ADJUSTABLE DUAL CHAMBER SPRAYING DEVICE

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ABSTRACT

An adjustable dual chamber spraying device including a device body including a handle, a trigger, a first solution passage configured to draw a first solution from a first chamber when the first chamber is pressurized, a second solution passage configured to draw a second solution from a second chamber when the second chamber is pressurized, a valve core coupled with an adjustment knob, an output solution passage configured to carry an output solution, and a nozzle assembly coupled with the output solution passage. The valve core is configured to adjust a ratio of the first solution and the second solution based on a position of the adjustment knob. Actuation of the trigger causes dispensing of the output solution.
ADJUSTABLE DUAL CHAMBER SPRAYING DEVICE

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] Embodiments of the invention described herein pertain to the field of personal care. More particularly, but not by way of limitation, one or more embodiments of the invention enable an adjustable dual chamber spraying device.

[0003] 2. Description of the Related Art

[0004] Spraying devices for the application of solutions onto human skin are known in the art. Such devices may be used to apply medicines, treatments, cosmetics, and other formulas. For example, such spraying devices may be used in sunless tanning applications. Sunless tanning allows a user to achieve a desirable skin tone without exposure to UV light.

[0005] Typical sunless tanning products may include solutions containing dihydroxyacetone (DHA) as the active ingredient. DHA causes a chemical reaction with the outer layer of the skin, resulting in a color change that gradually fades with the natural exfoliation of the skin. Erythulose is another chemical that reacts with protein in the outer layer of the skin, producing a slower developing tan compared to DHA. Erythulose may be used either separately or in conjunction with DHA. Other additives may be used in an application of sunless tanning solution, such as additional chemical boosters, scents, skin treatments, and other temporary coloring agents.

[0006] Temporary bronzer may also be applied to the skin, giving a temporary color that is easily removed. Temporary bronzer may be used alone or in conjunction with a sunless tanning solution that reacts with human skin. Temporary bronzer may include pigmented solutions. A custom temporary bronzer may be generated by mixing one or more pigmented solutions to achieve a custom bronzer color.

[0007] Both professional and at-home spraying devices are available on the market. However, if a customized solution is desired, the solution must be premixed for each application. If modification of the solution is desired, the procedure must be repeated until the desired solution is prepared in a single reservoir.

[0008] After a customized application of the customized solution, it is impractical to reuse the customized solution on another individual. In some cases, different solutions should not be premixed until immediately prior to the application of the product. In these cases, it is impractical to reuse any remaining customized solution, even on the same individual.

[0009] To overcome the problems and limitations described above, there is a need for an adjustable dual chamber spraying device.

BRIEF SUMMARY OF THE INVENTION

[0010] One or more embodiments of the present invention disclosed herein are directed to an adjustable dual chamber spraying device including a device body including a handle.

[0011] The adjustable dual chamber spraying device further includes a trigger coupled with the device body.

[0012] The adjustable dual chamber spraying device further includes a first solution passage configured to draw a first solution from a first chamber when the first chamber is pressurized.

[0013] The adjustable dual chamber spraying device further includes a second solution passage configured to draw a second solution from a second chamber when the second chamber is pressurized.

[0014] In one or more embodiments, at least one of the first solution and the second solution includes DHA. In one or more embodiments, at least one of the first solution and the second solution includes a pigment. The first solution may include DHA and the second solution may include a pigment.

[0015] The adjustable dual chamber spraying device further includes a valve core coupled with an adjustment knob. The valve core is disposed between the first solution passage and the second solution passage. In one or more embodiments, the valve core is configured to removably couple with the device body.

[0016] The valve core may include a diverter, where the adjustment knob adjusts a position of the diverter with respect to the first solution passage, the second solution passage and the output solution passage. In one or more embodiments, the valve core includes a first seal positioned on a first side of the diverter and a second seal positioned on a second side of the diverter.

