

# United States Patent

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- [54] **WALL-RECESSED SUCTION CLEANER**  
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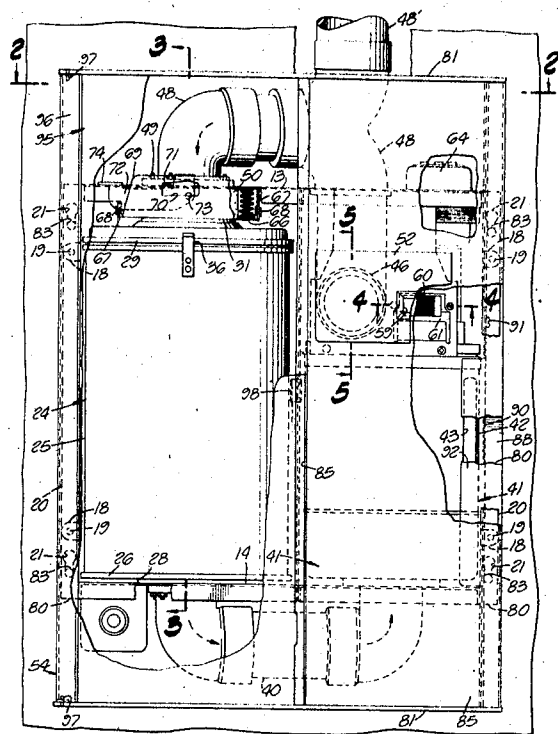
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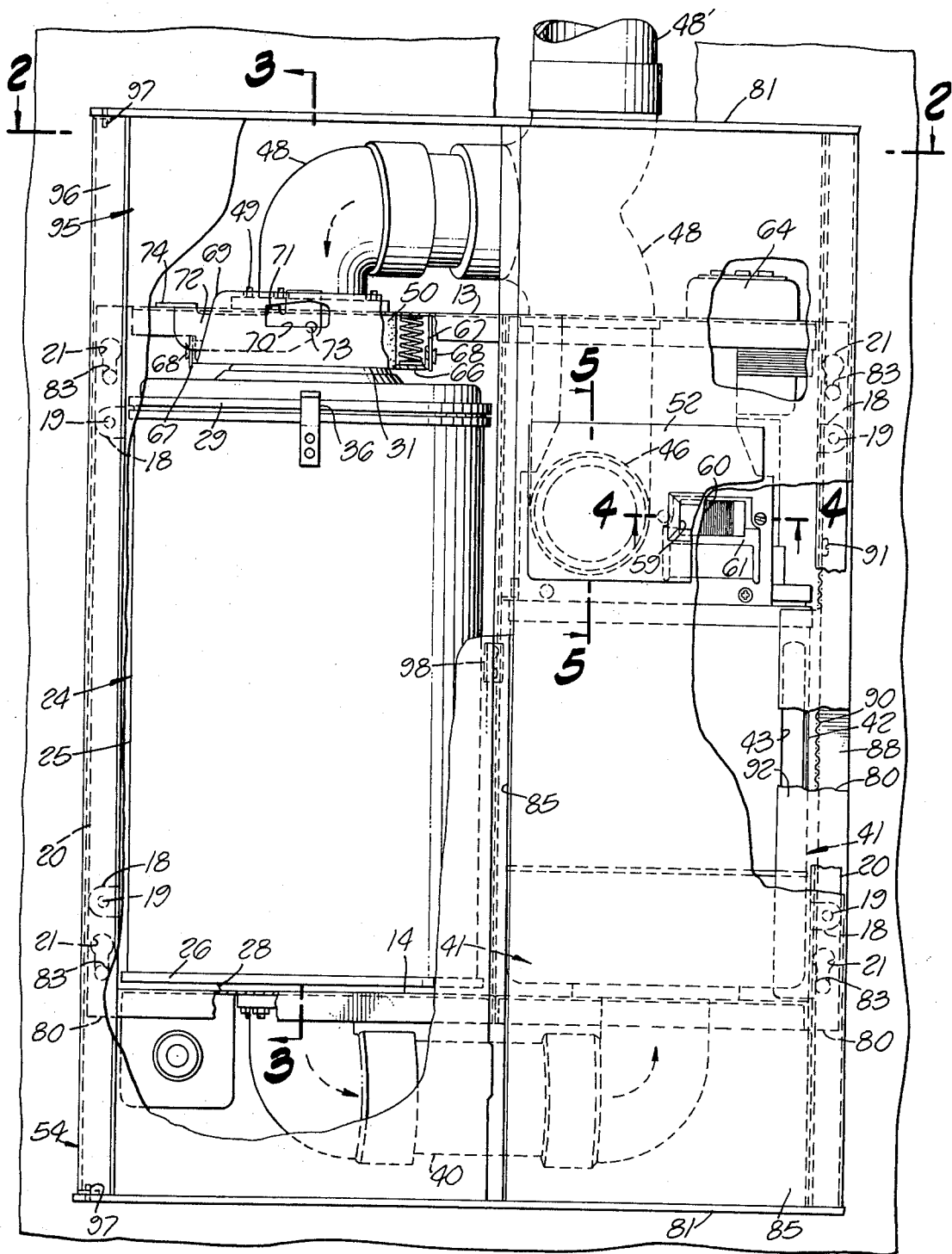
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## [57] ABSTRACT

A suction cleaner mountable substantially entirely between the faces of a room wall and equipped to have a dirty air suction hose coupled thereto and to discharge clean air back into the room from a semi-concealed outlet discharging laterally from a protruding edge of the cleaner and generally across the adjacent face of the room wall. The exterior cover means for the working components is detachably secured in place by hidden connectors and conceals the cleaner proper from view. The suction air unit is mounted beside and parallel to an air filter canister which is removable as a unit for servicing.

