

No. 872,932.

PATENTED DEC. 3, 1907.

L. E. HALL.
POLISHING WHEEL AND MANDREL THEREFOR.
APPLICATION FILED DEC. 26, 1905.

Fig. 1.

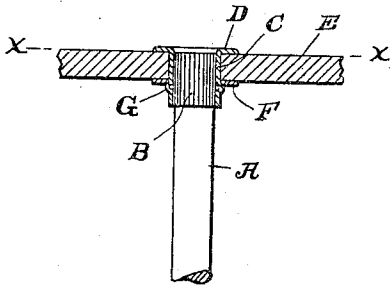


Fig. 4.

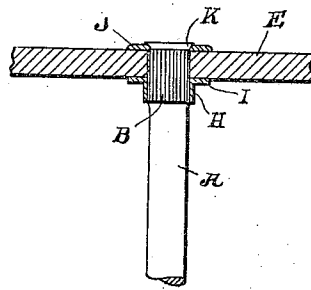


Fig. 5.

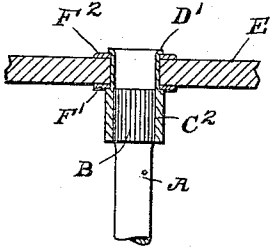


Fig. 2.

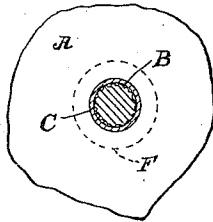
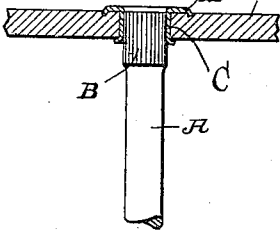


Fig. 3.



Witnesses

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LINCOLN EARNEST HALL, OF PHILADELPHIA, PENNSYLVANIA.

POLISHING-WHEEL AND MANDREL THEREFOR.

No. 872,932.

Specification of Letters Patent.

Patented Dec. 3, 1907.

Application filed December 26, 1905. Serial No. 293,166.

To all whom it may concern:

Be it known that I, LINCOLN EARNEST HALL, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Grinding and Polishing Wheels and Mandrels Therefor, of which the following is a specification.

My invention relates to a new and useful improvement in grinding and polishing wheels and mandrels therefor, and has for its object to provide an exceedingly simple and effective arrangement by which said wheels may be placed upon their mandrels and secured thereon against independent rotation so inexpensively as to permit of the discarding of both the mandrel and the wheel when the latter becomes useless from wear.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a section of a wheel and sleeve, the latter being secured upon the mandrel which is shown in elevation: Fig. 2, a section at the line $x-x$ of Fig. 1. Fig. 3, a slightly modified form of my invention in which the rear washer is omitted and the wheel secured against the flange by a crimp upon the end of the sleeve. Fig. 4, another form of my invention in which the wheel or disk is secured directly upon the mandrel and held in place by two washers or flanges. Fig. 5, is a slight change from the construction shown in Fig. 1 in which the sleeve is reduced in diameter at its forward end.

In carrying out my invention as embodied in Figs. 1 and 2, A represents the mandrel, a portion of which is serrated as indicated at B, and C is a sleeve one end of which is flared outward so as to form a flange D, which latter bears against the outer face E while the washer F bears against the inner surface of said wheel. In practice the sleeve is first inserted in the center bore of the wheel so that the flange D comes in contact with the surface thereof, the washer F is then placed in position over the opposite end of the sleeve

after which the projecting end of the sleeve is crimped as indicated at G, which crimping presses the washer F firmly against the wheel so as to prevent the latter turning independently of the sleeve. The mandrel being preferably provided with the serration B is forced into the sleeve thereby securing the wheel upon the mandrel and preventing them from turning independently of each other.

In the construction shown in Fig. 3 I have omitted the washer F and the elongated end of the sleeve C, the wheel being held in contact with the outer flange D by the crimp or head on the inner end of the sleeve. This construction in all other respects is the same as shown in Figs. 1 and 2, but this construction is especially adapted to the molding of the wheel upon the sleeve or bushing.

In the construction shown in Fig. 4 I provide a short sleeve H which has a flange I formed therewith and forces this sleeve upon the serrated portion of the mandrel then placing the wheel in position against the flange I, afterwards setting the washer J in place and finally heading upon the end of the mandrel as indicated at K, thus securing the parts in position so as to clamp the wheel, or in this construction the mandrel may first be headed up as at K the washer J run on from the opposite end of the mandrel until bearing against this head, after which the wheel may be placed in position and the sleeve H forced upon the serration B so as to cause the flange I to bear firmly against the wheel.

In the construction shown in Fig. 5 C² represents the sleeve which may be made of a piece of tubing having its outer end reduced in diameter so as to receive the flanges F' and F², and the wheel or disk E. After these parts have been placed upon the reduced end of the sleeve the outer end thereof is headed up or flared outward as clearly shown at D' so as to hold the parts in place, the sleeve may then be forced upon the serrated end of the mandrel as described in connection with Fig. 1.

Various other slight modifications might be made in my improvement without departing from the spirit of my invention, the gist of which rests in the broad idea of providing a wheel and mandrel which when manufactured are substantially one and which can be made at a cost permitting the discarding the mandrel with the wheel when the latter is worn.

Having thus fully described my invention what I claim as new and useful, is—

1. The herein described combination of a mandrel, serrations formed upon one end thereof, a wheel, a sleeve bushing fitted within the center bore of the wheel, a flange formed upon one end of the sleeve adapted to bear against the wheel and a crimp formed upon the sleeve to hold the wheel against the said flange, as specified.

2. The herein described combination of a mandrel, serrations formed upon one end thereof, a wheel, a sleeve bushing fitted within the center bore of the wheel, a flange

formed upon one end of the sleeve adapted to bear against the wheel, a washer fitted upon the sleeve and bearing against the opposite side of the wheel from the flange and a crimp formed upon the sleeve to hold the parts in place said sleeve being forced upon the serrations, as specified.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

LINCOLN EARNEST HALL.

Witnesses:

JOSEPH C. SMITH,
FRED. S. SMITH.