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W. D. BARTLETT

HOLDER FOR WHEEL DRESSERS

Filed May 7, 1921

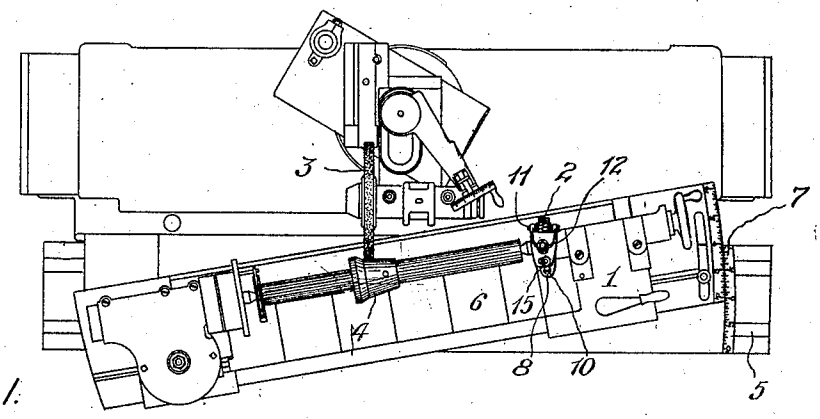


FIG. 1.

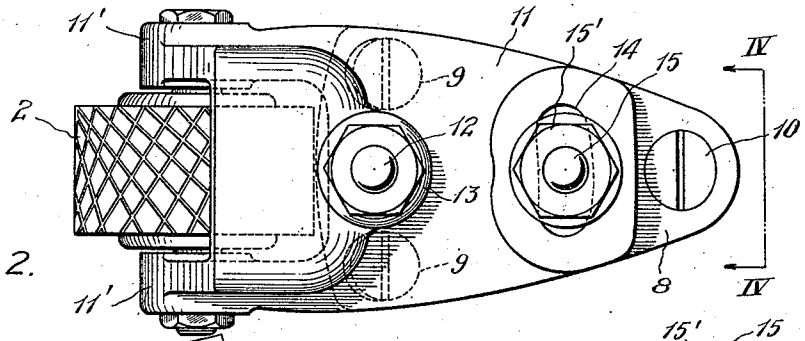


FIG. 2.

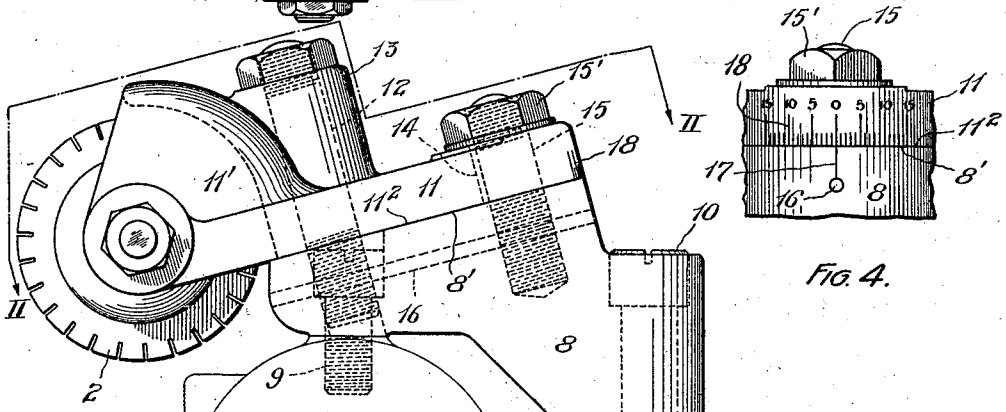


FIG. 3.

FIG. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM D. BARTLETT, OF CLEVELAND, OHIO, ASSIGNOR TO THE ROSS MANUFACTURING COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

HOLDER FOR WHEEL DRESSERS.

Application filed May 7, 1921. Serial No. 467,688.

To all whom it may concern:

Be it known that I, WILLIAM D. BARTLETT, a citizen of the United States, resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented new and useful Improvements in Holders for Wheel Dressers, of which the following is a specification, the principle of the invention being herein explained, and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to holders for wheel dressers. Particularly, the invention relates to a mounting adapted for use on the tail stock of grinding machines, whereby irrespective of the angular position of the table upon which the tail stock and consequently the wheel dresser is mounted, the dresser may be presented squarely to the periphery of the wheel to be dressed. Furthermore, the invention relates to a solid mounting or holder for the dressing tool, whereby substantially all vibration of the tool during the dressing operation is obviated.

The annexed drawing and the following description set forth in detail certain means embodying my invention, the disclosed means, however, constituting but one of the various mechanical forms in which the principle of the invention may be employed.

In said annexed drawing:

Figure 1 represents a plan view of a grinding machine upon the tail stock of which is mounted a wheel dresser, supported by the new and improved holder hereinafter fully described and claimed, the traveling table upon which the tail stock is secured being adjusted to an angle to its path of travel for a purpose hereinafter fully described.

