March 4, 1958 B. J. TAMARIN 2,825,086

PORTABLE VACUUM CLEANER CONSTRUCTION INCLUDING A BASE AND CORD-REEL

Filed Oct. 4, 1952 2 Sheets-Sheet 1

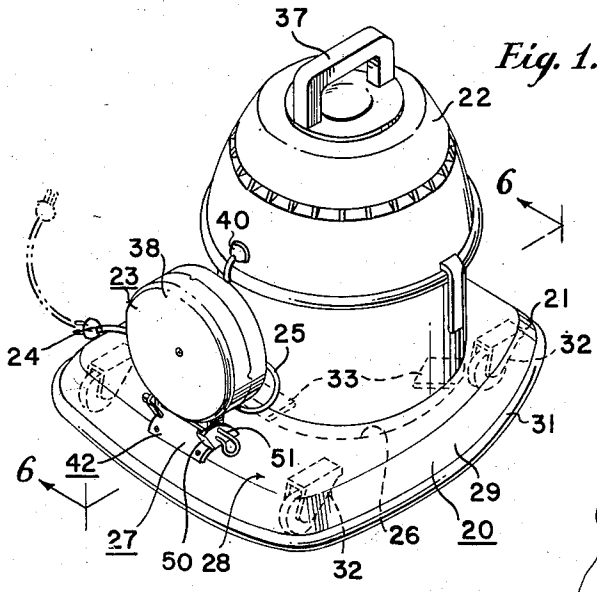


Fig. 1.

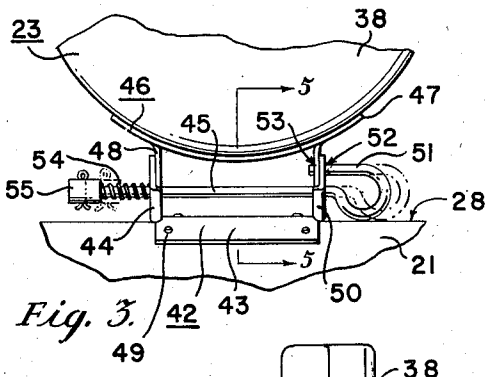


Fig. 3.

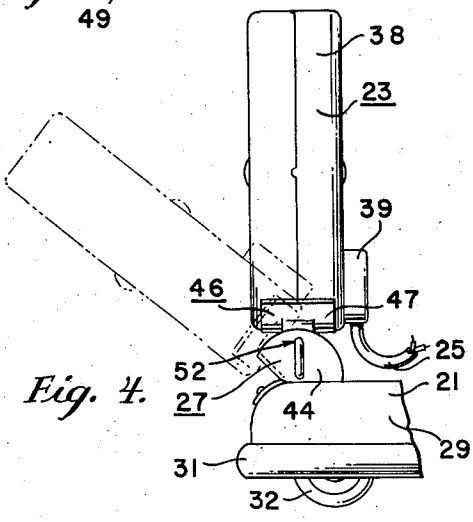


Fig. 4.

