

April 1, 1952

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2,591,250

SUCTION CLEANER WITH SELF-RETRACTING ELECTRICAL CORD

Filed Nov. 18, 1947

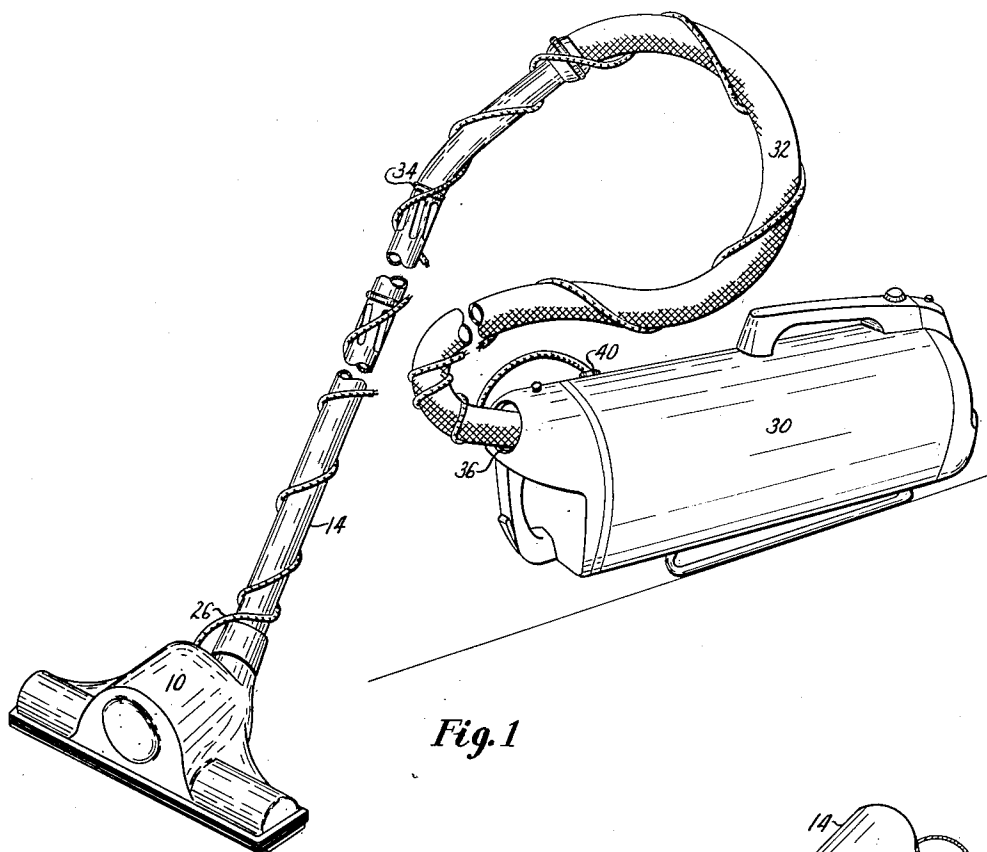


Fig. 1

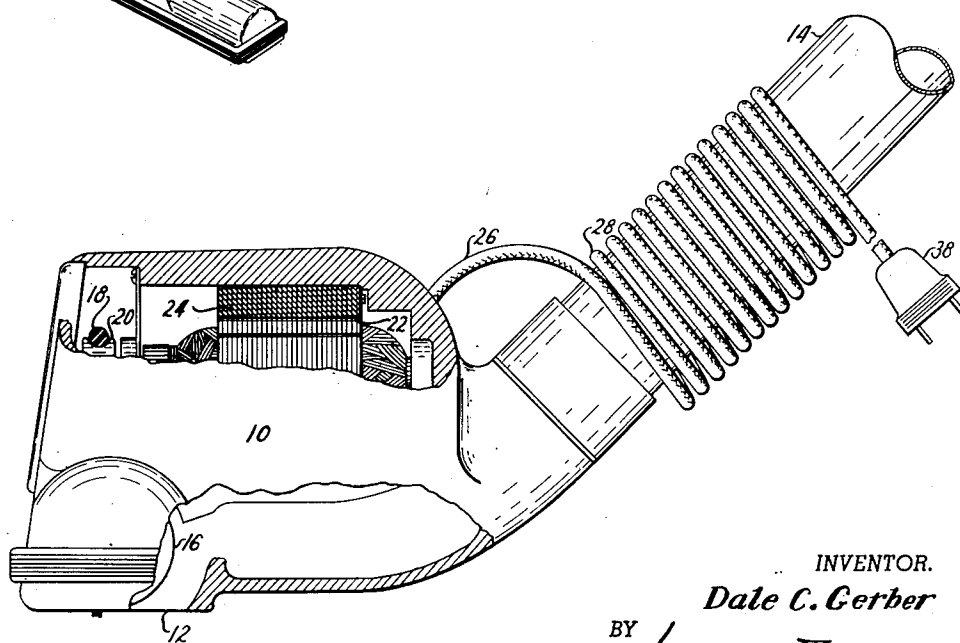


Fig. 2

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ING ELECTRICAL CORD

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Application November 18, 1947, Serial No. 786,770

3 Claims. (Cl. 15—323)

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This invention relates to suction cleaners and more particularly to the method of transmitting electrical energy to the motor of a motor driven agitator positioned in a floor nozzle connected to a source of suction by means of a flexible hose.