32 Claims, 5 Drawing Figures

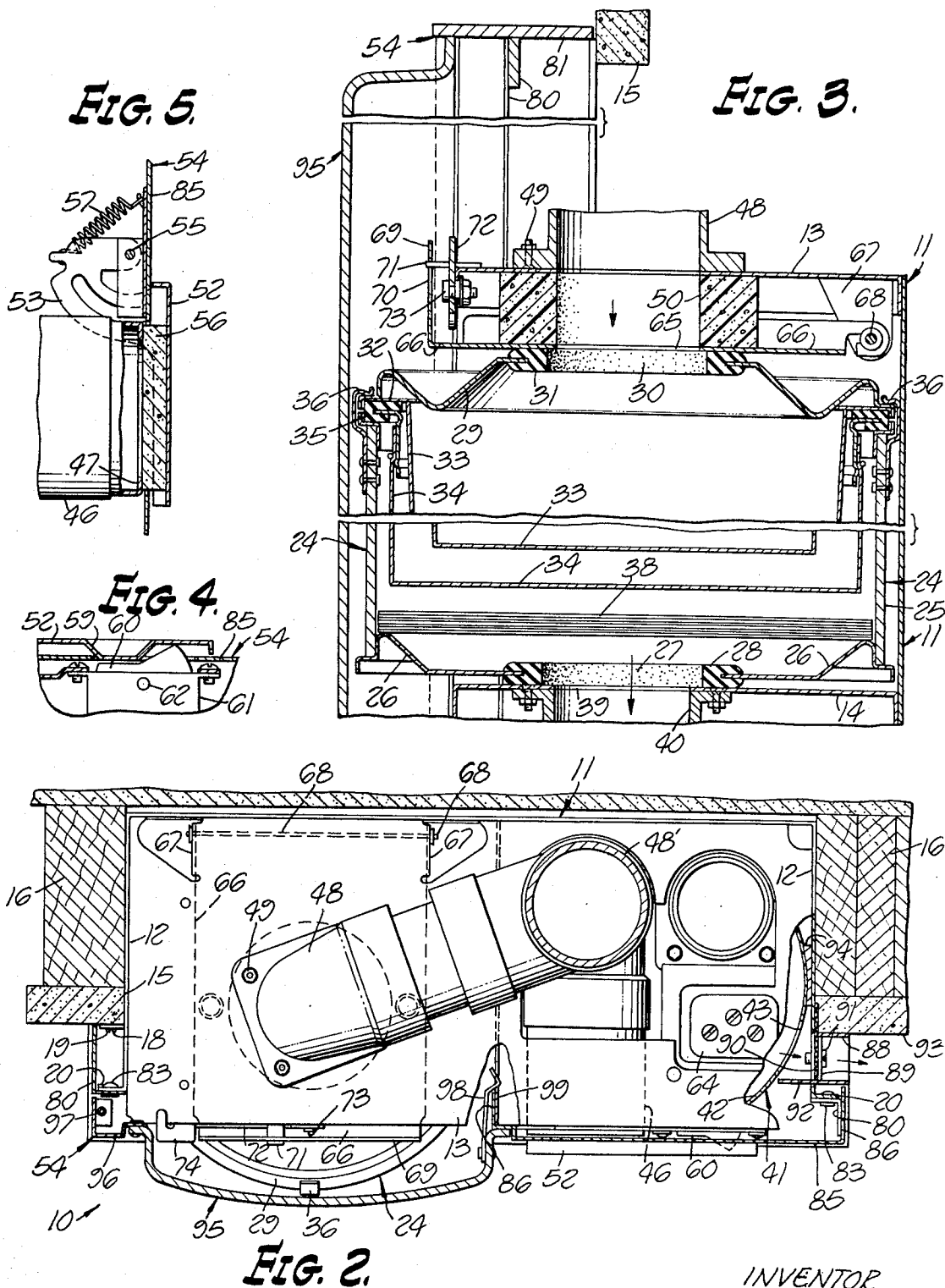




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FIG. 1.

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**WALL-RECESSED SUCTION CLEANER**

This invention relates to domestic suction cleaners and more particularly to an improved wall recessed suction cleaner having numerous novel features, including concealed suction hose coupling means and concealed means for discharging clean air back into the room, and a readily demountable air filter canister.

