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2,288,115

VACUUM SWEEPER

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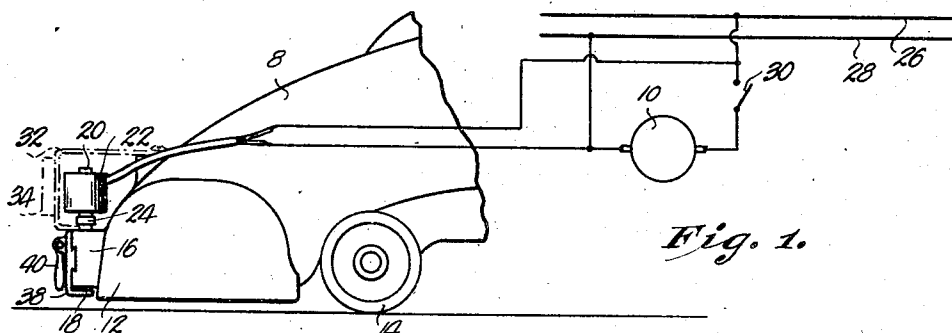


Fig. 1.

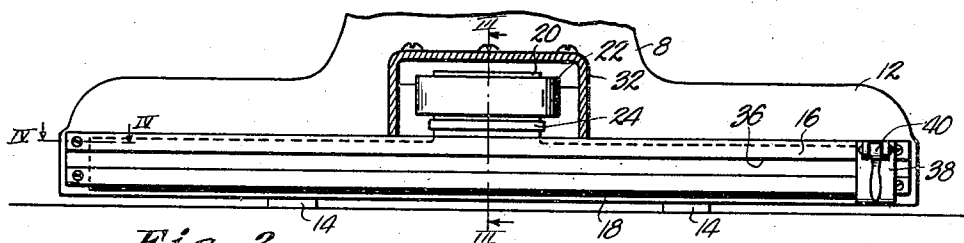


Fig. 2.

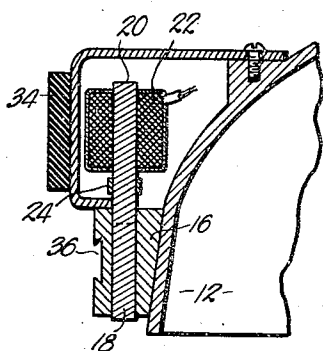


Fig. 3.



Fig. 4.

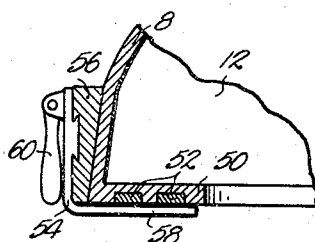


Fig. 6.

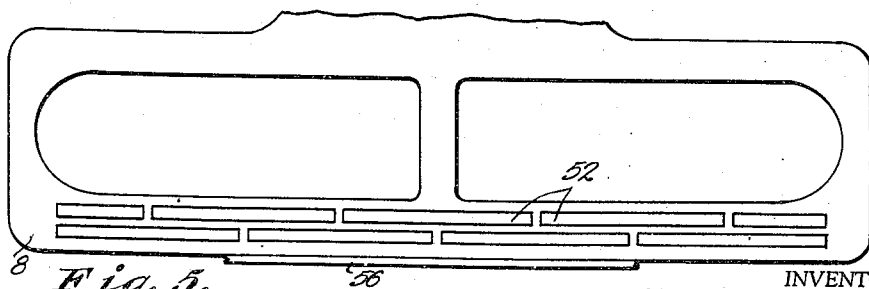


Fig. 5.

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VACUUM SWEEPER

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3 Claims. (Cl. 15-4)

This invention relates to cleaning apparatus and particularly suction sweepers for floors and the like, and the primary object is to provide means for collecting particles that would normally enter the sweeper mechanism and have a detrimental effect upon the same or the receptacle employed to collect matter that customarily passes through the intake mouth of the apparatus.

One of the important aims of this invention is the provision of a vacuum sweeper having as a part thereof unique, novel and effective parts combinable with a vacuum sweeper as an accessory, or when the same is initially constructed, for collecting metallic articles as the sweeper is used.

This invention has for a further aim the provision of a vacuum sweeper wherein is built magnetic parts either of an electrical or permanent type, to the end that during the normal operation of the sweeper, the dust collecting bag and parts of the mechanism are protected against the destructive effects of such foreign articles as tacks, pins or the like.

The specific manner of constructing a vacuum sweeper and the magnetic attachment therefor, constitute important objects of the invention and such will appear during the course of the following specification, referring to the accompanying drawing wherein:

Fig. 1 is a diagrammatic, fragmentary side elevational view of a vacuum sweeper embodying the present invention.

