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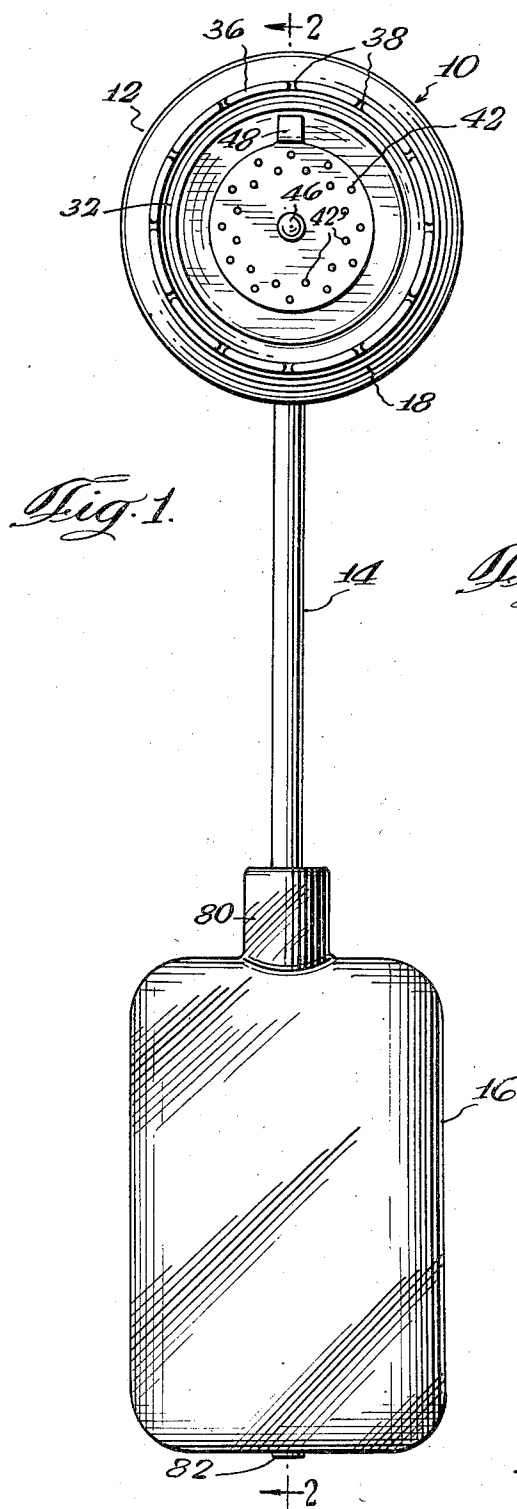
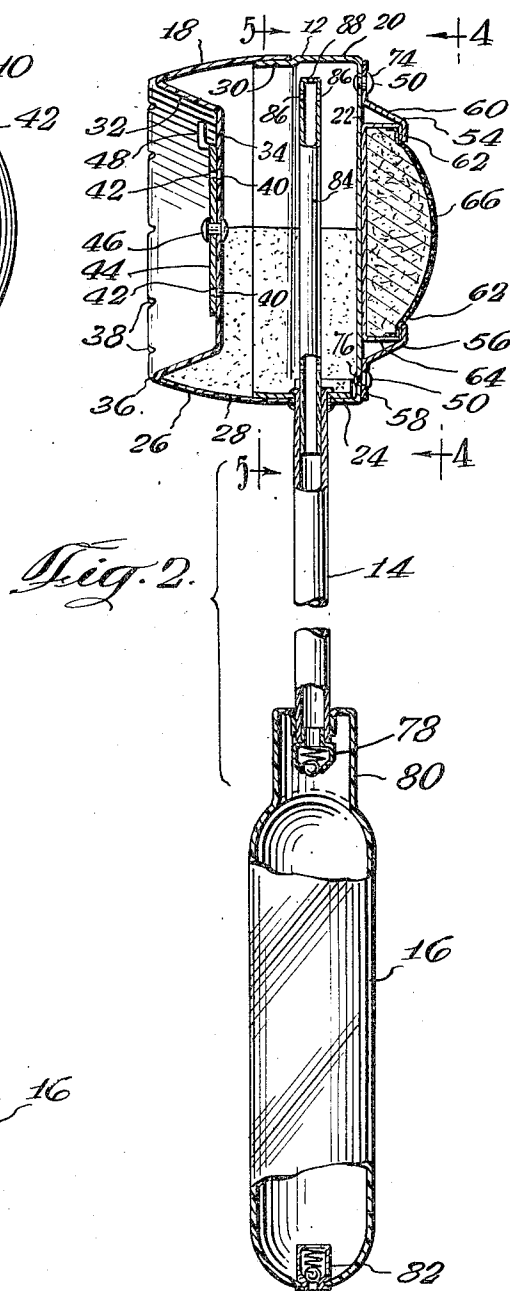
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APPLICATOR FOR POWDERS AND LIQUIDS

