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Transmitted herewith for filing are papers related to the patent application of:

Inventor(s): **MARC LEVY, CRAIG HUCK AND STEVEN SEMOFF**
For: **FLUID DISPERSION ASSEMBLY**

Enclosed are:

<u>XX</u>	<u>26</u>	pages of specification, including Abstract and claims.
<u>X</u>	<u>5</u>	sheet(s) of drawings.
<u>X</u>		A Declaration and Power of Attorney.
<u>X</u>		Application Data Sheet 37 CFR 1.76.
<u>X</u>		Nonpublication Request Under 35 U.S.C. 122(b)(2)(B)(i).
<u> </u>		An assignment of the invention to: _____.
<u> </u>		Certified copy(s) of the following application(s) the priority of which is hereby claimed under 35 USC §119: _____.

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FLUID DISPERSION ASSEMBLY

BACKGROUND OF THE INVENTION

Field of the Invention

This invention relates generally to the field of dispersion of various fluids including, but not limited to, fragrant oils, essential oils, odor neutralizers, disinfectants, e.g., triethylene glycol, air sanitizers, and the like, into a generally enclosed airspace.

DESCRIPTION OF THE RELATED ART

There are various devices that can be used to deliver fragrant oils, essential oils, as well as other fluids into the air. Spray cans are commonly used, however, such devices require a user to repeatedly and manually spray when and where necessary. Plug-in devices that heat oils for dispersion into the air are also commonly used, but they require constant heating of the oil via an electrical outlet, which consumes energy and poses a potential fire hazard.

Fluid diffusion devices utilizing forced and/or compressed air for delivery of fragrant oils, essential oils, or other liquids are desirable alternatives to spray cans and plug-in devices since they do not require heating or constant user interaction, however, they have drawbacks as well. One drawback of many known fluid diffusion devices utilizing forced air is that they tend to make an

1 undesirable and often, depending on the location, such as an office
2 of other place of business, a disruptive amount of noise when in
3 operation. In particular, the release of a fluid dispersed in the
4 forced and/or compressed air from such a device is often
5 unacceptably noisy.

6 As such, there is a need for a fluid dispersion assembly that
7 is designed to significantly reduce the amount of noise generated
8 during operation. A further need exists for such a fluid dispersion
9 assembly to not only operate more quietly, but to operate quietly
10 while generating a fluid dispersion in air having a uniform
11 particle size distribution, such that dosing of an airspace with a
12 particular liquid, whether it be oil, sanitizer, disinfectant,
13 etc., can be predicted within acceptable limits.

14 15 SUMMARY OF THE INVENTION

16 The present invention addresses the need for a forced air
17 diffusion and dispersion assembly for fluids such as fragrant oils,
18 essential oils, odor neutralizers, disinfectants, air sanitizers,
19 etc., that significantly reduces the amount of noise generated
20 during operation. In at least one embodiment, the present invention
21 is directed to a fluid dispersion assembly which operatively
22 engages a fluid container, and is powered by a compressed air
23 source. The fluid dispersion assembly includes a diffusion unit
24 having oppositely disposed ends, which at least partially defines a
25 diffusion chamber. The diffusion chamber is structured so as to

1 facilitate formation of a fluid dispersion comprising a plurality
2 of substantially uniform droplets prior to discharge from the
3 diffusion chamber.

4 In at least one embodiment, a cap is cooperatively configured
5 in sealing engagement with one of the oppositely disposed ends of
6 the diffusion unit. Furthermore, the cap may be removably attached
7 to the diffusion unit. The cap includes a discharge port disposed
8 in communication with the diffusion chamber such that the fluid
9 dispersion can exit the diffusion chamber and into an airspace
10 surrounding the fluid dispersion assembly, while the assembly is in
11 use. In some embodiments, the cap may include a service access port
12 disposed therethrough. The service access port may also include a
13 service access plug removably disposed therein, wherein removal of
14 the service access plug allows for removal, repair, and/or cleaning
15 of the internal components of the fluid dispersion assembly.

16 The present fluid dispersion assembly, in at least one
17 embodiment, further includes a container interconnect affixed to a
18 different one of the oppositely disposed ends of the diffusion unit
19 which is cooperatively structured to interconnect the diffusion
20 unit to the fluid container in a substantially sealed relationship.
21 In at least one embodiment, a sealing washer is provided to
22 facilitate formation of the substantially sealed relationship, and
23 a drip tube is disposed in an interconnecting relation between the
24 diffusion chamber and the fluid container, in at least one further
25 embodiment, to protect the sealing washer from contact with the

1 operative fluid(s).

2 In one embodiment, a diffusion assembly is disposed in an
3 operative engagement with the diffusion unit via a cartridge port.
4 The diffusion assembly is removably engaged with the cartridge
5 port, in at least one embodiment. In some embodiments, the
6 cartridge port is disposed directly through the diffusion unit
7 between the oppositely disposed ends. The cartridge port may be
8 oriented on the diffusion unit such that the diffusion assembly is
9 at a substantially perpendicular orientation to the diffusion unit
10 upon engagement therewith. In at least one other embodiment, a
11 cartridge port is disposed through the cap. The diffusion assembly
12 comprises an atomizer assembly, which in one embodiment comprises
13 an inlet channel, a mixing chamber, and an atomizer exhaust
14 channel, wherein the inlet channel is interconnected to the
15 compressed air source and the mixing chamber comprises a fluid
16 inlet disposed in fluid communication with the fluid in the fluid
17 container. Compressed air and fluid are initially mixed together in
18 the mixing chamber to form a fluid dispersion.

19 These and other objects, features and advantages of the
20 present invention will become clearer when the drawings as well as
21 the detailed description are taken into consideration.

22 BRIEF DESCRIPTION OF THE DRAWINGS

23 For a fuller understanding of the nature of the present
24 invention, reference should be had to the following detailed
25

1 description taken in connection with the accompanying drawings in
2 which:

3 Figure 1 is a cross-sectional elevation illustrative of one
4 embodiment of a fluid dispersion assembly as disclosed in the
5 present specification.

6 Figure 2 is a cross-sectional elevation illustrative of
7 another embodiment of a fluid dispersion assembly as disclosed in
8 the present specification.

9 Figure 3 is a cross-sectional view illustrative of yet another
10 embodiment of a fluid dispersion assembly as disclosed in the
11 present specification.

12 Figure 4 is a plan view illustrative of an embodiment of a
13 fluid dispersion assembly as disclosed in the present invention.

14 Figure 5 is a cross-sectional elevation illustrative of one
15 further embodiment of a fluid dispersion assembly in accordance
16 with the present specification.

17 Like reference numerals refer to like parts throughout the
18 several views of the drawings.

19
20 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

21 As illustrated in the accompanying figures, and with initial
22 reference to Figures 1 and 2, the present invention is directed to
23 a fluid dispersion assembly, generally indicated as 10, powered by
24 a compressed air source. In at least one embodiment, the fluid
25 dispersion assembly 10 is further structured to operatively engage

1 a fluid container (FC). The fluid dispersion assembly 10 is
2 structured to combine an amount of an operative fluid with
3 compressed air to generate a fluid dispersion.

4 More in particular, a "fluid dispersion" in accordance with
5 the present specification shall mean a mixture of an operative
6 fluid in air comprising a plurality of substantially uniform
7 droplets of the operative fluid dispersed throughout the air.
8 Further, and once again, as used in the present specification,
9 "substantially uniform droplets" shall mean droplets having
10 substantially the same diameter. In at least one embodiment, the
11 plurality of "substantially uniform droplets" each have a diameter
12 in the range of about one micron (1 μm), in another embodiment, the
13 diameter of the droplets is in the range of about three microns (3
14 μm), and, in one further embodiment, droplet diameter is in the
15 range of about five microns (5 μm).

16 The fluid dispersion assembly 10 includes a diffusion unit 100
17 having oppositely disposed ends, as at 110 and 113, in at least one
18 embodiment. The diffusion unit 100 at least partially defines a
19 diffusion chamber 112, and in at least one embodiment, the
20 diffusion chamber 112 is substantially enclosed within diffusion
21 unit 100. The diffusion unit 100 may be constructed of any rigid
22 material or materials which are chemically inert, or at least
23 chemically resistant to the intended operative fluid(s) which
24 include, but once again are not limited to, fragrant oils,
25 essential oils, essential oil extracts, odor neutralizers,

1 disinfectants, e.g., triethylene glycol, air sanitizers, etc.
2 Further, the material of construction selected for the diffusion
3 unit 100 must be capable of withstanding compressed air at
4 operative pressures, which may range anywhere from about 5 to 50
5 psig, in most embodiments of the present fluid dispersion assembly
6 10. In one lower pressure embodiment, the operating pressure of the
7 present fluid dispersion assembly 10 is in the range of about 5 to
8 10 psig, and in one further embodiment, the operating pressure is
9 in a range of between about 5 to 7 psig. Conversely, a higher
10 pressure embodiment of the present fluid dispersion assembly 10
11 operates at pressures in the range of about 20 to 25 psig, and in
12 the range of between about 23 to 24 psig in yet one further
13 embodiment. As such, the material or materials of construction of a
14 diffusion unit 100 in accordance with the present specification may
15 include metals, engineered plastic materials, e.g., polyvinyl
16 chloride, high-density polyethylene, etc., and/or composite
17 materials, just to name a few.

18 In one embodiment, a cap 130 is cooperatively configured and
19 disposed in a sealing engagement with one of the oppositely
20 disposed ends 110, 113 of the diffusion unit 100. The cap 130
21 includes a discharge port 132 therethrough in communication with
22 the diffusion chamber 112, and provides a point of release of the
23 fluid dispersion from the diffusion chamber 112 into the airspace
24 surrounding the fluid dispersion assembly 10. In at least one
25 embodiment, the cap 130 is removably attached in a sealing

1 engagement to the diffusion unit 100. Figure 4 is a plan view of
2 the embodiment of the fluid dispersion assembly 10 as shown in
3 Figures 1 and 2, and shows the cap 130 having a discharge port 132
4 disposed therethrough. As shown in the embodiment of Figure 3, the
5 cap 130 may include a service access port 160 disposed
6 therethrough. The service access port 160 includes a service access
7 plug 162 removably disposed therein, wherein removal of the service
8 access plug 162 allows access for removal and cleaning or repair of
9 a diffusion assembly 200, as disclosed in greater detail below.

10 The fluid dispersion assembly 10, in at least one embodiment,
11 includes a container interconnect 140 which is cooperatively
12 structured to interconnect the diffusion unit 100 to the fluid
13 container (FC) in a substantially sealed relationship. In one
14 embodiment, the container interconnect 140 is disposed at a
15 different one of the oppositely disposed ends 110, 113, opposite of
16 cap 130 of the diffusion unit 100. A sealing washer 170 is disposed
17 between the diffusion unit 100 and the fluid container (FC), in at
18 least one embodiment, so as to provide a substantially sealed
19 relationship between the diffusion unit 100 and the fluid container
20 (FC). The sealing washer 170 may be constructed from any of a
21 variety of materials such as, but not limited to, rubber, nylon,
22 plastic, PVC, TEFLON, or a composite material, once again, provided
23 the material of construction is chemically inert or at least
24 chemically resistant to the operative fluid(s).

25 In one further embodiment of a fluid dispersion assembly 10 in

1 accordance with the present specification, a drip tube 120 is
2 disposed in an interconnecting relation between the diffusion unit
3 100 and the fluid container (FC). As shown in the Figures 1 and 2,
4 the drip tube 120 is disposed through a sealing washer 170, and
5 thus, the drip tube 120 serves to minimize contact between the
6 sealing washer 170 and the operative fluid, by essentially
7 preventing the operative fluid from making contact in and around
8 the sealing washer 170 disposed between the fluid container (FC)
9 and the container interconnect 140. More in particular, the drip
10 tube 120 channels any operative fluid which may agglomerate and/or
11 accumulate in the diffusion chamber 112 through the drip tube 120
12 directly back into the fluid container (FC) without contacting the
13 sealing washer 170, once again, as shown in Figures 1 and 2.

14 The container interconnect 140 may be structured in a variety
15 of ways to allow interconnection to the fluid container (FC). As
16 one example, the container interconnect 140 may be threaded,
17 internally or externally, such that the diffusion unit 100 is
18 interconnected to the fluid container (FC) by screwing the
19 container interconnect 140 into place onto corresponding threads on
20 the neck of the fluid container (FC). In at least one other
21 embodiment, the container interconnect 140 comprises one portion of
22 a quick-connect type fitting and the fluid container (FC) comprises
23 a complimentary portion of such a quick-connect type fitting
24 whereby once operatively engaged, a substantially sealed
25 relationship is created between the diffusion unit 100 and the

1 fluid container (FC). In at least some embodiments, the
2 substantially sealed relationship is further enhanced by a sealing
3 washer 170, as disclosed above.

4 In at least one embodiment, a cartridge port 150 is provided
5 into the diffusion chamber 112 to facilitate operative engagement
6 of a diffusion assembly 200 with the diffusion chamber 112. The
7 diffusion assembly 200 may be removably engaged with the cartridge
8 port 150 to aid in removal and replacement and/or cleaning of the
9 diffusion assembly 200 and/or components thereof. In some
10 embodiments, the cartridge port 150 is disposed directly through
11 the diffusion unit 100 and into the diffusion chamber 112, and is
12 positioned between the oppositely disposed ends 110, 113. In at
13 least one embodiment, the cartridge port 150 is disposed on the
14 diffusion unit 100 such that the diffusion assembly 200 is disposed
15 in a substantially perpendicular orientation relative to the
16 diffusion unit 100 when operatively engaging the cartridge port
17 150, such as is shown in the illustrative embodiment of Figure 1.
18 The diffusion assembly 200 is also shown disposed substantially
19 perpendicular to the diffusion unit 100 in the plan view of Figure
20 4. In at least one other embodiment, the cartridge port 150 is
21 disposed through the cap 130. In yet another embodiment, the
22 diffusion assembly 200 comprises an integral component of the cap
23 130 itself, such as in the embodiment of Figure 3.

24 As illustrated in Figures 1 and 3, the diffusion assembly 200
25 comprises an air inlet 210 and an atomizer assembly 220. The

1 atomizer assembly 220 comprises an atomizer air inlet channel 222,
2 a mixing chamber 226, and an atomizer exhaust channel 228. The
3 atomizer air inlet channel 222 is interconnected to the compressed
4 air source via the air inlet 210. Moreover, the atomizer air inlet
5 channel 222 may also include an inlet aperture 223, a first portion
6 224 and a second portion 225. The first portion 224 and the second
7 portion 225 are collectively structured to facilitate delivery of
8 compressed air into the mixing chamber 226. The first portion 224
9 of the atomizer air inlet channel 222 may comprise a larger
10 diameter than the second portion 225, such as is shown in the
11 illustrative embodiment of Figure 1. Of course, it is within the
12 scope and intent of the present invention for the atomizer air
13 inlet channel 222 to comprise a constant diameter along its entire
14 length, i.e., a diameter of a first portion is substantially equal
15 to a diameter of a second portion.

16 Further, the mixing chamber 226 comprises a fluid inlet 227
17 disposed in fluid communication with an operative fluid in the
18 fluid container (FC) via a fluid delivery tube 300. The fluid
19 delivery tube 300 is disposed in a fluid communicating relation
20 between the atomizer assembly 220 and the fluid container (FC) to
21 facilitate delivery of an amount of the operative fluid into the
22 atomizer assembly 220. In at least one embodiment, the fluid
23 delivery tube 300 connects to the atomizer assembly 220 via the
24 fluid inlet 227 into the mixing chamber 226.

