

957,496.

Patented May 10, 1910.

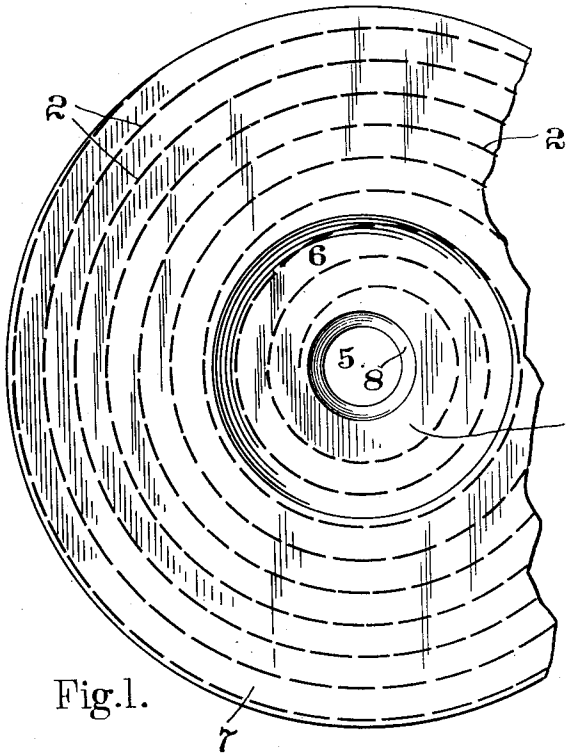


Fig. 1.

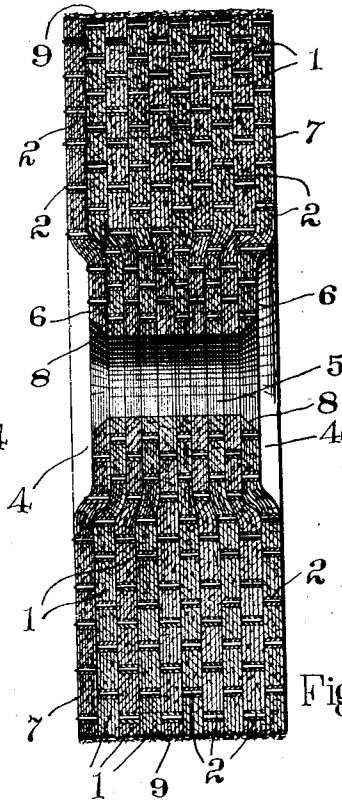


Fig. 2.

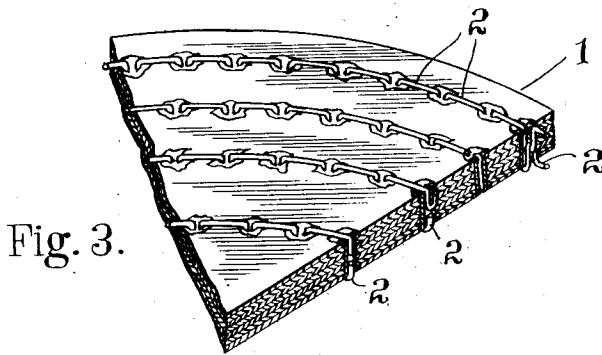


Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

STEPHEN A. COCHELL, OF DETROIT, MICHIGAN.

POLISHING-WHEEL.

957,496.

Specification of Letters Patent.

Patented May 10, 1910.

Application filed June 29, 1908. Serial No. 440,814.

To all whom it may concern:

Be it known that I, STEPHEN A. COCHELL, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Polishing-Wheels, of which the following is a specification, reference being had therein to the accompanying drawings.

In the manufacture of wheels for polishing metal, and more particularly the class of wheels wherein the abradant is not incorporated in the body of the wheel but is applied from time to time, as required, to the periphery, various materials are used, such as bull neck leather, walrus hide, felt, sheep skin, or the like, which either are very costly or are hard to balance and keep true, frequently burn the surface of metal and do not possess the springy quality or life which is necessary for obtaining good results.

This invention relates to a polishing wheel presenting a working body of readily obtained material of low cost which is easily balanced and kept true, and to which abradant may be quickly applied, the wheel being resilient or "lively" and having no tendency to burn the surface of metal to which it may be applied.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a plan view, partially broken away of a wheel embodying features of the invention. Fig. 2 is a view in section of the wheel. Fig. 3 is a view in detail, enlarged, of a portion of the wheel body.

As herein shown, a number of disks 1 made of layers of pasted cotton linings or like goods sewed through and through by stitching 2, preferably running in a spiral from center to circumference, are sized on both sides with weak glue water, dried and separately balanced to run true. They are then glued together under pressure. The sizing prevents the glue penetrating the fabric, but the pressure forces it through the apertures made by the stitching needle, thereby forming a great number of glue cylinders throughout the body. The central part 4 of the wheel is compressed and an axial aperture 5 formed therein, the body being made hard enough to be screwed on an arbor in the usual manner and recesses 6 resulting from

the compressed center forming seats to receive the customary clamping collars, or like fastenings means. Disks 7 of heavy "iron-bleached" cotton or the like, are glued to each side and form a convenient means of bringing the completed wheel to true balance. The inner margins 8 of the disks are chamfered or beveled back to prevent "ragging out". A coating 9 of abrasive material is applied to the wheel by wetting the periphery of the wheel when running, with weak glue water and holding against it a piece of the dressing, such as sandstone, brick, carborundum or the like. The water softens the paste of the layers of the disk, and also the glue cylinders which happen to be at the surface, so that particles torn off by the wheel fibers are caught and held thereby, thus quickly forming a working face of considerable thickness in short time. One of the advantages resulting from this construction is the springiness or liveliness of the wheel, as the glue does not bind all the fibers together and keep them from moving on each other, thereby avoiding the heavy non-yielding effect common to wheels built up of leather, felt or the like. Because of this arrangement, the wheel does not burn metal applied to it. Another feature is the ease with which true balance is obtained, the disks being first individually turned up, and then finally adjusted when assembled. Another very great advantage is the low cost of construction and of material, which is readily obtained in open market practically ready for assembling.

Obviously changes in the details of construction may be made without departing from the spirit of the invention and I do not limit myself to any particular form or arrangement of parts.

What I claim as my invention is:—

1. A polishing wheel having a body of disks formed of layers of pasted cloth sewed together, the stitches therein forming perforations through the disks, and said disks being bound together by glue applied to the sides thereof and forced through the perforations by pressure.

2. A polishing wheel having a body of disks formed of layers of pasted cloth sewed together by lines of stitches forming perforations through the disks, the disks being secured together by glue applied to their sized sides and forced through the perfora-

tions by pressure, the center portion of the body being compressed and apertured for engaging an arbor.

3. A polishing wheel comprising a plurality of disks formed of layers of pasted cloth sewed together by a spirally disposed line of stitching forming a series of perforations through the disks, the disks being sized and secured by glue forced through the perforations under pressure, outer disks of heavy cloth fabric glued to the sides of the wheel, and a layer of abrasive material se-

cured by the cloth paste and disk glue to the wheel periphery, the central portion of the wheel body being compressed more than the outer portion, and being provided with an axial arbor aperture whose margins are beveled. 15

In testimony whereof I affix my signature in presence of two witnesses.

STEPHEN A. COCHELL.

Witnesses:

C. R. STICKNEY,

WALTER A. GREENBURG.