Oct. 3, 1961 C. H. MacFARLAND 3,002,215

CANISTER VACUUM CLEANER

Filed Nov. 14, 1957 3 Sheets-Sheet 1

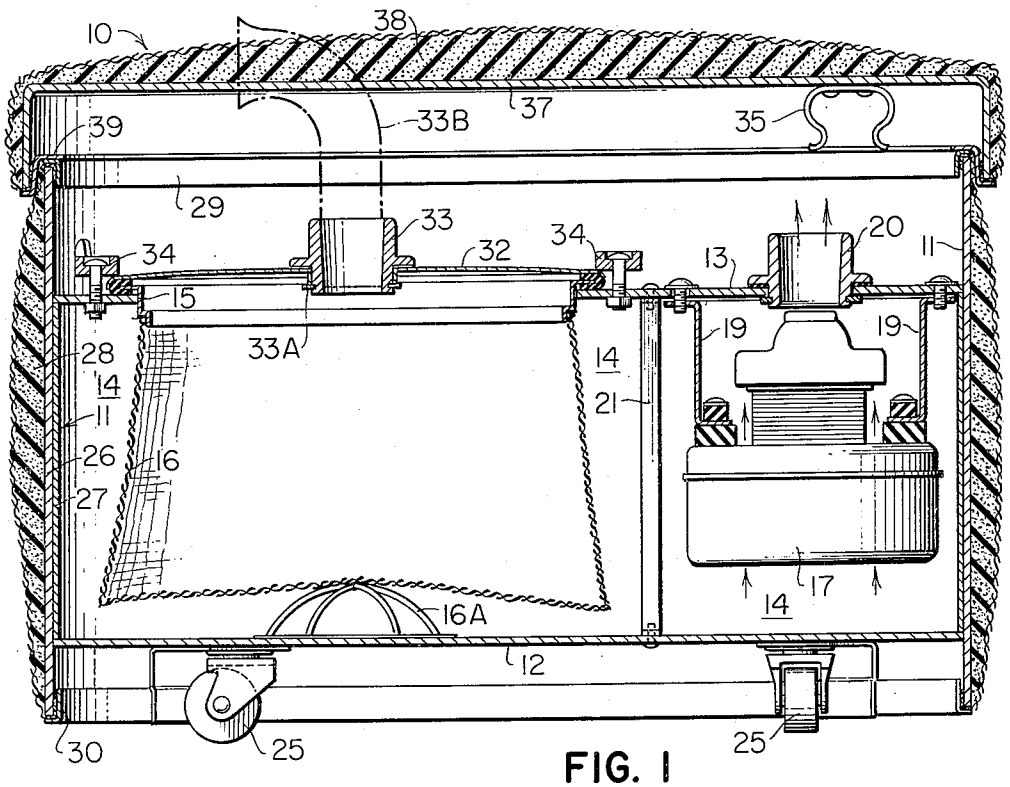


