(No Model.)

G. PECH.

WELL BORING MACHINE.

No. 398,649. Patented Feb. 26, 1889.

Fig. 1.

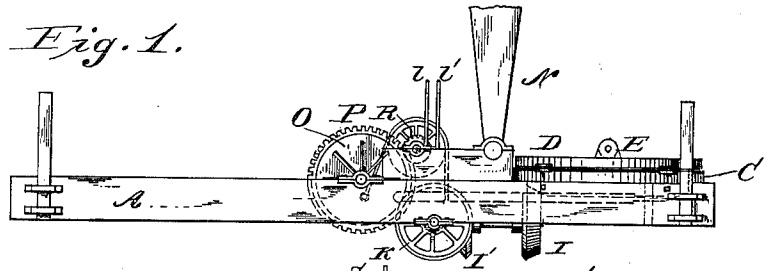
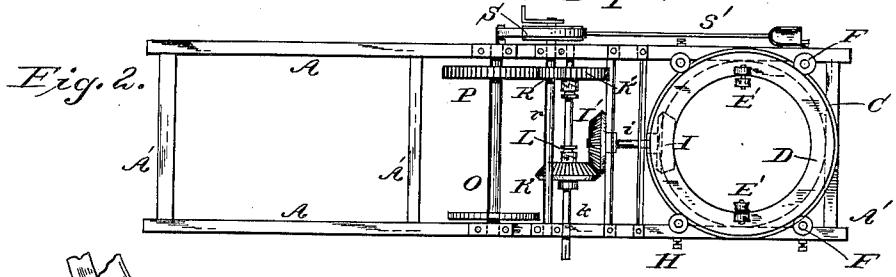


Fig. 2.



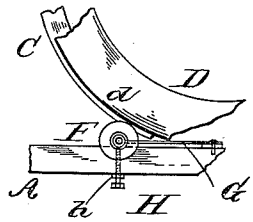


Fig. 5.

Fig. 4.

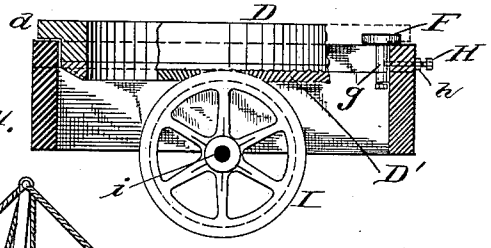
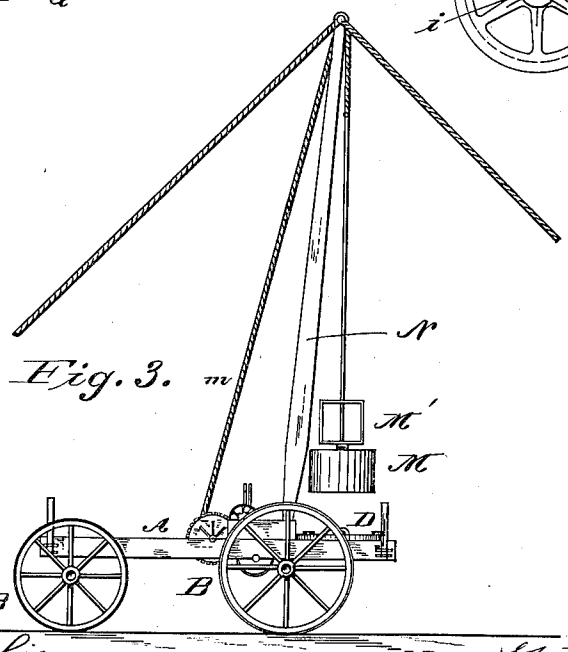


Fig. 3.



Witnesses.
Edwin H. Whitney
Geo. A. Terrett.

Inventor,
Gustavus Pech
By his Attorneys
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UNITED STATES PATENT OFFICE.

GUSTAVUS PECH, OF STORM LAKE, IOWA.

WELL-BORING MACHINE.

SPECIFICATION forming part of Letters Patent No. 398,649, dated February 26, 1889.

Application filed May 24, 1888. Serial No. 274,899. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVUS PECH, a citizen of the United States, residing at Storm Lake, in the county of Buena Vista and State of Iowa, have invented certain new and useful Improvements in Well-Boring Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention constitutes an improvement upon that shown and described in my patent, No. 315,826, granted April 14, 1885; and it consists in certain details, hereinafter set forth, and particularly pointed out in the claims.

In the drawings, Figure 1 is a side view. Fig. 2 is a plan. Fig. 3 is a side elevation showing the machine mounted for transportation. Fig. 4 is a cross-section of the curb and the movable rim, and Fig. 5 is a detail.

The same reference-letters are used in all the figures.

The frame is composed of two sills, A, united by cross-girts A′, and is preferably mounted on wheels B. On the back end of the frame is a stationary circular curb, C, consisting of a shallow ring of wood or metal. Within the curb C fits the movable rim D, which has a horizontal flange, *d*, resting on the upper edge of the curb. The lower edge of the rim D is provided with beveled gear-teeth D′, either formed thereon or secured thereto.

On the upper face of the rim D are two diametrically-opposite lugs, E, which carry the grooved rollers E′, projecting within the inner face of the rim D. The rim is kept concentric with the curb C by means of friction-rollers F, which bear against the edge of the flange *d*. Each roller is mounted on a vertical spindle which runs in a bearing, *g*, on the free end of a metal spring, G, fastened at one end to the frame of the machine. An adjusting-screw, H, provided with a lock-nut, *h*, passes through the frame and presses against the bearing *g*. By means of the screws H the rollers F can be adjusted and the rim D brought to and held in a position concentric with the curb C.

The rim D is driven by means of a bevel-gear, I, on one end of a short shaft, *i*, on the other end of which is another bevel-gear, I′, meshing with a bevel-gear, K, on the transverse shaft *k*, which runs in bearings on the sills A. The gear K is loose on the shaft; but it can be engaged by a clutch, L, when desired. The end of the shaft *k* is squared, as shown, for the attachment of a crank-handle or a horse-power shaft, by which power can be communicated to the machine. By having the shaft transverse to the machine greater steadiness is insured.

The auger M has been fully described in my former patent, above referred to. When the auger is lowered through the rim D, the stirrup M′ is engaged by the grooved rollers E′, and the auger is then rotated by the bevel-gears and the rim in the usual way.

To raise and lower the auger, it is provided with a rope, *m*, running over a pulley or sheave at the top of a boom, N, hinged at its lower end to the frame. The rope is wound upon a drum, O, the shaft of which lies parallel with the shaft *k*, and which has a gear-wheel, P, meshing with a loose gear-wheel, K′, on the shaft *k*. A clutch, L′, engages with the gear K′ when it is necessary to operate the drum. The clutches L and L′ are manipulated by the levers *l l′*.

A pinion, R, on a shaft, *r*, meshes with the gear-wheel P. On the end of this shaft is a brake-wheel, over which passes a friction-band, S, attached to a foot-lever, S′. By means of this brake the speed of the drum can be regulated when the auger is being lowered through the rim D.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the frame A A′, of the circular curb C, the movable rim D, resting upon the curb, and the adjustable friction-rollers F, substantially as described.

2. The combination, with the frame A A′, of the circular curb C, the movable rim D, having a flange, *d*, resting upon the curb, the rollers F, the straps G, having the bearings *g*, and the adjusting-screws H, pressing against the bearings, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GUSTAVUS PECH.

Witnesses:

GEORGE MARSHALL,

WILLIAM HARRIS.