(No Model.)

J. ROWLAND.

ROCK DRILL.

No. 267,262. Patented Nov. 7, 1882.

Fig. 1.

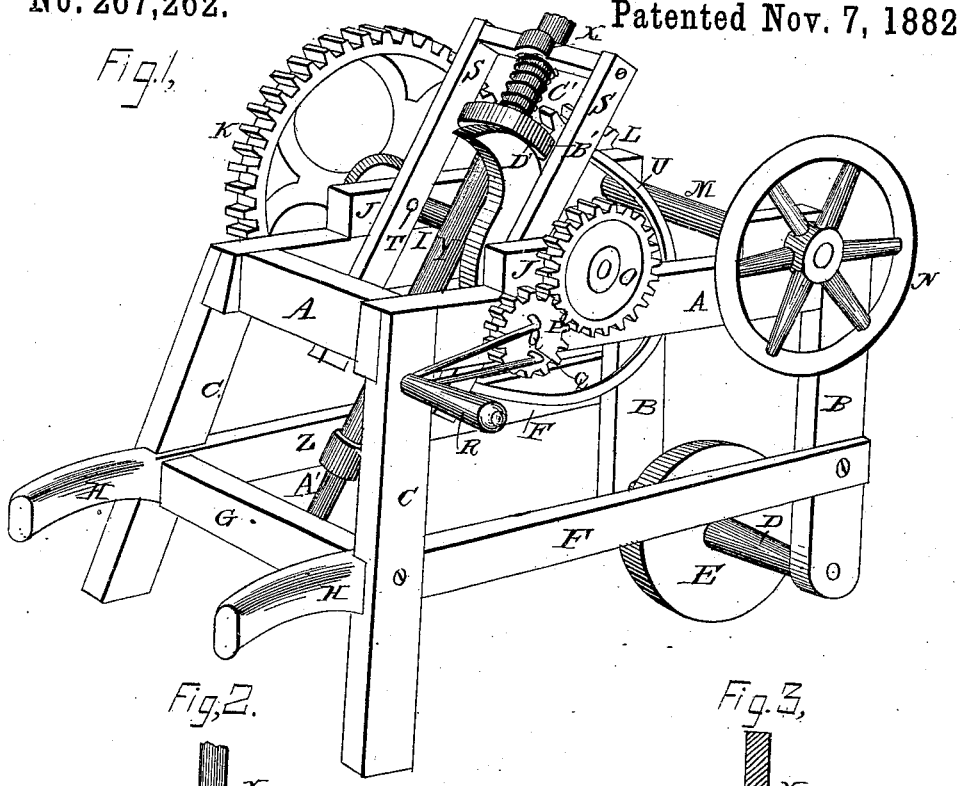


Fig. 2.

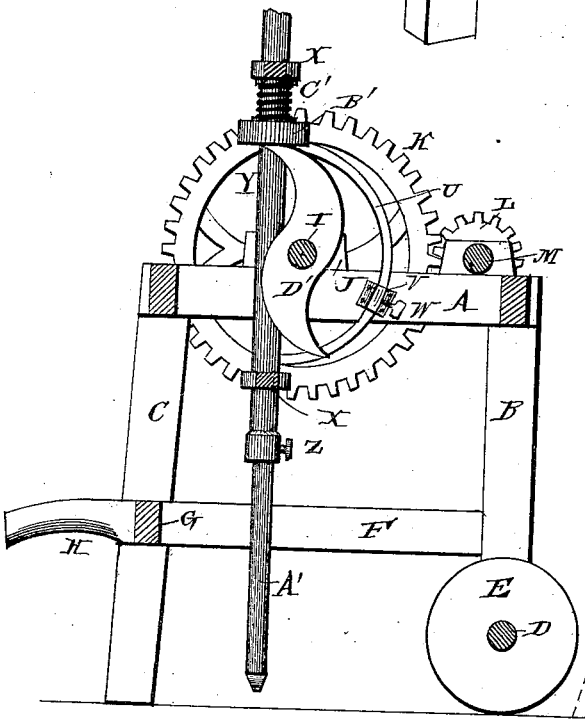
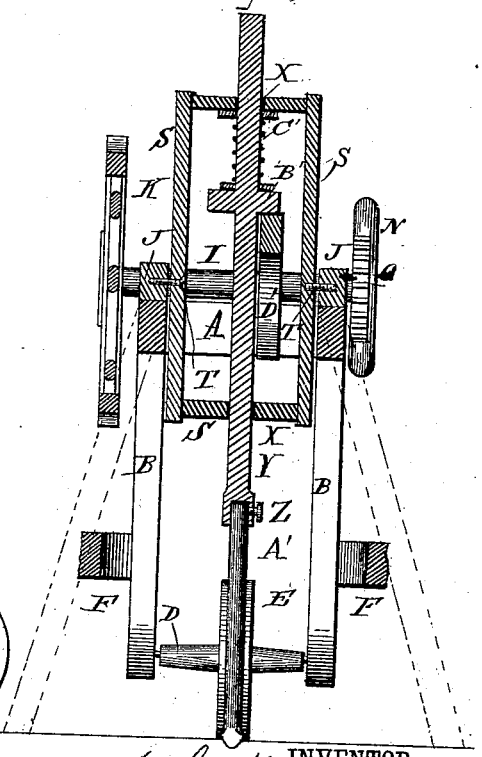