25 As shown in Figures 1 and 2, the fluid inlet 227 is

1 substantially perpendicular to a compressed air flowpath through
2 the atomizer assembly 200. More in particular, and with reference
3 to Figure 1, the compressed air flowpath extends horizontally
4 through the air inlet 210, atomizer air inlet channel 222, mixing
5 chamber 226, and out through the atomizer exhaust 228.

6 As such, when compressed air is supplied to the diffusion
7 assembly 200, a corresponding amount of operative fluid is drawn
8 into the mixing chamber 226 through the fluid delivery tube 300 as
9 a result of the venturi effect of the compressed air flowing past
10 the opening of the fluid inlet 227 into the mixing chamber 226.
11 More in particular, at each different compressed air flowrate,
12 i.e., each "predetermined amount" of compressed air which is
13 dictated and fixed by a compressed air operating pressure supplied
14 to diffusion assembly 200, a different corresponding and
15 substantially constant amount, i.e., a "preselected amount" of an
16 operative fluid corresponding to each different predetermined
17 amount of compressed air, will be drawn into the mixing chamber
18 226. More importantly, the "predetermined amount" of compressed air
19 and the "preselected amount" of the operable fluid are initially
20 mixed together in the mixing chamber 226 to form a fluid
21 dispersion. The diffusion chamber 112 is further structured to
22 facilitate the formation of a plurality of substantially uniform
23 droplets, as defined herein, in the fluid dispersion prior to
24 discharge from the diffusion chamber 112 through discharge port
25 132.

1 As illustrated in Figures 1 and 3, the fluid dispersion
2 assembly 10 also includes a suppressor assembly 230 disposed in
3 communication with the diffusion assembly 200. The suppressor
4 assembly 230 comprises a suppression chamber 232, disposed in a
5 communicating relation with the atomizer exhaust channel 228 of the
6 atomizer assembly 220. More in particular, the suppression chamber
7 232 receives the fluid dispersion from the mixing chamber 226. The
8 suppressor assembly 230 helps to suppress the noise generated
9 during operation of the fluid dispersion assembly 10 as it disrupts
10 the path of flow of the fluid dispersion out of the atomizer
11 assembly 200 and into diffusion chamber 112, and therefore,
12 disrupts and dampens the sound waves associated therewith. Further,
13 the walls of the suppressor assembly 230 itself serve to absorb and
14 dampen the sound waves generated by the flow of the fluid
15 dispersion out of the mixing chamber 236 through atomizer exhaust
16 channel 238.

17 The suppressor assembly 230 may also include a suppressor
18 discharge port 234 to facilitate transfer of the fluid dispersion
19 from the suppressor chamber 232 into the diffusion chamber 112. In
20 at least one embodiment, such as is shown in Figure 1, the
21 suppressor discharge port 234 is located through a low point in the
22 suppressor chamber 232. Of course, as shown in the alternative
23 embodiment of Figure 2, the suppressor discharge port 234 is
24 located through the sides of the suppressor chamber 232.

25 Figure 5 is illustrative of an alternative embodiment of a

1 fluid dispersion assembly 10, wherein a modified diffusion chamber
2 112' is configured to suppress and/or dampen sound waves generated
3 during operation, similar to the suppressor assembly 230 disclosed
4 above. However, as will be appreciated from the following
5 disclosure, the diffusion chamber 112' of the embodiment of Figure
6 5 serves to suppress sound waves generated during operation without
7 the need for a separate suppression chamber, as in previously
8 disclosed embodiments.

9 Before addressing the modified diffusion chamber 112' of the
10 embodiment of Figure 5, it is noted that, in many respects, the
11 fluid dispersion assembly 10 of Figure 5 is similar to the
12 previously disclosed embodiments herein. To begin, the fluid
13 dispersion assembly 10 of Figure 5 comprises a diffusion unit 100
14 having oppositely disposed ends 110, 113, and a diffusion chamber
15 112' disposed therebetween. Unlike previously disclosed
16 embodiments, however, the fluid dispersion assembly 10 of Figure 5
17 includes a service access port 160 having a removable service
18 access plug 162 disposed directly through one end 113 of the
19 diffusion unit 100, rather than through a separate cap disposed at
20 one end of the unit 100.

21 The fluid dispersion assembly 10 of Figure 5 further comprises
22 a container interconnect 140 cooperatively structured to
23 interconnect the diffusion unit 100 to a fluid container (FC) in a
24 substantially sealed relationship and, as before, a sealing washer
25 170 is provided to maintain a substantially sealed relationship.

1 A cartridge port 150 is disposed through one side of the
2 diffusion unit 100, in the illustrative embodiment of Figure 5, and
3 a diffusion assembly 200 is operatively positioned therethrough and
4 into fluid communication with diffusion chamber 112', as in
5 previously disclosed embodiments. The diffusion cartridge 200
6 includes an air inlet 210 disposed in communication with an
7 atomizer assembly 220. Further, and as in previously disclosed
8 embodiments, when compressed air is supplied to the diffusion
9 assembly 200, and more in particular, atomizer assembly 220,
10 through air inlet 210, a corresponding amount of fluid is drawn
11 into a mixing chamber 226 from the fluid container (FC) through a
12 fluid delivery tube 300, as a result of the venturi effect of
13 compressed air flowing past the opening of a fluid inlet 227 into
14 the mixing chamber 226. As a result, a fluid dispersion is formed
15 and discharged from the atomizer assembly 220 through atomizer
16 exhaust channel 128, and directly into diffusion chamber 112'.

17 As noted above, and as may be seen with reference to Figure 5,
18 the diffusion chamber 112' of the present embodiment comprises a
19 modified configuration. Specifically, the modified diffusion
20 chamber 112' comprises an upside down L-shaped configuration,
21 wherein a first axial portion 114 of the diffusion chamber 112' is
22 disposed in a substantially axial orientation adjacent and relative
23 to the discharge of the atomizer exhaust channel 128. A second
24 transverse portion 115 of the diffusion chamber 112' is disposed in
25 a substantially downwardly directed orientation, as shown in Figure

1 5, substantially transverse or perpendicular to the direction of
2 flow from atomizer exhaust channel 128.

3 The second or transverse portion 115 of the modified diffusion
4 chamber 112', in at least one embodiment, comprises a fluid return
5 lip 116 disposed at a lower end thereof in a surrounding relation
6 to incoming fluid delivery tube 300. The fluid return lip 116, in
7 at least one embodiment, extends downwardly and outwardly from the
8 walls of the second portion 115 of the diffusion chamber 112', such
9 that any liquid which coalesces in the diffusion chamber 112' along
10 the walls thereof, will be directed into drip tube 120, disposed in
11 an abutting relation along the underside of the fluid return lip
12 116, and back into fluid container (FC).

13 More importantly, the fluid dispersion discharged from the
14 atomizer assembly 220 through atomizer exhaust channel 128 into
15 diffusion chamber 112' is interrupted and redirected by virtue of
16 axial portion 114 and transverse portion 115 therein. The
17 interruption and redirection of flow in the modified diffusion
18 chamber 112' during operation of the fluid dispersion assembly 10
19 in accordance with the present embodiment, serves to suppress or
20 dampen sound waves generated therein, in a similar manner as the
21 suppression chamber 232 of previously disclosed embodiments.
22 Further, the restricted discharge from the transverse portion 115
23 of the modified diffusion chamber 112' may serve to further
24 suppress or dampen sound waves, thus reducing the noise generated
25 during operation to an even greater extent.

1 After being discharged from the diffusion chamber 112', the
2 fluid dispersion enters the freeboard above the liquid in the fluid
3 container (FC), the freeboard serving as a quasi-diffusion chamber
4 prior to final discharge of the fluid dispersion from the diffusion
5 unit 100. A discharge chamber 117 is disposed in fluid
6 communication with the freeboard of the fluid container (FC), such
7 that the fluid dispersion can pass therethrough, into a discharge
8 head 118 and out through discharge channel 119 into the airspace
9 surrounding the fluid dispersion assembly 10, as shown in the
10 illustrative embodiment of Figure 5.

11 In at least one embodiment, a fluid dispersion assembly 10 in
12 accordance with the present specification further includes a
13 silencer assembly 134 in communication with the discharge port 132,
14 such as is illustrated in Figures 1 and 2. The silencer assembly
15 134 serves to further minimize the amount of noise generated during
16 operation of the fluid dispersion assembly 10. The silencer
17 assembly 134 comprises a baffle 136 disposed in a silencer chamber
18 138 between a silencer inlet 135 and a silencer outlet 137. The
19 baffle 136 is structured and disposed to further disrupt the flow
20 of the fluid dispersion through the fluid dispersion assembly 10,
21 and more specifically, through the silencer chamber 138. In at
22 least one embodiment, the silencer inlet 135 is disposed relative
23 to the baffle 136 to at least partially, if not substantially,
24 direct the flow of the fluid dispersion towards the baffle 136, so
25 as to maximize the disruption of flow. Once again, as disclosed

1 above with regard to the suppressor assembly 230, the disruption in
2 the flow of the fluid dispersion through the silencer assembly 134
3 also creates a disruption and dampening of the sound waves
4 associated therewith. As a result, the amount of noise generated
5 during the operation of a fluid dispersion assembly 10 in
6 accordance with the present specification is significantly reduced.

7 It is further envisioned that at least one embodiment of the
8 fluid dispersion assembly 10 of the present invention is operated
9 via a programmable timer to control a fragrance intensity and
10 character in an airspace by metering the fragrance delivered in an
11 enclosed environment. The fluid dispersion assembly 10 delivers a
12 specific amount of a fragrance, i.e., the delivery rate, based upon
13 such factors as the specific physical configuration of the atomizer
14 assembly 220 and the fluid container (FC) / fluid delivery tube
15 300, the pressure and volume of the compressed air supplied into
16 air inlet 210, as well as the physical properties of the fragrance
17 itself, such as, viscosity, surface tension, vapor pressure, etc.,
18 wherein the delivery rate is measured in grams per minute of a
19 fragrance dispersed. The perceived fragrance intensity in a
20 specific airspace is measured from a sensory point of view using a
21 labeled magnitude scale. The data is directly correlated to the
22 amount of fragrance delivered and may be measured in either grams
23 per liter or grams per cubic meter. Since the delivery rate is
24 fixed, fragrance intensity is controlled by cycling the fluid
25 dispersion assembly 10 through an on/off programming cycle every

1 minute to deliver the intensity and character levels that are
2 desired by a user. The optimization process is a function of dosing
3 time per minute and a user's desired fragrance experience.

4 Since many modifications, variations and changes in detail can
5 be made to the described preferred embodiment of the invention, it
6 is intended that all matters in the foregoing description and shown
7 in the accompanying drawings be interpreted as illustrative and not
8 in a limiting sense. Thus, the scope of the invention should be
9 determined by the appended claims and their legal equivalents.

10 Now that the invention has been described,

1 What is claimed is:

2 1. A fluid dispersion assembly disposable into an operative
3 engagement with a fluid container which contains an operative fluid
4 and a compressed air source, said fluid dispersion assembly
5 generating a fluid dispersion comprising a plurality of
6 substantially uniform droplets of the operative fluid in air and
7 discharging the fluid dispersion into an airspace surrounding said
8 fluid dispersion assembly, said fluid dispersion assembly
9 comprising:

10 a diffusion unit having oppositely disposed ends, wherein said
11 diffusion unit at least partially defines a substantially enclosed
12 diffusion chamber,

13 a cap cooperatively configured and disposed in a sealing
14 engagement with one of said oppositely disposed ends of said
15 diffusion unit,

16 a discharge port disposed in fluid communication between said
17 diffusion chamber and the airspace surrounding said fluid
18 dispersion assembly,

19 a diffusion assembly disposed in an operative engagement with
20 said diffusion unit via a cartridge port, wherein said diffusion
21 assembly comprises an atomizer assembly,

22 said atomizer assembly comprising an atomizer air inlet
23 channel, a fluid inlet, a mixing chamber, and an atomizer exhaust
24 channel,

25 said atomizer air inlet channel interconnected to the

1 compressed air source and said fluid inlet disposed in fluid
2 communication with the operative fluid in the fluid container,
3 wherein the compressed air and the operative fluid are mixed
4 together in said mixing chamber to form the fluid dispersion,

5 a suppressor assembly disposed in communication with said
6 diffusion assembly, said suppressor assembly comprising a
7 suppression chamber structured to dampen sound waves generated
8 during operation of said fluid dispersion assembly, and

9 said diffusion chamber structured to facilitate formation of
10 the plurality of substantially uniform fluid droplets of the fluid
11 dispersion prior to discharge of the fluid dispersion from said
12 diffusion chamber through said discharge port and into the
13 airspace.

14 2. The assembly of claim 1 wherein said cartridge port is
15 disposed through said diffusion unit between said oppositely
16 disposed ends.

17 3. The assembly of claim 2 wherein said diffusion assembly is
18 disposed in a substantially perpendicular orientation relative to
19 said diffusion unit when operatively engaged with said cartridge
20 port.

21 4. The assembly of claim 1 further comprising a service access
22 port through said cap at least partially defining an access
23 opening, and a service access plug removably disposable in a
24 substantially sealing engagement with said access opening of said
25 service access port.

1 5. The assembly of claim 1 wherein a fluid delivery tube is
2 interconnected between the operative fluid in the fluid container
3 to said fluid inlet of said atomizer assembly.

4 6. The assembly of claim 1 wherein said atomizer exhaust channel
5 is disposed in a communicating relation between said mixing chamber
6 and said suppression chamber to facilitate transfer of the fluid
7 dispersion therebetween.

8 7. The assembly of claim 6 wherein said suppressor assembly
9 further comprises a suppressor discharge port disposed between said
10 suppression chamber and said diffusion chamber to facilitate
11 transfer of the fluid dispersion from said suppression chamber into
12 said diffusion chamber.

13 8. The assembly of claim 1 further comprising a silencer assembly
14 having a silencer inlet, a silencer outlet, and a baffle.

15 9. The assembly of claim 9 wherein said baffle partially
16 restricts movement of the fluid dispersion through said silencer
17 chamber from said silencer inlet to said silencer outlet, thereby
18 dampening sound waves generated during operation of said fluid
19 dispersion assembly.

20 10. The assembly of claim 1 further comprising a container
21 interconnect mounted to a different one of said oppositely disposed
22 ends of said diffusion unit and cooperatively structured to
23 interconnect said diffusion unit to the fluid container in a
24 substantially sealed relationship,

25 11. The assembly of claim 14 wherein said container interconnect

1 comprises a sealing washer disposed between said diffusion unit and
2 the fluid container to maintain said substantially sealed
3 relationship.

4 12. The assembly as recited in claim 15 further comprises a drip
5 tube, said drip tube disposed in an interconnecting relation
6 between said diffusion chamber and the fluid container through said
7 sealing washer, wherein said drip tube minimizes contact between
8 said sealing washer and the operative fluid.

