A. B. WALTERS & C. SAUNDERS.

Grinding and Polishing Wheels.

No. 152,442. Patented June 23, 1874.

Fig. 1.

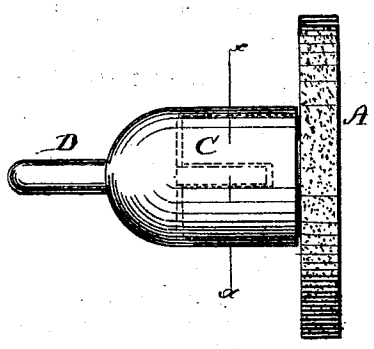


Fig. 2.

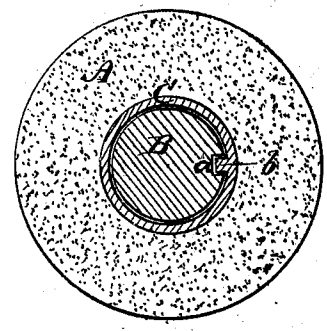


Fig. 3.

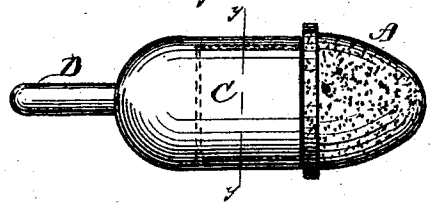


Fig. 4.

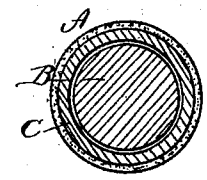


Fig. 5.

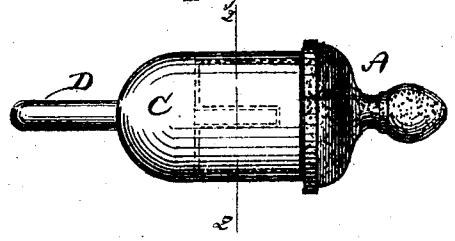
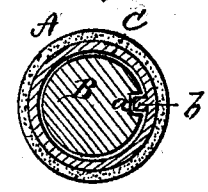


Fig. 6



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UNITED STATES PATENT OFFICE.

ALMERN B. WALTERS AND CHARLES SAUNDERS, OF PHILADELPHIA, PA.

IMPROVEMENT IN GRINDING AND POLISHING WHEELS.

Specification forming part of Letters Patent No. **152,442**, dated June 23, 1874; application filed May 15, 1874.

To all whom it may concern:

Be it known that we, A. B. WALTERS and CHARLES SAUNDERS, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Tools for Cutting Marble or Stone; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

Our invention is intended as an improvement in tools to be applied to the machine for grinding, polishing, and scouring marble or other stone, for which Letters Patent were granted to A. B. Walters February 4, 1873; and the nature of our invention consists in the construction and arrangement of holders for holding emery or corundum, or both, in a cast state, either mixed or singly, and made in various shapes, as may be required, for making straight or irregular curves, paneling, or curving on the surface or edge of marble or other stones, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figures 1, 3, and 5 represent various forms of tools attached in our holders; and Figs. 2, 4, and 6 are transverse sections of the same.

A represents a tool for cutting or grinding marble or other stone made of emery or corundum, or both, in a cast state, either mixed or singly. These tools may be made in any desired form or shape suitable for the purpose for which they may be intended, and each is cast on a solid center, B, of metal, or other suitable material, which projects a certain distance beyond the tool on one side. On the outer side of the center B are one or more longitudinal grooves, *a*, as shown particularly in Figs. 2 and 6. The center B is inserted in a cup-shaped shield, *c*, upon the interior of which are one or more longitudinal ribs or flanges, *b*, to fit in the grooves *a* on the center B, and thus hold it in place.

If deemed necessary the grooves *a* may run the entire length of the center B, and thus cause the mass of the tool A, when cast around the center, to enter therein and prevent the tool from coming loose from and turning on the center.

The shield *c* is firmly secured on the end of a shaft, D, and the entire device made to revolve in the manner described in the patent above referred to.

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

The combination with a tool, A, of the class herein set forth, of the center B, provided with one or more longitudinal grooves, *a*, and the hollow shield *c*, provided with one or more corresponding ribs, *b*, substantially as and for the purposes specified.

In testimony that we claim the foregoing as our own, we affix our signatures in the presence of two witnesses.

ALMERN B. WALTERS.
CHARLES SAUNDERS.

Witnesses:
JOHN BARBER,
E. HARVEY.