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN ROWLAND, OF GREENCASTLE, PENNSYLVANIA.

ROCK-DRILL.

SPECIFICATION forming part of Letters Patent No. 267,262, dated November 7, 1882.

Application filed August 18, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN ROWLAND, of Greencastle, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Rock-Drills; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view. Fig. 2 is a vertical longitudinal sectional view, and Fig. 3 is a vertical cross-section.

Corresponding parts in the several figures are denoted by like letters of reference.

My invention has relation to that class of portable rock-drills in which a frame carrying the rotary reciprocating drill-shaft is journaled in a suitably-constructed barrow-frame provided with mechanism for operating the drill-shaft; and it consists in the means for bracing, guiding, and adjusting the swinging drill-shaft frame and fixing the same in its adjusted position, substantially as hereinafter more fully described, and particularly pointed out in the claim.

Referring to the drawings hereto annexed, A represents the horizontal frame or bed of my improved machine, which is mounted upon legs B B C C, the rear ones of which, B B, have journal-boxes near their lower ends for the axle D, carrying a wheel, E. The front legs, C, are connected with the rear legs, B, by braces F, extending in front, so as to form handles H. The front legs are also connected with each other by a brace, G. It will be seen that in this manner a complete barrow-frame is constructed, which may be readily moved from place to place upon the wheel E.

I is a transverse shaft journaled in boxes J upon the sides of the bed-frame A. Said shaft is provided at one end with a gear-wheel, K, meshing with a pinion, L, upon a transverse shaft, M, journaled in suitable bearings in rear of the shaft I, and having at its other end a balance-wheel, N. The shaft I carries at its other end a gear-wheel, O, meshing with a pinion, P, upon a short shaft, Q, journaled in one side of frame A, and having an operating-crank, R, by which power may be applied to the machine.

S is a rectangular frame, provided at its sides with trunnions T, by which it is journaled to the sides of frame A. Frame S is provided with rearward-projecting segmental straps U U, passing through bails V, secured upon the inner sides of frame A, and having set-screws W, which may be tightened against the straps U for the purpose of retaining the frame S securely in any position or at any inclination to which it may be adjusted. Frame S is provided at its upper and lower ends with bearings X for a vertically-sliding shaft, Y, having at its lower end a socket, Z, in which the drill A′ may be detachably secured in the usual manner. Shaft Y also has near its upper end an annular collar, B′, between which and the top of frame S a strong coiled spring, C′, is interposed. A washer and suitable friction-rollers may also be interposed between the collar B′ and spring C′, in order to enable the drill shaft or stem to revolve when operated, as will be presently described. The main shaft I is equipped with one or more cams, D′, adapted to bear against the under side of collar B′ and force the drill-stem in an upward direction when the shaft revolves.

The operation of my invention will be readily understood. When the frame S has been so adjusted as to place the drill at the desired angle, power is applied and the shaft I revolved. The cams D′, bearing against the under side of collar B′, will raise the drill against the tension of the spring C′, which, as soon as the cam has passed, will force the drill in a downward direction, thus giving, in connection with the weight of the drill-stem, a powerful blow. The cams, in pressing against the under side of collar B′, will also serve to give the drill a slight turn at each successive operation.

I claim and desire to secure by Letters Patent of the United States—

The combination of the portable barrow-frame having the bails or keepers V, provided with set-screws W, and the swinging frame S, having trunnions T T, and semicircular straps U U, passing through the bails or keepers V,

with their ends connecting the upper and lower parts of frame S at equal distances from the trunnions T, which form the center of the circle described by the semicircular straps U, substantially as and for the purpose herein shown and specified.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN ROWLAND.

Witnesses:
LOUIS BAGGER,
A. F. MILLER.