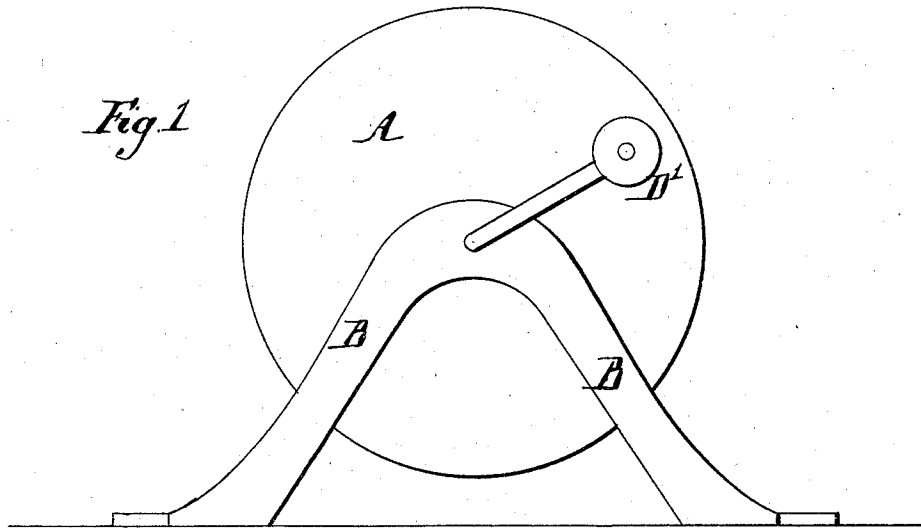


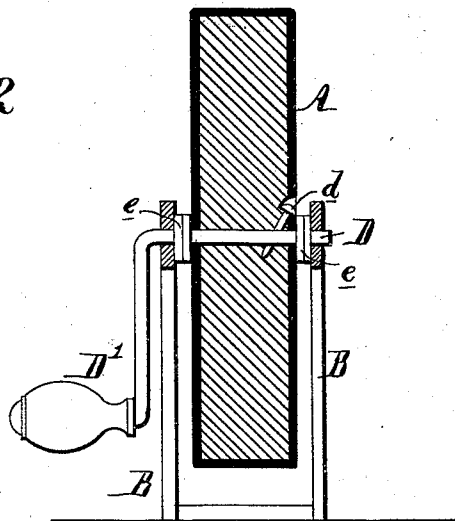
W. E. BROCK.  
GRINDING-DISK.

No. 172,079.

Patented Jan. 11, 1876.



*Fig. 2*



WITNESSES:

*J. L. Skidmore.*  
*E. L. Nottingham.*

INVENTOR.

*William E. Brock*  
*by his Attorneys*  
*Howson & Son.*

# UNITED STATES PATENT OFFICE.

WILLIAM E. BROCK, OF NEWARK, NEW JERSEY.

## IMPROVEMENT IN GRINDING-DISKS.

Specification forming part of Letters Patent No. **172,079**, dated January 11, 1876; application filed December 15, 1875.

*To all whom it may concern:*

Be it known that I, WILLIAM E. BROCK, of Newark, Essex county, New Jersey, have invented an Improved Grinding Composition and Process of Coating Disks with the same, of which the following is a specification:

The main object of my invention is to produce a cheap and efficient grinding composition for coating the disks of wood or similar material, from which to form grindstones, a further object being to simplify the operation of coating.

The objects I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a side view of a grindstone, made according to my invention; and Fig. 2 a cross-section.

A is the wheel, coated with my composition and mounted on an axis, D, at one end of which is a suitable operating-handle, D'. I prefer to fasten the disk on the axle (which is round) by means of a pin, d, driven at an angle through the axle into the disk, as seen in Fig. 2. The axle D turns in bearings in a suitable frame, B, and washers e are interposed between the disk and the sides of the frame; but this forms no part of the present invention.

The composition with which the disk of wood or similar material is coated is composed of a compound of liquid silicate of soda, pulverized silix and emery, well mixed together into a liquid state.

In practice, I find that the solution of silicate of soda is by itself too liquid to sustain the weight of the grains of emery in the mixing-vat, and this emery would quickly sink to the bottom of the receptacle, and thus render the composition useless, without the addition of some finely-powdered medium, which does not sink rapidly in liquid. For this purpose I employ finely-pulverized silix; but numerous other substances, provided they are in a finely-pulverized condition, may be advantageously used. The proportions I prefer to use are

about thirty-three pounds of liquid silicate of soda to twenty pounds of pulverized silix, or similar base of supporting medium, and twenty pounds of emery.

The operation of coating the wooden disk with this composition is as follows: The disk is first dipped into the liquid composition by means of a wire or rod entering the central opening, through which the axle is afterward passed, and this coat then is allowed to dry. When dry two or more of the disks are rubbed together in order to smooth the uneven surfaces, and the peripheries of the disks also are filed or otherwise smoothed down. Each disk is then dipped into the composition a second time, and when dry is ready for mounting on a suitable frame. In some instances it is necessary to file off what is termed the "drip-teat" after the second coat has dried; but this is not always required.

I do not desire to claim, broadly, a grinding composition, consisting of emery and silicate of soda; nor do I desire to claim, broadly, the coating of disks with a grinding-surface; but

I claim as my invention—

1. The within-described process of coating disks of wood with a grinding composition—that is to say, first dipping the disks into the liquid composition, and when dry smoothing the surface by rubbing or otherwise, and then recoating the smoothed disks by dipping into the composition, all substantially as set forth.

2. As a new manufacture a grinding-disk, composed of a central core of wood covered throughout with a coating composed of a granular grinding material combined with silicate of soda, all as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. E. BROCK.

Witnesses:

J. L. SKIDMORE,  
HUBERT HOWSON.