(No Model.)

T. C. ROOT.

GRINDING AND POLISHING MACHINE.

No. 343,650. Patented June 15, 1886.

Fig. 1.

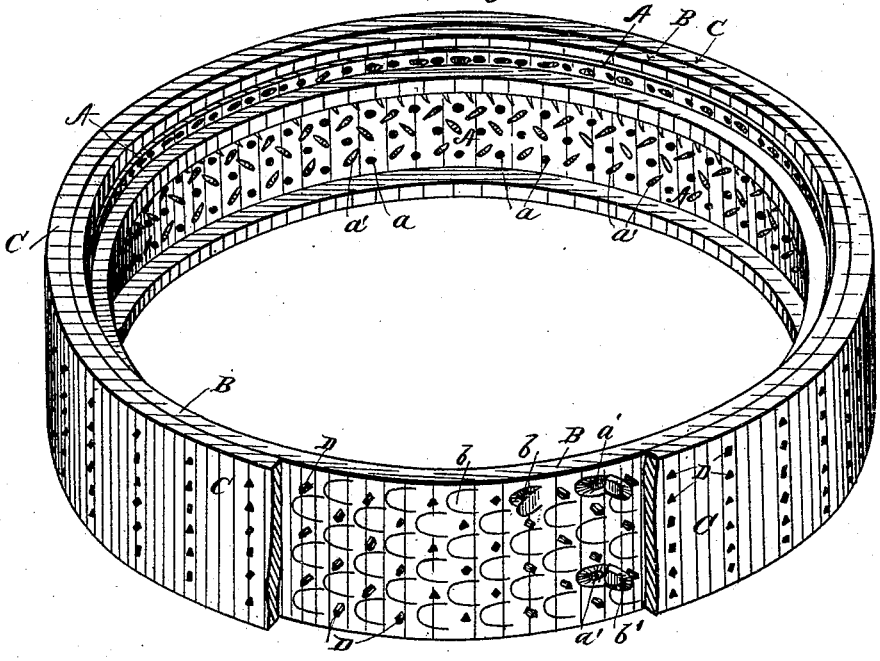
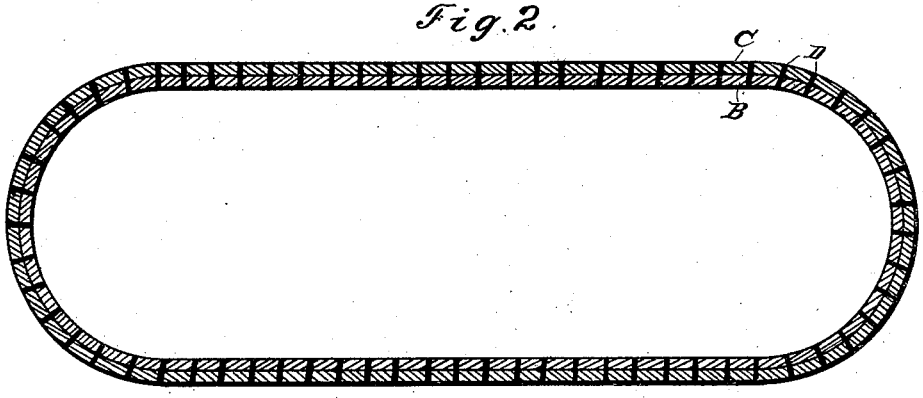


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

TIMOTHY C. ROOT, OF ERIE, PENNSYLVANIA.

GRINDING AND POLISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 343,650, dated June 15, 1886.

Application filed June 26, 1885. Serial No. 169,856. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY C. ROOT, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Grinding and Polishing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to grinding and polishing machines; and it consists in certain improvements in the construction of the grinding and polishing surfaces, as will hereinafter be fully described, and pointed out in the claims.

My invention is illustrated in the accompanying drawings as follows: Figure 1 is a perspective view of the rim of a polishing-wheel having parts broken away to show the several layers; Fig. 2, a longitudinal section on a circumferential line that would pass through one of the circumferential rows of welts D.

Letters indicate parts as follows: A is a metallic rim which, as will be seen by reference to my former application, is attached or placed on a center, which is mounted upon an arbor. Through this rim are a series of holes, *a*. B is a layer of leather, which is attached to the outside of the rim A by rivets *a'*, which are passed through certain of the holes *a* and clinched on the inside of the rim. *b* are countersinks cut in the face of the leather covering B, with laps *b'* left to cover the countersinks after the rivet is in place. C is a second covering of leather which is attached to the covering B of the rim A by welts D, which pass through the coverings C and B and the rim A, filling the holes *a* in the rim A which are not occupied by the rivets *a'*. The use of these welts D and the manner in which they are applied constitute an essential feature of my invention.

I preferably use as a material for the welts strips of linen or cotton cloth cut so that the welt when formed will increase in size from one end to the other. These strips forming the welt are dipped in glue before they are used and are used while the glue is soft, and are drawn through awl-holes, which are punched through both coverings of leather B and C opposite the holes in the rim A, which are occupied by the rivets, until they can be drawn no farther by reason of their tapering form. After they are thus drawn in both ends of the welts are cut off close to the outer surfaces of the leather and the inner surface of the rim. These welts may be made of leather, if desired, or of strands of wicking or other fibrous substance. These welts take the place of the pegs used ordinarily in attaching the outer covering in the making of belts and take the place of ordinary sewing.

The advantage of the use of these welts is this: Where pegs are used the emery covering on the outer surfaces breaks out over the ends of the pegs and destroys the face of the wheel. Where loop-sewing is used, the loops very soon wear off and the fastening becomes insecure. I have found by actual experiment and use that these welt-fastenings, as above described, have none of the defects I have just mentioned.

It should be understood that the laps *b'*, after the rivets are in place, are glued down in place, filling the countersinks and leaving the surface of the covering B smooth, and in placing the covering C upon the covering B glue should be used between the abutting surfaces. The rivets *a'* are preferably made of copper.

In the belt shown in Fig. 2 there is no inner metallic rim; but the two parts B and C are attached together by means of welts in the same manner as I have above described.

What I claim as new is—

1. In a grinding or polishing wheel, the combination, substantially as set forth, of the rim A, with holes *a*, the covering B, with lap-top countersinks, and the rivets *a'*, with their heads buried in said countersinks and covered by said laps and their points clinched on the inner side of said rim.

2. In a grinding or polishing wheel, the combination, substantially as set forth, of the rim A and the covering B, riveted to said rim, and the covering C attached to said covering B by means of welts D, which are drawn through both of said coverings and said rim and cut off in the manner set forth.

3. In a grinding and polishing device, the

combination of the layers forming the polishing and grinding surface, and the welts D, which are drawn through said layers and cut off close to said polishing and grinding surface of the latter, substantially as described.

4. In a grinding and polishing machine, the combination, with the layers forming the polishing-surface, of welts D, which are saturated with glue and drawn through the same and cut off in the manner described.

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

TIMOTHY C. ROOT.

Witnesses:
JNO. K. HALLOCK,
ROBT. H. PORTER.