Dec. 4, 1923. 1,476,515

B. F. HOWARD

GRINDING WHEEL

Filed May 10, 1921

Fig. 1.

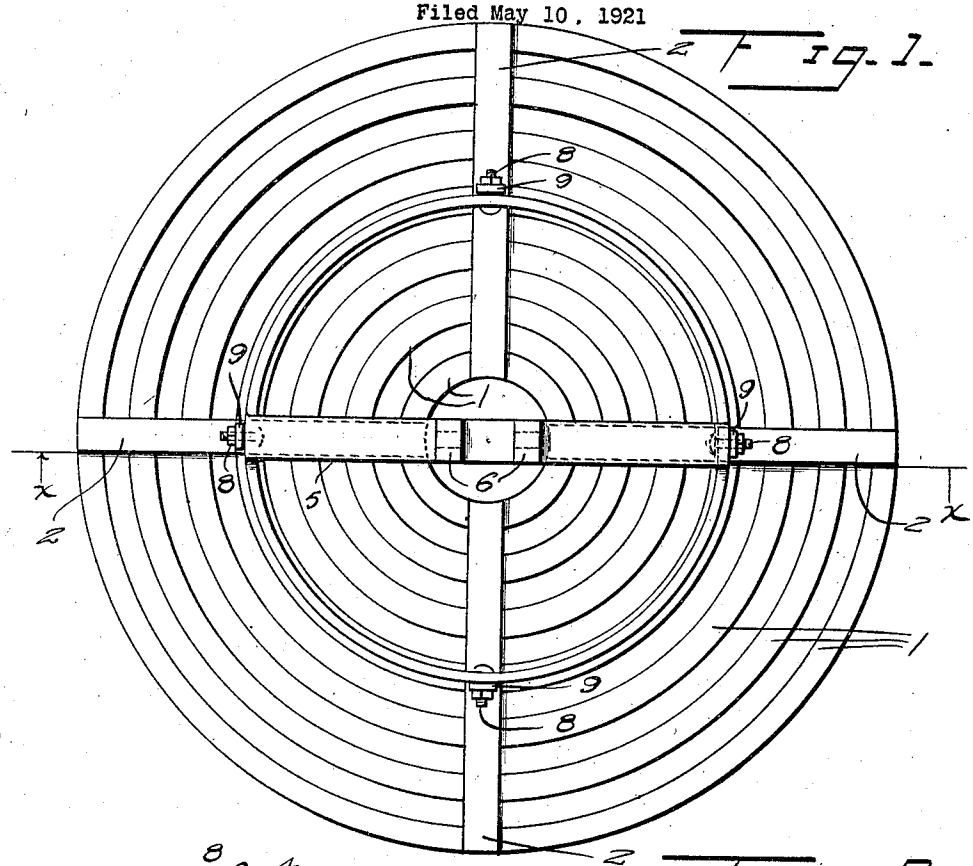


Fig. 2.

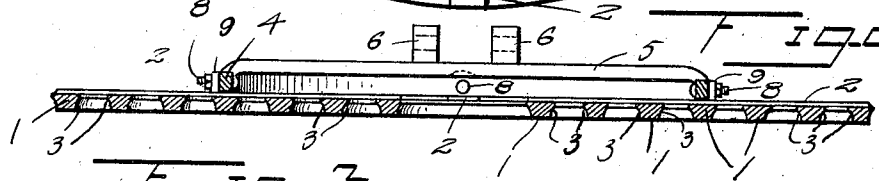


Fig. 3.

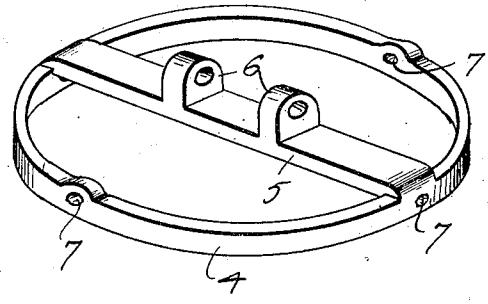
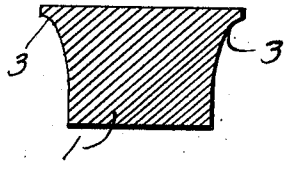


Fig. 4.



