(No Model.)

M. WOLFE & M. DEVLIN.

MINING DRILL.

No. 561,250. Patented June 2, 1896.

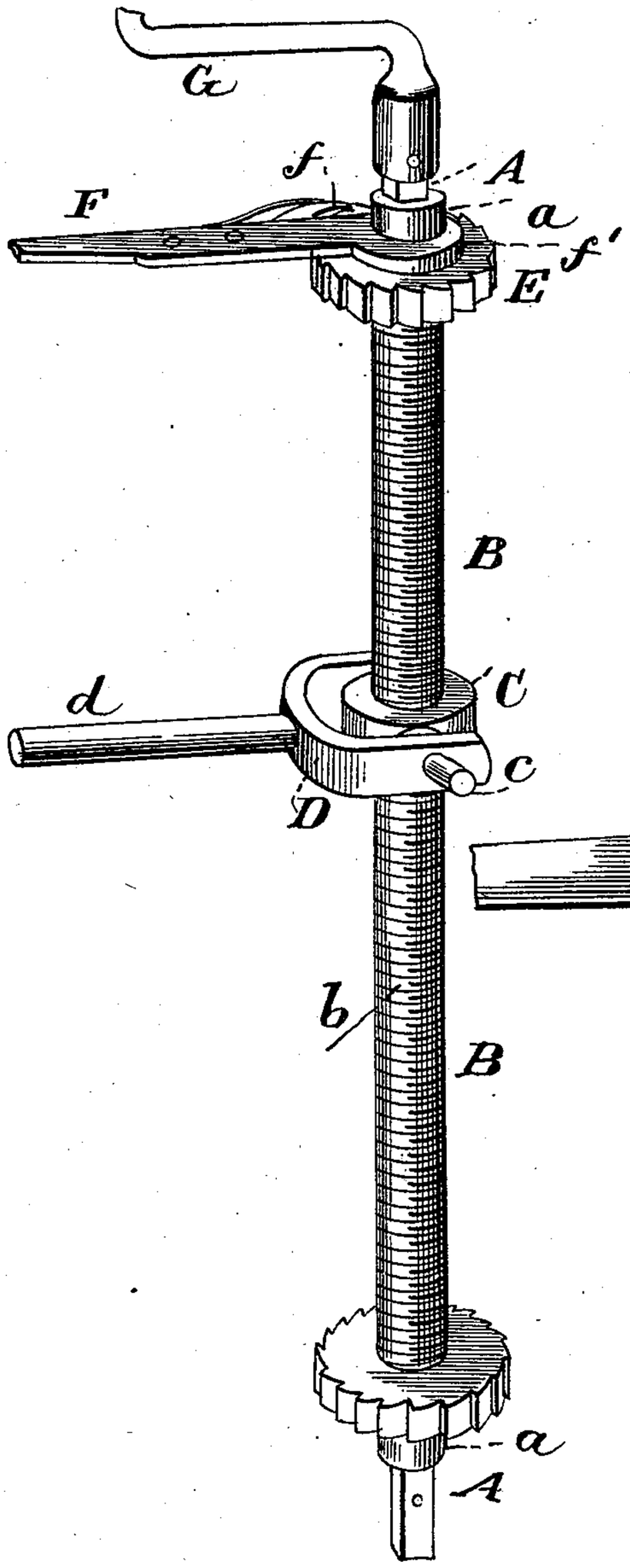
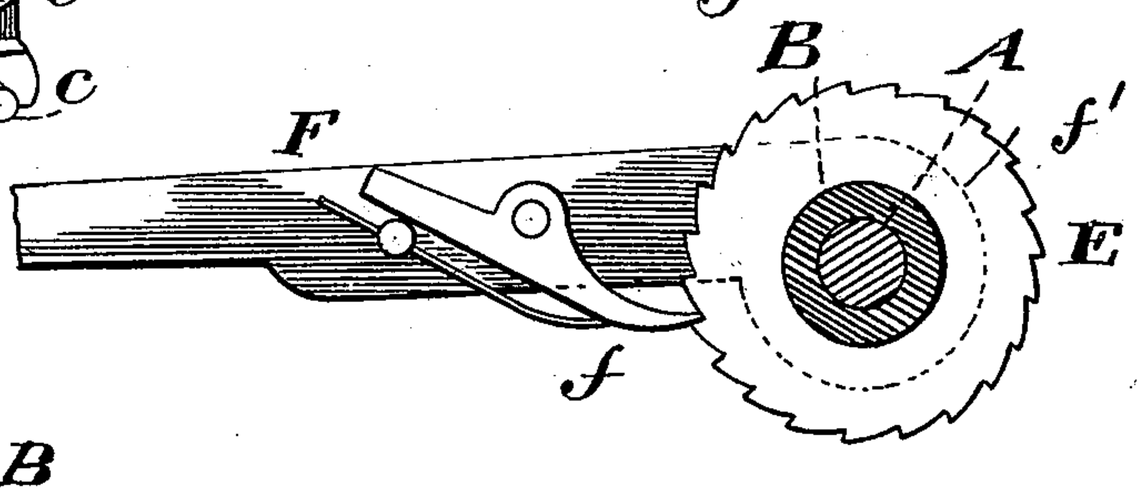


