(No Model.)

W. BAKER.

POLISHING WHEEL.

No. 343,621. Patented June 15, 1886.

Fig. 1.

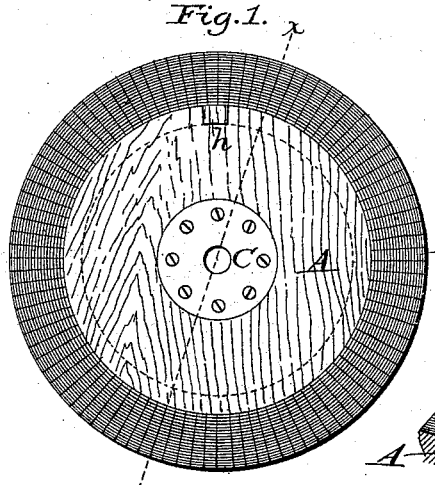


Fig. 8.

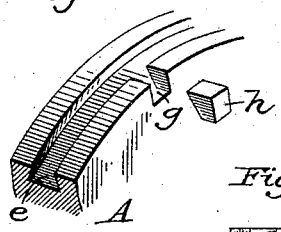


Fig. 9.

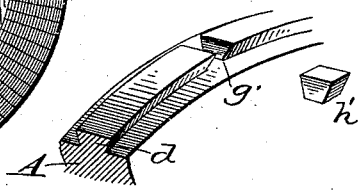


Fig. 2.

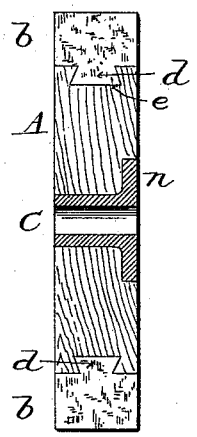


Fig. 3.

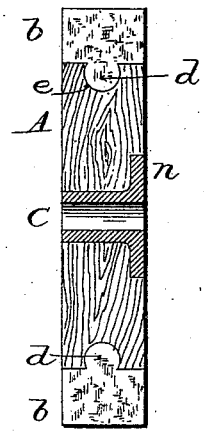


Fig. 4.

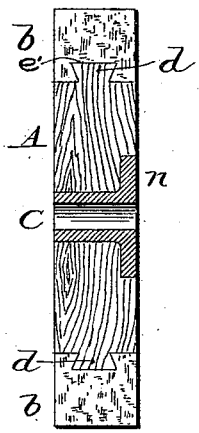


Fig. 5.

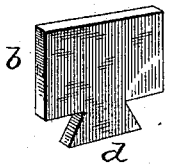


Fig. 6.

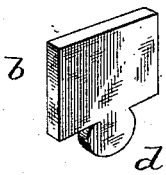
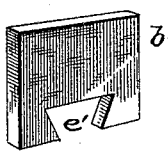


Fig. 7.



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UNITED STATES PATENT OFFICE.

WALTER BAKER, OF ILION, NEW YORK.

POLISHING-WHEEL.

SPECIFICATION forming part of Letters Patent No. 343,621, dated June 15, 1886.

Application filed February 24, 1886. Serial No. 193,002. (No model.)

To all whom it may concern:

Be it known that I, WALTER BAKER, of Ilion, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Polishing-Wheels, of which the following is a specification.

My invention relates to polishing-wheels; and the invention consists in a novel method of constructing the wheel, as hereinafter more fully described.

Figure 1 is a side elevation of the wheel. Figs. 2, 3, and 4 are central sectional views showing the methods of securing the leather to the body of the wheel; and Figs. 5, 6, and 7 show pieces of the leather detached, and Figs. 8 and 9 show details of construction.

In establishments for the manufacture of guns and other articles of metal which require to be polished, it has long been customary to use polishing wheels or disks, the periphery of which it is customary to cover with leather in some form or another; but heretofore this has been attended with more or less difficulty, and the wheels themselves can be used but a comparatively short time, without being repaired or re-covered with leather.

The object of my present invention, therefore, is to produce a polishing-wheel in which the leather shall be securely fastened to the body or disk without the use of nails or metal fastenings of any kind, and shall be of such a thickness as to render the wheel very durable.