The advent of smaller and more compact apartments and dwellings has accentuated the need for a suction cleaner so designed that it can be mounted within a recess of the room wall and employed to clean the room and its furnishings using a readily attachable suction hose and cleaning nozzle connected to the cleaner's dirty air inlet. Certain proposals to meet these requirements have been made heretofore but each is subject to certain shortcomings and disadvantages sought to be obviated by the present invention. Among these has been the excessive bulk, complexity and the need for air conduits installed within the building wall. These conduits have been widely relied upon heretofore to convey dirty air from various rooms to the cleaner filtering unit as well as to convey clean air to the basement attic or some other point of disposal. Others have proposed discharging the clean air back into the room but such air returns are subject to the serious disadvantage of need for an air outlet on the front face of the cleaner detracting from the esthetics to leave unmentioned the fact that a stream of air if forcibly ejected onto nearby objects and persons present in the room. The need for conduits in the wall is particularly objectionable because of requiring the costly services of carpenters to prepare passages for the conduits and plumbers to install them. Other shortcomings include the lack of satisfactory means for facilitating the servicing of the dirt filters.

To overcome the foregoing and other disadvantages of prior proposals, there is provided by the present invention an unusually compact wall-recessed suction cleaner having numerous unique features. The principal components comprise a self-contained easily inserted and detached filter canister arranged in an upright position beside a motor-fan suction unit. These and the associated components are supported on a sheet metal main frame fixedly nestable into a wall cavity between adjacent studs. The opposite sides of this frame include mounting tabs securable to the edges of the wall opening and other portions of the frame are utilized to interlock with concealed mounting supports projecting rearwardly from an appearance cover assembly for the cleaner so designed as not to interfere with the discharge of clean air into the room along a slot through the cleaner frame generally flush with the inner face of the room wall. This arrangement avoids the need for wall-mounted air conduits and the unsightliness and other shortcomings of prior proposals for handling the clean air discharged by the cleaner. Another important feature is the provision of a unitary quickly detachable filter canister. By virtue of this expedient the dirty air never comes in contact with any exposed surface of the cleaner and persons servicing the dirt filter can remove it as a unit and carry it to a place of dirt disposal without risk of dirt escaping onto the room furnishings or the person of the user. Equally important is the fact that the use of the filter canister avoids the need for an airtight housing for the cleaner components and the latter do not collect a film of dirt

as has been customary in prior designs. Accordingly, sealing requirements are restricted to the canister itself. Since the latter is of small design and subject only to suction pressure the parts may be of light gauge, inexpensive materials and suction may be availed of to augment the air seals for the air inlet and outlet to the canister.

Accordingly, it is a primary object of the present invention to provide a wall-recessed and mountable suction cleaner featuring unusual compactness, efficiency and simplicity.

Another object of the invention is the provision of a wall-recessed suction cleaner wherein all components including the dirty air inlet and the clean air outlet are concealed.

Another object of the invention is the provision of an improved suction cleaner employing a unitary readily demountable canister enclosing multiple dirt-filtering means.

Another object of the invention is the provision of a wall-recessed suction cleaner having a main frame supporting compactly arranged air filter and suction means located beneath cover means provided with concealed fastener means and having a clean air outlet discharging back into the room between the surface of the room wall and the edge of the cover means.

Another object of the invention is the provision of a wall-recessed suction cleaner having air filter and suction means supported in a frame mounted on the wall and arranged to be concealed behind appearance cover means extending beyond the upper and lower ends of the main frame and concealing a clean air return to the room lying close to the face of the room wall and discharging thereacross.

These and other more specific objects will appear upon reading the following specification and claims and upon considering in connection therewith the attached drawings to which they relate.

Referring now to the drawings in which a preferred embodiment of the invention is illustrated:

FIG. 1 is a front elevational view of a preferred embodiment of the invention installed in a wall and showing portions of the cover broken away to provide a better view of internal components;

FIG. 2 is a horizontal cross-sectional view taken along line 2—2 on FIG. 1;

FIG. 3 is a fragmentary cross-sectional view on an enlarged scale taken along line 3—3 on FIG. 1;

FIG. 4 is a fragmentary cross-sectional view taken along line 4—4 on FIG. 1; and

FIG. 5 is a fragmentary cross-sectional view of the dirty air inlet taken along line 5—5 on FIG. 1.

Referring more particularly to FIGS. 1 and 2, there is shown a wall-recessed suction cleaner, designated generally 10, having a box-like sheet metal housing or main frame 11, including side walls 12,12, an upper end wall 13, and a lower end wall 14, sized to fit in a wall opening 15, between studding 16,16. It will be understood that wall opening 15 is sufficiently wide to have a close fit with sidewalls 12,12 of main frame 11 but is substantially greater in height, as is best shown in FIG. 3, to accommodate certain horizontal air conduits extending across the cleaner outwardly of end walls 13, 14. The opposite side walls 12,12 of the main frame include out-turned mounting tangs 18 along either side

through which fasteners 19 extend to anchor main frame 11 firmly to the wall. Side walls 12,12 project outwardly beyond the face of the wall and include out-turned flanges 20,20 (FIG. 2) formed with keyhole slots 21 to provide part of a concealed fastener to hold the appearance cover assembly in place on the main frame and about wall opening 15. The details of this cover will be described more fully presently.

