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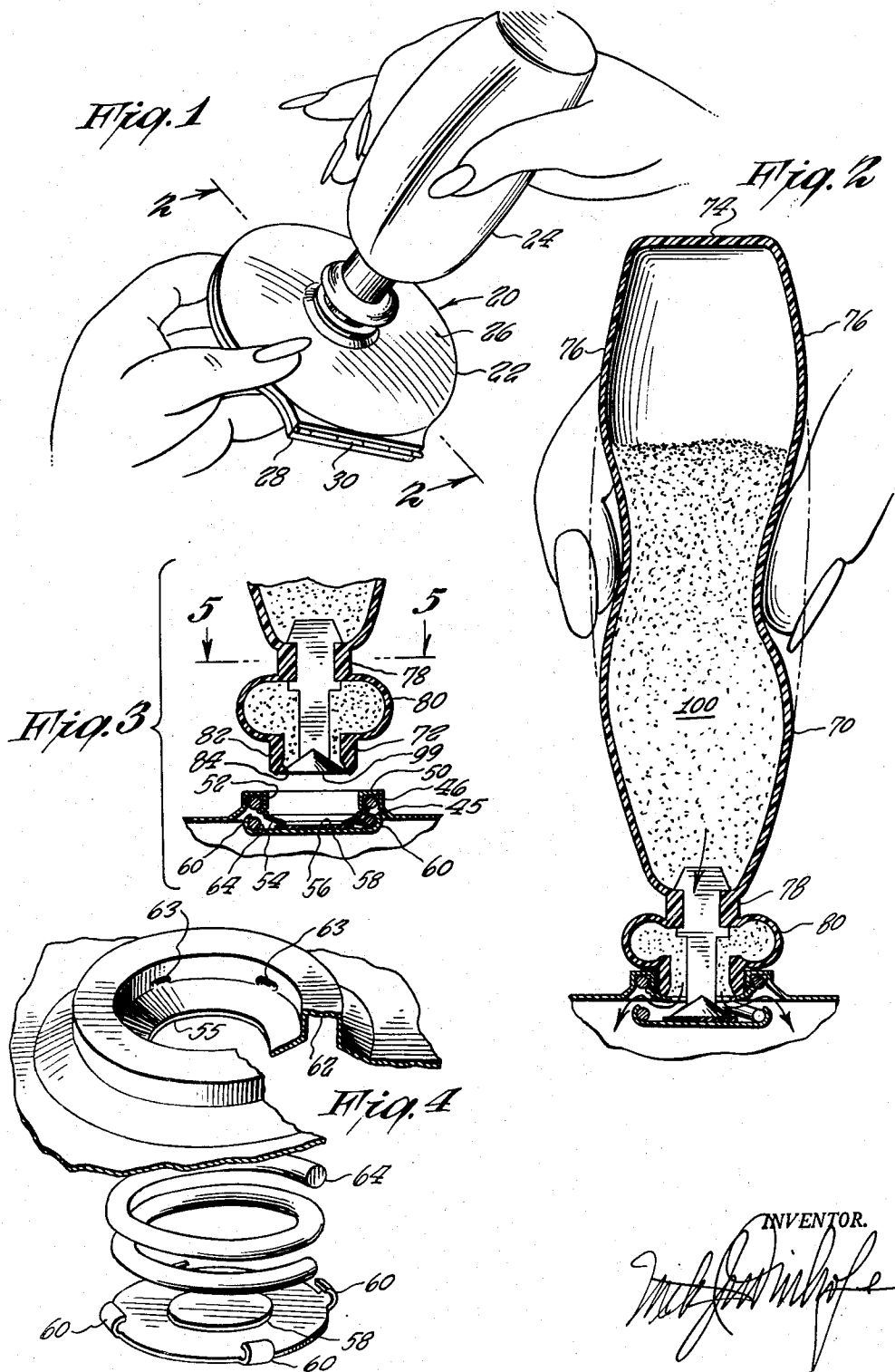
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COMBINATION COMPACT AND FILLER

