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(54) **OUTLET BOX SYSTEM FOR CENTRAL VACUUM SYSTEMS**

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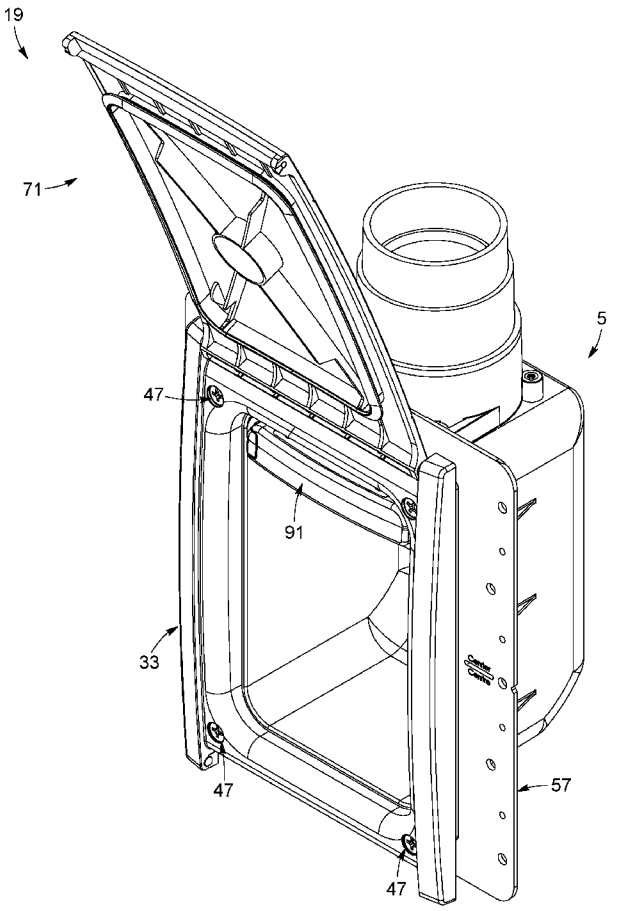
CPC . *A47L 5/38* (2013.01); *A47L 9/244* (2013.01)

(57) **ABSTRACT**

An outlet box system (**1**) for a central vacuum system (**3**). The outlet box system (**1**) includes a casing assembly (**5**) for operatively mounting onto a given support structure (**7**), the casing assembly (**5**) having a substantially closed body (**9**) provided with first and second ports (**11**,**13**), the first port (**11**) being sealingly connectable via piping (**15**) to the central vacuum system (**3**), and the second port (**13**) being configured for allowing a vacuum hose (**17**) of the central vacuum system (**3**) to extend therethrough and out from the casing assembly (**5**). The outlet box system (**1**) also includes a door assembly (**19**) operatively mountable onto the casing assembly (**5**) in a substantially sealed manner, the door assembly (**19**) being configured for allowing a user to selectively have access to an inside portion (**21**) of the casing assembly (**5**). The outlet box system (**1**) also includes a gap-adjustment assembly (**23**) for adjusting a distance (**25**) between the door and casing assemblies (**5**,**19**), in accordance with a wall thickness of a finished surface (**27**) of the support structure (**7**).



