Oct. 20, 1953 P. E. GROW 2,655,910

IMPLEMENT TO FACILITATE DRESSING OF GRINDING WHEELS

Filed April 11, 1952

FIG. 1

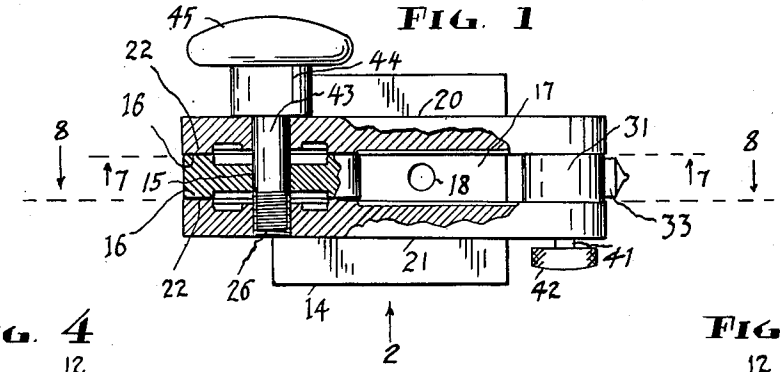



FIG. 4

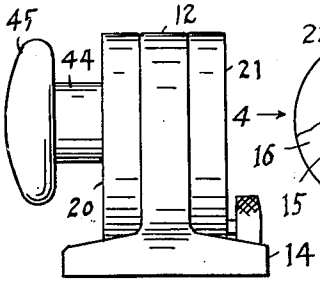



FIG. 2

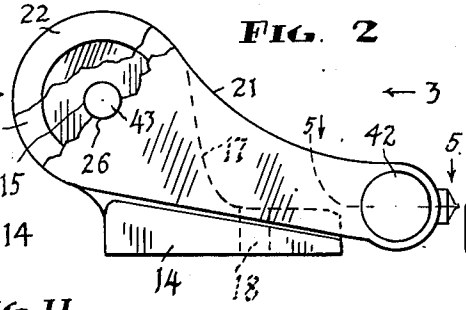



FIG. 3

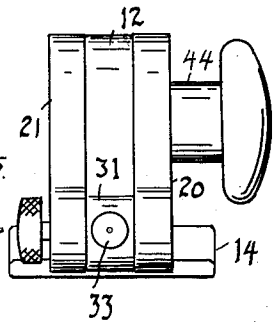



FIG. 11.

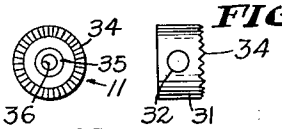



FIG. 10.

FIG. 5

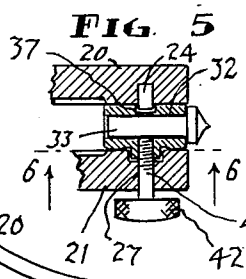



FIG. 6

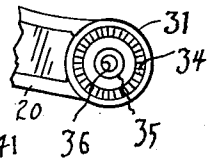



FIG. 7




FIG. 9

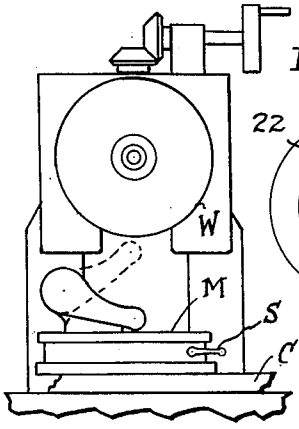
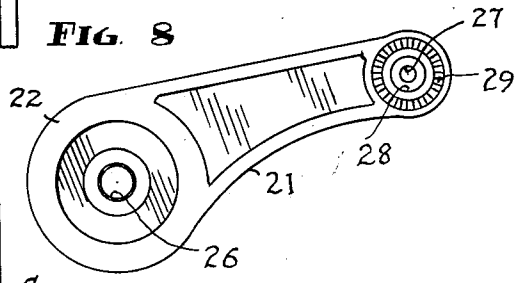



FIG. 8




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## IMPLEMENT TO FACILITATE DRESSING OF GRINDING WHEELS

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4 Claims. (Cl. 125—11)

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This invention relates to improvements in implements for use in connection with tools, machines, apparatus and devices wherein a power driven abrasive wheel is used, there being the need from time to time, of a dressing or truing of the peripheral face of said wheel.

Advantages desired, and which are sought to be accomplished by my improvements in an implement of the above classification are, that the cutter device, as a diamond pencil or the like, may be suitably supported, readily positioned at correct location and there rigidly maintained as against tendency to vibration or deflection during its travel across the surface of the wheel.

To provide an implement making possible the above named advantages is the object broadly stated, of my invention. Other and specific aims are directed to features of structural improvement leading to economy of manufacture, convenience in merchandising and use, and to the durableness and dependability of the device wherein the invention is embodied.

The objects of my invention are accomplished by, and the invention is contained in the new construction, combination and arrangement of parts described in the following specification and illustrated in the accompanying drawings wherein the several parts of the invention as they appear in the different views, are identified by suitable characters of reference.