Filed May 17, 1950

2 Sheets-Sheet 1



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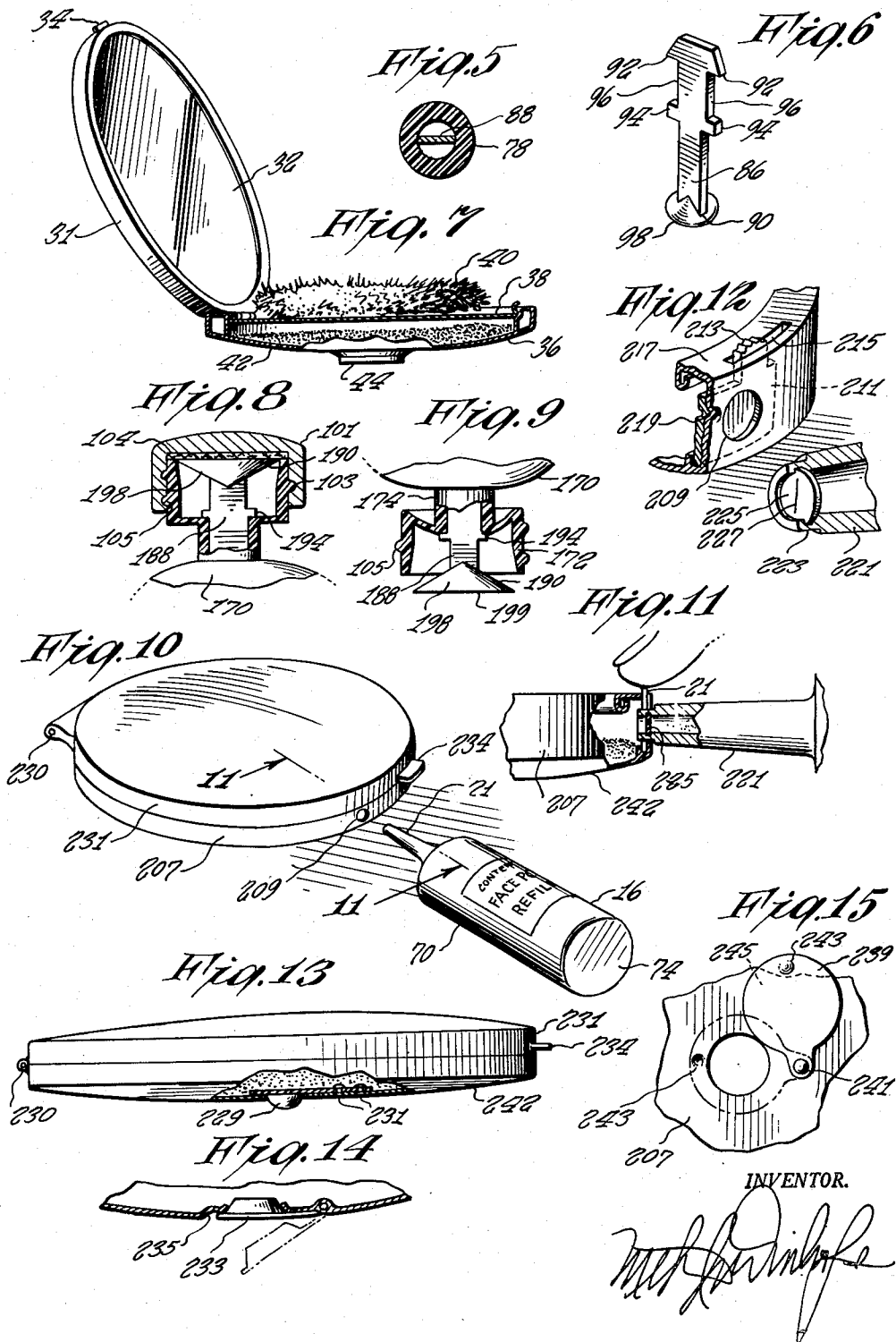
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COMBINATION COMPACT AND FILLER

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4 Claims. (Cl. 226—65.5)

This invention relates generally to the cosmetic art, and more particularly to an improved form of compact for the dispensing of powder, rouge and the like, and a powder container for the same.

Compacts of a type employed for applying powder in a loose rather than caked type have been used for many years, and provide a convenient means for carrying this type of powder in a handbag. With few exceptions, all of these devices have suffered from a serious disadvantage in that the amount of powder which may be carried at one time is limited, unless the compact itself is made inordinately large. When reloading compacts of this type, great difficulty has been involved in that extremely fine powders tend to scatter and stick to various articles, and in many causes it is necessary to physically handle the powder. This operation is time consuming, and extremely messy in that the compact itself must be carefully wiped free of surplus powder in order that the same does not soil other articles in a handbag.

In prior years, an attempt was made to avoid this disadvantage by forming the powder into a small cake, particles of which could be dislodged from the cake by rubbing the puff over the surface thereof. Owing to ingredients employed in the powder to make the same coherent, this has not been entirely satisfactory. The cakes have also been subject to breakage, and often the particular shade of powder desired by the user is not available in cake form.