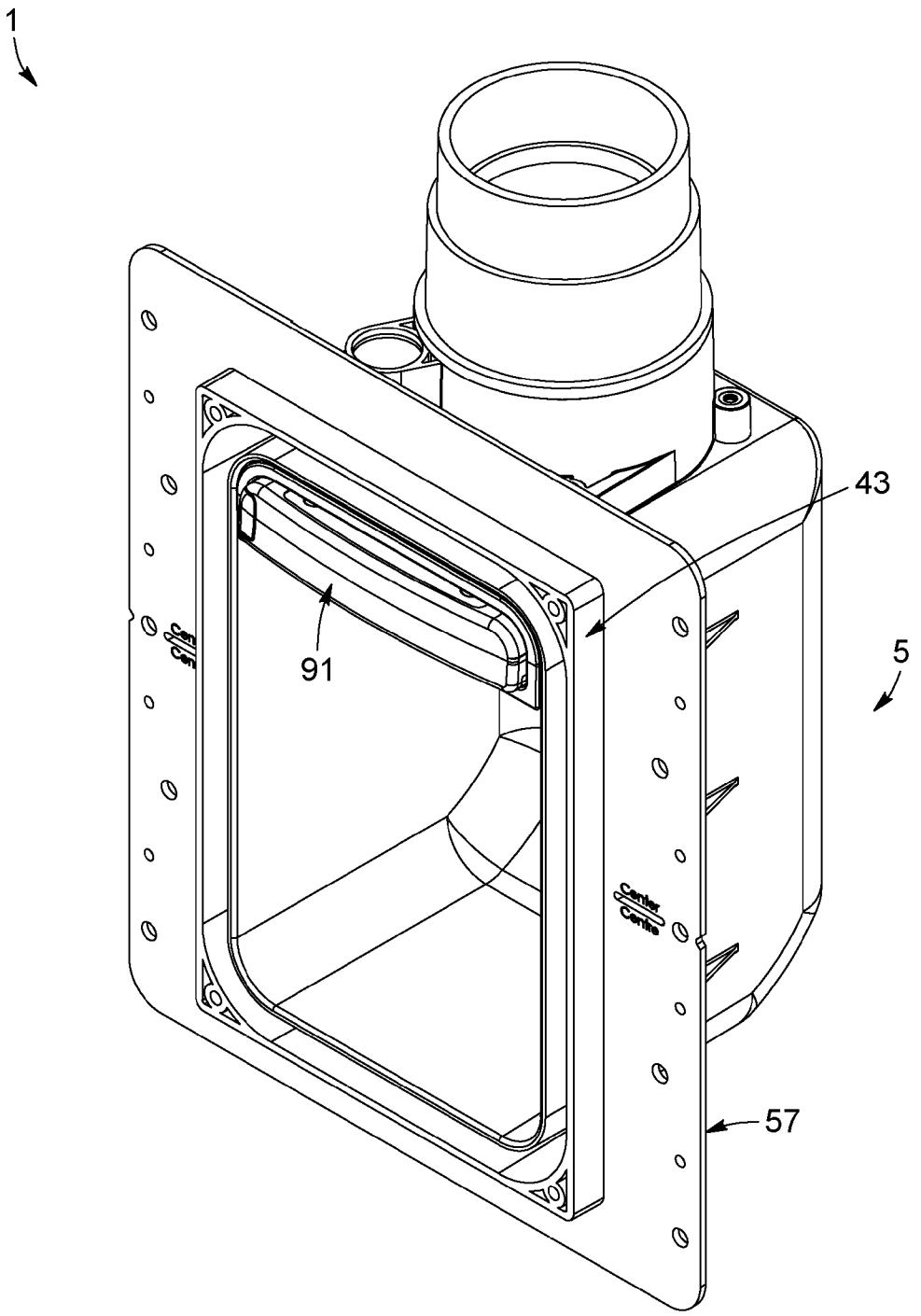


FIG. 1

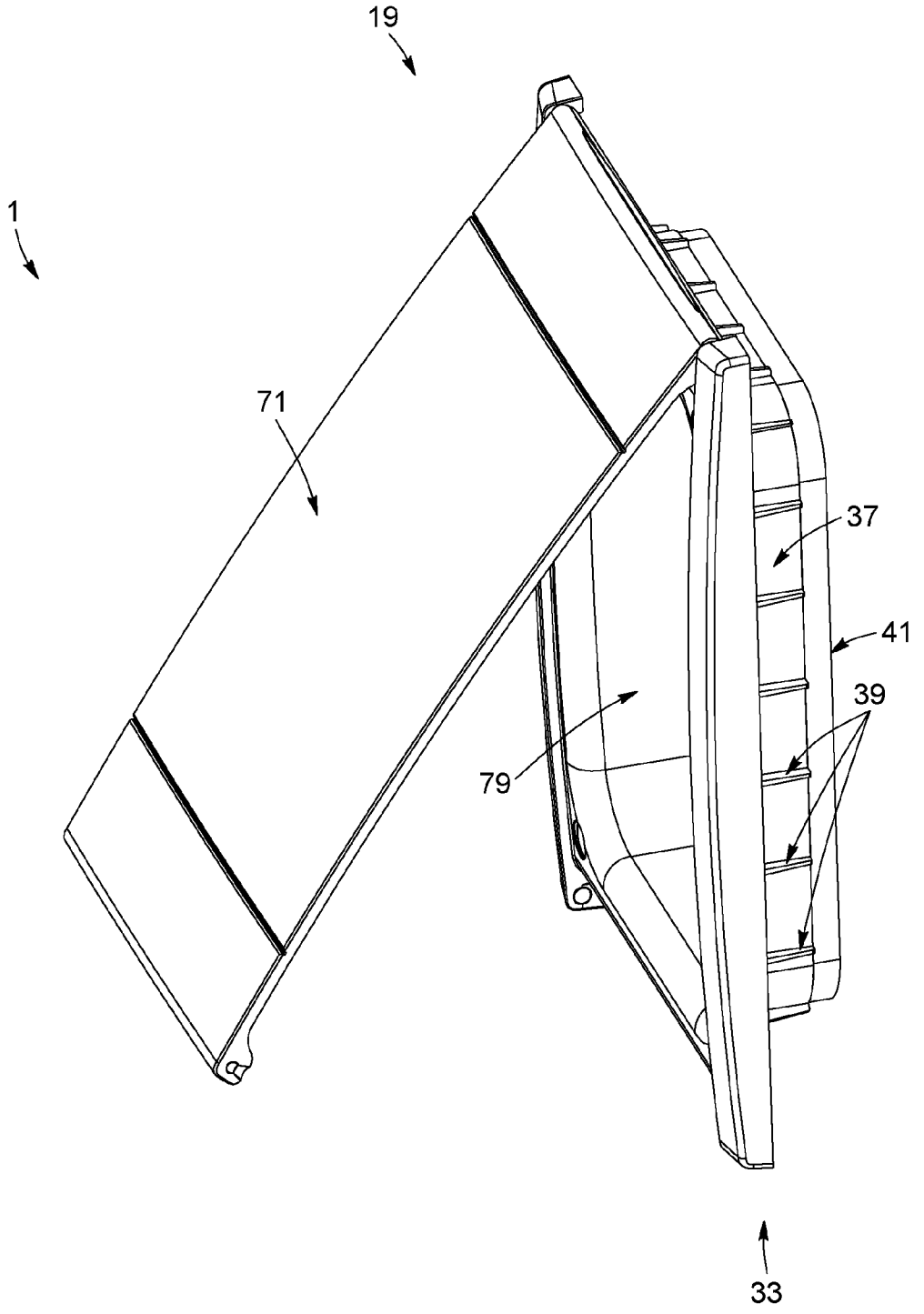


FIG. 2

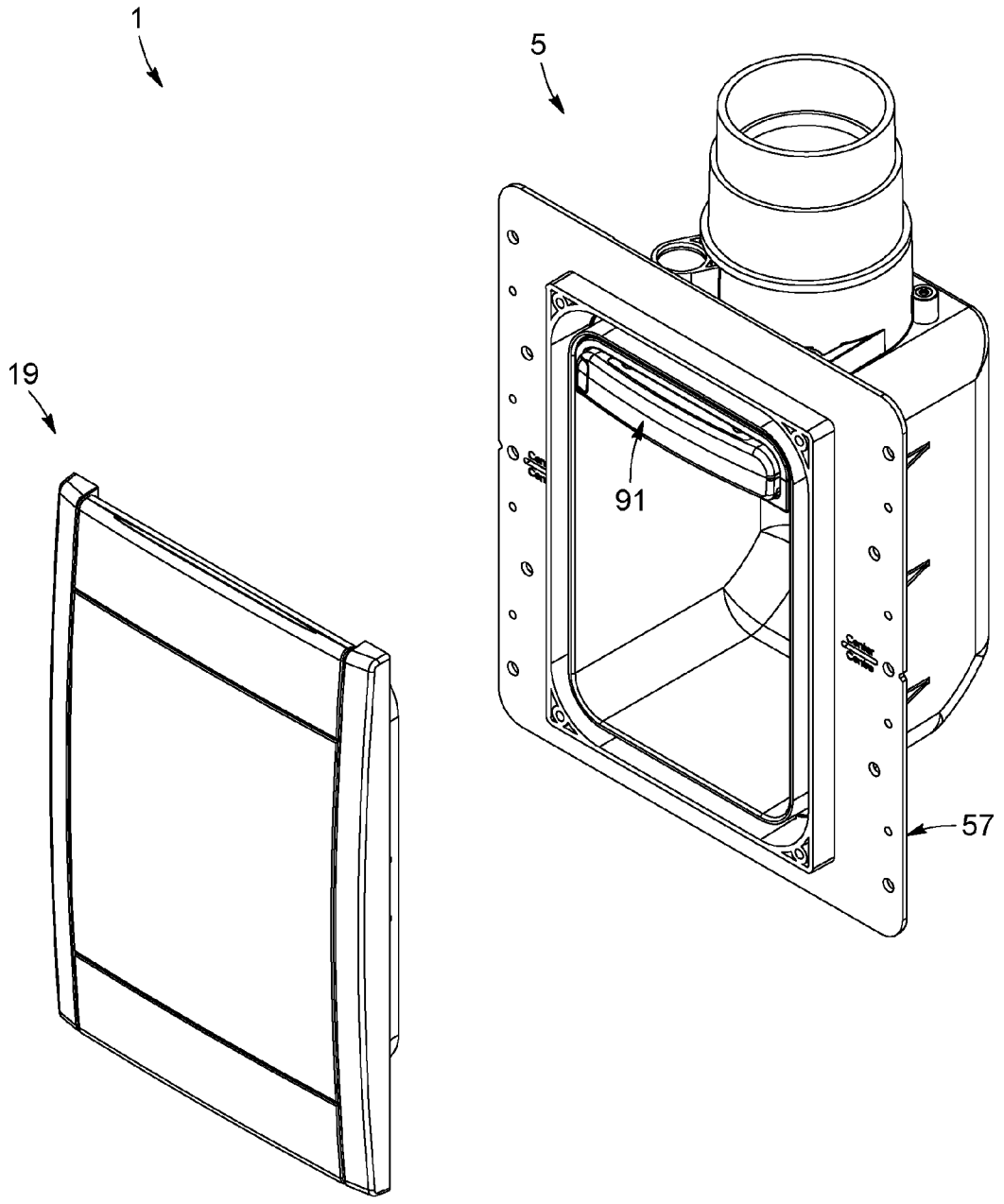


FIG. 3

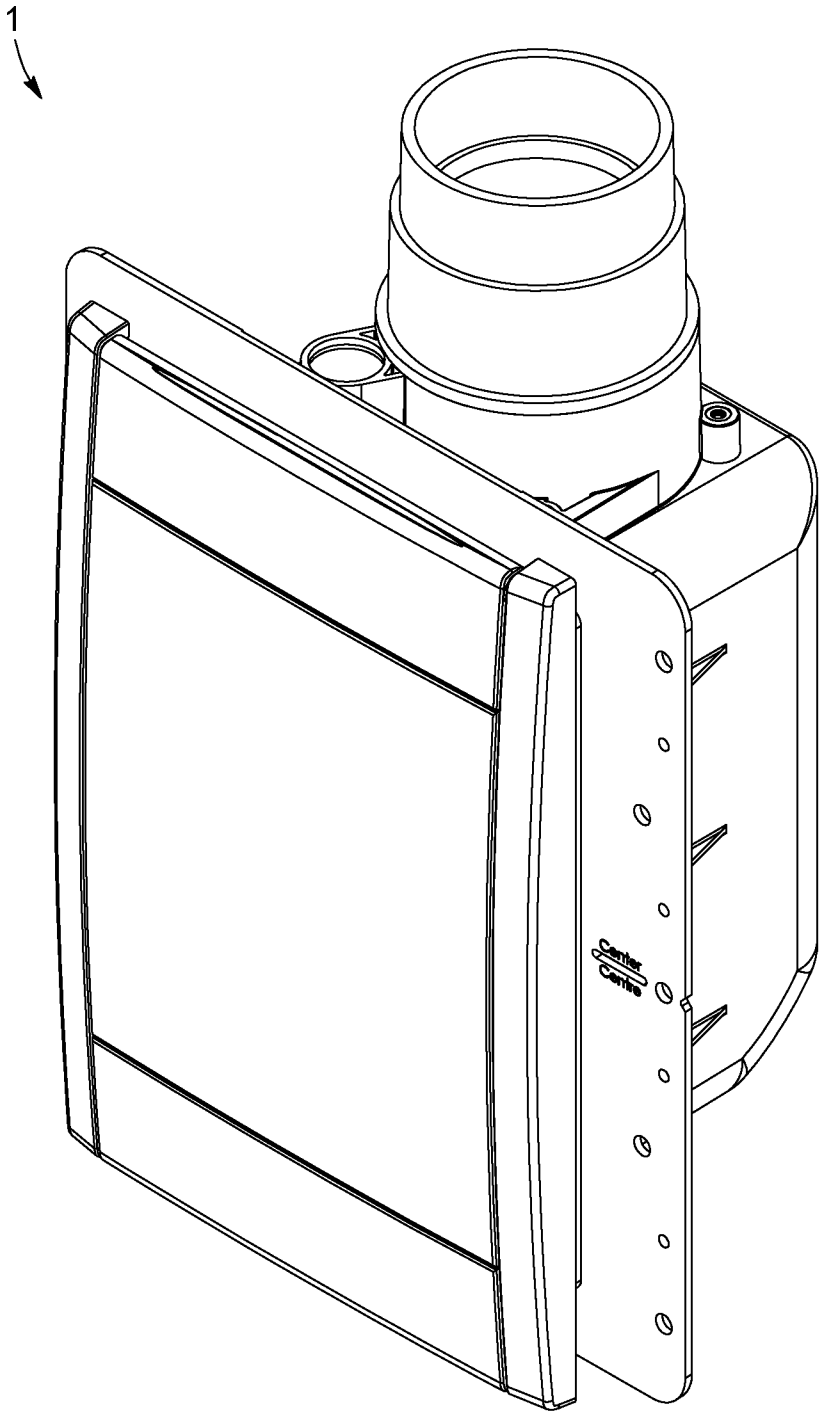


FIG. 4

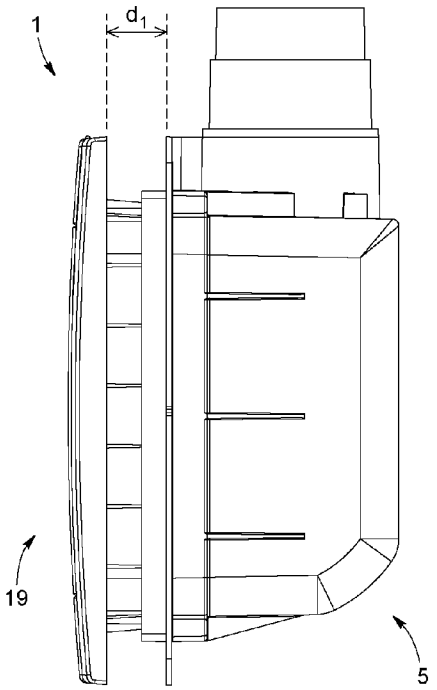


FIG. 5

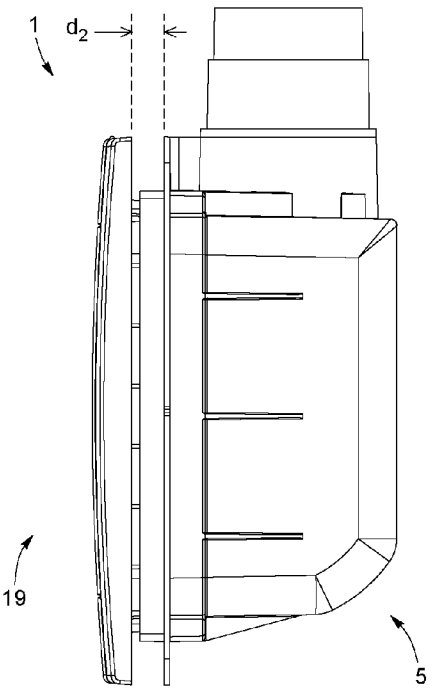


FIG. 6

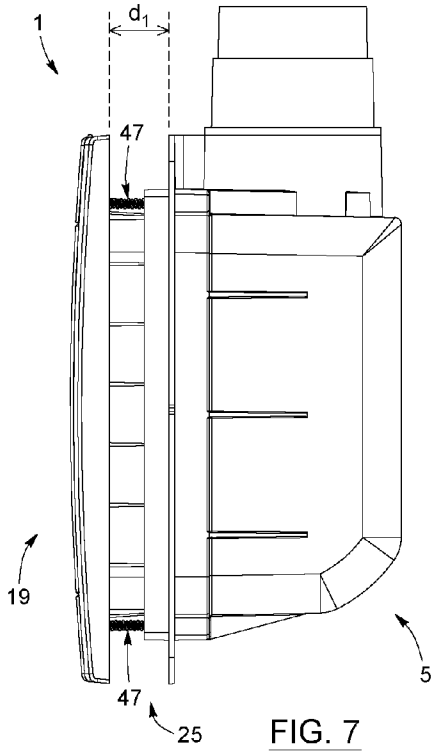


FIG. 7

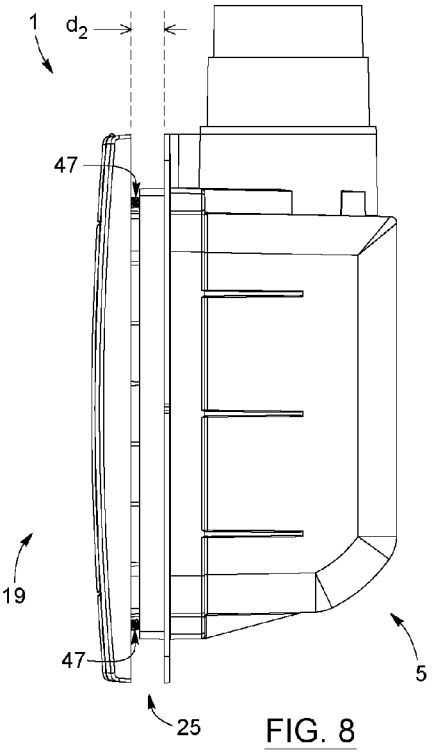


FIG. 8

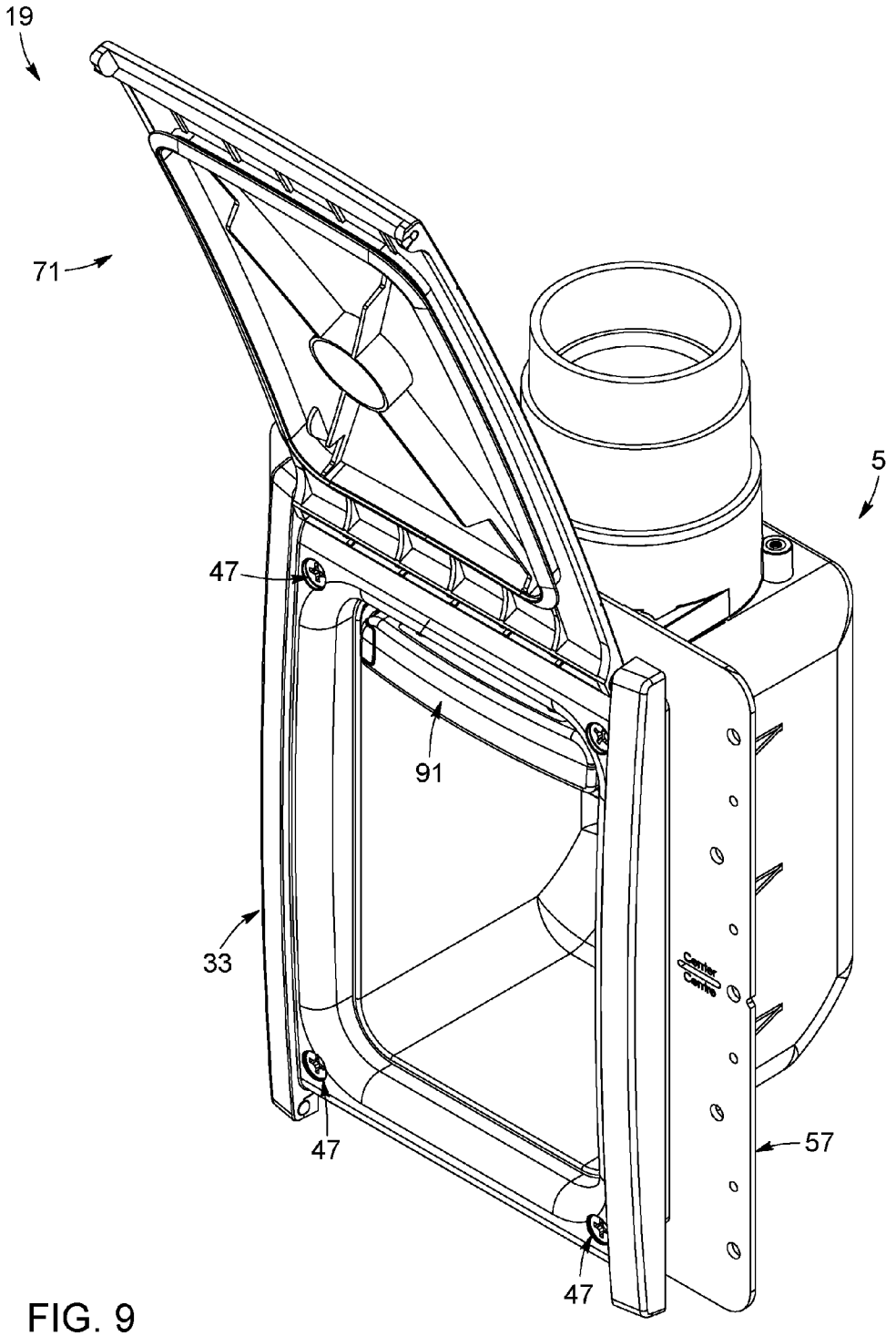
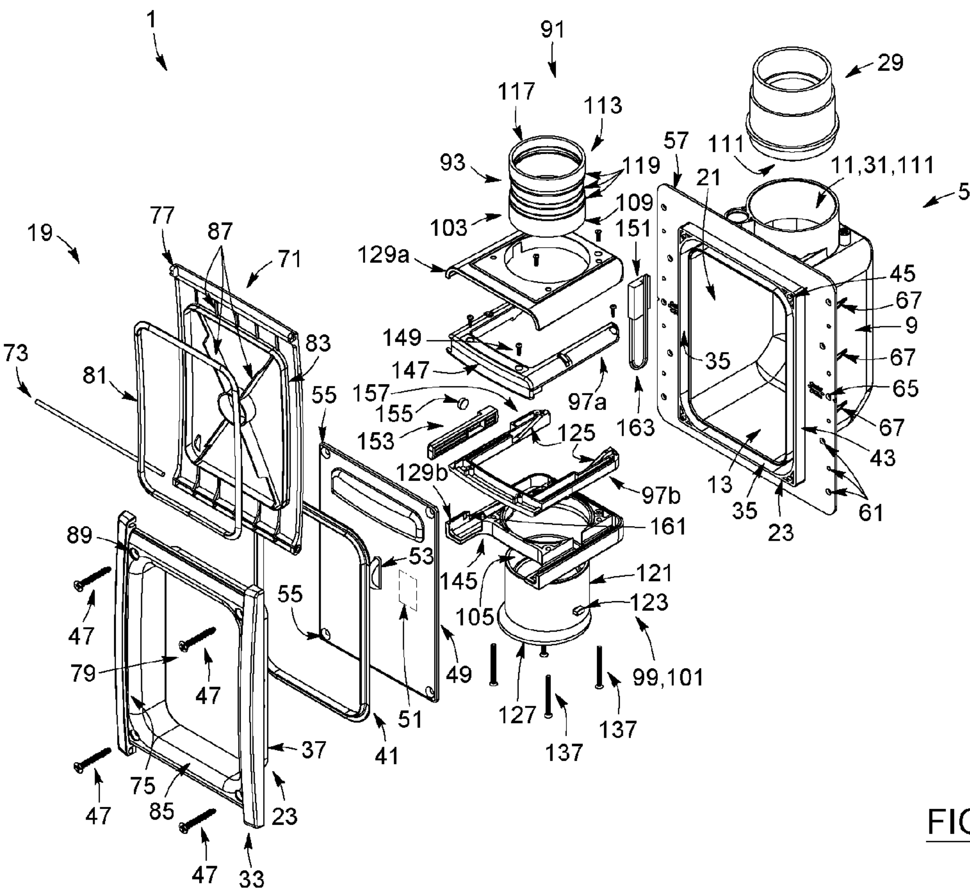


FIG. 9


1
91
117
113
29
93
119
57
111
11,31,111
5
21
103
109
19
77
87
71
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129a
45
67
9
73
83
149
35
67
81
147
97a
65
157
55
155
67
153
125
163
43
13
129b
97b
35
23
61
89
161
53
145
121
47
55
105
123
79
47
99,101
49
127
137
51
137
37
41
75
47
85
23
47
33

FIG. 10

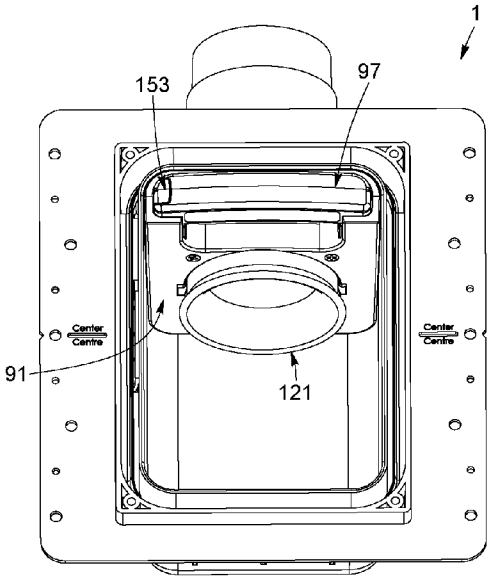

1
153
97
91
121
Center
Centre
Center
Centre

FIG. 11

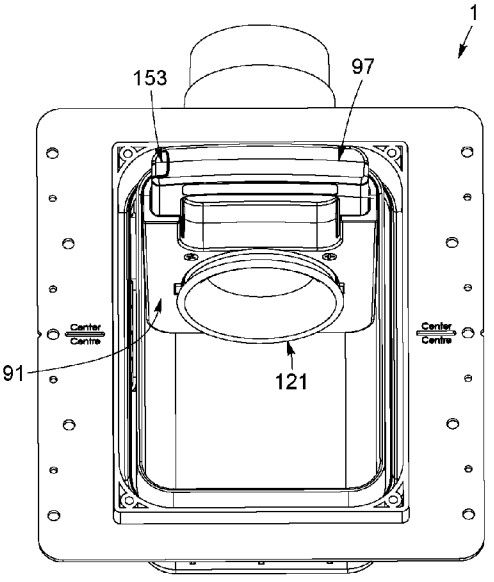
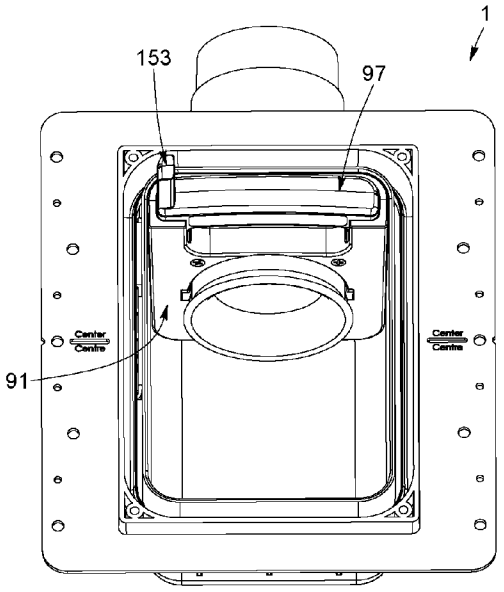

1
153
97
91
121
Center
Centre
Center
Centre

FIG. 12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97
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Center
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FIG. 13