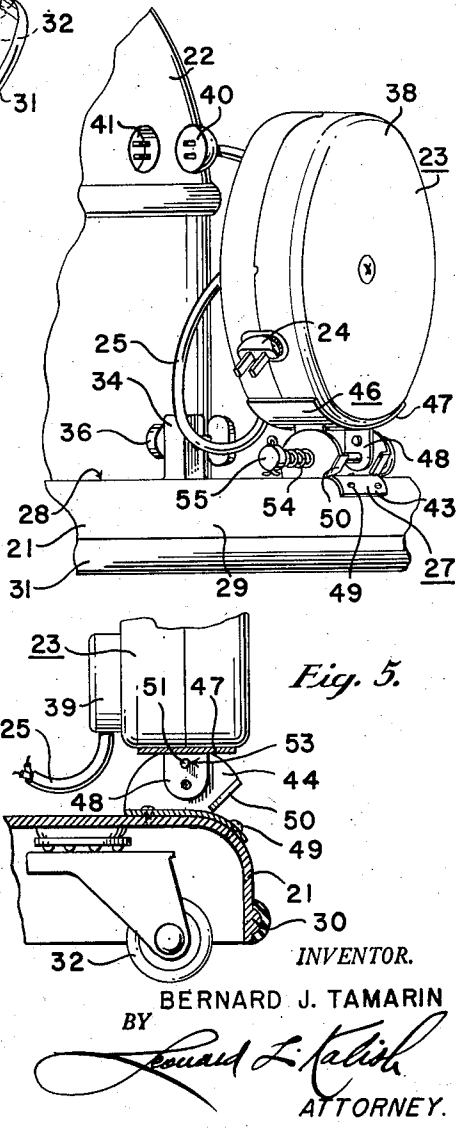


Fig. 2.

Fig. 5.

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Filed Oct. 4, 1952 2 Sheets-Sheet 2