In the drawings—

Fig. 1 is a top plan view of my new implement for dressing power driven abrasive wheels, the arm sections and the stanchion of the device being shown partially in cross section.

Fig. 2 is a side view of the implement in the direction of arrow 2 in Fig. 1, a portion of the enlarged or inboard end of the obverse arm section and a portion of the upper part of the stanchion of the device being broken away.

Fig. 3 is an end view in the direction of arrow 3 in Fig. 2.

Fig. 4 is an end view in the direction of arrow 4 in Fig. 2.

Fig. 5 is a sectional top plan view on broken line 5—5 in the direction of arrow 5 in Fig. 2.

Fig. 6 is a vertical sectional view on broken line 6—6 in the direction of arrow 6 in Fig. 5.

Fig. 7 is a view of arm section 20, on broken line 7—7 in the direction of arrow 7 in Fig. 1.

Fig. 8 is a view of arm section 21, taken on broken line 8—8 in the direction of arrow 8 in Fig. 1.

Fig. 9 is a diagrammatic view indicating the appearance of the implement mounted in position on a machine of typical arrangement, and

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in position adjacent to the wheel that is to be dressed.

Fig. 10 is a side view of the cross head (removed) and as seen in the direction of arrow 6 in Fig. 5 wherein said cross head is shown in cross section.

Fig. 11 is a view of said cross head in the direction of arrow 11 in Fig. 10.

Cast iron stanchion 12 which embodies rib like foot portion 17 extending forwardly and integrated with flat rectangular smooth bottomed base 14, is provided at its disk like head portion 12 with a central cross bore 15, and with opposed smoothed annular seats 16. This stanchion is adapted to be anchored to the carrier member C of the machine, as by means of a magnetic chuck M, or by means of a cap screw or bolt (not shown) passed through a hole 18 provided therefor in the base of the stanchion, and secured to carrier member C of the machine.

An arm consists of spaced aligned complemental sections 20 and 21 which are similar, each to the other, in general contour and dimensions. At the inner faces of their inboard or enlarged ends are annular seats 22 of diameter to register, face to face, with the annular seats 16 of the said stanchion.

Section 20, at its inboard end, is provided with central cross bore 23, and at the inner face of its outboard end a pintle 24 is secured.

Section 21, at its inboard end, is provided with a central threaded cross bore 26, and at its outboard end is a central cross bore 27 and counterbore 28. At the inner face of said outboard end (see Fig. 8) serrations 29 circularly arranged, are provided.

A member which I denote as a cross head, so called because it functions as an interconnector of the said arm sections in spaced relation at their outboard ends, and which also functions as a holder for a cutter element presently to be referred to, consists of a body 31 of width slightly greater than the width of the stanchion in the portion thereof at its opposed annular seats 16. It is provided with a bore 32 which is directed at an angle to the transverse axis of said body—that is to say—at an angle to the perpendicular of the two opposed parallel side faces of said body. The said bore is for the reception and containment of a cutter element, as a conventional diamond pencil 33. At one of the sides of said cross head are serrations 34 (see Fig. 6), circularly arranged, and a central boss 35. A threaded central hole 36 through said boss communicates with the said bore 32.

At the other of the sides of said cross head

(see Fig. 5) is a central recess 37 adapted to be engaged by the said pintle 24.

Shaft 41 embodying knob 42, is journaled in the cross bore 27 of the arm section 21, and its threaded end is screwed into hole 36 of the cross head and to contact with the said diamond pencil, said pencil thereby being stayed in its position, and the shaft being made fast to the cross head. The operator now, by applying his hand to the knob 42 may dispose the cross head at position wherein its serrations 34 are in engagement with the serrations 29 of the outboard end of arm section 21. (See Fig. 8.)

The arm sections are now arranged in parallelism, the pintle 24 received in the recess 37 of said cross head, and the inboard ends of said arm sections being disposed at the opposite sides of said stanchion.

A cross shaft 43 embodies at an end thereof, the hub 44 of hand wheel 45. The other end of said shaft is threaded. Said shaft is journaled in the cross bore 23 of arm section 20 and in the cross bore 15 of the stanchion, and its end is screwed into the threaded bore 26 of said arm section 21, the hub 44 exerting at its machined underside, pressure against the arm section 20 and the said sections being drawn toward each other, their annular seats 22 and the annular seats 16 of the stanchion becoming tightened, and thereby, the said arm sections, stanchion and cross head being bound together in united relation, as shown in Fig. 1 and Fig. 2.

My new implement, in the preferred form and dimensions, is six and one half inches in length, four inches in height, and its base is of form of a rectangle three and one half by four inches in dimension. The weight of the implement, as above described, is seven pounds. It lends itself to use in connection with any conventional movable support fixture forming a part of the machine by which the abrasive wheel is driven. In the diagrammatical view Fig. 9, the implement is disposed upon a magnetic chuck M which is positioned on the carrier deck C of the machine, and at approximately correct position with relation to the size of the wheel to be dressed.