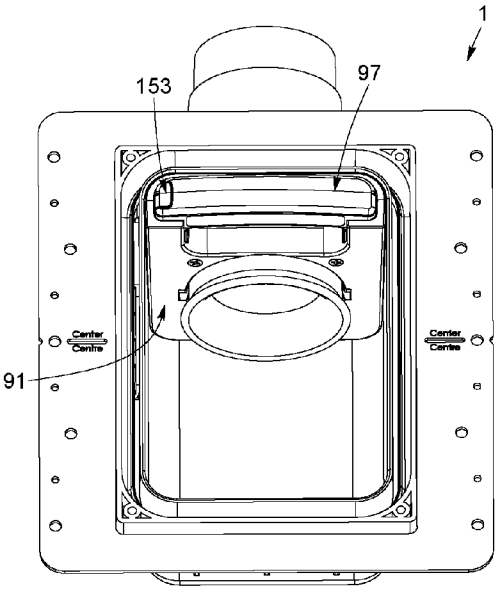
1
153
97
91
Center
Centre
Center
Centre

FIG. 14

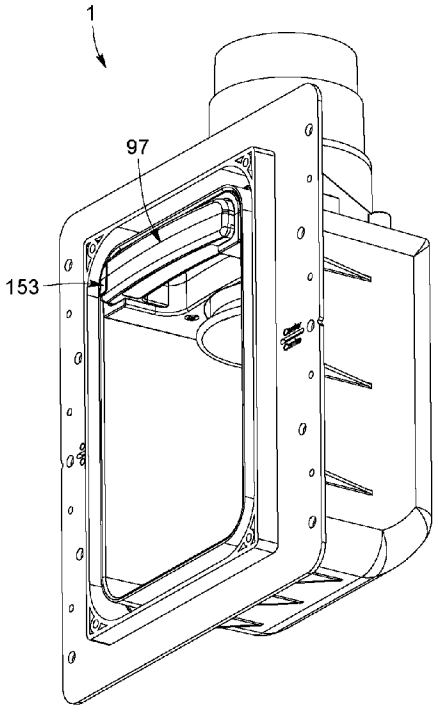

FIG. 15

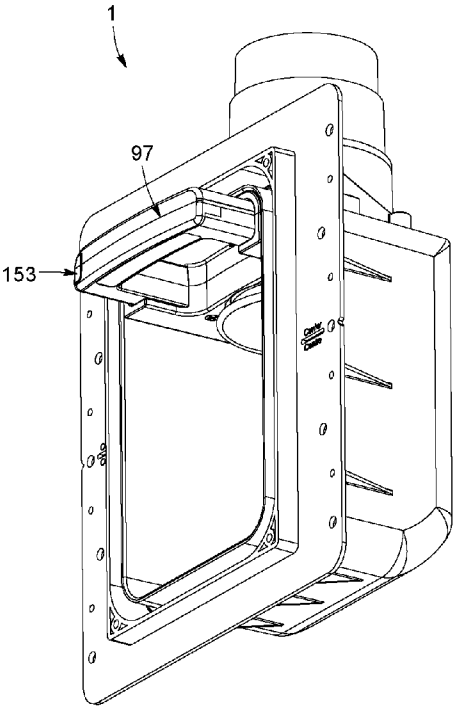

FIG. 16

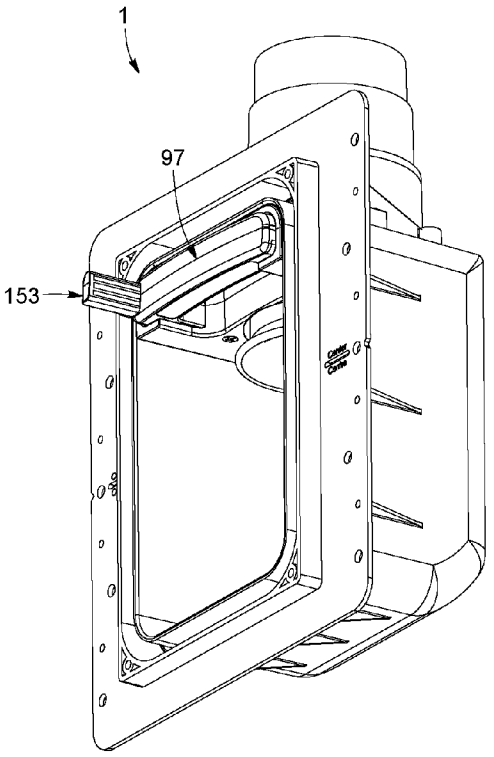

FIG. 17

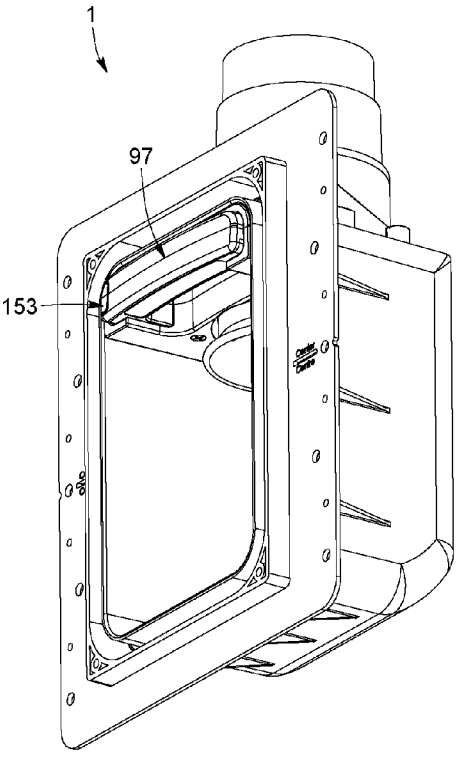

FIG. 18

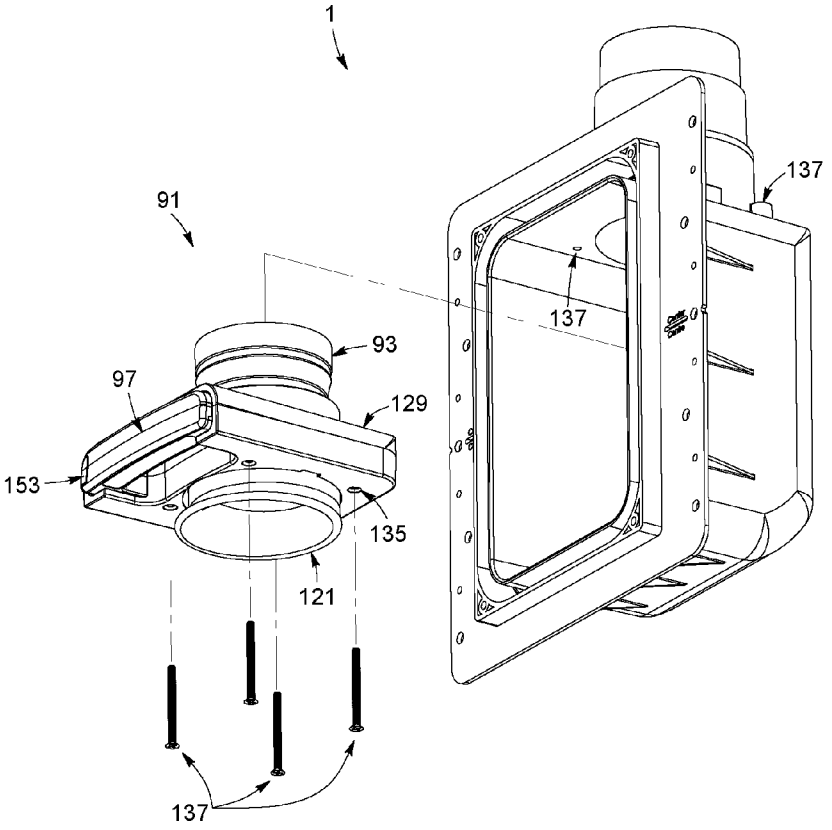

FIG. 19

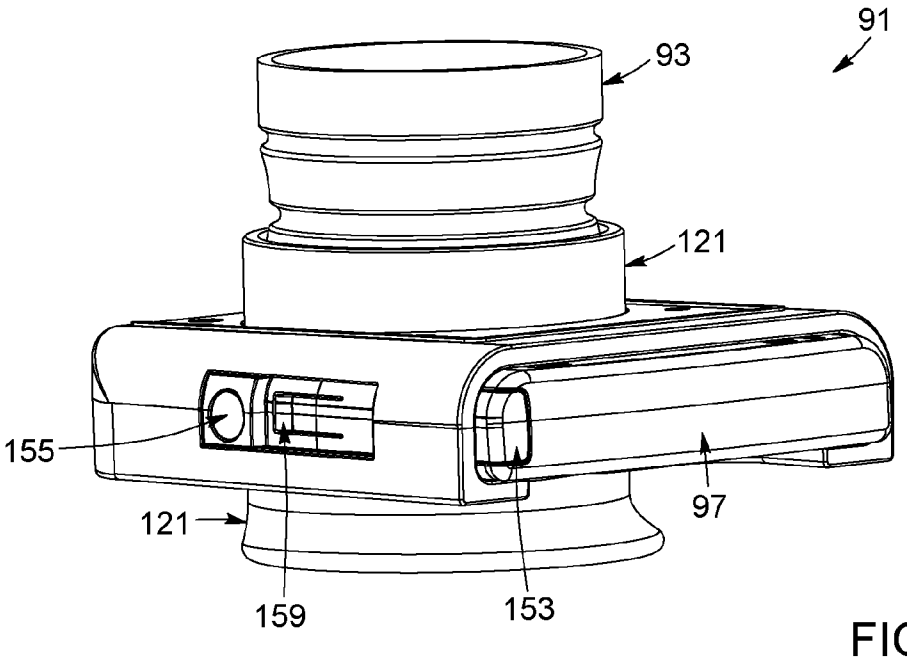

FIG. 20

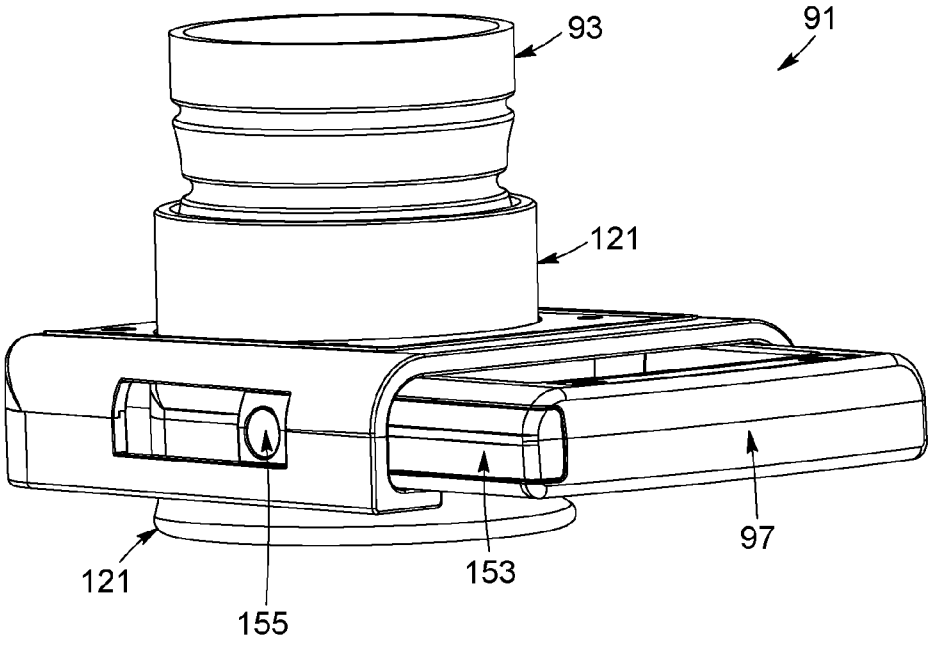

FIG. 21

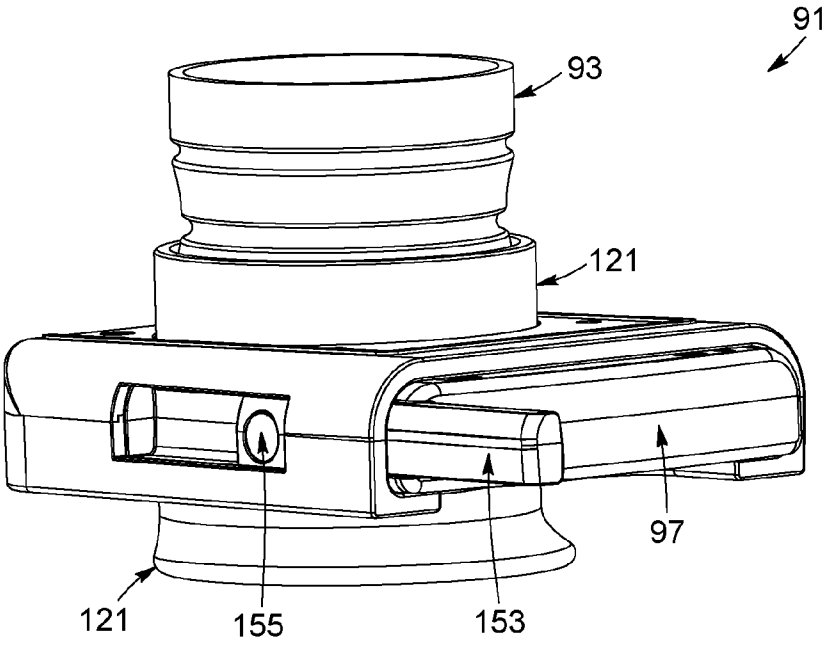

FIG. 22

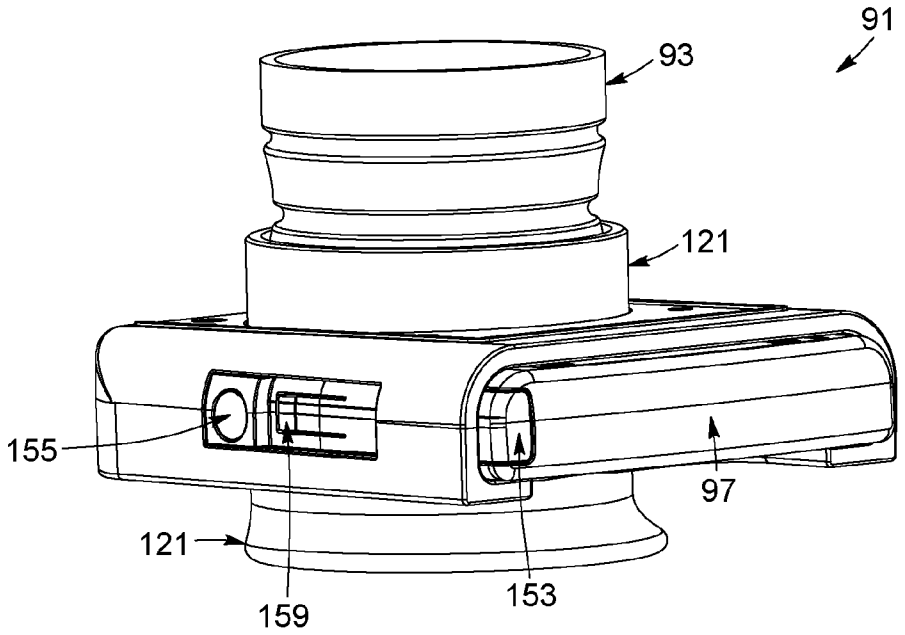

FIG. 23

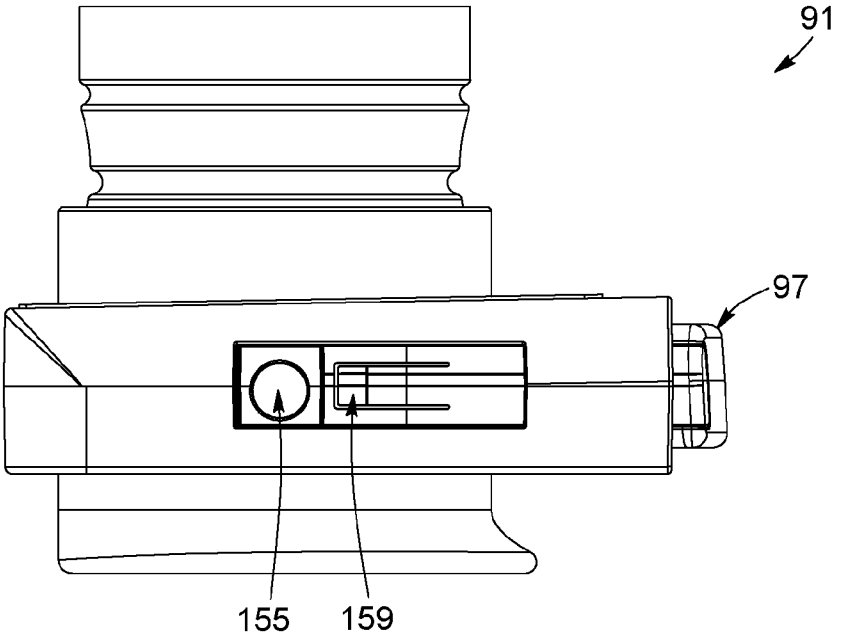

FIG. 24

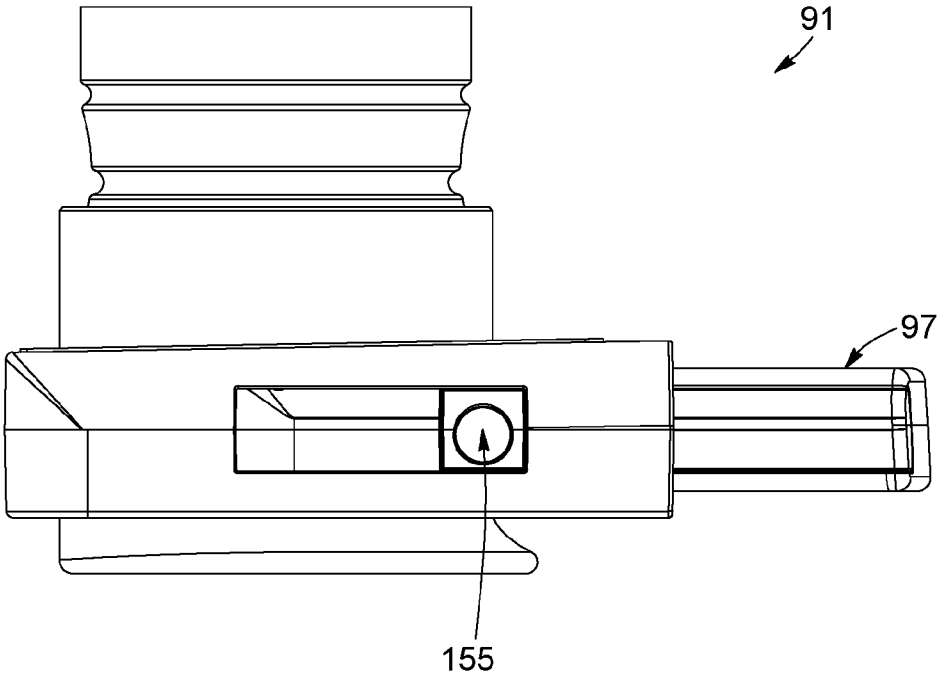

FIG. 25

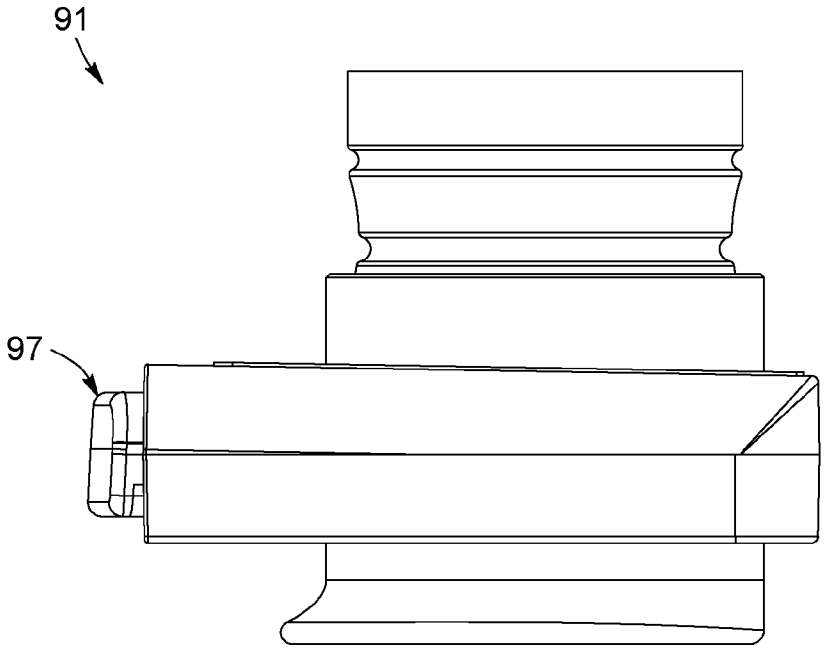

FIG. 26