9 13. A fluid dispersion assembly operable with a preselected fluid
10 in a fluid container and a compressed air source, said fluid
11 dispersion assembly generating a fluid dispersion comprising a
12 plurality of substantially uniform droplets of the preselected
13 fluid in air and discharging the fluid dispersion into an airspace
14 surrounding said fluid dispersion assembly, said fluid dispersion
15 assembly comprising:

16 a diffusion unit defining a substantially enclosed diffusion
17 chamber, said diffusion chamber comprising oppositely disposed
18 portions therein,

19 a cartridge port disposed through a portion of said diffusion
20 unit and into said diffusion chamber,

21 a diffusion assembly disposed in an operative engagement with
22 said cartridge port, wherein said diffusion assembly comprises an
23 atomizer assembly,

24 said atomizer assembly comprising an atomizer air inlet
25 channel, a fluid inlet, a mixing chamber, and an atomizer exhaust

1 channel,

2 said atomizer air inlet channel interconnected to the
3 compressed air source and said fluid inlet disposed in fluid
4 communication with the preselected fluid in the fluid container,
5 wherein the compressed air and the preselected fluid are mixed
6 together in said mixing chamber to form the fluid dispersion,

7 said diffusion chamber structured to facilitate formation of
8 the plurality of substantially uniform fluid droplets in the fluid
9 dispersion prior to discharge of the fluid dispersion from said
10 diffusion chamber, and

11 a discharge chamber disposed in fluid communication with said
12 diffusion chamber and a discharge head, said discharge head
13 comprising a discharge channel disposed to direct the fluid
14 dispersion from said discharge chamber into the airspace
15 surrounding said fluid dispersion assembly.

16 14. The assembly as recited in claim 13 wherein one of said
17 oppositely disposed portions of said diffusion chamber comprises an
18 axial portion, wherein said axial portion is disposed in an
19 adjacent substantially axial orientation relative to said atomizer
20 exhaust channel.

21 15. The assembly of claim 14 wherein another of said oppositely
22 disposed portions of said diffusion chamber comprises a transverse
23 portion, wherein said transverse portion is disposed in a spaced
24 apart substantially perpendicular orientation relative to said
25 atomizer exhaust channel.

1 16. The assembly as recited in claim 15 wherein the fluid
2 dispersion discharged from said atomizer exhaust channel into said
3 diffusion chamber is interrupted and redirected in said axial
4 portion and said transverse portion, thereby dampening sound waves
5 generated during operation of said fluid dispersion assembly.

6 17. The assembly of claim 15 wherein said transverse portion
7 comprises a fluid return lip disposed at a lower end thereof.

8 18. The assembly of claim 17 further comprising a drip tube
9 disposed adjacent and abutting said fluid return lip.

10 19. The assembly as recited in claim 18 wherein said fluid return
11 lip is disposed to direct coalesced fluid from said diffusion
12 chamber into said drip tube.

13 20. The assembly as recited in claim 19 wherein said drip tube is
14 disposed to direct said coalesced fluid into the fluid container.

15

1 ABSTRACT OF THE DISCLOSURE

2 A fluid dispersion assembly comprises a diffusion unit
3 disposed in fluid communication with a fluid container, the
4 assembly being powered by a compressed air source. The diffusion
5 unit at least partially defines a diffusion chamber, and includes a
6 diffusion assembly containing an atomizer assembly which, in
7 combination with the diffusion chamber, generates a fluid
8 dispersion from a mixture of compressed air and an operative fluid,
9 for example, fragrant oils, essential oils, odor neutralizers,
10 disinfectants such as triethylene glycol, air sanitizers, etc. The
11 diffusion unit may include a suppressor assembly and/or a silencer
12 assembly to reduce the amount of noise generated during operation.
13 In one alternate embodiment, a modified diffusion chamber is
14 provided which functions as a suppression chamber, thereby reducing
15 the noise generated during operation of the assembly.

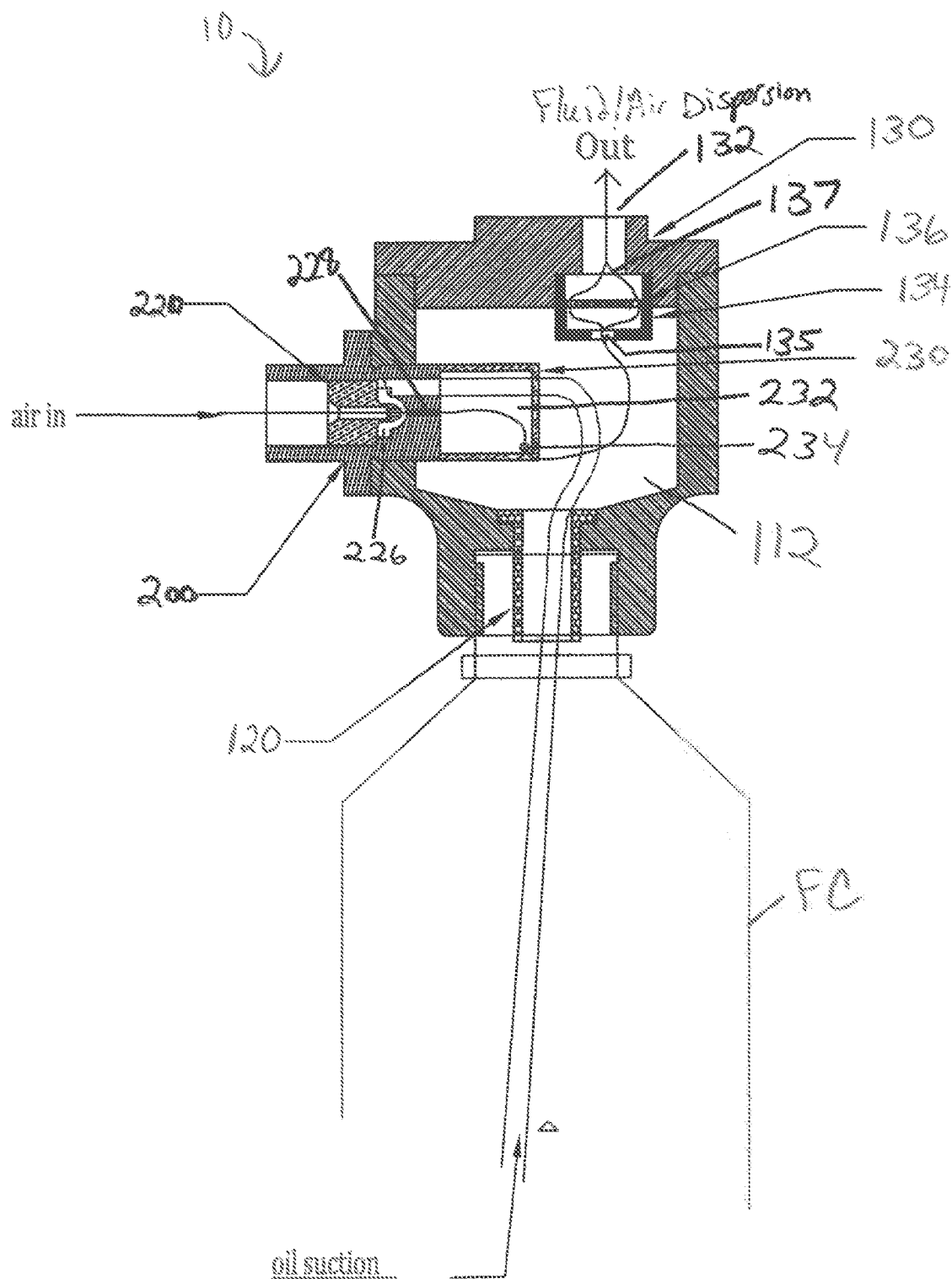


Figure 2

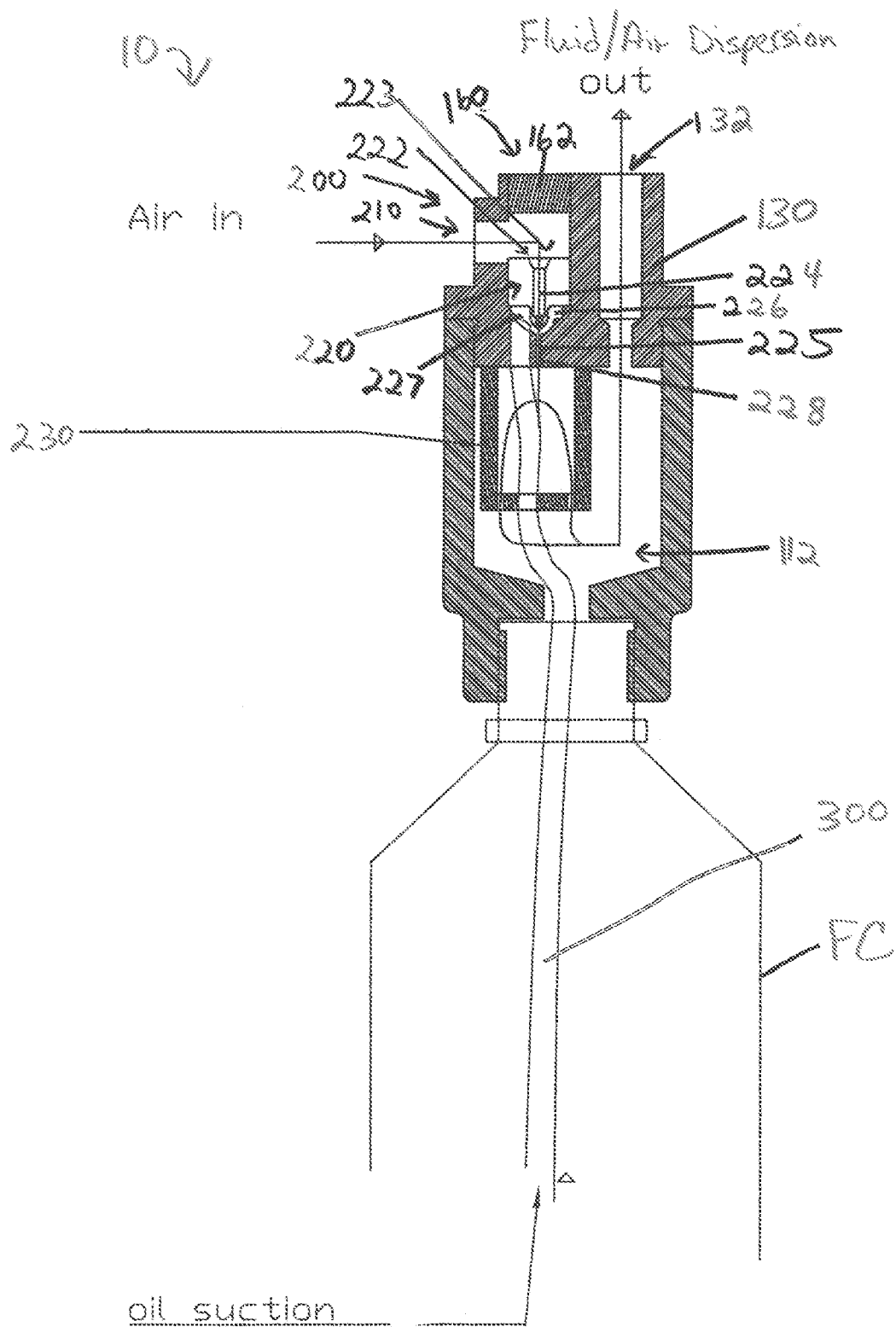


Figure 3

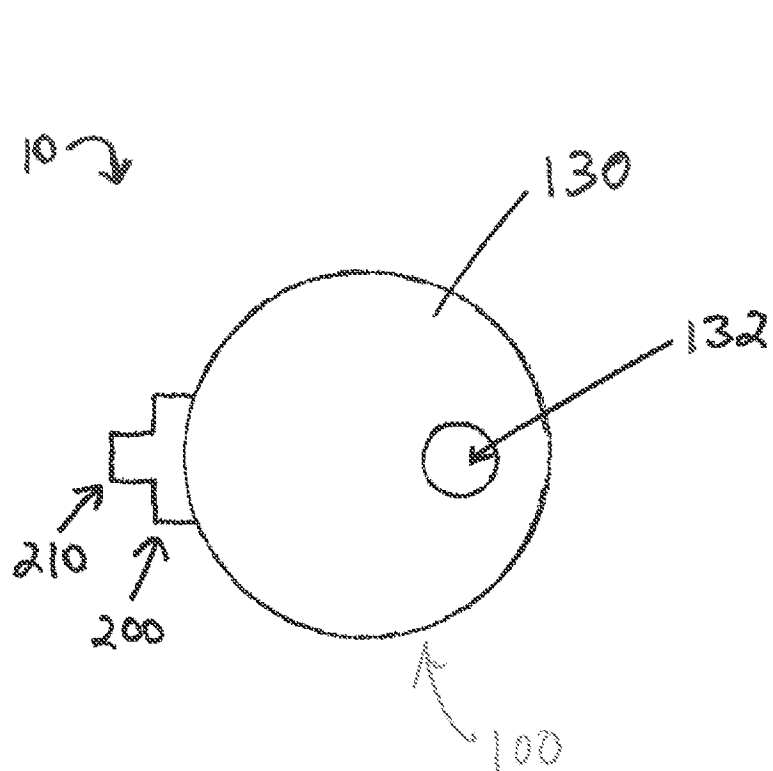


Figure 4

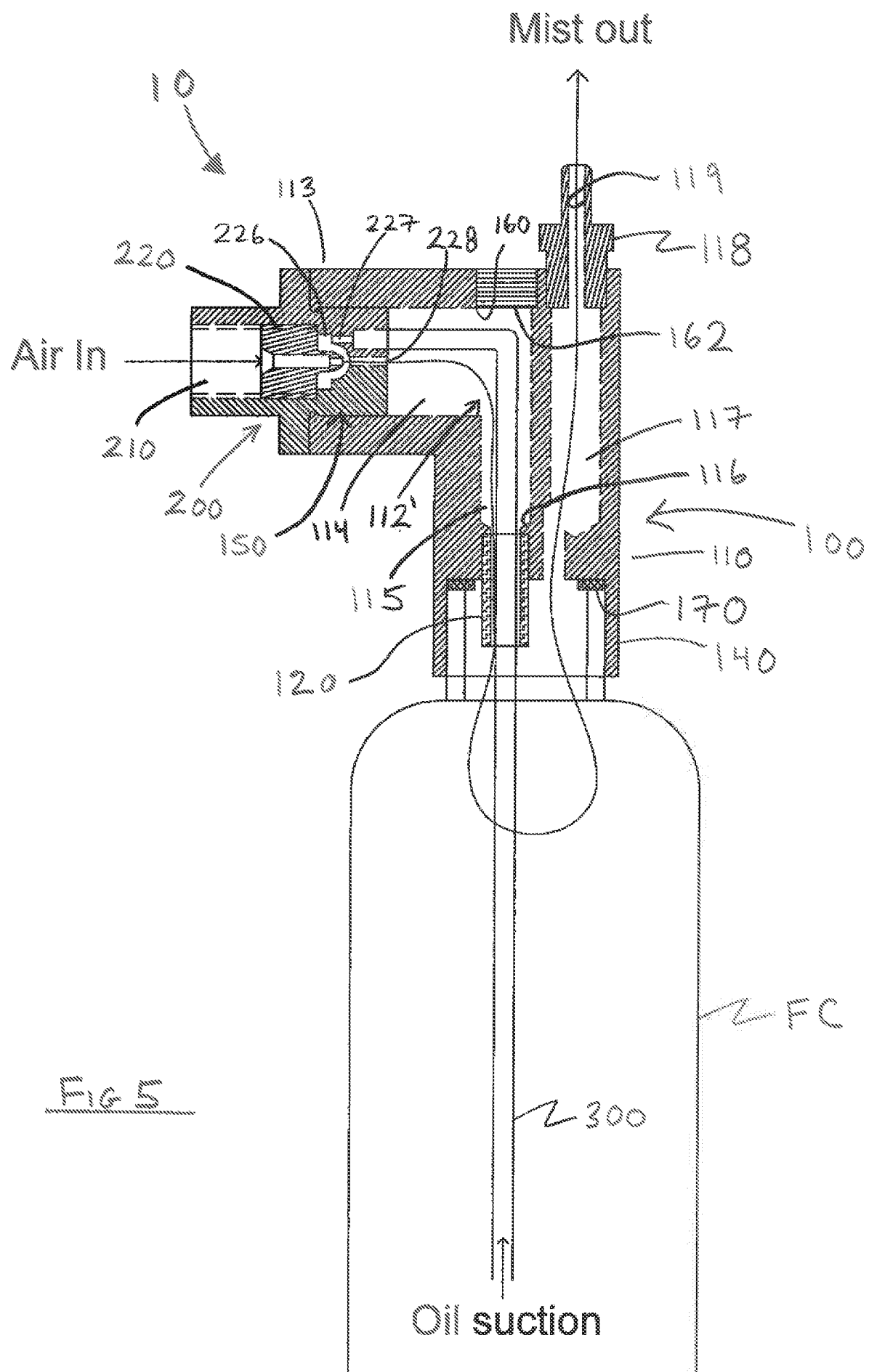


Fig 5

MALLOY & MALLOY, P.L.
2800 S.W. Third Avenue
Miami, Florida 33129

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

TITLE OF INVENTION:

FLUID DISPERSION ASSEMBLY
the application for which

 X is attached hereto; or
_____ was filed on _____ and has been assigned
Application Serial No. _____;
and was amended on and _____
(if applicable)

As a below named inventor or joint inventor, I hereby declare that:

The above-identified application was made or was authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under section 1001 of title 18 by fine or imprisonment of not more than five (5) years, or both.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made of information and belief are believed to be true, and further, and that any willful false statements may jeopardize the validity of the application or any patent issued thereon.