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2 Sheets-Sheet 1



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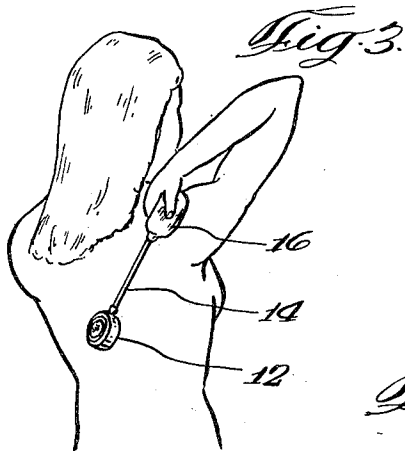
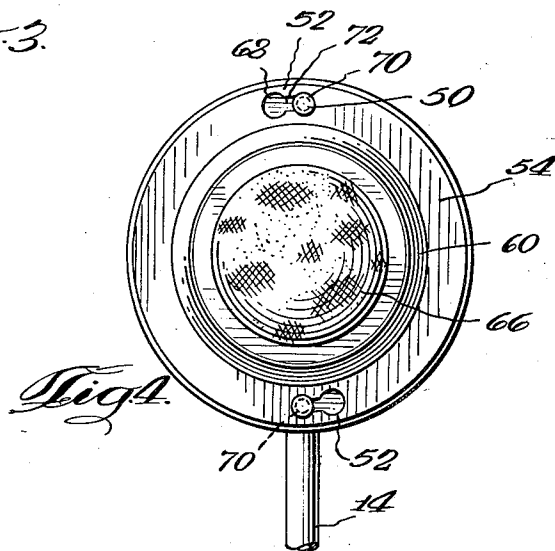
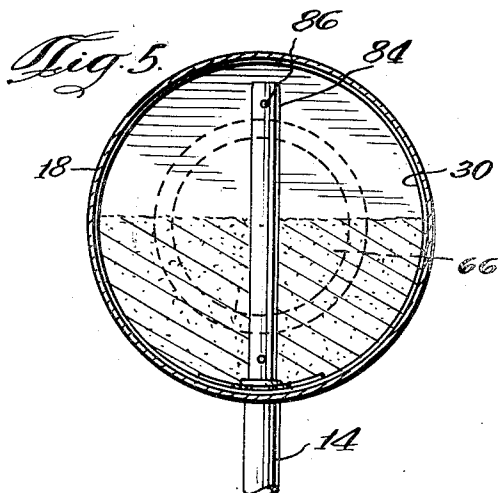
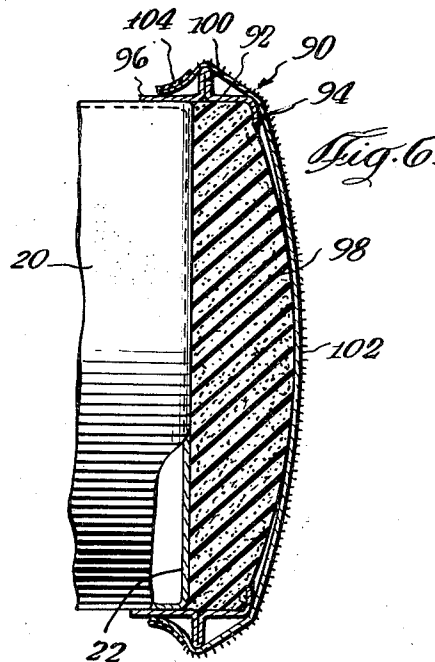
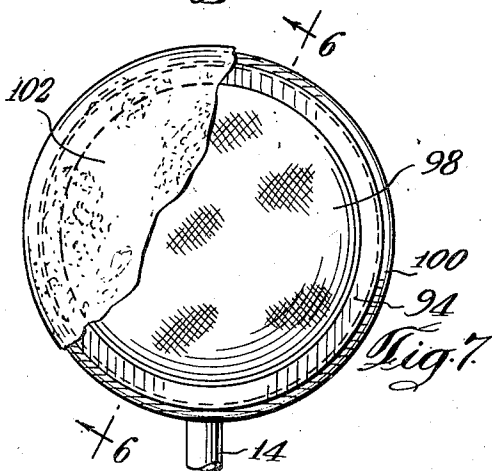
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APPLICATOR FOR POWDERS AND LIQUIDS

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4 Claims. (Cl. 15—118)

This invention relates to applicators of the type which are used to apply cosmetic and medicinal powders and liquids to the body. More particularly this invention relates to a pneumatic spray applicator for powders having powder puff attachments and pads for applying liquids. Specifically, the invention contemplates an improved spray-type applicator in which the applicator is mounted at one end of a long handle with means for actuating the applicator mounted on the other end thereof.