The operator now loosens with one hand, the hand wheel 45 whereby the arm sections 20 and 21 yield their tightened status thereby becoming free at the stanchion; then with his other hand applied at the knob 42 he raises the arm sections and while holding same in raised position, turns the knob 42 thereby rotating the cross head 31 to where the diametric bore 32 thereof is at the desired angle of inclination to locate the peak of the diamond pencil at the plane through which it is to be carried in the performing of its function of traversing the peripheral face of the abrasive wheel W. Now, when the hand wheel is tightened, the several parts will have become tenaciously united, the frictional seats of the inboard ends of the arm sections, and of the stanchion being in metal to metal coengagement, and the opposed side faces of the cross head being in metal to metal engagement with the outboard ends of said arm sections. The operator after adjusting the position of the chuck and of the implement, then energizes the chuck by closing the switch S. The implement thus being held rigidly no manipulation of the implement incident to its recurring contacts with the abrasive wheel, involving readjustment of the height of the cross head, the angle of inclination of the diamond pencil, and, when desired, adjustment of the diamond pencil in said bore of the cross head, are necessary other than loosening the hand wheel 42, and the repositioning of the cross head by moving it rotatably by the knob 42.

It will be understood that changes may be made in the structure of the device described and in the method of making it, without departing from the spirit or principle of the invention. Insofar as modifications fall within the scope of the claims herein, they are included, as if described.

What I claim as my invention is:

1. An implement for facilitating truing of an abrasive wheel of a grinding machine, said implement consisting of a stanchion adapted to be anchored at position adjacent to said wheel, similar complemental arm sections arranged in aligned opposed spaced relation and with their inboard ends at two opposed sides of said stanchion, one of said arm sections at the inner face of its outboard end having a pivot bearing, a cross head of width slightly greater than the width of said stanchion at its said two opposed sides, and engaged at a side thereof with said pivot bearing, and provided with a diametric bore directed at an angle to the transverse axis of said cross head, a diamond-pencil positioned in said bore, a knobbed shaft journaled crosswise in the outboard end of the other of said arm sections and threaded axially in said cross head and to communication with the said bore thereof, and operable to fasten said diamond-pencil against dislodgement, and means pivotally interconnecting said arm sections at their inboard ends to said stanchion, and manually operable to strain said arm sections toward each other, thereby to tighten them, said stanchion, and said cross head in tenaciously united relation.

2. Implement of the kind described, comprising a stanchion adapted to be anchored at position adjacent to a power driven abrasive wheel, and provided with a cross bore, complemental arm sections arranged in aligned opposed spaced relation and with their inboard ends at two opposed side faces of said stanchion, one of said arm sections at its inboard end having a cross bore, and at the inner face of its outboard end having a pivot bearing, a cross head of width slightly greater than the width of said stanchion in the portion thereof between its said two opposite side faces, said cross head being provided with a bore directed at an angle to the transverse axis of said cross head, a diamond-pencil positioned in said bore, a side of said cross head being adapted to engage the pivot bearing aforesaid, a knobbed shaft journaled in the outboard end of the other arm section and threaded axially in said cross head and to communication with said bore, said other arm section at its inboard end having a threaded cross bore, a cross shaft embodying at an end thereof a hubbed hand-wheel, the other end of said shaft being threaded, said shaft being journaled in the cross bores of the first named arm section and of said stanchion, and having its end screwed through the threaded bore of the last named arm section, the hub of said hand wheel pressing against said first named arm section.

3. An implement for holding a diamond-pencil, comprising a stanchion consisting of a disk having annular seats on two of its opposite sides, and embodying an offset flat-bottomed base, its longitudinal axis being in parallelism and in alignment with the horizontal diametric

axis of said disk, opposed aligned spaced arm sections, the inner faces of their inboard ends having annular seats to register with the annular seats of said disk, and the inner face of the outboard end of one of said sections having circularly arranged serrations, a cross head of width slightly greater than the width of the stanchion at the annular seats thereof, and at a side of said cross head there being circularly arranged serrations, said cross head having a bore directed at a right angle to the transverse axis of said cross head, bearings interacting between said cross head and the outboard ends of said arm sections for the support, and to permit of the adjustment rotatively of said cross head, and means pivotally connecting said arm sections at their inboard ends to said stanchion and manually operable to clamp them to position with their annular seats in holding engagement with the annular seats of said stanchion.

4. An implement of the kind described comprising a stanchion embodying an offset flat-bottomed base, the body portion of said stanchion having seats on two of its opposite sides, opposed spaced aligned arm sections the inner faces of their enlarged inboard ends having seats to



register with the seats of said stanchion, a cross head of width slightly greater than the width of the stanchion in the portion thereof between said seats, and being provided with a bore directed at an angle to the transverse axis of said cross head, a diamond pencil received in said bore, bearings interconnecting the cross head and the outboard ends of said arm sections for the support of said cross head by said arms, and to permit of the adjustment rotatively thereof, means securing the pencil in said bore, and means pivotally connecting said arm sections at their inboard ends to said stanchion and manually operable to clamp them with their seats engaged with the seats of said stanchion, thereby the said stanchion, arm sections, cross head and its bearings being bound together in united relation.

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