March 2, 1971 J. PICCININO 3,566,550

ROCKER ARM GRINDING ATTACHMENT

Filed Oct. 14, 1968

Fig. 1.

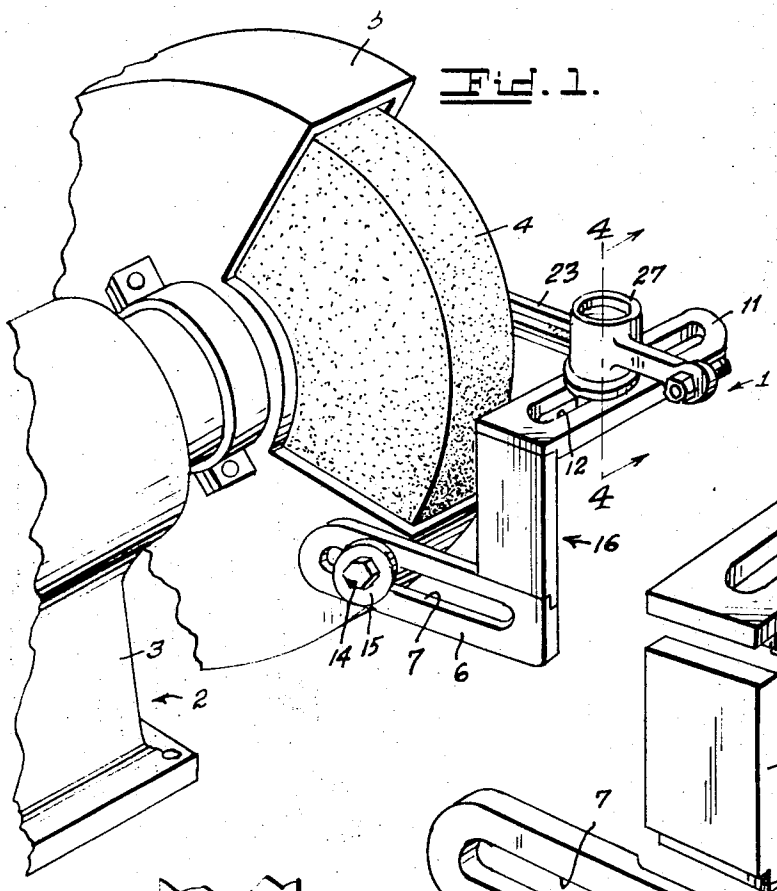
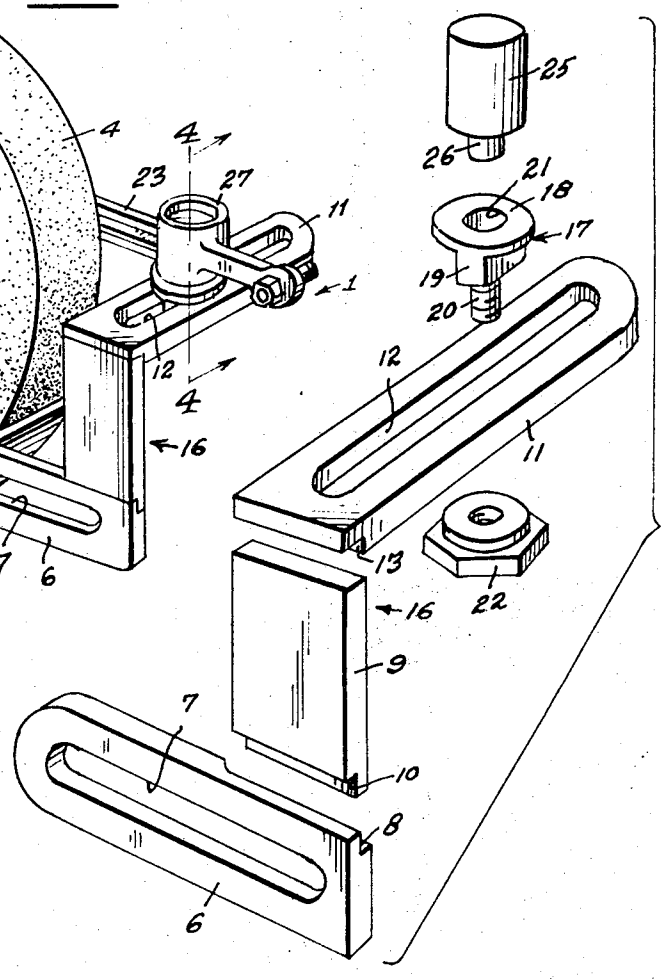


Fig. 3.