FIG. 1

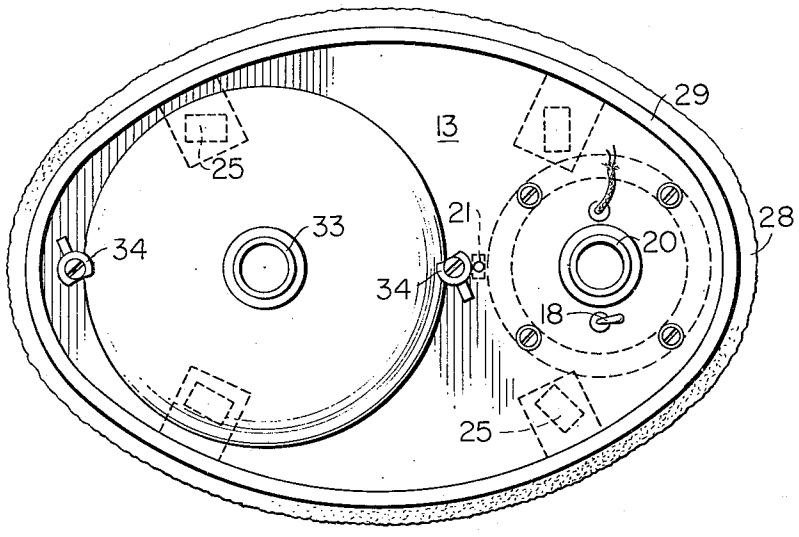


FIG. 2

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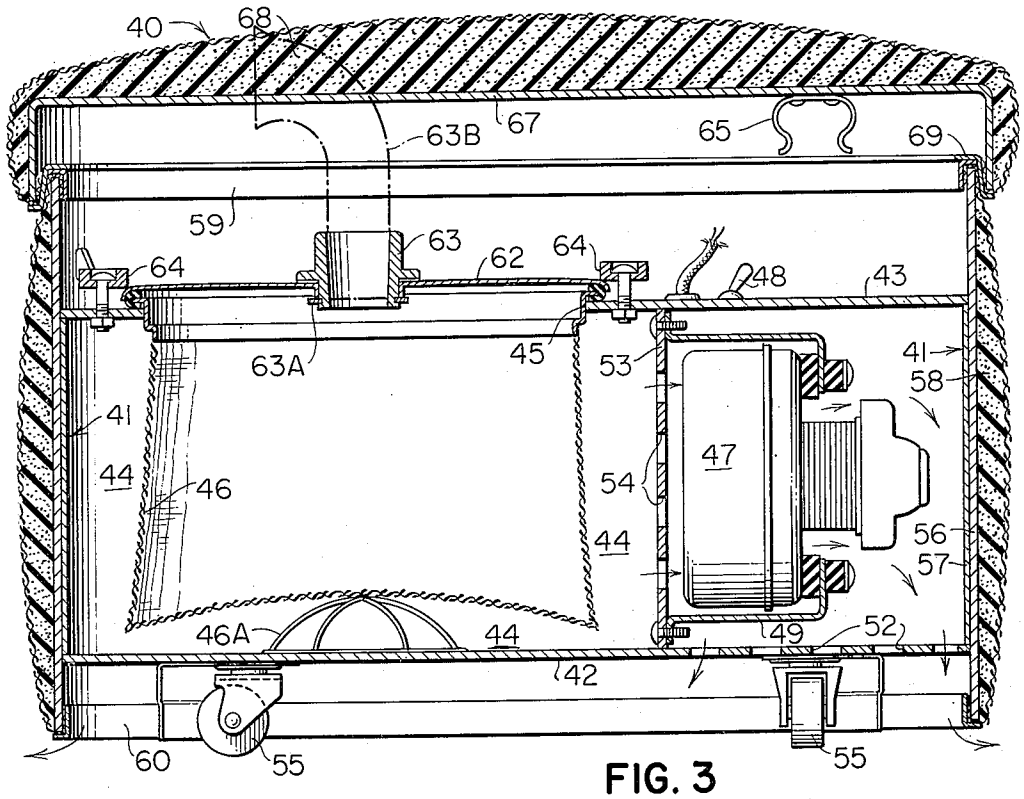