I hereby state that I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

I hereby acknowledge the duty to disclose all information known to me to be material to the patentability of this invention in accordance with 37 CFR 1.56.

POWER OF ATTORNEY: As a below named inventor or joint inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

All practitioners associated with: Customer Number: 04219.

Direct all correspondence to the address associated with: Customer Number: 04219.

Direct telephone calls to: (305) 858-8000.

MARC LEVYLegal name of sole or first joint inventorInventor's signatureDateMiami, FloridaResidence (City, State OR Country)United StatesCitizenship (Country)9716 SW 92 TerraceMailing AddressMiami, Florida 33176CRAIG HUGHLegal name of second joint inventor, if anyInventor's signatureDateWaterford, PennsylvaniaResidence (City, State OR Country)United StatesCitizenship (Country)493 Bull RoadMailing AddressWaterford, Pennsylvania 16411STEVEN SEMOFFLegal name of third joint inventor, if anyInventor's signatureDateNew City, New YorkResidence (City, State OR Country)United StatesCitizenship (Country)4 Evan DriveMailing AddressNew City, New York 10956

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Inventor's signature

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STEVEN SEMOFF

Legal name of third joint inventor, if any

Inventor's signature

Date

3-14-13

New City, New York

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United States

Citizenship (Country)

4 Evan Drive

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New City, New York 10956

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1.106.12
		Application Number	
Title of Invention	FLUID DISPERSION ASSEMBLY		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

- ☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1					
Applicant Authority		☒ Inventor		☐ Legal Representative under 35 U.S.C. 117	
				☐ Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Marc		Levy		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Miami	State/Province	FL	Country of Residence	US
Citizenship under 37 CFR 1.41(b)		US			
Mailing Address of Applicant:					
Address 1		9176 SW 92 Terrace			
Address 2					
City	Miami	State/Province	FL		
Postal Code	33176	Country	US		
Applicant 2					
Applicant Authority		☒ Inventor		☐ Legal Representative under 35 U.S.C. 117	
				☐ Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Craig		Huck		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Waterford	State/Province	PA	Country of Residence	US
Citizenship under 37 CFR 1.41(b)		US			
Mailing Address of Applicant:					
Address 1		493 Hull Road			
Address 2					
City	Waterford	State/Province	PA		
Postal Code	16411	Country	US		
Applicant 3					
Applicant Authority		☒ Inventor		☐ Legal Representative under 35 U.S.C. 117	
				☐ Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Steven		Semoff		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	New City	State/Province	NY	Country of Residence	US

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1.106.12	
		Application Number		
Title of Invention	FLUID DISPERSION ASSEMBLY			
Citizenship under 37 CFR 1.41(b)				
Mailing Address of Applicant:				
Address 1	4 Evan Drive			
Address 2				
City	New City	State/Province	NY	
Postal Code	10956	Country	US	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.				Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence information of this application.			
Customer Number	04219		
Email Address	patents@malloylaw.com	Add Email	Remove Email

Application Information:

Title of the Invention	FLUID DISPERSION ASSEMBLY		
Attorney Docket Number	1.106.12	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter			
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	5	Suggested Figure for Publication (if any)	5

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☒ Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1.106.12
		Application Number	
Title of Invention	FLUID DISPERSION ASSEMBLY		
Customer Number	04219		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status	Pending	Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61694500	2012-08-29
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).			
			Remove
Application Number	Country	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			☐ Yes ☒ No
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.			
Assignee 1			
If the Assignee is an Organization check here. ☒			
Organization Name	Air Essentials, Inc.		
Mailing Address Information:			
Address 1	2801 Florida Avenue		
Address 2	Suite 18		
City	Coconut Grove	State/Province	FL
Country	US	Postal Code	33133
Phone Number		Fax Number	
Email Address			
Additional Assignee Data may be generated within this form by selecting the Add button.			

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.
--

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1.106.12		
		Application Number			
Title of Invention	FLUID DISPERSION ASSEMBLY				
Signature	/John Fulton, Jr./			Date (YYYY-MM-DD)	2013-03-15
First Name	John	Last Name	Fulton	Registration Number	46716

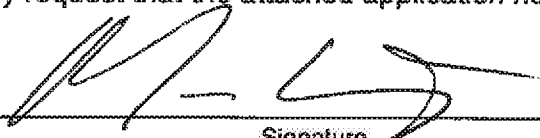
This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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NONPUBLICATION REQUEST UNDER 35 U.S.C. 122(b)(2)(B)(i)	First Named Inventor		MARC LEVY
	Title	FLUID DISPERSION ASSEMBLY	
	Attorney Docket Number		1.106.12

I hereby certify that the invention disclosed in the attached application **has not and will not be** the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

I hereby request that the attached application not be published under 35 U.S.C. 122(b).



 Signature

3-15-13

 Date

MARC LEVY

 Typed or printed name

(305) 858-8000

 Telephone Number

 Registration Number, if applicable

This request must be signed in compliance with 37 CFR 1.33(b) and submitted with the application **upon filing**.

Applicant may rescind this nonpublication request at any time. If applicant rescinds a request that an application not be published under 35 U.S.C. 122(b), the application will be scheduled for publication at eighteen months from the earliest claimed filing date for which a benefit is claimed.

If applicant subsequently files an application directed to the invention disclosed in the attached application in another country, or under a multilateral international agreement, that requires publication of applications eighteen months after filing, the applicant **must** notify the United States Patent and Trademark Office of such filing within forty-five (45) days after the date of the filing of such foreign or international application. **Failure to do so will result in abandonment of this application (35 U.S.C. 122(b)(2)(B)(iii)).**

This collection of information is required by 37 CFR 1.213(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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NONPUBLICATION REQUEST UNDER 35 U.S.C. 122(b)(2)(B)(i)	First Named Inventor		MARC LEVY
	Title	FLUID DISPERSION ASSEMBLY	
	Attorney Docket Number		1.106.12

I hereby certify that the invention disclosed in the attached application **has not and will not be** the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

I hereby request that the attached application not be published under 35 U.S.C. 122(b).



 Signature

3-15-13

 Date

CRAIG HUCK

Typed or printed name

Registration Number, if applicable

(305) 858-8000

Telephone Number

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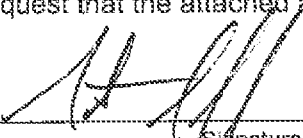
This collection of information is required by 37 CFR 1.213(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 5 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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NONPUBLICATION REQUEST UNDER 35 U.S.C. 122(b)(2)(B)(i)	First Named Inventor		MARC LEVY
	Title	FLUID DISPERSION ASSEMBLY	
	Attorney Docket Number		1.106.12

I hereby certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

I hereby request that the attached application not be published under 35 U.S.C. 122(b).



 Signature

3-14-13

 Date

STEVEN SEMOFF

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Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		FLUID DISPERSION ASSEMBLY		
First Named Inventor/Applicant Name:		Marc Levy		
Filer:		John Fulton/Monica Rodriguez		
Attorney Docket Number:		1.106.12		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	98	98
Utility Search Fee	2111	1	310	310
Utility Examination Fee	2311	1	125	125
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				533

Electronic Acknowledgement Receipt

EFS ID:	15260124
Application Number:	13838364
International Application Number:	
Confirmation Number:	3564
Title of Invention:	FLUID DISPERSION ASSEMBLY
First Named Inventor/Applicant Name:	Marc Levy
Customer Number:	4219
Filer:	John Fulton/Monica Rodriguez
Filer Authorized By:	John Fulton
Attorney Docket Number:	1.106.12
Receipt Date:	15-MAR-2013
Filing Date:	
Time Stamp:	16:40:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

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Payment was successfully received in RAM	\$533
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	Claims		20	25	
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Information:					
8	Fee Worksheet (SB06)	fee-info.pdf	32881	no	2
			5857c05c480ca6fa602b4c90c16f40afe9f695be		
Warnings:					
Information:					
			Total Files Size (in bytes):	1419970	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Marc Levy, Craig Huck and Steven Semoff

Serial No.:

Filing Date:

For: FLUID DISPERSION ASSEMBLY

Customer No. 04219

2800 S.W. Third Avenue
Historic Coral Way
Miami, Florida 33129

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF EFS-WEB TRANSMISSION

I HEREBY CERTIFY that this correspondence is being transmitted via the U.S. Patent and Trademark Office (USPTO) electronic filing system (EFS-Web) to the USPTO this 15 day of March, 2013.

Respectfully Submitted,

MALLOY & MALLOY, P.L.
Attorneys for Applicant
2800 S.W. Third Avenue
Historic Coral Way
Miami, Florida 33129
(305)858-8000

By: /John Fulton, Jr./
John Fulton, Jr.
Reg. No. 46,716
Email: patents@malloylaw.com

Date: March 15, 2013

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 13/838,364				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	70		N/A				
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	300		N/A				
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	360		N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	20	minus 20 = *	x 40 =	0.00	OR					
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2	minus 3 = *	x 210 =	0.00						
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00						
			TOTAL	730		TOTAL				
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=	OR	x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	OR	x	=
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=	OR	x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	OR	x	=
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.										



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www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
13/838,364	03/15/2013	1715	533	1.106.12	20	2

CONFIRMATION NO. 3564

4219
MALLOY & MALLOY
2800 S.W. THIRD AVENUE
HISTORIC CORAL WAY
MIAMI, FL 33129

FILING RECEIPT



OC000000060797465

Date Mailed: 05/07/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Marc Levy, Miami, FL;
Craig Huck, Waterford, PA;
Steven Semoff, New City, NY;

Applicant(s)

Marc Levy, Miami, FL;
Craig Huck, Waterford, PA;
Steven Semoff, New City, NY;

Assignment For Published Patent Application

Air Essentials, Inc., Coconut Grove, FL

Power of Attorney: None

Domestic Priority data as claimed by applicant

This appln claims benefit of 61/694,500 08/29/2012

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

If Required, Foreign Filing License Granted: 04/27/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/838,364**

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No

**** SMALL ENTITY ****

Title

FLUID DISPERSION ASSEMBLY

Preliminary Class

427

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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NOT GRANTED

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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/838,364	03/15/2013	Marc Levy	1.106.12

4219
MALLOY & MALLOY
2800 S.W. THIRD AVENUE
HISTORIC CORAL WAY
MIAMI, FL 33129

CONFIRMATION NO. 3564
IMPROPER CPOA LETTER



Date Mailed: 05/07/2013

NOTICE REGARDING POWER OF ATTORNEY

This is in response to the power of attorney filed 03/15/2013. The power of attorney in this application is not accepted for the reason(s) listed below:

- The revocation is not signed by the applicant, the assignee of the entire interest, or one particular principal attorney having the authority to revoke.

/ddinh/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
13/838,364	03/15/2013	1715	533	1.106.12	20	2

CONFIRMATION NO. 3564

CORRECTED FILING RECEIPT



4219
MALLOY & MALLOY
2800 S.W. THIRD AVENUE
HISTORIC CORAL WAY
MIAMI, FL 33129

Date Mailed: 05/28/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Marc Levy, Miami, FL;
Craig Huck, Waterford, PA;
Steven Semoff, New City, NY;

Applicant(s)

Marc Levy, Miami, FL;
Craig Huck, Waterford, PA;
Steven Semoff, New City, NY;

Assignment For Published Patent Application

Air Essentials, Inc., Coconut Grove, FL

Power of Attorney: The patent practitioners associated with Customer Number 04219

Domestic Priority data as claimed by applicant

This appln claims benefit of 61/694,500 08/29/2012

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

If Required, Foreign Filing License Granted: 04/27/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/838,364**

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No

**** SMALL ENTITY ****

Title

FLUID DISPERSION ASSEMBLY

Preliminary Class

427

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13838364
	Filing Date		2013-03-15
	First Named Inventor	Marc Levy	
	Art Unit	1715	
	Examiner Name		
	Attorney Docket Number	1.106.12	

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7878418		2011-02-01	Sevy	
	2	7913933		2011-03-29	Van Roemburg	
	3	7930068		2011-04-19	Robert et al.	
	4	D645947		2011-09-27	Sevy	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

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FOREIGN PATENT DOCUMENTS								
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13838364
	Filing Date		2013-03-15
	First Named Inventor	Marc Levy	
	Art Unit		1715
	Examiner Name		
	Attorney Docket Number		1.106.12

	1							☐
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If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1		☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	13838364
Filing Date	2013-03-15
First Named Inventor	Marc Levy
Art Unit	1715
Examiner Name	
Attorney Docket Number	1.106.12

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/John Fulton, Jr./	Date (YYYY-MM-DD)	2013-08-26
Name/Print	John Fulton, Jr.	Registration Number	46716

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Electronic Acknowledgement Receipt

EFS ID:	16685190
Application Number:	13838364
International Application Number:	
Confirmation Number:	3564
Title of Invention:	FLUID DISPERSION ASSEMBLY
First Named Inventor/Applicant Name:	Marc Levy
Customer Number:	4219
Filer:	John Fulton/Denise Morales
Filer Authorized By:	John Fulton
Attorney Docket Number:	1.106.12
Receipt Date:	26-AUG-2013
Filing Date:	15-MAR-2013
Time Stamp:	15:13:43
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	Cert_EFS_IDS_Transmittal_File d_1106.pdf	12048 d487db6220d223103f2940f8b03211ac0c27d341	no	1

Warnings:

Information:

2	Transmittal Letter	IDS_Transmittal_Filed_1106.pdf	11817 83611e81d964f09ec75a1c06adc8b415b905c8d0	no	2
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	IDS_Filed_1106.pdf	61300 d36fc3d9fb47688cb070a159d809fe73deb29fb	no	3
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
Total Files Size (in bytes):			85165		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Marc Levy, Craig Huck, and Steven Sernoff

Serial No.: 13/838,364

Filing Date: March 15, 2013

For: FLUID DISPERSION ASSEMBLY

Confirmation No. 3564

Customer No. 04219

Group Art Unit 1715

2800 S.W. Third Avenue

Historic Coral Way

Miami, Florida 33129

Mail Stop Amendment

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

CERTIFICATE OF EFS-WEB TRANSMISSION

I HEREBY CERTIFY that this correspondence is being transmitted to the U.S. Patent and Trademark Office (USPTO) via the USPTO electronic filing system (EFS-Web) this 26TH day of August, 2013.

