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DOLLY FOR SUCTION CLEANER

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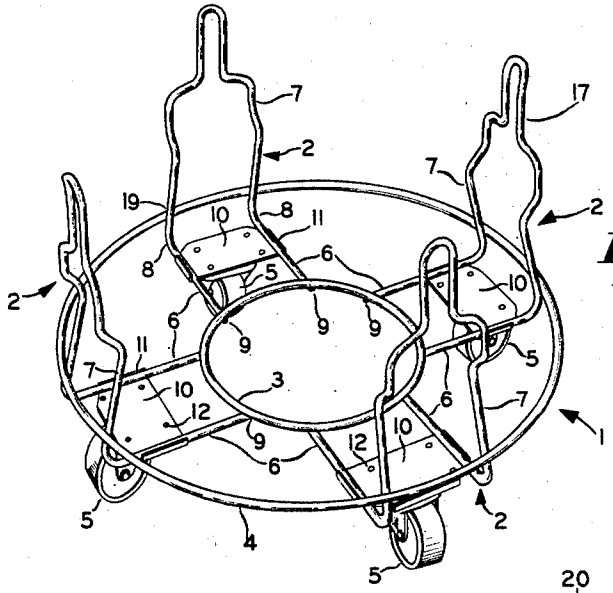


Fig. 1

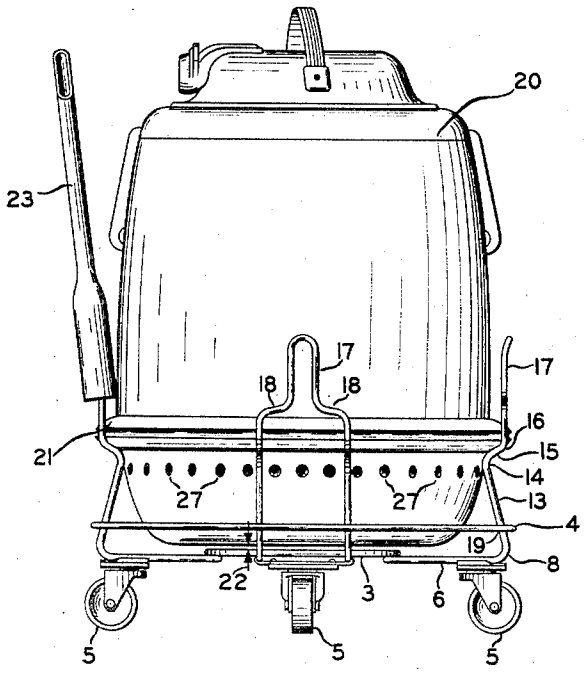


Fig. 2

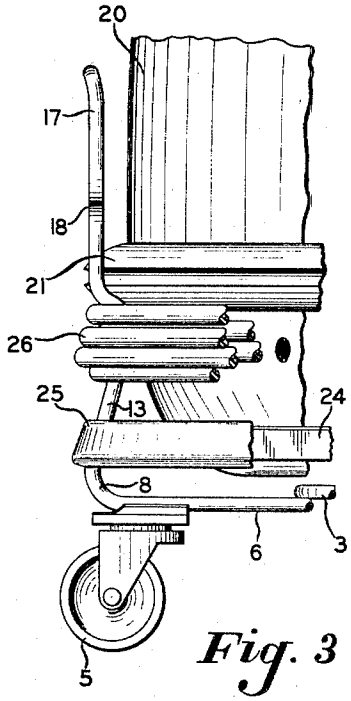


Fig. 3

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DOLLY FOR SUCTION CLEANER

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4 Claims. (Cl. 15—323)

This invention relates to a dolly for suction cleaners and more particularly it pertains to a wire dolly for a canister of vertical tank type of suction cleaner.

In an effort to make tank type suction cleaners more adaptable to easier, better and faster home cleaning, certain tendencies have developed. A recent tendency has been that of mounting cleaners on wheels. By doing so the necessity of lifting and carrying a cleaner from place to place is eliminated, because a cleaner on wheels may be rolled from rug to rug, or from room to room, simply by pulling it over the floor. Thus, the cleaner on wheels is more mobile.