FIG. 3

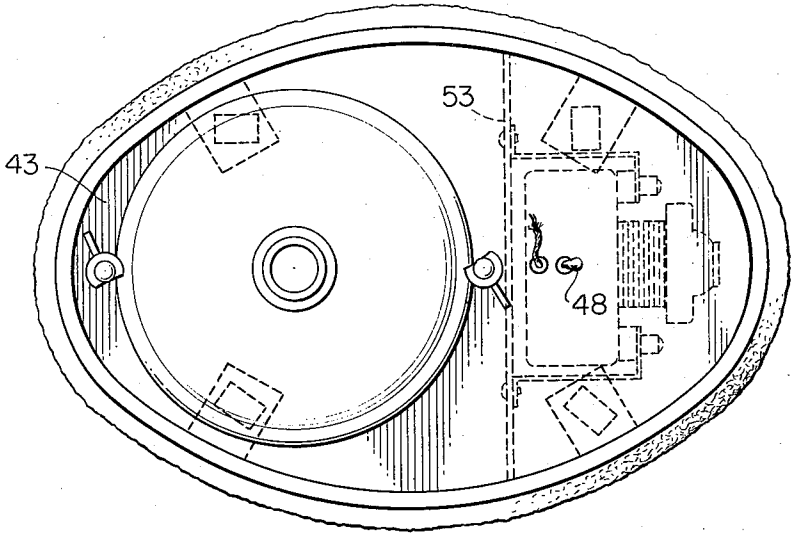


FIG. 4

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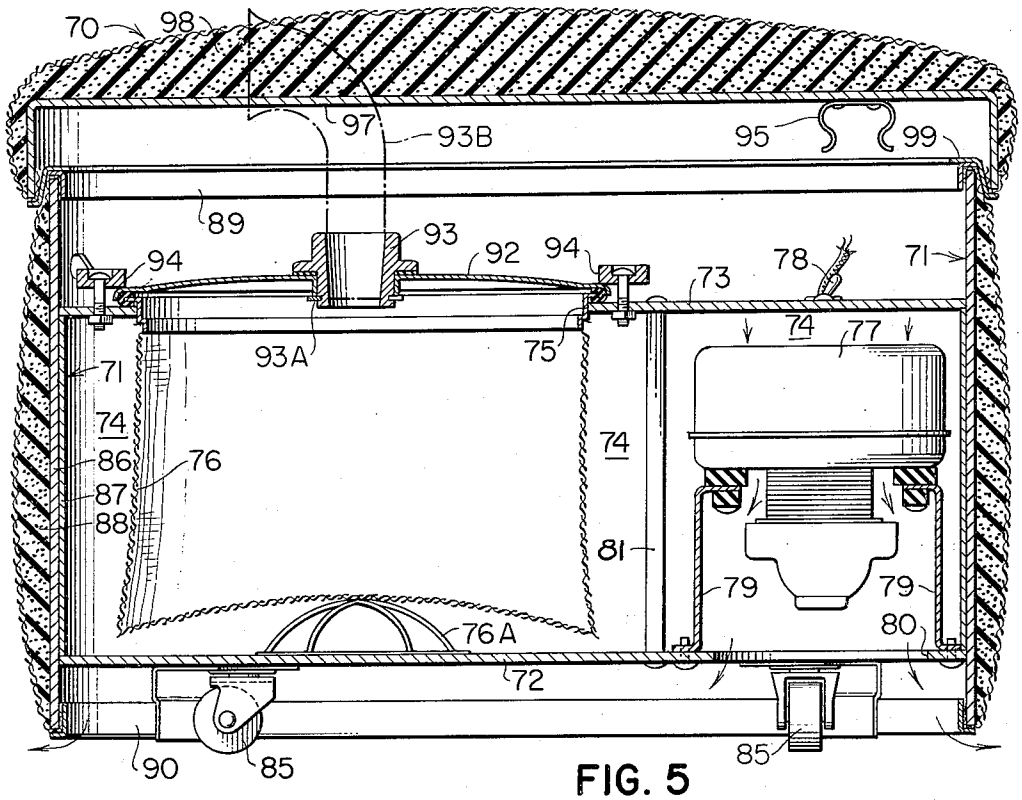


