Aug. 13, 1940. H. A. FALLON 2,211,716

SURFACE TREATING MACHINE

Filed Sept. 13, 1937

Fig. 1.

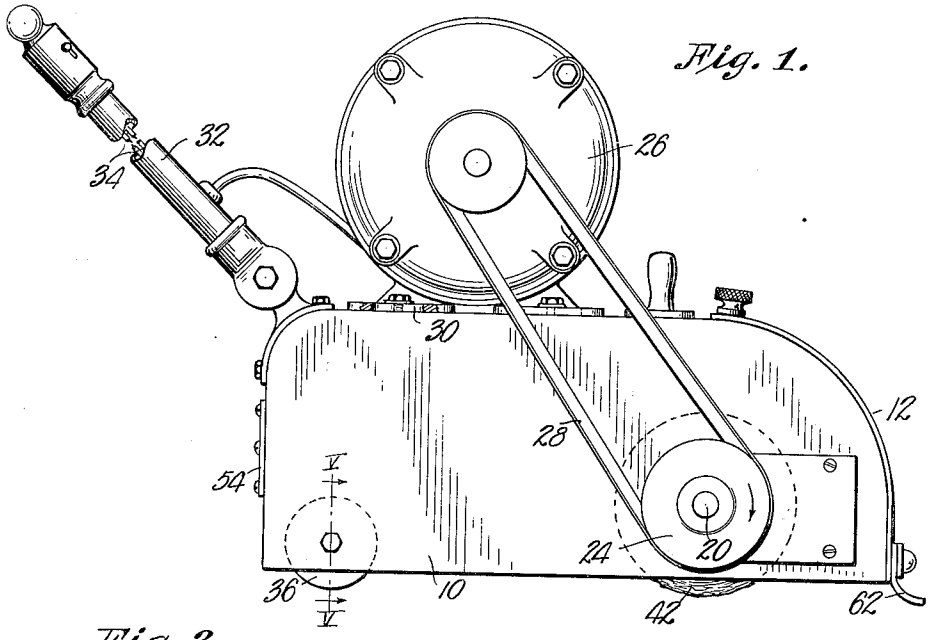


Fig. 2.

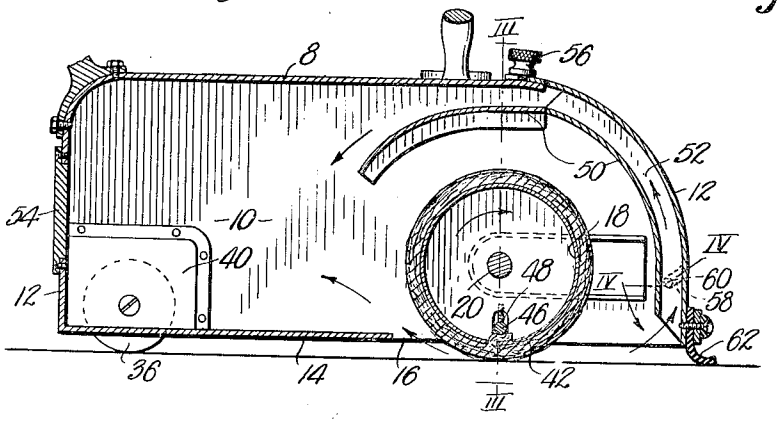


Fig. 4.

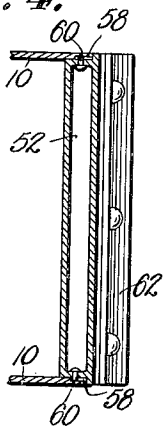


Fig. 3.