Figure 2 represents a plan view of the wheel dresser and its holder, taken from the planes indicated by the line II—II, Figure 3;

Figure 3 represents a side elevation of the elements shown in Figure 2 and a portion of the tail stock upon which the same are mounted; the tail stock being assumed to be positioned parallel to the path of the traveling table; and

Figure 4 represents a fragmentary end elevation, taken from the plane indicated by the line IV—IV, Figure 2.

Referring to the annexed drawing, in which the same ordinals refer, respectively, to similar parts throughout the several figures, the tail stock of a grinding machine is indicated by the ordinal 1, upon which is mounted a wheel dresser 2, such as shown and described in U. S. Letters Patent No. 1,256,167, issued Feb. 12, 1918, to The Ross Manufacturing Co., Cleveland, Ohio, such dresser 2 being adapted for use in dressing emery wheels, carborundum wheels, and the like. One type of such wheels is indicated by the ordinal 3, Figure 1. When this wheel 3 is utilized for grinding work with conical surfaces, a type of which is indicated by the ordinal 4, Figure 1, the table 6 upon which the work 4 is mounted is angularly adjusted to the ways 5, so that the wheel 3 may travel over the face of the work 4 in a plane parallel to the planes of the ways 5 or to the axis of the wheel 3. However, whenever it is desired to dress the wheel 3 by means of the tool 2, the tool being of a character such as shown in said Patent No. 1,256,167, and illustrated fully by Figures 2 and 3 of this application, it is desirable to present the face of the tool 2 squarely to the periphery of the wheel 3 in order to dress the latter evenly. Therefore, unless the table 6 is re-adjusted into a position parallel with the ways 5, it will be necessary to angularly adjust the tool 2 and its mounting. To obviate the repeated readjustment of the table 6 and to provide simple effective means for adjusting the tool 2 are the objects of this invention and the detail of the construction will now be described.

Secured to the tail stock 1 by means of a pair of forward bolts 9 and a rear bolt 10 is a casting 8 having a broad, flat, upper face 8′, serving as a broad base or support for a holder member proper 11, within the arms 11′ of a forward yoke portion on which is rotatably mounted a dresser 2. This holder member 11 has a broad, flat cooperating bottom face 11^2 by means of which and the bolts 12 and 15 the holder is secured to the casting 8 in a very rigid and stable manner. A boss for the bolt 12 is indicated by the ordinal 13, and an elongated transverse slot formed in the rear end of the holder member 11 is indicated by the ordinal 14. The bolts 12 and 15 are rigidly secured in the casting 8 and locked by means of a pin 16 intersecting said casting and the two bolts, as is well under-

stood by those skilled in this art. The holder member 11 is journaled upon the stem of the bolt 12 so that the holder member is angularly adjustable about the axis of the bolt 12. The elongated slot 14 allows for this angular adjustment of the holder member 11, and by means of the nut 15', the holder member 11 is rigidly secured in any desired angular position.

Upon the rear of the casting 8 is indicated by the line 17 a central plane perpendicular to the planes of the ways 5, and a graduated scale 18 formed upon the rear of the angularly adjustable holder member 11 serves to indicate when said holder member has been adjusted an amount sufficient to equal the angular position of the table 6 indicated by a graduated scale 7 shown in Figure 1.

By means hereinbefore described and plainly shown upon the accompanying drawing, it is evident that the holder member 11 is very solidly mounted upon the casting 8 and consequently upon the tail stock 1; that due to the broad base upon which the holder 11 is mounted and the rigid manner in which the same is held said holder and consequently the wheel dresser 2 will not shake or chatter during the operation of the dresser; and that the holder and dresser can be adjusted to an angle necessary to compensate for the angular position of the table 6, depending upon the character of the work 4 which is being ground. Consequently, whenever it is desired to dress the wheel 3, the latter is backed away; and then the table 6 moved forward to bring the dresser 2 directly in front of the periphery of the wheel 3, when the latter can be moved forward to contact with the dresser 2, in which position the latter will evenly dress across the entire surface of the periphery of the wheel 3. It follows that the angular adjustment of the table 6 and the dresser 2 need not be changed until a different type of work 4 is being ground in the grinding machine.

What I claim is:

1. In a grinding machine, the combination with a grinding wheel; of a work support comprising a table adjustable about a vertical axis, and work holding means thereon comprising a head stock and a tail stock; and a wheel dressing tool mounted upon said tail stock and adjustable about a vertical axis with respect thereto.

2. A mounting for wheel dressers, comprising a table, the latter being adjustable about a vertical axis and formed with a scale indicating the amount of angular adjustment; work holding means on said table comprising a head stock and a tail stock; and a dressing tool holder member mounted upon said tail stock and adjustable with respect to said table about a substantially vertical axis, said holder member being provided with a scale indicating the amount of angular adjustment thereof.

3. A mounting for wheel dressers, comprising a table, the latter being adjustable about a vertical axis and formed with a scale indicating the amount of angular adjustment; a holder member adjustably mounted upon said table about a substantially vertical axis and formed with a scale indicating the amount of angular adjustment; and means for securing said holder in any desired adjusted position.

Signed by me this 1st day of April, 1921.

W. D. BARTLETT.