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(54) **Deodorant-container vending apparatus**

(57) Deodorant-container vending apparatus (10) comprises : a vending device (12) having a housing (16), a storage compartment (18) in the housing (16), and a user-operable dispensing mechanism (20) in the housing (16); and a plurality of pre-filled disposable deodorant containers (14) provided in the storage compartment (18) of the housing (16). The said deodorant containers (14) are dispensable one at a time from the housing (16) via the dispensing mechanism (20). The disposable deodorant container (14) has a spray applicator (38) and a contents volume suitable for no more than two separate applications so that a size of the deodorant container (14) is small enough to be carried discreetly and disposed of without taking up a large amount of space. Preferably, the storage compartment (18) of the vending device (12) is a hopper (22). Also preferably, the deodorant container (14) is flexible so that it can be hand compacted for disposal.

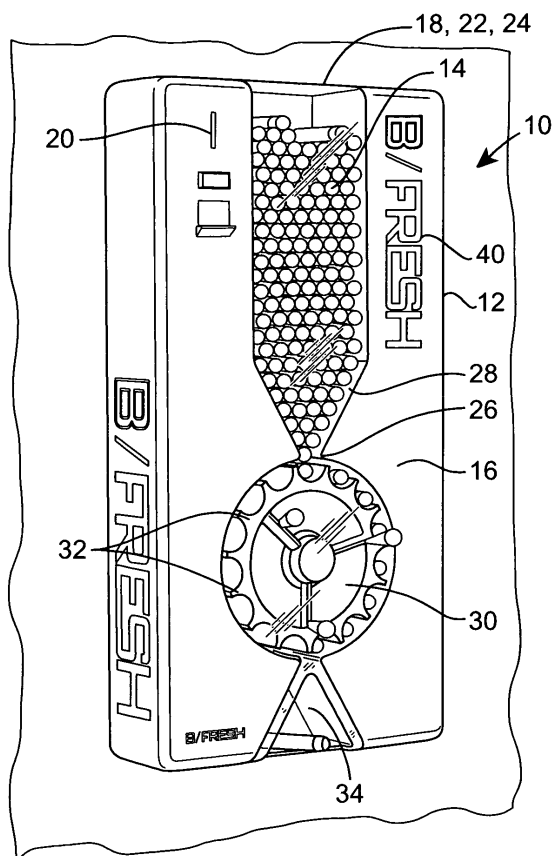


Fig. 1

Description

[0001] The present invention relates to vending apparatus for vending deodorant in a container. Preferably, but not essentially, the container has a contents volume suitable for no more than two separate applications.

[0002] Vending apparatus is well known, and can typically vend soft drinks, hot beverages, confectionary, and condoms. Condom vending machines are now common place in restrooms and toilets. However, in public areas, such as bars, restaurants and clubs, patrons can often require access to deodorant or similar liquid having a pleasant aroma, especially following physical exertion, such as dancing.

[0003] Coupled to this, the patron or user typically wants to forego the expense of a large container of aromatic liquid, as well as the problems associated with then storing and transporting it.

[0004] The present invention seeks to provide a solution to these problems.

[0005] According to the present invention, there is provided deodorant-container vending apparatus comprising : a vending device having a housing, a storage compartment in the housing, and a user-operable dispensing mechanism in the housing; and a plurality of pre-filled disposable deodorant containers provided in the storage compartment of the housing, the said deodorant containers being dispensable one at a time from the housing via the dispensing mechanism, the disposable deodorant container having a spray applicator and a contents volume suitable for no more than two separate applications so that a size of the deodorant container is small enough to be carried discreetly and disposed of without taking up a large amount of space.

[0006] The term 'deodorant' used herein throughout means an aromatic liquid or compound and is intended to cover at least one or more of a deodorant, antiperspirant, cologne, and a perfume.

[0007] A perfume typically includes 10% to 30% aromatic compound, whereas cologne typically includes 2% to 3% aromatic compound. A deodorant may have a percentage of aromatic compound which is less than cologne.

[0008] Preferable and/or optional features of the invention are set forth in claims 2 to 15, inclusive.

[0009] The invention will now be more particularly described, by way of example only, with reference to the accompanying drawings, in which :

Figure 1 shows one embodiment of deodorant-container vending apparatus; and

Figure 2 shows an example of a deodorant container dispensable from a vending device of the vending apparatus.

