(No Model.)

W. S. BISHOP.

POLISHING WHEEL.

No. 285,559. Patented Sept. 25, 1883.

Fig. 2.

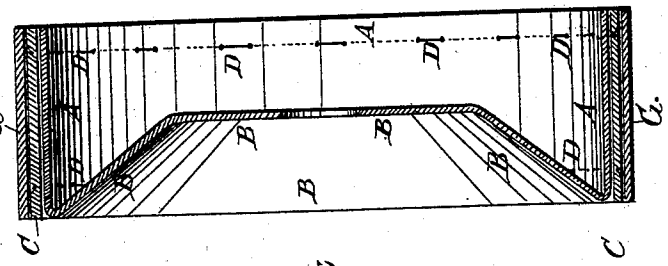


Fig. 1.

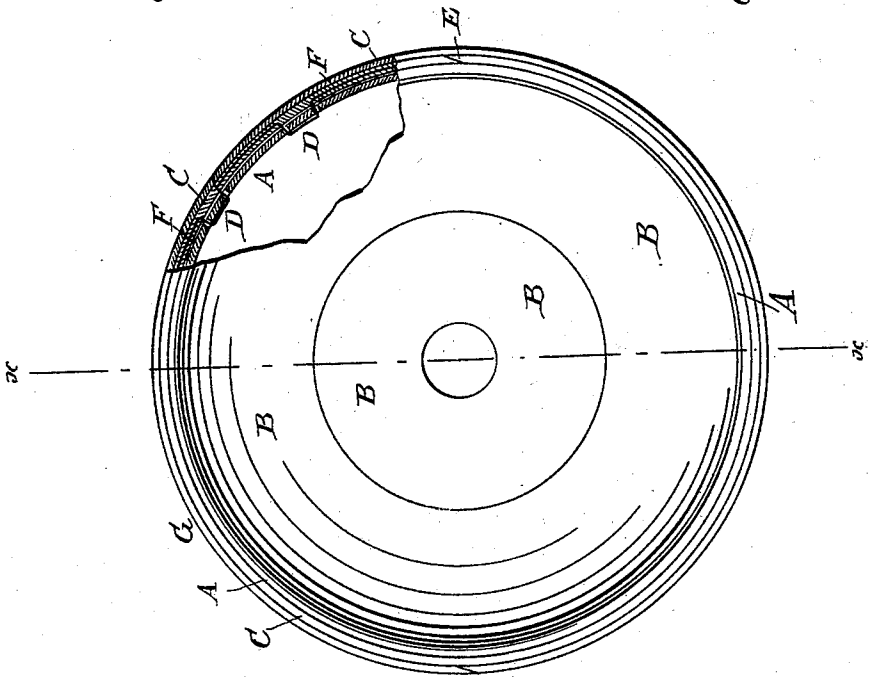
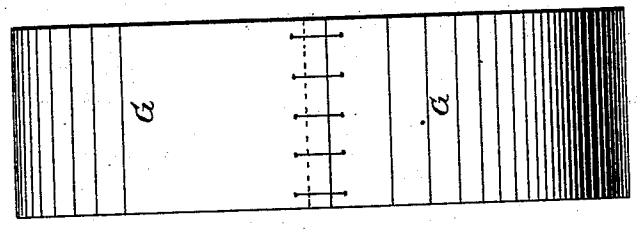


Fig. 3.



WITNESSES:

Chas. Nida.

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Fig. 4.



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UNITED STATES PATENT OFFICE.

WALTER S. BISHOP, OF NEW HAVEN, CONNECTICUT.

POLISHING-WHEEL.

SPECIFICATION forming part of Letters Patent No. 285,559, dated September 25, 1883.

Application filed July 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, WALTER S. BISHOP, of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Polishing-Wheels, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my improvement, partly in section. Fig. 2 is a sectional elevation of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a face view of the same. Fig. 4 is a section of a part of the inner leather band, showing the score to receive the stitches.

The object of this invention is to provide emery-wheels constructed in such a manner that they will not become changed in shape from dampness, and which will be strong and durable, and less liable to break than emery-wheels constructed in the ordinary manner.

My improved wheel is made with a rim, A, and a web, B, and is stamped or spun up from a single piece of sheet-iron or other suitable metal. The web B inclines inward from one edge of the rim A nearly to the central plane of the wheel, and the part of the said web next the arbor-receiving aperture is at right angles with the axis of the wheel, as shown in Fig. 3, so that the bearing of the wheel will be at or nearly at the center of gravity of the wheel.

The wheel is designed to be secured to the arbor by nuts and washers in the ordinary manner.

The rim A is covered by a leather band, C, which is cemented to the said rim A, and is further secured in place by wires D, passed through holes in the rim A, near its edges, and through the said leather band. The ends of the leather band C are beveled and slightly overlapped, as indicated at the point E in Fig. 1. The outer surface of the leather band C has an inclined score or groove, F, formed in it to receive the wire stitches, as shown in Figs. 1, 3, and 4, so that the said stitches will be beneath the surface of the leather, and when the projecting lip of the score is pressed down will leave the said surface smooth.

Upon the leather band C is placed a second leather band, G, which is coated with emery in the ordinary manner. The band G is cemented to the band C, and its ends are beveled, overlapped slightly, and sewed to each other.

With this construction the shape of the wheel will not be changed by shrinking, swelling, and warping, as is liable to occur with wooden wheels. With this construction, also, when the wheel is rapidly revolved, the tendency is to throw the free edge of the rim outward by centrifugal force. At the same time the pressure of the article being polished will force the part of the rim with which it is in contact inward, so that the elastic rim of the wheel will accommodate itself to the article being polished, and thus give the article an even polish.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. An emery-wheel having a metallic rim, A, bent from one edge inwardly to form a bracing-web, B, and thus prevent a change of shape by shrinking or warping, as described.

2. The combination, with the outer emery-band, G, of an interior band, C, having the inclined scores F, and wires D, arranged in said scores, as and for the purpose specified.

3. In an emery-wheel, the combination, with the edge of the rim A, of a web, B, having the part next the rim A inclined inward from the edge of the rim nearly to the central plane of the wheel, and the part of the said web next the center opening at right angles with the axis of the wheel, substantially as herein shown and described.

4. In an emery-wheel, the combination, with the perforated rim A and the scored leather band C, of the wire D, substantially as herein shown and described, whereby the said leather band will be held securely in place, and will have a smooth outer surface to receive the outer or emery-coated band, as set forth.

WALTER S. BISHOP.

Witnesses:
JOHN H. BUSHNELL,
SAMUEL BISHOP.