[0017] The adjustable dual chamber spraying device further includes an output solution passage configured to carry an output solution including at least one of the first solution and the second solution. An output ratio of the first solution and the second solution in the output solution is based on a position of the adjustment knob.

[0018] The adjustable dual chamber spraying device further includes a nozzle assembly coupled with the output solution passage. Actuation of the trigger causes dispensing of the output solution from the nozzle assembly. In one or more embodiments, the nozzle assembly includes a removable ring configured to retain one or more removably coupled nozzle assembly components.

[0019] In one or more embodiments, the adjustable dual chamber spraying device further includes a valve core receiver coupled with the first solution passage, the second solution passage, and the output solution passage. The valve core receiver is configured to hold the valve core in contact with the first solution passage, the second solution passage and the output solution passage.

[0020] In one or more embodiments, the device body of the adjustable dual chamber spraying device further includes a valve body assembly including a first pressurized passage configured to pressurize the first chamber, a second pressurized passage configured to pressurize the second chamber, the first solution passage, the second solution passage, the valve core receiver, and the output solution passage. The valve body assembly may be configured to removably couple with the first chamber and the second chamber.

[0021] In one or more embodiments, the valve body assembly includes two or more pieces coupled to form the first solution passage, the second solution passage, the output solution passage, and the valve core receiver. The two or more pieces may be formed from molded plastic. The two or more pieces may further form the first pressurized passage, the second pressurized passage when coupled.

[0022] In one or more embodiments, the two or more pieces are removably coupled to form a manifold including the first solution passage, the second solution passage, the output solution passage, and the valve core receiver. The two or more
pieces may be irremovably coupled to form a manifold including the first solution passage, the second solution passage, the first pressurized passage, the second pressurized passage, the output solution passage, and the valve core receiver.

[0023] In one or more embodiments, the adjustable dual chamber spraying device further includes a first solution tube configured to couple with the first solution passage at a first end of the first solution tube and a second solution tube configured to couple with the second solution passage at a first end of the second solution tube. A second end of the first solution tube is configured to submerge in the first solution in the first chamber. A second end of the second solution tube is configured to submerge in the second solution in the second chamber.

[0024] In one or more embodiments, the adjustable dual chamber spraying device further includes a pressure source connector configured to couple with a pressurized air source such that the pressurized air source pressurizes the first chamber and the second chamber. The pressure source connector may be disposed on the handle of the device body.

[0025] In one or more embodiments, the adjustable dual chamber spraying device further includes a trigger assembly including an adjustable needle configured to regulate a flow rate of the output solution when the trigger is actuated.

BRIEF DESCRIPTION OF THE DRAWINGS

[0026] The above and other aspects, features and advantages of the invention will be more apparent from the following more particular description thereof, presented in conjunction with the following drawings wherein:

[0027] FIG. 1 illustrates an exemplary adjustable dual chamber spraying device in accordance with one or more methods, apparatus and/or systems described herein.

[0028] FIG. 2 illustrates a cutaway view of an exemplary valve body assembly in accordance with one or more methods, apparatus and/or systems described herein.

[0029] FIG. 3 illustrates a cross sectional view of an exemplary valve core in accordance with one or more methods, apparatus and/or systems described herein.

[0030] FIG. 4 illustrates a cross sectional view of an exemplary valve core receiver in accordance with one or more methods, apparatus and/or systems described herein.

[0031] FIG. 5 illustrates an exploded view of an exemplary adjustable dual chamber spraying device in accordance with one or more methods, apparatus and/or systems described herein.