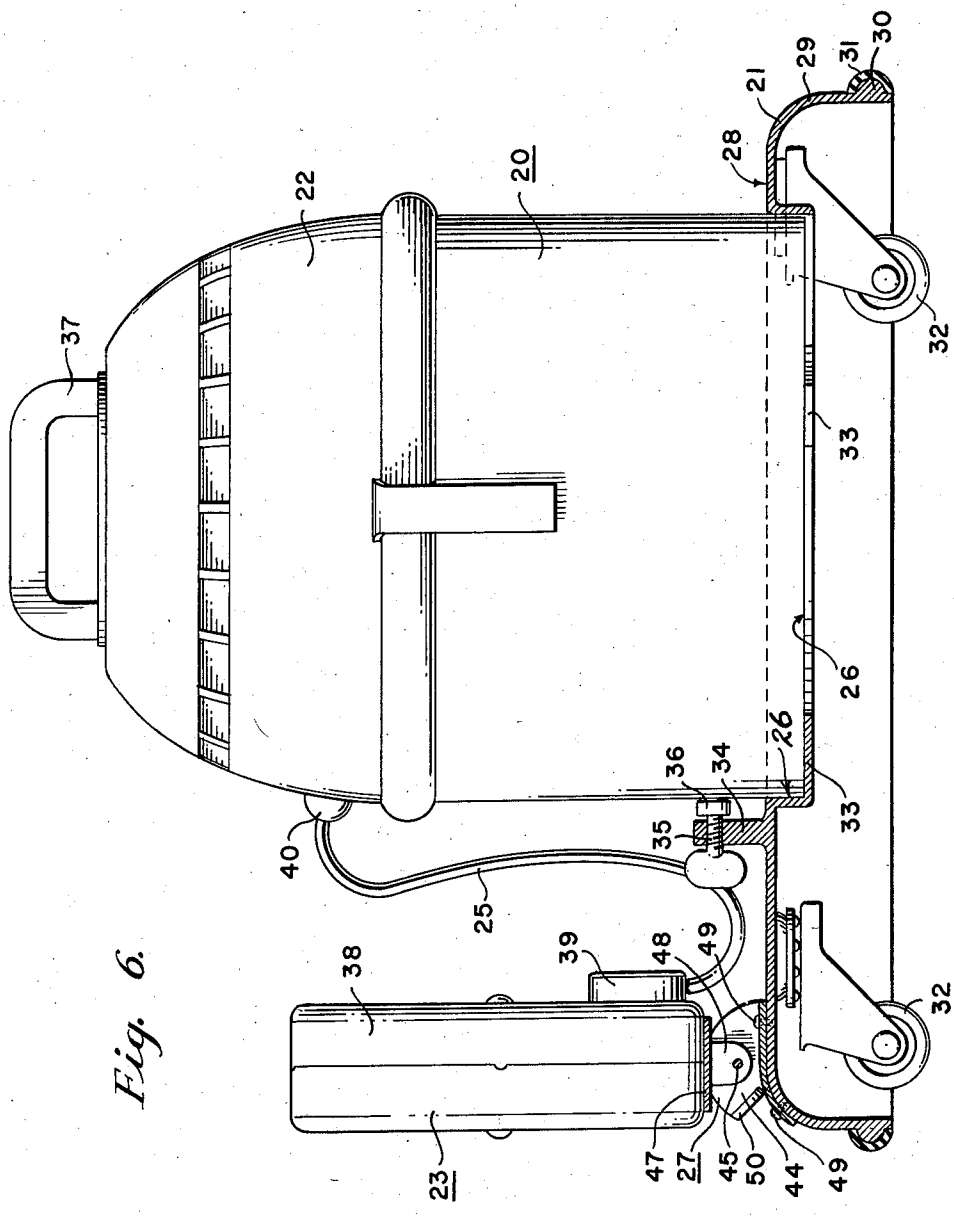


Fig. 6.

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2,825,086

PORTABLE VACUUM CLEANER CONSTRUCTION INCLUDING A BASE AND CORD-REEL

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Application October 4, 1952, Serial No. 313,185

5 Claims. (Cl. 15—323)

The present invention relates to a vacuum-cleaner base with a spring-wound electric cord-reel, and particularly to a construction in which the reel and base are so related that the reel may be interlocked with the base in an upright position and yet is detachable therefrom; with parts of the base and reel internested.

For the purpose of illustrating the invention, there is shown in the accompanying drawings, a form thereof which is at present preferred, although it is to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized and that the invention is not limited to the precise arrangement and organization of the instrumentalities as herein shown and described.

In the drawings wherein like reference characters indicate like parts.

Figure 1 represents a perspective view of a portable vacuum-cleaner and wheeled base with cord-reel, representing one embodiment of the present invention.

Figure 2 represents a fragmentary perspective view, on a larger scale, of the base-and-reel shown in Figure 1.

Figure 3 represents a fragmentary elevational view of the base-and-reel shown in Figures 1 and 2.

Figure 4 represents a fragmentary elevational view of that end of the wheeled base illustrated in Figure 1 to which the cord-reel is movably secured; the cord-reel being shown in one position in solid lines and in another position in dash-dot lines.

Figure 5 represents a fragmentary vertical cross-sectional view taken generally along line 5—5 of Figure 3.

Figure 6 represents a fragmentary vertical cross-sectional view taken longitudinally and centrally of the base and generally along line 6—6 of Figure 1.

The present invention contemplates a base-and-reel construction for tank-type vacuum-cleaners; said base being generally portable (and provided with wheels) and having a tank-receiving central portion; with the electric-cord-reel interlocked with the base in an upright position adjacent the tank, and with its short non-extensible extension-cord emerging from the side of the reel facing the tank and with the extensible or pull-out cord emerging side-wise of the base.

In the embodiment shown in Figures 1 to 6, inclusive, of the present invention, there is shown a base 21 and an upright tank type vacuum-cleaner 22 in a tank receiving portion, such as the tank-receiving well, recess or socket 26 thereof, and an electric-cord-reel 23 adjacent the tank and interlockingly and removably mounted on the base 21, and with the extensible cord 24 of the reel 23 operatively connected to the cleaner 22, through the short non-extensible cord 25.

The base 21 is generally a light-weight thin-walled die-cast shell-like member having a recess, well or socket 26 to receive the tank, and is generally flat on top, and is provided with a reel-support 27 affixed thereto at one end thereof; to one side of the tank-well 26.

The base 21 may be of any suitable shape but is preferably generally rectangular, as illustrated at Figure 1, with the recess 26 nearer one end thereof and with the reel 23 adjacent the opposite end of the base in spaced relation to the tank 22.

The base 21 is generally die-cast (as of zinc alloy, aluminum alloy, magnesium alloy or other lightweight metal or alloy), with a peripheral skirt 29 depending from the edge of the upper wall 28 thereof. The lower edge of the skirt 29 may have a peripheral bead 30 formed integrally therewith, to receive and support a resilient bumper-guard strip 31 of corresponding and nesting cross-section. Within the base 21 and operatively secured to the underside of the wall 28 thereof, are a plurality of wheels or casters 32; substantially concealed by the skirt 29, as illustrated in the drawings. The recess 26 provides a shallow dish-like well adapted snugly to receive the upright-tank type cleaner 22. The recess or well 26 may be open at its bottom, and provided with a plurality of radially inwardly extending lugs or supports 33, upon which the cleaner-tank 22 rests.