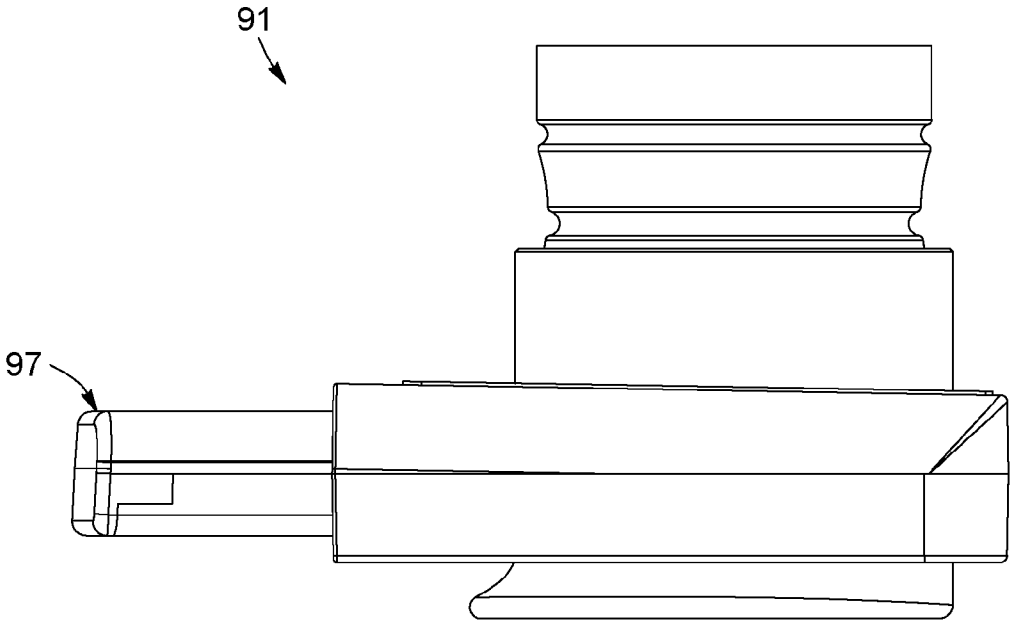

FIG. 27

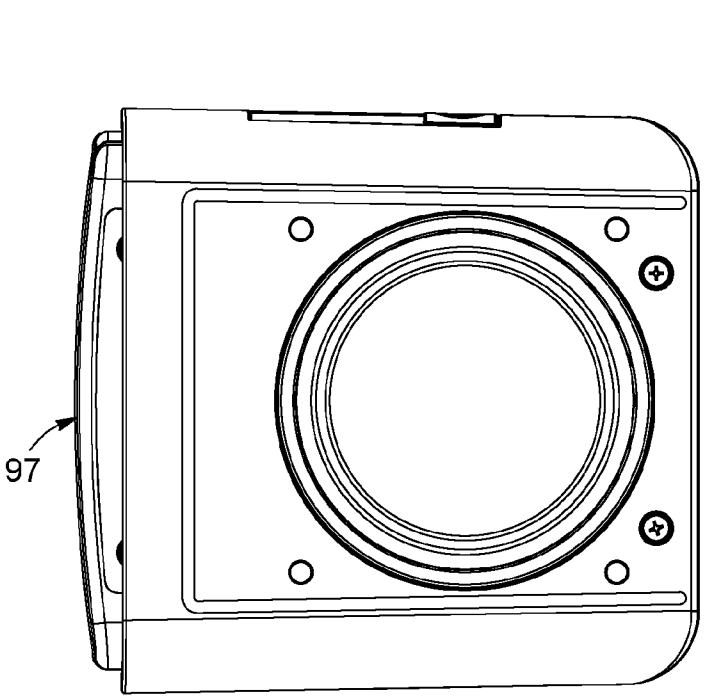

FIG. 28

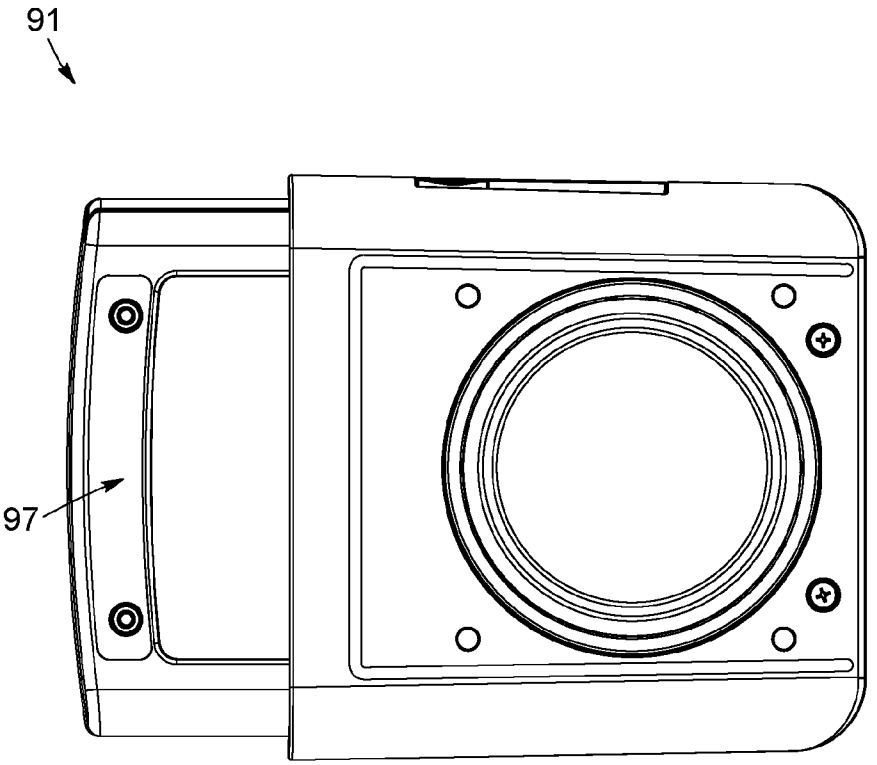

FIG. 29

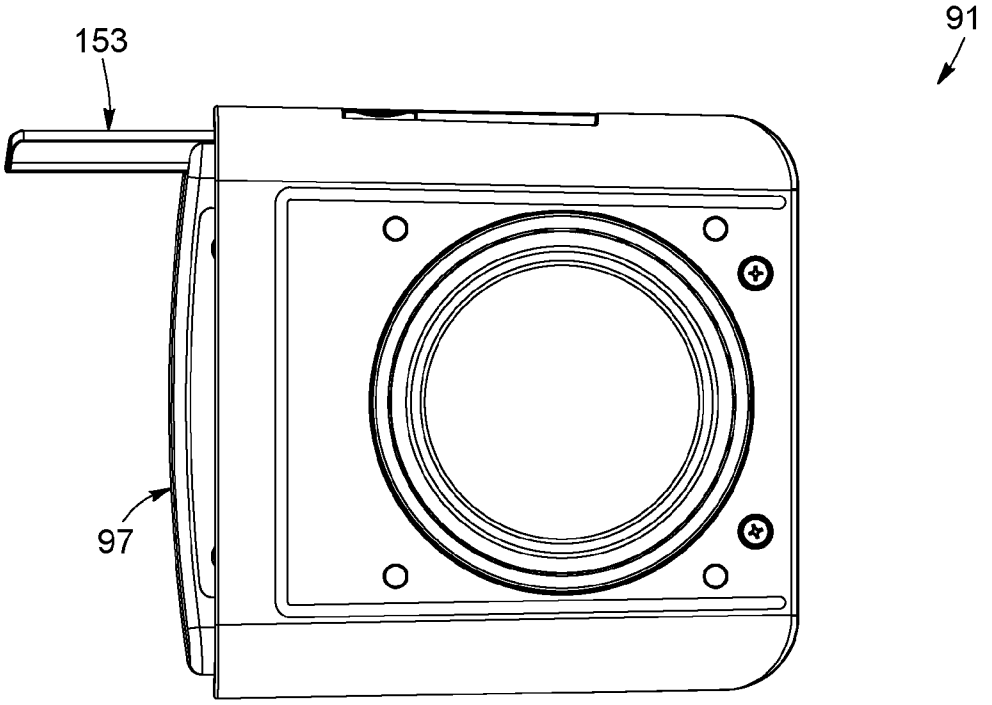

FIG. 30

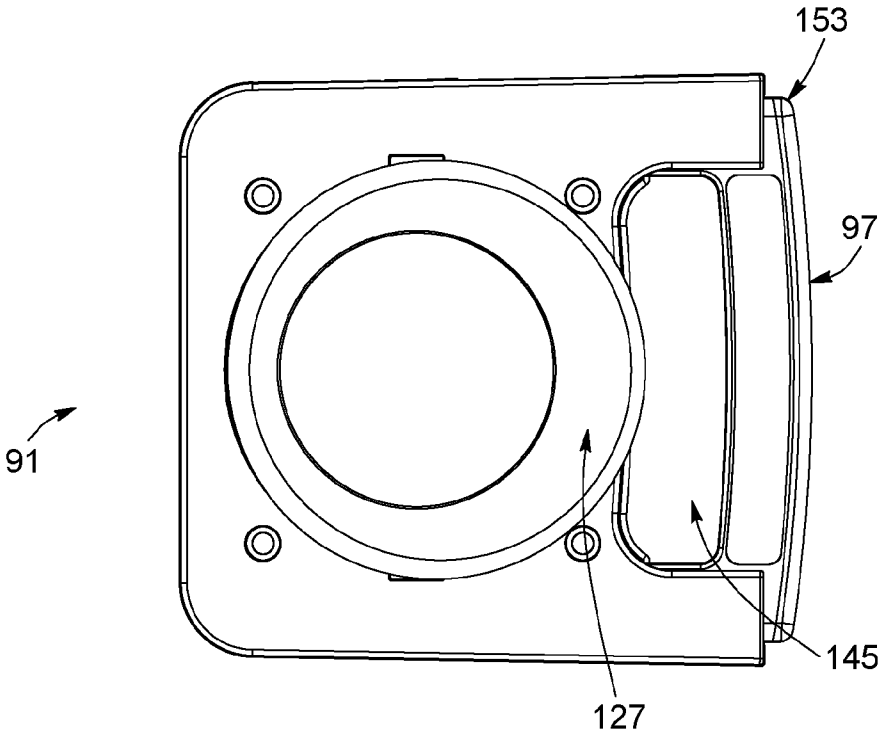

FIG. 31

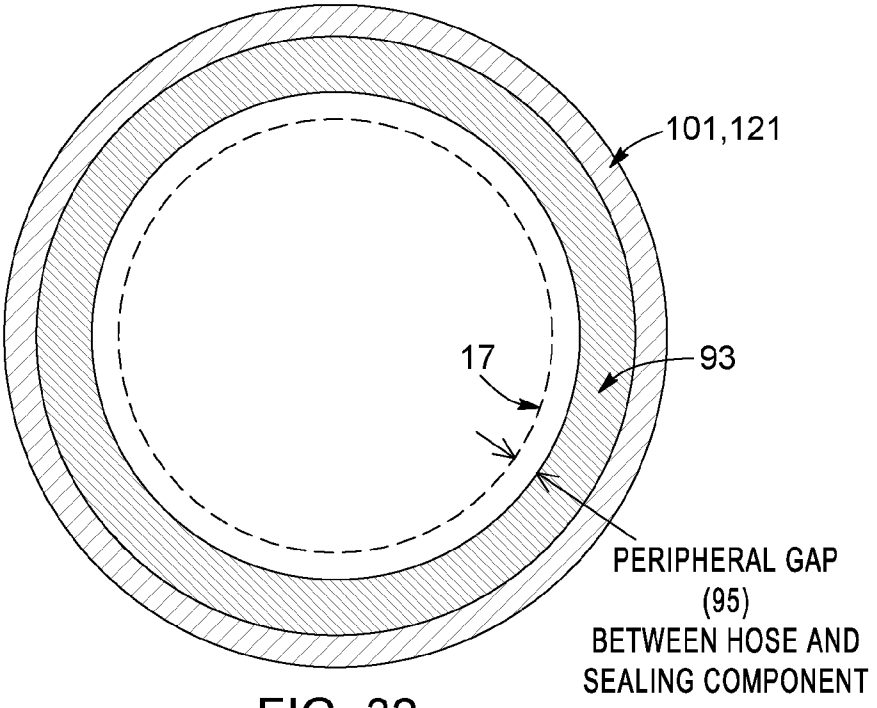
101,121
17
93
PERIPHERAL GAP
(95)
BETWEEN HOSE AND
SEALING COMPONENT

FIG. 32

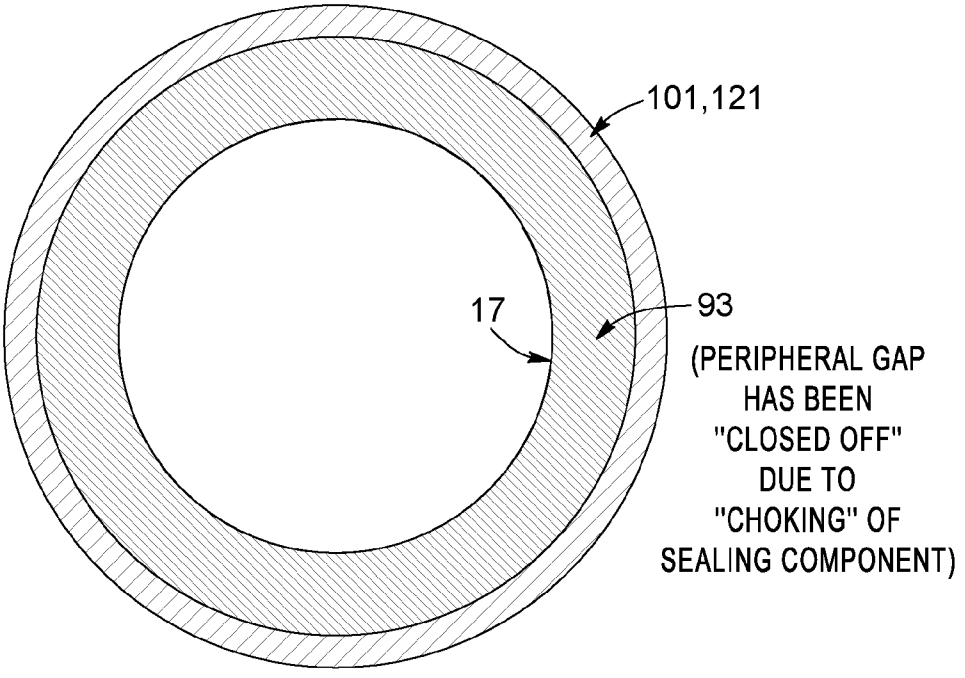
101,121
17
93
(PERIPHERAL GAP
HAS BEEN
"CLOSED OFF"
DUE TO
"CHOKING" OF
SEALING COMPONENT)

FIG. 33

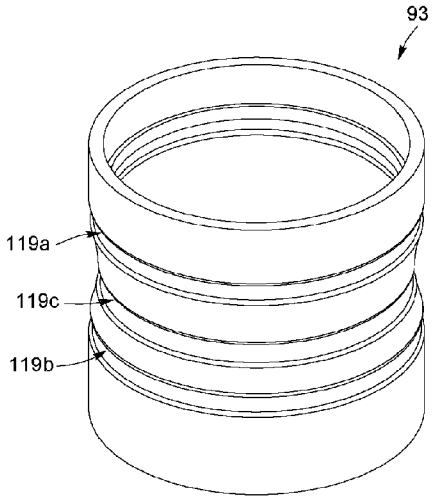
93
119a
119c
119b

FIG. 34

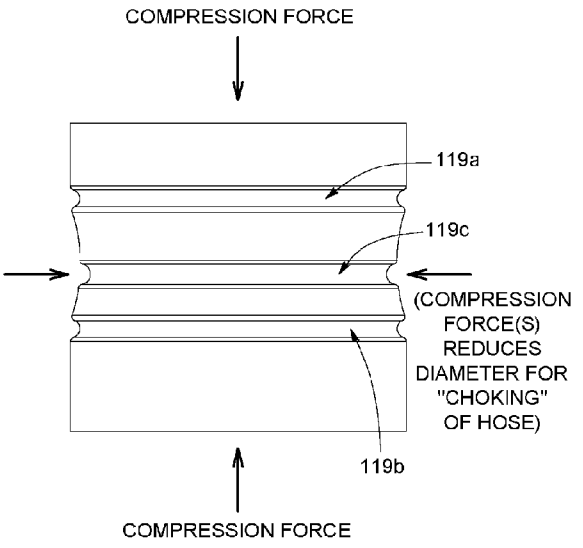
COMPRESSION FORCE
119a
119c
(COMPRESSION FORCE(S) REDUCES DIAMETER FOR "CHOKING" OF HOSE)
119b
COMPRESSION FORCE

