July 9, 1935. D. V. WATERS 2,007,627

MATERIAL WORKING MACHINE

Filed June 1, 1933

FIG. 1.

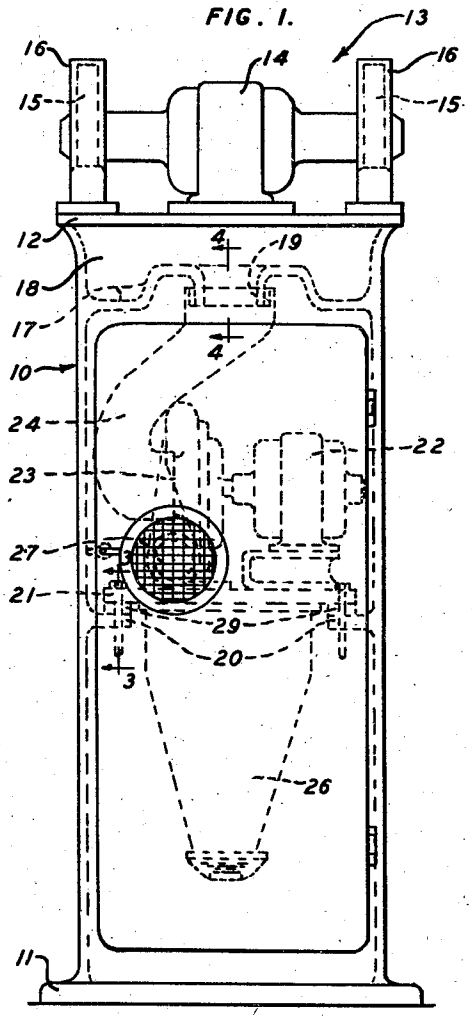


FIG. 2.

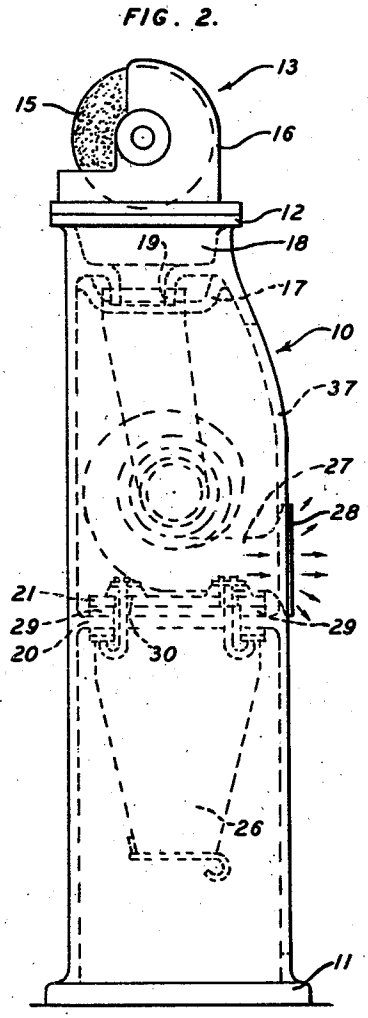


FIG. 3.

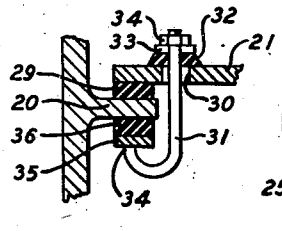
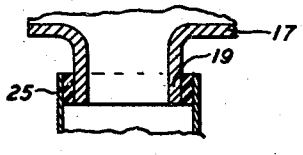


FIG. 4.



INVENTOR
D. V. WATERS
BY E. R. Nowlan
ATTORNEY

Patented July 9, 1935

2,007,627

UNITED STATES PATENT OFFICE

2,007,627

MATERIAL WORKING MACHINE

Daniel V. Waters, Cranford, N. J., assignor to Western Electric Company, Incorporated, New York, N. Y., a corporation of New York

Application June 1, 1933, Serial No. 673,841

1 Claim. (Cl. 51—273)

This invention relates to material working machines and in particular to a unitary grinding machine in which the abrading unit and the dust removing and collecting unit are mounted on and in a single supporting and housing structure.

An object of the invention is to provide a unitary material working machine and refuse collector of simple, neat and compact construction and provided with means to obviate and suppress the noisiness hitherto an objectionable feature of such devices.

With this and other objects in view one embodiment of the invention contemplates a machine of the character described having a grinding unit conveniently mounted upon a combined support and housing within which is housed a refuse removing and collecting unit to catch and collect the dust produced by grinding, a principal characterizing feature being means interposed between the dust collecting unit and the housing to prevent the transmission of vibratory and other noise producing disturbances from the unit to the housing.

