A. B. WALTERS & C. SAUNDERS.

Cutting and Polishing Machine.

No. 159,484. Patented Feb. 2, 1875.

Fig. 1.

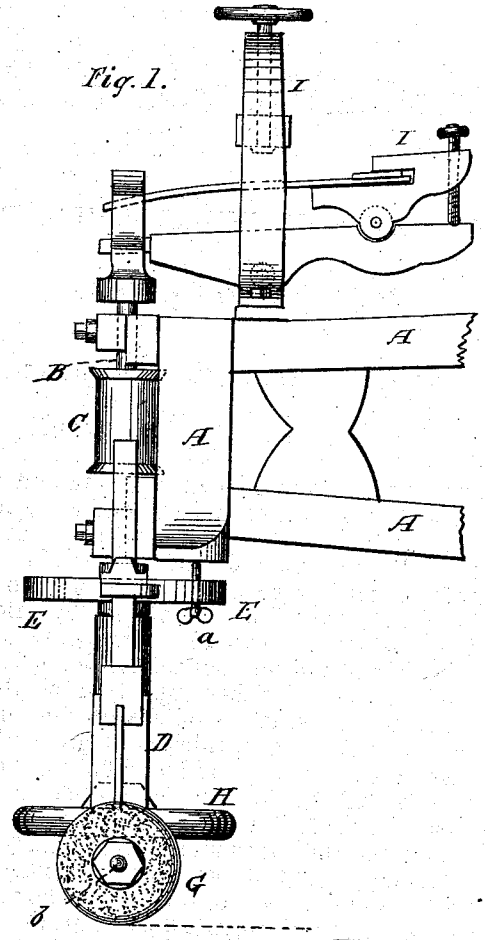


Fig. 2.

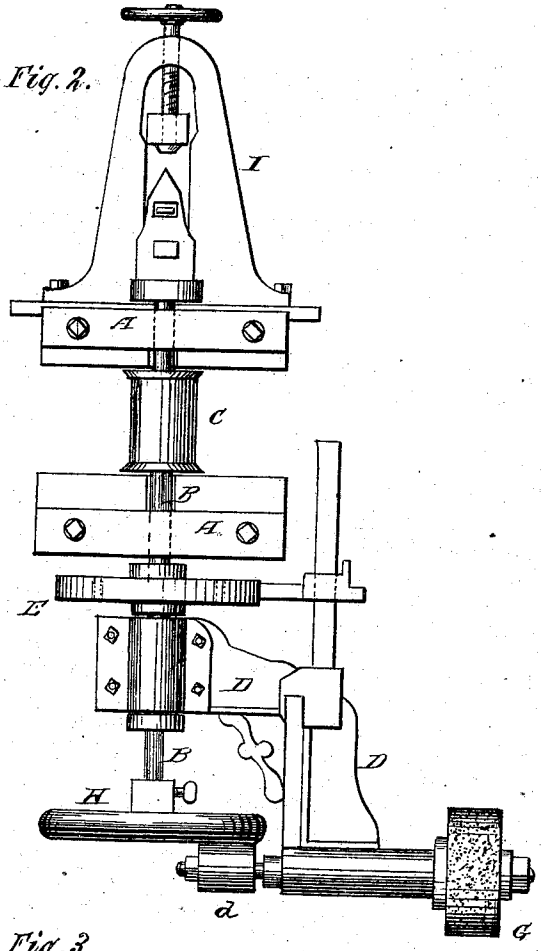


Fig. 3.

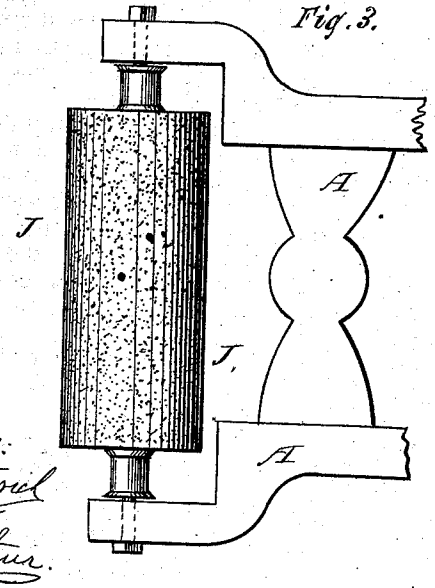
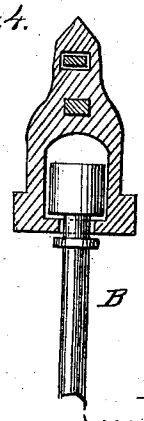


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALMERN B. WALTERS AND CHARLES SAUNDERS, OF PHILADELPHIA, PA.

IMPROVEMENT IN CUTTING AND POLISHING MACHINES.

Specification forming part of Letters Patent No. **159,484**, dated February 2, 1875; application filed January 2, 1875.

To all whom it may concern:

Be it known that we, ALMERN B. WALTERS and CHARLES SAUNDERS, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Stone and Wood Cutting and Polishing Machine; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

Our invention is intended as an improvement upon the Letters Patent No. 135,456, granted to A. B. Walters, February 4, 1873; and the nature of our invention consists in making a right-angle connection between the grinding-tool and driving-shaft, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation. Fig. 2 is a front elevation. Fig. 3 is a detail view of roller J; and Fig. 4 is a detail view, showing construction of the head of shaft B.

A represents the outer section of the jointed arm, described in the patent above referred to. In the outer end of the arm A is the vertical shaft B, provided with the pulley or spool C, around which the belt or cord passes for rotating the shaft. On the shaft B, below the arm A, is a bracket, D, connected with a disk, E, which is perforated, and may be adjusted with the bracket at the angle desired, and held by means of a pin, *a*, passing through one of the perforations in the disk into the arm. In the lower end of the bracket D is supported a horizontal shaft, *b*, provided at its outer end with the tool G, and at its inner end with a friction-pulley, *d*, which is in contact with the under side of a wheel, H, fastened on the lower end of the shaft B, so that the shaft *b* will thus be rotated by friction from the vertical shaft B. The tool G, which may be made in any desired shape, of corundum or emery, either mixed or single, is mounted on a shaft parallel with the article to be operated upon, which is of great advantage in many cases, and by adjusting the tool at different angles around the shaft B, by means of shaft D and disk E, grooves may be cut and the edges finished with more ease.

The upper end of the shaft B is connected with a suitable device, I, on top of the arm A, for raising and lowering the shaft to throw the wheel H in and out of gear with the pulley *d*. The large tool J is simply a smoother or rougher, which may be fastened on each side of the arm.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The adjustable bracket D, carrying the shaft *b*, provided with the tool G and pulley *d*, in combination with the arm A, shaft B, and wheel H, all constructed and arranged to operate substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

ALMERN B. WALTERS.
CHARLES SAUNDERS.

Witnesses:
JOHN BARBER,
E. HARVEY.