Detachably supported in an upright position along the left hand side of main frame 11 is a unitary filter canister 24, the constructional details being best shown in FIG. 3. The canister includes a rigid imperforate tubular body 25 open at its opposite ends and made of any suitable lightweight material, as plastic fiberboard or sheet metal. Its lower end is closed by a flanged end ring 26 provided with an outlet 27 fitted with a resilient gasket ring 28. The upper end is likewise closed by an end cap 29 having an air inlet opening 30 equipped with a resilient gasket ring 31. The downturned edge of end cap 29 seats against the supporting ring 32 of a paper filter bag 33. Desirably, a cloth filter bag 34 surrounds the paper filter bag and is equipped with a gasketed mounting ring 35 seating against the end of canister body 25. This body is preferably provided with a pair of spring clips 36 effective to hold end ring 29 and the two filters detachably assembled. Lower end cap 26 has a snug friction fit with tube 25 but spring retainer clips may be employed if desired. A further feature of filter canister 24 is the provision of a third filter 38 such as a disc of loosely felted fibers, flocked screening, or the like, having a close frictional fit with the interior surface of tube 25 and through which clean air enroute to outlet opening 27 must pass.

It will be understood that the unitary filter canister 24 has its outlet gasket ring 28 in registry with a clean air outlet 39 in the frame bottom wall 14 and with the inlet end of the clean air conduits 40 (FIG. 1) leading into the inlet of the suction fan unit 41. The latter is of any conventional construction driven by an electric motor enclosed by a cylindrical housing 42 (FIGS. 1 and 2). The clean air discharging from the fan passes over the motor to cool it before discharging through an elongated large area outlet opening 43 in casing 42. This opening is located closely adjacent the outer edge portion of the right hand side wall 12 of frame 11 (FIG. 2). This outlet opening extends substantially the full height of motor casing 42 and provides for the free and unrestricted flow of clean air ready for return back into the room by means to be described presently.

Referring now to FIGS. 1, 2, 4 and 5, it is pointed out that the dirty air inlet coupling and its closure is associated with the dirty air inlet conduit 46. This conduit has an inturned flanged inlet 47 terminating in a vertical plane on the room side of the cleaner, the main body 48 of this conduit extending rearwardly, upwardly and horizontally across the exterior of top wall 14 of main frame 11. As is best shown in FIG. 3, the dirty air conduit is normally fixedly secured, during the usual service life of the cleaner, to top wall 13 by bolts 49 and opens downwardly through the thick spongy and resilient sealing collar 50 and into air inlet 30 of filter canister 24. If desired, the dirty air inlet conduit 48 may include a branch 48' extending through the wall to a dirty air inlet in another room of the dwelling. It will be understood that any such remote dirty air inlets are

normally sealed closed by suitable removable cover means.

Inlet end 46 of the dirty air conduit is normally closed by cover plate 52 having a normally invisible hinge 53 (FIG. 5) located interiorly of the cleaner housing and pivoted to appearance cover assembly 54 for the cleaner by hinge pin 55. The inner face of cover 52 is covered by a resilient gasket pad 56 normally held pressed against the end 46 of the conduit by tension spring 57.

As is best shown in FIG. 4, cover 52 has an indentation 59 in its face positioned to engage and operate one end of a toggle button 60 of the motor control switch 61. Toggle lever 60 is pivoted at 62 to the switch casing 61 and, when pivoted to the position shown in FIG. 4, the motor driving the suction fan is de-energized. When pivoted clockwise about pivot 62, toggle lever 60 operates to close the motor circuit but can be pivoted to this position only when door 52 is held in open position as is the case if the suction hose, not shown, is properly socketed in inlet conduit 46. It will be understood that the door closing spring 57 is strong enough to hold gasket 56 seated firmly against the inlet end of the conduit as well as to operate toggle button 60 to open the motor circuit should the operator fail to open the switch at the end of a cleaning operation. It will also be understood that switch 60 desirably controls only a low-voltage circuit for a relay controlling a power circuit for the suction motor unit, the low-voltage relay circuit being energized from step-down transformer 64 (FIG. 1).

Referring to FIGS. 1, 2 and 3, it is pointed out that the resilient coupling between the discharge end of dirty air conduit 48 and inlet 30 to filter canister 24 includes a resilient collar 50 secured about an opening 65 in a plate 66. The inner rear end of plate 66 is pivoted by pins 68 to brackets 67 struck downwardly from top wall 13 of main frame 11. The upturned forward end 69 of plate 66 is provided with an elongated opening 70 to receive a tang 71 projecting thereinto from the side of an operating lever 72. The latter is pivoted at 73 to a fixed support and its left hand end, as viewed in FIG. 1, is provided with an operating thumb piece 74. It will therefore be recognized that canister 24 is released as the operator pivots lever 72 upwardly clockwise about pivot 73 with tang 71 operating against the upper edge of opening 70 in plate 66 pivoting the latter upwardly about its pivot pins 68. When lever 72 has been rotated through 90° clockwise tang 71 will be positioned above pivot pin 73 and will be effective on the upper edge of opening 70 to lock plate 66 in open position. In this manner, the soft gasket collar 50 is compressed, releasing canister 24 so that it can be readily lifted out of its assembled position in the cleaner. The canister is readily reassembled after which lever 72 is pivoted counterclockwise to the position shown in FIG. 1.

