(No Model.)

E. B. CALL.

CUTTING AND ABRADING DISK.

No. 270,384. Patented Jan. 9, 1883.

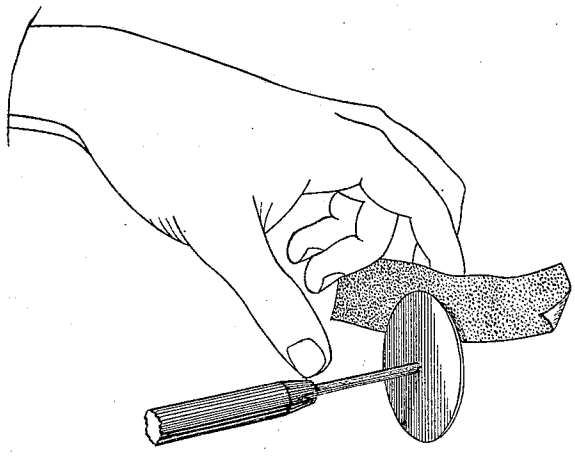


Fig. 1.

Witnesses;

Nicholas Goldsbrough

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UNITED STATES PATENT OFFICE.

EDWARD B. CALL, OF PEORIA, ILLINOIS.

CUTTING AND ABRADING DISK.

SPECIFICATION forming part of Letters Patent No. 270,384, dated January 9, 1883.

Application filed November 18, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWARD B. CALL, of Peoria, in the county of Peoria, in the State of Illinois, have invented an Improved Cutting and Abrading Disk; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing, making a part of this specification, in which the figure represents a perspective view of the same.

The object of this invention is the construction of cutting and abrading disks for dental and mechanical purposes in that line in which a metal disk has a gritty powder embedded in its surface. The ordinary modes at present for constructing such disks are to impress into the surface of the metal disk by direct mechanical pressure the diamond-dust or other powder used, or else by means of a hard steel roller to effect thereby the embedding of the powder into the disk. I have, however, discovered in the metal aluminium a peculiar property possessed by no other known metal, whereby it is enabled to take up and retain any gritty powder in its surface without the application of pressure.

My process is as follows: I take a freshly-turned disk of aluminium, and while it is being revolved rapidly upon its axis hold a piece of emery or corundum paper against its side, edge, or whatever other part of it I desire to have capable of abrading. Instead of the disk being polished thereby, as would be the case with any other metal having sufficient rigidity for such use, the aluminium picks up and retains in its surface a large proportion of the powder composing the corundum-paper. In the case of abrading-plates I first make the surfaces of the same chemically clean, and then simply rub them lightly with a piece of corundum-paper.

Although this process is, as has just been shown, a most easy and economical mode of forming an abrading-disk, yet this is not its only virtue, as I have found that after once charging it in this way it is almost impossible to rob it of its grinding property.

What I claim as my invention, and for which I desire Letters Patent, is as follows, to wit:

1. The herein-described process of forming cutting and abrading disks, said process consisting in rotating a disk of aluminium in contact with corundum-paper, whereby the corundum is taken up by and embedded in the surface of the said aluminium disk.

2. As an article of manufacture, a cutting or grinding plate formed of aluminium, having its surface charged with a gritty powder embedded therein, substantially as and for the purpose specified.

3. As an article of manufacture, a cutting and abrading disk formed of aluminium, having a gritty powder embedded in its surface.

In testimony that I claim the foregoing invention I have hereunto set my hand this 15th day of November, 1882.

EDWARD B. CALL.

Witnesses:
H. W. WELLS,
RICHD. A. GOLDSBROUGH.