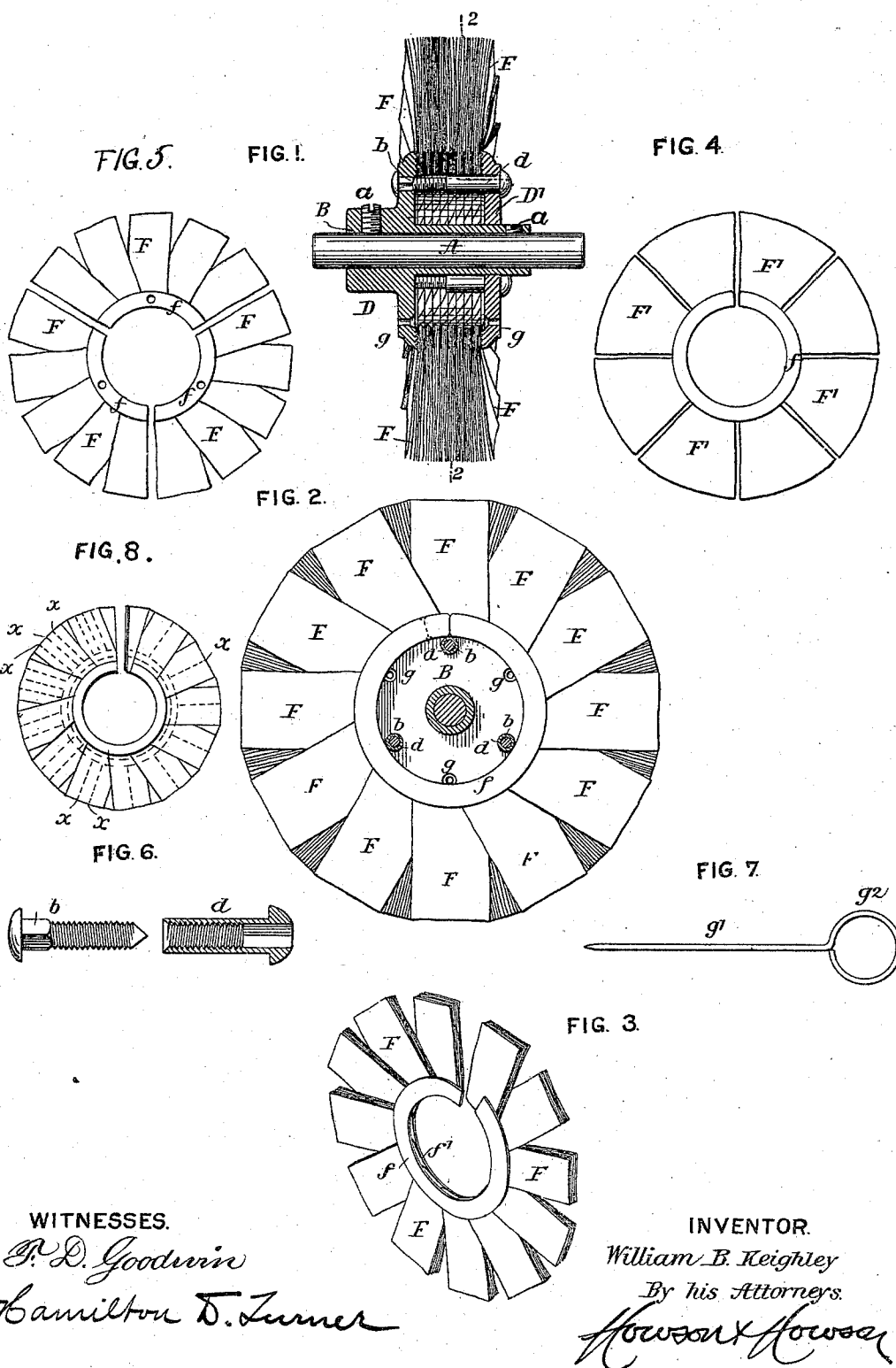


(No Model.)

W. B. KEIGHLEY.
POLISHING AND CLEANING WHEEL.

No. 537,687.

Patented Apr. 16, 1895.



WITNESSES.

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WILLIAM B. KEIGHLEY, OF VINELAND, NEW JERSEY.

POLISHING AND CLEANING WHEEL.

SPECIFICATION forming part of Letters Patent No. 537,687, dated April 16, 1895.

Application filed December 11, 1893. Serial No. 493,398. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. KEIGHLEY, a citizen of the United States, and a resident of Vineland, Cumberland county, New Jersey, have invented certain Improvements in Polishing and Cleaning Wheels, of which the following is a specification.

My invention consists of a wheel especially intended for polishing or cleaning parts of boots or shoes, although the wheel is adapted for use as a general buffing, cleaning or polishing wheel, the object of my invention being to so construct the wheel as to cheapen the same, and to facilitate its manufacture, or the application of the wheel to or its removal from the shaft or hub. These objects I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section of a polishing or cleaning wheel constructed in accordance with my invention. Fig. 2 is a transverse section of the same on the line 2—2, Fig. 1. Fig. 3 is a perspective view, on a reduced scale, of one of the rings of the wheel illustrating one method of constructing the same. Figs. 4 and 5 are views similar to Fig. 2, but on a reduced scale and showing certain modifications of the invention. Figs. 6 and 7 are views of detached parts of the wheel. Fig. 8 is a view illustrating a further modification of the invention.

