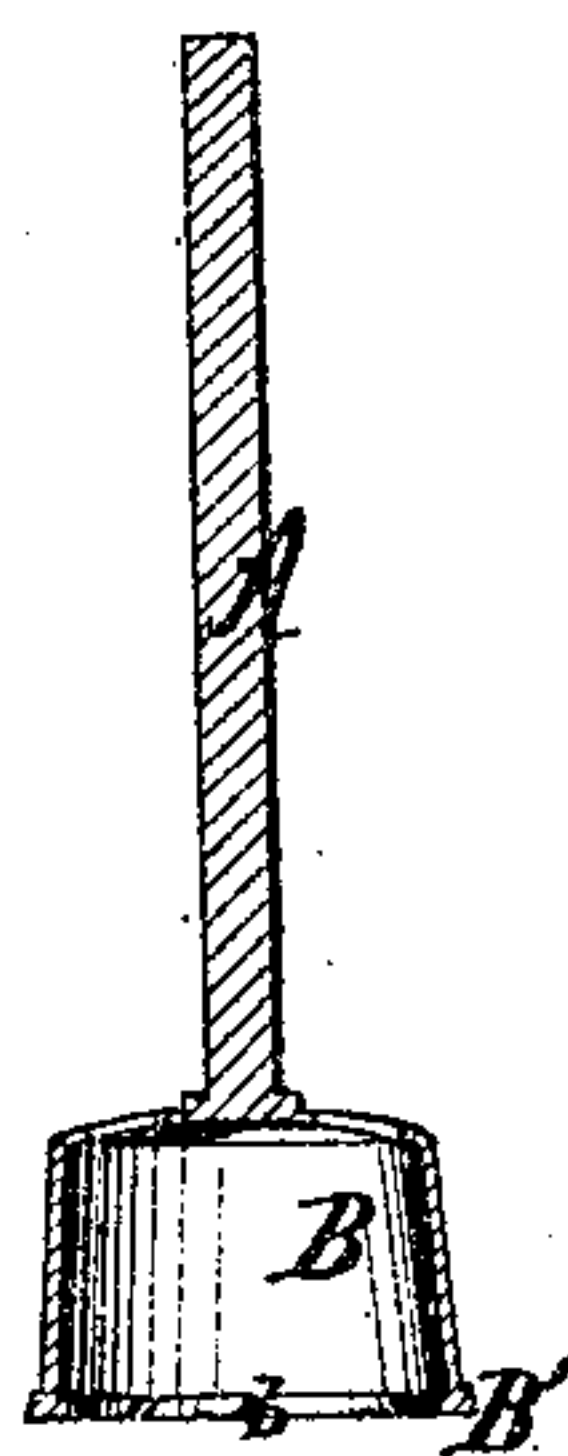


Fig. 3

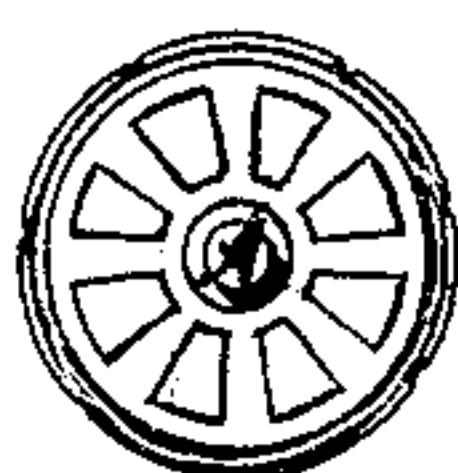
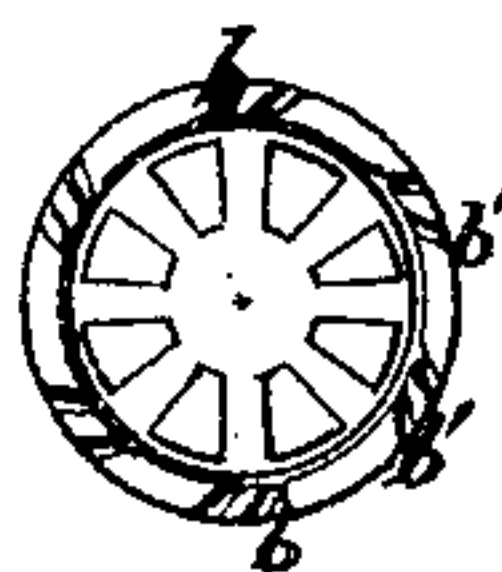


Fig. 4



Witnesses:
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OLIVER P. FRANTZ, OF ST. ANTHONY, MINNESOTA.

Letters Patent No. 102,245, dated April 26, 1870.

IMPROVED DEVICE FOR BORING WELLS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, OLIVER P. FRANTZ, of St. Anthony, in the county of Hennepin and State of Minnesota, have invented a new and improved Device for Sinking Shafts; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

This invention relates to an improved device for sinking shafts or wells through ledges of rock, and consists of a cylinder provided with peculiar edges, which is employed in connection with sand or other suitable material for cutting the rock.

The details of construction and manner of operation will be fully described hereinafter.

In the drawings—

Figure 1 is a side elevation of my improved device;

Figure 2 is a sectional elevation through line *x-x*, fig. 1;

Figure 3, a plan view; and

Figure 4, a plan view inverted.

To enable others skilled in the art to make and use my invention, I will proceed to describe fully its construction and operation.

A represents the ordinary shaft employed in sinking wells.

B represents the cutting-cylinder, which is attached to the shaft in any suitable manner. The top, however, should be left open to a certain extent. The lower edge of this cylinder is peculiarly constructed, as shown.

It is provided with two different series of grooves or creases, one series of which, opening upon the in-

side of the cylinder, extends nearly to the outer line of the edge, as shown at *b*.

The other series, opening upon the outside of the cylinder, extends to the inner line of the edge, as shown at *b'*.

The cylinder itself is provided with a slight flange, B', at its bottom, as is clearly shown in the drawing.

The operation of my improved device is as follows:

When rock is reached and it is desired to bore through it, the cylinder is attached to the shaft and lowered to the bottom of the well. Sand is placed in the cylinder and water is allowed to run therein.

The cylinder is then revolved in any suitable manner, and the grinding action thus produced by the cylinder and the sand cuts a groove in the rock, one series of creases serving to feed the sand and the other to discharge it.

When sufficient progress is made the cylinder is removed and the center of the rock left in the well is blasted out. The operation of cutting may then be resumed.

By this simple device rock may be bored with great facility.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The cylinder B, constructed substantially as described, for the purpose set forth.

This specification signed and witnessed this 5th day of June, 1869.

Witnesses:

J. GUILFORD,
S. M. MOORE.

O. P. FRANTZ.