The application of cosmetic and medicinal powders by the powder puff type applicator is well-known. Some such applicators have even been mounted on long handles so that the powder may be applied to less accessible parts of the body, such as the back, etc. In the case where cosmetic powders are applied after bathing, the application of the powder by means of a puff is quite unsatisfactory since the moisture on the skin often causes caking and unsatisfactory application generally. In the case where medicinal powders are used on skin irritations, rubbing by the powder puff during the application oftentimes defeats the purpose of the application by further irritating the skin.

It is therefore an important object of this invention to provide a powder applicator which will overcome all of these disadvantages mentioned hereinabove.

Another object is to afford a powder applicator in which the powder is sprayed on to the skin rather than rubbed or patted on.

A further object is to provide a powder applicator in which the application is accomplished in a much more sanitary and convenient method than heretofore achieved. An object relating thereto is to so construct the applicator that the powder is applied without the applicator directly contacting the skin. However, conventional powder puff means is also provided which may be used to spread the powder on the skin but only after the powder has been applied remotely to the skin. Furthermore, since the powder puff does not contact the powder supply, such powder cannot be contaminated by the pad. This is especially significant in the application of medicinal powder to infected or irritated skin blemishes and sores.

Yet another object is to afford a powder applicator having a replaceable powder puff.

Yet a further object is to provide a spray applicator by means of which powder may be readily applied to almost any part of the body by the user.

It is well-known that it is often necessary to apply liquid and/or paste medicinal preparations to the body. For example, salves and ointments are often used for skin irritations and diseases which affect the skin, such as measles, chicken pox and the like. So also oils and lotions are often applied to relieve the pain of sunburn, and skin tonics and conditioners are often applied to the skin. Heretofore, such application has in most cases required the services of a second person since it was most difficult, if not impossible, for the patient himself to apply such materials to at least the less accessible portions of the body.

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It is therefore an important object of this invention to provide an applicator which will overcome all of the disadvantages set forth hereinabove.

Still another object is to afford an applicator for liquids, 5 salves and ointments by the use of which such preparations may be applied by the user in an efficient, sanitary and effective manner. An object relating thereto is to provide a combination powder and liquid applicator with sanitary, removable pads which may be moistened 10 with the preparation which it is desired to apply, the pad being positioned at one end of a handle so that the application may be made to such less accessible portions of the body as the lower back, etc.

Still a further object is to provide a combination 15 powder and liquid applicator in which the application of the powder is controlled and actuated by means of an air bulb mounted on the opposite end of a hollow tube handle so that the same may be held in the hand of the user.

Yet even a further object is to afford a combination 20 powder and liquid applicator simple in construction, inexpensive to manufacture and extremely efficient and effective in use and service.

With the foregoing and other objects in view which 25 will appear as the description proceeds, the invention consists of certain novel features of construction, arrangement and a combination of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being 30 understood that various changes in the form, proportion, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

For the purpose of facilitating an understanding of 35 my invention, I have illustrated in the accompanying drawings a preferred embodiment thereof, from an inspection of which, when considered in connection with the following description, my invention, its mode of construction, assembly and operation, and many of its 40 advantages should be readily understood and appreciated.

Referring to the drawings in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawings:

Fig. 1 is a front elevational view of my combination 45 liquid and powder applicator;

Fig. 2 is a sectional view in elevation taken on the plane of line 2—2 in Fig. 1, viewed in the direction indicated, and with the handle foreshortened for convenience of illustration;

Fig. 3 is a perspective view of the applicator during use on the back of a human figure;

Fig. 4 is a plan view of the liquid applicator portion taken on the line 4—4 in Fig. 2 and viewed in the direction indicated;

Fig. 5 is a fragmentary sectional view taken on the plane of line 5—5 in Fig. 2 and viewed in the direction indicated;

Fig. 6 is an enlarged fragmentary sectional view of the powder puff applicator mounted in operational position taken on the plane of line 6—6 in Fig. 7 of the drawings and viewed in the direction indicated; and

Fig. 7 is a plan view of the powder puff portion of the applicator with a portion of the puff cut away to illustrate the puff mounting head.