Projecting upwardly from the wall 28 of the base 21, near the periphery of the well 26, are one or more bosses 34, each having threaded therethrough a thumb-screw 35 provided with an enlarged tank-engaging end 36. The thumb-screws 35 may be rotated so as to bring the ends 36 into operative engagement with the side-wall of the cleaner-tank 22 after the cleaner has been placed in the well 26, whereby operatively to secure the cleaner 22 to the base 21. Thereafter, lifting of the cleaner 22 by the handle 37 will cause the base-and-reel to be lifted as a unit with the cleaner 22.

The reel 23 includes a generally flat 2-part or 2-piece cylindrical housing or shell 38, within which a spring-operated cord-drum is rotatably supported upon a central spindle or trunnion. The extensible cord 24 is wound upon the drum with the inner end thereof operatively connected to two collector-rings on which two non-rotatable brushes ride; said brushes being operatively secured (as in the brush-housing 39) to the short non-extensible cord 25. The free end of the short cord 25 has a plug 40 which may be operatively connected to the mating socket-member 41 in or on the upright-tank type cleaner 22.

The free end of the cord 24 is extendable, as is shown in dash-dot lines in Figure 1, so that, when the cleaner is to be used the cord may be pulled from the reel 23 and connected to an appropriate source of electric current. After the cleaner has been used or is to be transported, the free end of the cord 24 may be disconnected from the electric socket, whereupon it will be wound upon the drum within the housing 38. The cord-reel may be like that shown in Meletti Patent 2,521,178, although internal construction of the reel may be varied, and is not limited to the construction shown in Patent 2,521,178.

In Figures 1 to 6, inclusive, there is illustrated one embodiment of the present invention, in which the reel-mounting bracket 27 includes a generally U-shaped base 42, the central portion 43 of which is shaped to conform to the curved surface of the wall 28 and skirt 29 of the base 21. A pivot-pin 45 passes through aligned holes in the upstanding legs 44 of the bracket 27.

A mating bracket 46 is secured to the housing or shell 38 of the reel 23, and includes a curved saddle 47 which is formed to fit the circumferential wall of the reel-shell 38 and also includes a pair of ears 48 extending therefrom, parallel to each other, constituting a pivot portion on said reel, as is shown in Figure 3; the ears 48 being preferably punched out of or "struck" from the body of the saddle 47; leaving corresponding holes in the central portion of the saddle, to one edge of each of which holes one of the ears is integrally connected. The ears 48 are

adapted to fit against the legs 44 of the bracket 27, with the pivot-pin 45 also passing through aligned holes in the ears 48. The saddle 47 may be secured to the shell or housing 38 of the reel 23 by means of screws, rivets, spot-welding or any other means. The base-plate 43 of the U-shaped bracket 27 is secured to the base 21 by screws or rivets 49, or by any other suitable means. This hinged connection between the base 21 and the reel 23 permits the reel to be pivoted or swung away from the cleaner 22, as is shown particularly in Figure 4, so as to permit more easy operation of the thumb screws 35. Each of the legs 44 of the U-shaped portion 42 has a stop-member 50 thereon which limits the movement of the reel 23 to the position shown in Figure 4.