Respectfully Submitted,

MALLOY & MALLOY, P.L.

Attorneys for Applicant

2800 S.W. Third Avenue

Historic Coral Way

Miami, Florida 33129

(305)858-8000

By: /John Fulton, Jr./

John Fulton, Jr.

Reg. No. 46,716

Email: patents@malloylaw.com

Date: August 26, 2013

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Marc Levy, Craig Huck, and Steven Sernoff

Serial No.: 13/838,364

Filing Date: March 15, 2013

For: FLUID DISPERSION ASSEMBLY

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2800 S.W. Third Avenue

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Miami, Florida 33129

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INFORMATION DISCLOSURE STATEMENT

In accordance with Applicant's duty of disclosure, the attached information is provided for consideration by the U.S. Patent and Trademark Office in connection with the above-captioned application. The information is identified on the attached form PTO/SB/08A. In accordance with 37 C.F.R. §1.98(a)(2)(ii), copies of U.S. patents or U.S. patent application publications have not been enclosed.

The Examiner is respectfully requested to return a copy of an initialed form PTO/SB/08A evidencing consideration of this information with the next Office communication.

Respectfully submitted,

MALLOY & MALLOY, P.L.
Attorneys for Applicant
2800 S.W. Third Avenue
Historic Coral Way
Miami, Florida 33129
(305)858-8000

By: /John Fulton, Jr./
John Fulton, Jr.
Reg. No. 46,716
Email: patents@malloylaw.com

Date: August 26, 2013



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/838,364	03/15/2013	Marc Levy	1.106.12	3564

4219 7590 03/02/2015
MALLOY & MALLOY
2800 S.W. THIRD AVENUE
HISTORIC CORAL WAY
MIAMI, FL 33129

EXAMINER

HWU, DAVIS D

ART UNIT	PAPER NUMBER
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3752

MAIL DATE	DELIVERY MODE
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03/02/2015

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 13/838,364	Applicant(s) LEVY ET AL.	
	Examiner Davis Hwu	Art Unit 3752	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2013.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-20 is/are pending in the application.
5a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) _____ is/are allowed.
- 7) ☒ Claim(s) 1-3,5,8,10,11,13-15 and 17 is/are rejected.
- 8) ☒ Claim(s) 4,6,7,9,12,16 and 18-20 is/are objected to.
- 9) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) ☒ Notice of References Cited (PTO-892) | 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date <u>8/26/2013</u> | 4) ☐ Other: _____ |

DETAILED ACTION

1. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

Claim Rejections - 35 USC § 103

2. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5, 8, 10 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Rajala et al. in view of Dorendorf et al.

Rajala et al. discloses a fluid dispersion assembly in operative engagement with a fluid container (liquid source for 105A) of an operative fluid and a compressed air source 104A, the assembly generating a fluid dispersion comprising droplets of the fluid in air and discharging the dispersion into an airspace, the dispersion assembly comprising: a diffusion unit 213 having oppositely disposed ends, wherein the diffusion unit at least partially defines a substantially enclosed diffusion chamber; a discharge port at 108 as recited; a diffusion assembly in operative engagement with the diffusion unit via a cartridge port (inlet port into 213), wherein the diffusion assembly includes an atomizer assembly comprising an atomizer air inlet channel 103, a fluid inlet 104B, a mixing

chamber 201, and an atomizer exhaust channel carrying mixture 212; the atomizer air inlet channel is connected to a compressed air source and the fluid inlet disposed in fluid communication with the operative fluid in the fluid container (since both fluids communicate within 201), wherein the compressed air and the operative fluid are mixed in 201 to form the fluid dispersion 212; and wherein the diffusion chamber forms the fluid droplets 214 prior to discharge of the fluid dispersion. Rajala et al. does not disclose a cap, however, it would have been a matter of design choice to have included a cap so the diffusion chamber could be cleaned. Rajala et al. also does not disclose a suppressor assembly as recited, however, Dorendorf et al. teaches a fluid dispersion assembly comprising a suppressor assembly to insulate sound. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Rajala et al. by providing a suppressor assembly to dampen sound waves as taught by Dorendorf et al. Claim 3 would have involved a mere change in the orientation of parts which is generally recognized as being within the level of ordinary skill in the art when the apparatus will function properly with such arrangements. Regarding claim 8, the suppressor assembly is a silencer assembly.

4. Claims 11, 14, 15, and 17 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Rajala et al.

Claims 14 and 15 would have involved a mere change in the orientation of parts which is generally recognized as being within the level of ordinary skill in the art when the apparatus will function properly with such arrangements. Regarding claim 11, the use of sealing washers to prevent leakages is well known in the art.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claim 13 is rejected under pre-AIA 35 U.S.C. 102a as being anticipated by Rajala et al.

Rajala et al. shows a fluid dispersion assembly in operative engagement with a fluid container (liquid source for 105A) of an operative fluid and a compressed air source 104A, the assembly generating a fluid dispersion comprising droplets of the fluid in air and discharging the dispersion into an airspace, the dispersion assembly comprising: a diffusion unit 213 having oppositely disposed ends, wherein the diffusion unit at least partially defines a substantially enclosed diffusion chamber; a discharge port at 108 as recited; a diffusion assembly in operative engagement with the diffusion unit via a cartridge port (inlet port into 213), wherein the diffusion assembly includes an atomizer assembly comprising an atomizer air inlet channel 103, a fluid inlet 104B, a mixing chamber 201, and an atomizer exhaust channel carrying mixture 212; the atomizer air inlet channel is connected to a compressed air source and the fluid inlet disposed in fluid communication with the operative fluid in the fluid container (since both fluids communicate within 201), wherein the compressed air and the operative fluid are mixed in 201 to form the fluid dispersion 212; wherein the diffusion chamber forms the fluid droplets 214 prior to discharge of the fluid dispersion; and a discharge chamber 218 in

fluid communication with the diffusion chamber to a discharge head (outlet of 218) directing the fluid dispersion into the airspace. Regarding claim 14, one of the oppositely disposed portions of the diffusion chamber (the portion leading to 217) comprises an axial portion disposed in an adjacent substantially axial orientation relative the atomizer outlet channel.

Allowable Subject Matter

7. Claims 4, 6, 7, 9, 12, 16, and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davis Hwu whose telephone number is (571)272-4904. The examiner's supervisor, Len Tran can be reached on (571)272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Application/Control Number: 13/838,364

Page 6

Art Unit: 3752

Customer Service Representative or access to the automated information system, call
800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Davis Hwu/

Primary Examiner, Art Unit 3752

Notice of References Cited	Application/Control No. 13/838,364	Applicant(s)/Patent Under Reexamination LEVY ET AL.	
	Examiner Davis Hwu	Art Unit 3752	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2009/0317504	12-2009	Rajala et al.	425/7
*	B	US-2009/0025794	01-2009	Dorendorf et al.	137/1
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 13838364	Applicant(s)/Patent Under Reexamination LEVY ET AL.
	Examiner DAVIS HWU	Art Unit 3752

CPC- SEARCHED		
Symbol	Date	Examiner
B05B 7/005, 7/0425, 7/2405	2/24/15	dh

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
239	427, 337, 338, 426, 433	2/24/15	dh

SEARCH NOTES		
Search Notes	Date	Examiner
east	2/24/15	dh

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

	/D.H./ Primary Examiner.Art Unit 3752
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 Alexandria, Virginia 22313-1450
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BIB DATA SHEET

CONFIRMATION NO. 3564

SERIAL NUMBER 13/838,364	FILING or 371(c) DATE 03/15/2013 RULE	CLASS 239	GROUP ART UNIT 3752	ATTORNEY DOCKET NO. 1.106.12		
APPLICANTS INVENTORS Marc Levy, Miami, FL; Craig Huck, Waterford, PA; Steven Semoff, New City, NY; ** CONTINUING DATA ***** This appln claims benefit of 61/694,500 08/29/2012 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED *** SMALL ENTITY ** 04/27/2013						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☐ No Verified and Acknowledged <u>/DAVIS D HWU/</u> Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY FL	SHEETS DRAWINGS 5	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 2
ADDRESS MALLOY & MALLOY 2800 S.W. THIRD AVENUE HISTORIC CORAL WAY MIAMI, FL 33129						
TITLE FLUID DISPERSION ASSEMBLY						
FILING FEE RECEIVED 533	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit			

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)

Application Number	13838364
Filing Date	2013-03-15
First Named Inventor	Marc Levy
Art Unit	1715
Examiner Name	
Attorney Docket Number	1.106.12

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7878418		2011-02-01	Sevy	
	2	7913933		2011-03-29	Van Roemburg	
	3	7930068		2011-04-19	Robert et al.	
	4	D645947		2011-09-27	Sevy	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13838364	13838364 - GAU: 3752
	Filing Date		2013-03-15	
	First Named Inventor	Marc Levy		
	Art Unit	1715		
	Examiner Name			
	Attorney Docket Number	1.106.12		

	1							☐
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If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1		☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/Davis Hwu/	Date Considered	02/24/2015
--------------------	-------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13838364	13838364 - GAU: 3752
	Filing Date		2013-03-15	
	First Named Inventor	Marc Levy		
	Art Unit	1715		
	Examiner Name			
	Attorney Docket Number	1.106.12		

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/John Fulton, Jr./	Date (YYYY-MM-DD)	2013-08-26
Name/Print	John Fulton, Jr.	Registration Number	46716

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Marc Levy, Craig Huck and Steven Semoff

Serial No.: 13/838,364

Filing Date: March 15, 2013

For: FLUID DISPERSION ASSEMBLY

Confirmation No. 3564
Customer No. 04219
Hwu, Davis D., Examiner
Group Art Unit 3752

2800 S.W. Third Avenue
Historic Coral Way
Miami, Florida 33129

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

A M E N D M E N T

In response to the Office Action of March 2, 2015, please amend the above-referenced application as follows:

Amendments to the Claims begin on page **2** of this paper.

Remarks begin on page **15** of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

1. (Cancelled).
2. (Cancelled).
3. (Cancelled).
4. (Currently Amended) A fluid dispersion assembly disposable into an operative engagement with a fluid container which contains an operative fluid and a compressed air source, said fluid dispersion assembly generating a fluid dispersion comprising a plurality of substantially uniform droplets of the operative fluid in air and discharging the fluid dispersion into an airspace surrounding said fluid dispersion assembly, said fluid dispersion assembly comprising:

a diffusion unit having oppositely disposed ends, wherein said diffusion unit at least partially defines a substantially enclosed diffusion chamber,

a cap cooperatively configured and disposed in a sealing engagement with one of said oppositely disposed ends of said diffusion unit,

~~The assembly of claim 1 further comprising~~ a service access port through said cap at least partially defining an access

opening, and a service access plug removably disposable in a substantially sealing engagement with said access opening of said service access port,

a discharge port disposed in fluid communication between said diffusion chamber and the airspace surrounding said fluid dispersion assembly,

a diffusion assembly disposed in an operative engagement with said diffusion unit via a cartridge port, wherein said diffusion assembly comprises an atomizer assembly,

said atomizer assembly comprising an atomizer air inlet channel, a fluid inlet, a mixing chamber, and an atomizer exhaust channel,

said atomizer air inlet channel interconnected to the compressed air source and said fluid inlet disposed in fluid communication with the operative fluid in the fluid container, wherein the compressed air and the operative fluid are mixed together in said mixing chamber to form the fluid dispersion,

a suppressor assembly disposed in communication with said diffusion assembly, said suppressor assembly comprising a suppression chamber structured to dampen sound waves generated during operation of said fluid dispersion assembly, and

said diffusion chamber structured to facilitate formation of the plurality of substantially uniform fluid droplets of the fluid dispersion prior to discharge of the fluid dispersion from

said diffusion chamber through said discharge port and into the airspace.

5. (Cancelled).

6. (Currently Amended) A fluid dispersion assembly disposable into an operative engagement with a fluid container which contains an operative fluid and a compressed air source, said fluid dispersion assembly generating a fluid dispersion comprising a plurality of substantially uniform droplets of the operative fluid in air and discharging the fluid dispersion into an airspace surrounding said fluid dispersion assembly, said fluid dispersion assembly comprising:

a diffusion unit having oppositely disposed ends, wherein said diffusion unit at least partially defines a substantially enclosed diffusion chamber,

a cap cooperatively configured and disposed in a sealing engagement with one of said oppositely disposed ends of said diffusion unit,

a discharge port disposed in fluid communication between said diffusion chamber and the airspace surrounding said fluid dispersion assembly,

a diffusion assembly disposed in an operative engagement with said diffusion unit via a cartridge port, wherein said diffusion assembly comprises an atomizer assembly,

said atomizer assembly comprising an atomizer air inlet

channel, a fluid inlet, a mixing chamber, and an atomizer exhaust channel,

said atomizer air inlet channel interconnected to the compressed air source and said fluid inlet disposed in fluid communication with the operative fluid in the fluid container, wherein the compressed air and the operative fluid are mixed together in said mixing chamber to form the fluid dispersion,

a suppressor assembly disposed in communication with said diffusion assembly, said suppressor assembly comprising a suppression chamber structured to dampen sound waves generated during operation of said fluid dispersion assembly,

~~The assembly of claim 1 wherein~~ said atomizer exhaust channel is disposed in a communicating relation between said mixing chamber and said suppression chamber to facilitate transfer of the fluid dispersion therebetween, and

said diffusion chamber structured to facilitate formation of the plurality of substantially uniform fluid droplets of the fluid dispersion prior to discharge of the fluid dispersion from said diffusion chamber through said discharge port and into the airspace.

7. (Original) The assembly of claim 6 wherein said suppressor assembly further comprises a suppressor discharge port disposed between said suppression chamber and said diffusion chamber to facilitate transfer of the fluid dispersion from said

suppression chamber into said diffusion chamber.

8. (Cancelled).

9. (Currently Amended) A fluid dispersion assembly disposable into an operative engagement with a fluid container which contains an operative fluid and a compressed air source, said fluid dispersion assembly generating a fluid dispersion comprising a plurality of substantially uniform droplets of the operative fluid in air and discharging the fluid dispersion into an airspace surrounding said fluid dispersion assembly, said fluid dispersion assembly comprising:

a diffusion unit having oppositely disposed ends, wherein said diffusion unit at least partially defines a substantially enclosed diffusion chamber,

a cap cooperatively configured and disposed in a sealing engagement with one of said oppositely disposed ends of said diffusion unit,

a discharge port disposed in fluid communication between said diffusion chamber and the airspace surrounding said fluid dispersion assembly,

a diffusion assembly disposed in an operative engagement with said diffusion unit via a cartridge port, wherein said diffusion assembly comprises an atomizer assembly,

said atomizer assembly comprising an atomizer air inlet channel, a fluid inlet, a mixing chamber, and an atomizer

exhaust channel,

said atomizer air inlet channel interconnected to the compressed air source and said fluid inlet disposed in fluid communication with the operative fluid in the fluid container, wherein the compressed air and the operative fluid are mixed together in said mixing chamber to form the fluid dispersion,

a suppressor assembly disposed in communication with said diffusion assembly, said suppressor assembly comprising a suppression chamber structured to dampen sound waves generated during operation of said fluid dispersion assembly,

said diffusion chamber structured to facilitate formation of the plurality of substantially uniform fluid droplets of the fluid dispersion prior to discharge of the fluid dispersion from said diffusion chamber through said discharge port and into the airspace, and

a silencer assembly having a silencer inlet, a silencer outlet, and a baffle, ~~The assembly of claim 9~~ wherein said baffle partially restricts movement of the fluid dispersion through said silencer chamber from said silencer inlet to said silencer outlet, thereby dampening sound waves generated during operation of said fluid dispersion assembly.

