

H. COTTRELL.
Polishing Tools.

No. 144,744.

Patented Nov. 18, 1873.

Fig. 1.

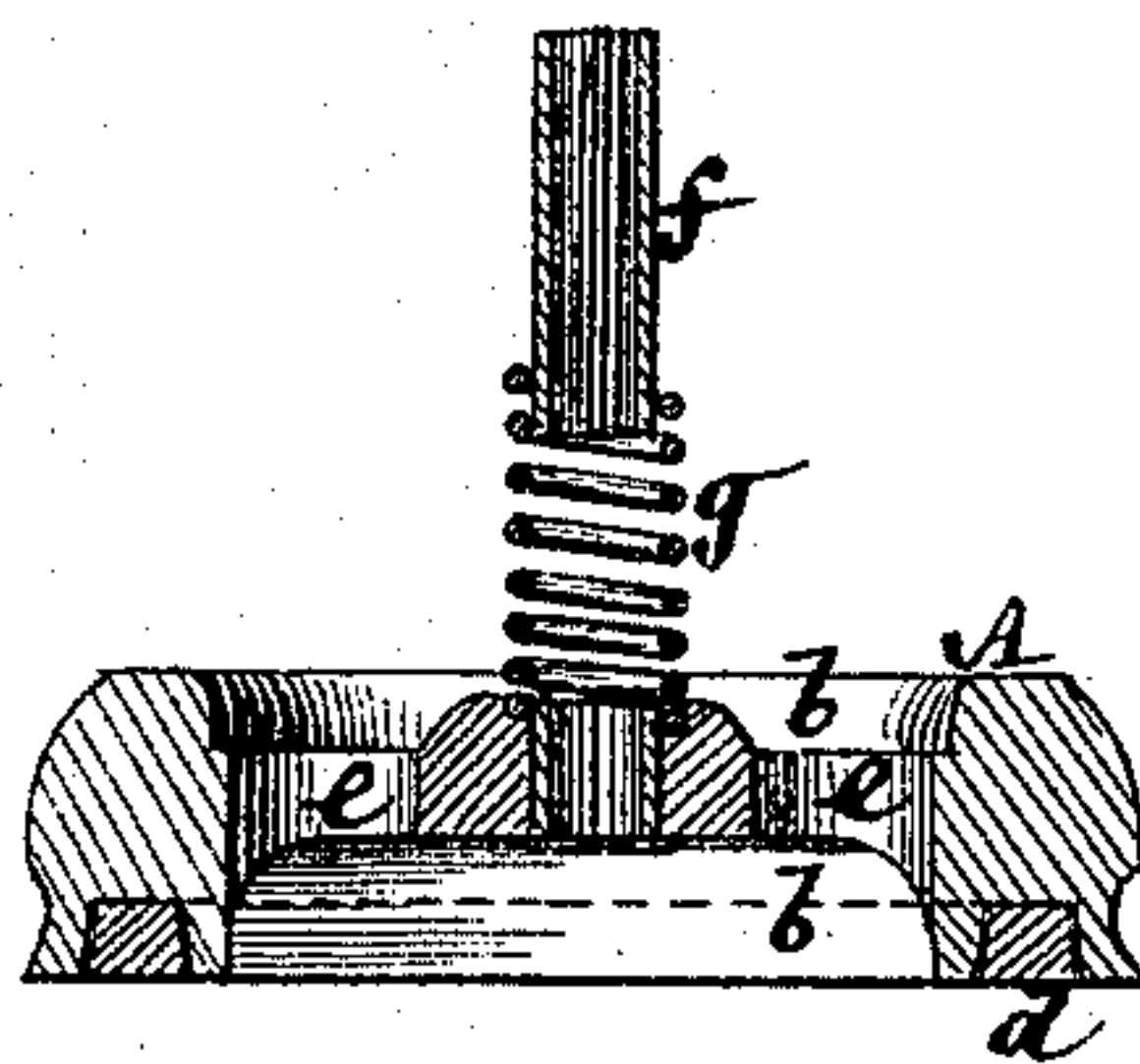
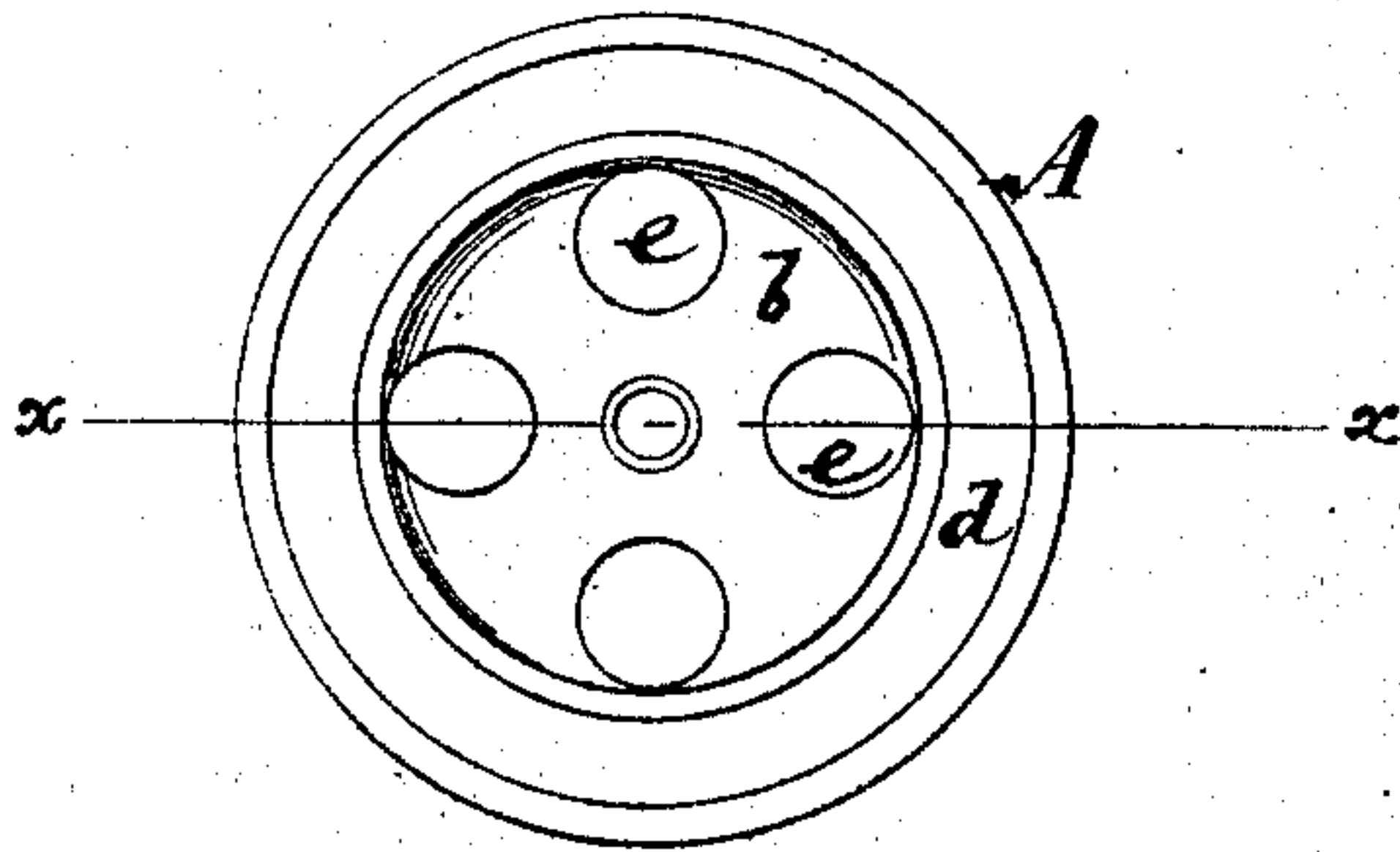


