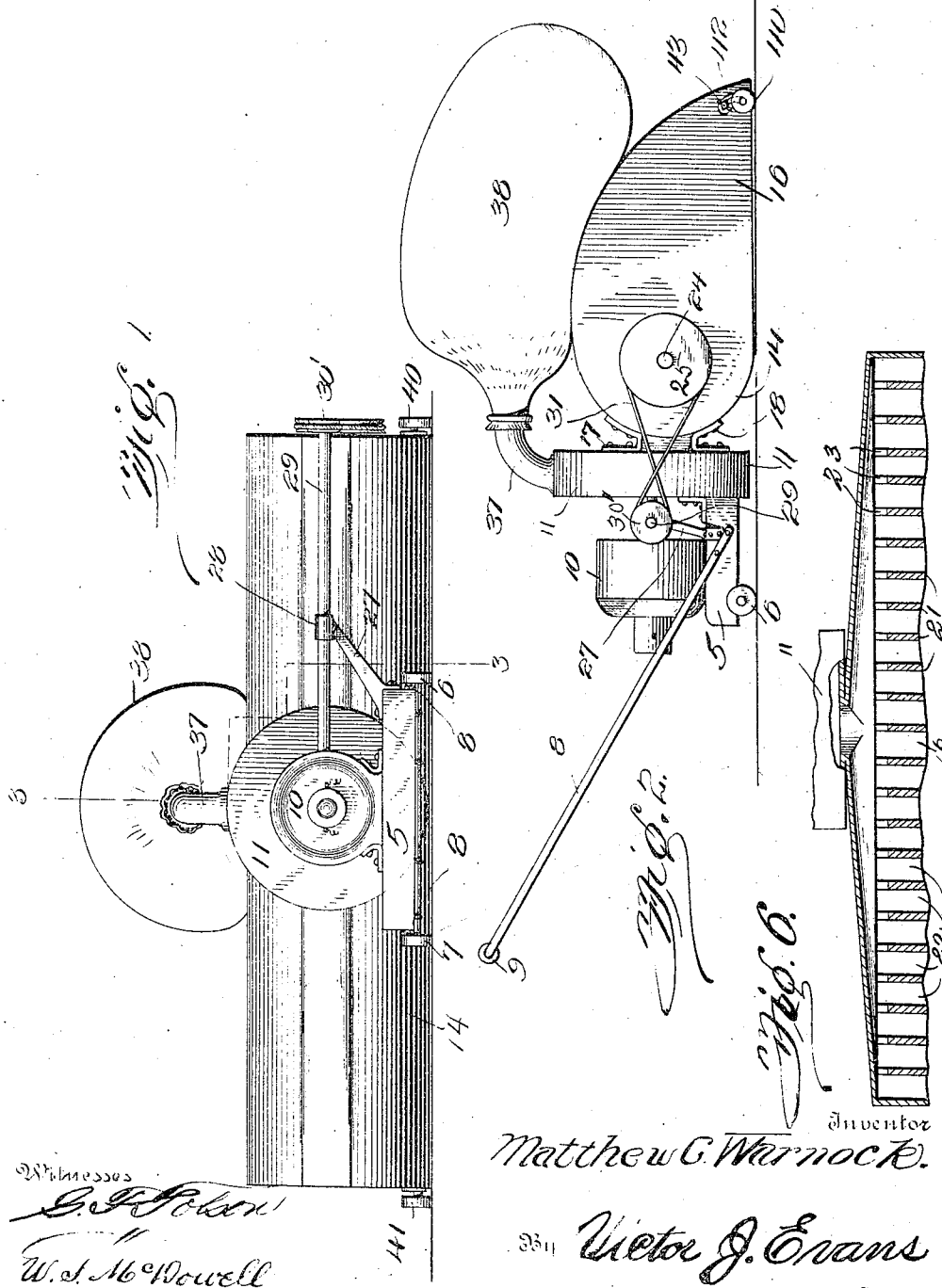


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APPLICATION FILED JAN. 8, 1910.

988,232.

Patented Mar. 28, 1911.