10. (Cancelled).

11. (Cancelled).

12. (Currently Amended) A fluid dispersion assembly disposable

into an operative engagement with a fluid container which contains an operative fluid and a compressed air source, said fluid dispersion assembly generating a fluid dispersion comprising a plurality of substantially uniform droplets of the operative fluid in air and discharging the fluid dispersion into an airspace surrounding said fluid dispersion assembly, said fluid dispersion assembly comprising:

a diffusion unit having oppositely disposed ends, wherein said diffusion unit at least partially defines a substantially enclosed diffusion chamber,

a cap cooperatively configured and disposed in a sealing engagement with one of said oppositely disposed ends of said diffusion unit,

a discharge port disposed in fluid communication between said diffusion chamber and the airspace surrounding said fluid dispersion assembly,

a diffusion assembly disposed in an operative engagement with said diffusion unit via a cartridge port, wherein said diffusion assembly comprises an atomizer assembly,

said atomizer assembly comprising an atomizer air inlet channel, a fluid inlet, a mixing chamber, and an atomizer exhaust channel,

said atomizer air inlet channel interconnected to the compressed air source and said fluid inlet disposed in fluid

communication with the operative fluid in the fluid container,
wherein the compressed air and the operative fluid are mixed
together in said mixing chamber to form the fluid dispersion,

a suppressor assembly disposed in communication with said
diffusion assembly, said suppressor assembly comprising a
suppression chamber structured to dampen sound waves generated
during operation of said fluid dispersion assembly,

said diffusion chamber structured to facilitate formation
of the plurality of substantially uniform fluid droplets of the
fluid dispersion prior to discharge of the fluid dispersion from
said diffusion chamber through said discharge port and into the
airspace,

a container interconnect mounted to a different one of said
oppositely disposed ends of said diffusion unit and
cooperatively structured to interconnect said diffusion unit to
the fluid container in a substantially sealed relationship,
wherein said container interconnect comprises a sealing washer
disposed between said diffusion unit and the fluid container to
maintain said substantially sealed relationship, and

~~The assembly as recited in claim 15 further comprises a~~
drip tube, said drip tube disposed in an interconnecting
relation between said diffusion chamber and the fluid container
through said sealing washer, wherein said drip tube minimizes
contact between said sealing washer and the operative fluid.

13. (Cancelled).

14. (Cancelled).

15. (Cancelled).

16. (Currently Amended) A fluid dispersion assembly operable with a preselected fluid in a fluid container and a compressed air source, said fluid dispersion assembly generating a fluid dispersion comprising a plurality of substantially uniform droplets of the preselected fluid in air and discharging the fluid dispersion into an airspace surrounding said fluid dispersion assembly, said fluid dispersion assembly comprising:

a diffusion unit defining a substantially enclosed diffusion chamber, said diffusion chamber comprising oppositely disposed portions therein,

a cartridge port disposed through a portion of said diffusion unit and into said diffusion chamber,

a diffusion assembly disposed in an operative engagement with said cartridge port, wherein said diffusion assembly comprises an atomizer assembly,

said atomizer assembly comprising an atomizer air inlet channel, a fluid inlet, a mixing chamber, and an atomizer exhaust channel,

said atomizer air inlet channel interconnected to the compressed air source and said fluid inlet disposed in fluid communication with the preselected fluid in the fluid container,

wherein the compressed air and the preselected fluid are mixed together in said mixing chamber to form the fluid dispersion,

one of said oppositely disposed portions of said diffusion chamber comprises an axial portion disposed in an adjacent substantially axial orientation relative to said atomizer exhaust channel,

another of said oppositely disposed portions of said diffusion chamber comprises a transverse portion disposed in a spaced apart substantially perpendicular orientation relative to said atomizer exhaust channel,

said diffusion chamber structured to facilitate formation of the plurality of substantially uniform fluid droplets in the fluid dispersion prior to discharge of the fluid dispersion from said diffusion chamber, ~~The assembly as recited in claim 15~~
wherein the fluid dispersion discharged from said atomizer exhaust channel into said diffusion chamber is interrupted and redirected in said axial portion and said transverse portion, thereby dampening sound waves generated during operation of said fluid dispersion assembly, and

a discharge chamber disposed in fluid communication with said diffusion chamber and a discharge head, said discharge head comprising a discharge channel disposed to direct the fluid dispersion from said discharge chamber into the airspace surrounding said fluid dispersion assembly.

17. (Cancelled).

18. (Currently Amended) A fluid dispersion assembly operable with a preselected fluid in a fluid container and a compressed air source, said fluid dispersion assembly generating a fluid dispersion comprising a plurality of substantially uniform droplets of the preselected fluid in air and discharging the fluid dispersion into an airspace surrounding said fluid dispersion assembly, said fluid dispersion assembly comprising:

a diffusion unit defining a substantially enclosed diffusion chamber, said diffusion chamber comprising oppositely disposed portions therein,

a cartridge port disposed through a portion of said diffusion unit and into said diffusion chamber,

a diffusion assembly disposed in an operative engagement with said cartridge port, wherein said diffusion assembly comprises an atomizer assembly,

said atomizer assembly comprising an atomizer air inlet channel, a fluid inlet, a mixing chamber, and an atomizer exhaust channel,

said atomizer air inlet channel interconnected to the compressed air source and said fluid inlet disposed in fluid communication with the preselected fluid in the fluid container, wherein the compressed air and the preselected fluid are mixed together in said mixing chamber to form the fluid dispersion,

one of said oppositely disposed portions of said diffusion chamber comprises an axial portion disposed in an adjacent substantially axial orientation relative to said atomizer exhaust channel,

another of said oppositely disposed portions of said diffusion chamber comprises a transverse portion disposed in a spaced apart substantially perpendicular orientation relative to said atomizer exhaust channel, wherein said transverse portion comprises a fluid return lip disposed at a lower end thereof and
~~The assembly of claim 17 further comprising~~ a drip tube disposed adjacent and abutting said fluid return lip,

said diffusion chamber structured to facilitate formation of the plurality of substantially uniform fluid droplets in the fluid dispersion prior to discharge of the fluid dispersion from said diffusion chamber, and

a discharge chamber disposed in fluid communication with said diffusion chamber and a discharge head, said discharge head comprising a discharge channel disposed to direct the fluid dispersion from said discharge chamber into the airspace surrounding said fluid dispersion assembly.

19. (Original) The assembly as recited in claim 18 wherein said fluid return lip is disposed to direct coalesced fluid from said diffusion chamber into said drip tube.

20. (Original) The assembly as recited in claim 19 wherein said

drip tube is disposed to direct said coalesced fluid into the fluid container.

REMARKS

This Amendment is submitted in full response to the Office Action dated March 2, 2015, and in view of the same, the present application is believed in condition for immediate allowance, and such action is respectfully requested.

Applicant acknowledges with appreciation the Examiner's indication that claims 4, 6, 7, 9, 12, 16, and 18-20 are allowable if rewritten in independent form. Further, in the present Office Action, claims 1-3, 5, 8, and 10 stand rejected under pre-AIA U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2009/0317504 to Rajala et al. (Rajala) in view of U.S. Publication No. 2009/0025794 to Dorendorf et al. (Dorendorf). In addition, claims 11, 14, 15, and 17, stand rejected under pre-AIA 35 U.S.C. §103(a) as being unpatentable over Rajala. Lastly, claim 13 stands rejected under pre-AIA 35 U.S.C. 102(a) as being anticipated by Rajala.

Although Applicant does not concur with the characterization of the references cited in the present Office Action, in the interest of moving the present application to allowance: allowable dependent claim 4 has been rewritten in independent form including all of the limitations of independent base claim 1; allowable dependent claim 6 has been rewritten in independent form including all of the limitations of independent base claim 1; allowable dependent claim 9 has been rewritten in

independent form including all of the limitations of independent base claim 1 and intervening dependent claim 8; allowable dependent claim 12 has been rewritten in independent form including all of the limitations of independent base claim 1 and intervening dependent claims 10 and 11; allowable dependent claim 16 has been rewritten in independent form including all of the limitations of independent base claim 13 and intervening dependent claims 14 and 15; and, allowable dependent claim 18 has been rewritten in independent form including all of the limitations of independent base claim 13 and intervening dependent claims 14, 15 and 17. Original claims 1-3, 5, 8, 10, 11, 13-15, and 17 have been cancelled herein without prejudice to re-presenting them in a continuing patent application.

As such, each of independent claims 4, 6, 9, 12, 16 and 18, as amended herein, are in condition for immediate allowance. Further, original dependent claims 7, 19, and 20 each now depend, either directly or indirectly, from an allowable independent claims, and such, each of these claims are now also in condition for immediate allowance. The additional fees required for independent claims in excess of three (3) are filed concurrently herewith.

Therefore, in view of the foregoing amendments, each of the claims remaining in the present application is now in condition for immediate allowance, and such action is respectfully

requested. The undersigned respectfully requests that the Examiner contact the undersigned at the telephone number listed below if for any reason he does not concur.

Respectfully Submitted,

MALLOY & MALLOY, P.L.
Attorneys for Applicant
2800 S.W. Third Avenue
Miami, Florida 33129
(305) 858-8000

By: /John Fulton, Jr./
John Fulton, Jr.
Reg. No. 46,716
Email: patents@malloylaw.com

Date: May 26, 2015

Electronic Patent Application Fee Transmittal

Application Number:	13838364			
Filing Date:	15-Mar-2013			
Title of Invention:	FLUID DISPERSION ASSEMBLY			
First Named Inventor/Applicant Name:	Marc Levy			
Filer:	John Fulton/Monica Rodriguez			
Attorney Docket Number:	1.106.12			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Independent Claims in Excess of 3	2201	3	210	630
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				630

Electronic Acknowledgement Receipt

EFS ID:	22442087
Application Number:	13838364
International Application Number:	
Confirmation Number:	3564
Title of Invention:	FLUID DISPERSION ASSEMBLY
First Named Inventor/Applicant Name:	Marc Levy
Customer Number:	4219
Filer:	John Fulton/Monica Rodriguez
Filer Authorized By:	John Fulton
Attorney Docket Number:	1.106.12
Receipt Date:	26-MAY-2015
Filing Date:	15-MAR-2013
Time Stamp:	14:34:04
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	2015_05_26_EFS_CERT_AMD_ Filed_1106.pdf	12034 0793ec702d37ad576b07001354ca73e7ad3 ff8f2	no	1

Warnings:

Information:

2		2015_05_26_Amendment_File d_1106.pdf	61451 09f30b1c87b194d66a48c86b9b0751d094c1b479	yes	17
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	14	
	Applicant Arguments/Remarks Made in an Amendment		15	17	
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30587 d499c898bf21ecd631b0599a36645c5fa726caf4	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			104072		
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Marc Levy, Craig Huck and Steven Semoff

Serial No.: 13/838,364

Filing Date: March 15, 2013

For: FLUID DISPERSION ASSEMBLY

Confirmation No. 3564
Customer No. 04219
Hwu, Davis D., Examiner
Group Art Unit 3752

2800 S.W. Third Avenue
Historic Coral Way
Miami, Florida 33129

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF EFS-WEB TRANSMISSION

I HEREBY CERTIFY that this correspondence is being transmitted via the U.S. Patent and Trademark Office (USPTO) electronic filing system (EFS-Web) to the USPTO this 26th day of May, 2015.

Respectfully Submitted,

MALLOY & MALLOY, P.L.
Attorneys for Applicant
2800 S.W. Third Avenue
Historic Coral Way
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(305)858-8000

By: /John Fulton, Jr./
John Fulton, Jr.
Reg. No. 46,716
Email: patents@malloylaw.com

Date: May 26, 2015

Electronic Patent Application Fee Transmittal

Application Number:	13838364			
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Title of Invention:	FLUID DISPERSION ASSEMBLY			
First Named Inventor/Applicant Name:	Marc Levy			
Filer:	John Fulton/Monica Rodriguez			
Attorney Docket Number:	1.106.12			
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Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Independent Claims in Excess of 3	2201	3	210	630
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				630

Electronic Acknowledgement Receipt

EFS ID:	22442292
Application Number:	13838364
International Application Number:	
Confirmation Number:	3564
Title of Invention:	FLUID DISPERSION ASSEMBLY
First Named Inventor/Applicant Name:	Marc Levy
Customer Number:	4219
Filer:	John Fulton/Monica Rodriguez
Filer Authorized By:	John Fulton
Attorney Docket Number:	1.106.12
Receipt Date:	26-MAY-2015
Filing Date:	15-MAR-2013
Time Stamp:	14:39:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$630
RAM confirmation Number	1117
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Fee Worksheet (SB06)	fee-info.pdf	30588	no	2
			86235644f6283cd62d463666f75660337a8a123a		
Warnings:					
Information:					
Total Files Size (in bytes):			30588		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/838,364	Filing Date 03/15/2013	☐ To be Mailed
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ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	05/26/2015	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 9	Minus	** 20	= 0	X \$40 =	0
	Independent (37 CFR 1.16(h))	* 6	Minus	*** 3	= 3	X \$210 =	630
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE							630

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	☐ Application Size Fee (37 CFR 1.16(s))					
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
TOTAL ADD'L FEE						

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/VINCENT BUTLER/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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NOTICE OF ALLOWANCE AND FEE(S) DUE

4219 7590 06/02/2015
MALLOY & MALLOY
2800 S.W. THIRD AVENUE
HISTORIC CORAL WAY
MIAMI, FL 33129

EXAMINER

HWU, DAVIS D

ART UNIT

PAPER NUMBER

3752

DATE MAILED: 06/02/2015

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/838,364

03/15/2013

Marc Levy

1.106.12

3564

TITLE OF INVENTION: FLUID DISPERSION ASSEMBLY

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
-------------	---------------	---------------	---------------------	----------------------	------------------	----------

nonprovisional

SMALL

\$480

\$0

\$0

\$480

09/02/2015

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

4219 7590 06/02/2015
MALLOY & MALLOY
2800 S.W. THIRD AVENUE
HISTORIC CORAL WAY
MIAMI, FL 33129

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/838,364	03/15/2013	Marc Levy	1.106.12	3564

TITLE OF INVENTION: FLUID DISPERSION ASSEMBLY

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	09/02/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
HWU, DAVIS D	3752	239-427000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.	2. For printing on the patent front page, list (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____ (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____ 3 _____
---	---

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/838,364	03/15/2013	Marc Levy	1.106.12	3564
4219	7590	06/02/2015	EXAMINER	
MALLOY & MALLOY 2800 S.W. THIRD AVENUE HISTORIC CORAL WAY MIAMI, FL 33129			HWU, DAVIS D	
			ART UNIT	PAPER NUMBER
			3752	

DATE MAILED: 06/02/2015

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 13/838,364	Applicant(s) LEVY ET AL.	
	Examiner Davis Hwu	Art Unit 3752	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment of May 26, 2015.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 4,6,7,9,12,16 and 18-20. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some *c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892) 2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material 4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____	5. ☐ Examiner's Amendment/Comment 6. ☐ Examiner's Statement of Reasons for Allowance 7. ☐ Other _____
--	--

/Davis Hwu/ Primary Examiner, Art Unit 3752	
--	--

Search Notes 	Application/Control No. 13838364	Applicant(s)/Patent Under Reexamination LEVY ET AL.
	Examiner DAVIS HWU	Art Unit 3752

CPC- SEARCHED		
Symbol	Date	Examiner
B05B 7/005, 7/0425, 7/2405	2/24/15	dh

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
239	427, 337, 338, 426, 433	2/24/15	dh

SEARCH NOTES		
Search Notes	Date	Examiner
east	2/24/15	dh
search updated	5/29/15	dh

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
	all of above	5/29/15	dh

	/D.H./ Primary Examiner.Art Unit 3752
--	--



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/838,364	03/15/2013	Marc Levy	1.106.12	3564

4219 7590 06/09/2015
MALLOY & MALLOY
2800 S.W. THIRD AVENUE
HISTORIC CORAL WAY
MIAMI, FL 33129

EXAMINER
HWU, DAVIS D

ART UNIT	PAPER NUMBER
3752	

MAIL DATE	DELIVERY MODE
06/09/2015	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Application No. : 13838364
Applicant : Levy
Filing Date : 03/15/2013
Date Mailed : 06/09/2015

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Notice of Allowance Mailed

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given two (2) months from the mail date of this Notice within which to respond. This time period for reply is extendable under 37 CFR 1.136(a) for only TWO additional MONTHS.