Another tendency has been the use of hooks or clips permanently secured to the exterior of the cleaner for the purpose of hanging various suction cleaner attachments or tools thereon. In this manner the necessity of a separate attachment carrier or caddy is avoided and the cleaner is more self-containing.

It has been found, however, that the foregoing trends involve disadvantages. One of these is the increased weight involved by adding the wheels to the cleaner. Also, the addition of wheels and the permanent hooks to the cleaner add considerably to the cost of a clearner. For example, the addition of wheels and attachment hooks to the cleaner frequently requires the redesigning of cleaner parts that are otherwise satisfactory. Moreover, the use of attachment hooks or clips on a cleaner is believed to detract from the appearance of most cleaners.

I have developed a dolly for a canister or vertical tank type suction cleaner that overcomes the foregoing objections and disadvantages. The dolly is readily adaptable to existing cleaners without the necessity of redesigning an otherwise satisfactorily functioning unit. The dolly not only provides a means for readily rolling the cleaner about a room, but also provides means for storing and carrying suction cleaner attachment tools with the cleaner.

A further advantage of the improved dolly construction is that it does not interfere with the operation of the cleaner. With the dolly attached to a cleaner there is no interference with the normal functioning of the air outlets and inlets. Moreover, the dolly is particularly designed to support the cleaner in such a manner that there is no metal-to-metal contact between the cleaner and the dolly thereby eliminating noise due to vibration of parts.

The improved dolly construction is designed as an accessory which clips firmly to the base of a cleaner and provides a swivel action that makes for easier cleaning, as well as providing storage hooks for the attachment tools and an electric cord.

Generally, it is an object of this invention to provide a dolly construction for suction cleaner which is conducive to easier and faster cleaning action.

It is another object of this invention to provide a dolly for a suction cleaner which is readily movable from

place to place without the necessity of lifting and carrying the cleaner.

Another object of this invention is to provide a dolly for a suction cleaner which includes storage means for attachment tools.

Another object of this invention is to provide a dolly for a suction cleaner in the form of an accessory that clips firmly to the cleaner without inhibiting the basic functioning of the cleaner.

Another object of this invention is to provide a wire dolly which has an open construction that does not interfere with the air exhaust outlets or the power cord location of the cleaner.

Another object of this invention is to provide a dolly attachment for a suction cleaner having a neglible weight.

Still another object of this invention is to provide a dolly for a suction cleaner which is easily attached and eliminates vibration between the metal parts of the cleaner and the dolly.

Finally, it is an object of this invention to provide a dolly accessory for a suction cleaner which incorporates the foregoing features and is inexpensive to manufacture.

These and other objects and advantages apparent to those skilled in the art from the following description and claims may be attained, the stated results achieved, and the described difficulties overcome, by the discoveries, principles, apparatus, parts, combinations, subcombinations and elements which comprise the present invention, the nature of which is set forth in the following statement, the preferred embodiments of which—illustrative of the best modes in which applicant has contemplated applying the principles—are set forth in the following description, and which are particularly and distinctly pointed out and set forth in the appended claims forming part hereof.

In general terms the present invention may be stated as including in a suction cleaner having a circular base and a resilient annular bumper therearound, a dolly having a basket-like structure including a number of wire members having bottom-forming portions and side-forming portions, the bottom-forming portions extending radially of the structure and having ends secured together by a reinforcing wire member, the side-forming portions extending upright and having inturned projections at equal distances from the bottom of the structure, the projections being adapted to support the annular bumper of the cleaner so that no part of the cleaner, except the bumper, contacts any part of the dolly, the upper ends of the side-forming portions extending above the projections and being pronged for support of attachment tools of the cleaner, and the entire structure being mounted on casters.

