J. J. WEINEL.

Mining-Machine.

No. 168,817. Patented Oct. 11, 1875.

Fig. 1.

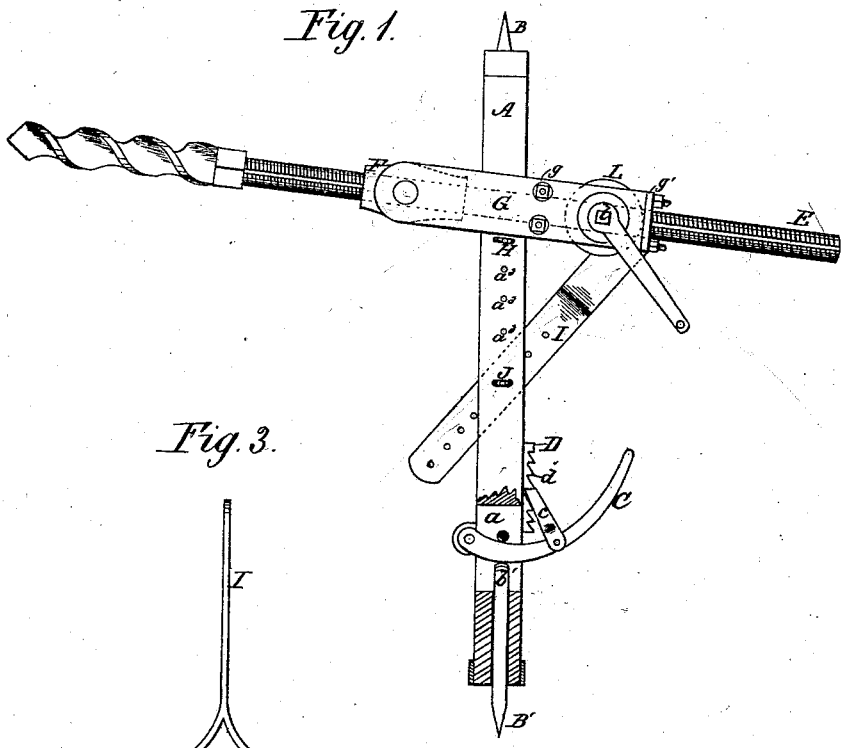


Fig. 2.

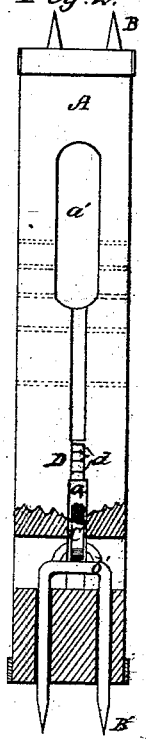
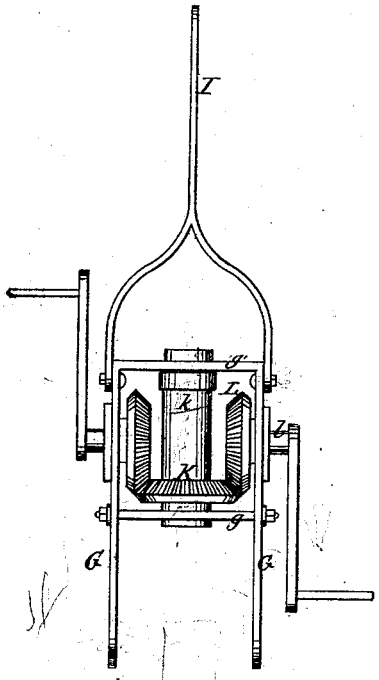


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSIAH J. WEINEL, OF ALLEGHENY TOWNSHIP, WESTMORELAND COUNTY, PA., ASSIGNOR OF ONE-HALF HIS RIGHT TO HIRAM H. WRAY.

IMPROVEMENT IN MINING-MACHINES.

Specification forming part of Letters Patent No. **168,817**, dated October 11, 1875; application filed July 13, 1875.

To all whom it may concern:

Be it known that I, JOSIAH J. WEINEL, of Allegheny township, in the county of Westmoreland and State of Pennsylvania, have invented a new and Improved Mining-Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification.

The invention relates to means whereby a coal-drill may be conveniently adjusted and operated in the mine, the same being first hereinafter described in connection with drawing, and then pointed out in the claims.

A represents the drill frame or post, which is secured between the opposite walls or the floor and bottom of mine. For effecting this attachment I employ the stationary pins B at one end, and the movable pins B′ at the other. The latter form part of or are affixed to a cross-bar, *b′*, which is actuated and held out against the wall by a lever, C, pivoted and working in slot *a*. This lever is provided with a detent-pawl, *c*, that catches in the teeth *d* of a ratchet, D. E is the threaded drill-stock, working in a nut, F. I employ a nut-frame, G, having cross-plates *g g′*, and through these plates, as well as through the slot *a′* of post, pass the screw E, the post being held in the nut-frame between the nut F and cross-plate *g*, while a pin, H, adjustable in one of several holes, a^3, regulates the obliquity to which the screw E may be graduated. The screw is held to any degree of obliquity by a brace, I, having a series of holes, through which and through the frame A may be passed a detachable pin, J. K is a bevel-pinion on screw E, whose hub *k* is keyed to the screw in the well-known manner, and spaced the distance between plates *g g′*, while L is a bevel spur-wheel on a crank-shaft, *l*.

By this arrangement of parts a miner can drill close to either wall by setting the post near to wall between roof and bottom, then drawing out the screw E from nut-frame, the pin J from post, (to loosen brace,) and reversing the nut-frame.

It will be seen that I can drill closer to and more nearly parallel with walls than has been done heretofore, thus leaving nothing to be trimmed with pick, and saving a great deal of hand-labor. I can also drill to any depth with one setting of machine, as any required length of my screw will run steadily and accurately, while the old machines are compelled to use a short screw, because a long one would be unsupported, and would consequently wabble, being thus rendered impracticable.

The double crank is necessary in drilling holes in the roof or rock top of mine, to make it high enough to allow a mule or horse to haul out the coal or other substance. It is necessary so that two men can work the machine more handily and more easily than they could do with one crank.

Having thus described my invention, what I claim as new is—

1. The combination, with drill-frame A, of sliding pins B′ on cross-bar *b′*, lever C, having pawl *c*, and plate D, having teeth *d*, all arranged as and for the purpose described.

2. The combination of drill-frame A, the frame G, held in a slot thereof between nut and plate *g*, and the adjustable brace I, as and for the purpose specified.

JOSIAH JAMES WEINEL.

Witnesses:
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