

S. W. BAUMGARDNER.
 EMERY WHEEL STAND.
 APPLICATION FILED JUNE 10, 1909.

Patented Mar. 22, 1910.

2 SHEETS—SHEET 1.

952,866.

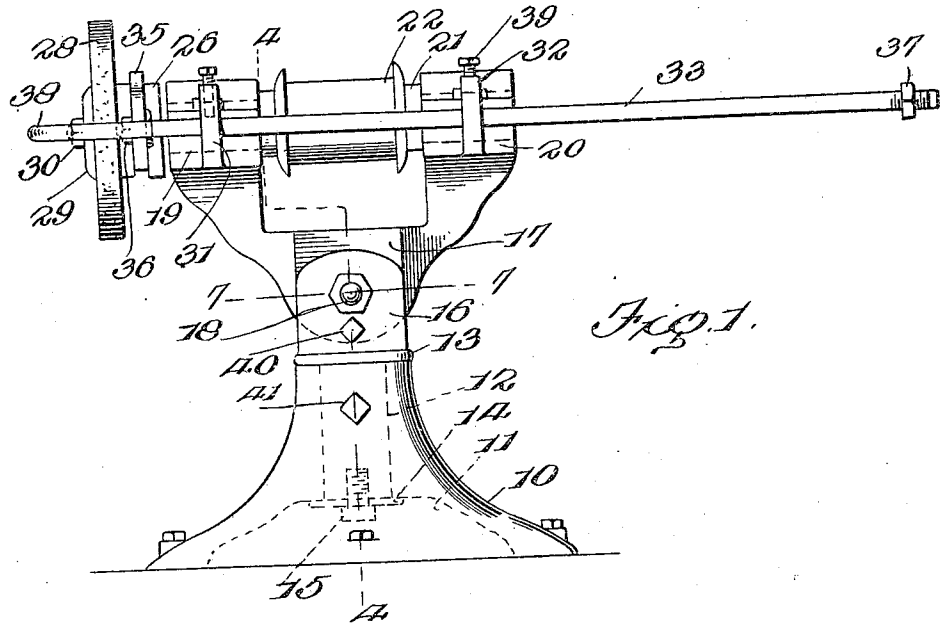


Fig. 1.

Fig. 7.

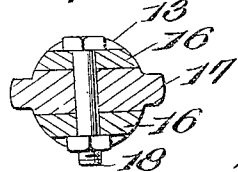


Fig. 2.

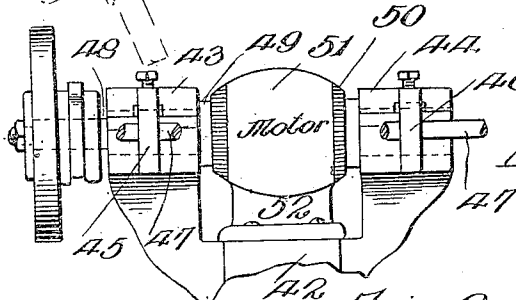
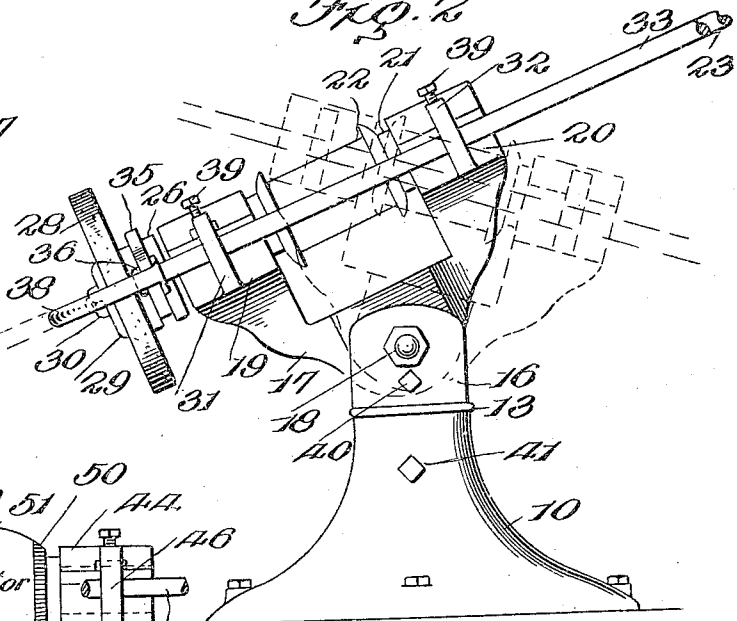


Fig. 8.