FIG. 35

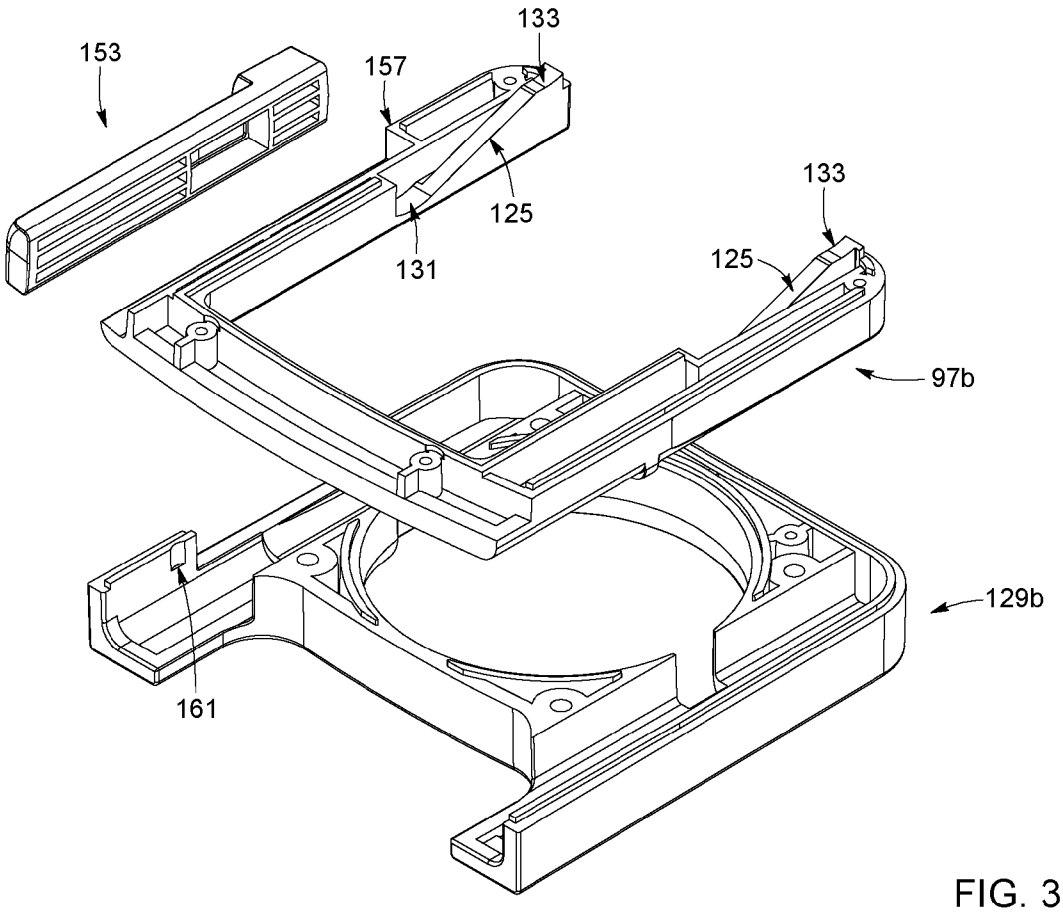

FIG. 36

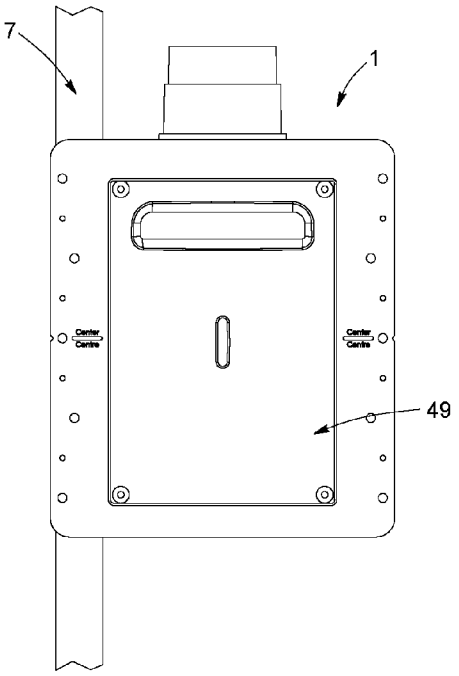

FIG. 37

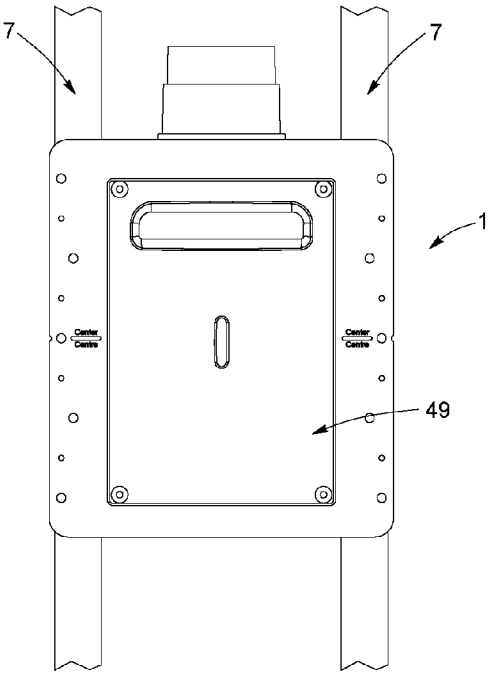

FIG. 38

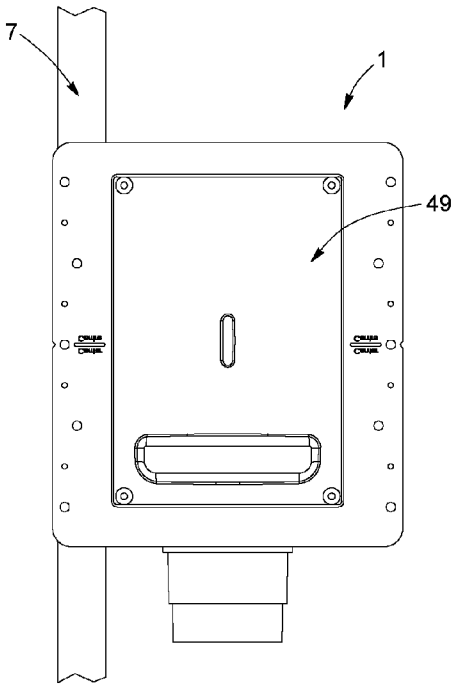

FIG. 39

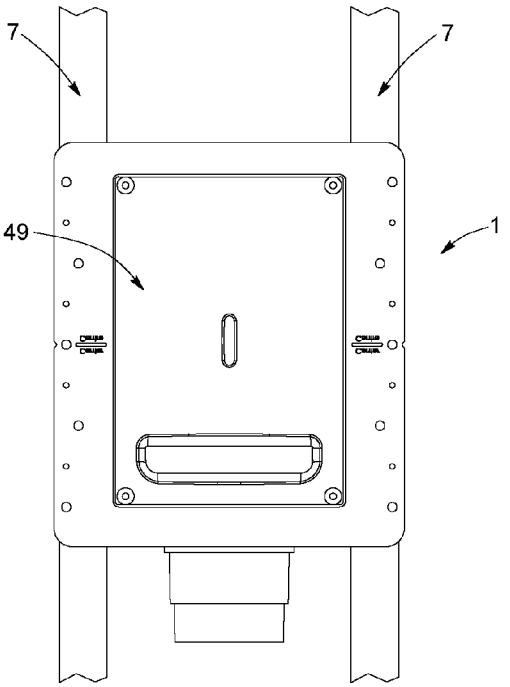

FIG. 40

OUTLET BOX SYSTEM FOR CENTRAL VACUUM SYSTEMS

FIELD OF THE INVENTION

[0001] The present invention generally relates to the field of central vacuum systems. More particularly, the present invention relates to an outlet box system for use with a central vacuum system, to a kit for assembling the same, to a central vacuum system provided with such an outlet box system and/or resulting assembly, and to corresponding methods of assembling and operating associated thereto.

BACKGROUND OF THE INVENTION

[0002] Known in the art are central vacuum systems, and the different components and accessories used therewith, such as retractable hose systems, for example.

[0003] For instance, International patent application No. WO 01/24677 A1 made public on Apr. 12, 2001, relates to a retractable hose central vacuum cleaning system. This document describes a central vacuum cleaning system with a retractable hose having a handle receptacle with a cover that can be closed when a handle is removed to prevent airflow through the hose, thereby allowing the suction in the vacuum system to aid in retracting the hose into stationery conduit in walls. In the preferred embodiment, the conduit includes a portion having a sweeping radius adjacent a terminal portion through which the hose retracts. The foot end of the hose has an annular seal disposed between the hose and the conduit such that airflow past the seal is minimal. The conduit may have a portion with a larger inner diameter at a location adjacent the annular seal when the hose is fully retracted. That permits substantial airflow between the annular seal and the conduit to clean dirt from the outside of the hose when the hose is nearly fully retracted. When the hose is fully retracted into the conduit, a portion of the handle receptacle limits retraction by its contact with either a wall plate or preferably, the terminal end of the conduit. The wall plate preferably has a hinged cover that hides the handle receptacle when the hose is fully retracted. The hinged cover of the wall plate preferably has a protrusion that engages a portion of the handle receptacle to move the handle receptacle partially out from the terminal portion of the conduit as the hinged cover is opened.

[0004] Similarly, International patent application No. WO 2004/108307 A2 made public on Dec. 16, 2004, relates to a retractable hose central vacuum cleaning system and method. This document describes a retractable hose central vacuum cleaning system comprising a retractable vacuum hose configured to retract through a valve assembly, into a system vacuum pipe responsive to the vacuum communicated from a vacuum source. The valve assembly comprising a static valve seal adapted for coupling a system vacuum pipe to the vacuum hose to create a substantially air-tight sealed communication between the system vacuum pipe and the vacuum hose. The static valve seal being adjustable from a first unsealed configuration where the vacuum hose can move freely through the valve assembly and system vacuum pipe, to a second sealed configuration where the vacuum hose is in sealed communication with a system vacuum pipe, and where the vacuum hose is substantially fixed in relative position to the valve assembly. Wherein movement from first configuration to the second configuration locks the vacuum hose in place relative to the valve assembly.

[0005] Despite these improvements, there is always a need to continue innovating and finding better and/or different ways of using central vacuum systems, and of using the different components and accessories associated therewith, such as retractable hose systems, for example.

SUMMARY OF THE INVENTION

[0006] An object of the present invention is to provide a system which, by virtue of its design and components, is intended to satisfy the above-mentioned need and which is thus an improvement over other related devices, systems, assemblies and/or methods known in the prior art.

[0007] In accordance with the present invention, the above object is achieved, as will be easily understood from the present description, with an outlet box system such as the one briefly described herein and such as the one exemplified in the accompanying drawings.

[0008] More particularly, according to one aspect of the present invention, there is provided an outlet box system for a central vacuum system, the outlet box system comprising:

[0009] a casing assembly for operatively mounting onto a given support structure, the casing assembly having a substantially closed body provided with first and second ports, the first port being sealingly connectable via piping to the central vacuum system, and the second port being configured for allowing a vacuum hose of the central vacuum system to extend therethrough and out from the casing assembly;

[0010] a door assembly operatively mountable onto the casing assembly in a substantially sealed manner, the door assembly being configured for allowing a user to selectively have access to an inside portion of the casing assembly; and

[0011] a gap-adjustment assembly for adjusting a distance between the door and casing assemblies, in accordance with a wall thickness of a finished surface of the support structure.

[0012] According to yet another aspect of the present invention, there is also provided an outlet box system comprising a valve assembly module capable of being operated independently from the casing assembly, and/or being detachable from said casing assembly.

[0013] Indeed, according to yet another aspect of the present invention, the outlet box system comprises a valve assembly module removably mountable into the inside portion of the casing assembly, and having a sealing component through which the vacuum hose is extendable, the valve assembly module being operable between a first configuration where the vacuum hose is freely displaceable through the sealing component of the valve assembly module, and a second configuration where the sealing component is urged about the vacuum hose, thereby substantially fixing the vacuum hose with respect to the valve assembly module, and creating a seal between the vacuum hose and a corresponding tubing component of the central vacuum system.

[0014] Optionally, the valve assembly module is operable between the first and second configurations by selectively operating the sealing component between unchoking and choking modes, wherein in the unchoking mode, a peripheral gap is allowed between the vacuum hose and the sealing component, thereby allowing a suction force of the central vacuum system to pass through both the vacuum hose and the sealing component, and wherein in the chocking mode, the sealing component is urged towards the vacuum hose in

order to close said peripheral gap, thereby urging the suction force of the central vacuum system to pass by the vacuum hose.

[0015] According to yet another aspect of the present invention, there is also provided an outlet box system comprising a valve assembly module configured so that the valve assembly is activated via a pulling action, such as by pulling on a corresponding handle of the valve assembly, for example.

[0016] Indeed, and optionally, the valve assembly module is operated from the first to the second configuration by pulling out on a handle of the valve assembly module, the handle being operatively connectable to the sealing component via an actuating assembly. Optionally also, the actuating assembly comprises an actuating component operatively rested against a bottom portion of the sealing component, and operable between lowered and raised configurations for selectively operating the sealing component between the unchocking and choking modes respectively.

[0017] According to yet another aspect of the present invention, there is also provided an outlet box system comprising a valve assembly module configured such that when the valve assembly is activated, it automatically activates a corresponding actuator button which in turns automatically turns on the vacuum source associated with the outlet box system.

[0018] Indeed, and optionally, the valve assembly module is configured so that the actuator button automatically activates the switch into the ON configuration when the handle is operated into an extended configuration. Optionally also, the actuator button is further configured to remain projecting out, and maintain the switch in an ON configuration, when the handle is pushed back into a retracted position within the valve assembly module. Optionally also, the actuator button can be pushed back into a retracted configuration, either manually and/or by closing an access door of the door assembly.

[0019] It is worth mentioning that the present invention need not be limited to the field of central vacuum systems, and may include all other kinds of objects and/or applications with which the present invention could be used and may be useful.

[0020] Therefore, according to yet another aspect of the present invention, there is provided an outlet box system comprising:

[0021] a casing assembly for operatively mounting onto a given support structure;

[0022] a door assembly operatively mountable onto the casing assembly in a substantially closed manner, the door assembly being configured for allowing a user to selectively have access to an inside portion of the casing assembly; and

[0023] a gap-adjustment assembly for adjusting a distance between the door and casing assemblies, in accordance with a wall thickness of a finished surface of the support structure.

[0024] According to yet another aspect of the invention, there is also provided a central vacuum cleaning system provided with the above-mentioned outlet box system.

[0025] According to yet another aspect of the invention, there is also provided a kit with components for assembling the above-mentioned assembly and/or system.

[0026] According to yet another aspect of the present invention, there is also provided a set of components for interchanging with components of the above-mentioned kit.

[0027] According to yet another aspect of the present invention, there is also provided a method of assembling components of the above-mentioned kit and/or set.

[0028] According yet another aspect of the present invention, there is also provided a method of using the above-mentioned assembly, system, and/or components thereof.

[0029] According to yet another aspect of the present invention, there is also provided a method of doing business with the above-mentioned assembly, system, components thereof, kit, set and/or corresponding method(s).

[0030] The objects, advantages and other features of the present invention will become more apparent upon reading of the following non-restrictive description of optional embodiments thereof, given for the purpose of exemplification only, with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0031] FIGS. **1-40** are different views of various aspects, components and features of a possible outlet box system (and/or resulting "assembly") and/or different components thereof, according to preferred embodiments of the present invention.

DETAILED DESCRIPTION OF OPTIONAL EMBODIMENTS OF THE INVENTION

[0032] In the following description, the same numerical references refer to similar elements. Furthermore, for sake of simplicity and clarity, namely so as to not unduly burden the figures with several reference numbers, only some figures have been provided with reference numbers, and components and features of the present invention illustrated in other figures can be easily inferred therefrom. The embodiments, geometrical configurations, materials mentioned and/or dimensions shown in the figures are preferred, for exemplification purposes only.

[0033] Moreover, although the present invention was primarily designed for use with a central vacuum system, and corresponding components and accessories used therewith, such as retractable hose system and/or the like, for example, it may be used with other objects and/or in other types of applications, and/or other technical fields, as apparent to a person skilled in the art. For this reason, expressions such as "central", "vacuum", "system", "retractable", "hose", "support structure", etc., used herein should not be taken so as to limit the scope of the present invention and include all other kinds of objects and/or applications with which the present invention could be used and may be useful. For example, it will be easily understood that the casing assembly of the present system need not be securely mounted onto a support structure for the present outlet box system in order to be operational.

[0034] Moreover, in the context of the present invention, the expressions "system", "assembly", "kit", "device", "station", "unit" and "product", as well as any other equivalent expressions and/or compounds word thereof known in the art will be used interchangeably, as apparent to a person skilled in the art. This applies also for any other mutually equivalent expressions, such as, for example: a) "sealingly", "fluidly", "air-tight", etc.; b) "adjustably", "selectively", "press-fittingly", "tighteningly", "jammingly", "sealingly", "fluidly", etc.; c) "tubing", "piping", "connection", etc.; d) "fastener", "clip", "connector", "rivet", "screw", "bolt", "pin", etc.; e) "seal", "joint", etc.; as well as for any other

mutually equivalent expressions, pertaining to the aforementioned expressions and/or to any other structural and/or functional aspects of the present invention, as also apparent to a person skilled in the art.

[0035] Furthermore, in the context of the present description, it will be considered that all elongated objects will have an implicit "longitudinal axis" or "centerline", such as the longitudinal axis of a rod for example, or the centerline of a bore or an orifice, for example, and that expressions such as "connected" and "connectable", or "mounted" and "mountable", may be interchangeable, in that the present invention also relates to a kit with corresponding components for assembling a resulting fully assembled and operational outlet box assembly (and/or a central vacuum cleaning system including the same, etc.).