The unitary appearance cover assembly 54 has a rectangular ring-like main frame 80 conforming generally to the size and shape of the side and end walls 12, 13 and 14 of the main frame. This rigid frame also includes upright angle members 80 aligned with side walls 12,12 and projecting beyond upper and lower end walls 13, 14. Transverse plates 81 (FIGS. 1 and 3) are rigidly secured crosswise of the upper and lower ends of these side angle members 80 and serve to reinforce

the frame as well as to provide neat appearing finish strips for the cover assembly. Projecting rearwardly from angle members 80 are two pairs of shouldered rivets accurately positioned for insertion into the larger upper ends of keyhole slots 21 in the out-turned flanges 20 of main frame side walls 12,12. These components function as concealed bayonet fastener means projecting rearwardly from the interior side of the main frame and permitting the frame to be detachably secured to the cleaner frame by registering the heads of rivets 83 with the large end of the keyhole slots followed by pressing the rivets into the holes and then lowering cover assembly 54 until the shanks of the rivets are seated in the smaller ends of the keyhole slots.

The right hand half of cover assembly 54 is covered by a permanently assembled decorative panel 85 extending the full height of the cover between finish strips 81,81 and having its opposite lateral edges turned inwardly, as is indicated at 86,86 in FIG. 2. The free edge of the outer flange 86 is there seen to terminate close to the out-turned flange 20 of the cleaner frame 11 and closely adjacent the edge of a channel-shaped member 88 extending the full length of the right hand edge of cover assembly 54. The web portion of member 88 is cut away to provide a large clean air outlet port 89 extending throughout a major portion of the channeled member and is preferably provided with a final filter screen 90 which also serves as a decorative covering for the air outlet. Screws 91 serve to hold air outlet channel 88, filter screen 90 and air baffle 92 assembled to the outer edge of frame side wall 12. It will be noted from FIGS. 1 and 2 that the L-shaped baffle 92 extends the full height of the clean air outlet 43 from the motor fan unit and directs this clean air outwardly through the air outlet port 89 in a plane closely spaced and generally parallel to the interior surface 93 of the room wall. A piece of gasketing material 94 (FIG. 2) may be inserted between the motor fan unit and side wall 12 to direct the clean air through outlet port 89.

It will be understood that access cover 52 (FIGS. 1 and 5) for the dirty air inlet conduit 46 overlies and conceals an opening through the panel 85 fixed to the right hand half of cover assembly 54. Panel 85 is rigidly secured to the cover frame 80 and aids very substantially in reinforcing and strengthening this assembly. The left hand half of cover assembly 54 is provided with a door panel 95 extending the full height thereof and having the general channel-shaped cross-sectional shape best shown in FIG. 2. The left hand edge of door panel 95 includes a decorative strip 96 having its opposite ends hinged to the cover assembly main frame by pivot pins 97 carried by the upper end lower finish strips 81,81. Door 95 opens clockwise about invisible or concealed hinge pins 97 as viewed in FIG. 2 to provide access to filter canister 24 and is held closed by a spring latch 98 engaging behind a portion of the cover assembly frame 99 (FIG. 2).

The installation of the above described cleaner assembly is believed self-evident from the foregoing description. The purchaser need but cut an opening in the room plaster as indicated at 15 between a pair of adjacent studs 16. Main frame 11 carrying the principal cleaner components is then set into the opening with the rear wall bearing against or closely spaced from the far side of the wall. Mounting tangs 18 projecting out-

wardly from the side walls of the main frame will then lie flush against the face of the room wall. Screws 19 are then inserted and driven home to anchor the cleaner in place in opening 15. After the electrical connections have been completed cover assembly 54 is placed over the main frame so that rivets 83 register with the larger upper ends of keyhole slots 21. The cover is pressed inwardly following which it is lowered slightly until rivets 83 seat in the lower end of the keyhole notches. The left hand intumed flange of the cover assembly, as viewed in FIG. 2, will be understood as wide enough to lie closely against the wall surface whereas the inner edge of flange 86 on the right hand side of the cover unit is closely spaced to the adjacent edge of the clean air outlet channel 88.

The cleaner is now ready for operation, it merely being necessary to open door 52 outwardly and to connect the usual flexible suction hose to the dirty air inlet 46. The cleaner is placed in operation by depressing toggle button 60 counterclockwise to start the motor.