It is, therefore, among the principal objects of the present invention to provide a novel compact which may be readily refilled with powder in a loose form, without encountering the above mentioned disadvantages.

Another object of the invention herein lies in the provision of a novel filler or charger, to be used in conjunction with the above mentioned compact for the purpose of refilling the same. By means of such structure, it is possible to quickly and expediently reload the compact with a fresh charge of powder, without the necessity of physically handling the powder, and with a complete absence of danger of soiling the compact or surrounding objects.

Another object of the invention herein lies in the provision of structure of the class described having the above mentioned characteristics in which the cost of manufacture may be of a relatively low order, with consequent wide sale, distribution and use.

Another object of the present invention lies in the provision of a compact capable of being easily recharged, in which the configuration may take a wide variety of forms, it being unnecessary for the overall size of the compact to be any greater than that normally employed.

A feature of the invention lies in the structure of a novel interlocking means on the compact, which completely seals the transfer of powder from the outside atmosphere, thereby making the spilling of any powder virtually impossible.

These objects and features, as well as other incidental ends and advantages, will become more fully apparent during the course of the following disclosure, and be pointed out in the appended claims.

On the drawings, to which reference will be made in the specification, similar reference characters have been employed to designate corresponding parts throughout the several views.

Figure 1 is a view in perspective of an embodiment

2

of the invention, showing the compact being recharged with powder by means of the filler.

Figure 2 is an enlarged fragmentary vertical central sectional view as seen from the plane 2—2 on Figure 1.

Figure 3 is an enlarged fragmentary central sectional view, corresponding to that seen on Figure 2, but showing the position of the various parts after the removal of the filler.

Figure 4 is an enlarged fragmentary view in perspective showing the novel closure means which comprises a part of the compact.

Figure 5 is a horizontal sectional view as seen from the plane 5—5 on Figure 3.

Figure 6 is a view in perspective showing a portion of the filler structure.

Figure 7 is a view in perspective, partially in section of the compact.

Figure 8 is an enlarged fragmentary vertical central sectional view corresponding to that shown on Figure 5, but showing a second embodiment of the invention.

Figure 9 is a fragmentary vertical central sectional view, corresponding to that shown on Figure 8, but showing a relationship of parts similar to that seen on Figure 2.

Figure 10 is a view in perspective of a third embodiment of the invention.

Figure 11 is an enlarged vertical central sectional view as seen from the plane 11—11 on Figure 10.

Figure 12 is a view in elevation, partly in section, of an alternate form of the third embodiment.

Figure 13 is a fragmentary sectional view, corresponding to that seen on Figure 12, but showing a second alternate form of the third embodiment.

Figure 14 is an enlarged fragmentary view in elevation showing a third alternate form of the third embodiment.

In accordance with the invention, the first embodiment, as shown by the device 20, comprises broadly: a compact element 22 and a filler element 24. As may be seen on Figure 1, the filler element 24 is detachably engageable with the compact element 22 for the purpose of injecting a fresh supply of powder from the former into the latter.

The compact element 22 may be of conventional configuration and structure, including a body member 26 to which a lid member 28 is pivotally connected by means of a hinge 30. The lid member 28 comprises an outer wall 31 in which may be disposed a mirror 32. Extending from the surface of the outer wall 31 is a projection 34 to enable the lid member to be separated from the body member when it is desired to open the compact element 22. Referring to the body member 26, there is provided therein a powder-retaining recess 36, the upper part of which is covered by a screen 38. Powder 40 disposed in the recess 36 may thus be picked up through the screen 38 by means of a puff 40, the screen serving to retain the bulk of the powder in place. The outer wall 42 is provided with an injection fitting 44 preferably at the central portion thereof through which powder may be loaded into the compact as required. As may be seen on Figure 7, the fitting 44 has two additional functions. It not only serves as a guide for the proper insertion of the filler bottle and a stopper of the bottle at the proper position, but it also serves to keep the surface of the member 56 level with inside of the surface of the compact so as not to interfere with the obtaining of the powder with the puff 40.