[0036] In addition, although the preferred embodiments of the present invention as illustrated in the accompanying drawings comprise various components, and although the preferred embodiments of the outlet box system (and/or corresponding components, portions thereof) and corresponding parts as shown consist of certain geometrical configurations as explained and illustrated herein, not all of these components and geometries are essential to the invention and thus should not be taken in their restrictive sense, i.e. should not be taken so as to limit the scope of the present invention. It is to be understood, as also apparent to a person skilled in the art, that other suitable components and cooperation thereinbetween, as well as other suitable geometrical configurations may be used for the present outlet box system and corresponding parts/components according to the present invention, as will be briefly explained herein and as can be easily inferred herefrom by a person skilled in the art, without departing from the scope of the present invention.

LIST OF NUMERICAL REFERENCES OF SOME CORRESPONDING POSSIBLE COMPONENTS ILLUSTRATED IN THE ACCOMPANYING DRAWINGS

[0037] **1**. outlet box system (or "outlet box assembly")
[0038] **3**. central vacuum system
[0039] **5**. casing assembly
[0040] **7**. support structure (ex. wall, floor, etc.)
[0041] **11**. first port (of casing assembly)
[0042] **13**. second port (of casing assembly)
[0043] **15**. piping
[0044] **17**. vacuum hose (ex. "retractable" or "extension" hose)
[0045] **19**. door assembly
[0046] **21**. inside portion (of casing assembly)
[0047] **23**. gap-adjustment assembly
[0048] **23***a*. male component (of gap-adjustment assembly)
[0049] **23***b*. female component (of gap-adjustment assembly)
[0050] **25**. distance ("or gap")
[0051] **27**. finished surface (of support structure)
[0052] **29**. tube fitting
[0053] **31**. socket (of first port)
[0054] **33**. door framing (of door assembly)
[0055] **35**. groove (of casing assembly)
[0056] **37**. collar (of door assembly)
[0057] **37***a*. outer surface (of collar)
[0058] **37***b*. inner surface (of collar)
[0059] **37***c*. rim (of collar)
[0060] **39**. tightening flange
[0061] **41**. sealing joint
[0062] **43**. hub portion
[0063] **45**. securing orifice (of hub portion)
[0064] **47**. fastener (for hub portion)
[0065] **49**. temporary cover plate
[0066] **51**. visual information
[0067] **53**. projection (of temporary cover plate)
[0068] **55**. through-hole (of temporary cover plate)
[0069] **57**. mounting flange
[0070] **59**. mounting component
[0071] **61**. mounting hole (of mounting flange)
[0072] **63**. fastener (for mounting flange)
[0073] **65**. central line indicator (of mounting flange)
[0074] **67**. reinforcement rib
[0075] **69**. outer portion (of casing assembly)
[0076] **71**. access door (of door assembly)
[0077] **73**. pivot support (ex. rod)
[0078] **75**. recessed portion (of door framing)
[0079] **77**. clasping component (of door framing)
[0080] **79**. access port (of door framing)
[0081] **81**. sealing joint (of door assembly)
[0082] **83**. inside portion (of access door)
[0083] **85**. inlet rim (of door framing)
[0084] **87**. reinforcement component (of access door)
[0085] **89**. through-hole (of door framing)
[0086] **91**. valve assembly module
[0087] **93**. sealing component
[0088] **95**. peripheral gap
[0089] **97**. handle (of valve assembly module)
[0090] **97***a*. top sub-portion (of handle)
[0091] **97***b*. bottom sub-portion (of handle)
[0092] **99**. actuating assembly
[0093] **101**. actuating component
[0094] **103**. bottom portion (of sealing component)
[0095] **105**. socket (of actuating component)
[0096] **107**. groove (of socket)
[0097] **109**. distal bottom rim (of sealing component)
[0098] **111**. internal socket (of first port)
[0099] **113**. top portion (of sealing component)
[0100] **115**. groove (of internal socket)
[0101] **117**. distal top rim (of sealing component)
[0102] **119**. peripheral groove (of sealing component)
[0103] **119***a*. top peripheral groove (of sealing component)
[0104] **119***b*. bottom peripheral groove (of sealing component)
[0105] **119***c*. central peripheral groove (of sealing component)
[0106] **121**. output fitting
[0107] **123**. pin (of output fitting)
[0108] **125**. biasing path
[0109] **127**. curved inlet (of output fitting)
[0110] **129**. fixed component (of valve assembly module)
[0111] **129***a*. top sub-portion (of fixed component)
[0112] **129***b*. bottom sub-portion (of fixed component)
[0113] **131**. lower notch (of biasing path)
[0114] **133**. upper notch (of biasing path)
[0115] **135**. through-hole (of fixed component)
[0116] **137**. fastener (for fixed component)
[0117] **139**. securing orifice (for valve assembly module)
[0118] **141**. top inner portion (of casing assembly)

[0119] **143**. fastener (for sub-portions of fixed component)

[0120] **145**. finger-receiving recess (of fixed component)

[0121] **147**. gripping portion (of handle)

[0122] **149**. fastener (for sub-portions of handle)

[0123] **151**. switch

[0124] **153**. actuator button

[0125] **155**. magnet

[0126] **157**. abutment shoulder

[0127] **159**. resilient component

[0128] **161**. notch

[0129] **163**. wiring

[0130] Broadly described, the present outlet box system (**1**) is intended to be used with conventional vacuum systems, while providing various advantages with respect to what is possible with existing retractable hose central vacuum cleaning systems, in that, as will be explained in greater detail hereinbelow, the present system (**1**) is suitable for adapting itself to various types of wall constructions (ex. drywall, brick, plaster, etc.), and most importantly, to various wall thicknesses, thereby not only facilitating installation of the outlet box system (**1**) for an improved finished end result, but also greatly facilitating the use of the outlet box system (**1**) by virtue of its innovative design and innovative new features.

[0131] Namely, according to one general aspect of the present system, there is provided an outlet box assembly (**1**) for use with a central vacuum system (**3**). The outlet box assembly (**1**) may comprise a casing assembly (**5**) for operatively mounting onto a given support structure (**7**), the casing assembly (**5**) having a substantially closed body (**9**) provided with first and second ports (**11**,**13**), the first port (**11**) being sealingly connectable via piping (**15**) to the central vacuum system (**3**), and the second port (**13**) being configured for allowing a vacuum hose (**17**) of the central vacuum system (**3**), whether it be a "retractable" hose or an "extension" hose, to extend therethrough and out from the casing assembly (**5**). The outlet box assembly (**1**) may also comprise a door assembly (**19**) operatively mountable onto the casing assembly (**5**) in a substantially sealed manner, the door assembly (**19**) being configured for allowing a user to selectively have access to an inside portion (**21**) of the casing assembly (**5**), and thus, have access to the vacuum hose (**17**), for example. The outlet box assembly (**1**) may also comprise a gap-adjustment assembly (**23**) for adjusting a distance (**25**) or "gap" between the door and casing assemblies (**5**,**19**), in accordance with a wall thickness of a finished surface (**27**) of the support structure (**7**), as can be easily understood when referring to FIGS. **5** and **6**, for example.

[0132] Concerning the gap-adjustment assembly (**23**) of the present system (**1**), it may come in various shapes and forms, depending on the applications for which the present outlet box assembly (**1**) is intended for, and the desired end results, but according to one possible and straightforward embodiment, it may simply comprise a male component (**23***a*) adjustably insertable into a corresponding female component (**23***b*). In a possible implementation, the male component (**23***a*) is provided on the door assembly (**19**), and the female component (**23***b*) is provided on the casing assembly (**5**). Alternatively, the male component (**23***a*) could be provided on the casing assembly (**5**), and the female component (**23***b*) could be provided on the door assembly (**19**). According to yet another possible embodiment, and as can be easily understood by a person skilled in the art, the door assembly (**19**) could be provided with both male and female components (**23***a*,**23***b*) operating respectively with female and male components (**23***b*,**23***a*) provided on the casing assembly (**5**), and/or vice versa. Therefore, the manners in which the gap-adjusting assembly (**23**) make express itself according to different possible embodiments of the present invention may be very diverse, so long as they enable for an adjustment of a distance (d_1, d_2, etc.) between first and second components provided on the door and casing assemblies (**5**,**19**) respectively, so as to ensure a very nice and smooth finish of the door assembly (**19**) onto the finished surface (**27**) of the support structure (**7**), in accordance with the wall thickness (d_1, d_2, etc.) of said finished surface (**27**). Thus, contrary to conventional systems, the present outlet box assembly (**1**) is not limited to use with drywall only, having a wall thickness of about 0.5 inches or about ⅝ inches, and may be used with wall thicknesses of a much greater range, and with various different types of wall constructions, such as brick and plaster, for example.

[0133] Concerning the casing assembly (**5**) of the present system, the first port (**11**) of the casing assembly (**5**) may be positioned, shaped and sized for receiving a corresponding tube fitting (**29**), intended to be sealingly connectable via piping (**15**) to the central vacuum system (**3**). As shown in FIG. **10**, for example, the tube fitting (**29**) may be insertable into a socket (**31**) of the first port (**11**) of the casing assembly (**5**), and secured thereto using an appropriate adhesive (ex. glue), for example.

[0134] Referring now to FIGS. **1**-**10**, the second port (**13**) of the casing assembly (**5**) may be positioned, shaped and sized for receiving thereabout a framing (**33**) of the door assembly (**19**), so that the door assembly (**19**) be sealingly connectable to the inside portion (**21**) of the casing assembly (**5**), and according to a possible embodiment, the casing assembly (**5**) comprises a groove (**35**) extending about (ex. adjacent, along, etc.) the second port (**13**), the groove (**35**) being positioned, shaped and sized for receiving a corresponding collar (**37**) of the door assembly (**19**), which is one possible form of a "male component" (**23***a*) insertable into a corresponding possible form of a "female component" (**23***b*), such as the groove (**35**), for example.

[0135] According to one possible implementation, the collar (**37**) of the door assembly (**19**) is press-fittingly (ex. adjustably, etc.) insertable (ex. pushed, jammed, etc.) into the groove (**35**) of the casing assembly (**5**), and has a substantially rectangular profile, although various other shapes and forms may be contemplated.

[0136] As better shown in FIGS. **2** and **5**-**8**, an outer surface (**39***a*) of the collar (**37**) may be provided with tightening flanges (**39**), but according to an alternative implementation, an inner surface (**37***b*) the collar (**37**) could be provided with such tightening flanges (**39**). In some cases, both the outer surface (**37***a*) and the inner surface (**37***b*) of the collar could be provided with tightening flanges (**39**).

[0137] As can be easily understood from FIGS. **1**-**8**, the tightening flanges (**39**) may be tapered so as to provide an increased tightening force between the door assembly (**19**) and the casing assembly (**5**) when the collar (**37**) of the door assembly (**19**) is removably (ex. press-fittingly, tighteningly, adjustably, etc.) inserted (ex. pushed, jammed, etc.) into the groove (**35**) of the casing assembly (**5**). Also, and as can be easily understood from FIGS. **7**-**9**, the collar (**37**) and

corresponding door assembly (**19**) can be urged into the groove (**35**) of the casing assembly (**5**) by using and tightening the corresponding fasteners (**47**).

[0138] The outlet box assembly (**1**) may also comprise a sealing joint (**41**) operatively insertable between the collar (**37**) of the door assembly (**19**) and the groove (**35**) of the casing assembly (**5**), so as to provide a greater seal between the door assembly (**19**) and the casing assembly (**5**).

[0139] According to one possible embodiment, the sealing joint (**41**) is provided about (ex. on, adjacent, along, etc.) a rim (**37***c*) of the collar of the door assembly (**19**). Alternatively, the sealing joint (**41**) may simply be removably insertable into the groove (**35**) of the casing assembly (**5**).

[0140] Concerning another possible aspect of the present system, the outlet box assembly (**1**) may also comprise a hub portion (**43**) extending about the second port (**13**) of the casing assembly (**5**) and projecting outwardly from a front side of said casing assembly (**5**). According to one possible implementation, the hub portion (**43**) has a substantially rectangular profile and the groove (**35**) of the casing assembly (**5**) may extending about (ex. within, near, adjacent, along, etc.) said hub portion (**43**).

[0141] The hub portion (**43**) may also comprise at least one securing orifice (**45**) for receiving a corresponding fastener (**47**) intended to securely mount the door assembly (**19**) onto the casing assembly (**5**). As can be easily understood when referring to FIGS. **9**, **10** and **37-40**, the at least one securing orifice (**45**) can also be used for receiving a corresponding fastener (**47**) intended to securely mount a temporary cover plate (**49**) onto the casing assembly (**5**) prior to the door assembly (**19**) being mounted onto the casing assembly (**5**).

[0142] Even though different fasteners could be used for the door assembly (**19**) and for the temporary cover plate (**49**) respectively, according to a possible implementation, the corresponding fastener (**47**) used to securely mount the temporary cover plate (**49**) onto the casing assembly (**5**) and the corresponding fastener (**47**) used to securely mount the door assembly (**19**) onto the casing assembly (**5**) are the same fastener (**47**) provided with the outlet box assembly (**1**).

[0143] According to an optional embodiment, the temporary cover plate (**49**) is made of a color different from that of the casing assembly (**5**), and the temporary cover plate (**49**) may provide with visual information (**51**), such as appropriate warnings, for example. Indeed, the temporary cover plate (**49**) is only intended to be used during installation of the present outlet box assembly (**1**) onto a given support structure (**7**), as can be easily understood when referring to FIGS. **37-40**, and thus, during finishing of said support structure (**7**), such as for example, when putting up drywall, or lying brick, or plastering the wall surface, it is important that the area covered by the temporary cover plate (**49**) remains "exposed". Therefore, according to one possible embodiment, the temporary cover plate (**49**) can be made of a bright warning color, such as yellow, for example, which would contrast that of the remaining outlet box assembly (**1**) and the temporary cover plate (**49**) could be provided with corresponding warnings or visual aids so as to remind the user not to cover the temporary cover plate (**49**) during finishing of the support structure, whether it be a wall, a floor or any other support structure with which the present outlet box system (**1**) could be used and may be useful.

[0144] The temporary cover plate (**49**) may also be provided with a projection (**53**) for facilitating removal of the temporary cover plate (**49**) from the casing assembly (**5**), and according to a given implementation, the temporary cover plate (**49**) is substantially rectangular, and may be provided with four through-holes (**55**), with one through-hole (**55**) in each corner, for example.

[0145] Similarly, the hub portion (**43**) comprises four securing orifices (**45**), each securing orifice (**45**) being configured for receiving a corresponding fastener (**47**) intended to securely mount the door assembly (**19**) or the temporary cover plate (**49**) onto the casing assembly (**5**), and each securing orifice (**45**) being provided about a corresponding corner of the hub portion (**43**), for example.

[0146] According to a possible embodiment, each securing orifice (**45**) may be a threaded securing orifice (**45**) for receiving a corresponding threaded fastener (**47**) therein, and the hub portion (**43**) may project outwardly from a corresponding mounting flange (**57**) of the casing assembly (**5**).

[0147] Indeed, concerning another possible aspect of the present system, the casing assembly (**5**) may comprise a mounting flange (**57**) for mounting the casing assembly (**5**) onto a mounting component (**59**) of the support structure (**7**), as can be easily understood when referring to FIGS. **37-40**.

[0148] According to possible embodiments: a) the mounting flange (**57**) may extend about the second port (**13**) of the casing assembly (**5**); b) the mounting flange (**57**) may have a substantially rectangular profile; c) the mounting flange (**57**) may be provided with at least one mounting hole (**61**) for receiving a corresponding fastener (**63**) intended to securely mount the casing assembly (**5**) onto the mounting component (**59**) of the support structure (**7**); d) the mounting flange (**57**) may comprise a central line indicator (**65**); e) etc.

[0149] The outlet box assembly (**1**) may also comprise reinforcement ribs (**67**) extending between the mounting flange (**57**) and an outer portion (**69**) of the body (**9**) of the casing assembly (**5**), in order to provide greater structural soundness or "stiffness" to the present system, etc.

[0150] Concerning the door assembly (**19**) of the present system, and as it can be easily understood when referring to FIGS. **9** and **10**, for example, it may comprise an access door (**71**) selectively operable with respect to a door framing (**33**) of the door assembly (**19**) between an opened configuration for allowing a user to have access to the inside portion (**21**) of the casing assembly (**5**), and a closed configuration where the access door (**71**) is shut against the door framing (**33**), so to create a substantially sealed condition inside the casing assembly (**5**) when the door assembly (**19**) is operatively mounted onto the casing assembly (**5**).

[0151] The access door (**71**) may come in various shapes and forms, but according to one possible embodiment, it is a hinged access door (**71**) being substantially rectangular and pivotably moveable with respect to the door framing (**33**) via at least one pivot support (**73**), such as a rod, for example, as better illustrated in FIG. **10**.

[0152] The door framing (**33**) may comprise a corresponding recessed portion (**75**) for receiving therein the access door (**71**) when operated into the closed configuration. The door framing (**33**) may also comprise at least one clasping component (**77**) for removably clasping a corresponding component of the access door (**71**), and selectively maintaining the access door (**71**) in the closed configuration.

[0153] According to some implementations, the door framing (**33**) comprises an access port (**79**) being substantially complementary to the second port (**13**) of the casing assembly (**5**), and the second port (**13**) of the casing assembly (**5**) and the access port (**79**) of the door assembly (**19**) can be substantially rectangular, although other shapes and forms are also contemplated for the present system (**1**).

[0154] As can be easily understood when referring to FIGS. **9** and **10**, the outlet box assembly (**1**) may comprise a sealing joint (**81**) meant to operate between an inside portion (**83**) of the access door (**71**) and an inlet rim (**85**) of the door framing **33**, in order to ensure a greater seal thereinbetween.

