

S. H. YERDEN.
Rock-Drills.

No. 142,319.

Patented August 26, 1873.

Fig. 1.

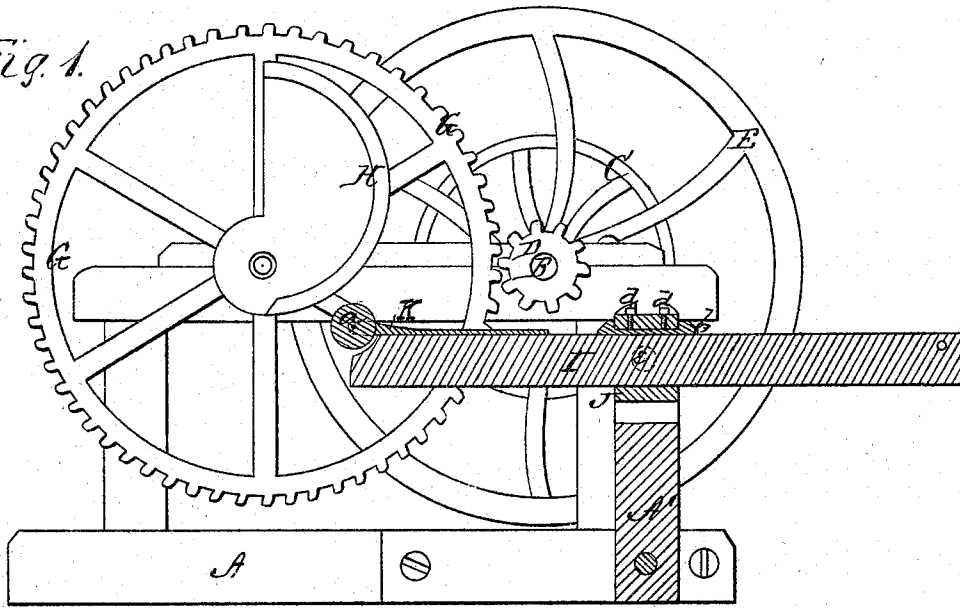


Fig. 2.

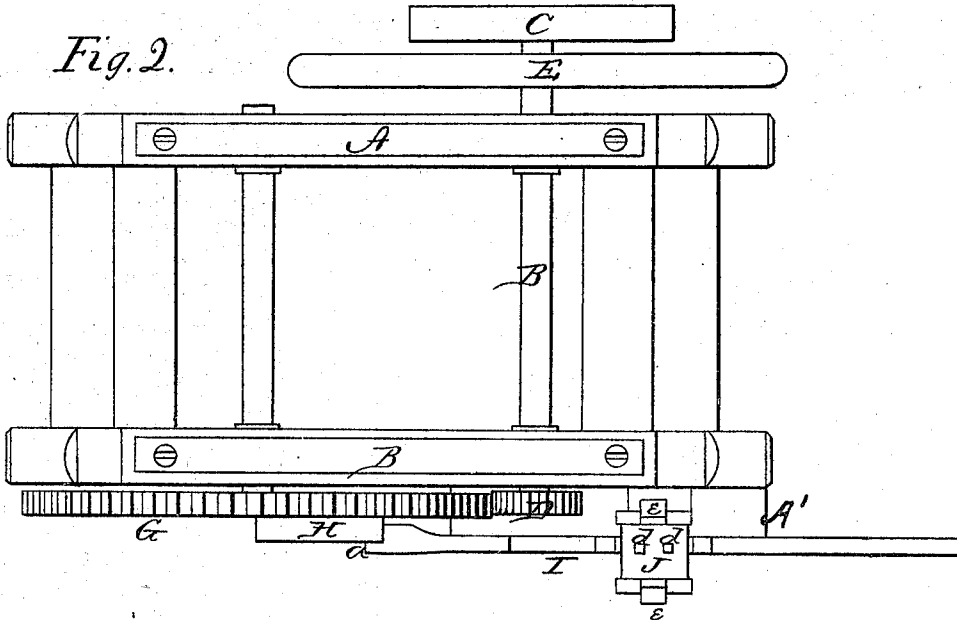
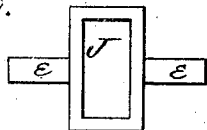


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

SOLOMON H. YERDEN, OF STONE MILLS, NEW YORK.

IMPROVEMENT IN ROCK-DRILLS.

Specification forming part of Letters Patent No. **142,319**, dated August 26, 1873; application filed June 7, 1873.

To all whom it may concern:

Be it known that I, SOLOMON H. YERDEN, of Stone Mills, in the county of Jefferson and State of New York, have invented a new and valuable Improvement in Means for Operating Rock-Drills; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of my machine in side elevation, partly in section; Fig. 2 is a plan view of the same; and Fig. 3 is a view of a rocking block employed in the same.

The nature of my invention consists in the construction and arrangement of a machine for operating a rock-drill, dressing-machine, mill-stone, and other similar machines, but is more especially designed to operate a rock-drill, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation.

Like letters of reference in the several figures indicate corresponding parts.

A represents the frame-work of my machine, in which is a shaft, B, having upon one end a pulley, C, and fly-wheel E. The pulley C is to be connected by a belt with a horse-power, whereby said shaft obtains its rotating motion. On the other end of the shaft B is a pinion, D, which gears with a large cog-wheel, G. This wheel has an eccentric cam or a segment of a circle, H, attached to or formed on its outer side, and, as the wheel G is revolved by the pinion D, this cam operates against a roller, *a*, journaled in the forked bar K, secured on the end of a lever, I. This lever is passed

through a block, J, and held in the same by means of a key, *b*, and set-screws *d d*, and the block J is provided with trunnions or pivots *e e*, upon which it is hung, and rocks in the frame A'. The trunnions or pivots *e e* will, in a full-sized machine, be made adjustable so as to regulate the stroke of the lever I. This adjustment will be made by means of the removable supporting-frame A', attached to the side of the frame A by means of bolts or screws immediately in front of the gearing, as shown in Fig. 1. Sometimes the lever will be adjusted in the trunnion-block J and secured in position by means of the key and set-screws.

At the outer end of the lever I a rope will be attached to elevate a drill, which will work over a mast.

When the machine is in operation the cam H, operating against the roller *a*, will depress the inner end of the lever I and raise the drill once during each revolution of the wheel G, and, as soon as the cam H clears the roller *a*, the drill will descend again.

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

1. The combination, with the frame A, of the removable and adjustable frame A' supporting the trunnion-block J and operating-lever I, for the purpose specified.

2. The combination of the cog-wheel G, having the eccentric cam H and operating-lever I, with the friction-roller *a* and the trunnion-block J, constructed substantially as and for the purpose described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

SOLOMON H. YERDEN.

Witnesses:

JAMES KILBORN,
W. A. SNYDER.