The dirty air passes along the hose into inlet 46, along conduit 48, and into the top of the filter canister through inlet 30. The suction produced by the motor fan unit being conveyed into the lower end of the canister through opening 27, the air passes through paper filter 33, cloth filter 34, final filter 38, leaving the dirt captive in these various filters. The clean air passes along conduit 40 into the inlet of the suction fan unit 41, and thence over the motor within shell 42 enclosing this motor. The clean air discharges from shell 42 through the long large area port 43 directly opposite the air outlet port 89 in channel member 88. This port preferably extends along a major length of channel 88 with the result that the clean air discharges in a thin wide sheet-like stream passing closely parallel to the adjacent face 93 of the room wall. The deep channel member 88 is highly effective in concealing the air return port 89 from view and its disposition prevents a jet of air being discharged outwardly onto furnishings or persons present in the room. The entire forwardly facing portion of cover assembly 54 is therefore free of air outlets interfering in any way with its decorative decor. Accordingly, the entire front of the cleaner may be designed to harmonize with the wall covering and with the room furnishings.

After a cleaning operation has been concluded, the suction hose is detached from inlet 46 whereupon spring 57 closes door 52, sealing the inlet closed, it being noted that depression 59 in door 52 operates automatically to open the toggle switch, as described, and de-energize the motor.

After a period of cleaning it is a simple matter to service the filter by swinging filter access door 95 to open position. The thumb may then be employed against tab 74 (FIG. 1) of lever 72 to elevate plate 66, thereby compressing gasket collar 50 to free the filter canister 24 for removal. Since no air passes over the exterior of this canister, its exterior remains clean and all dirt is retained within the filter bags housed within the canister. Accordingly, the canister is safely carried through the cleaned room and to a point of emptying after which it is re-installed in its original position while holding gasket 50 compressed upwardly, as described in detail above. Thereafter door panel 95 is latched closed and the cleaner is in readiness for the next operating period.

While the particular wall-recessed suction cleaner herein shown and disclosed in detail is fully capable of attaining the objects and providing the advantages hereinbefore stated, it is to be understood that it is merely illustrative of the presently preferred embodiments of the invention and that no limitations are intended to the detail of construction or design herein shown other than as defined in the appended claims.

I claim:

1. A suction cleaner assembly comprising, in combination, a housing recessed into a room wall having a first dirty air inlet passage means rigidly and fixedly assembled thereto, a motor fan suction unit mounted therein having a clean air inlet passage and an exhaust air outlet, a unitary dirt and air separator unit supported in a portion of said housing in communication with the interior of the room wall, said separator unit comprising an impervious tubular main body enclosing a readily detachable throwaway paper filter bag and provided at its ends with end caps one of which is readily detachable from said main body to release the inlet end of said filter bag and which one end cap is provided with a dirty air inlet opening into said throwaway filter bag and the other of which end caps is provided with a clean air outlet, and coupling means mounted on and manually manipulatable from the interior of said housing for detachably connecting said separator unit to and in series between the inlet passage to said suction unit and the discharge end of said first dirty air inlet passage with said one cap held assembled to said main body, and said coupling means clamping said discharge end of said first dirty air inlet passage means in sealed communication with said second dirty air inlet of said one end cap.

2. A suction cleaner assembly as defined in claim 1 characterized in that said unitary separator unit comprises an imperforate tubular main body enclosing said throwaway filter bag, and readily releasable means detachably supporting the inlet end of said filter bag between one end of said separator unit main body and said one end cap.

3. A suction cleaner assembly as defined in claim 2 characterized in that said separator unit includes a cloth filter bag having a large area inlet and an outwardly flanged rim there adjacent seated on one rim edge of said tubular main body, said throwaway filter bag having an outwardly flanged inlet end sized to be supported against the exterior inlet end of said cloth filter bag.

4. A suction cleaner assembly as defined in claim 1 characterized in that said cleaner assembly is mountable substantially fully recessed into a room wall with only a minor front portion thereof protruding into the room, and means for exhausting clean air from said suction unit and from said housing along one peripheral edge of said minor front portion along a path adjacent the interior surface of the room wall in which said cleaner assembly is mounted.

5. A suction cleaner assembly as defined in claim 4 characterized in that the front portion of said housing includes normally closed access cover means concealing said separator unit, said cover means being releasable to a position permitting said separator unit to be withdrawn as a unit from said cleaner assembly and carried to a place of dirt disposal before being opened.

6. A suction cleaner assembly as defined in claim 1 characterized in that said separator coupling means is operable between closed and open positions and effective when closed to clamp said separator unit in assembled position with said second dirty air inlet and said clean air outlet in direct communication, respectively, with said rigidly assembled dirty air inlet passage means and said suction unit clean air inlet.

7. A suction cleaner assembly as defined in claim 6 characterized in that said coupling means includes an axially compressible thick resilient collar sized to form an air passage therethrough in communication with one of the air inlet and air outlet of said separator means and effective normally to seat against said separator means, and manually operable means to compress said resilient collar to facilitate removal of said separator unit for servicing the same.

8. A suction cleaner assembly as defined in claim 1 characterized in that said housing is installed between studding of a room wall, means on said housing for securing said housing to the wall, and detachable front plate means provided with retainer means all portions of which are concealed from view and carried on the rear thereof for holding said front plate means detachably over the room side of said housing and including means for concealing the cleaner housing and the means securing said cleaner housing to the room wall.