Referring now to Fig. 1 of the drawings, reference numeral 10 indicates generally an applicator comprising an applicator head 12 mounted on one end of a hollow tubular handle 14 with an air bulb 16 mounted on the other end of the handle.

The applicator head 12 comprises a container 18 with-

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in which the powder to be dispensed may be contained. This container in turn may comprise a cup-shaped housing 20 having a flat wall 22 with an integrally formed annular wall 24 disposed substantially at right angles to the flat wall 22.

Over the open end of the annular wall 24 may be positioned a spray head closure member 26 comprising a modified cup-shaped housing having an arcuately curved annular side wall 28, the outer marginal edges of which are adapted to be frictionally fitted over the outer marginal edge 30 of the housing 20 to complete the powder container. The opposite end of the closure member 26 is closed by an integrally formed inwardly inclined wall segment 32 with a flat wall segment 34 formed therewith. This wall segment 34, as shown in Fig. 2 of the drawings, is thereby spaced inwardly from the outermost rim 36 of the closure member. The rim 36 is further formed with a plurality of spaced indentations such as 38, the purpose of which will become apparent as the description proceeds.

The wall 34 may be formed with a plurality of spray openings such as 40. These openings are positioned so that they may register with complementary openings such as 42 formed in a rotatable disc 44 which may be pivotally mounted over the openings 40 on the wall 34 by means of a central pivot member 46. The disc 44 may be provided with a lip 48 by means of which the disc may be rotated to bring the openings 42 into register with the openings 40 when it is desired to spray powder. Obviously, the contents of the container 18 may be sealed therein by merely rotating the disc 44 so that the openings 40 and 42 are out of register with each other.

Referring now to Figures 2 and 4 of the drawings, it will be noted that the flat wall 22 of the housing 20 may be formed with a pair of bayonet lugs such as 50 protruding outwardly from the wall 22. These bayonet lugs 50 are adapted to cooperate with a pair of complementary-shaped openings such as 52 formed at diametrically opposed positions in a separable pad mounting member 54. This mounting member 54 may comprise an annular rim 56 constructed with a base flange portion 58, within which the openings 52 are formed, and an inwardly inclined wall 60 terminating in an inwardly flanged rim 62 positioned in a plane substantially parallel to the plane of the wall 22. There is thereby afforded an opening 62 within which may be positioned a removable pad container comprising a cup 64 within which may be positioned a removable liquid applicator pad 66, the outer portion of said pad protruding out of the opening 62.

It will be noted that the bayonet openings 52 may be formed with an annular opening 68 and a second annular opening 70 connected by means of a slot 72. The annular opening 70 is of smaller diameter than the annular opening 68. Thus, when it is desired to affix the pad mounting member 54 to the spray head 12, the mounting member 54 is positioned so that the bayonets 50 protrude through the openings 68. The mounting member 54 may then be rotated in a counterclockwise direction until the bayonet points 50 are positioned within the smaller annular opening 70. In this connection, it will be noted that the bayonet points 50 are formed with enlarged heads such as 74 at the outer ends of pins 76. The diameter of the pin is somewhat less than the width of the slot 72. Hence, by this construction the mounting member 54 may readily be locked in position against the wall 22 of the housing 20.

Turning now to a more detailed description of the pneumatic actuating member, it will be noted that the bulb 16 is mounted on the outer end of the tubular handle 14 so that a check valve 78 positioned in the outer end of the tube 14 is positioned within the neck portion 80 of the bulb 16. A similar check valve 82 is provided in the opposite end of the bulb 16. Thus when it is desired to actuate the sprayer, the walls of the bulb

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are depressed by pressing. This closes the intake check valve 82 and simultaneously opens the exhaust check valve 78 so that the air within the bulb 16 may be exhausted and forced through the valve 78 and the hollow tube 14 up to the spray head 12. Subsequently, when the pressure is released from the bulb 16 the intake valve 82 opens to admit air from the atmosphere into the bulb 16 and simultaneously the exhaust valve 78 is closed to prevent additional air from being forced up into the spray head valve.

To insure proper spraying action, the device is further provided with a tubular extension 84 which is adapted to fit within the upper end of the tubular handle 14. This extension 84 may be provided with openings such as 86 positioned to direct streams of air transversely into the powder container housing 20. It has been determined that proper spraying requires that the air blasts be directed in such a transverse direction. It will further be noted that the outer end of the tubular extension 84 is closed as at 88 in conformance with the transverse air blast theory advanced hereinabove.