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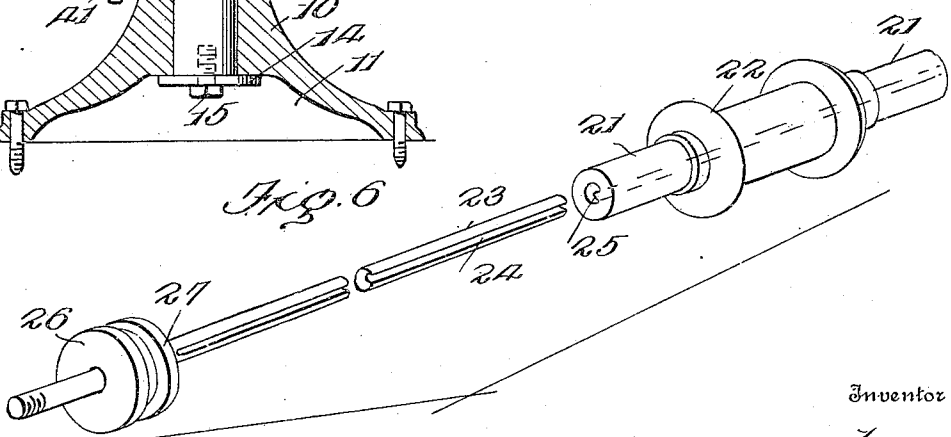
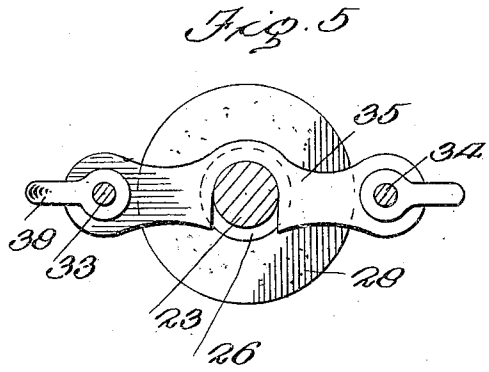
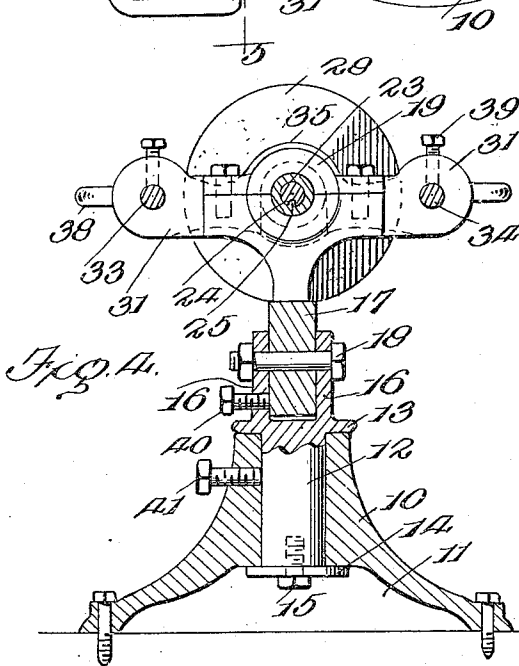
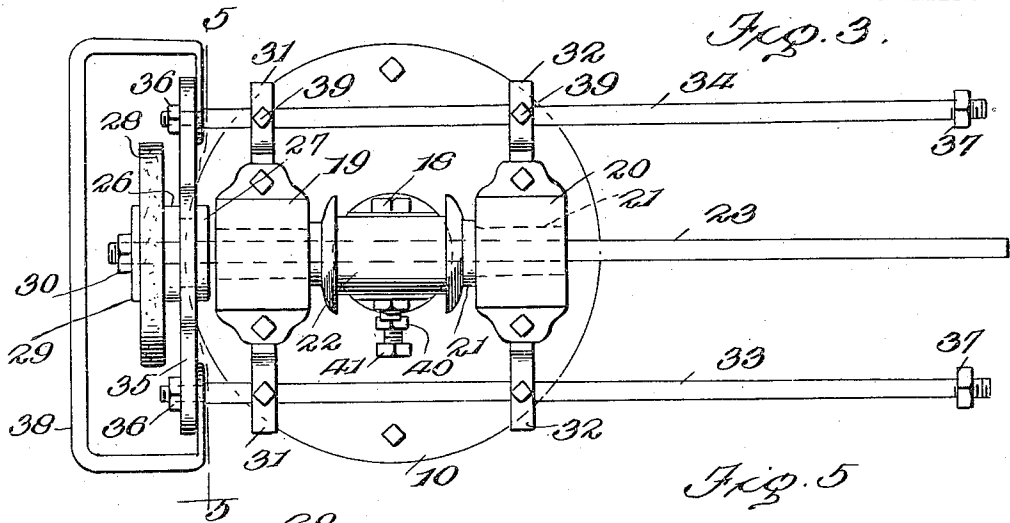
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UNITED STATES PATENT OFFICE.

