G. L. Benton,

Emery Wheel.

No. 70,393. Patented Nov. 5, 1867.

Fig. 3.

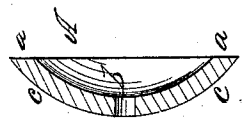


Fig. 2.

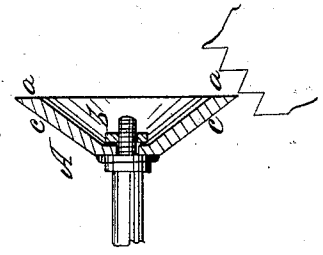
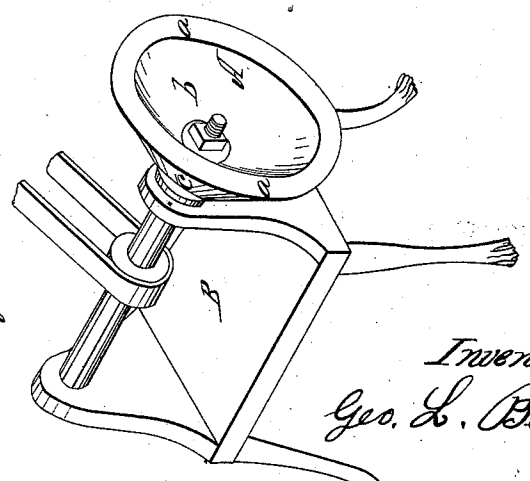


Fig. 1.



Witnesses:

D. H. Davis,
Chas. H. Spencer

Inventor:
Geo. L. Benton.
By J. Fraser & Co.
Attys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

United States Patent Office.

GEORGE L. BENTON, OF ROCHESTER, NEW YORK, ASSIGNOR TO HIMSELF AND JOHN GREENWOOD, OF SAME PLACE.

Letters Patent No. 70,393, *dated November* 5, 1867

IMPROVED EMERY-WHEELS FOR GRINDING AND POLISHING SAWS, &c.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE L. BENTON, of Rochester, in the county of Monroe, and State of New York, have invented a certain new and useful improvement in Emery-Wheels for Grinding Saws, &c.; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a perspective view of my improved emery-wheel mounted in a frame.

Figure 2, a section of the wheel detached, and a view of a saw which is being ground.

Figure 3, a modification of the form of the wheel.

Like letters of reference indicate corresponding parts in all the figures.

In grinding saws with an ordinary wheel, a groove or channel is worn into the face of the wheel, equal in extent to the length of the teeth. This not only spoils the wheel, but the groove being worn down to the gauge of one set of saw-teeth of a given size, it is not adapted to receive teeth of larger size.

It is the object of my improvement to remedy this difficulty, and the invention consists in providing the face of the wheel with a plane rim of such width as to receive the grinding surface, and depressing or hollowing the remainder or the central portion of said face, so that the rim will wear back square and uniform.

As represented in the drawings, A is the emery-wheel, and B a frame on which it is mounted. I form the front or face of the wheel with a narrow, square rim, *a*, of a width suitable to receive the teeth of the saw, which, when applied, reach clear across. The central portion of the face of the wheel is depressed or made hollowing, as shown at *b*, so as not to come in contact with the article being ground. The back of the wheel is made conical or convex, as shown at *c*, corresponding with the cavity in the face of the wheel, so that as the rim *a* is worn down, it will still present the same width of grinding surface.

By this arrangement the edges of the saw-teeth reach clear across the grinding rim *a*, and the latter wears down equally at all times; and owing to the peculiar form of the wheel, the wear always leaves the same grinding face. I am thus enabled to grind saws without producing a groove in the emery-wheel, as is produced by the use of any other wheel within my knowledge. It will be noticed that the angle or bevel of the outer edge of the wheel is best adapted to fit the angle between the teeth of the saw in grinding.

What I claim as my invention, and desire to secure by Letters Patent, is—

The emery-wheel formed with the narrow grinding rim *a*, and central depression *b*, and made of the conical or convex shape herein described, the same operating in the manner and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

GEO. L. BENTON.

Witnesses:

R. F. OSGOOD,

J. A. DAVIS.