DETAILED DESCRIPTION

[0032] An adjustable dual chamber spraying device will now be described. In the following exemplary description, numerous specific details are set forth in order to provide a more thorough understanding of embodiments of the invention. It will be apparent, however, to an artisan of ordinary skill that the present invention may be practiced without incorporating all aspects of the specific details described herein. Furthermore, although steps or processes are set forth in an exemplary order to provide an understanding of one or more systems and methods, the exemplary order is not meant to be limiting. One of ordinary skill in the art would recognize that the steps or processes may be performed in a different order, and that one or more steps or processes may be performed simultaneously or in multiple process flows without departing from the spirit or the scope of the invention. In other instances, specific features, quantities, or measurements well known to those of ordinary skill in the art have not been described in detail so as not to obscure the invention. Readers should note that although examples of the invention are set forth herein, the claims, and the full scope of any equivalents, are what define the metes and bounds of the invention.

[0033] For a better understanding of the disclosed embodiment, its operating advantages, and the specified object attained by its uses, reference should be made to the accompanying drawings and descriptive matter in which there are illustrated exemplary disclosed embodiments. The disclosed embodiments are not intended to be limited to the specific forms set forth herein. It is understood that various omissions and substitutions of equivalents are contemplated as circumstances may suggest or render expedient, but these are intended to cover the application or implementation.

[0034] The term "first"", "second" and the like, herein do not denote any order, quantity or importance, but rather are used to distinguish one element from another, and the terms "a" and "an" herein do not denote a limitation of quantity, but rather denote the presence of at least one of the referenced item.

[0035] FIG. 1 illustrates an exemplary adjustable dual chamber spraying device in accordance with one or more methods, apparatus and/or systems described herein.

[0036] Spraying device 1 includes device body 2. Device body 2 includes handle 4. In one or more embodiments, spraying device 1 is a handheld device capable of operation using a single hand placed on handle 4.

[0037] Spraying device 1 further includes trigger 6. Trigger 6 is coupled with device body 2. Trigger 6 may be any device capable of being actuated, and may include one or more letters, buttons, springs, switches, or any other component suitable for implementing a trigger device. Actuation of trigger 6 causes dispensing of an output solution. The output solution may contain only a first solution drawn from first chamber 16, only a second solution drawn from second chamber 18, or a mixture of both the first solution and the second solution. In one or more embodiments, trigger 6 is positioned and configured to be actuated using one or more fingers of a single hand placed on handle 4.

[0038] In one or more embodiments, trigger 6 is a pressure sensitive device, where applying a higher pressure results in more rapid dispensing of the output solution. Alternatively, trigger 6 may be a binary device, where the output solution is dispensed at a constant rate independent of pressure. In one or more embodiments, trigger 6 may act as a switch, where a single actuation may turn a continuous spray on and/or off. Alternatively, the output solution may be dispensed only when trigger 6 is activated.

[0039] Spraying device 1 may further include pressure source connector 8. In one or more embodiments, pressure source connector 8 is disposed on handle 4. Pressure source connector 8 is configured to couple with a pressurized air source such that first chamber 16 and second chamber 18 are pressurized. For example, a tube running through handle 4 may couple the pressurized air source with one or more passages connected with first chamber 16 and second chamber 18.

[0040] First chamber 16 and second chamber 18 may be disposed within one or more bottles or other containers that couple with device body 2 to form sealed chambers capable of being pressurized, such as by the pressurized air source.
Device body 2 may be configured to couple with one or more bottles or containers, including industry-standard bottles or containers, or any bottles and/or containers with customized fittings. Alternatively, spraying device 1 may include one or more customized bottles or containers that form first chamber 16 and second chamber 18. The bottles or containers may be separated or coupled. In one or more embodiments, spraying device 1 further includes a sleeve (not shown) configured to fit over first chamber 16 and second chamber 18 and couples with device body 2.

Spraying device 1 may further include valve body assembly 12. A cutaway view of an exemplary valve body assembly 12 is shown in FIG. 2.

Spraying device 1 further includes adjustment knob 14. Adjustment knob 14 is configured to adjust a ratio of a first solution from first chamber 16 and a second solution from second chamber 18 based on a position of the adjustment knob. In one or more embodiments, adjustment knob 14 is coupled with a valve core, as described in further detail in FIG. 3.