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EMERY-WHEEL STAND.

952,866.

Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed June 10, 1909. Serial No. 501,331.

To all whom it may concern:

Be it known that I, SIDNEY W. BAUMGARDNER, citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Emery-Wheel Stands, of which the following is a specification.

This invention relates to polishing and grinding machines and refers particularly to an improved stand for adjustably supporting the same.

An object of this invention is to provide a mounting for an abrasive wheel whereby the same may be adjusted into various angles and may be extended various distances from the support in order to accommodate the same to the nature of the work which is required.

The invention further provides a novel construction of a stand of this nature which admits of the adjustment of the abrasive wheel by the hand of the operator and which permits of the turning of the support in order to bring the wheel into various angles to accommodate the same to various forms of work upon which the same is to be applied.

For a full understanding of the invention reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a side elevation of the complete machine. Fig. 2 is a side elevation of the same in a forwardly tilted position, the same being shown in dotted lines in a rearwardly tilted position and in an extended position. Fig. 3 is a top plan view of the machine. Fig. 4 is a vertical transverse section through the machine on the line 4—4 of Fig. 1. Fig. 5 is a transverse section on the line 5—5 of Fig. 3. Fig. 6 is a detailed perspective view of the sliding shaft and attachments thereto. Fig. 7 is a horizontal section on the line 7—7 of Fig. 1, and Fig. 8 is a modification of the stand showing a side elevation of the same having an electric motor applied thereto.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings the numeral 10

designates a base which is preferably of circular formation and which is hollowed at its under side, as at 11, and provided with a circular opening which is centrally and vertically disposed through the same. Engaged through the opening is a shank 12 which is flanged as at 13 at its upper extremity, the flange 13 being rested upon the upper end of the base 10 and retained thereon by the provision of a washer 14 which engages against the under side of the base 10 and is secured to the lower extremity of the shank 12 through the medium of a set-screw 15. The shank 12 is provided upwardly of the flange 13 with a pair of ears 16 which are spaced apart and receive the lower extremity of a head 17. The head 17 is flattened at its lower end and is formed circularly for engagement between the ears 16 in order to permit of the swinging of the same upon a bolt 18 which is engaged through the ears 16 and head 17. The opposite ends of the head 17 are provided with split journal boxes 19 and 20 which support a sleeve 21, the sleeve 21 being terminated at the outer ends of the journal boxes 19 and 20 and being provided with a pulley 22 immediately thereof which is disposed between the journal boxes 19 and 20.

Disposed through the sleeve 21 is a shaft 23 adapted for longitudinal movement there-through and which is held from rotation with respect to the sleeve 21 by the provision of a groove 24 longitudinally formed in one side of the shaft 23 and into which is engaged a rib or key 25 which is carried by the sleeve 21 and inwardly extended from the wall of the same. The outer end of the shaft 23 carries a collar 26 which is rigidly secured thereto and which is provided with an annular groove 27, the collar 26 being adapted to support an emery wheel 28 which is impinged against the outer face of the same about the shaft 23 and which is retained in such position by the employment of a washer 29 and a nut 30 engaged upon the outer face of the shaft 23.

The journal boxes 19 and 20 are each provided with laterally extended arms 31 and 32 which are disposed in pairs and which are apertured at their outer extremities through which guide rods 33 and 34 are disposed and adapted for longitudinal move-

ment therethrough. The guide rods 33 and 34 are disposed in parallel with the shaft 23 and adapted for longitudinal movement therewith and are retained in rigid relation thereto by means of a yoke 35 which is transversely positioned across the collar 26 and apertured at its outer ends to receive the forward extremities of the guide rods 33 and 34 which are retained in such position by means of clamping nuts 36. The rear extremities of the guide rods 33 and 34 are prevented from passing through the arms 32 by the provision of stop nuts 37 which abut against the rear faces of the arm 32 upon the forward movement of the guide rods 33 and 34. It is thus observed that the longitudinal movement of the shaft 23 is limited by the guide rods 33 and 34. A bail 38 is engaged about the emery wheel 28 and is of U-formation having its opposite extremities flattened and turned inwardly to engage about the forward extremities of the guide rods 33 and 34 rearwardly of the yoke 35 to which the same are rigidly secured. The bail 38 is of rounded formation for the purpose of admitting of the grasping of the same by the hand of the operator in order to draw the shaft 23 outwardly and to raise and deflect the wheel 28.

