Sept. 22, 1936. A. HORMEL 2,055,351

GRINDING MACHINE

Filed Sept. 19, 1935

Fig. 1.

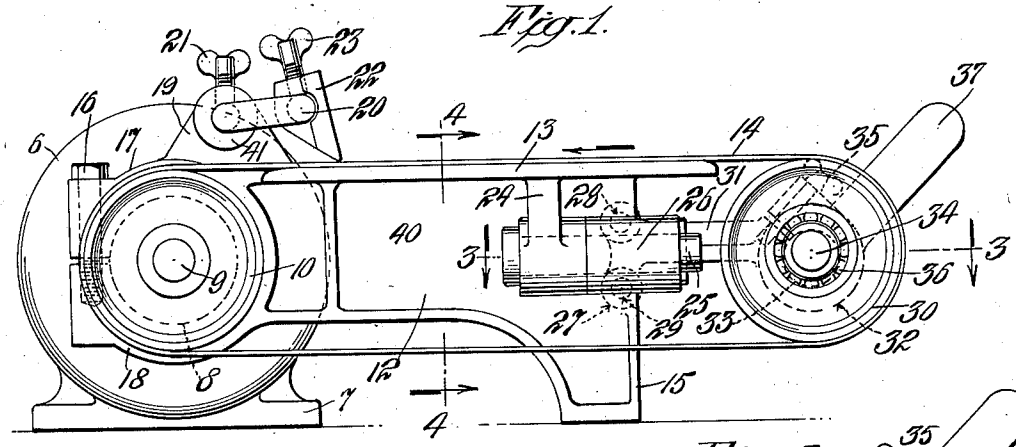


Fig. 5.

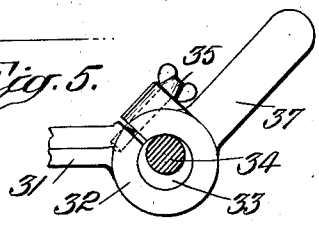


Fig. 2.

Fig. 3.

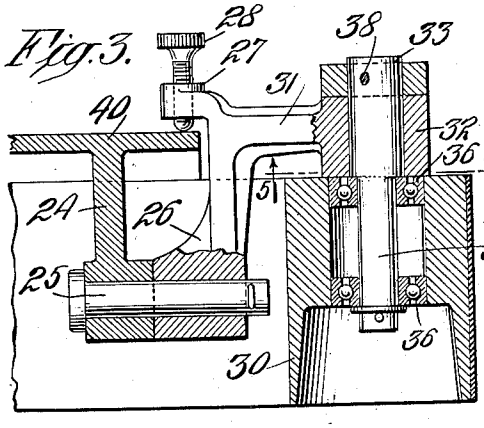
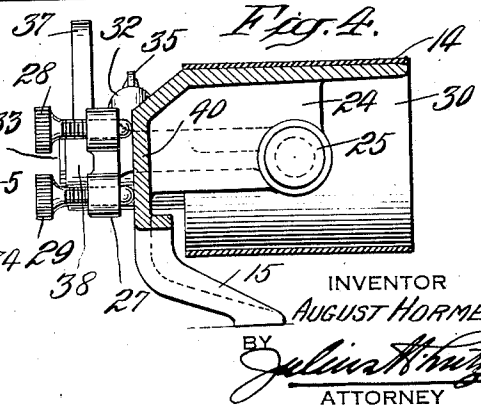


Fig. 4.



INVENTOR
AUGUST HORMEL
BY
ATTORNEY

Patented Sept. 22, 1936 2,055,351

UNITED STATES PATENT OFFICE

2,055,351

GRINDING MACHINE

August Hormel, Hoboken, N. J., assignor to National-Standard Company, Niles, Mich., a corporation of Michigan

Application September 19, 1935, Serial No. 41,267

1 Claim. (Cl. 51—135)

This invention relates to a grinding machine of the character shown and described in my Patent No. 1,108,176, dated August 25, 1914, and which is particularly adapted for grinding or smoothing metal, wood, or other materials.

The object of the invention is to improve the structure of such a machine, dispensing with driving belts and other forms of indirect driving means; to greatly simplify the frame structure of the machine, to provide a simplified means for adjusting one of the drums to maintain the grinding apron taut, and prevent lateral displacement thereof, and to generally improve the operation of the machine.