The pivot-pin 45 preferably has one end thereof bent back parallel to the major portion thereof, to form a locking finger 51 which is adapted to enter a second hole 52 in one of the legs 44, and also to enter a second hole 53 in the adjacent ear 48; said holes 52 and 53 being in alignment when the reel is in an upright position shown in Figure 5. Thus, the locking finger 51 of the pivot-pin 45 interlocks the relatively movable portions 42 and 46 of the bracket 27 to hold the reel 23 in its upright position. The finger 51 may be removed from the holes 52 and 53 by an axial pull on the pivot-pin 45, against the action of the compression spring 54, whereupon the reel may be moved to the inclined position shown in dash-dot line in Figure 4. The reel 23 may be removed entirely from the base 21 by disconnecting the two relatively movable portions 42 and 46 of the bracket 27; as by removing the stop-collar 55 on the pivot-pin 45, whereupon the pivot-pin may be removed from the bracket 27.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and it is therefore desired that the present embodiment may be considered in all respects as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

Having described my invention what I claim as new and desire to protect by Letters Patent is the following:

1. A base-and-reel for a tank-type vacuum-cleaner, including a cord-reel comprising a self-winding spring-operated cord-drum, a base having a tank-receiving portion, and a reel-support for detachably connecting said cord-reel to said base and detachably supporting said cord-reel with its median plane, which is at a right angle to its axis of rotation, in a normally generally upright position at one side of said tank-receiving portion, said reel-support including two relatively separable members, one member being rigidly secured to said cord-reel and the other member being rigidly secured to said base, a cross-bar pivotally joining said members, and means for locking said members in a fixed position relative to each other wherein the cord-reel is in its generally upright position.

2. A portable vacuum-cleaner including a suction unit, a cord-reel comprising a self-winding spring-operated cord-drum and a base, said suction unit being detachably mounted upon said base so as to be independently and relatively movable therefrom, said cord-reel being detachably interconnected to said suction unit by an electric cord, a reel-support for detachably connecting said cord-reel to said base and detachably supporting said cord-reel with its median plane, which is at a right angle to its axis of rotation, in a normally generally upright position at one side of said suction unit, said reel-support including two relatively separable members, one member being rigidly secured to said cord-reel and the other member being rigidly secured to said base, a cross-bar joining said members, said cord-reel being constructed and arranged to be pivoted about said cross-bar, and means for locking said members in a fixed position relative to each other wherein the cord-reel is in its generally upright position.

3. A base and reel combination for a tank-type vacuum-cleaner including a tank-receiving portion, a reel-support at one side of said tank-receiving portion for detachably interlocking a cord-reel to said base with its median plane, which is at a right angle to its axis of rotation, in a normally generally upright position, said reel-support including a pair of upstanding legs joined by a cross-bar, a cord-reel and a pivot portion on said cord-reel adapted to pivot about said cross-bar, and locking means for locking said cord-reel in said upright position on said reel-support.

4. A base-and-reel construction for a tank-type vacuum cleaner including a base having a tank-receiving portion and having an adjacent portion, cord-reel means comprising a self-winding spring-operated cord-drum, and means interlockingly mounting said cord-drum on said adjacent portion of the base with its median plane, which is at a right angle to its axis of rotation, in a normally generally upright position at one side of and closely adjacent to said tank-receiving portion, said means comprising hinge members carried by the base and cord-drum respectively, a hinge pin connecting the hinge members in hinged relation for swinging movement of the cord-drum from said normally upright position to an inclined position exposing the adjacent side of the tank-receiving portion, and locking means movable into engagement with the hinge members for preventing hinging movement thereof and holding the cord-drum in said upright position.

5. A base-and-reel construction for a tank-type vacuum cleaner including a base having a tank-receiving portion mounted on a portion thereof and having an adjacent portion, cord reel means comprising a self-winding spring-operated cord-drum, and means interlockingly mounting said cord-drum on said adjacent portion of the base with its median plane, which is at a right angle to its axis of rotation, in a normally generally upright position at one side of and closely adjacent to said tank-receiving portion, said means comprising hinge members carried by the base and cord-drum respectively and a U-shaped pin having a longer leg connected with said hinge members as a pivot pin and having a shorter leg normally connected with said hinge members to lock said hinge members against hinging movement, said U-shaped pin being movable relatively to said hinge members to withdraw said shorter leg from locking relation therewith whereby said cord-drum is movable from said normally generally upright position about said pivot pin to an inclined position exposing the adjacent side of the tank-receiving portion.

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