The arms 31 and 32 are provided at their outer extremities with set-screws 39 which engage through the same and are impinged against the guide rods 33 and 34 to retain the rods from longitudinal movement when the correct adjustment is obtained. The ears 16 are likewise provided with a set-screw 40 which extends inwardly from one side of the same and engages the lower portion of the head 17, and retains the same rigidly in the desired angle. For the purpose of clamping the shank 12 from rotation the base 10 carries a set-screw 41 which extends inwardly from the same and engages against the side of the shank 12 and retains the same in rigid position. The stand can thus be employed as a stationary or rigid stand when desired and can be made rigid after the proper adjustment has been obtained.

In the modification disclosed in Fig. 8 the head 42 is provided with the journal bearings 43 and 44 from which are extended the arms 45 and 46 disposed in pairs upon the opposite sides of the stand for supporting the guide rods 47 as hereinbefore described. A shaft 48 is longitudinally mounted through the bearings 43 and 44 and carries a sleeve 49 which is keyed to the same and which is disposed between the bearings 43 and 44 to admit of the sliding of the shaft 48 therethrough. The sleeve 49 is provided with an armature 50 of a motor, the field 51 of which is mounted upon a base 52 secured to the head 42. The shaft 48 can thus be more easily rotated by the provision of the

motor upon the head 42 than by driving the same by a belt which necessarily limits the adjustment of the stand.

In operation when it is desired to adjust the emery wheel 28 the operator grasps the arm 31 and is permitted to draw the same outwardly to carry the emery wheel away from the adjacent journal box 19, as is disclosed in dotted lines in Fig. 2, when the head 17 may be swung into various angles by depressing or raising the bail 38 as is disclosed in Fig. 2 in solid and dotted lines.

It is readily seen that by the provision of the circular shaft 12 and the aperture formed through the base 10 that the head 17 and ears 16 may be rotated about the base 10 in order to dispose the emery wheel 28 into various horizontal angles.

Having thus described the invention, what is claimed as new is:—

1. A device as specified comprising a base, a pair of ears rotatably mounted on said base, a head pivotally engaged between said ears, journal boxes formed at the opposite ends of said head, a sleeve journaled in said boxes, a shaft engaged through said sleeve for longitudinal movement therethrough, a collar secured to the outer end of said shaft, an emery wheel disposed upon the outer end of said shaft against said collar, a yoke engaged across said collar, a pair of guide rods rearwardly extended from said yoke and pairs of arms outwardly extended from said journal boxes for engagement with said guide rods.
2. A device as specified comprising a base, a shaft vertically disposed in said base, for rotatable movement therein, a flange formed upon the upper end of said shaft, ears upwardly extended from said flange, a head pivotally disposed between said ears, journal boxes formed upon the opposite ends of said head, a sleeve rotatably disposed in said boxes, a pulley carried by said sleeve for imparting rotation thereto, a shaft loosely disposed through said sleeve and having a longitudinal groove formed in one side thereof, a rib inwardly projected from said sleeve for slidable engagement in the groove, arms laterally extended in pairs in said journal boxes, guide rods slidably disposed through the outer ends of said arms, a yoke engaged across the forward ends of said shaft and secured to said guide rods, stop nuts disposed upon the rear extremities of said guide rods, a bail outwardly extended from said yoke and an emery wheel carried by said shaft inwardly of said yoke.

3. An emery wheel stand including a base, a head disposed on said base, means disposed between said base and said head for supporting the same to admit of rotary and vertical adjustment of said head, a shaft mounted on said head for longitudinal movement therethrough, guide rods carried

upon the opposite sides of said head and engaged with said shaft for limiting the sliding movement of the same, an emery wheel mounted upon the outer end of said shaft and a bail carried by said rods and extended about said emery wheel to admit of the adjustment of the same.

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

SIDNEY W. BAUMGARDNER. [L.S.]

Witnesses:

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