FIG. 5

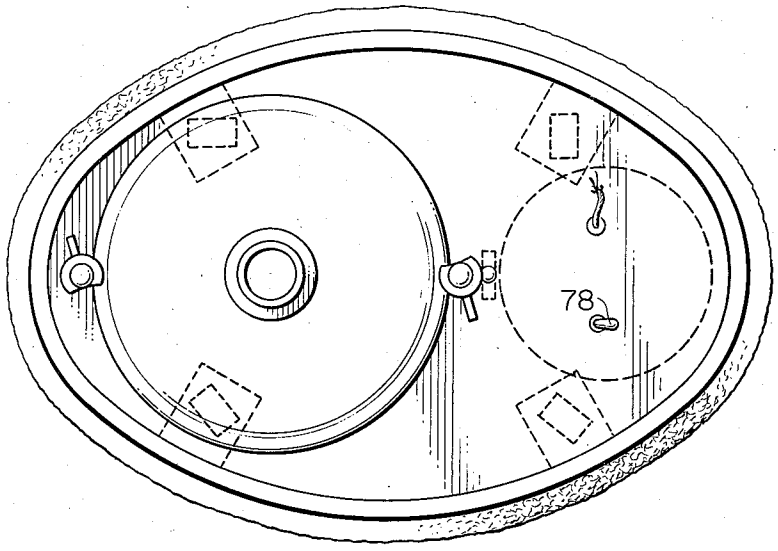


FIG. 6

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3,002,215
CANISTER VACUUM CLEANER

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7 Claims. (Cl. 15—327)

This invention relates to vacuum cleaners of the type housed in a structure intended to conceal the character of the appliance when it is not in use. Structures of the same general type are shown in U.S. Patents 2,367,437; 2,544,405 and 2,603,816 and also in British Patent 22,599 of 1910.

The general object of the present invention is to so organize and arrange the various cleaner and housing elements as to readily accomplish effective and complete concealment when the appliance is not in use while at the same time providing an efficient and conveniently used cleaner. From a design standpoint, the concealability of a vacuum cleaner device and its effectiveness as an appliance are to a considerable extent opposing factors. The present invention teaches the way to arrange the various cleaner and housing elements so that effectiveness and concealability may meet a higher combined standard than heretofore.

A more particular object of the invention is to provide a vacuum cleaner which in concealed aspect functions and appears as a hassock or other article of furniture and which is devoid of any hint of concealed apertures, vents, hidden mechanisms, etc.

Another object of the invention is to provide a vacuum cleaner appliance which is disguisable and usable as a hassock or other article of furniture, but the parts of which are arranged and organized so that there are no exterior surface portions which are exposed to soiling by intense action of exhausted air as by adjacency to exhaust ports or the like, or by the necessity of manipulating or opening exterior coupling connections or concealed panels or doors.

These and other objects and advantages of the invention will more fully appear from the following description of examples of the invention.

In the drawings:

FIGURE 1 is an elevational view in cross-section showing a device embodying the invention.

FIGURE 2 is a plan view on a reduced scale of the device shown in FIGURE 1 with both the lid and the element 33B removed.

FIGURE 3 is a view similar to FIGURE 1 showing another device embodying the invention.

FIGURE 4 is a plan view on a reduced scale of the device shown in FIGURE 3 with both the lid and the element 63B removed.

FIGURE 5 is a view similar to FIGURE 1 showing a third device embodying the invention.

FIGURE 6 is a plan view on a reduced scale of the device shown in FIGURE 5 with both the lid and the element 93B removed.

The cleaner shown in FIGURES 1 and 2 comprises a hollow hassock which has exterior wall means, including a lid 10 and side walls 11. The hassock also has interior wall means comprising a floor 12 and a deck 13 which is spaced above the floor 12 and below the lid 10, as shown. It will be understood that by the term "exterior wall means" is meant those wall members which face on the exterior of the lidded hassock, and by the term "interior wall means" is meant those wall members which do not face on the exterior of the lidded hassock.

The space enclosed by the side walls 11, floor 12 and deck 13 includes a cavernous air-tight chamber 14. It will be seen that this chamber is defined by air-tight wall