In Figs. 1 and 2, A represents the shaft upon which the wheel is mounted, the hub of the wheel comprising a sleeve B with which is cast, or to which is otherwise suitably secured one of the end plates D of the hub, the sleeve being firmly secured to the shaft in the present instance by means of a set screw *a* at each end. The other end D' of the hub fits loosely upon the end of the sleeve B and the two end plates are drawn together by means of a series of bolts *b* and nuts *d*, the bolts having heads bearing upon the end plate D and having squared portions adapted to corresponding openings in said end plate so that they are prevented from turning while the nuts *d* have heads bearing upon the opposite end plate D', these heads being preferably recessed, as shown in Fig. 1, or otherwise constructed for the reception of a suitable tool whereby they may be turned in order to draw the heads D

D' together and clamp the polishing or cleaning rings between them. The bolts *b* are preferably tapered at the ends and the nuts *d* countersunk, as shown in Fig. 6, so as to facilitate the engagement of the two.

Each of the polishing or cleaning rings consists of a series of radiating strips or bunches F of textile fabric, each strip being composed of a number of pieces of fabric, and the inner ends of the strips overlapping and being cemented, riveted or otherwise secured together successively, and to split bands *f f'* of paper, leather board, cloth, or other material, so that each of the textile rings can be spread laterally at the split, as shown in Fig. 3, and can thus be passed over the shaft and sleeve B, and also if desired over the securing bolts, in order to permit the wheel to be put together or taken apart without necessitating either the removal of the hub from the shaft or the removal of the outer plate of the hub, the latter being simply slackened sufficiently to release the rings if the wheel is to be taken apart or to permit of the insertion of the proper number of rings in forming the wheel. The bands *f f'* may, if desired, be continuous in the first instance, and after the strips F have been secured together and to said bands *f f'* the complete ring can be severed by cutting radially through the rings and strips at the desired point. The strips F may, if desired, be stiffened by one or more rows of stitches *x* as shown in Fig. 8.

To permit of the proper centering of the textile rings before the insertion of the securing bolts and nuts, each of the end plates D D' of the hub has a series of openings *g* for the reception of transverse pins *g'*, such as shown in Fig. 7, which serve to hold the rings in proper position while the securing bolts and nuts are being inserted and tightened, the pins being then withdrawn so as not to be in the way when the wheel is in use. The openings of one or both of the heads are preferably countersunk at the inner ends, as shown in Fig. 1, and the ends of the pins are tapered as in Fig. 7 so as to readily enter said openings. The pins may also have looped ends, as shown at *g*² so as to facilitate their insertion or withdrawal.

By making the polishing rings of a series of strips or bunches of fabric in the manner

described, the waste which attaches to the method of making polishing or buffing wheels from rings of textile fabric is prevented and the cost of the wheel is correspondingly reduced. This feature of my invention may, it will be evident, be used in the construction of polishing rings which are not split in the manner described, and, on the other hand, the splitting of the rings may be adopted in connection with the usual form of ring, or with rings of other material, the construction shown in the drawings, however, being in all cases preferred.

The series of radiating strips or bunches of fabric constituting each polishing ring may if desired be secured together at their inner overlapping ends by cementing, riveting, stitching or equivalent means, or by one or more circular courses of stitches without the use of the bands *f f'*, or a band may be applied only to one side of each polishing ring instead of to both sides of the same, as shown, the latter construction being adopted because of the stability of the ring which is thereby insured. In Fig. 8, for instance, I have illustrated a construction in which the inner band is applied to but one side of the polishing ring, and in which also there are a series of circular courses of stitches extending around the inner portion of the ring.

By making the textile strips or bunches of wedge shape as shown in Fig. 4 the overlapping of the inner ends of the strips may be avoided, the strips being secured together by circular courses of stitches or by the band or bands *f f'*.

Each of the textile rings may also be com-

posed of two or more sections, if desired, as shown for instance in Fig. 5, in which case the centering pins are preferably so located as to pass through openings in the inner portions of the segments and thus hold the same in proper position while they are being clamped between the plates *D D'*. The strips or bunches *F* may also project tangentially instead of radially if desired.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The within described ring for a polishing or cleaning wheel, said ring consisting of a series of independent projecting bunches of textile fabric secured together successively at their inner ends, substantially as specified.

2. The within described ring for a polishing or cleaning wheel, said ring consisting of a series of independent projecting bunches of textile fabric, said bunches overlapping at their inner ends and secured together where they overlap, substantially as specified.

3. The within described ring for a polishing or cleaning wheel, said ring consisting of a series of independent projecting bunches of textile fabric united together at their inner ends except at one point, so as to permit of the lateral separation of adjoining bunches, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM B. KEIGHLEY.

Witnesses:

CHAS. KEIGHLEY,
M. F. CLACK.