The informalities requiring correction are indicated in the attachment(s). If the informality pertains to the abstract, specification (including claims) or drawings, the informality must be corrected with an amendment in compliance with 37 CFR 1.121 (or, if the application is a reissue application, 37 CFR 1.173). Such an amendment may be filed after payment of the issue fee if limited to correction of informalities noted herein. See Waiver of 37 CFR 1.312 for Documents Required by the Office of Patent Publication, 1280 Off. Gaz. Patent Office 918 (March 23, 2004). In addition, if the informality is not corrected until after payment of the issue fee, for purposes of 35 U.S.C. 154(b)(1)(iv), "all outstanding requirements" will be considered to have been satisfied when the informality has been corrected. A failure to respond within the above-identified time period will result in the application being ABANDONED.

See attachment(s).

*A copy of this notice **MUST** be returned with the reply. Please address response to
"Mail Stop Issue Fee, Commissioner for Patents,
P.O. Box 1450, Alexandria, VA 22313-1450".*

/Janeen Saxer/
Publication Branch
Office of Data Management
(571) 272-4200

IDENTIFICATION OF DRAWING DEFICIENCIES

- ☐ There is a hole or the image thereof within the illustration. FIG(s)
- ☐ The illustration is penetrated or traversed by a solid or broken line that is not intended to be part of the drawing, such as a dark line caused by a flaw in the copying process. FIG(s)
- ☐ An ink stamp or the image thereof obscures part of the illustration. FIG(s)
- ☐ The drawing is marred by black smudges, obliterations, or fax/copier marks (for example, speckles or dots in a substantial portion of the drawing). FIG(s)
- ☐ Figure numbers are duplicated or missing. FIG(s)
- ☐ Drawing sheet or figure is missing. FIG(s)
- ☒ Numbers, letters, or reference characters in the drawing have been crossed out or are illegibly handwritten. FIG(s) 2
- ☐ The character of the lines, numbers, and letters is poor. FIG(s)
- ☐ The drawing's background shows that the original drawing was made on graph paper or other paper with a pattern or decoration. FIG(s)
- ☐ The FIG. number label is placed in a location that causes the drawing to be read upside down. FIG(s)
- ☒ Data, a reference number, or part of the drawing is truncated or missing, or a lead line has no reference number. FIG(s) 1, 2, 3
- ☐ The drawing and/or the FIG. label contain(s) foreign language. FIG(s)
- ☐ This utility application contains a photograph of a view that is capable of being illustrated as a line drawing. FIG(s)
- ☐ A petition under 37 CFR 1.84(a)(2) to accept color drawings has been granted, but the brief description of the drawings in the specification does not contain (or has not been amended to contain) the paragraph required by 37 CFR 1.84(a)(2)(iii).
- ☐ This reissue application contains added and/or amended drawings that are not labeled as "New" or "Amended" or "Canceled" as required by 37 CFR 1.173(b)(3). FIG(s)
- ☐ This Design reissue application contains a drawing that is labeled as "Canceled" but is not surrounded by brackets, or a drawing that is surrounded by brackets but is not labeled as "Canceled." See 37 CFR 1.173(b)(3). FIG(s)
- ☐ OTHER:
- ☐ COMMENTS:

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

4219 7590 06/02/2015
MALLOY & MALLOY
 2800 S.W. THIRD AVENUE
 HISTORIC CORAL WAY
 MIAMI, FL 33129

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/838,364	03/15/2013	Marc Levy	1.106.12	3564

TITLE OF INVENTION: FLUID DISPERSION ASSEMBLY

APPL. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	09/02/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
HWU, DAVIS D	3752	239-427000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1. Malloy & Malloy, P.L.

2. _____

3. _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

Air Essentials Inc.

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Miami, Florida

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☒ Payment by credit card. Form PTO-2038 is attached.
- ☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature

John Fulton, Jr.

Date July 31, 2015

Typed or printed name

John Fulton, Jr.

Registration No. 46,716

Electronic Patent Application Fee Transmittal				
Application Number:		13838364		
Filing Date:		15-Mar-2013		
Title of Invention:		FLUID DISPERSION ASSEMBLY		
First Named Inventor/Applicant Name:		Marc Levy		
Filer:		John Fulton/Monica Rodriguez		
Attorney Docket Number:		1.106.12		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	2501	1	480	480

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				480

Electronic Acknowledgement Receipt

EFS ID:	23083791
Application Number:	13838364
International Application Number:	
Confirmation Number:	3564
Title of Invention:	FLUID DISPERSION ASSEMBLY
First Named Inventor/Applicant Name:	Marc Levy
Customer Number:	4219
Filer:	John Fulton/Monica Rodriguez
Filer Authorized By:	John Fulton
Attorney Docket Number:	1.106.12
Receipt Date:	31-JUL-2015
Filing Date:	15-MAR-2013
Time Stamp:	14:45:36
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$480
RAM confirmation Number	1054
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	2015_07_31_EFS_CERT_Notice_Filed_1106.pdf	12043	no	1
			13fb4bbfa1729c07dc7f6f76c015499a06530a2f		
Warnings:					
Information:					
2	Post Allowance Communication - Incoming	2015_07_31_Response_To_Notice_Filed_1106.pdf	10893	no	1
			06cc931add0f657ca8c9d406e3949eda73adc5c4		
Warnings:					
Information:					
3	Drawings-only black and white line drawings	2015_07_31_Replacement_Drawings_Filed_1106.pdf	520781	no	5
			2d4ee60e7b1d58ed4ccb340ff28d73e85daa0a21		
Warnings:					
Information:					
4	Miscellaneous Incoming Letter	2015_07_31_EFS_CERT_312_Amd_Filed_1106.pdf	12040	no	1
			3b6276e0d52ef713a5df6ba3044bf444e63f3c7b		
Warnings:					
Information:					
5		2015_07_31_312_AMD_Filed_1106.pdf	24246	yes	4
			042a019d257815f44e2d2db12ec2905fb45860e7		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment after Notice of Allowance (Rule 312)		1	1	
	Specification		2	3	
	Applicant Arguments/Remarks Made in an Amendment		4	4	
Warnings:					
Information:					
6	Miscellaneous Incoming Letter	2015_07_31_EFS_CERT_Issue_Fee_Filed_1106.pdf	12056	no	1
			aa78571a2c5d9221329bbca105ff0a8f985f318a		

Warnings:					
Information:					
7	Issue Fee Payment (PTO-85B)	2015_07_31_Issue_Fee_Filed_1106.pdf	135370 0203b27f8830419cb0668ada29831c7a0766a8f3	no	1
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					
8	Fee Worksheet (SB06)	fee-info.pdf	30448 b6ff14ba52db71d1a749389a5be9b05829585671	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			757877		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Marc Levy, Craig Huck and Steven Semoff

Serial No.: 13/838,364

Filing Date: March 15, 2013

For: FLUID DISPERSION ASSEMBLY

Confirmation No. 3564
Customer No. 04219
Hwu, Davis D., Examiner
Group Art Unit 3752

2800 S.W. Third Avenue
Historic Coral Way
Miami, Florida 33129

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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I HEREBY CERTIFY that this correspondence is being transmitted via the U.S. Patent and Trademark Office (USPTO) electronic filing system (EFS-Web) to the USPTO this 31 day of July, 2015.

Respectfully submitted,

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By: /John Fulton, Jr./
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Date: July 31, 2015

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RESPONSE TO THE NOTICE TO FILE CORRECTED APPLICATION PAPERS

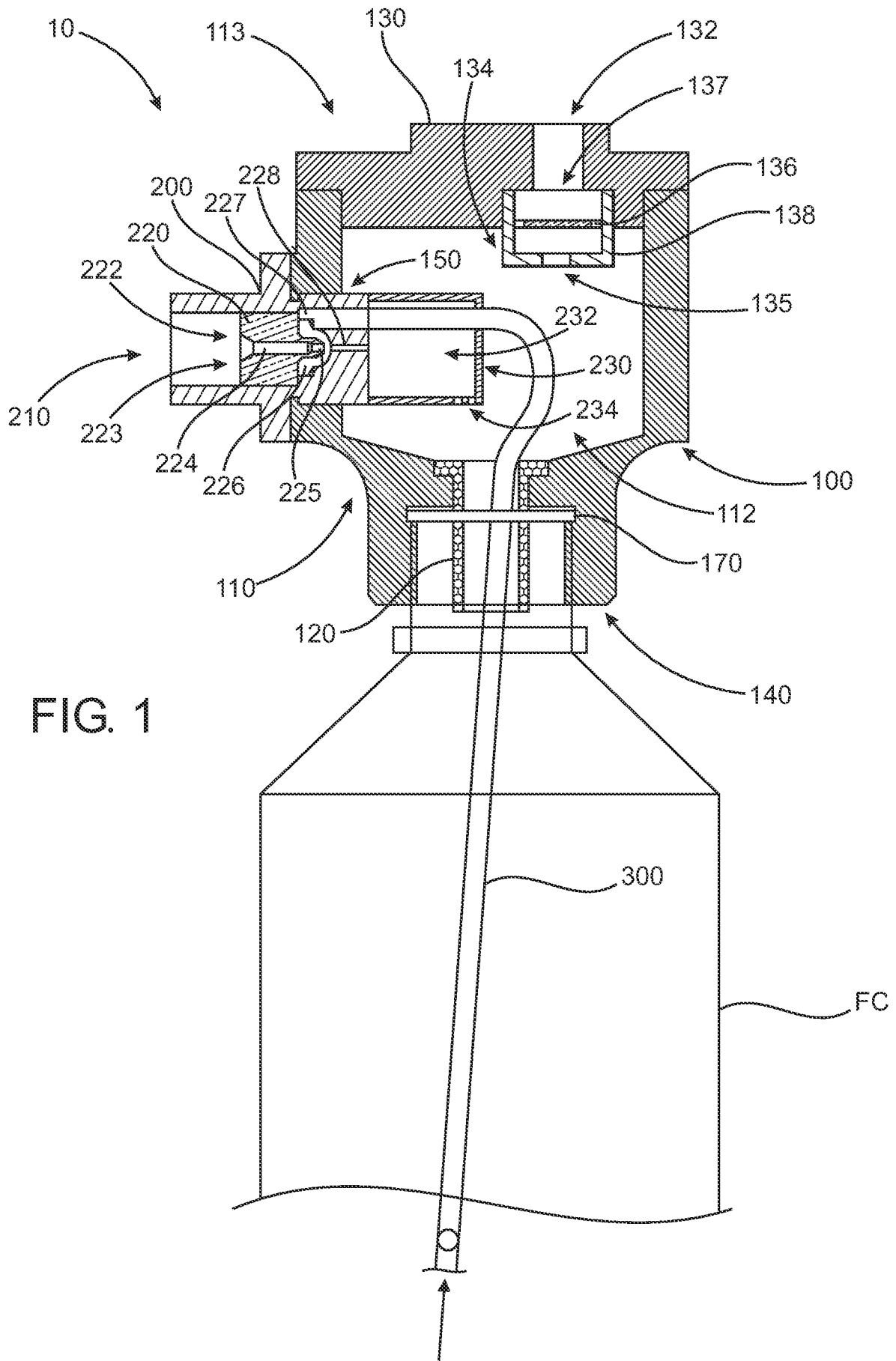
In response to the "Notice to File Corrected Application Papers" dated June 9, 2015, filed herewith are 5 replacement sheets of formal drawings which include Figures 1 through 5. The attached 5 replacement sheets replace the original 5 sheets of drawings including Figures 1 through 5, as originally filed. No new subject matter has been added to any of the 5 replacement sheets.