sections comprised partly of exterior wall means (side walls 11) and also comprised partly of interior wall means (floor 12 and deck 13). A well opening 15 is provided in the deck 13. A dust bag or equivalent dust filter 16 depends from the well opening into the cavernous chamber 14. Suitable brackets 16A may be provided to maintain at least a portion of the bottom of the filter 16 in spaced relation from the deck 12. Standard motor-fan exhaust means, preferably of a type generally used for tank or canister cleaners, is ducted through a wall of the cavernous chamber 14, which wall is comprised by interior wall means rather than by exterior wall means. In the structure shown in FIGURES 1 and 2, the motor-fan unit 17 is ducted through the deck 13, the path of air flow being defined by a suitable shroud 19. The actual port opening through the deck 13 is preferably in the form of a hollow joint or swiveling coupling element 20 which may receive a pressure hose or the like for connection with accessory devices intended to be supplied with pressurized air, such as mothproofing devices, spray guns, and the like. It will be obvious that the port formed by the coupling element 20 serves to vent the output side of the motor-fan exhaust means 17 to atmosphere when the hassock lid 10 is removed. The motor-fan exhaust means 17 is controlled by a switch 18.

The deck 13 and floor 12 may be braced or supported in spaced relation by a column or spacer bar 21.

The hassock is mounted on casters 25 which in the illustrated device hold the trailing edges of the side walls 11 in spaced relation above the floor line. The various walls may, of course, be of composite structure. In the particular apparatus shown, the side walls 11 comprise a closed oval of fiberboard material 26 which may be lined at appropriate locations with a metal liner 27 or the like. The exterior of the side walls are covered by an upholstery material 28, which may be shaped as shown, and which may be removable and interchangeable. The upholstery material 28 is passed over the upper and lower rims of the side walls proper and is clamped and held in place by the removable hoops or clamping rings 29 and 30.

The well opening 15 is closed by a suitable cover 32 in the center of which is provided a swivel connection 33 held in place by a snap-ring 33A. An erect hollow mast 33B is releasably received in the swivel connection 33 and communicates therethrough with the upstream side of the dust filter 16. The upper end of the hollow mast 33B is slightly flared as shown or is otherwise adapted by any suitable known means to releasably receive a flexible vacuum hose (not shown). The upper end of the mast 33 is of sufficient height to support the vacuum hose above or at least out of entangling engagement with the upper edges of the side walls 11 so that the cleaner functions effectively and conveniently as a swivel-type canister cleaner. It is desirable that the upper end of the mast 33 be curved to face sideways, as shown. The cover 32 is releasably held in place by suitable readily accessible detents 34 which are mounted at the sides of the well opening on the topside of the deck 13. The dimensions of the parts are preferably such that the mast 33B and a vacuum hose and other coupling elements and tools may be stored on the deck 13 or clipped in clips, such as the clips 35, within the cover 10.

As shown, the cover 10 is also of composite structure, including a structural wall 37 of stiff material such as fiberboard in the shape of an inverted tray together with upholstery material 38. The upholstery material 38 is drawn over the rim of the structural wall member 37 and is held in place by the removable hoop or clamping ring 39.

The cleaner shown in FIGURES 3 and 4 comprises a hollow hassock which has exterior wall means including

a lid 40, and side walls 41. The hassock also has interior wall means comprising a floor 42, a deck 43 and a vertical wall 53. The deck 43 is spaced above the floor 42 and below the lid 40, as shown.

The space enclosed by the side walls 41, floor 42 and deck 43 includes a cavernous air-tight chamber 44. It will be seen that this chamber is defined by air-tight wall sections comprised partly of exterior wall means (side walls 41) and also comprised partly of interior wall means (floor 42, deck 43 and vertical wall 53). A well opening 45 is provided in the deck 43. A dust bag or equivalent dust filter 46 depends from the well opening into the cavernous chamber 44. Suitable brackets 46A may be provided to maintain at least a portion of the bottom of the filter 46 in spaced relation from the deck 42.

Standard motor-fan exhaust means, preferably of the type generally used for tank or canister cleaners, is ducted through a wall of the cavernous chamber 44, which wall is comprised by interior wall means rather than by exterior wall means. In the structure shown in FIGURES 3 and 4, the motor-fan unit 47 is ducted through the vertical wall 53, the path of air flow being in part defined by a suitable shroud 49. The direction of air flow through the motor-fan unit is indicated by the arrows in the drawing. Suitable ports or openings 54 are provided in the wall 53. The output side of the motor-fan exhaust means 47 is vented to atmosphere through the ports 52 which open through the floor 42 at a portion thereof which does not face on the cavernous air-tight chamber 44. The motor-fan exhaust means 47 is controlled by a switch 48.

