No. 817,462. PATENTED APR. 10, 1906.

C. G. BACKUS.

POLISHING OR BUFFING WHEEL.

APPLICATION FILED MAY 9, 1905.

Fig. 1.

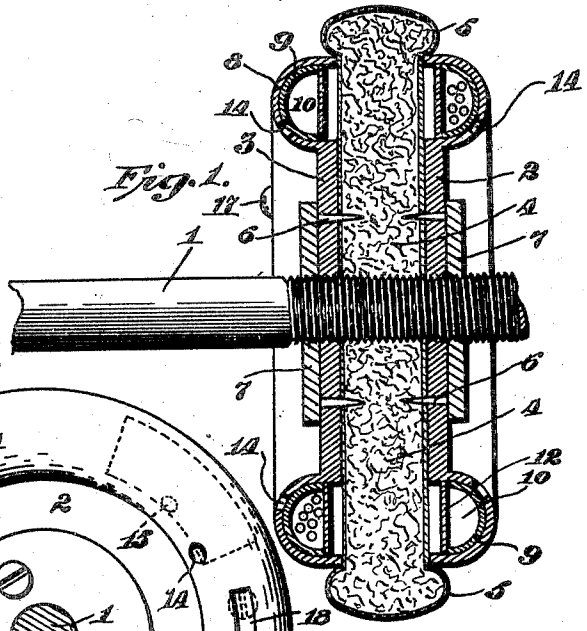


Fig. 2.

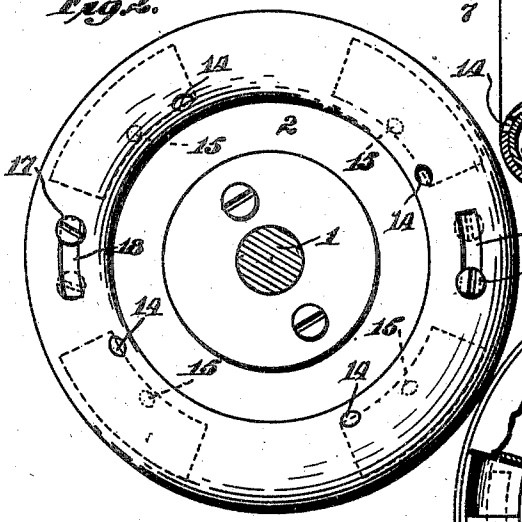


Fig. 3.

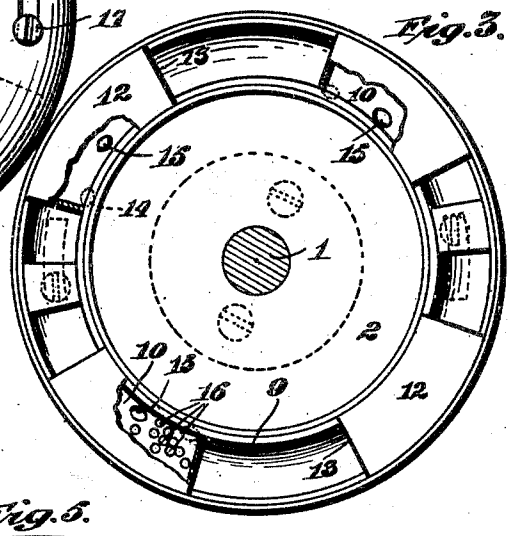


Fig. 4.

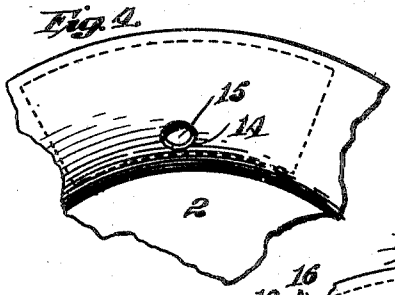
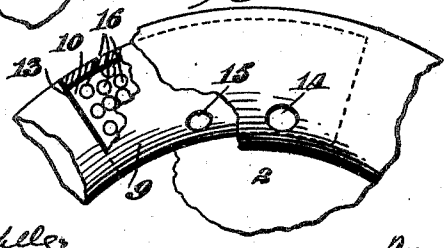


Fig. 5.



Attest:

Fermitchell

John W. Peters

Clarence G. Backus

Inventor:

by Burton Sheffield & Burton

his Attys

UNITED STATES PATENT OFFICE.

CLARENCE G. BACKUS, OF NEW YORK, N. Y., ASSIGNOR TO ZUCKER & LEVETT & LOEB COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

POLISHING OR BUFFING WHEEL.

No. 817,462. Specification of Letters Patent. Patented April 10, 1906.

Application filed May 9, 1905. Serial No. 259,586.

To all whom it may concern:

Be it known that I, CLARENCE G. BACKUS, a citizen of the United States, residing in the borough of Manhattan, city of New York, State of New York, have invented new and useful Improvements in Polishing or Buffing Wheels, of which the following is a specification.

My invention relates to buffing or polishing wheels, particularly to such wheels which utilize fibrous scrap of various kinds, or wood, or leather, or layers, or sections of material—such as cloth, canvas, wool, hair, and wood or pulp fiber—to receive the polishing material. It is customary to run such wheels at very high speeds and as a result when they initially are or subsequently get out of a true balance they pound and shake and are in many ways objectionable.