Inventor

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By A. Landreth Jr. Attorney

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UNITED STATES PATENT OFFICE.

BERNARD F. HOWARD, OF MORRISVILLE, VERMONT.

GRINDING WHEEL.

Application filed May 10, 1921. Serial No. 468,268.

To all whom it may concern:

Be it known that I, BERNARD F. HOWARD, a citizen of the United States, residing at Morrisville, in the county of Lamoille and State of Vermont, have invented certain new and useful Improvements in Grinding Wheels; 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 devices of the type embodying a plurality of spaced connected rings utilizing an abrading material such as emery.

The invention has for its object to prevent waste of the grinding material, insure a practically uniform wear of the grinding wheel and to obviate subsequent finishing to remove emery trails or marks occasioned by the use of the ordinary emery wheels.

Other objects and advantages will be apparent and suggest themselves as the nature of the invention is understood.

While the drawings illustrate an embodiment of the invention it is to be understood that in adapting the same to meet different conditions and requirements, various changes in the form, proportion and minor details of construction may be resorted to without departing from the nature of the invention.

Referring to the accompanying drawings forming a part of the specification,

Figure 1 is a top plan view of a grinding wheel embodying the invention,

Figure 2 is a section thereof on the line x—x of Figure 1,

Figure 3 is a perspective view of the driver, and

Figure 4 is an enlarged cross section of one of the grinding rings.

Corresponding and like parts are referred to in the following description and designated in the several views of the drawings by like reference characters.

The grinding wheel comprises a plurality of concentric rings 1 which are connected by means of a plurality of radially disposed bars 2. The rings 1 and bars 2 preferably form parts of a single casting. Each of the rings 1 flares toward its top side, forming overhanging portions 3 at opposite sides, as indicated most clearly in Figure 4. The overhanging portions 3 prevent the emery or abrading material from creeping upwardly along the sides of the rings and lodging on the top thereof. The outer sides of the overhanging portions 3 curve laterally and turn the abrading material and cause the same to fall back upon the work, thereby requiring less attention on the part of the operator to keep the wheel properly supplied with abrading material. There may be any number of tie bars 2 for the grinding rings 1 and, as shown, there are four bars 2 and the same are equally spaced.

A driver is provided in conjunction with the grinding wheel and consists of a ring 4 and an arched bar 5 diametrically disposed. Spaced lugs 6 are formed on the upper side of the arched bar 5 for convenience of attaching the wheel to the grinding machine in a manner well understood. The ring 4 is provided in its circumferential length with transverse openings 7 to receive bolts or fastenings 8 by means of which the driver is attached to the grinding wheel. The tie bars 2 are formed on their upper sides with lugs 9 which are positioned to extend along a side of the ring 4, said lugs being apertured to receive the fastenings 8. It is observed that the driver has a four point contact with the grinding wheel, each of such points corresponding with the crossing between the ring 4 and each of the tie bars 2. The pressure is thus distributed and the grinding wheel caused to wear uniformly and with the further advantage that the work is free from emery trails or marks and does not require subsequent finishing for removal of the same. The driver may be readily detached and used repeatedly in connection with new wheels.

What is claimed is:

A grinding wheel having a plurality of continuous unbroken rings in spaced relation to provide slots between them open at the top, radial equidistantly spaced tie bars integral with said rings and disposed completely above their upper surfaces, a plurality of lugs integral with the bars and spaced equi-distantly from and about the axes of

the rings for attachment to a driver, whereby multiple-point contact is effected with said driver to exert uniform pressure on the wheel, and both side walls of each slot extending upwardly and laterally toward each other to minimize upward creeping of abrasive material.

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

BERNARD F. HOWARD.

Witnesses:
JEAN B. PINNEY,
RENA A. BARROWS.