Again, the hassock is mounted on casters 55, which hold the trailing edges of the side walls 41 in spaced relation above the floor line. The various walls may, of course, be of composite structure. In the particular apparatus shown in FIGURES 3 and 4, the side walls 41 comprise a closed, oval, fiberboard material 56, which may be lined at appropriate locations with a metal liner 57 or the like. The exterior of the side walls are covered by an upholstery material 58, which may be shaped as shown, and which may be removable and interchangeable. The upholstery material 58 is passed over the upper and lower rims of the side walls proper and is clamped and held in place by the removable hoops or clamping rings 59 and 60. Easy changing of the upholstery material 58 is therefore possible.

The well opening 45 is closed by a suitable cover 62 in the center of which is provided a swivel connection 63 designed to receive a mast 63B (similar to the mast 33B) or a vacuum hose or the like. The cover 62 is releasably held in place by suitable detents 64. The dimensions of the parts are preferably such that the mast 63B and a vacuum hole and other coupling elements and tools may be stored on the deck 43 or clipped in clips, such as the clips 65, within the cover 40.

As shown, the cover 40 is also of composite structure, including a structural wall 67 and upholstery material 68. The upholstery material 68 is drawn over the rim of the structural wall 67 and is held in place by the removable hoop or clamping ring 69. Again, this upholstery material 68 may be readily changed.

The cleaners shown in FIGURES 5 and 6 comprise a hollow hassock which has exterior wall means, including a lid 70 and side walls 71. The hassock also has interior wall means comprising a floor 72 and deck 73, which is spaced above the floor 72 and below the lid 70, as shown.

The space enclosed by the side walls 71, floor 72 and deck 73 includes a cavernous air-tight chamber 74. It will be seen that this chamber is defined by air-tight wall sections comprised partly of exterior wall means (side walls 71) and also comprised partly of interior wall means (floor 72 and deck 73). A well opening 75 is provided in the deck 73. A dust bag or equivalent dust filter 76 depends from the well opening into the cavernous chamber 74. Suitable brackets 76A may be provided to maintain at least a portion of the bottom of the filter 76 in spaced relation from the deck 72. Such brackets may be bolted or otherwise fixed to the floor 72.

Standard motor-fan exhaust means, preferably of a type generally used for tank or canister cleaners, is ducted through a wall of the cavernous chamber 74, which wall is comprised by interior wall means rather than by exterior wall means. In the structure shown in FIGURES 5 and 6, the motor-fan unit 77 is ducted through the floor 72, the path of air flow being defined by a suitable shroud 79. The actual port opening through the floor 72 is indicated by the reference numeral 80. It will be obvious that the port 80 serves to vent the output side of the motor-fan exhaust means 77 to atmosphere. The motor-fan exhaust means 77 is controlled by a switch 78.

The deck 73 and floor 72 may be braced or supported in spaced relation by a column or spacer bar 81.

Again in this embodiment, the hassock is mounted on suitable casters 85, which hold the trailing edges of the side walls 81 in spaced relation above the floor line, and the various walls are of composite structure, the side walls 71 comprising fiberboard material 86 lined with a metal liner 87 or the like and covered on their exterior by upholstery material 88. Upholstery material clamping rings 89 and 90 are preferably provided in a manner similar to the other embodiments previously described.

The well opening 75 is closed by a cover 92 in the center of which is provided a swivel connection 93 designed to receive a mast 93B (similar to the mast 33B) or a vacuum hose or the like. The cover 92 is releasably held in place by suitable detents 94. The dimensions of the parts are preferably such that the mast 93B and a vacuum hose and other coupling elements and tools may be stored on the deck 73 or clipped in clips, such as the clips 95, within the cover 70.