The applicator, as it has been described to this point, affords a powder container 20 positioned at the upper end of the tube 14. In operation, when it is desired to apply powder to the body, the operator grasps the bulb 16 in her hand as shown in Fig. 3 of the drawings and by exerting pressure thereon, squeezes it sufficiently to force streams of air into the housing thereby spraying powder out of the openings 40 and 42 which have previously been brought into register. The spraying device itself is positioned remotely from the body and cannot directly contact the same by reason of the construction of the spray head closure member 26. The only part of the applicator which may touch the body is the rim 36.

To insure against the building up of a vacuum within the enclosure defined by the face of the closure member 26, the indentations 38 have been provided. These indentations admit sufficient air to the enclosure to forestall the creation of a vacuum during or directly after the spraying operation.

When it is desired to apply a liquid or semi-liquid preparation, the pad 66 may be saturated and the liquid applied thereby. Since the pads 66 are readily removable, the same may be replaced after each application to insure proper health and sanitation practices.

As was mentioned in the objects, the applicator is further provided with a powder puff attachment which may be used to spread or smooth on the powder after it has been sprayed on to the body. Accordingly, attention is directed to Figs. 6 and 7 of the drawings wherein there is illustrated a powder puff attachment designated generally by reference numeral 90. The attachment may comprise an annular sleeve 92 formed with a horizontally disposed flange 94 at one end and a friction sleeve 96 at the other end. The friction sleeve 96 is adapted to being mounted over the annular wall 24 of the housing 20. A sponge rubber or textile pad 98 may be positioned within the sleeve 92 and retained in position by means of the flange 94. The wall of the tube 92 may be formed with a crimped protuberance 100. Thus when a powder puff or cover member 102 is positioned over the pad 98 with its elastic edges 104 positioned behind the protuberance 100, the same is retained effectively in position on the applicator but in such a manner that it may readily be removed and replaced.

From the foregoing description it should be apparent that I have provided a unique, pneumatic-type spray applicator for applying powder in a convenient manner to the body. The application may be controlled remotely from the applicator head by means of a pneumatic bulb mounted on the outer end of a tubular handle 14. The applicator head is further provided with means for applying liquid and semi-liquid medicinal and cosmetic

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preparations to the body. Finally, a powder puff attachment is also provided for use in smoothing or patting on the powder after it has been applied. Naturally, the puff may be used in the conventional method for applying powder directly if desired. Moreover, the construction of the device lends itself to the highest standards of sanitation in that the spray dispenser does not directly contact the skin and all of the pads and puffs are readily replaceable.

It is believed that my invention, its mode of construction and assembly, and many of its advantages should be readily understood from the foregoing without further description, and it should also be manifest that while a preferred embodiment of the invention has been shown and described for illustrative purposes, the structural details are nevertheless capable of wide variations within the purview of my invention as defined in the appended claims.

What I claim and desire to secure by Letters Patent of the United States is:

1. In a combination applicator for powders and liquids, the combination of a tubular handle having a central hollow passageway, an air bulb mounted on one end of said handle and adapted to force air through said passageway, an applicator head mounted on the opposite end of said handle, said applicator head comprising a powder container cup-shaped housing having a back wall and an integrally formed annular side wall, said passageway opening into said housing, a spray head closure member frictionally fitted over said annular side wall, said spray head closure member having arcuately curved annular side walls integrally formed with an inwardly inclined annular wall affording an outer rim and a flat wall segment spaced inwardly from said rim, portions of said rim formed with indentations spaced one from the other, a central portion of said flat wall formed with a plurality of perforations, a corresponding perforated rotatable disc pivotally mounted over said perforated

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flat wall portion to serve as a valve, and a removable pad mounted on said backwall.

2. The applicator of claim 1 in which said removable pad is mounted on said backwall by means of a pair of protruding bayonet lugs and a separable pad mounting member, said pad mounting member comprising an annular rim having a base flange, said base flange having a pair of slots adapted to cooperate with said bayonet lugs, and an integrally formed inclined wall terminating in an inwardly flanged rim defining a central opening within, which is positioned a removable cup with said pad positioned therein.

3. The combination applicator of claim 1 in which a removable powder puff attachment is mounted on said applicator head.

4. The combination applicator of claim 3 in which said powder puff attachment comprises an annular sleeve formed with an annular protuberance, a compressible member positioned in said sleeve and a cover member having elastic marginal edges positioned over said compressible member and sleeve with the elastic marginal edges positioned behind said protuberance.

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