W. D. REARWIN.

EMERY WHEEL DRESSER.

APPLICATION FILED MAR. 27, 1908.

961,460. Patented June 14, 1910.

Fig. 1.

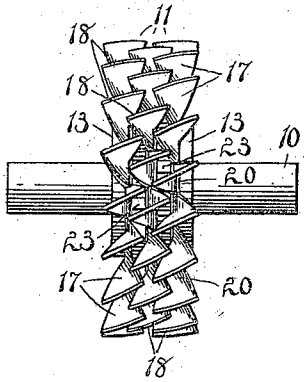


Fig. 2.

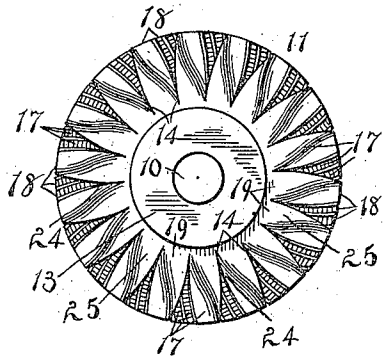


Fig. 3.

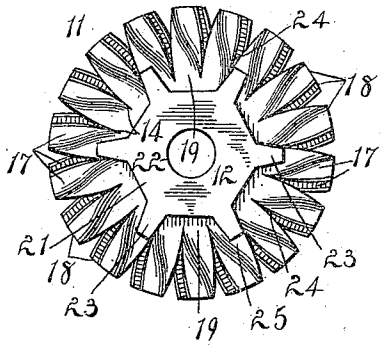


Fig. 4.

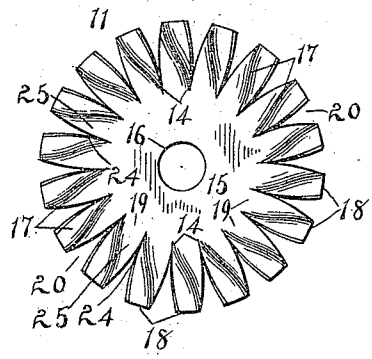


Fig. 5.

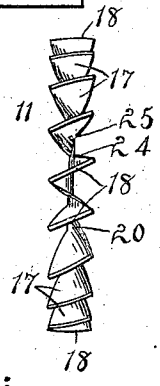
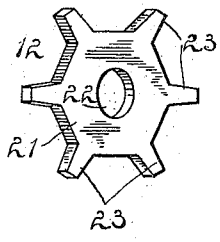


Fig. 6.



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UNITED STATES PATENT OFFICE.

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EMERY-WHEEL DRESSER.

961,460. Specification of Letters Patent. Patented June 14, 1910.

Application filed March 27, 1908. Serial No. 423,630.

To all whom it may concern:

Be it known that I, WILBER D. REARWIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Emery-Wheel Dressers, of which the following is a specification.

My invention relates to tools used for dressing and truing abrading wheels and refers particularly to tools designed for truing emery or other wheels of similar density. The devices ordinarily employed for this purpose are composed of a plurality of disks mounted to rotate upon a spindle supported in a handle by which the tool is manipulated, and the improvements which form the subject matter of this application are directed to devices of this class.

The chief objects of my invention are:— to provide a tool of the character stated made up of separate parts or units, each complete in itself but capable of being conjoined so as to act as a single tool or element; to furnish means for properly spacing said units when so conjoined in order to produce the required results when in actual use; to supply means for interlocking the individual units in order to combine the separate parts into a working member; and to construct the separate operating parts in such a manner that they will be mutually interchangeable, and may be economically manufactured.

I accomplish the above results by means of the devices illustrated in the accompanying drawing forming a part of this application, and in which:—

Figure 1 is an assembled view showing an assemblage of three units mounted in working form upon a spindle; Fig. 2 is a side elevation of the assemblage shown in Fig. 1; Fig. 3 is a side elevation of two disks and a spacer, the spindle being removed; Figs. 4 and 5 are side and edge elevations, respectively, of a single unit cutter, and Fig. 6 is a perspective view of one of the spacers.