To accomplish these results, I make my improved wheel as follows: I first provide a wooden disk or wheel, A, provided with a central hole, in which is secured a metallic bushing, C. This bushing is preferably provided with a flange, *n*, seated in a corresponding recess in the side of the disk A, as shown in Figs. 2, 3, and 4, and secured by screws, as shown in Fig. 1, though it may be secured in other ways well known to mechanics. This disk A is then put in a lathe and turned up true and even on its face and sides. I then turn in its periphery a dovetail-groove, *e*, as shown in Figs. 2 and 8, or a groove of the form shown in Fig. 3, the latter being a mere modification of the former, the requisite being that the groove *e*, whatever its form may be, shall be narrower at its mouth than at some point below. I then provide a large number of pieces of leather, *b*, cut to a width corresponding with the thickness of the disk A, and having on one end a tongue or projection, *d*, corresponding in length and width with the depth and width of the groove *e*, the form or shape of this tongue *d* being made to correspond with the form of the groove *e*, as shown in Figs. 2 and 5, and Figs. 3 and 6. As shown in Fig. 8, a transverse groove, *g*, is cut in one of the side walls of the groove *e*, for the purpose of enabling the tongue *d* of the leather pieces *b* to be shoved edgewise through the same into the groove *e*, there being a small block, *h*, of a size and shape corresponding with the transverse groove *g*, provided for filling said groove after the leathers have been applied to the disk. Having thus prepared the disk, and the leathers *b*, I apply the latter to the disk by inserting their tongues *d* into the groove *e* by shoving them edgewise through the groove *g*, or by inserting the tongues edgewise in the groove *e*, and then turning them so as to stand crosswise in said groove, care being taken to have the pieces of leather well coated with glue or other cement at all points where they come in contact with the disk and with each other. This process is continued until the groove *e* is filled all the way around the disk from one side of the notch or groove *g* to its opposite side, when the remaining space is filled by crowding one or more pieces *b* edgewise through said notch *g* into position, after which the block *h* is coated with glue or cement, and forced into said notch, and held there until the glue or cement has set. In this way I cover the periphery of the disk A with the pieces *b* of leather its entire extent, as shown in Fig. 1, and as these pieces of leather may be an inch or more in length, and be made to adhere firmly to each other by crowding and cementing them together, I am thus enabled to produce a wheel having a homogeneous or uniform surface of leather an inch or more in thickness, and which, therefore, can be used for a long time, and in which the leather is securely fastened to the disk without the use of nails or other metal fastenings of any kind.

It is obvious that instead of forming the groove in the disk and the tongue on the leather, these may be reversed, as shown in Figs. 4, 7, and 9, in which the dovetail tongue *d* is formed on the disk A, and the corresponding groove or notch, *e'*, is cut in the leather pieces

b, the principle and effect being the same. If that form be used, a groove, *g'*, is cut transversely in the projecting tongue *d*, formed on the disk A, as shown in Fig. 9, and a corresponding-shaped block, *h'*, is provided to fill the same at completion. In this case, after the leather pieces have been applied all around the disk, except at the notch, the block *h'* is coated with glue and placed in the notch *e'* of the final piece or pieces of leather used to fill up the gap, when the piece, with the block *h'* in its notch *e'*, is forced edgewise into the remaining space or gap, thereby causing the block *h'* to fill the notch *g'*. It is of course understood that, if desired, as it may be in wheels of small diameter, or if the leather pieces be made very long, they may be beveled on their adjoining faces, either by shaving off a portion on one side, or by compressing the leather while moist; but this will not be necessary in wheels of the ordinary size or for general use.

While I have shown two forms of the grooves and tongues as illustrating my invention, I do not limit myself to them, as it is obvious they may be greatly varied in form and still be the same in effect, the gist of my invention in this particular being in uniting the leather to the disk by an interlocking joint, substantially in the manner described, so that the whole body of leather, or all the pieces composing the leather facing, shall each and all be securely fastened to the disk as well as to each other.

I am aware that it has been proposed to make an elastic-belt pulley by building up a rim composed of several rows of pieces of leather held in place by a series of dovetailed metal rings secured or formed upon a series of transverse ribs on the ends of the spokes of the pulley; and also that a patent has been granted for a sheave for wire ropes in which the groove in its periphery or rim is partially filled with pieces of rawhide and pieces of leather, rubber, or other substance, to prevent the metal rim of the sheave from cutting the wire rope; but neither of these pulleys nor sheaves are adapted to be used as polishing-wheels, and I do not claim such a device; but,

Having fully described my invention, what I do claim is—

1. The herein-described polishing-wheel, consisting of the wooden disk A, with the pieces *b* of leather secured thereto by an interlocking joint and cement, substantially as described.

2. A polishing-wheel composed of the wooden disk A, having its periphery covered with pieces of leather set on edge, and secured to the disk by an interlocking-joint, and by being cemented to the disk and to each other, substantially as described.

3. The disk A, provided with the circumferential groove *e*, and lateral notch or opening *g*, in combination with the pieces *b* of leather, and the block *h*, or the equivalents thereof, substantially as herein shown and described.

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