On Figure 4, there may be seen in greater detail the structure of the fitting 44 which is preferably formed integrally with the outer wall 42. It includes an extension flange 45 which serves to space the fitting outwardly of the wall 42, an outer annular surface 46, an outer planar surface 50, an inner annular surface 52 and an inner converging surface 54. These members are preferably formed by extrusion but if desired they may be in the form of a plastic casting. The central opening 55, as defined by the inner edges of the converging surface 54 is normally closed by a sealing member 56 having a gasket 58 on the outer surface thereof. The member 56 is provided with a plurality of spring retaining flanges 60 which anchor the lower terminus of the tension

spring 64. The upper terminus is maintained in a groove 62 by means of tabs 63 which are formed by bending inwardly portions cut from the material forming the inner annular surface 52. When the spring 64 is in an unstressed position, the gasket 58 contacts the edges of the opening 55, thereby preventing any powder disposed within the compact element from passing therethrough. Pressure exerted upon the central portion of the sealing member 56 at the gasket 58 will cause the sealing member to flex as shown on Figure 2, thereby permitting the entry of additional powder into the compact element.

The filler element 24 includes a deformable body 70 preferably formed from synthetic resins such as polyethylene or organic compositions having similar properties. It is provided with an injection nozzle 72 which may be inserted into the injection fitting 44. The body 70 includes a base portion 74 as well as a deformable side portion 76. At the nozzle end of the body there is provided an inner neck portion 78 (see Figures 2 and 5) of relatively thicker cross section. This in turn connects with a resilient annular chamber 80. The outer edge of the chamber in turn connects with an outer neck portion 82, the outermost edge thereof forming a valve seat 84. When the chamber 80 is in an unstressed position, it normally assumes the shapes shown on Figure 3, whereas pressure exerted against the outer neck portion 82 will serve to distort the chamber to the shape shown on Figure 2. Both the inner and outer neck portions 78 and 82 are provided with central openings in which there is disposed a valve unit 86, including a stem member 88 and a poppet member 90. The stem member includes inner and outer pairs of projections 92 and 94 forming recesses 96 which permit the stem to be secured within the inner neck portion 78 in the position shown on Figures 2 and 3. The poppet member 90 is secured at the outer terminus of the stem member 88, in such a manner that the outer planar surface 99 is disposed perpendicularly with respect to the plane thereof. The conical surface 98 is thus positioned within the opening formed by the outer neck portion 82, to provide a seal thereat when the chamber 80 is in an unstressed condition.

The operation of the device is simple. When it is desired to recharge the compact element 22 with a fresh amount of powder the outer neck portion 82 is positioned within the injection fitting 44, as shown on Figure 2. Pressing inwardly will result in the edge of the outer neck portion becoming firmly engaged with the converging surface 54. Further pressure allows the resilient chamber 80 to be distorted as shown, thereby shortening the distance between the inner and outer neck portions 78 and 82. Since the stem member 88 is inflexible, the distortion of the chamber 80 results in the poppet member 90 being projected against the gasket 58, whereby the sealing member 56 is moved inwardly to uncover the central opening 55. The side portion 76 is then gently squeezed between thumb and forefinger, which action results in the forcing of powder 100 into the recess 36. Pressure is then released, after which the filler element 24 is withdrawn from the injection fitting 44. Since the sealing member 56 is held open by the poppet member 90, both the compact element 22 and the filler element 24 will be simultaneously closed at the time of withdrawal, thereby preventing any spilling of powder.

Turning now to the second embodiment of the invention, in which to avoid needless repetition, certain of the parts corresponding to those of the first embodiment are designated by similar reference characters with the additional prefix "1."

As may be seen on Figures 8 and 9, the second embodiment differs from the first embodiment principally in the shape of the injection nozzle 72 of the filler element 24. The outer neck portion 174 is provided with threads 105 engageable with corresponding threads 103 on a protective screw type cap 101. When the filler element 24 is not in use, accidental discharge of powder is effectively prevented by threadedly engaging the cap, whereby the gasket 104 covers the poppet member 190. In the case of the second embodiment, should the filler element be accidentally dropped, the valve unit 186 can in no manner become dislodged to permit spillage of powder. In other respects, the use of the filler element corresponds to that employed in the first embodiment.

Turning now to the third embodiment of the invention, in which to avoid needless repetition, certain of the

parts corresponding to those of the first embodiment have been designated by similar reference characters with the additional prefix "2."

The third embodiment differs from the first and second embodiments both in the structure of the injection fitting as well as the injection nozzle. This embodiment is particularly suited where low cost of production is of primary importance.