9. A suction cleaner as defined in claim 8 characterized in that said detachable front plate means is provided with an opening opposite the entrance end of said dirty air inlet passage, spring biased cover means normally closing the entrance end of said dirty air inlet passage, and manually operable switch means normally fully concealed by said cover means and connected in circuit with said motor fan suction unit including an operating member engageable by said cover means to hold said switch open so long as said cover means is not held in open position.

10. A suction cleaner as defined in claim 1 characterized in the provision of fastener means concealed by and behind said first cover means and positioned to have interlocking engagement with detent means secured to stationary means located behind said first cover means and cooperating to hold said first cover means rigidly assembled over the front of said main supporting frame.

11. A suction cleaner assembly as defined in claim 1 characterized in that said dirty air inlet means and said clean air outlet means include conduit means located at least in part exteriorly of the opposite ends of said main supporting frame and lying partly in the plane of the interior side of the room wall, and said first cover means being sufficiently longer than said main supporting frame to conceal said conduit means when in assembled position.

12. A suction cleaner designed to be fixedly mounted with a major portion thereof recessed into a room wall between adjacent studs, said cleaner having a deep box like main housing the bottom of which is adapted to lie close to the back surface of a wall recess and having an open front edge adapted to lie in a plane closely adjacent the surface of a room wall, a motor-driven suction unit mounted in said housing having its inlet connected to the clean air side of detachable filter bag



means mounted in said housing, air duct means secured to said housing for conveying dirty air into said filter bag means, means for securing said housing in place between adjacent studs with the open front thereof adjacent the front surface of the room wall, and relatively shallow access cover means larger in size than the wall opening having a low height sidewall extending toward a room wall with the rim edges spaced remotely from the bottom of said housing, said access cover means having provision along said low height sidewall and adjacent the rim portion of the open front of said main housing permitting clean air discharging from said motor-driven suction unit to flow back into the room close to the wall surface in a direction laterally of said suction cleaner, and means for securing said access cover means detachably in place over said cleaner assembly so as to conceal the same from view along with said fastener means securing said main frame to the room wall.

13. A suction cleaner as defined in claim 12 characterized in that said means for securing said access cover in place includes concealed interlocking detent and keeper means located in juxtaposition to one another on said main housing from the rear side of said access cover and engageable as said cover is shifted in the plane thereof generally parallel to the room wall.

14. A suction cleaner as defined in claim 12 characterized in that said access cover includes second cover means pivotally thereto opposite said filter bag means and permitting removal and servicing thereof when in open position.

15. A suction cleaner as defined in claim 14 characterized in that the pivotal connection between said access cover and said second cover means is concealed from view when closed.

16. A suction cleaner as defined in claim 15 characterized in the provision of normally-closed dirty air inlet means having an opening accessible through a port formed in said access cover means hinged to said access cover means and normally closing said dirty air inlet means.

17. A suction cleaner as defined in claim 12 characterized in that said access cover means includes a pair of elongated rectangular panels of substantially the same length disposed laterally of their longer sides and cooperating to form the front face of said access cover means, one of said panels including concealed hinge means pivotally securing the same to said access cover means for pivotal movement of said one panel between a closed position and an open position providing access to said filter bag means and a second one thereof being fixed to said housing.

18. A suction cleaner as defined in claim 29 characterized in that said dirty air duct means has an inlet end opening through the face of said second rectangular panel, and a third rectangular panel pivoted to said second panel by concealed spring hinge means normally biasing said third panel closed against the inlet of said dirty air duct means.

19. A suction cleaner as defined in claim 18 characterized in the provision of control switch means for said motor-driven suction unit including an operator member therefor projecting through said second panel into the path of said third panel as it approaches its normal closed position and operable thereby to open said control switch means.

20. A suction cleaner as defined in claim 17 characterized in that the second one of said rectangular panels has an edge thereof spaced outwardly from the adjacent surface of a wall in which said cleaner is installed to provide an outlet through which clean air discharging from said suction unit escapes back into the room in a path closely parallel to the surface of the wall in which said suction cleaner is installed.

21. A suction cleaner as defined in claim 12 characterized in that said access cover means comprises first and second generally rectangular panels pivotally interconnected between a pair of long narrow strips parallel to one another and extending along the remote edges of said first and second panels and fixed relative to one of said panels.

22. A suction cleaner as defined in claim 12 characterized in that said access cover means comprises a pair of generally rectangular panels with their longer edges normally lying side by side, and means including concealed hinge means interconnecting said panels for pivotal movement of one thereof relative to the other to provide access to said filter bag means and fully exposing all portions of said housing underlying one of said panels.

23. A suction cleaner as defined in claim 22 characterized in that said panels are substantially of the same length and project substantially beyond the upper and lower and one lateral edge of said main housing thereby to overlap and conceal the edges of the wall recess in which said suction cleaner is mounted when said pivoting panel is closed.

24. A suction cleaner as defined in claim 22 characterized in that one of said panels is crowned so as to bulge outwardly lengthwise thereof and cooperates with juxtaposed portions of said main frame to provide more room for components of said suction cleaner.