Spraying device 1 may further include first solution tube 20 and second solution tube 22. First solution tube 20 is configured to draw a first solution from first chamber 16 to a first solution passage when first chamber 16 is pressurized. Second solution tube 22 is configured to draw a second solution from second chamber 18 to a second solution passage when second chamber 18 is pressurized, as described in further detail in FIG. 2.

Spraying device 1 further includes a nozzle assembly 10. Actuation of trigger 6 causes dispensing of an output solution from nozzle assembly 10. The output solution includes at least one of the first solution and the second solution, where an output ratio of the first solution in the second solution in the output solution is based on a position of adjustment knob 14.

FIG. 2 illustrates a cutaway view of an exemplary valve body assembly in accordance with one or more methods, apparatus and/or systems described herein.

Valve body assembly 12 may include first pressurized passage 50. First pressurized passage 50 is configured to pressurize first chamber 16. Valve body assembly 12 may further include second pressurized passage 52. Second pressurized passage 52 is configured to pressurize second chamber 18. In one or more embodiments, first pressurized passage 50 and second pressurized passage 52 are coupled with a pressurized air source connected to pressurized source connector 8.

Valve body assembly 12 may further include first solution passage 40. First solution passage 40 is configured to draw a first solution from first chamber 16 when first chamber 16 is pressurized, such as via a pressurized air source coupled with first pressurized passage 50. Valve body assembly 12 may further include second solution passage 42. Second solution passage 42 is configured to draw a second solution from second chamber 18 when second chamber 18 is pressurized, such as via a pressurized air source coupled with second pressurized passage 52.

Valve body assembly 12 may further include first chamber receiver 32 and second chamber receiver 34. First chamber receiver 32 and second chamber receiver 34 may be configured to removably couple with first chamber 16 and second chamber 18, respectively. For example, first chamber receiver 32 and second chamber receiver 34 may be configured to removably couple with one or more bottles or other containers that form or contain first chamber 16 and/second chamber 18. First container receiver 32 and second container receiver 34 may be configured to form an airtight seal with first chamber 16 and second chamber 18, respectively, allowing pressurization of first chamber 16 and second chamber 18.

Valve body assembly 12 may further include first solution passage 40 and second solution passage 42. First solution passage 40 is configured to draw a first solution from first chamber 16 when first chamber 16 is pressurized. Second solution passage 42 is configured to draw a second solution from second chamber 18 when second chamber 18 is pressurized.

Valve body assembly 12 may further include first solution tube receiver 36 and second solution tube receiver 38. For example, a first end of first solution tube 20 may be configured to couple with first solution passage 40 at first solution tube receiver 36. A second end of first solution tube 20 is configured to submerge in the first solution in first chamber 16, allowing the first solution to be drawn from first chamber 16 when first chamber 16 is pressurized. Likewise, a first end of second solution tube 22 may be configured to couple with second solution passage 42 at second solution tube receiver 38. A second end of second solution tube 22 is configured to submerge in the second solution in second chamber 18, allowing the second solution to be drawn from second chamber 18 when second chamber 18 is pressurized.

Valve body assembly 12 may further include output solution passage 48. Output solution passage 48 is configured to carry an output solution that includes at least one of the first solution and the second solution. The output ratio of the first solution and the second solution is based on the position of adjustment knob 14. Adjustment knob 14 controls the amount of the first solution drawn from first solution passage 40 and the amount of the second solution drawn from second solution passage 42.

Valve body assembly 12 may further include valve core receiver 46. Valve core receiver 46 is coupled with first solution passage 40, second solution passage 42, and output solution passage 48. In one or more embodiments, valve core receiver 46 includes open space connecting first solution passage 40, second solution passage 42, and output solution passage 48. Valve core receiver 46 is configured to receive valve core 24 (FIG. 3) and hold valve core 24 in contact with first solution passage 40, second solution passage 42, and output solution passage 48, as shown in detail in FIG. 4.