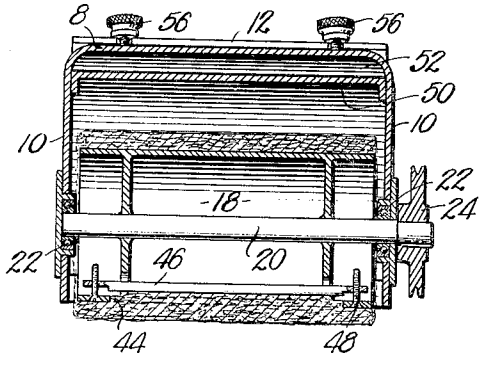
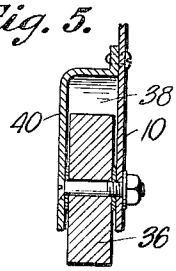


Fig. 5.



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2,211,716

SURFACE TREATING MACHINE

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Application September 13, 1937, Serial No. 163,605

2 Claims. (Cl. 15—93)

This invention relates to surface treating machines of the character employing a power driven, abrasive carrying drum that rests directly upon the surface being treated for the purpose of removing a portion of the said surface and the primary object of the invention is the provision of such a machine having novelly arranged means for collecting the particles which are removed from the surface.

One of the important aims of this invention is to provide a machine of the afore-mentioned character wherein the abrasive-carrying drum is so disposed with respect to parts of a specially formed body as to create air currents that are directed toward a receiving receptacle formed within the body and wherein entrained particles will be removed from the currents of air and caused to settle out by gravity during the operation of the machine.

Another important object of the instant invention is the provision in a surface treating machine of a drum for carrying a strip of steel wool, one end of which is clamped to the drum so that as the strip of steel wool is worn away, the same will be prevented from sliding around the drum and thereby lowering the efficiency of the machine having the drum associated therewith.

A still further object of the invention is the provision of a surface treating machine having an abrasive-carrying drum, in which machine is formed passage-ways through which air currents created by the said drum, may pass for the purpose of rendering the surface being cleaned, free from particles ground therefrom by the said drum.

Other objects of the invention will appear during the course of the following specification referring to the accompanying drawing, wherein:

Figure 1 is a side elevation of a surface treating machine made to embody the features of this invention.

Fig. 2 is a vertical, longitudinal, central section through the said machine.

Fig. 3 is a vertical, cross-sectional view through the same taken on line III—III of Fig. 2.

Fig. 4 is a fragmentary, sectional view through a portion of the machine taken on line IV—IV of Fig. 2, and

Fig. 5 is a fragmentary, detailed, sectional view taken on line V—V of Fig. 1.

The surface treating machine embodying this invention preferably comprises a body having a top **8**, sides **10**, ends **12** and a bottom **14**, all of which are combined to create a box-like body provided with an opening **16** through the bottom **14** thereof adjacent to the forward end of the body. A cylindrical drum **18** is mounted upon shaft **20** which in turn is journalled in bearings **22** carried by the opposite sides **10** of the body. These sides carry shaft **20** so that it may be rotated through the medium of pulley **24** which is mounted thereon exteriorly of the body.

A motor **26** carried on top of the body is in operable connection with drum **18** through the medium of pulley **24** and belt **28**. This belt may be adjusted as to tension through the use of slotted brackets **30** of conventional character.

A handle **32** secured to the body extends to a point within easy reach of the operator and wires **34** carry current to motor **26**. The rear portion of the body is supported by rollers **36** mounted within a small separate chamber **38** divided from the rest of the body by a partition **40**. There is one of these rollers **36** adjacent each side at the rear of the machine and the forward part of the machine rests directly upon the surface being treated through the medium of drum **18**. Thus a sufficient amount of weight is present to cause the abrasive material on drum **18** to function.

The abrasive material on drum **18** is in the form of a ribbon of steel wool **42**. This ribbon is substantially the same width as drum **18** and is wound around the outer annular face of the drum **18** in successive layers, the winding being in a clock-wise direction so that as drum **18** is rotated in the direction of the arrow (Fig. 2), the free end will be held against the remaining portion of the steel wool. One end of the ribbon of the steel wool is held in place by a specially formed clamp which comprises a longitudinal slot **44** and a bar **46**. Slot **44** is formed through the wall of drum **18** and bar **46** is within the hollow drum adjacent to said slot. Machine screws or the like **48**, extend through small openings in the side of drum **18** and into screw-threaded engagement with each end of bar **46**, thus when the ribbon of steel wool is between bar **46** and the inner face of drum **18**, these machine screws may be tightened and thus clamp the end of the ribbon of steel wool **42** in place.