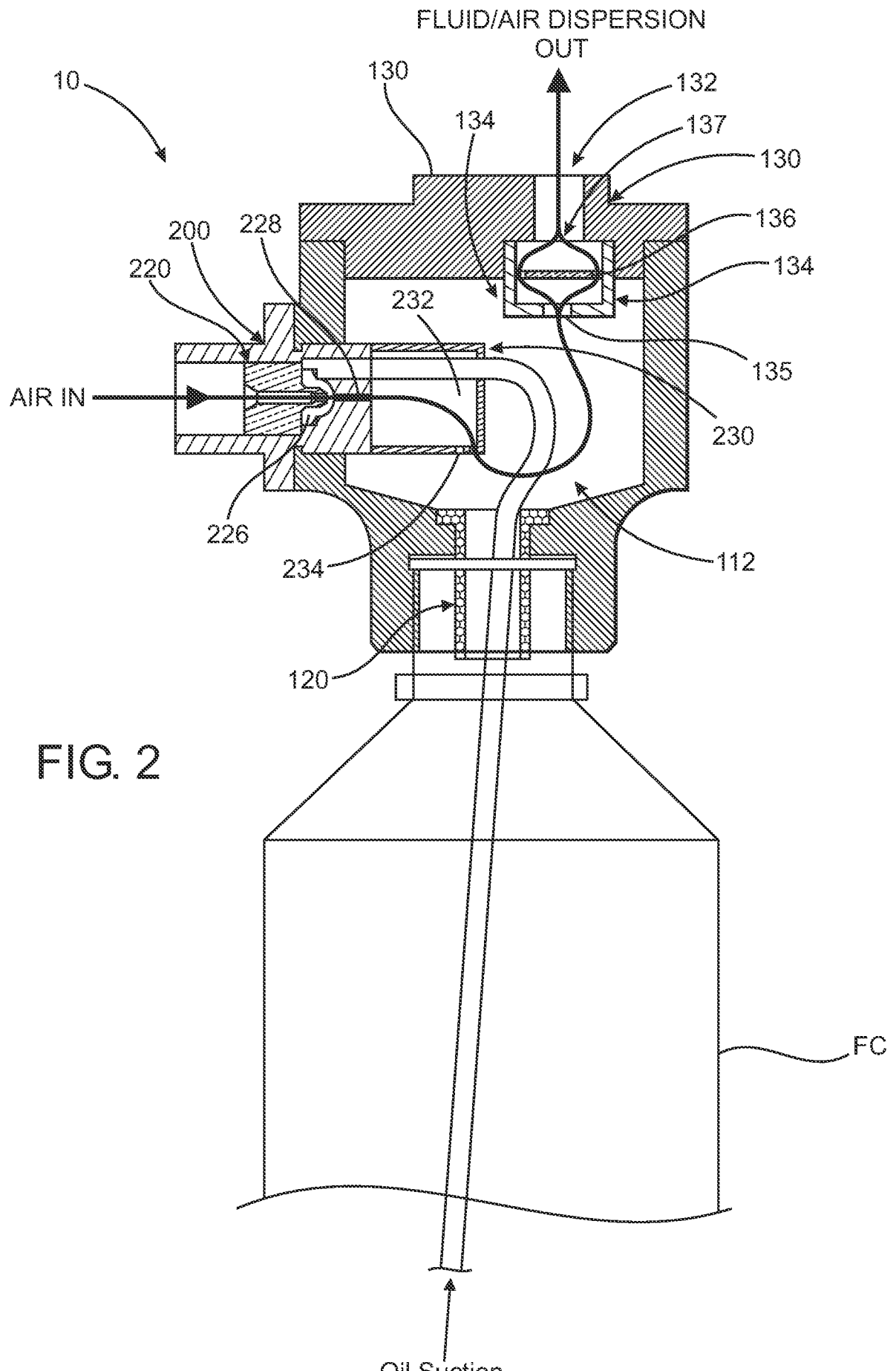
Respectfully submitted,

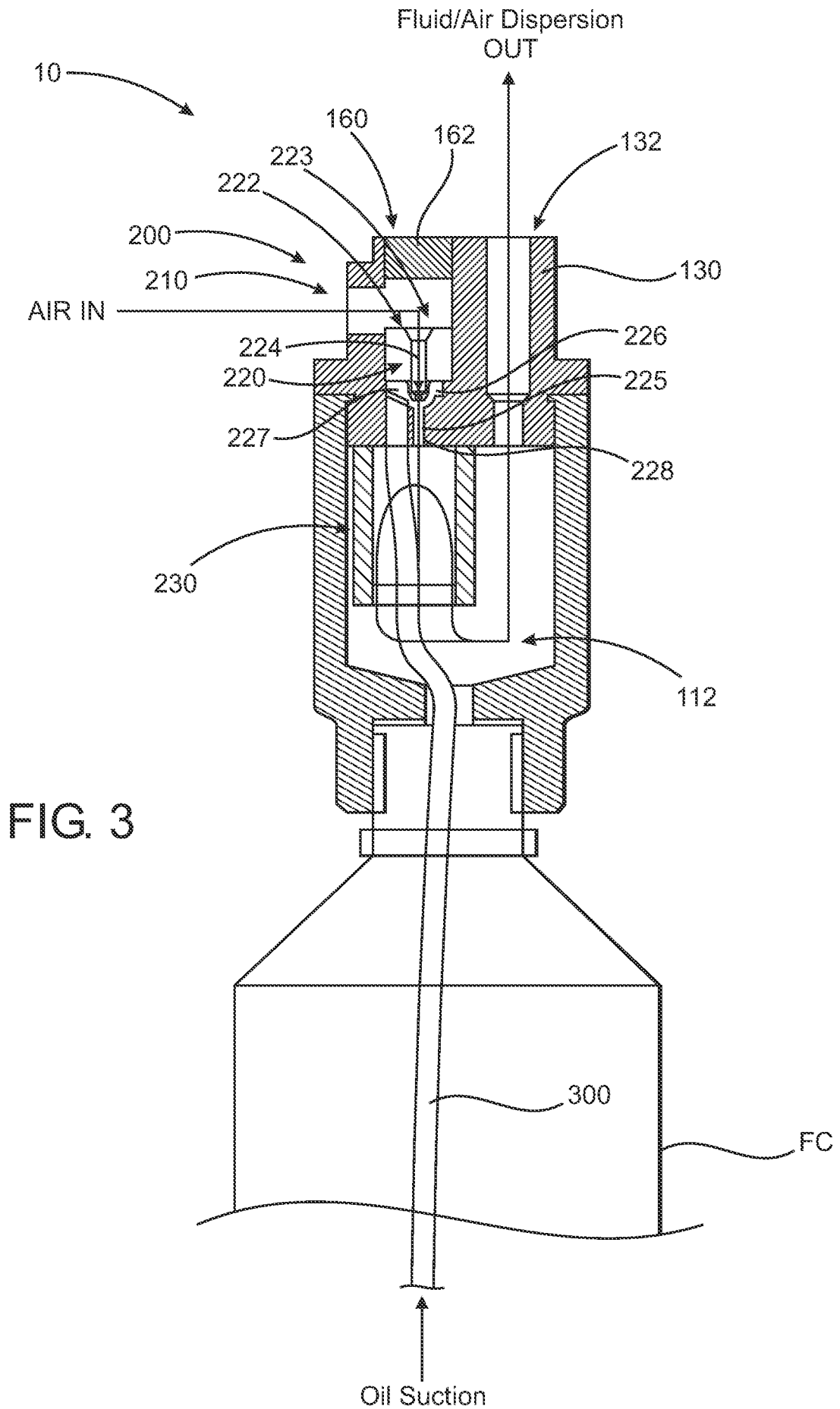
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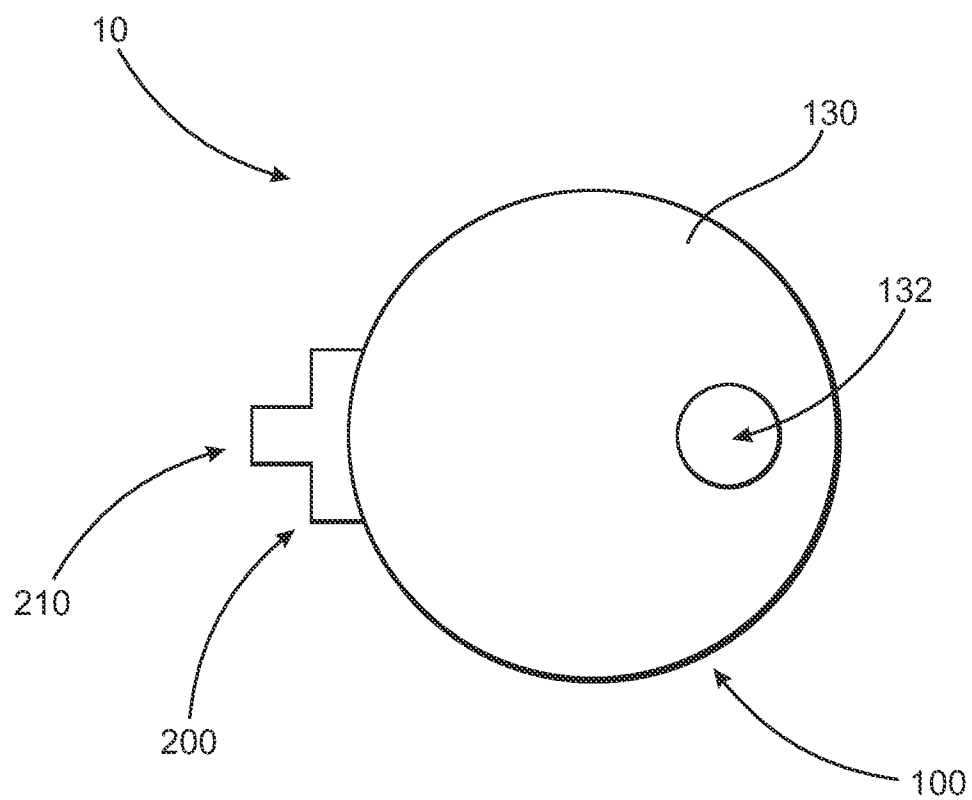


FIG. 4

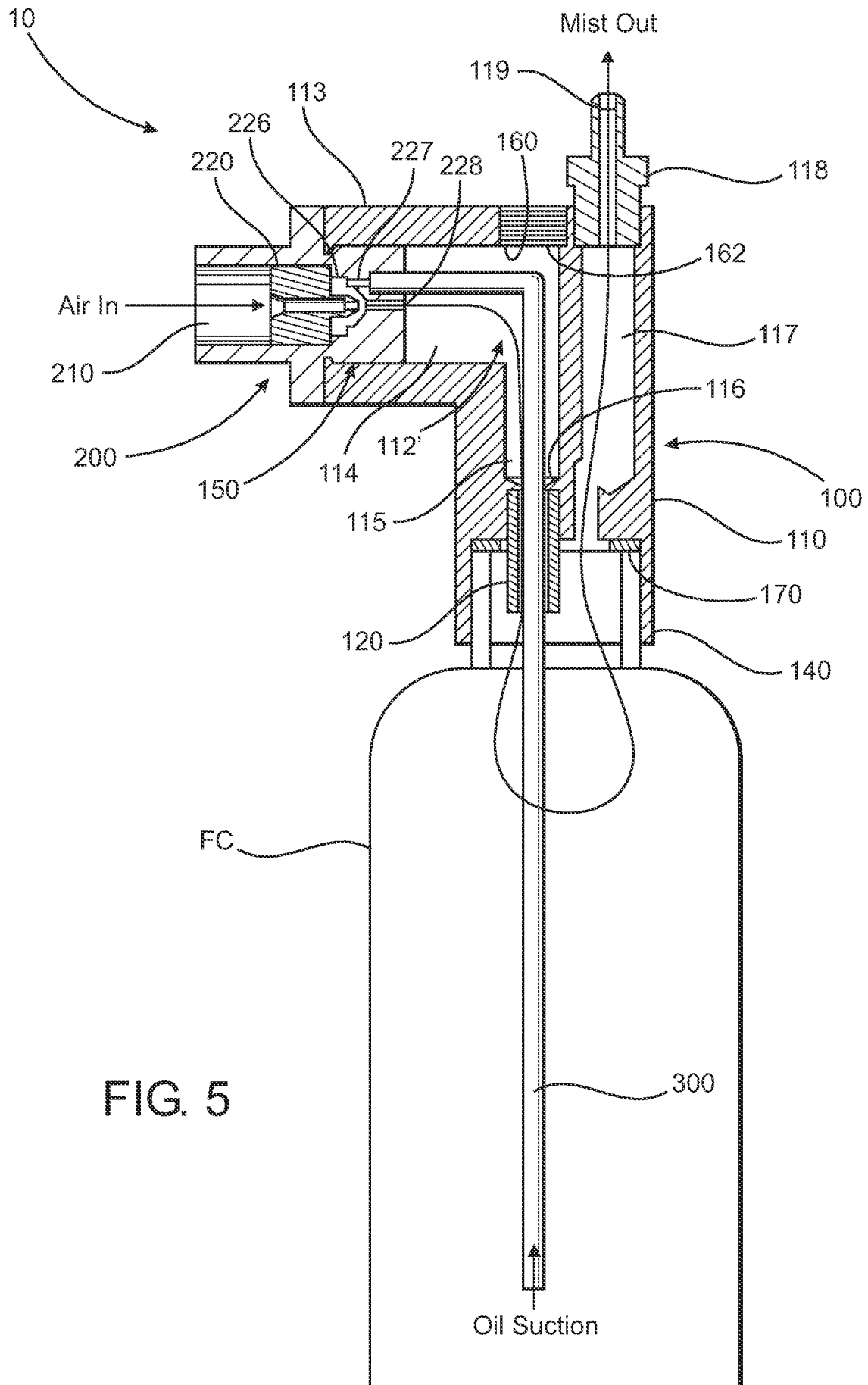


FIG. 5

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AMENDMENT AFTER ALLOWANCE UNDER RULE 312

In response to the Notice of Allowance and Issue Fee Due and in accordance with the provisions of Rule 312, it is respectfully requested that the following amendments be made to the above-referenced patent application:

Amendments to the Specification begin on page 2 of this paper.

Remarks begin on page 4 of this paper.

Amendments to the Specification:

Please replace the paragraph beginning on page 15, line 1 with the following amended paragraph:

A cartridge port 150 is disposed through one side of the diffusion unit 100, in the illustrative embodiment of Figure 5, and a diffusion assembly 200 is operatively positioned therethrough and into fluid communication with diffusion chamber 112', as in previously disclosed embodiments. The diffusion cartridge 200 includes an air inlet 210 disposed in communication with an atomizer assembly 220. Further, and as in previously disclosed embodiments, when compressed air is supplied to the diffusion assembly 200, and more in particular, atomizer assembly 220, through air inlet 210, a corresponding amount of fluid is drawn into a mixing chamber 226 from the fluid container (FC) through a fluid delivery tube 300, as a result of the venturi effect of compressed air flowing past the opening of a fluid inlet 227 into the mixing chamber 226. As a result, a fluid dispersion is formed and discharged from the atomizer assembly 220 through atomizer exhaust channel ~~[[128]]~~ 228, and directly into diffusion chamber 112'.

Please replace the paragraph beginning on page 15, line 17 with the following amended paragraph:

As noted above, and as may be seen with reference to Figure 5, the diffusion chamber 112' of the present embodiment comprises a

modified configuration. Specifically, the modified diffusion chamber 112' comprises an upside down L-shaped configuration, wherein a first axial portion 114 of the diffusion chamber 112' is disposed in a substantially axial orientation adjacent and relative to the discharge of the atomizer exhaust channel [[128]] 228. A second transverse portion 115 of the diffusion chamber 112' is disposed in a substantially downwardly directed orientation, as shown in Figure 5, substantially transverse or perpendicular to the direction of flow from atomizer exhaust channel [[128]] 228.

Please replace the paragraph beginning on page 16, line 13 with the following amended paragraph:

More importantly, the fluid dispersion discharged from the atomizer assembly 220 through atomizer exhaust channel [[128]] 228 into diffusion chamber 112' is interrupted and redirected by virtue of axial portion 114 and transverse portion 115 therein. The interruption and redirection of flow in the modified diffusion chamber 112' during operation of the fluid dispersion assembly 10 in accordance with the present embodiment, serves to suppress or dampen sound waves generated therein, in a similar manner as the suppression chamber 232 of previously disclosed embodiments. Further, the restricted discharge from the transverse portion 115 of the modified diffusion chamber 112' may serve to further suppress or dampen sound waves, thus reducing the noise generated during operation to an even greater extent.

REMARKS

It is respectfully requested that the above noted amendments to the specification be made under the provisions of Rule 312. The requested changes are for the purpose of correcting informalities and/or inconsistencies in the language of the specification. Care was taken not to add any new subject matter in the amending of this application. Due to the nature of the changes requested, it is believed that there will be no additional searching or other significant amount of time required of the Examiner in the review and entering of this Amendment.

Further, a Response to the Notice to File Corrected Application Papers dated June 9, 2015 is filed concurrently herewith, and includes formal drawings for Figures 1 through 5.

Respectfully submitted,

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/838,364	03/15/2013	Marc Levy	1.106.12	3564

4219 7590 08/05/2015
MALLOY & MALLOY
2800 S.W. THIRD AVENUE
HISTORIC CORAL WAY
MIAMI, FL 33129

EXAMINER

HWU, DAVIS D

ART UNIT	PAPER NUMBER
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3752

MAIL DATE	DELIVERY MODE
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08/05/2015

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Response to Rule 312 Communication	Application No. 13/838,364	Applicant(s) LEVY ET AL.
	Examiner Davis Hwu	Art Unit 3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1. ☒ The amendment filed on 31 July 2015 under 37 CFR 1.312 has been considered, and has been:

a) ☒ entered.

b) ☐ entered as directed to matters of form not affecting the scope of the invention.

c) ☐ disapproved because the amendment was filed after the payment of the issue fee.

Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

d) ☐ disapproved. See explanation below.

e) ☐ entered in part. See explanation below.

	/Davis Hwu/ Primary Examiner, Art Unit 3752
--	--



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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/838,364	09/08/2015	9126215	1.106.12	3564

4219 7590 08/19/2015
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HISTORIC CORAL WAY
MIAMI, FL 33129

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 285 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Marc Levy, Miami, FL;
Craig Huck, Waterford, PA;
Steven Semoff, New City, NY;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.