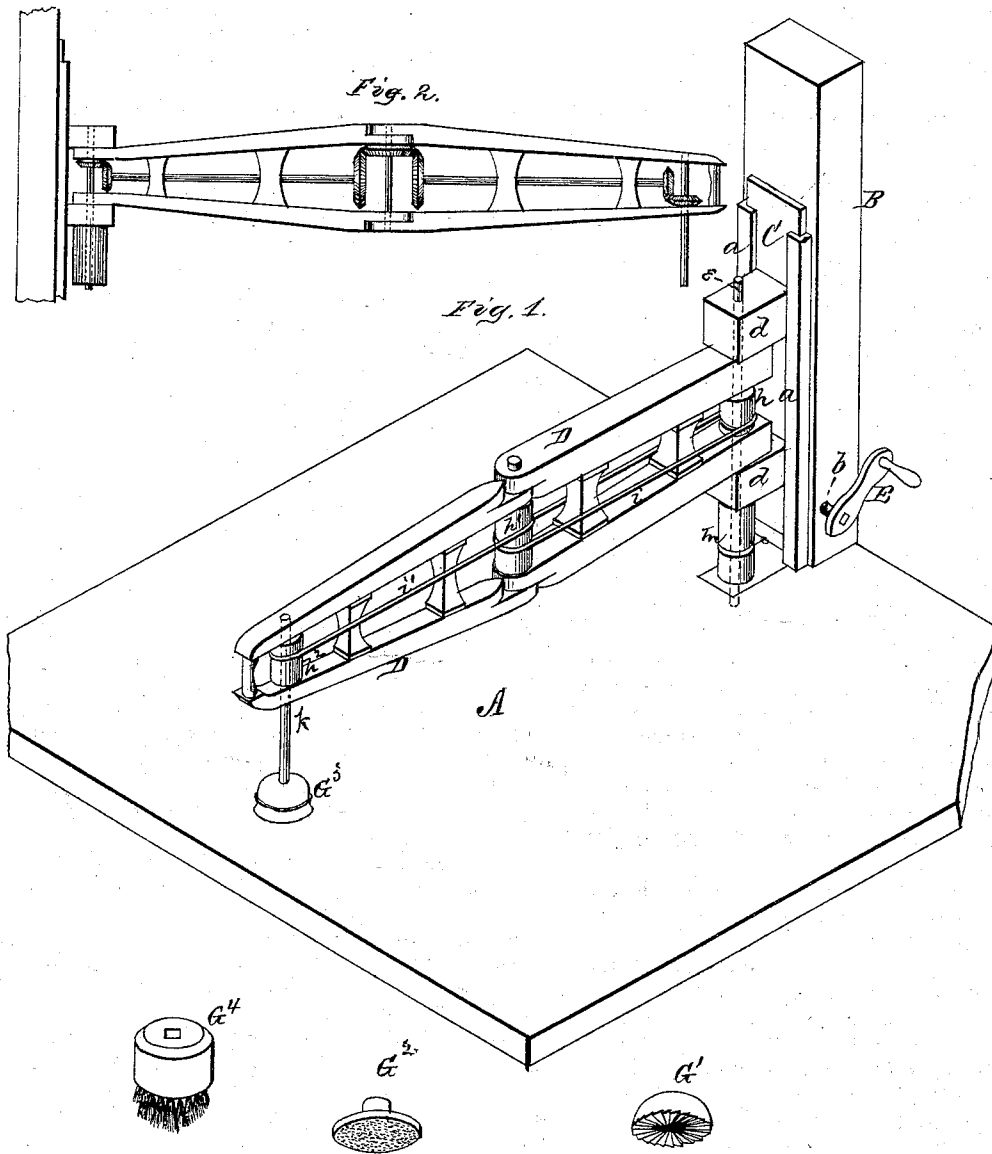


A. B. WALTERS.

Grinding, Scouring, and Polishing Machines.

No. 135,456.

Patented Feb. 4, 1873.



Witnesses  
John A. Ellis.  
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# UNITED STATES PATENT OFFICE.

ALMERN B. WALTERS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
HIMSELF AND CHARLES SAUNDERS, OF SAME PLACE.

## IMPROVEMENT IN GRINDING, SCOURING, AND POLISHING MACHINES.

Specification forming part of Letters Patent No. 135,456, dated February 4, 1873.

*To all whom it may concern:*

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

The nature of my invention consists in the construction and arrangement of a grinding, scouring, and polishing machine, 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, referring to the annexed drawing, in which—

Figure 1 is a perspective view of my machine, showing the various attachments used with the same; and Fig. 2 shows a modification of my machine.

A represents a table of any suitable dimensions, at one side of which rises a post, B. This post has suitable vertical guides *aa* on its inner side, in which is a sliding bar, C, operated by means of a crank, E, on a shaft, *b*. The shaft *b* passes horizontally through the post B and raises or lowers the slide C by friction or cog gearing, as desired, the object being to adjust the arm D connected to said slide to any height required. On the front or outer side of the slide C are two projections, *d d*, through which passes a vertical shaft, *e*, and between which, on said shaft, the arm D is pivoted. This arm is made in the shape of a suitable frame jointed at or about the middle. On the shaft *e*, and in the inner end of the arm D, is a pulley, *h*, made fast to the shaft, and around which passes a belt or cord, *i*, said belt or cord also passing around a loose pulley, *h'*, at the joint of the arm. Around this pulley passes another belt or cord, *i'*, which also passes around a pulley, *h''*, made fast on a shaft, *k*,

passing vertically through the outer end of the jointed arm D, and to the lower end of which the various attachments are to be secured when required for use. On the shaft *e* is also a pulley, *m*, to be connected with the engine for driving or rotating the shaft *k* with the attachment on the end thereof.

The arm D swinging on the shaft *e* and being jointed enables the operator to pass the attachment or implement used over all parts of the article to be ground, scoured, or polished.

The connections between the shafts *e* and *k*, and through which the rotary motion is communicated to said latter shaft, may be in the form of cog-gearing, as shown in Fig. 2, which will answer precisely the same purpose.

For grinding, the implement *G*<sup>1</sup> is used, said implement having an iron or steel surface similar to a file or with sharpened edges.

For smoothing, the implement *G*<sup>2</sup> is used, the surface of which is covered with sand-paper.

For polishing, the surface of the implement *G*<sup>3</sup> is padded and covered with buckskin or other suitable material.

For scouring, the brush *G*<sup>4</sup> is used.

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

1. The post B provided with the slide C, made adjustable by the rack and crank E, in combination with the jointed arm D and the operative mechanism, as and for the purpose specified.

2. In combination with the adjustable swinging and jointed arm D, the attachments *G*<sup>1</sup>, *G*<sup>2</sup>, *G*<sup>3</sup>, and *G*<sup>4</sup>, substantially as and for the purpose set forth.

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

ALMERN B. WALTERS.

Witnesses:

WM. H. IRWIN,  
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