[0155] According to the possible embodiments illustrated in the accompanying drawings: a) the inlet rim (**85**) of the door framing (**33**) may be rounded; b) the inside portion (**83**) of the access door (**71**) may be provided with reinforcement components (**87**); c) the door framing (**33**) may be substantially rectangular, and provided with four through-holes (**89**), each through-hole (**89**) being configured for receiving a corresponding fastener (**47**) intended to securely mount the door framing (**33**) onto the casing assembly (**5**), and each through-hole (**89**) being provided about a corresponding corner area of the door framing (**33**), for example; d) etc.

[0156] Concerning another possible aspect of the present system, the outlet box assembly (**1**) comprises a valve assembly module (**91**) removably mountable into the inside portion (**21**) of the casing assembly (**5**), and having a sealing component (**93**) through which the vacuum hose (**17**) is extendable, the valve assembly module (**91**) being operable between a first (ex. "unsealed") configuration where the vacuum hose (**17**) is freely displaceable through the sealing component (**93**) of the valve assembly module (**91**), and a second (ex. "sealed") configuration where the sealing component (**93**) is urged about the vacuum hose (**17**), thereby substantially fixing the vacuum hose (**17**) with respect to the valve assembly module (**91**), and creating a seal (ex. a substantially "air-tight" seal, and/or other "appropriate" seal) between the vacuum hose (**17**) and a corresponding tubing component of the central vacuum system (**3**).

[0157] According to one possible embodiment, the valve assembly module (**91**) is operable between the first ("unsealed") and second ("sealed") configurations by selectively operating the sealing component (**93**) between unchoking and choking modes, wherein in the unchoking mode, a peripheral gap (**95**) is allowed between the vacuum hose (**17**) and the sealing component (**93**), thereby allowing a suction force of the central vacuum cleaning system (**3**) to pass through both the vacuum hose (**17**) and the sealing component (**93**), and wherein in the chocking mode, the sealing component (**93**) is urged towards the vacuum hose (**17**) in order to close said peripheral gap (**95**), thereby urging the suction force of the central vacuum system (**3**) to pass by the vacuum hose (**17**), as can be easily understood when referring to FIGS. **32** and **33**, for example.

[0158] In some implementations, the valve assembly module (**91**) is operated from the first ("unsealed") to the second ("sealed") configuration by pulling out on a handle (**97**) of the valve assembly module (**91**), the handle being operatively connectable to the sealing component (**93**) via an actuating assembly (**99**).

[0159] According to one possible embodiment, the actuating assembly (**99**) may comprise an actuating component (**101**) operatively rested against a bottom portion of the sealing component (**103**), and operable between lowered and raised configurations for selectively operating the sealing component (**93**) between the unchocking and choking modes respectively.

[0160] In some other implementations, the actuating component (**101**) may comprise a socket (**105**) for receiving therein the bottom portion (**103**) of the sealing component (**93**), and the socket (**105**) of the actuating component (**101**) may further comprise a groove (**107**) for receiving therein a distal bottom rim (**109**) of the sealing component (**93**).

[0161] Similarly, the first port (**11**) of the casing assembly (**5**) may be provided with an internal socket (**111**) for receiving therein the top portion (**113**) of the sealing component (**93**), and such an internal socket (**111**) provided about the first port (**11**) of the casing assembly (**5**) may comprise a groove (**115**) for receiving therein a distal top rim (**117**) of the sealing component (**93**).

[0162] According to one possible embodiment, the sealing component (**93**) is made of a suitable flexible elastomeric material, and is positioned, shaped and sized within the outlet box assembly (**1**), and provided with a plurality of peripheral grooves (**119**), so as to be operated between the unchoking and choking modes, as can be easily understood when referring to FIGS. **34** and **35**.

[0163] In some implementations, the actuating component (**99**) comprises and/or simply consists of an output fitting (**121**) provided with at least one pin (**123**) engageable with a corresponding biasing path (**125**) of the handle (**97**), the pin (**123**) and corresponding output fitting (**121**) being "vertically" displaceable along said biasing path (**125**) of varying height via a pulling action of the handle (**97**), as can be easily understood when referring to FIGS. **11-31**, for example.

[0164] As can be easily understood when referring to FIG. **31**, the output fitting (**121**) may comprise a curved inlet (**127**) for facilitating displacement of the vacuum hose (**17**) into the output fitting (**121**) and corresponding valve assembly module (**91**).

[0165] According to one possible embodiment of the present system, the handle (**97**) is displaceable with respect to a fixed component (**129**) of the valve assembly module (**91**), and the biasing path (**125**) of varying height is provided within the handle (**97**), so that a pulling action of the handle (**97**) urges the actuating component (**99**) from a "lowered" to a "raised" configuration.

[0166] As better shown in FIG. **36**, the biasing path (**125**) may comprise a lower notch (**131**) configured to be removably engaged with a corresponding component (**101**) of the actuating component when the handle (**97**) is operated into a fully retracted configuration, corresponding to the first ("unsealed") configuration of the valve assembly module (**91**), and the biasing path (**125**) may further comprise an upper notch (**133**) configured to be removably engaged with said corresponding component of the actuating component (**101**) when the handle (**97**) is operated into a fully extended configuration, corresponding to the second ("sealed") configuration of the valve assembly module (**91**). This is also particularly advantageous with respect to conventional systems in that contrary to conventional valve assemblies where a lever needs to be typically urged from left to right, which is very strenuous on the fingers of a user, the present system (**1**) only requires a very simple pulling action of the handle (**97**). Also, contrary to conventional systems, where chocking of the vacuum hose is done by pulling on a lever from

left to right, and done in an "indefinite" or "gradual" manner, the above-mentioned innovative features of the present system (**1**) enables a given user to "know" and "feel" exactly when the valve assembly (**91**) is completely "on" and/or completely "off", in that, the presence of the above-mentioned notches (**131**,**133**) enables to know when the opposite fixed configurations (i.e. "on" and "off") have been attained.

[0167] Concerning another possible aspect of the present system, the valve assembly module (**91**) is independent and/or removably detachable from the casing assembly (**5**), which is also very advantageous for facilitating inspection, maintenance and/or repair, and according to one possible embodiment, the fixed component (**129**) comprises may comprise at least one through-hole orifice (**135**) for receiving a corresponding fastener (**137**) intended to securely mount the fixed component (**129**) of the valve assembly module (**91**) onto a corresponding securing orifice (**139**) of a top inner portion (**141**) of the casing assembly. Optionally also, the fixed component (**129**) may comprise top and bottom sub-portions (**129***a*,**129***b*) being removably connectable to one another via at least one corresponding fastener (**143**), and in some implementations shown such as the one in FIG. **10**, the top and bottom sub-portions (**129***a*,**129***b*) of the fixed component (**129**) are removably connectable to one another via four corresponding fasteners (**143**), although various other connection/affixing possibilities are also contemplated for the present system (**1**).

[0168] According to another possible embodiment, and as better shown in FIGS. **15-31**, the handle (**97**) is substantially U-shaped, and provides a transversal gripping portion (**147**), and thus, the fixed component (**129**) can be configured for defining a transversal finger-receiving recess (**145**) behind the handle (**97**) when operated into the retracted configuration, as better shown in FIGS. **15-18** and **31**. Similarly, the handle (**97**) may comprise top and bottom sub-portions (**97***a*,**97***b*), and the top and bottom sub-portions (**97***a*,**97***b*) of the handle (**97**) may be removably connectable to one another via a pair of corresponding fasteners (**149**), for example, as also better shown in FIG. **10**, although various other connection/affixing possibilities are also contemplated for the present system (**1**).

[0169] Concerning another possible aspect of the present system, the outlet box assembly (**1**) comprises a switch (**151**) electrically connectable via wiring to the central vacuum system (**3**), the switch (**151**) being operable between ON and OFF configurations via a corresponding actuator button (**153**).

[0170] According to one possible embodiment, the switch (**151**) is provided about the casing assembly (**5**), and the actuator button (**153**) is provided about the valve assembly module (**91**).

[0171] According to an advantageous embodiment of the present system, the valve assembly module (**91**) is configured so that the actuator button (**153**) automatically activates the switch (**151**) into the ON configuration when the handle (**97**) is operated into an extended configuration. Indeed, contrary to conventional systems where the valve assembly and the actuator button need to be operated independently/separately, for a greater number of resulting manipulation steps, the present system (**1**) enables for the actuator button (**153**) to be automatically activated upon activating the valve assembly (**91**), which is beneficial in that if a user is going to be using the valve assembly (**91**) for affixing a given length of a retractable hose to be used, for example, he/she will necessarily need to turn the system (**3**) on for activating the vacuum source. Therefore, the present innovative valve assembly module (**91**) with handle (**97**) and actuator button (**153**) cooperating together in the manner described hereinabove is advantageous in that it enables to reduce an additional step which would be normally required with conventional systems.

[0172] In some implementations, the actuator button (**153**) comprises a magnet (**155**), and the switch (**151**) is automatically turned ON when the magnet (**155**) is aligned with the switch (**151**) within the outlet box assembly (**1**), such as, when the handle (**97**) is pulled out, for example.

[0173] According to one possible embodiment, the actuator button (**153**) can be urged into the ON configuration by means of an abutment shoulder (**157**) of the handle (**97**) being positioned, shaped and sized for pushing against the actuator button (**153**) when the handle (**97**) is pulled out, as can be easily understood when referring to FIG. **36**.

[0174] As can also be easily understood when referring to FIGS. **11-31**, the actuator button (**153**) can be further configured to remain projecting out, and maintain the switch (**151**) in an ON configuration, when the handle (**97**) is pushed back into a retracted position within the valve assembly module (**91**).

[0175] In order to achieve such result, and according to one possible embodiment given simply as way of example, as better shown in FIG. **36**, the actuator button (**153**) may comprise a resilient component (**159**) engageable with a corresponding complementary notch (**161**) provided about an inner wall of the fixed component (**129**), so as to maintain the switch (**151**) in an ON configuration, when the handle (**97**) is pushed back into a retracted position within the valve assembly module (**91**). Obviously, various the other suitable interactions between the actuator button (**153**) and the fixed component (**129**) may be employed in order to attain the above-mentioned feature.

[0176] In some implementations, the actuator button (**153**) is configured so that a retaining force provided by the resilient component (**159**) engaged into the complementary notch (**161**) of the fixed component (**129**) is simply overridden by manually pushing the actuator button (**153**) back into a retracted configuration, or as can be easily understood from FIG. **2**, by allowing the access door (**71**) to be closed onto the outlet box assembly (**1**), so that said access door (**71**) pushes the actuator button (**153**) back into the retracted configuration.

[0177] According to possible embodiments, the switch (**151**) is lodged inside the groove (**35**) of the casing assembly (**5**), and can be provided with excess wiring (**163**) lodged inside the groove (**35**) of the casing assembly (**5**).

[0178] According to another aspect of the present invention, there is also provided a kit with corresponding components for assembling an outlet box system (**1**) such as the one briefly described herein and such as the one exemplified in the accompanying drawings. For example, the casing assembly (**5**), the door assembly (**19**), the gap-adjustment assembly (**23**), the valve assembly module (**91**) and/or any other component described herein and/or exemplified in the accompanying drawing could be sold separately and/or together.

[0179] According to another aspect of the present invention, there is also provided a retractable hose central vacuum system provided with at least one outlet box system (**1**) such

as the one briefly described herein and such as the one exemplified in the accompanying drawings.

[0180] As may now be better appreciated, the present system (**1**) is advantageous over conventional systems in that it may be used with different types of wall constructions (drywall, brick, plaster, cement, etc.) and can be easily adapted to different wall thicknesses (d_1, d_2, etc.), for a very nice and smooth finish.

[0181] The present system (**1**) is also advantageous over conventional systems in that the design of its valve assembly module (**91**) enables the same to be operated independently from the casing assembly (**5**), and also enables the valve assembly module (**91**) to be detachable from said casing assembly (**5**), which facilitates inspection, maintenance, servicing and/or repair, if need may be. The present system is also advantageous in that, unlike conventional systems where a valve assembly is activated by "pushing" on a lever from "left" to "right" and using one or two "extended" fingers, which is strenuous for a user, the valve assembly module (**91**) according to the present system (**1**) is configured so as to be activated via a simple pulling action, such as by pulling on a corresponding handle (**97**), which enables an easier and more ergonomic handling of the valve assembly (**91**).

[0182] The present invention is also advantages in that the valve assembly module (**91**) is configured so that when it is activated, it automatically activates a corresponding actuator button (**153**) which in turns automatically turns on the vacuum source associated with the present outlet box system (**1**). This is particularly advantageous with respect to conventional systems where the valve assemblies and corresponding actuator buttons are made to be operated independently and separately, which translates into various additional manipulation steps. However, given that when a user typically uses a valve assembly to secure a retractable hose in place within the central vacuum system, it goes without saying that they are going to be need to turn on the system in order to activate the suction force provided by the vacuum source. Therefore, with the present system (**1**), by providing a valve assembly module (**91**) which automatically activates the actuator button (**153**) when the valve assembly module (**91**) is pulled out (for example), manipulation steps are considerably reduced for the user with respect to what is required with conventional systems, which is very advantageous and convenient.

[0183] Also, and as can be appreciated, because the valve assembly module (**91**) is configured so as to maintain the actuator button (**153**) in an ON configuration when the handle (**97**) is pushed back into the system, this is also particularly advantageous because it is desirable for a user to have the vacuum source pulling onto the retractable hose (**17**), in order to a properly lodge it inside the corresponding tubing provided inside the wall, for example. Therefore, once this latter step is completed, the user may either simply push on the actuator button (**153**) back into the box, so as to turn off the system (**3**), or may simply allow the access door (**71**) to close onto the box, and this closing of the access door (**71**) will automatically push back the actuator button (**153**) into the OFF configuration, further supporting the different innovative features and associated advantages resulting from the design of the present outlet box system (**1**).

[0184] Of course, and as can be easily understood by a person skilled in the art, the scope of the claims should not be limited by the possible embodiments set forth in the examples, but should be given the broadest interpretation consistent with the description as a whole.

1. An outlet box system (**1**) for a central vacuum system (**3**), the outlet box system (**1**) comprising:

a casing assembly (**5**) for operatively mounting onto a given support structure (**7**), the casing assembly (**5**) having a substantially closed body (**9**) provided with first and second ports (**11**,**13**), the first port (**11**) being sealingly connectable via piping (**15**) to the central vacuum system (**3**), and the second port (**13**) being configured for allowing a vacuum hose (**17**) of the central vacuum system (**3**) to extend therethrough and out from the casing assembly (**5**);

a door assembly (**19**) operatively mountable onto the casing assembly (**5**) in a substantially sealed manner, the door assembly (**19**) being configured for allowing a user to selectively have access to an inside portion (**21**) of the casing assembly (**5**); and

a gap-adjustment assembly (**23**) for adjusting a distance (**25**) between the door and casing assemblies (**5**,**19**), in accordance with a wall thickness of a finished surface (**27**) of the support structure (**7**).

2. An outlet box system (**1**) according to claim **1**, wherein the gap-adjustment assembly (**23**) comprises a male component (**23***a*) adjustably insertable into a corresponding female component (**23***b*).

3. An outlet box system (**1**) according to claim **2**, wherein the male component (**23***a*) is provided on the door assembly (**19**), and wherein the female component (**23***b*) is provided on the casing assembly (**5**).

4. An outlet box system (**1**) according to claim **2**, wherein the male component (**23***a*) is provided on the casing assembly (**5**), and wherein the female component (**23***b*) is provided on the door assembly (**19**).

5. An outlet box system (**1**) according to any one of claims **1**-**4**, wherein the first port (**11**) of the casing assembly (**5**) is positioned, shaped and sized for receiving a corresponding tube fitting (**29**).

6. An outlet box system (**1**) according to claim **5**, wherein the tube fitting (**29**) is sealingly connectable via piping (**15**) to the central vacuum system (**3**).

7. An outlet box system (**1**) according to claim **5** or **6**, wherein the tube fitting (**29**) is insertable into a socket (**31**) of the first port (**11**) of the casing assembly (**5**).

8. An outlet box system (**1**) according to any one of claims **1**-**7**, wherein the second port (**13**) of the casing assembly (**5**) is positioned, shaped and sized for receiving thereabout a door framing (**33**) of the door assembly (**19**), so that the door assembly (**19**) be sealingly connectable to the inside portion (**21**) of the casing assembly (**5**).

9. An outlet box system (**1**) according to any one of claims **1**-**8**, wherein the casing assembly (**5**) comprises a groove (**35**) extending about the second port (**13**), the groove (**35**) being positioned, shaped and sized for receiving a corresponding collar (**37**) of the door assembly (**19**).

10. An outlet box system (**1**) according to claim **9**, wherein the collar (**37**) of the door assembly (**19**) is press-fittingly insertable into the groove (**35**) of the casing assembly (**5**).

11. An outlet box system (**1**) according to claim **9** or **10**, wherein the collar (**37**) has a substantially rectangular profile.

12. An outlet box system (**1**) according to any one of claims **9-11**, wherein an outer surface (**37***a*) of the collar (**37**) is provided with tightening flanges (**39**).

13. An outlet box system (**1**) according to any one of claims **9-11**, wherein an inner surface (**37***b*) the collar (**37**) is provided with tightening flanges (**39**).

14. An outlet box system (**1**) according to any one of claims **9-13**, wherein the tightening flanges (**39**) are tapered so as to provide an increased tightening force between the door assembly (**19**) and the casing assembly (**5**) when the collar (**37**) of the door assembly (**19**) is removably inserted into the groove (**35**) of the casing assembly (**5**).

