W. A. JOHNSTON.

Emery-Wheels.

No. 140,630. Patented July 8, 1873.

Fig 1.

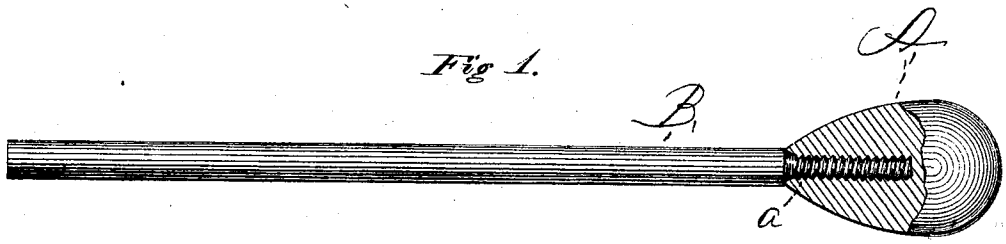


Fig 2.

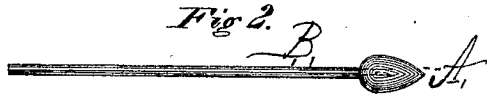
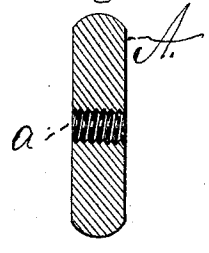


Fig 3.

Fig 4.



Witnesses:

Harry King.

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Inventor:

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UNITED STATES PATENT OFFICE.

WILLIAM A. JOHNSTON, OF NEW YORK, N. Y.

IMPROVEMENT IN EMERY-WHEELS.

Specification forming part of Letters Patent No. **140,630**, dated July 8, 1873; application filed January 9, 1873.

To all whom it may concern:

Be it known that I, WILLIAM A. JOHNSTON, of New York city, in the county of New York and State of New York, have invented certain Improvements in Corundum and Emery Wheels, of which the following is a specification:

My invention consists in providing the eyes or centers of corundum-wheels, emery-wheels, &c., with a screw-thread molded in the substance thereof, so that they may be screwed directly upon their arbors or spindles. My improvement is applicable to the corundum-wheels and points employed by dentists, to emery-wheels, and, generally, to grinding and polishing wheels of all forms and sizes which are made artificially.

Heretofore much difficulty has been experienced in securing this class of articles upon their arbors and spindles, the result of which has been the production of various arrangements and devices for the purpose, but so far without perfect success. They have been provided with a plain hole and clamped on the arbor between a collar and a nut; they have been provided with metal centers having tapering eyes to fit upon a tapering arbor; and, lastly, they have been provided with metal centers having screw-threads cut in them to screw on the arbor. These plans are all objectionable, the first, because it did not answer to hold the wheel; the second for the same reason, and because of its expense; and the last, because of its expense and of the liability of the metal center to work loose. All these objections and difficulties I overcome by molding a screw-thread in the body or substance of the wheel at the time of molding or casting the same. The thread thus formed in the wheel serves to hold it firmly and securely on an arbor or spindle provided with a corresponding thread. It adds nothing to the cost of the wheel, and there is no danger of its breaking out, or of its causing a fracture of the wheel. Thus it will be seen that by my improvement I produce both a better and a cheaper wheel than has been heretofore made.

In the drawing, Figures 1, 2, and 3 are side views of corundum points or grinders applied to their spindles, the first one being partially broken away in order to show my internal screw-thread; and Fig. 4 is a central section through a flat wheel or disk having my improvement therein.

The wheels or points A may be made of any form and substance desired, and the holes or eyes *a* extended either partially or entirely through them. The arbors or spindles B may be made of any form desired, with a straight or tapering screw-neck, and with or without a collar or shoulder to fit against the inside of the wheel to form a stop and bearing therefor. The thread in the eye may be formed in any suitable manner, but it is proposed, ordinarily, to have a screw-neck in the center of the mold to form the eye and thread when the wheel is cast.

In order that there may be no misapprehension in regard to the meaning of the above description, it should be understood that the statements in regard to wheels applies with equal force to the points, saucers, cups, and all other forms of grinding and polishing devices used on a revolving spindle, and that the term wheels is intended to include and cover them.

Having thus described my invention, what I claim, is—

A corundum, emery, or other grinding or polishing wheel having a screw-thread formed in its eye or center, as shown and described.

WILLIAM A. JOHNSTON.

Witnesses:
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