C. C. CREEGER.

ROCK-DRILLING MACHINE.

No. 183,492. Patented Oct. 24, 1876.

Fig. 1.

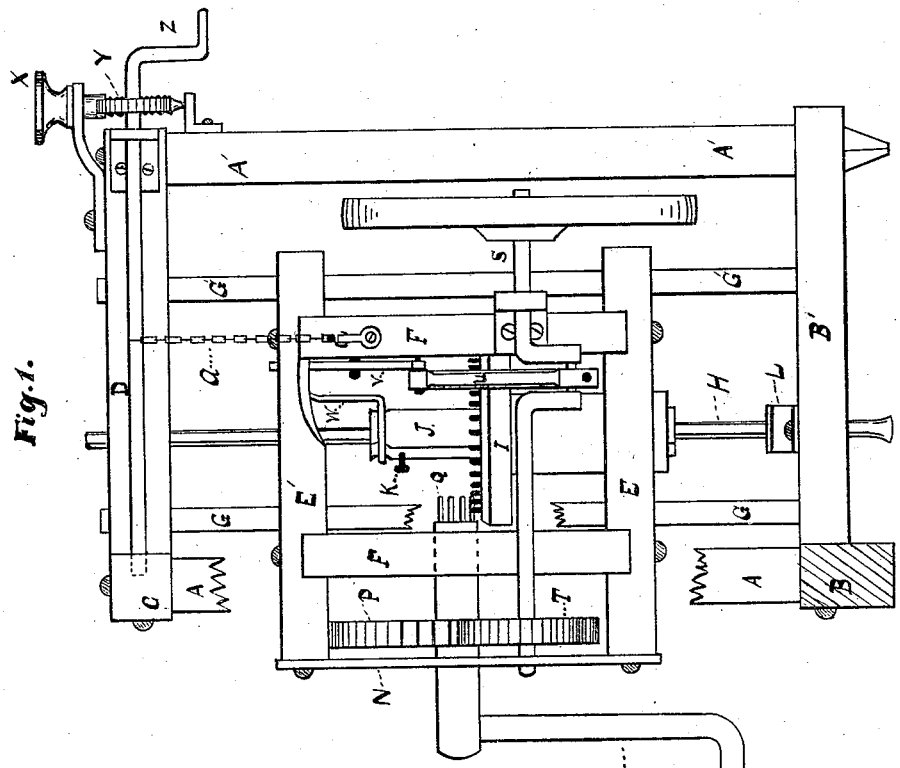
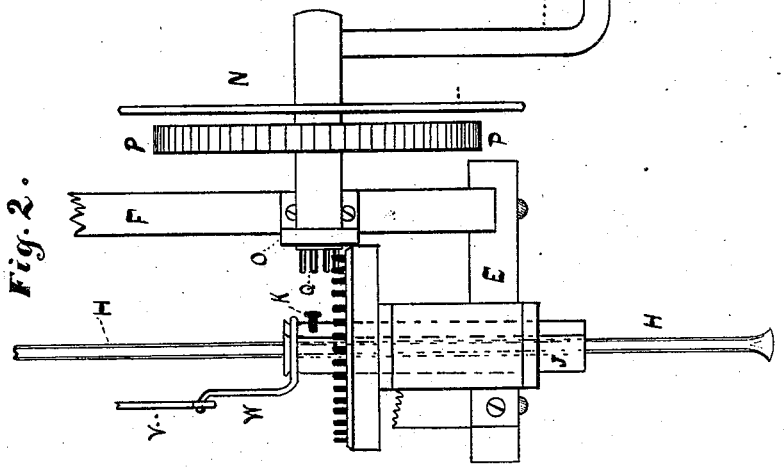


Fig. 2.



Witnesses;

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UNITED STATES PATENT OFFICE.

CHRISTOPHER C. CREEGER, OF TIFFIN, OHIO.

IMPROVEMENT IN ROCK-DRILLING MACHINES.

Specification forming part of Letters Patent No. **183,492**, dated October 24, 1876; application filed April 15, 1876.

To all whom it may concern:

Be it known that I, CHRISTOPHER C. CREEGER, of the city of Tiffin, in the county of Seneca and State of Ohio, have invented a new and useful Improvement in Rock-Drilling Machines, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to rapidly drill holes in rocks for splitting or blasting.

The various parts of the machine are nearly all shown in the plan view, Figure 1, of the accompanying drawing.

The frame is constructed of the two posts A A, connected at the bottom by the sill B, and at the top by the plate C. Near the center of sill B, I attach a cross-sill, B′, forming right angles. To plate C is attached a cross-plate, D, in like manner. Into the outer ends of sill B′ and plate D post A′ is set; this forms the outer frame. The frame, to which is attached nearly all the machinery, is formed of two horizontal pieces, E and E′, with their ends projecting beyond its vertical pieces F F. This frame is held in position by passing two iron rods, G G′, through plate D and sill B′ in the outer frame, and pieces E and E′ of the inner frame, as shown in Fig. 1. The holes in pieces E and E′ are large enough to permit the frame to slide easily upon the rods G G′. The drill H is firmly attached to the square sliding shaft J, through which it is adjustable by means of a thumb-screw, K. This sliding shaft J passes through cog-wheel I, which is held in position by a socket fastened to piece E. The drill is held in position and guided by brace L, as shown in Fig. 1. The arbor of cog-wheel P passes through plates N and O, and is provided on the other end with a small cog-wheel, Q. The cogs of this wheel work in the cogs of cog-wheel I. When the main cog-wheel P is turned by means of the crank R the main crank-shaft S is set in motion, the shaft S being connected to the cog-wheel T, which gears with the main cog-wheel P. One end of the movable arm U works on the crank of the shaft S, and the other end is attached by means of a pivot to the walking-beam V, as shown in Fig. 1. The other end of the walking-beam V is connected with the crooked arm W, the lower end of which is bent or wrought in the form of a circle forming a band, working loosely in a groove cut around the upper end of the square sliding shaft J, as shown in Fig. 2.

The crank on the main shaft S gives an up-and-down motion to the drill H by means of the arm U, walking-beam V, and crooked arm W, by this means cutting the stone. The shaft of cog-wheel P turns the cog-wheel I by means of cog-wheel Q, and this turns the shaft J by means of its square center.

When the cog-wheel P is set in motion the drill, as hereinbefore described, is given an up-and-down motion; at the same time the drill is made to rotate by means of cog-wheel I, the center of which being square and fitting the shaft J.

The inner frame is held in position by means of the rods G G′, and can be lowered or raised by means of the screw X, which has its bearings firmly attached to plate D and post A′. Screw X works in the worm-wheel Y, which is firmly attached to the crank-shaft Z, as shown in Fig. 1. To shaft Z one end of chain *a* is fastened, the other end of which is attached to the post F.

When the machinery is raised or lowered the frame E E′ slides upon the rods G G′ for the purpose of feeding the machine. If it is desired to raise or lower the drill quickly the shaft Z can be drawn out far enough to break the connection between cog-wheel Y and screw X, when the crank Z can be turned, thus forming a windlass.

I claim as my invention—

The combination of the sliding frame E E′ F F, frame A A′ B B′ C, and feed-screw X, the crank-shaft Z for raising and lowering the drill, the device I, J, and Q for rotating the drill, and the crank-shaft S, wheel T, arm U, walking-beam V, crooked arm W, shaft J, and drill H, substantially as described.

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Witnesses:
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