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G. W. STARN

2,377,822

GRINDING WHEEL DRESSING DEVICE

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Fig. 1.

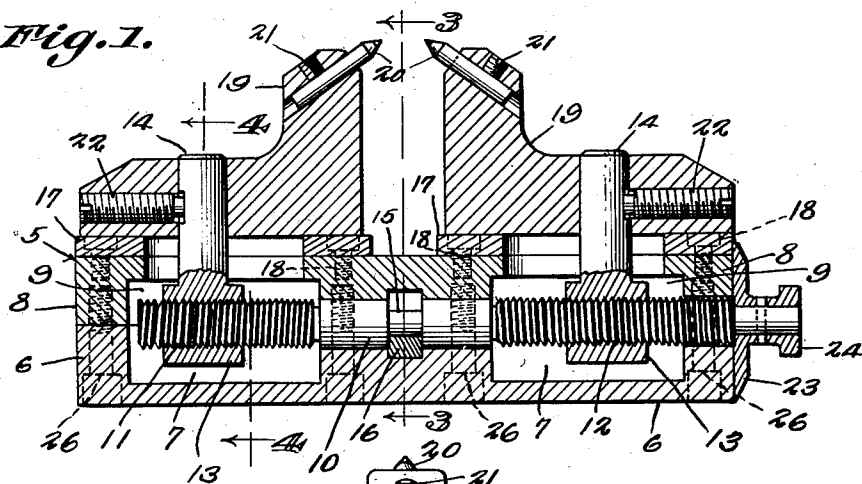


Fig. 2.

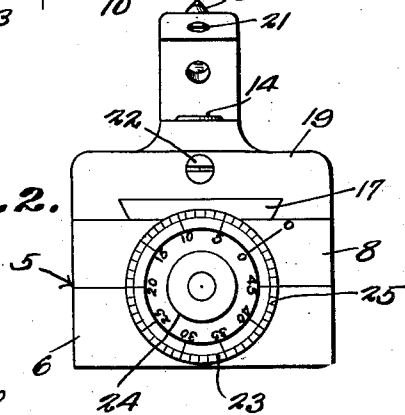


Fig. 3.

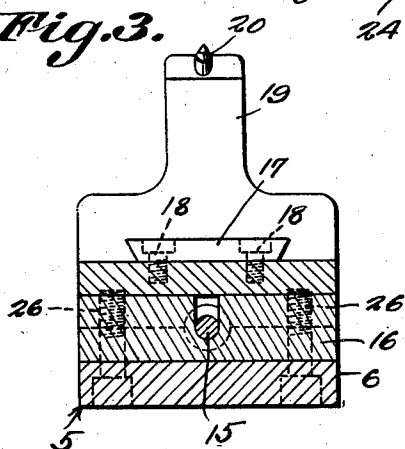
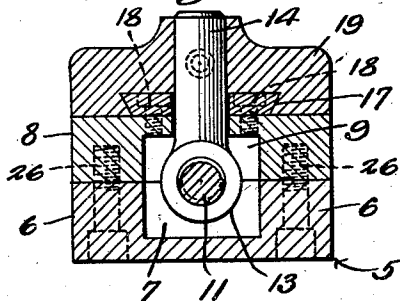


Fig. 4.



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GRINDING WHEEL DRESSING DEVICE

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1 Claim. (Cl. 125—11)

This invention relates to a device designed for use in dressing grinding wheels, the primary object of the invention being to provide a device of this character, so constructed and arranged that both side faces of the grinding wheel under treatment, will be dressed simultaneously.

An important object of the invention is to provide means for balancing or equalizing the lateral pressure directed to the faces of the grinding wheel by the dressing tools, during the dressing operation, thereby eliminating the possibility of breaking the grinding wheel as frequently happens in dressing thin grinding wheels, due to the lateral pressure of the dressing tool against one side face of the grinding wheel, when the faces of a grinding wheel are dressed during separate operations.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawing:

Figure 1 is a longitudinal sectional view through a dressing device, constructed in accordance with the invention.