Fig. 2.



Witnesses.

John Becker.
Fred Haynes

Herbert Cottrell
by his Attorneys
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IMPROVEMENT IN POLISHING-TOOLS.

Specification forming part of Letters Patent No. 144,744, dated November 18, 1873; application filed
April 25, 1873.

To all whom it may concern:

Be it known that I, HERBERT COTTRELL, of the city of Newark, in the county of Essex and State of New Jersey, have invented a certain Improvement in Rotary Polishing-Tools, of which the following is a specification:

This invention consists in a rotary polisher, mainly designed for polishing stone, which is adjustable to conform to various angles or surfaces, or, in other words, is provided with a flexible connection at its center, to admit of the face of the polisher conforming itself, without deflection, to planes having different angular relations to each other, and to the axis of the driving-shaft of the polisher. This prevents cutting into or forming ridges on the surfaces being polished, as a rotary polisher having no such flexibility is apt to do. Furthermore, my improved rotary polisher is made concave at its center, and with an annular polishing-surface on its face; also, with one or more holes through it from back to front, within the center or concave portion of the polisher, to provide for the passage of water or of polishing materials to the inside of the polishing-surface and distribution thereof over the whole of such surface, instead of being scattered, without such distribution, by the centrifugal motion of the polisher, as when the water or polishing material is supplied on the outside of its periphery, and which is most sensibly felt when the polisher is of a large diameter or rotates at a very high velocity.

In the accompanying drawing, which forms part of this specification, Figure 1 represents a section in a plane, as indicated by the line *x x*, running longitudinally with the axis of a rotary polisher constructed in accordance with my invention; and Fig. 2, a face view of the same.

Similar letters of reference indicate corresponding parts.

A is the body of the polisher, formed hollow, or with a concave or concaves, *b*, at its center, leaving a wall or ring on its outside, in the face of which is inserted the annular polishing substance *d*, that may be composed of any suitable material or composition ap-

plicable to polishing the surface to be operated on, or of working in concert with water or polishing substances introduced by means of perforations *e* through the hollow central portion of the polisher. Thus the polishing surface or portion *d* may be a ring of composition containing emery, and the outside portion of the polisher be of any suitable material, soft or hard. By embedding the polishing-ring *d* in the face of the body of the polisher, the same may readily be removed, when required, and a coarser or finer polishing-ring be inserted in its place, if required. The concave in the upper portion or back of the rotary polisher provides for the reception and feed of water or polishing substances, which, passing through the perforations *e*, are supplied to the central cavity or hollow beneath, and from thence to the polishing-ring *d* on its inner edge, whereby the same are distributed equally over the whole face of said ring, instead of being scattered, without such distribution; by the centrifugal action of the tool—as, for instance, when the water or polishing substances are introduced on the outside of the periphery of the tool. The body A of the polisher is hung or connected with its central revolving shaft, or socket *f* fitting said shaft, by a spring or elastic attachment, *g*, which provides for the rotary polisher, although of a rigid character, conforming itself to slight inclines or variations in the plane of the surface being polished, without cutting into or forming ridges in said surface.

What is here claimed, and desired to be secured by Letters Patent, is—

1. In combination with a rotary polisher, the spring *g*, interposed between the body of said polisher at its center and the shaft or socket by which the polisher is rotated, essentially as described.

2. The rotary polisher, constructed of annular form, as described, and flexibly hung, essentially as herein set forth.

HERBERT COTTRELL.

Witnesses:

HENRY T. BROWN,
MICHAEL RYAN.