2 SHEETS—SHEET 1.

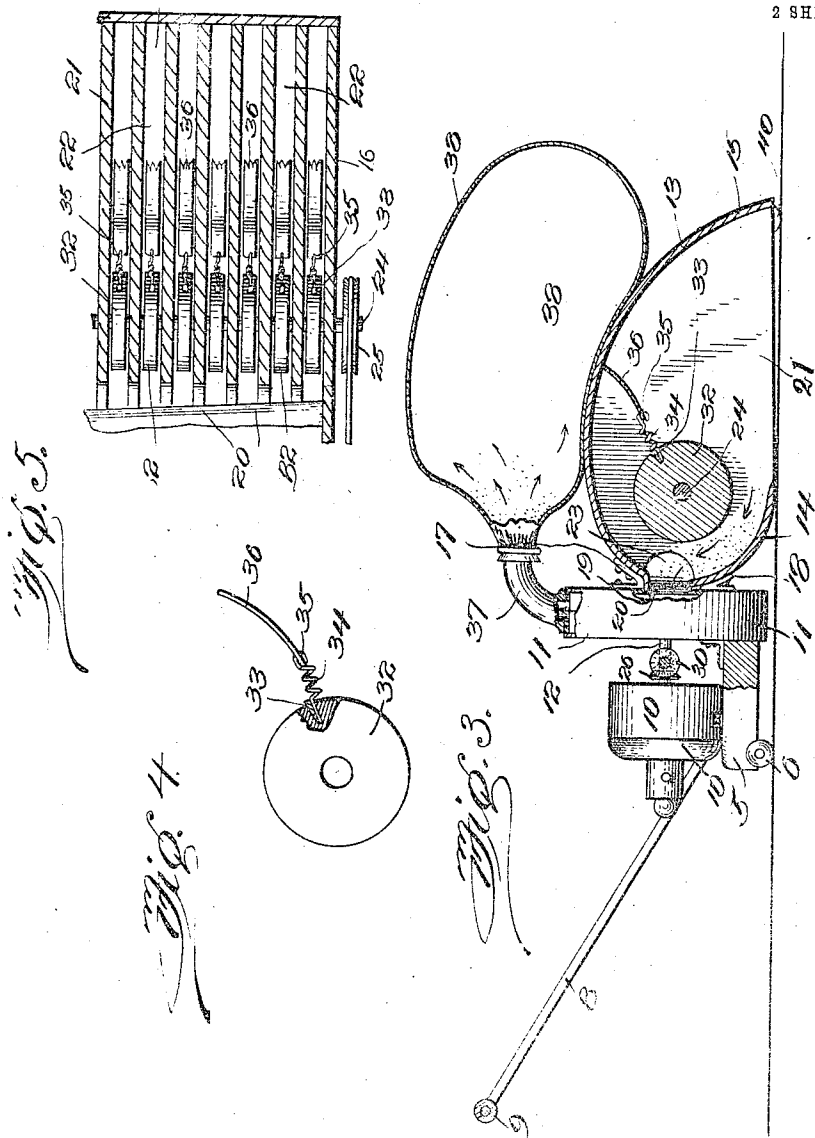


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MATTHEW C. WARNOCK, OF TESLA, CALIFORNIA.

CARPET-CLEANING APPARATUS.

988,232.

Specification of Letters Patent.

Patented Mar. 28, 1911.

Application filed January 8, 1910. Serial No. 537,067.

To all whom it may concern:

Be it known that I, MATTHEW C. WARNOCK, a citizen of the United States, residing at Tesla, in the county of Alameda and State of California, have invented new and useful Improvements in Carpet-Cleaning Apparatus, of which the following is a specification.

This invention relates to improvements in carpet cleaners and more particularly to the kind provided with a plurality of beaters or agitators adapted to raise the dirt and dust from a carpet or other surface to be cleaned and a suction fan to draw the raised dust and deliver the same to a bag or receptacle.

One object of the invention is the provision of a portable cleaner provided with a plurality of rotatable disks and a plurality of agitators yieldingly connected to said disks.

Another object is the provision of a portable cleaner provided with a suction fan and a casing having a tapered duct through which the dust is drawn by the fan.

With these and other objects in view, as will more fully hereinafter appear the present invention consists in certain novel details of construction and arrangement of parts hereinafter to be more fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size and minor details of the device may be made within the scope of the appended claim, without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, forming a part of the specification:—Figure 1 is a rear view of the device showing the handles in section. Fig. 2 is an end view of the same. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1. Fig. 4 is a detail side elevation of the agitator disk with a portion adjacent its periphery broken away and showing the agitator in side elevation and the means for securing the agitator to the disk. Fig. 5 is a sectional plan view of one end of the casing disclosing the partitions. Fig. 6 is a detail sectional plan view of the rear portion of the casing.

Similar numerals of reference are employed to designate corresponding parts throughout.

A platform is designated by the numeral

5 and is supported above the floor by means of a pair of wheels 6 and 7 arranged in advance of the opposite sides of the platform. The handle comprises two side bars 8, having one end attached to the opposite sides of the platform and the other end carrying a hand grip 9. Mounted on the platform and adjacent the rear end thereof is an electric motor 10 and secured to the front end of the platform is a fan casing 11. The armature shaft 12 of the motor extends through the fan casing and is provided with a suction fan of any well known type.

What will subsequently be termed a main casing is designated in general by the numeral 13. This casing, with the exception of its opposite ends, is formed of a single piece of sheet metal. In forming the casing, the portion adjacent one of its longitudinal sides is curved in the direction of its length, this curvature forming the rear side 14 of the casing. The metal is then curved outwardly until the opposite or front side 15 of the casing has its edge in a plane with and spaced from the edge of the opposite side 14, as clearly shown in Fig. 3. Each end of the casing is closed by an end wall 16 having a straight lower edge in a plane with the edges of the front and rear side walls, the other edges conforming to the curvature of the casing. The casing is fixedly secured to the center of the fan casing 11 by means of a pair of brackets 17 and 18 and formed in the middle of the rear side 14 is an opening surrounded by a neck 19 which enters a central opening formed in the front side of the fan casing 11.