A partition **50** is formed within the housing substantially parallel to and in spaced relation with a portion of the top **8** and end **12**. This partition **50** extends from side to side and creates a passage-way **52** through which air currents are forced in the direction of the arrows shown in Fig. 2 for the purpose of keeping the surface being treated free from foreign particles. The rotation of drum **18** is sufficient to set up the

currents just mentioned and a portion of the body rearwardly of drum 18 and above bottom 14 serves as a receptacle to catch the particles which are carried thereinto by the said currents of air.

In the commercial use of a machine made exactly as illustrated, all particles which it is desirable to collect are retained within the body rearwardly of drum 18 and may be removed therefrom through a door 54 provided in the rear end 12. The forward end 12 is removably associated with the rest of the body and carries that portion of partition 50 which is in parallel spaced relation thereto.

Thumb-screws 56 are employed to hold this removable end 12 in place and inclined slots 58 formed in opposed sides 10 receive pins 60 carried by end 12. A rubber strip 62 mounted upon forward end 12 engages the surface being treated and seals to a certain extent the forward portion of the machine so that air currents travelling through passage-way 52 will be directed upwardly from the said surface between drum 18 and strip 62 to carry foreign particles from that portion of the surface being treated. The removal of this forward end 12 will permit adjusting the screws and adjusting the drum and supplying the same with additional abrasive when desired.

It is conceivable that this invention might be embodied in machines having different characteristics than that shown in the accompanying drawing and it is desired to be limited only by the scope of the appended claims.

Having thus described the invention, what I claim as new and desire to be secured by Letters Patent is:

1. A surface treating machine of the kind described comprising a hollow body having a top, a pair of sides, a pair of ends, and a bottom provided with an opening adjacent to one of the ends and extending from side to side of the body; a cylindrical abrading drum rotatably mounted within the body, between its sides, with a portion thereof extending through said opening below the bottom for supporting one end of the body as the surface is being acted upon thereby; a motor having oerable connection with the drum for rotating the same; and a partition within the body, extending in spaced concentric relation with the said one end and along a portion of the top toward the other end of the body and terminating above the drum between the drum and other end of the body to form a passageway between the partition and the top and one end of the body, said one end of the hollow body having a resilient strip carried thereby and extending from side to side of the body to close the space between the lower edge of the said one end and the surface being treated, said body having rollers thereon for supporting the other end thereof, said drum having a continuous annular periphery in tangential contact with the surface being treated on a line spaced rearwardly from the resilient strip whereby material is directed into the body through the said passageway.

2. A surface treating machine of the kind described comprising a hollow box-like body having a top, a pair of sides, a pair of ends, and a bottom normally parallel to the surface being treated, said bottom being provided with an opening adjacent to one of the ends whereby a refuse receiving cavity is formed at one end of the box-like body; a surface treating drum rotatably mounted within the body, between its sides with a portion thereof extending through said opening and below the bottom into contact with the surface being treated; a motor having operable connection with the drum for rotating the same; a resilient strip carried by said one end of the body to engage the surface being treated; and a partition within the body, extending in spaced relation with the said one end and along a portion of the top toward the other end of the body and terminating above the bottom of the body and between the other end thereof and said drum whereby to form a passageway extending partially around said drum and in communication with the receiving cavity, said drum being positioned between the said receiving cavity and the said one end of the body, said passageway and drum being substantially the width of the body, said drum serving as the sole means for setting up currents of air rearwardly through the passageway and into the refuse receiving cavity as the machine is in operation.

HENRY A. FALLON.