Fig. 2 is a front fragmentary elevational view thereof.

Fig. 3 is an enlarged fragmentary sectional view taken on line III—III of Fig. 2, looking in the direction of the arrows.

Fig. 4 is a fragmentary sectional view taken on line IV—IV of Fig. 2.

Fig. 5 is an inverted fragmentary plan view of the sweeper mouth, illustrating a modified form of the invention; and

Fig. 6 is a fragmentary sectional view through a portion of the sweeper illustrated in Fig. 5.

Conventional vacuum sweepers provided with a casing usually have motors 10 and an intake mouth 12, and are moved over the surface being treated upon wheels 14. The matter drawn from the surface being cleaned passes through mouth 12 to a receptacle or the like, not here shown, and the means for collecting metallic articles is located just ahead of mouth 12 where the same will be collected and prevented from entering the mouth.

In the form of the invention shown in Figs. 1 to 4 inclusive, a bracket 16 mounted on case 8 near mouth 12, carries an armature or magnetic member 18 of a length equal to the width of mouth 12.

An upwardly extending portion 20 of member 18 constitutes the core of coil 22 and has a copper ring 24 circumscribing the same to eliminate chattering that would otherwise occur when the vacuum sweeper is being operated through the use of alternating current supplied through electrical conductors 26 and 28. Coil 22 is in the circuit with motor 10 and when switch 30 forming a part of the vacuum sweeper is closed to supply current to motor 10, electrical energy is supplied to coil 22 for the purpose of magnetizing armature or member 18. Housing 32 protects coil 22 and portion 20 with ring 24 thereon, and a bumper 34 should be carried by the forward wall of housing 32.

Bracket 16 has a track 36 formed thereon which in this instance, is a groove that is dovetailed in cross sectional contour to receive a wiper 38. This wiper is slidably mounted in track 36 and has a foldable handle 40 by means of which the operator may move wiper 38 longitudinally along bracket 16 to dislodge from the lowermost edge of member 18, any collected metallic particles. Wiper 38 has a rearwardly projecting arm, such as shown in Fig. 6, to frictionally engage member 18.

The form of invention illustrated in Figs. 5 and 6 is different from that just described in that a plurality of permanent magnets are used and held in bracket 50 mounted on case 8 of the conventional vacuum sweeper, adjacent to the mouth 12 thereof. These permanent magnets 52 are in the form of bars arranged in at least two parallel rows with the ends thereof spaced apart and the ends of the bars in one row in a position close to the medial transverse portion of the bars in the adjoining row. Thus polarization, which is normally present and which presents magnetism of different intensity when permanent bar magnets are employed, is not a factor effecting the efficiency of the vacuum sweeper when these said magnets are employed.

The series of magnets 52 combine to present a continuous magnetic part extending the full length of intake mouth 12 of the sweeper and therefore, as the apparatus is moved forwardly along the floor covering being treated, any foreign objects that are attractable by a magnetic force will be prevented from entering mouth 12.

It is desirable to provide means for cleaning

permanent magnets 52 and as has been made clear in the foregoing description of the form of invention shown in Figs. 1 to 4 inclusive, a wiper 54 is slidably mounted upon a track 56 for movement longitudinally along all of the magnets. Arm 58 is in frictional engagement with the lowermost sides of all permanent magnets 52 carried by bracket 50 and when the operator grasps handle 60, it is easy to move wiper 54 from end-to-end of the series of magnets and thereby wipe therefrom any particles adhering thereto.

It is understood that vacuum sweepers having physical characteristics different from those shown in the drawing may be made without departing from the spirit of the invention or scope of the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In a vacuum sweeper having a mouth; a bracket along one edge of the mouth; and a series of permanent magnets carried by the bracket, said magnets being in the form of bars arranged in at least two parallel rows with the ends of the bars of one row disposed near the

medial transverse portions of the bars in the adjoining row.

2. In a vacuum sweeper having a mouth; a bracket along one edge of the mouth; and a series of permanent magnets carried by the bracket, said magnets being in the form of bars arranged in at least two parallel rows with the ends of the bars of one row disposed near the medial transverse portions of the bars in the adjoining row, said bracket having a wiper mounted thereon for movement across the faces of all the bars.

3. In a vacuum sweeper having a mouth; an L-shaped bracket along one edge of the mouth; and a series of permanent magnets carried by the bracket, said magnets being in the form of bars arranged in at least two parallel rows with the ends of the bars of one row disposed near the medial transverse portions of the bars of the adjoining row, said magnets being disposed on the horizontal leg of the L-shaped bracket, said bracket having a wiper mounted on the vertical leg of the bracket for movement across the faces of all the bars.

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