15. An outlet box system (**1**) according to any one of claims **9-14**, wherein the outlet box system (**1**) comprises a sealing joint (**41**) operatively insertable between the collar (**37**) of the door assembly (**19**) and the groove (**35**) of the casing assembly (**5**).

16. An outlet box system (**1**) according to claim **15**, wherein the sealing joint (**41**) is provided about a rim (**37***c*) of the collar of the door assembly (**19**).

17. An outlet box system (**1**) according to claim **15** or **16**, wherein the sealing joint (**41**) is removably insertable into the groove (**35**) of the casing assembly (**5**).

18. An outlet box system (**1**) according to any one of claims **1-17**, wherein the outlet box system (**1**) comprises a hub portion (**43**) extending about the second port (**13**) of the casing assembly (**5**) and projecting outwardly from a front side of said casing assembly (**5**).

19. An outlet box system (**1**) according to claim **18**, wherein the hub portion (**43**) has a substantially rectangular profile.

20. An outlet box system (**1**) according to claim **18** or **19**, wherein the hub portion (**43**) comprises at least one securing orifice (**45**) for receiving a corresponding fastener (**47**) intended to securely mount the door assembly (**19**) onto the casing assembly (**5**).

21. An outlet box system (**1**) according to claim **20**, wherein the at least one securing orifice (**45**) is also used for receiving a corresponding fastener (**47**) intended to securely mount a temporary cover plate (**49**) onto the casing assembly (**5**) prior to the door assembly (**19**) being mounted onto the casing assembly (**5**).

22. An outlet box system (**1**) according claim **21**, wherein the corresponding fastener (**47**) used to securely mount the temporary cover plate (**49**) onto the casing assembly (**5**) and the corresponding fastener (**47**) used to securely mount the door assembly (**19**) onto the casing assembly (**5**) are the same fastener (**47**) provided with the outlet box system (**1**).

23. An outlet box system (**1**) according to claim **21** or **22**, wherein the temporary cover plate (**49**) is made of a color different from that of the casing assembly (**5**).

24. An outlet box system (**1**) according to any one of claims **21-23**, wherein the temporary cover plate (**49**) is provided with visual information (**51**).

25. An outlet box system (**1**) according to any one of claims **21-24**, wherein the temporary cover plate (**49**) is provided with a projection (**53**) for facilitating removal of the temporary cover plate (**49**) from the casing assembly (**5**).

26. An outlet box system (**1**) according to any one of claims **21-25**, wherein the temporary cover plate (**49**) is substantially rectangular, and is provided with four through-holes (**55**).

27. An outlet box system (**1**) according to any one of claims **21-26**, wherein the hub portion (**43**) comprises four securing orifices (**45**), each securing orifice (**45**) being configured for receiving a corresponding fastener (**47**) intended to securely mount the door assembly (**19**) or the temporary cover plate (**49**) onto the casing assembly (**5**), and each securing orifice (**45**) being provided about a corresponding corner of the hub portion (**43**).

28. An outlet box system (**1**) according to any one of claims **21-27**, wherein each securing orifice (**45**) is a threaded securing orifice (**45**) for receiving a corresponding threaded fastener (**47**) therein.

29. An outlet box system (**1**) according to any one of claims **18-28**, wherein the hub portion (**43**) projects outwardly from a corresponding mounting flange (**57**) of the casing assembly (**5**).

30. An outlet box system (**1**) according to any one of claims **1-29**, wherein the casing assembly (**5**) comprises a mounting flange (**57**) for mounting the casing assembly (**5**) onto a mounting component (**59**) of the support structure (**7**).

31. An outlet box system (**1**) according to claim **30**, wherein the mounting flange (**57**) extends about the second port (**13**) of the casing assembly (**5**).

32. An outlet box system (**1**) according to claim **30** or **31**, wherein the mounting flange (**57**) has a substantially rectangular profile.

33. An outlet box system (**1**) according to any one of claims **30-32**, wherein the mounting flange (**57**) is provided with at least one mounting hole (**61**) for receiving a corresponding fastener (**63**) intended to securely mount the casing assembly (**5**) onto the mounting component (**59**) of the support structure (**7**).

34. An outlet box system (**1**) according to any one of claims **30-33**, wherein the mounting flange (**57**) comprises a central line indicator (**65**).

35. An outlet box system (**1**) according to any one of claims **30-34**, wherein the outlet box system (**1**) comprises reinforcement ribs (**67**) extending between the mounting flange (**57**) and an outer portion (**69**) of the body (**9**) of the casing assembly (**5**).

36. An outlet box system (**1**) according to any one of claims **1-35**, wherein the door assembly (**19**) comprises an access door (**71**) selectively operable with respect to a door framing (**33**) of the door assembly (**19**) between an opened configuration for allowing a user to have access to the inside portion (**21**) of the casing assembly (**5**), and a closed configuration where the access door (**71**) is shut against the door framing (**33**), so to create a substantially sealed condition inside the casing assembly (**5**) when the door assembly (**19**) is operatively mounted onto the casing assembly (**5**).

37. An outlet box system (**1**) according to claim **36**, wherein the access door (**71**) is a hinged access door (**71**) being pivotably moveable with respect to the door framing (**33**) via at least one pivot support (**73**).

38. An outlet box system (**1**) according to claim **36** or **37**, wherein the access door (**71**) is substantially rectangular.

39. An outlet box system (**1**) according to any one of claims **36-38**, wherein the door framing (**33**) comprises a corresponding recessed portion (**75**) for receiving therein the access door (**71**) when operated into the closed configuration.

40. An outlet box system (**1**) according to any one of claims **36-39**, wherein the door framing (**33**) comprises at least one clasping component (**77**) for removably clasping a

corresponding component of the access door (**71**), and selectively maintaining the access door (**71**) in the closed configuration.

41. An outlet box system (**1**) according to any one of claims **36-40**, wherein the door framing (**33**) comprises an access port (**79**) being substantially complementary to the second port (**13**) of the casing assembly (**5**).

42. An outlet box system (**1**) according to any one of claims **36-41**, wherein the second port (**13**) of the casing assembly (**5**) and the access port (**79**) of the door assembly (**19**) are substantially rectangular.

43. An outlet box system (**1**) according to any one of claims **36-42**, wherein the outlet box system (**1**) comprises a sealing joint (**81**) operatively insertable between an inside portion (**83**) of the access door (**71**) and an inlet rim (**85**) of the door framing **33**.

44. An outlet box system (**1**) according to claim **43**, wherein the inlet rim (**85**) of the door framing (**33**) is rounded.

45. An outlet box system (**1**) according to any one of claims **36-44**, wherein the inside portion (**83**) of the access door (**71**) is provided with reinforcement components (**87**).

46. An outlet box system (**1**) according to any one of claims **36-45**, wherein the door framing (**33**) is substantially rectangular, and is provided with four through-holes (**89**), each though-hole (**89**) being configured for receiving a corresponding fastener (**47**) intended to securely mount the door framing (**33**) onto the casing assembly (**5**).

47. An outlet box system (**1**) according to any one of claims **1-46**, wherein the outlet box system (**1**) comprises a valve assembly module (**91**) removably mountable into the inside portion (**21**) of the casing assembly (**5**), and having a sealing component (**93**) through which the vacuum hose (**17**) is extendable, the valve assembly module (**91**) being operable between a first configuration where the vacuum hose (**17**) is freely displaceable through the sealing component (**93**) of the valve assembly module (**91**), and a second configuration where the sealing component (**93**) is urged about the vacuum hose (**17**), thereby substantially fixing the vacuum hose (**17**) with respect to the valve assembly module (**91**), and creating a seal between the vacuum hose (**17**) and a corresponding tubing component of the central vacuum system (**3**).

48. An outlet box system (**1**) according to claim **47**, wherein the valve assembly module (**91**) is operable between the first and second configurations by selectively operating the sealing component (**93**) between unchoking and choking modes, wherein in the unchoking mode, a peripheral gap (**95**) is allowed between the vacuum hose (**17**) and the sealing component (**93**), thereby allowing a suction force of the central vacuum system (**3**) to pass through both the vacuum hose (**17**) and the sealing component (**93**), and wherein in the chocking mode, the sealing component (**93**) is urged towards the vacuum hose (**17**) in order to close said peripheral gap (**95**), thereby urging the suction force of the central vacuum system (**3**) to pass by the vacuum hose (**17**).

49. An outlet box system (**1**) according to claim **47** or **48**, wherein the valve assembly module (**91**) is operated from the first to the second configuration by pulling out on a handle (**97**) of the valve assembly module (**91**), the handle being operatively connectable to the sealing component (**93**) via an actuating assembly (**99**).

50. An outlet box system (**1**) according to claim **49**, wherein the actuating assembly (**99**) comprises an actuating component (**101**) operatively rested against a bottom portion of the sealing component (**103**), and operable between lowered and raised configurations for selectively operating the sealing component (**93**) between the unchocking and choking modes respectively.

51. An outlet box system (**1**) according to claim **50**, wherein the actuating component (**101**) comprises a socket (**105**) for receiving therein the bottom portion (**103**) of the sealing component (**93**).

52. An outlet box system (**1**) according to claim **51**, wherein the socket (**105**) of the actuating component (**101**) comprises a groove (**107**) for receiving therein a distal bottom rim (**109**) of the sealing component (**93**).

53. An outlet box system (**1**) according to any one of claims **47-52**, wherein the first port (**11**) of the casing assembly (**5**) is provided with an internal socket (**111**) for receiving therein the top portion (**113**) of the sealing component (**93**).

54. An outlet box system (**1**) according to any one of claims **47-53**, wherein the internal socket (**111**) provided about the first port (**11**) of the casing assembly (**5**) comprises a groove (**115**) for receiving therein a distal top rim (**117**) of the sealing component (**93**).

55. An outlet box system (**1**) according to any one of claims **47-54**, wherein the sealing component (**93**) is made of a flexible elastomeric material.

56. An outlet box system (**1**) according to any one of claims **48-55**, wherein the sealing component (**93**) is positioned, shaped and sized, and provided with a plurality of peripheral grooves (**119**), so as to be operated between the unchoking and choking modes.

57. An outlet box system (**1**) according to any one of claims **50-56**, wherein the actuating component (**99**) comprises an output fitting (**121**), and wherein the output fitting (**121**) is provided with at least one pin (**123**) engageable with a corresponding biasing path (**125**) of the handle (**97**), the pin (**123**) and corresponding output fitting (**121**) being vertically displaceable along said biasing path (**125**) of varying height via a pulling action of the handle (**97**).

58. An outlet box system (**1**) according to claim **57**, wherein the output fitting (**121**) comprises a curved inlet (**127**) for facilitating displacement of the vacuum hose (**17**) into the output fitting (**121**) and corresponding valve assembly module (**91**).

59. An outlet box system (**1**) according to claim **57** or **59**, wherein the handle (**97**) is displaceable with respect to a fixed component (**129**) of the valve assembly module (**91**), and wherein the biasing path (**125**) of varying height is provided within the handle (**97**), so that a pulling action of the handle (**97**) urges the actuating component (**99**) from a lowered to a raised configuration.

60. An outlet box system (**1**) according to any one of claims **57-59**, wherein the biasing path (**125**) comprises a lower notch (**131**) configured to be removably engaged with a corresponding component (**101**) of the actuating component when the handle (**97**) is operated into a fully retracted configuration, corresponding to the first configuration of the valve assembly module (**91**), and wherein the biasing path (**125**) further comprises an upper notch (**133**) configured to be removably engaged with said corresponding component of the actuating component (**101**) when the handle (**97**) is

operated into a fully extended configuration, corresponding to the second configuration of the valve assembly module (**91**).

61. An outlet box system (**1**) according to claim **59** or **60**, wherein the fixed component (**129**) comprises at least one through-hole (**135**) for receiving a corresponding fastener (**137**) intended to securely mount the fixed component (**129**) of the valve assembly module (**91**) onto a corresponding securing orifice (**139**) of a top inner portion (**141**) of the casing assembly.

62. An outlet box system (**1**) according to any one of claims **59-61**, wherein the fixed component (**129**) comprises top and bottom sub-portions (**129***a*,**129***b*) being removably connectable to one another via at least one corresponding fastener (**143**).

63. An outlet box system (**1**) according to any one of claims **59-62**, wherein the top and bottom sub-portions (**129***a*,**129***b*) of the fixed component (**129**) are removably connectable to one another via four corresponding fasteners (**143**).

64. An outlet box system (**1**) according to any one of claims **59-63**, wherein the fixed component (**129**) is configured for defining a transversal finger-receiving recess (**145**) behind the handle (**97**) when operated into the retracted configuration.

65. An outlet box system (**1**) according to any one of claims **49-64**, wherein the handle (**97**) is substantially U-shaped, and provides a transversal gripping portion (**147**).

66. An outlet box system (**1**) according to any one of claims **49-65**, wherein the handle (**97**) comprises top and bottom sub-portions (**97***a*,**97***b*).

67. An outlet box system (**1**) according to any one of claims **49-66**, wherein the top and bottom sub-portions (**97***a*,**97***b*) of the handle (**97**) are removably connectable to one another via a pair of corresponding fasteners (**149**).

68. An outlet box system (**1**) according to any one of claims **1-67**, wherein the outlet box system (**1**) comprises a switch (**151**) electrically connectable via wiring (**163**) to the central vacuum system (**3**), the switch (**151**) being operable between ON and OFF configurations via a corresponding actuator button (**153**).

69. An outlet box system (**1**) according to claim **68**, wherein the switch (**151**) is provided about the casing assembly (**5**), and wherein the actuator button (**153**) is provided about the valve assembly module (**91**).

70. An outlet box system (**1**) according to claim **68** or **69**, wherein the valve assembly module (**91**) is configured so that the actuator button (**153**) automatically activates the switch (**151**) into the ON configuration when the handle (**97**) is operated into an extended configuration.

71. An outlet box system (**1**) according to any one of claims **68-70**, wherein the actuator button (**153**) comprises a magnet (**155**), and wherein the switch (**151**) is automatically turned ON when the magnet (**155**) is aligned with the switch (**151**) within the outlet box system (**1**).

72. An outlet box system (**1**) according to any one of claims **68-71**, wherein the actuator button (**153**) is urged into the ON configuration by means of an abutment shoulder (**157**) of the handle (**97**) being positioned, shaped and sized for pushing against the actuator button (**153**) when the handle (**97**) is pulled out.

73. An outlet box system (**1**) according to any one of claims **70-72**, wherein the actuator button (**153**) is further configured to remain projecting out, and maintain the switch (**151**) in an ON configuration, when the handle (**97**) is pushed back into a retracted position within the valve assembly module (**91**).

74. An outlet box system (**1**) according to any one of claims **68-73**, wherein the actuator button (**153**) comprises a resilient component (**159**) engageable with a corresponding complementary notch (**161**) provided about an inner wall of the fixed component (**129**), so as to maintain the switch (**151**) in an ON configuration, when the handle (**97**) is pushed back into a retracted position within the valve assembly module (**91**).

75. An outlet box system (**1**) according to claim **74**, wherein the actuator button (**153**) is configured so that a retaining force provided by the resilient component (**159**) engaged into the complementary notch (**161**) of the fixed component (**129**) is overridden by manually pushing the actuator button (**153**) back into a retracted configuration.

76. An outlet box system (**1**) according to any one of claims **70-75**, wherein the switch (**151**) is lodged inside the groove (**35**) of the casing assembly (**5**).

77. An outlet box system (**1**) according to any one of claims **70-76**, wherein the switch (**151**) is provided with excess wiring (**163**) lodged inside the groove (**35**) of the casing assembly (**5**).

78. A kit for assembling an outlet box system (**1**) according to any one of claims **1-77**, and to be used with a central vacuum system (**3**), the kit comprising:

- a casing assembly (**5**) for operatively mounting onto a given support structure (**7**), the casing assembly (**5**) having a substantially closed body (**9**) provided with first and second ports (**11**,**13**), the first port (**11**) being sealingly connectable via piping (**15**) to the central vacuum system (**3**), and the second port (**13**) being configured for allowing a vacuum hose (**17**) of the central vacuum system (**3**) to extend therethrough and out from the casing assembly (**5**).

79. A kit for assembling an outlet box system (**1**) according to any one of claims **1-77**, and to be used with a central vacuum system (**3**), the kit comprising:

- a door assembly (**19**) operatively mountable onto the casing assembly (**5**) in a substantially sealed manner, the door assembly (**19**) being configured for allowing a user to selectively have access to the inside portion (**21**) of the casing assembly (**5**); and
- a gap-adjustment assembly (**23**) for adjusting a distance (**25**) between the door and casing assemblies (**5**,**19**), in accordance with a wall thickness of a finished surface (**27**) of the support structure (**7**).

80. A kit for assembling an outlet box system (**1**) according to any one of claims **1-77**, and to be used with a central vacuum system (**3**), the kit comprising:

- a valve assembly module (**91**) removably mountable into the inside portion (**21**) of the casing assembly (**5**), and having a sealing component (**93**) through which the vacuum hose (**17**) is extendable, the valve assembly module (**91**) being operable between a first configuration where the vacuum hose (**17**) is freely displaceable through the sealing component (**93**) of the valve assembly module (**91**), and a second configuration where the sealing component (**93**) is urged about the vacuum hose (**17**), thereby substantially fixing the vacuum hose (**17**) with respect to the valve assembly module (**91**), and

creating a seal between the vacuum hose (**17**) and a corresponding tubing component of the central vacuum system (**3**).

81. A kit according to claim **80**, wherein the valve assembly module (**91**) is configured to be operated independently from the casing assembly (**5**).

82. A kit according to claim **80** or **82**, wherein the valve assembly module (**91**) is detachable from the casing assembly (**5**).

83. A retractable hose central vacuum system provided with at least one outlet box system (**1**) according to any one of claims **1-77**.

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