Again as in the previous embodiments, the cover 70 is of composite structure including a structural wall 97 and upholstery material 98, which is held in place by a removable hoop or clamping ring 99.

While I have illustrated specific embodiments of my invention, I do not desire my invention to be limited to the particular construction shown and described. For example, in certain aspects, the invention contemplates the containment of the vacuum cleaner within a hollow article of furniture other than a hassock. I intend, by the appended claims, to cover all modifications in the spirit and scope of my invention.

What is claimed is:

1. Hassock-contained vacuum cleaner means in which there is provided a hollow hassock and a removable hollow lid for the hassock, the hassock having exterior wall means comprising wall members which face on the exterior of the lidded hassock, said exterior wall means including said lid and also side walls, said side walls comprising a tube of substantially rigid material having an upper edge and a lower edge, upholstery material covering the exterior of said tube, means for attaching said upholstery to said tube, the hassock also having interior wall means comprising wall members which do not face on the exterior of the lidded hassock, said interior wall means including at least a floor and a deck spaced above the floor and below the lid, said floor being above said lower edge of said tube to define a skirt portion of said tube, wheels supported on the underside of said floor and depending below said lower edge of said tube, a cavernous air-tight chamber included within the space enclosed by the side walls, floor and deck, the chamber being defined by air-tight wall means comprised partly of said exterior wall means and also comprised partly of said interior wall means, a well opening in the deck, a dust filter depending into the cavernous chamber from the well opening, motor-fan exhaust means

ducted through a wall of the cavernous chamber which last-named wall is comprised by said interior wall means, the output side of said motor-fan exhaust means being vented to atmosphere at least when the hassock lid is removed.

2. Vacuum cleaner containing means in which there is provided a hollow hassock and a removable hollow lid for the hassock, the hassock having exterior wall means comprising wall members which face on the exterior of the lidded hassock, said exterior wall means including said lid and also side walls, said side walls comprising a tube of substantially rigid material having an upper edge and a lower edge, upholstery material covering the exterior of said tube, means for attaching said upholstery to said tube, the hassock also having interior wall means comprising wall members which do not face on the exterior of the lidded hassock, said interior wall means including at least a floor and a deck spaced above the floor and below the lid, said floor being above said lower edge of said tube to define a skirt portion of said tube, wheels supported on the underside of said floor and depending below said lower edge of said tube, a cavernous air-tight chamber included within the space enclosed by the side walls, floor and deck, the chamber being defined by air-tight wall means comprised partly of said exterior wall means and also comprised partly of said interior wall means.

3. Vacuum cleaner containing means in which there is provided a hollow hassock and a removable hollow lid for the hassock, the hassock having exterior wall means comprising wall members which face on the exterior of the lidded hassock, said exterior wall means including said lid and also side walls, said side walls comprising a tube of substantially rigid material having an upper edge and a lower edge, upholstery material covering the exterior of said tube, clamping rings engaged at said upper and lower edges in gripping relationship with said upholstery material, the hassock also having interior wall means comprising wall members which do not face on the exterior of the lidded hassock, said interior wall means including at least a floor and a deck spaced above the floor and below the lid, a cavernous air-tight chamber included within the space enclosed by the side walls, floor and deck, the chamber being defined by air-tight wall means comprised partly of said exterior wall means and also comprised partly of said interior wall means.

4. Vacuum cleaner containing means in which there is provided a hollow hassock and a removable hollow lid for the hassock, the hassock having exterior wall means comprising wall members which face on the exterior of the lidded hassock, said exterior wall means including said lid and also side walls, said side walls comprising a tube of substantially rigid material having an upper edge and a lower edge, upholstery material covering the exterior of said tube, clamping rings engaged at said upper and lower edges in gripping relationship with said upholstery material, the hassock also having interior wall means comprising wall members which do not face on the exterior of the lidded hassock, said interior wall means including at least a floor and a deck spaced above the floor and below the lid, wheels supported on the underside of said floor and depending below said lower edge of said endless band of fiberboard, a cavernous air-tight chamber included within the space enclosed by the side walls, floor and deck, the chamber being defined by air-tight wall means comprised partly of said exterior wall means and also comprised partly of said interior wall means.