Other objects and characterizing features of the invention will appear from the following detailed description of one embodiment thereof taken in connection with the accompanying drawing in which the same reference numerals are applied to identical parts in the several figures and in which

Fig. 1 is a view in rear elevation of a unitary grinding machine constructed in accordance with the invention;

Fig. 2 is a view thereof in side elevation from the left side of Fig. 1;

Fig. 3 is an enlarged fragmentary sectional view on the line 3—3 of Fig. 1, and

Fig. 4 is an enlarged fragmentary sectional view on the line 4—4 of Fig. 1.

In the embodiment of the invention herein disclosed, an upright, box like housing generally indicated by the numeral 10 has a base or low pedestal 11 and a flat top 12. A grinding unit 13 of any approved construction and here shown as comprising a motor 14 direct connected to each of a pair of grinding wheels 15 is mounted on the top 12. The grinding unit further comprises a hood 16 partially enclosing each grinding wheel.

Within the housing 10 near the top thereof and generally horizontally across the internal space is a septum 17 forming a chamber 18. Each hood 16 communicates at the bottom thereof with the chamber 18 through an appropriate aperture in the top 12. The septum 17 is centrally perforated and formed with a relatively short downwardly extending cylindrical outlet connection 19.

At about the middle of its height, the housing 10 is formed with an integral internal horizontal ledge 20 extending substantially across each end wall of the housing from front to back. These two ledges support a base 21 on which is mounted a dust collecting unit of any approved construction here indicated as comprising a motor 22 direct connected to a suction fan 23. The wide intake pipe 24 of the suction fan embraces with its upper end the downwardly extending extremity of the outlet connection 19. A collar 25 of sponge rubber or analogous sound and vibration insulating and damping material is interposed and seals the joint between the intake pipe 24 and the connection 19.

The fan 23 in well known fashion discharges dust sucked down from the chamber 18 and the hoods 16 through an aperture in the housing of the fan and through an appropriate communicating aperture in the base 21 into a bag or other suitable container 26 removably attached in any convenient way to the under side of the base 21. The fan 23 also discharges dust free air through its outlet pipe 27 which opens in proximity to but not in contact with an adjacent foraminous plate 28 forming part of or attached over an aperture in the rear wall of the housing 10.

The base 21 is removably attached to and supported on the ledges 20 in such a way as to suppress and prevent any vibratory or other noise producing disturbance generated in or by the dust collecting unit from being transmitted to the housing 10 by the attaching means. To this end a strip 29 of sound insulating and vibration suppressing material such as sponge rubber or the like is interposed between each of the ledges 20 and the base 21. The base is provided near each corner thereof with a vertical perforation 30 and in each of these perforations is positioned a metal bolt 31, the perforation being of considerably larger diameter than the bolt so that the latter does not touch the base. On the upper face of the base and surrounding the bolt is a washer 32 of sponge rubber or similar material and on the washer 32 is a second washer 33 of metal. A nut 34 of metal is screwed down on the threaded upper end of the bolt 31 and against the washer 33 drawing the bolt upward. The lower end of the bolt is recurved into a hook with an upwardly extending tip 34. On the tip 34 rests a disc of metal 35 and a pad or cushion 36 of sponge rubber or the like is interposed in turn between the disc 35 and the under face of the ledge 20. Thus

tightening down the nut 34 tends to clamp the base 21, strip 29 and ledge 20 firmly together while the various vibration insulating members 28, 32 and 36 prevent transmission of disturbance from the base to the ledge either directly or through the clamping means.

The rear wall of the housing 10 is formed with a large opening provided with a door 37. This opening extends vertically from near the pedestal 11 up to near the edge of the septum 17 thus rendering nearly the entire interior of the housing accessible when the door 37 is opened. Thus the removal of the bag 26 for emptying and its replacement are rendered conveniently easy. Also it makes convenient any necessary inspection of the dust collecting unit or eventual dismounting and removal of the same for adjustment or repair.

The entire apparatus thus comprises three principal component units, the housing, the grinding unit, and the refuse collecting unit detachably associated into a unitary, compact and efficient structure with all parts conveniently accessible for inspection, repair or disassembly, and with the refuse collecting unit entirely insulated from the rest with respect to noise transmission while being completely enclosed and muffled within the housing. It will be noted that the phrases "dust collecting unit" and "refuse collecting unit" as herein used mean a device which, as clearly shown on the drawing, actively collects or gathers dust or other refuse and a mere inert pan or other receptacle is not an equivalent thereof.

The embodiment of the invention herein disclosed is illustrative merely and may be modified and departed from in many ways without departing from the spirit and scope of the invention as pointed out in and limited only by the appended claim.

What is claimed is:

A material working machine having a housing provided with a supporting member, a refuse collecting unit mounted within the housing upon the supporting member, and means interposed between the housing and the unit to prevent the transmission of disturbances from one to the other while detachably attaching the two together comprising clamping means to clamp the unit to the support, vibration insulating means interposed between the unit and the support, vibration insulating means interposed between the clamping means and the unit, and vibration insulating means interposed between the clamping means and the support.

DANIEL V. WATERS.