The object of my invention is to provide an unbalanced wheel with balancing-weights, so that it can be readily adjusted or altered when the wheel is or becomes untrue through use, to locate such weights so that they will not interfere with the attendant and so that they cannot become accidentally disengaged in use, and to arrange the balancing-weights so that they can be readily removed and inserted without injuring the condition of the wheel.

Prior to my invention it has been customary to form in wheels of this kind holes into which plugs of lead were inserted for balancing purposes. Wheels so constructed were not satisfactory for the reason that the lead plugs could not be readily altered after they were once inserted and were apt to become loose and dangerous at the high speed necessarily utilized. The boring of such holes into wheels is further objectionable for the reason that such holes damage the wheels, restrict the amount of wear to which the wheels can be subjected, and ultimately when the number of holes become excessive spoils the wheels. It has also been customary to fasten lugs of lead to the wheels for balancing purposes by means of nails or screws. This method is objectionable in that the pieces so fastened are liable to fly off and hurt the attendant. They cannot be readily adjusted and as they are usually located on the outer face of the wheel are very much in the way and are liable to injure the hands of the attendant.

Referring to the accompanying drawings, which form a part of this specification and show one form of my invention, Figure 1 shows a vertical cross-section of the wheel on a diameter. Fig. 2 shows a side elevation of the same with the polishing-pad removed. Fig. 3 is a side elevation of one of the clamping members looking from the inner side and shows parts broken away in order to show the pockets in which the balancing-weights are carried. Fig. 4 shows a part of one of the side members with the opening in position to receive the balancing-weights. Fig. 5 shows a similar view with the opening closed.

1 designates the shaft, on which is mounted side members 2 and 3, which I have shown identical in structure. However, it is obvious that in some cases it will only be necessary to provide one of these members with pockets to receive the balancing-weights. The side members clamp and hold in place pad 4, which is usually (but not necessarily) made of scrap or fibrous material of any suitable nature and in the usual manner and is covered by the cover 5. The side members may carry teeth (but these are not essential) 6, which engage the pad and hold it in position.

7 7 designate nuts which clamp the side members in place.

8 designates the grooves, preferably annular, formed at or near the peripheries of the side members and which open inwardly. Fitted into these grooves are annular rings 9, also grooved and opening inwardly. These rings have pockets 10 formed at certain points along the groove on its inner side by the walls 12 and 13. Holes 14 in the side members are arranged so that they may coincide with holes 15, formed in the walls of the inner rings. In order to turn the rings 9 so as to make the holes 14 and 15 coincide or separate, I provide knobs or handles, preferably in screw form 17, which pass through slots 18 in the side members and screw into the inner rings 9. By loosening these screws the inner rings 9 can be moved so as to make the holes coincide, as in Fig. 4, in which position the balancing-weights, such as shot 16, can be readily inserted or removed, or the inner ring can be so turned as to close the holes, as shown in Fig. 5. While I have shown all of pockets arranged to open simultaneously, I am aware

that pockets can be made separate and distinct, with each pocket arranged to open and close independent of the others.

In operation when the wheel needs balancing the operator first determines by observation the side of the wheel which is too heavy and then inserts as many weights or shots as are required in the pocket or pockets substantially opposite the heavy side.

I have illustrated and described the wheel with pockets arranged ninety degrees apart. However, I do not desire to be limited to this particular number, as I may use a larger or greater number.

While I have shown and described a device with all of the details complete, I am aware that in many ways it can be altered by one skilled in the art without departing from the spirit of my invention. I believe myself to be the first to combine with the side pieces features of movable and changeable balancing to adapt the side pieces to the required wheels or to alteration of point of balance.

What I claim is—

1. In a polishing or buffing wheel, a polishing-pad, oppositely-disposed detachable side members adapted to clamp said pad between their inner faces, one of said members being provided with detachable balancing-weights, substantially as described.

2. In a polishing or buffing wheel, a polishing-pad, a detachable side member adapted to clamp one side of the same and provided with an annular groove, and pockets spaced throughout the said groove for receiving balancing-weights, substantially as described.

3. In a polishing or buffing wheel, a polishing-pad, a detachable side member adapted to clamp one side of the same, and provided with pockets for carrying balancing-weights, substantially as described.

4. A polishing or buffing wheel comprising a detachable side member having an annular groove in one of the faces thereof, balancing-weights, and means for retaining said balancing-weights in said groove at a number of points throughout its length, substantially as described.

5. A polishing or buffing wheel comprising a detachable side member having an annular groove in one of the faces thereof, a ring fitting in said groove and adapted to turn therein, pockets formed in said ring and balancing-weights in said pockets, substantially as described.

6. A polishing or buffing wheel comprising a detachable side member having an annular groove in one of the faces thereof, a series of connected pockets fitted in said groove and adapted to turn therein, and balancing-weights carried in the said pockets, substantially as described.

7. A polishing or buffing wheel comprising a detachable side member having an annular groove therein, a series of connected pockets fitted in said groove, balancing-weights carried in said pockets, openings in said side member and in said pockets, adapted to coincide with each other, for the purpose of removing or inserting balancing-weights, substantially as described.

In witness whereof I have hereunto signed my name, this 3d day of May, 1905, in the presence of two witnesses.

CLARENCE G. BACKUS.

Witnesses:

ARTHUR M. BUSH,

GEORGE L. WALLACE.