In one or more embodiments, valve body assembly 12 includes two or more pieces coupled to form first solution passage 40, second solution passage 42, output solution passage 48 and valve core receiver 46. The two or more pieces may also form first pressurized passage 50 and second pressurized passage 52 when coupled. The two or more pieces may be formed by milling, molding, pressing, or any other manufacturing process suitable for forming two or more pieces that may couple to form valve body assembly 12. For example, valve body assembly 12 may be formed from two or more pieces of molded plastic. The two or more pieces may be glued, welded, fitted, taped, or otherwise coupled to form valve body assembly 12. In one or more embodiments, the cutaway view of FIG. 2 is a view of an exemplary piece that may be coupled with at least one remaining piece to form first solution passage 40, second solution passage 42, output solution passage 48, valve core receiver 46, first pressurized passage 50 and second pressurized passage 52.
In one or more embodiments, the two or more pieces are irremovably coupled to form a manifold that includes first solution passage 40, second solution passage 42, output solution passage 48 and valve core receiver 46. The manifold may further include first pressurized passage 50 and second pressurized passage 52. For example, in one or more embodiments, the cutaway view of FIG. 2 is a view of an exemplary piece that may be irremovably coupled with at least one remaining piece to form the manifold described.

Alternatively, valve body assembly 12 may include a shell containing one or more connected components, such as tubes, tunnels, pipes, seals, connectors, or other suitable components for forming the components shown in FIG. 2.

FIG. 3 illustrates a cross sectional view of an exemplary valve core in accordance with one or more methods, apparatus and/or systems described herein.

Valve core 24 includes valve shaft 26. In one or more embodiments, valve shaft 26 is cylindrical. In one or more embodiments, valve core 24 is configured to removably couple with spraying device 1. In the embodiment presented herein, valve core 24 is configured to removably couple with valve body assembly 12. One or more fasteners, such as clips, screws, nuts, bolts, or any other suitable fastener, may be used to secure valve core 24 to valve body assembly 12.

Valve core 24 further includes diverter 25. In one or more embodiments, diverter 25 is a cut out region on valve shaft 26. Valve core 24 may further include grooves 28. Grooves 28 are configured to receive a first seal positioned on a first side of diverter 25 and a second seal positioned on the second side of diverter 25. The first seal and the second seal may be made of silicone, rubber, or any other material suitable for creating an airtight seal. When valve core 24 is positioned in valve core receiver 46, the first seal and the second seal prevent air from leaving the pressurized system from valve core receiver 46, thereby maintaining the pressure necessary to draw the first solution, draw the second solution, and dispense the output solution.

In one or more embodiments, valve core 24 further includes fastener receiver 30. Fastener receiver 30 is configured to couple with one or more fastening devices, such as clips, screws, nuts, bolts, or any other suitable fastener capable of securing valve core 24. Fastener receiver 30 may couple with one or more fastening devices so removably couple valve core 24 with device body 2.

Valve core 24 is disposed between first solution passage 40 and second solution passage 42. In one or more embodiments, valve shaft 26 of valve core 24 is coupled with adjustment knob 14. When adjustment knob 14 is turned, the position of diverter 25 is adjusted with respect to first solution passage 40 and second solution passage 42, as shown in additional detail in FIG. 4.

FIG. 4 illustrates a cross sectional view of an exemplary valve core receiver in accordance with one or more methods, apparatus and/or systems described herein.

In FIG. 4, the cross-sectional view of valve core 24 intersects diverter 25. Valve core 24 is positioned in valve core receiver 46 at position 52. At position 52, first solution passage 40 is in fluid contact with output solution passage 48, while second solution passage 42 is blocked. In position 52, the output solution only contains the first solution drawn from first chamber 16 via first solution passage 40 when the system is pressurized.