In the accompanying drawing, Fig. 1 is a side elevation of a grinding machine embodying my invention; Fig. 2 is a plan view thereof; Fig. 3 is a sectional view on the line 3—3 of Fig. 1, looking in the direction of the arrows; Fig. 4 is a sectional view on the line 4—4 of Fig. 1, looking in the direction of the arrows; and Fig. 5 is a sectional view on the line 5—5 of Fig. 3, looking in the direction of the arrows.

In the drawing 6 indicates the casing of an electric motor having the usual attached supporting base 7 and provided with the conventional projecting boss 8 through which the rotating shaft 9 of the motor extends. One of the drums 10 of the grinding device is secured directly on the motor shaft 9 by means of the screw 11 or by other suitable fastening means. At 12 is shown the frame of the machine which is provided with the horizontally extending table portion 13 over which the upper run of the endless grinding apron 14 is moved. The frame is formed with a vertical web 40 having its lower end projecting laterally at 15 below the lower run of the apron to form a supporting foot. The frame is provided at its opposite end with a clamp consisting of the jaws 17 and 18 which fit on boss 8 and are drawn together by means of the cap screw 16. The frame is thus supported at one of its ends upon the boss 8, and the base 7 of the motor thereby cooperates with the supporting foot 15 of the frame to support the machine upon any suitable supporting surface. The table 13 of the frame is formed with an upwardly projecting lug 19 terminating in a boss 41 from which projects a goose-neck rod 20 having one of its legs adjustable through the boss 41, and held in any fixed position by means of the wing screw 21, the other leg of the goose-neck rod supporting an adjustable stop 22 held in any fixed position by means of the wing screw 23. Through this arrangement the stop 22 may be raised, lowered or inclined with respect to the upper run of the apron 14 to serve as an abutment for such articles as may be held on the apron during the grinding or smoothing operation.

The frame 12 is provided with a laterally projecting arm 24 extending inwardly from the vertical web 40 and located between the upper and lower runs of the apron, the outer end of said arm carrying a pin 25. Mounted to pivot on said pin is a bracket 26 having a projecting lug 27 tapped to receive a pair of adjusting screws 28 and 29, said screws having their inner ends operative against the outer face of the web 40 of the frame as clearly shown in Fig. 4, to tilt the drum 30 to prevent the apron 14 from sliding laterally therefrom during the grinding operation. Bracket 26 is formed with arm 31 terminating in clamp 32 fitting on the eccentric end portion 33 of a stud shaft 34. Clamp 32 is caused to grip the eccentric portion 33 by means of the clamping screw 35. The drum 30 is mounted upon ball bearings 36 on the stud shaft 34. A manually movable adjusting lever 37 has a collar 38 surrounding the eccentric end 33 of shaft 34, and is secured thereto by means of the screw 38.

The grinding device is used in the manner well known, by placing an object on the upper run of the apron, holding the object to be ground or smoothed against the stop 22 which is set in any desired position of adjustment. To adjust the apron to a proper degree of tautness, the clamping screw 35 is first loosened and then the adjusting lever 37 is moved in the proper direction until the apron becomes tightened to the extent required. Then the clamping screw 35 is tightened to maintain the adjustment. The drum 30 can be inclined to prevent lateral slipping of the apron 14 from the drum by means of the adjusting screws 28 and 29, the pressure of one or the other of the screws causing the entire bracket 26 and drum 30 carried thereby to pivot on the pin 25 to tilt the drum up or down as required.

What I claim is:

A grinding machine of the character described comprising, a frame, a motor provided with a supporting base, said motor supporting a part of said frame, a first drum driven directly by said motor, a second drum, an endless grinding apron engaging said drums, a bracket pivotally supported by the frame, a shaft carried by the bracket, a second drum rotatively mounted on an eccentric part of the shaft, manually engageable means secured on the shaft for turning the same within the bracket to thereby force the second drum away from the first drum, means on the bracket for clamping the eccentric part of the shaft in any position of adjustment and means for tilting the bracket to thereby tilt the second drum relatively to the first drum.

AUGUST HORMEL.