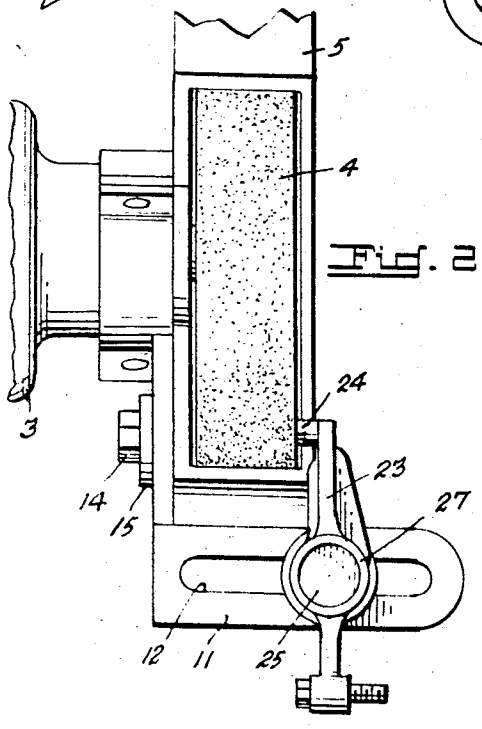
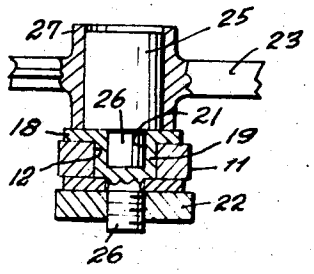


Fig. 2.

Fig. 4.



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ROCKER ARM GRINDING ATTACHMENT

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U.S. Cl. 51—216 1 Claim

ABSTRACT OF THE DISCLOSURE

A rocker arm grinding attachment for use with a bench grinder or like grinder consisting of a bracket which is adapted for adjustable attachment to the guard of a grinding wheel. The upper arm of the bracket is provided with an elongated slot to slidably receive an arbor and which may be set at a desired position along the slot. The rocker arm is placed on the arbor and rotated manually to bring its lip to bear against the side of the grinding wheel.

The invention described herein may be manufactured, used, and licensed by or for the Government for governmental purposes without the payment to me of any royalty thereon.

At present, rocker arms of overhead valve motors are ground in a specially designed machine and more than often a shop does not have such a machine. It is necessary then to take the rocker arm to a distant shop which has one and also necessary that the mechanic have the knowledge of operating the machine. This caused considerable delay and sometimes extra expense.

The present invention is intended to eliminate the use of the more complex rocker arm grinding machines by an apparatus of simple construction to be attached to an ordinary bench grinder or a lathe and which may be quickly and easily operated by an unskilled operator.

It is therefore a primary object of this invention to provide a rocker arm grinder attachment for use with an ordinary bench grinder or on a lathe.

Another object is to provide an attachment for grinding the lip of a rocker arm which is operated manually by an unskilled operator.

A further object is to provide an adjustable bracket mounted to the guard if a grinding wheel and an arbor holder adjustably mounted on the bracket and which is adapted to rotatably receive a rocker arm thereon whereby it may be rotated to bring its lip against the side of the grinding wheel for grinding.

In the drawing:

FIG. 1 is a perspective view showing the rocker grinding attachment of this invention mounted on the guard of a bench grinder and with a rocker arm in position for lip grinding;

FIG. 2 is a top plan view thereof;

FIG. 3 is an exploded perspective view of the grinding attachment per se; and

FIG. 4 is a sectional view taken along line 4—4 of FIG. 1.