Referred to the drawings in which the preferred embodiments of the invention are shown by way of example and in which similar numerals refer to similar parts throughout:

Fig. 1 is a perspective view of the dolly;

Fig. 2 is an elevational view of the dolly having a suction cleaner mounted therein and having a suction cleaner attachment tool attached to one prong of the dolly; and

Fig. 3 is an enlarged, fragmentary view of another embodiment of the dolly.

In Fig. 1 the dolly is generally indicated at 1. It comprises a number of similar support members, generally indicated at 2, an inner reinforcing element 3, an outer reinforcing element 4, and casters 5.

The support members 2 are substantially inverted U-shaped in construction and include horizontal portions 6 and upright portions 7, which portions are distinguished by bends or corners 8. The horizontal portions 6 are

secured to the inner reinforcing element 3 in a conventional manner such as by spotwelds 9. The inner element 3 together with the horizontal portions 6 of the support members 2 provide the bottom of the basket-like structure of the dolly 1.

As shown in the drawings, the horizontal portions 6 of the support members 2 extend preferably radially from the inner element 3. Though the number of support members 2 may vary, the preferred number is four. They may be equally spaced so that the members 2 are preferably oppositely disposed.

Moreover, as shown in the drawings, the support members 2, as well as the inner and outer elements 3 and 4, are preferably composed of steel wire having a diameter of 3/16 inch. However, the parts may be composed of other material, such as metal strip, the only limitation of the strip being that it has a proper resiliency or flexibility. Likewise, the inner element 3 may be composed of a flat material that is polygonal rather than circular in shape. Finally, the outer element 4 may be composed of elongated strip material rather than wire.

The casters 5 are secured to the undersurface of the dolly 1 and preferably to the horizontal portions 6 of the support members 2 by means of caster plates 10 which are secured to the wire end portions of each support member 2 by means of spotwelds at 11. The casters 5 are secured to corresponding caster plates 10 by suitable means such as rivets 12.

Each upright portion 7 of the support members 2 includes an inclined segment 13 (Fig. 2) which extends radially inwardly and upwardly and which terminates at an outturned bend 14. Above the bend 14 is a second inclined segment 15 which extends radially outwardly and upwardly for a shorter distance than the inclined segment 13. Each inclined segment 15 terminates at another bend 16 above which the upright portion 7 extends substantially vertically to its upper extremity where a prong 17 is provided. As shown in the drawings, the prongs 17 extend above the shoulders 18 in the upright portions 7.

Around the lower part of the upright portions 7 is the outer element 4 which reinforces the upright portions against outward radial separation when supporting the cleaner 20. The outer element 4 is retained in place by means of spotwelds 19 where the outer element 4 and the support members 2 intersect.

In operation the dolly 1 supports a suction cleaner 20 as shown in Figs. 2 and 3. The cleaner 20 is suspended by a bumper 21 upon the segments 15 of the support members 2. There is no other contact between the dolly 1 and the cleaner 20. In fact, a space 22 (Fig. 2) exists between the undersurface of the cleaner 20 and the dolly 1. Accordingly, with the cleaner 20 so mounted, there is no vibration between the cleaner and the dolly 1.

When the cleaner 20 is placed within the dolly, the upright portions 7 of the support members 2 yield slightly outwardly to receive the bumper 21 upon the segments 15. The combination of the resiliency of the bumper 21 and the flexibility of the support members 2 creates a tension contact between them whereby the cleaner 20 is suspension mounted. In addition, the cleaner 20 can be lifted and carried from one place to another without the dolly 1 dropping from it.

With the dolly 1 and cleaner 20 assembled, the prongs 17 are spaced from the outer surface of the cleaner and serve as a means for attaching cleaning attachment tools, such as a crevice tool 23 (Fig. 2). Thus, the prongs 17 provide means for storing and carrying attachment tools which are the usual paraphernalia accompanying the suction cleaner.

Moreover, because of the open (wire) construction of the cleaner, there is no interference whatsoever with the air exhaust openings 27 in the base of the cleaner 20 below the bumper 21.

