

April 18, 1933.

G. F. TAYLOR

1,904,100

WHEEL DRESSER

Filed April 1, 1930

Fig. 1.

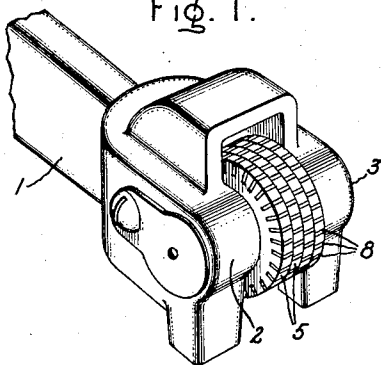


Fig. 2.

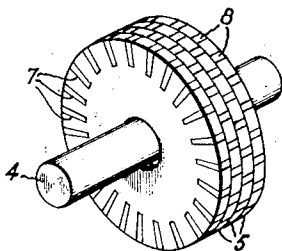


Fig. 3.

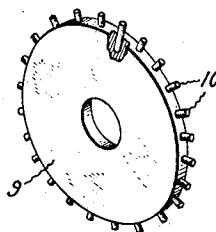
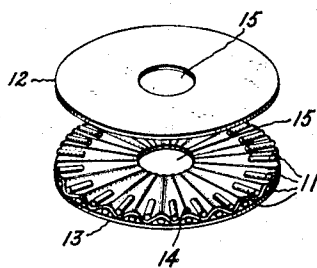


Fig. 4.



Inventor:
George F. Taylor,
by *Charles V. T. Nelson*
His Attorney.

UNITED STATES PATENT OFFICE

GEORGE F. TAYLOR, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK

WHEEL DRESSER

Application filed April 1, 1930. Serial No. 440,937.

The present invention relates to tools adapted to be employed in surfacing or dressing abrasive grinding wheels. The surfaces of such wheels, after usage, are usually very rough and generally have alternate circumferential ridges and depressions which render it difficult to provide a suitable cutting edge on tools with such wheels unless the roughened surfaces are removed.

It is one of the objects of the present invention to provide an improved wheel dresser and method for making the same.

The novel features which I believe to be characteristic of the present invention are set forth with particularity in the appended claims. The invention itself however will best be understood from reference to the following specification when considered in connection with the accompanying drawing in which Fig. 1 is a perspective view of a wheel dresser embodying the features of the present invention; Fig. 2 is a perspective view of the surfacing wheels disclosed in Fig. 1; Fig. 3 is a perspective view partly in section of a modified form of surfacing wheel; while Fig. 4 is a perspective view disclosing the method of assembling a modified form of surfacing wheel.

Referring to the drawing, I have indicated at 1 a wheel dresser provided with oppositely disposed bearings 2 and 3 in which a shaft 4 is rotatably mounted. A series of discs 5 are mounted loosely on shaft 4, as indicated in Fig. 2. Discs 5 are made of steel or other suitable material and are provided on their peripheries with a series of spaced slots 7 within which are mounted cemented tungsten carbide inserts 8. The inserts 8 are ground so as to fit closely within slots 7 and then copper brazed thereto, providing the finished wheels disclosed in Figs. 1 and 2.

If desired, I may employ a wheel dresser composed of a plurality of wheels 9 of the character disclosed in Fig. 3. In this figure, the cemented carbide inserts consist of relatively short cylindrical pieces 10 which are copper brazed in holes or slots in the wheel 9, the cemented carbide extending in a radial direction well beyond the periphery of the wheel 9.

In Fig. 4, I have disclosed a further modification of my invention in which the outer ends of the cylindrical cemented carbide particles 11 do not extend beyond the periphery of the wheel dresser. In this case, the wheel comprises a pair of outer discs 12 and 13 and an inner centrally-disposed disc 14 provided with radial corrugations. Each of discs 12, 13 and 14 is provided with a central opening 15 to accommodate shaft 4. In manufacturing the wheel dresser, the cemented carbide cylinders 11 are placed in each corrugation of disc 14 so that the outer ends of the cylinders 11 are located on the periphery of the corrugated disc. Each side of disc 14 is provided with a coating of powdered copper which substantially fills the depressed portions of the corrugated disc and thereby provides a pair of opposite, substantially flat surfaces to which discs 12 and 13 are applied. The assembled discs are then heated in a hydrogen atmosphere in a suitable brazing furnace and the cemented tungsten carbide brazed to the central corrugated disc and to the outer discs 12 and 13. At the same time discs 12 and 13 are copper brazed to the central disc 14.

The hard metal composition employed in my improved wheel dresser is cemented tungsten carbide, such as disclosed in Schröter Patents #1,549,615 and #1,721,416. This material generally consists mainly of tungsten carbide or the like but may contain up to 20% of a binder or cementing medium such as cobalt. The cemented carbide is very hard and although somewhat brittle provides an efficient and relatively inexpensive wheel dresser when mounted in the manner shown and described.

It is immaterial whether the pieces of cemented tungsten carbide project beyond the periphery of the wheel or not. Where the pieces do not project beyond the periphery of the wheel, the supporting portion of the wheel at its periphery wears away rapidly so that the cemented tungsten carbide pieces thus project beyond the rim of the wheel.

What I claim as new and desire to secure by Letters Patent of the United States, is:

1. A wheel dresser comprising a circular

radially corrugated plate having a substantially smooth outer periphery, cemented carbide pieces mounted in the corrugations on both sides of said plate and at the outer edge thereof and rigidly secured thereto, the outer ends of said cemented carbide pieces being flush with the outer periphery of said corrugated plates.

2. A wheel dresser comprising a circular, radially corrugated plate having a substantially smooth outer periphery, cemented carbide pieces mounted in the corrugations on both sides of said plate and at the outer edge thereof and rigidly secured thereto, the outer ends of said cemented carbide pieces being flush with the outer periphery of said corrugated plate, and retaining plates secured to opposite sides of said corrugated plate.

In witness whereof, I have hereunto set my hand this 31st day of March, 1930.

GEORGE F. TAYLOR.

25

30

35

40

45

50

55

60

65