5. Hassock-contained vacuum cleaner means in which there is provided a hollow hassock and a removable hollow lid for the hassock, the hassock having exterior wall means comprising wall members which face on the exterior of the lidded hassock, said exterior wall means including said lid and also side walls, said side walls comprising an endless band of fiberboard having an upper edge and a lower edge, upholstery material covering the exterior of said band of fiberboard, clamping rings engaged at said upper and lower edges in gripping relationship with said upholstery material, the hassock also having interior wall means comprising wall members which do not face on the exterior of the lidded hassock, said interior wall means including at least a floor and a deck spaced above the floor and below the lid, wheels supported on the underside of said floor and depending below said lower edge of said endless band of fiberboard, a cavernous air-tight chamber included within the space enclosed by the side walls, floor and deck, the chamber being defined by air-tight wall means comprised partly of said exterior wall means and also comprised partly of said interior wall means, a well opening in the deck, a dust filter depending into the cavernous chamber from the well opening, a cover extending over the well opening, a hollow mast, means for removably mounting said mast erectly on said cover in swiveling association therewith and in communication therethrough with the upstream side of said dust filter, motor-fan exhaust means ducted through a wall of the cavernous chamber which last-named wall is comprised by said interior wall means, the output side of said motor-fan exhaust means being vented to atmosphere at least when the hassock lid is removed.

6. Hassock-contained vacuum cleaner means in which there is provided a hollow hassock and a removable hollow lid for the hassock, the hassock having exterior wall means comprising wall members which face on the exterior of the lidded hassock, said exterior wall means including said lid and also side walls, said side walls comprising an endless band of fiberboard having an upper edge and a lower edge, upholstery material covering the exterior of said band of fiberboard, clamping rings engaged at said upper and lower edges in gripping relationship with said upholstery material, the hassock also having interior wall means comprising wall members which do not face on the exterior of the lidded hassock, said interior wall means including at least a floor and a deck spaced above the floor and below the lid, wheels supported on the underside of said floor and depending below said lower edge of said endless band of fiberboard, a cavernous air-tight chamber included within the space enclosed by the side walls, floor and deck, the chamber being defined by air-tight wall means comprised partly of said exterior wall means and also comprised partly of said interior wall means, a well opening in the deck, a dust filter depending into the cavernous chamber from the well opening, motor-fan exhaust means ducted through a wall of the cavernous chamber which last-named wall is comprised by said interior wall means, the output side of said motor-fan exhaust means being vented to atmosphere at least when the hassock lid is removed

7. Hassock-contained vacuum cleaner means in which there is provided a hollow hassock and a removable hollow lid for the hassock, the hassock having exterior wall means comprising wall members which face on the exterior of the lidded hassock, said exterior wall means including said lid and also side walls, said lid comprising an inverted tray of stiff material having a bottom edge, first upholstery material covering the exterior of said tray, a first clamping ring engaged at said bottom edge in gripping relationship with said first upholstery material, said side walls comprising an endless band of fiberboard having an upper edge and a lower edge, second upholstery material covering the exterior of said band of fiberboard, second and third clamping rings engaged respectively at said upper and lower edges in gripping relationship with said second upholstery material, the hashock also having interior wall means comprising wall members which do not face on the exterior of the lidded hassock, said interior wall means including at least a

floor and a deck spaced above the floor and below the lid, wheels supported on the underside of said floor and depending below said lower edge of said endless band of fiberboard, a cavernous air-tight chamber included within the space enclosed by the side walls, floor and deck, the chamber being defined by air-tight wall means comprised partly of said exterior wall means and also comprised partly of said interior wall means, a well opening in the deck, a dust filter depending into the cavernous chamber from the well opening, motor-fan exhaust means ducted through a wall of the cavernous chamber which last-named wall is comprised by said interior wall means, the output side of said motor-fan exhaust means being vented to atmosphere at least when the hassock lid is removed.

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