Referring in detail to the drawing wherein like reference characters designate like parts throughout the several views, reference character 1 indicates generally the rocker arm grinding attachment of this invention. A portion of an ordinary bench grinder is indicated generally by 2 and this portion includes a standard 3, grinding wheel 4 and a wheel guard 5 to which the attachment is shown secured. While a bench grinder is illustrated; a lathe or other similar apparatus could be employed if available by little or no structural conversion.

As best seen in FIG. 3, the attachment 1 comprises a bracket indicated generally by 16 consisting of three arms, a clamping arm 6 which is longitudinally slotted as at 7

and having a cut-out 8 at one of its ends, a vertical arm 9 having a cut-out 10 at its lower end and a horizontally disposed sliding ring holder arm 11 which is longitudinally slotted as at 12 and cut-out as at 13 at one of its ends.

In assembly, as best seen in FIG. 1, arms 6, 9 and 11 are joined together at cut-outs 8, 10 and 13, as shown, and welded or screwed together, screws and weld not being shown. The formed bracket is mounted to the wheel guard 5 by arm 6. A headed bolt 14 passing through a washer 15, through slot 6 and into a threaded bore (not shown) in guard 5 and when tightened, locks the bracket in the desired position for the grinding operation.

Means are provided for supporting a rocker arm 22 on the bracket during grinding and consists of a sliding ring holder generally indicated by 17. Holder 17 is of integral construction and includes an upper annular portion 18 having downwardly depending boss 19 which extends diametrically on the under side of annular portion 18, its width being adapted to fit within slot 12 of arm 9. A downwardly depending, externally threaded stud 20 is integral to the lower side of boss 19. A central bore 21 is provided in the upper portion of holder 17 and extends into boss 19, best seen in FIG. 4. Boss 19 is adapted to fit into slot 12 while stud 20 extends below holder 11 where a locking nut 22 is adapted to be threaded thereon to lock the sliding ring holder 17 in a selected position along the holder 11.

Means are provided for supporting a rocker arm 23 for grinding its lip 24 and consists of an arbor 25 (see FIG. 3). Arbor 25 is cylindrical and has a reduced cylindrical lower portion 26 as shown. Several arbors could be stocked to accommodate rocker arms having tubular rocker arm shaft mounting portions 27 of different diameters.

The operation of the attachment is simple. First, the operator moves the sliding ring holder 17 to a position in slot 12 for grinding. Then the locking nut 22 is tightened. The operator then selects an arbor 25 having a diameter to receive the tubular portion 27 thereon and places the reduced portion 26 in bore 21. Now the rocker arm's tubular portion 27 is placed over the upper portion of arbor 25 and the rocker arm 23 is manually rotated to bear its lip 24 against the side of wheel 4 and ground as desired.

It is apparent that little or no skill is required for the aforesaid grinding operation and that the operation can be quickly performed. Once the sliding ring holder 17 has been set in the selected position several rocker arms may be serviced with great saving of time and expense.

What is claimed is:

1. A rocker arm grinding attachment for use with a bench grinder including a grinding wheel and a guard therefor; said attachment comprising in combination, a clamping arm having a longitudinal slot therein, a bolt riding in said slot for adjustably securing said arm to the inner side of said guard for rotation thereof in a vertical plane, a vertical arm secured at its lower end to the outer end of said clamping arm, an upper, horizontally disposed arm having a longitudinal slot therein secured at its inner end to the upper end of said vertical arm, said upper arm being disposed parallel to the axis of said grinder, a unitary ring holder defining an annular upper portion, a boss depending downwardly from said annular portion and disposed diametrically of its underside, said boss having a length equal to the diameter of said annular portion and a width adapted to slide within said slot in said horizontally disposed arm, an externally threaded stud extending downward from said boss, there being a central bore in said annular portion and said boss, a locking nut for threadable engagement with said stud

whereby said sliding ring holder may be locked in selected positions along said upper horizontally disposed arm and a cylindrical arbor defining an upper portion adapted to slidably receive the tubular shaft mounting portion of a rocker arm for rotation in a horizontal plane and a reduced lower portion adapted to fit said bore in said sliding ring holder.

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