Another embodiment of the invention is shown in Fig. 3. This embodiment is provided with an annular rim or strap 24 of rigid material, such as metal, instead of the outer wire element 4 of the first embodiment of Fig. 2. The rim 24 may be covered with resilient or rubber material 25 which serves as an added bumper means for the assembly.

Furthermore, in Fig. 3 another use for the dolly 1 is shown. An electric cord 26 extending from the cleaner 20 may be wrapped around the inclined segments 13 of the support members 2. However, the electric cord 26 may also be looped into a number of coils and hung over one or more of the prongs 17.

Accordingly, the present invention provides an apparatus by which difficulties in the prior art are overcome; in which an otherwise immobile suction cleaner is made mobile by a relatively inexpensive attachment; by which attachment tools for a suction cleaner are provided with storage means which do not depend upon hooks or clips permanently attached to the cleaner in an unattractive manner; by which the suction cleaner is mounted on resilient members that minimize whatever vibrations occur in the cleaner during normal operation, there being no contact between adjacent metal parts of the cleaner and the dolly; by which the air exhaust openings in the base of the cleaner are uninhibited from normal functioning; and by which the foregoing advantages are achieved and the indicated new results obtained in a relatively inexpensive manner.

In the foregoing description certain terms have been used for brevity, clearness and understanding, but no unnecessary limitations are to be implied therefrom beyond the requirements of the prior art; because such words are used for descriptive purposes herein and not for the purpose of limitation, and are intended to be broadly construed.

Furthermore, the invention is not limited to the exact construction illustrated and described herein because the particular arrangement of the parts may be varied to provide other structural embodiments without departing from the scope of the present invention.

Having now described the features, the constructions and principles of the invention, the characteristics of the new dolly for a suction cleaner, and the advantageous, new and useful results provided; the new and useful discoveries, principles, parts, elements, combinations, subcombinations, structures and arrangements, and the mechanical equivalents obvious to those skilled in the art are set forth in the appended claims.

I claim:

1. In canister type suction cleaner construction, a cleaner base having a bottom wall, side walls, and a soft, yieldable, vibration-absorbing bumper surrounding the side walls and spaced from the bottom wall, a dolly including a plurality of members each having bottom-forming portions and side-forming portions, the bottom-forming portions being secured together, casters secured to the dolly, the side-forming portions having outturned segments, the bumper being supported on and engaged by said segments, the outturned segments being equally spaced from the bottom-forming portions by a distance greater than that between the bumper and the bottom wall of the cleaner, the side-forming portions having bumper-gripping upright portions above the outturned segments, the side-forming portions being biased inwardly by their own resilience toward a position located in a circle the radius of which is slightly less than the outer radius of the bumper, and the outturned segments and upright portions constituting the only support between the cleaner and the dolly, whereby the bumper is clamped in place with the base of the cleaner out of contact with the dolly.

2. In canister type suction cleaner construction a cleaner base having a bottom wall, side walls and a soft, yieldable, vibration-absorbing bumper surrounding the side walls and spaced from the bottom wall, the bumper having an outturned undersurface and an outer periphery,

a dolly including a plurality of members each having bottom-forming portions and integral side-forming portions, the bottom-forming portions being secured together, casters secured to the dolly, the side-forming portions having outturned segments, the bumper undersurface being supported on said segments, the outturned segments being equally spaced from the bottom-forming portions by a distance greater than that between the bumper and the bottom wall of the cleaner, the outturned segments constituting the only support between the cleaner and the dolly, the side-forming portions being biased inwardly by their own resilience toward a position located in a circle the radius of which is slightly less than the outer radius of the bumper, and the side-forming portions also having bumper-gripping upright sections adjacent the outturned segments for clampingly engaging the outer periphery of the bumper and retaining the bumper on the outturned segments, whereby the cleaner is sustained in vibration-proof suspension on the dolly.

3. The construction as set forth in claim 2 in which there are four flexible members disposed in opposite pairs and in which the bumper is yieldingly clamped between opposite pairs of side-forming portions of the members.

4. The construction as set forth in claim 2 in which the side-forming portions also include tool-supporting prongs at their upper extremities.

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