Valve core 24 may be repositioned to position 54, such as by adjusting adjustment knob 14. In one or more embodiments, valve core 24 may be rotated from position 52 to position 54 using adjustment knob 14. At position 54, first solution passage 40 is blocked, while second solution passage 42 is in fluid contact with output solution passage 48. In position 54, the output solution only contains the second solution drawn from second chamber 18 via second solution passage 42 when the system is pressurized.

In one or more embodiments, valve core 24 may be positioned in between position 52 and position 54, allowing for the ratio of the first solution and the second solution to be adjusted, such as by using adjustment knob 14. For example, when first chamber 16 and second chamber 18 are equally pressurized, the ratio of the first solution and the second solution will be based on a partial or complete blockage of first solution passage 40 and/or second solution passage 42 based on the position of diverter 25 of valve core 24. In one or more embodiments, when valve core 24 is set to allow fluid from both chambers 16 and 18 to enter into core receiver 46, the fluids may form a mixture in core receiver 46 thus sending the desired mixture through output solution passage 48 based on the setting of adjustment valve 14.

In one or more embodiments, a first maximum position and the second maximum position are set beyond which valve core 24 is not permitted to travel, preventing blockage of output solution passage 48 by valve core 24. Alternatively, valve core 24 may freely rotate within valve core receiver 46. In one or more embodiments, repositioning of valve core 24 is allowed in discrete increments. Alternatively, repositioning of valve core 24 may be unrestricted.

FIG. 5 illustrates an exploded view of an exemplary adjustable dual chamber spraying device in accordance with one or more methods, apparatus and/or systems described herein.

In one or more embodiments, spraying device 1 includes valve core fastener 58. Valve core fastener 58 is configured to removably fasten valve core 24 within valve body assembly 12.

In one or more embodiments, spraying device 1 may include housing shell components 60 and 62. Housing shell components 60 and 62 may be coupled together using housing fasteners 64, such as screws, nuts, bolts, clips, or any other fastener or method for fastening suitable to holding housing shell components 60 and 62 together.

In one or more embodiments, spraying device 1 may include one or more seals 72-78. Seals 72-78 help maintain pressurization in the system. Seals 72-78 may include one or more rings, washers, bands, o-rings, and/or other seal made from silicone, rubber or any other suitable material.

In one or more embodiments, spraying device 1 may further include trigger assembly 66. Trigger assembly 66 may include one or more components that allow trigger 6 to dispense the output solution. In one or more embodiments, trigger assembly 66 includes adjustable needle 68. Adjustable needle 68 is configured to regulate the flow rate of the output solution when trigger 6 is actuated. In one or more embodiments, needle adjustment knob 70 is configured to adjust a position of adjustable needle 68 to regulate the flow rate of the output solution.

In one or more embodiments, spraying device 1 may further includes nozzle assembly 10. Nozzle assembly 10 may include removable ring 80. Removable ring 80 is configured to retain one or more removably coupled nozzle assembly components 82-92. Removably coupled nozzle
assembly components 82-92 may be configured to atomize or otherwise modify a spray of the output solution. For example, removably coupled nozzle assembly components 82-92 may modify a spray shape, including a spray pattern, a spray angle, a droplet size, and spray uniformity, or any other spray characteristic that may be modified using one or more nozzle assembly component.

[0072] While the invention herein disclosed has been described by means of specific embodiments and applications thereof, numerous modifications and variations could be made thereto by those skilled in the art without departing from the scope of the invention set forth in the claims.