Figure 2 is an end elevational view of the device.

Figure 3 is a sectional view taken on line 3—3 of Figure 1.

Figure 4 is a sectional view taken on line 4—4 of Figure 1.

Referring to the drawing in detail, the device comprises a base indicated generally by the reference character 5. The base comprises a lower section 6 having recesses 7 in the upper surface thereof. The base also includes an upper section 8 which is also formed with recesses 9 which, when the upper section is positioned on the lower section, register with the recesses 7 in providing openings for the tool holder adjusting posts, to be hereinafter more fully described. The sections 6 and 8 are also formed with cooperating semi-circular bearings to accommodate the adjusting shaft 10, by means of which the tool holders are adjusted towards and away from each other.

The adjusting shaft 10 is formed with screw-threaded portions 11 and 12, the screw-threads being oppositely disposed and adapted to fit within the threaded heads 13 of the tool holder adjusting posts 14, so that rotary movement of the

adjusting shaft 10, will operate to move the tool posts 14, towards or away from each other, according to the direction of rotation of the shaft.

An annular groove 15 is formed intermediate the ends of the shaft and is adapted to accommodate the key 16 that is embedded in a recess in the lower section 6 of the base, whereby the shaft 10 is held against movement longitudinally of the base, but permitted to rotate freely within its bearings.

The reference character 17 indicates guide plates, which are secured to the upper section 8, as by means of bolts 18, the side edges of the guide plates being beveled to fit within a correspondingly formed groove, formed in the base of each tool holder 19, which tool holders move longitudinally of the guide plates to adjust the positions of the diamond-pointed tools 20, which are adjustably supported within bores formed in the tool holders, as clearly shown by Fig. 1. Set screws indicated at 21 secure the tools 20 in their positions of adjustment, within their bores.

The guide plates 17 are also formed with openings that register with the openings of the base, and permit the tool holder posts 14, to extend upwardly therethrough, where they are connected with the tool holders. Set screws 22 extend into the tool holders and have their inner ends disposed in openings of the posts 14, securing the posts to the tool holders, so that movement of the posts, will result in a relative movement of the tool holders.

On one end of the shaft 10, is a dial 23 formed with a finger piece 24, the dial cooperating with graduations 25 formed on the end surface of the base. By rotating the dial, the movement of the shaft 10 may be regulated for an exceptionally fine adjustment of the tools 20.

It might be further stated, that the upper and lower sections of the base, are held together by means of the bolts 26 which are shown as extended upwardly from the bottom of the base, the threaded ends thereof being disposed in threaded openings of the upper section.

In the use of the device, the grinding wheel to be dressed, is placed on the wheel spindle of the grinder, and the device, forming the essence of the present invention, is held with its rotating screw shaft, parallel to the axis of the wheel spindle, by any convenient holding device. As the wheel rotates, the dresser is fed towards the wheel by the same machine movement that normally feeds the wheel toward the work in the machine. By means of the opposing threads on shaft 10 and the required number of passes over

the wheel, it may be brought to the desired thickness.

Due to the construction shown and described, it will be seen that an even pressure is directed to both sides of the grinding wheel under treatment, with the result that the grinding wheel will be braced against lateral pressure which usually causes thin grinding wheels to break, under the redressing operation.

What is claimed is:

A device for dressing grinding wheels, comprising a base embodying separable upper and lower sections fitted together, said sections having recesses formed therein and having semi-circular bearings cooperating and providing a circular bearing, said bearing having a key way, a shaft having an annular groove formed inter-

mediate its ends, mounted within the bearing, a key positioned in the key way and extending into the groove of the shaft, securing the shaft against longitudinal movement within the bearing, said shaft having oppositely disposed thread portions in said recesses, adjusting posts having threaded openings in which the threaded portions of said shaft are positioned, tool holders mounted for sliding movement on the base, said tool holders adapted to close said recesses, the tool holders having openings in which the adjusting posts are secured, tools mounted in the tool holders and an operating knob on one end of the shaft whereby said shaft may be operated moving the tool holders and tools towards or away from each other.

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