

H. M. PUTNAM & W. ESTY.  
Grinding-Wheel.

No. 164,692.

Patented June 22, 1875.

Fig 1

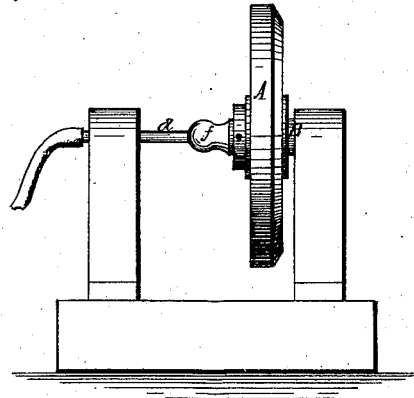
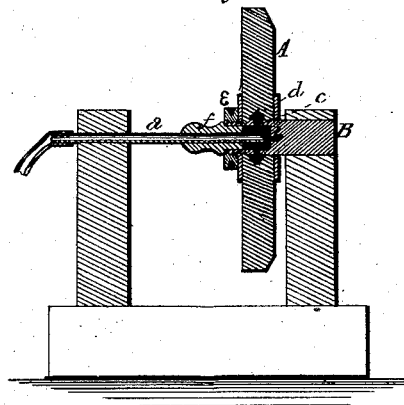


Fig 2



WITNESSES.

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*per F. Adelman Attys.*

# UNITED STATES PATENT OFFICE.

H. MARSHALL PUTNAM AND WILLIAM ESTY, OF FITCHBURG, MASS.

## IMPROVEMENT IN GRINDING-WHEELS.

Specification forming part of Letters Patent No. **164,692**, dated June 22, 1875: application filed March 31, 1875.

*To all whom it may concern:*

Be it known that we, H. MARSHALL PUTNAM and WILLIAM ESTY, of Fitchburg, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Emery-Wheels; and we do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improvement in emery-wheels; and it consists in introducing water into the interior of the wheel, for the purpose of moistening, by percolation, the grinding-surface, instead of applying water to the outer surface, for grinding metal or other substances, as will be more fully described hereafter.

The accompanying drawing represents our invention.

A represents an emery-wheel, and B the spindle to which the wheel is attached. In the center of the spindle is a tube, *a*, through which water is introduced into the chamber *b*, in which the tube *a* terminates. The chamber *b* communicates by holes *c* with the chamber *d* in the emery-wheel, and the water introduced through the tube *a* is, by capillary attraction, drawn from the chamber *d* into the porous material of the wheel until entirely filled, when by centrifugal force it is made to percolate and moisten the grinding-face. A packing-box, *f*, surrounds the tube *a*, in which the packing *e* prevents the water from flowing out.

The usefulness of my invention consists, chiefly, in avoiding the necessity of applying water to the outside, and to have an even supply of moisture distributed over the whole face of the wheel. The constant splashing of the water, when applied from the outside while the wheel is in motion, is very objectionable, and has heretofore only been submitted to as an unavoidable evil, but is, by our invention, entirely removed.

Having thus described our invention, we claim—

1. An emery-wheel provided with a central water-supply, whereby the water introduced into the center of the wheel will, by reason of capillary attraction and centrifugal force, percolate through the same and moisten its outer surface, substantially as specified.

2. In an emery grinding-wheel, an inclosed water-chamber, in combination with a hollow shaft for supplying water thereto, whereby the outer surface of the wheel is moistened by the percolation of water from the chamber through the wheel, substantially in the manner described.

3. In an emery-wheel, the combination of the spindle B, tube *a*, and chambers *b* *d*, connected by the holes *c*, all constructed substantially as and for the purpose set forth.

In testimony that we claim the foregoing, we have hereunto set our hands and seals this 29th day of March, 1875.

H. MARSHALL PUTNAM. [L. S.]  
WILLIAM ESTY. [L. S.]

Witnesses:

S. L. GRAVES,  
D. W. JOHNSON.