By reference now to Fig. 6, it will be seen that the middle portion of the rear wall 14 is centrally provided with an opening, and extending longitudinally of the wall 14 are channels 20, the said channels being formed by bulging the wall outwardly along its longitudinal central line, the said channels decreasing in depth as the opposite ends of the rear wall are approached.

By reference now to Fig. 5, it will be seen that the casing is interiorly provided with a plurality of spaced partitions 21 conforming to the shape of the end walls 16 and fixedly secured in any preferred manner within the casing. The partitions are spaced apart equal distances, the spaces therebetween comprising compartments 22.

By reference again to Figs. 3 and 5 it will be seen that the middle portions of the rear

sides of the partitions 21 are provided with semicircular recesses 23 which are directly in advance of the inclined grooves 20. Extending through the partitions 21 and located in advance of the recesses 23 and having its opposite ends journaled in the end walls 16 of the casing, is a shaft 24. One end of the shaft 24 projects considerably beyond one of the end walls 16 and has keyed thereto a grooved sheave 25.

It will be seen now by reference to Figs. 1 to 3 inclusive that keyed to the armature shaft 12 and located between the motor and rear side of the fan casing 11 is a miter gear 26. Extending upwardly and obliquely from one side of the platform 5 is an arm 27, the upper end of which is in a plane with the armature shaft 12 and terminates in a bearing sleeve 28. Journaled in the bearing sleeve 28 is a shaft 29, the inner end of which is provided with a miter gear 30, the teeth of which mesh with the miter gear 26. The opposite end of the shaft 29 projects beyond that end of the casing adjacent to the sheave 25 and is provided with a grooved sheave 30' in alignment with the sheave 25. Connection between the sheave 30' and 25 is established by means of a belt 31. With this construction it is evident when the motor is in operation rotary movement will be imparted to both the suction fan and the shaft 24 extending through the casing 13.

Keyed to the shaft 24 and arranged within the compartments 22 are a plurality of disks 32. The disks 32 carry the agitators, to be presently described. By reference now to Figs. 2, 4 and 5 it will be seen that each disk is peripherally provided with an inwardly extending V-shaped socket and fixedly secured within said socket by means of a wedge 33, is one end of a helical spring 34. The opposite end of the helical spring terminates in a hook 35 to which is secured the inner end of the agitator 36. The agitator may be of leather or other suitable material and is of sufficient length to come in contact with the surface to be cleaned and raise the dust therefrom during the rotation of the disk 32. While I have shown but one agitator applied to each disk it is to be understood that I am not limited to this specific number since it is to be understood how a plurality of agitators might be equally as well employed without departing from the spirit of the invention.

By reference now to Figs. 1 to 3 inclusive, it will be seen that tapped into the upper side of the fan casing 11 is one end of an outlet pipe 37. The outlet pipe 37 is curved and extends forwardly from the casing 11

and arranged on its free end is a bag or other suitable receptacle 38 which is supported by the upper side of the casing 13.

Having now described the construction of the device its operation will be given:—

It will be evident when the motor is in operation and the lower open side of the casing placed over a piece of carpet or other material to be cleaned that the rotary movement of the agitators will raise the dust. It will be observed, owing to the partial vacuum created by the fan that the particles of dust will follow the direction of the arrows shown in Fig. 3 and enter the duct formed by the inclined grooves 21 and recesses 23 and finally pass into the fan casing through the neck 19, after which they will be driven through the outlet pipe 37 and into the bag or receptacle 38.

It will be observed by reference to Figs. 1 to 3 inclusive that the end walls 16 of the casing are provided, adjacent their forward ends with a pair of rollers 40 and 41. These rollers are carried by brackets 42 having elongated slots 43 which receive the threaded shanks of screws, extending outwardly from the end plates 16. Suitable thumb nuts are arranged on the screws which serve to clamp the brackets. The slots 43 are of such length that the rollers will be moved from engagement with the floor when the lower ends of the slots bear on the screws, therefore it will be evident that a partial vacuum within the casing may be varied by adjusting the brackets.

Thus it will be seen that I have provided a device which is exceedingly simple in construction and comparatively inexpensive of manufacture, embodying few parts and these so arranged that the danger of derangement will be reduced to a minimum.

Having thus fully described the invention, what I claim as new is:—

In a portable pneumatic cleaner, a suction creating device in combination with an open bottomed casing interiorly divided into a plurality of vertical compartments, and provided at one end with a duct tapering toward its ends with which duct said compartments communicate and which communicates at its central part with said suction creating device, an agitator in each compartment, and means to actuate the suction creating device and agitators.

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

MATTHEW C. WARNOCK.

Witnesses:

OTTO VON D. ETTEN,
THOMAS B. MAYER.