25. In combination with a suction cleaner assembly of the type fixedly installed with a major portion thereof recessed into a room wall between adjacent studs and having a motor driven suction unit having a clean air inlet aligned with but spaced from the discharge end of dirty air passage means, said suction cleaner assembly being characterized by a unitary filter canister assembly which is readily insertable and removable as a unit to complete an air conveying passage between said clean air inlet and the discharge end of said dirty air passage means, said unitary canister assembly being in a portion of said cleaner assembly open to the interior of the room wall when the cleaner is installed therein and said canister assembly being removable as a unit to facilitate disposal of dirt and replacement of a throwaway paper filter bag, said canister assembly being accessible through door means on the front of said cleaner assembly and having an impervious elongated tubular main body and first and second closure ring means for a respective end of said main body and forming a dirty air inlet and a clean air outlet at the opposite ends of said main body, said canister assembly being repeatedly installable and removable as a unit for emptying throughout the service life of said suction cleaner, a large-mouthed first filter bag surrounding a throwaway paper second filter bag both held clamped in operating position between one end of said canister main body and said first closure ring means, readily operated first clamp means accessible for manipulation through said door means for

holding one of said closure ring means and both of said filter bags firmly clamped against one end of said main body and second clamp means operable to releasably clamp said canister assembly installed with its opposite ends connected respectively in fluid-tight relation to the clean air inlet of said suction unit and to the discharge end of said dirty air passage means and being adapted to be withdrawn therefrom and carried with its dirt contents to a place of filter bag disposal after a period of use to separate dirt from a dirty air stream.

26. A suction cleaner designed to be fixedly mounted with a major portion thereof recessed into a room wall between the studding thereof, said cleaner having a deep box-like main housing provided with means along either lateral side for securing the same in a wall opening with only the open front thereof exposed, a suction fan and air filter means operatively associated with one another and supported in said housing, cover means overlying the room side of said housing having a narrow sidewall along the perimeter thereof cooperating with the surface of the room wall to conceal the wall opening in which said suction cleaner is recessed from view and including access means in the front face thereof for coupling a dirty air hose to said filter means, and narrow elongated air outlet means carried by said housing remote from the rear wall thereof and closely adjacent the sidewall of said cover means for exhausting clean air discharging from said suction unit back into the room laterally of said cleaner along a path between the interior surface of the room wall and the front face of said cover means.

27. A suction cleaner as defined in claim 26 characterized in that said cover means is substantially free of clean air flow passages and constructed and arranged to be assembled to and detached from said main frame without disturbing said means for exhausting clean air into the room.

28. A suction cleaner as defined in claim 26 characterized in that said means for exhausting clean air into the room is carried by a portion of said housing projecting outwardly into the room along a lateral side of said housing, and said cover means being shallow relative to the depth of said housing and located to one side of the path of clean air flow back into the room from said suction unit.

29. A suction cleaner as defined in claim 26 characterized in that said main frame includes a side wall projecting outwardly into the room adjacent said suction unit, means for conveying clean air exhausting from said suction unit past said projecting side wall and into the room in a path closely adjacent the interior surface of the wall and bypassing said cleaner cover means.

30. A suction cleaner as defined in claim 26 characterized in that said main frame includes means provided with an elongated port for clean air located in a portion thereof projecting into the room and effective to discharge clean air from said suction unit into the room in a wide relatively thin sheet located between an edge of said cover means and the interior face of the room wall.

31. A suction cleaner of the type used to sweep and clean floors and the like designed to be fixedly mounted with a major portion thereof concealed and recessed into a hollow wall between and secured to the opposite edges of the wall studding, said cleaner having a deep open-front box-like housing sized for insertion through an opening between adjacent studs with the rear wall thereof substantially flush against the rear surface of the wall recess, air filtering bag and air suction means supported in said housing and interconnected for the passage of dirty air into said filter bag and the discharge of clean air from said suction means, said air filtering bag being readily detachable as a unit for emptying and the installation therein of a fresh dirt filter bag, said housing having a dirty air inlet coupling mounted thereon for detachable connection to a flexible hose with its inlet facing toward the interior of the room and clean air outlet means connected to receive clean air discharging from said suction means, said dirty air inlet coupling being readily connectable to a flexible hose suitable for use in cleaning floors and the like dirty surfaces, said clean air outlet means being positioned to discharge the clean air back into the room through a long narrow outlet opening laterally from one edge at the front of said housing and generally parallel to the interior surface of the room wall and located outwardly of but closely adjacent said interior surface, and cover means for the open front of said housing sized to overlie and conceal the open front of said housing and having one edge thereof extending along a major length of the front edge portion of said housing and cooperating to provide a long narrow air outlet discharging into the room in a path generally parallel to the wall surface.

32. A suction cleaner as defined in claim 31 characterized in that said clean air outlet means is formed in part by a channel-shaped member having the open side thereof facing outwardly away from a side wall of said housing in a direction generally parallel to the face of the room wall, the web portion of said channel-shaped member being cut away to provide a long narrow clean air outlet passage, and said one edge of said cover means terminating in closely spaced relation to the outer free rim edge of said channel-shaped member.

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