According to the broadest aspects of this invention a self-retracting spirally wound service cord is normally coiled about the manipulating wand when the floor nozzle is not in use. When the floor nozzle is to be used, one end of the hose is connected to the manipulating wand and the other end to a source of suction which may be a cylinder type cleaner and on-the-floor type cleaner having a converter opening for the attachment of a hose or an outlet junction for a central system for the connection of a hose. The free end of the coiled cord is then pulled along the hose so as to lie in wide spirals about the hose and wand and the usual connecting plug is plugged into an electrical outlet in the cleaner body or a wall socket in the case of a central system.

The invention is not limited to a floor nozzle having a motor driven agitator therein but is applicable to any cleaning nozzle having an electrically operated adjunct to which it is necessary to transmit electrical energy. For example, the nozzle may be a crevice tool, a drapery nozzle, or other such nozzle provided with an electric lamp to illuminate the area being cleaned.

Figure 1 of the drawing shows the invention applied to a suction cleaner of the cylinder type with a floor nozzle having a motor driven agitator in the position assumed when the floor nozzle is in use; and

Figure 2 shows the invention in the position that it occupies when the floor nozzle is not in use, that is, in its storage position.

The reference numeral 10 represents a floor nozzle having a suction opening 12 leading to a manipulating wand 14. Mounted within the suction opening 12 is a rotary brush 16 adapted to contact the surface being cleaned when the nozzle is in use. The brush 16 is driven by a belt 18, which in turn is driven by a pulley 20 connected to the rotor 22 of an electric motor 24 mounted in the upper part of the floor nozzle 10. An electrical conducting cord 26 is connected to the windings of the motor 24 in any suitable manner.

The electrical cord 26 is of the type which is normally retracted in large closely positioned spirals 28. When the cord 26 is in retracted position the spirals 28 loosely surround the manipulating wand 14 as shown in Fig. 2.

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The wand 14 is connected to a cleaner 30 of the cylindrical type by a flexible hose 32 detachably connected to the wand by a detachable connection 34 and to the cleaner 30 by a swiveled detachable connection 36 of any suitable construction. When the floor nozzle is in use the coils 28 of the cord 26 are stretched longitudinally over the hose 32 so as to lie closely about the hose 32 in wide spirals. In use plug 38 is connected to an outlet 40 suitably connected to the source of electrical energy which supplies the motor of the suction cleaner 30. When the device is not in use the coils 28 of the cord 26 lie in closed loops about the wand 14 so as to form a neat arrangement for storing the floor tool 10. When the device is to be used it is only necessary to connect the hose 32 to the wand 14 and to the cleaner 30 and extend the convolutions 28 of cord 26 until they lie closely about the wand 14 and hose 32 and insert the usual plug 38 into the outlet 40. This provides a neat arrangement in which the cord 26 will not become tangled up but will lie closely about the hose 32 so as to follow the movements of the hose 32 as the floor tool 10 is manipulated.

As previously stated, the invention is not limited to the particular nozzle shown nor to use with a suction cleaner of the cylinder type. The hose 32 may be connected to any source of suction and the plug 38 inserted into any electrical outlet adjacent to the suction end of the hose such as to an outlet in a floor board adjacent a suction connection to a centrally installed system or to an outlet in an on-the-floor type cleaner having a converter arrangement. The nozzle may be any hand manipulated nozzle having an electrically energized adjunct such as an illuminating lamp associated therewith.

However, the invention is particularly useful with a suction cleaner of the cylinder or tank type using a floor tool having a motor driven agitator. In such a cleaner it is only necessary to connect the motor of the cleaner to a source of electrical energy, attach the hose to the suction inlet of the cleaner and to the end of the manipulating wand and extend the coils of the cord about the wand and hose by grasping the plug, drawing it along the hose and inserting it into an outlet in the cleaner body.

While I have shown but a single modification of my invention it is to be understood that this modification is to be taken as illustrative only and not in a limiting sense. I do not wish to be limited to the particular structure shown or described but to include all equivalent variations

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thereof except as limited by the scope of the claims.

I claim:

1. A suction cleaner comprising, a hand tool having an electrically energized adjunct associated therewith and a manipulating wand for manipulating the hand tool, a source of suction, a source of electrical energy adjacent to said source of suction, a flexible hose connecting said wand to said source of suction and a coiled self-retracting electrical conductor for connecting said electrically energized adjunct to said electric energy source, the arrangement being such that the convolutions of said conductor loosely encircle said wand in closely spaced loops for storage purposes and closely encircle said wand and hose in wide loops when said hand tool is connected for use.

2. A suction cleaner comprising, a hand manipulated air tool having an electrically energized adjunct associated therewith and a manipulating wand, a source for moving air through said air tool, a source of electrical energy adjacent said air moving source, a flexible hose connecting said wand to said air moving source and a helically coiled self-retracting conductor for connecting said electrically energized adjunct to said source of electrical energy, the arrangement being such that the coils of said conductor loosely encircle said wand in closely spaced loops when said conductor is retracted and closely encircle said wand and hose when said conductor is extended so as to be connected to said source of electrical energy.

3. A suction cleaner comprising, a floor nozzle having an electrically driven agitator therein, a motor for driving said agitator, a manipulating

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wand for manipulating said floor nozzle, suction-creating means of the cylinder or tank type for drawing air through said floor nozzle as said agitator is rotated, a flexible hose for connecting said wand to the suction inlet of said suction-creating means, an electrical outlet positioned on said suction-creating means adjacent said suction inlet thereof, and a helically coiled self-retracting electrical conductor for connecting said agitator driving motor to said electrical outlet, the arrangement being such that the coils of said conductor loosely encircle said wand in closely spaced loops when said conductor is retracted and closely encircle said wand and hose when said conductor is extended so as to be connected to the outlet and said suction-creating means.

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