Accordingly, in the third embodiment injection is made through an orifice 209 in the side rim 107 of the compact element 222. This orifice is normally closed by means of a sliding member 111 controlled by a finger engaging tab 213 which rides in a slot 215 in the top flange 217 of the rim. Detent means 219 prevents the member 211 from accidentally opening the orifice 209, and if desired additional detent means may be employed to maintain the orifice in an opened condition prior to loading. The injection nozzle 221 includes a tapered engagement portion 231 into which there is fitted a slotted disk 225. This disk is preferably formed from rubber or synthetic flexible plastic so that under internal pressure the slot 227 will expand to permit powder to pass therethrough. As may be seen on Figure 10, the annular chamber 80 present in the first embodiment is eliminated.

When using the third embodiment, the compact element is loaded by sliding the finger engaging portion 213 to the right as seen on Figure 12, after which the injection nozzle may be inserted into the opening 209. After the compact element has been filled, the injection nozzle is withdrawn, after which the finger engaging portion 213 is slid to the left permitting the detent means 219 to become engaged. Since the closing of the orifice 209 is manually accomplished, rather than by means of a spring, care should be taken to avoid any of the powder being spilled prior to the closing of the same.

On Figure 13, there may be seen an alternate form of the third embodiment in which the filler element employed is substantially the same. The sealing member 229, however, is resiliently mounted and is secured to the outer wall 242 by means of rivets 231. The member 229 is provided with a hemispherical portion which fills the opening, and which may be contacted by the injection nozzle whereby the same may be deflected for filling. Upon removal of the injection nozzle the member 229 returns to its initial position, automatically sealing the opening.

On Figure 14 there may be seen another alternate form of the third embodiment. In this case the sealing member 233 is pivotally mounted on the outer wall about an axis lying in the wall. A fingernail recess 235 is provided to allow for the opening of the member 233, the same permitting the member to lie flush with the wall when the central opening is closed.

On Figure 15 there may be seen still another alternate form of the third embodiment wherein the sealing member is pivotally mounted about an axis perpendicular to the outer wall. Here the pivotally mounted sealing member 239 is mounted on a pin 241, the member 239 being held in closed position by detent means 243. A gasket 245 assists in maintaining a leak-proof seal.

It may thus be seen that I have invented novel and highly useful improvements in reloadable compacts and filler elements therefor. The refilling of a compact may be accomplished speedily and with practically no loss of powder. This structure permits the selling of powder in relatively greater quantities than heretofore possible with a resultant lower cost of marketing the same. Substantially all waste of powder in reloading the compact is eliminated, and the reloading may be accomplished with a convenience heretofore unobtainable.

I wish it to be understood that I do not consider the invention limited to the exact details shown and set forth in this specification, for obvious modifications will occur to those skilled in the art to which the present invention pertains.

I claim:

1. For use in filling a cosmetic compact, filler element structure comprising: a deformable body member having an open end therein; an inner neck bordering said open end; a resilient annular chamber connected to said inner neck portion; an outer neck portion connected to said chamber, said outer neck portion forming a valve seat; a valve unit having a stem portion engaged by said inner neck and a surface engageable with said valve seat; whereby pressure exerted upon said resilient annu-

5

lar chamber to distort the same results in disengaging said surface from said valve seat to permit passage of powder therebetween.

2. As a new article of manufacture, a powder filling device comprising: a polyethylene body member, an inner neck portion connected to said body member, a resilient annular chamber connected to said inner neck portion, an outer neck portion connected to said chamber, a valve unit connected to said inner neck portion and having a surface positioned to close the opening in said outer neck portion; said annular chamber being distortable under pressure exerted upon a portion thereof to result in the opening of said valve unit.

3. A combination cosmetic compact and filler element structure therefor comprising: a deformable body member having an open end therein; an inner neck portion bordering said open end; a resilient annular chamber connected to said inner neck portion; an outer neck portion connected to said chamber, said outer neck portion forming a valve seat; a valve unit having a stem portion engaged by said inner neck portion, and a surface engageable with said valve seat; said compact having an injection fitting corresponding to said outer neck portion, said injection fitting having a sealing member which is adapted to be contacted by a portion of said valve unit upon engagement of said fitting with said outer neck portion of said filler element structure.

4. A combination cosmetic compact and filler element structure therefor comprising: a deformable body member having an open end therein; an inner neck portion

6

bordering said open end; a resilient annular chamber connected to said inner neck portion; an outer neck portion connected to said chamber, said outer neck portion forming a valve seat; a valve unit having a stem portion engaged by said inner neck portion, and a surface engageable with said valve seat; said compact having an injection fitting corresponding to said outer neck portion, said injection fitting having a resiliently urged sealing member which is adapted to be contacted by a portion of said valve unit upon engagement of said fitting with said outer neck portion of said filler element structure.

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