What is claimed is:

1. An adjustable dual chamber spraying device comprising:
   a device body comprising a handle;
   a trigger coupled with said device body;
   a first solution passage configured to draw a first solution from a first chamber when said first chamber is pressurized;
   a second solution passage configured to draw a second solution from a second chamber when said second chamber is pressurized;
   a valve core coupled with an adjustment knob, wherein said valve core is configured to adjust a ratio of said first solution and said second solution based on a position of said adjustment knob, wherein said valve core is disposed between said first solution passage and said second solution passage;
   an output solution passage configured to carry an output solution comprising at least one of said first solution and said second solution, wherein an output ratio of said first solution and said second solution in said output solution is based on a position of said adjustment knob, and a nozzle assembly coupled with said output solution passage, wherein actuation of said trigger causes dispensing of said output solution from said nozzle assembly.

2. The adjustable dual chamber spraying device of claim 1, wherein said valve core is configured to removably couple with said device body.

3. The adjustable dual chamber spraying device of claim 1, wherein said valve core comprises a diverter, wherein said adjustment knob adjusts a position of said diverter with respect to said first solution passage, said second solution passage and said output solution passage.

4. The adjustable dual chamber spraying device of claim 3, wherein said valve core comprises a first seal positioned on a first side of said diverter and a second seal positioned on a second side of said diverter.

5. The adjustable dual chamber spraying device of claim 1, further comprising a valve core receiver coupled with said first solution passage, said second solution passage, and said output solution passage, wherein said valve core receiver is configured to hold said valve core in contact with said first solution passage, said second solution passage and said output solution passage.

6. The adjustable dual chamber spraying device of claim 5, wherein said device body further comprises a valve body assembly comprising a first pressurized passage configured to pressurize said first chamber, a second pressurized passage configured to pressurize said second chamber, said first solution passage, said second solution passage, said valve core receiver, and said output solution passage.

7. The adjustable dual chamber spraying device of claim 6, wherein said valve body assembly is configured to removably couple with said first chamber and said second chamber.

8. The adjustable dual chamber spraying device of claim 6, wherein said valve body assembly comprises two or more pieces coupled to form said first solution passage, said second solution passage, said output solution passage, and said valve core receiver.

9. The adjustable dual chamber spraying device of claim 8, wherein said two or more pieces are formed from molded plastic.

10. The adjustable dual chamber spraying device of claim 8, wherein said two or more pieces are irremovably coupled to form a manifold comprising said first solution passage, said second solution passage, said output solution passage, and said valve core receiver.

11. The adjustable dual chamber spraying device of claim 8, wherein said two or more pieces further form said first pressurized passage, said second pressurized passage when coupled.

12. The adjustable dual chamber spraying device of claim 11, wherein said two or more pieces are irremovably coupled to form a manifold comprising said first solution passage, said second solution passage, said first pressurized passage, said second pressurized passage, said output solution passage, and said valve core receiver.

13. The adjustable dual chamber spraying device of claim 1, further comprising:
   a first solution tube configured to couple with said first solution passage at a first end of said first solution tube, wherein a second end of said first solution tube is configured to submerge in said first solution in said first chamber, and a second solution tube configured to couple with said second solution passage at a first end of said second solution tube, wherein a second end of said second solution tube is configured to submerge in said second solution in said second chamber.

14. The adjustable dual chamber spraying device of claim 1, further comprising a pressure source connector configured to couple with a pressurized air source such that said pressurized air source pressurizes said first chamber and said second chamber.

15. The adjustable dual chamber spraying device of claim 14, wherein said pressure source connector is disposed on said handle.

16. The adjustable dual chamber spraying device of claim 1, further comprising a trigger assembly comprising an adjustable needle configured to regulate a flow rate of said output solution when said trigger is actuated.

17. The adjustable dual chamber spraying device of claim 16, wherein said nozzle assembly comprises a removable ring configured to retain one or more removably coupled nozzle assembly components.

18. The adjustable dual chamber spraying device of claim 1, wherein at least one of said first solution and said second solution comprises DHA.

19. The adjustable dual chamber spraying device of claim 18, wherein said first solution comprises DHA and said second solution comprises a pigment.

20. The adjustable dual chamber spraying device of claim 19, wherein said first solution comprises DHA and said second solution comprises a pigment.

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