Referring to the details of the drawing, the numeral 10 indicates a spindle upon which are mounted a plurality of cutters 11, separated by spacers 12, and having washers 13 placed upon the spindle in an position with the outside cutters. The spindle 10 is adapted to be mounted in a handle, the latter not being shown as it forms no part of my invention, and the separable cutters 11 may be considered as units conjoined in the manner shown, and hereinafter more specifically described, to form a working integer.

Each unit cutter 11 is constructed of a single disk of sheet steel, blanked out to a suitable size, and prepared for shaping by a series of spaced radial cuts or slits 14 extending from the periphery toward the center, leaving the central portion of the disk 15 plane and blank with the exception of a central round aperture 16 to accommodate the spindle 10. The tongues 17 formed by the slits 14 are then each given a torsional bend or twist upon the median radial line of the tongue so that the peripheral margin 18 assumes an angle with the plane of the plane portion 15, as shown in Figs. 1 and 5. These parts 18 form cutting elements or teeth and are wider than the attached base 19 of each tongue so that they will overhang the plane center 15 upon either side. The twisting of the tongues 17 to an annular transverse position, produces a considerable interval 20 between the adjacent tongues, and as the said tongues are regularly spaced, when two of the disks are placed with their sides in apposition, the lateral overhang of the teeth of each disk or unit will be received in the intervals 20 of the adjacent units, thus forming a regular intermeshing of the teeth 18 as shown in Fig. 1. In order to facilitate the proper spacing of the intermeshing teeth peripherally, I provide spacing members in the form of disks 21, of suitable thickness and furnished with central holes 22, to fit the spindle 10. The periphery of the disks 21 are supplied with teeth 23, spaced to correspond with the tongues 17 but fewer in number, which should be an aliquot part of the number of tongues on a cutter. When the cutters 11 are assembled upon the spindle 10 a single spacer 21 is placed between each two adjacent cutters, and the teeth 23 are of sufficient length to extend between the overhanging portions of the curved tongues near their attachment to the plane portion 15 of the cutters, as shown in Fig. 3, each tooth 23 being lodged between the margin 24 of one tongue, upon one side and the convex surface 25 of the adjacent tongue upon the other side, so that when a number of the cutters and spacers are assembled as shown in Fig. 1, and properly confined against lateral

movement the interlocking arrangement thus described will cause all the parts to rotate in unison when brought in contact with the abrading wheel in the usual method of applying such tools.

It will be noted by inspection of Fig. 1, that the peripheral margins of the tongues forming the teeth 18 overlap laterally, as previously explained, so that the entire working surface of the tool is completely covered thereby, thus increasing the efficiency of the device by producing a uniformity of cut not attainable by disks of the ordinary construction simply brought into lateral contact upon the spindle.

The spacers 21 may be used upon the outside of the grouped cutters, but I prefer to use the previously mentioned washers 13 of ordinary shape in this location.

Having thus described my invention, what I claim, is:—

1. In a dressing tool, a plurality of cutting members, each consisting of a disk of sheet metal having twisted radial teeth and said disks so arranged that the teeth of one are staggered with the teeth of the next adjacent disk substantially as shown, and means for holding said disk in operative arrangement.

2. In a dressing tool, a plurality of rotatable cutting disks having radial integral teeth arranged so that the plane of the cutting edges of the teeth of one disk intersect with the plane of the cutting edges of the adjacent disk to form a continuous cutting surface across the assembled disks.

3. In a dressing tool, a plurality of rotatably mounted disks, each disk having radial teeth, and each tooth twisted on its axis, and means arranged between said disks and adapted to engage said teeth, to prevent independent rotation of the respective disks.

4. In a dressing tool, a plurality of rotatably mounted disks, each disk having radial teeth and each tooth twisted on its axis, and means for preventing independent rotation of said disks, said means consisting of washers having portions engaging said teeth.

5. In a dressing tool, a plurality of rotatably mounted sheet steel disks cut and bent to form radial teeth having their cutting edges extending transversely of the plane of the disk, and washers arranged between said disks and having radial teeth interlocking with some of the teeth of the cutting disks.

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

WILBER D. REARWIN.

Witnesses:
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WM. B. MOORE.