Fig. 1.

Fig. 2.



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UNITED STATES PATENT OFFICE.

MARCUS WOLFE AND MICHAEL DEVLIN, OF ST. CLAIR, PENNSYLVANIA.

MINING-DRILL.

SPECIFICATION forming part of Letters Patent No. 561,250, dated June 2, 1896.

Application filed February 14, 1896. Serial No. 579,326. (No model.)

To all whom it may concern:

Be it known that we, MARCUS WOLFE and MICHAEL DEVLIN, citizens of the United States, residing at St. Clair, in the county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Mining-Drills; and we 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 of reference marked thereon, which form a part of this specification.

The invention relates to rock and coal drills, which are generally provided with a threaded bar having a crank on one end, a drill-bit socket on the other, and a threaded socket set in a clevis between the bars, so as to make what is known among miners as a "first-motion" machine. These drills have a No. 10 thread and cut one-tenth of an inch at each revolution; but they are liable to get out of order very frequently and produce much annoyance.

The special object of our invention is to make a more durable drill and a much more serviceable one by making the drill-bar to revolve in the feed-barrel, so that it will be independent of the feed.

Figure 1 of the drawings is a perspective view showing all the parts of drill except the bit, and Fig. 2 a cross-section thereof.

In the drawings, A represents the holder, to which the drill may be attached at either end, and which has near said ends the collars *a a*, made fast thereto. Between these collars is arranged the barrel B, in which the drill-bar rotates, while the said barrel remains stationary. The barrel B has an exterior thread *b*, which works in a guide-nut C, that has on opposite sides the studs *c c*, which screw into it through the ends of yoke D, the latter having a shank *d* to be secured in such a position as to support the drill as may be required. The barrel B has preferably at each end a ratchet-disk E, in which works the spring-pawl *f* on the lever F, the latter having an end ring *f'*, which turns on the collar *a*. The drill-bar may be turned by the crank G without being fed forward, while the barrel is turned to give the feed by the pawl, lever, and ratchet.

Our drill is fed to the rock or coal by the hollow screw, while it is forced into the coal or rock by rotating the drill-bar within the feed-screw until the upper collar of the bar strikes the upper ratchet-disk on the feed-screw, when the latter is again fed down on the bar. This is continued until the upper ratchet-wheel strikes the nut. Thus it will be seen that the feed-screw and drill-bar are operated independently of each other and by different means.

What we claim as new is—

A reversible coal or rock drill having a collar and bit-holder at each end of the drill-bar, and a feed-screw provided with a ratchet, pawl, and lever at each end as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

MARCUS WOLFE.
MICHAEL DEVLIN.

Witnesses:
THOS. C. COCKILL,
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