[0010] Referring to the drawings, there is shown vending apparatus 10 which comprises a vending device 12

and a plurality of disposable deodorant containers 14 having a predetermined volume of aromatic liquid, compound or substance therein.

[0011] The vending device 12 includes a rigid outer housing 16 within which is provided at least one storage compartment 18 for the plurality of deodorant containers 14 and a user-operable dispensing mechanism 20. The outer housing 16 is openable to allow the or each storage compartment 18 to be refilled, and securely closeable to prevent unauthorised access and theft.

[0012] The storage compartment 18 is in the form of a hopper 22 having an upper opening 24 and a lower opening 26. The upper opening 24 has a greater dimension than the lower opening 26, allowing deodorant containers 14 to be easily fed into the hopper 22. The hopper 22 tapers partway along its depth to the lower opening 26, at which dispensing occurs under gravity. The deodorant containers 14 are stacked in the hopper 22 without being individually separated. To prevent possible wedging of the deodorant containers 14 at the lower opening 26, dislodgement means may be provided. The dislodgement means may take the form of a vibration mechanism or, for example, a paddle mechanism which vibrates or moves the deodorant containers 14 within the hopper 22.

[0013] Preferably, the hopper 22 also includes a front viewing window or opening 28 which allows display of the contents through a front surface of the outer housing 16. Additionally or alternatively, further viewing windows may be provided, for example in the sides of the hopper 22 so that the contents can be viewed from one or more sides of the outer housing 16. If the front opening 28 is open, refilling of the hopper 22 may occur therethrough.

[0014] The dispensing mechanism 20 includes a controller which monitors payment and a rotatable cog-wheel 30 which is movable by a user. Once payment is made, the controller releases the cog-wheel 30, thereby allowing user rotation. The teeth 32 of the cog-wheel 30 are spaced sufficiently to allow a single deodorant container 14 to pass under gravity from the hopper 22 to between the teeth 32, and to then be transported through rotation to a vending chute or opening 34, typically below the cog-wheel 30. The dispensing mechanism 20 monitors the position of the cog-wheel 30, the presence or absence of a deodorant container 14 between adjacent teeth 32, and/or the vending chute 34 so that, once the controller determines that a single deodorant container 14 has been dispensed, the cog-wheel 30 is re-locked.

[0015] Other dispensing mechanisms are of course possible, and traditional dispensing mechanisms such as a releasable draw, a rotatable shelf, or a drop-down arrangement as typified by soft drinks and confectionary machines can be utilised.

[0016] The deodorant container 14 is best shown in Figure 2, and preferably includes a rigid blow-moulded, plastics or metal, container body 36 and a, typically plastics, atomising spray mechanism 38 provided at one end of the container body 36. The deodorant container 14 is disposable, preferably after a single application to both

under arm areas of a user's body. As such, a volume of aromatic liquid provided in the deodorant container 14 may be considered to be a one-shot or one-use dose, or sufficient to provide two separate applications. A volume of the container body 36 is thus suitably dimensioned to hold only a small volume of liquid or substance. By way of example, an overall length of the deodorant container 14 is preferably in a range of 50 millimetres (mm) to 100 mm, and more preferably approximately 80 mm. An overall lateral dimension of the deodorant container 14 is preferably in a range of 10 mm to 20 mm, and more preferably approximately 15 mm.

[0017] Other arrangements are possible. The deodorant container may have a flexible container body which can be punctured and squeezed by the user to express atomised aromatic liquid. Alternatively, the container body may be rigid as described above, but once punctured by the spray mechanism, discharges atomised aromatic liquid continuously until empty.

[0018] The deodorant container is intended to be a one-use item and then immediately disposed. For example, following vending by a user in, for example, a restroom of a club, the user applies the atomised aromatic liquid to their body and disposes of the container before leaving the restroom.

[0019] The deodorant container is also of sufficient size that it can be easily and conveniently carried in a user's pocket, such as a trouser pocket, and within a small hand bag.

[0020] The outer housing, storage compartment, and/or the deodorant container preferably have advertising display area portions 40, allowing advertisers to display products and brands.

[0021] The vending apparatus described above is most preferable for vending a disposable single-application deodorant container. However, it may also be used to vend containers having other types of aromatic liquid, such as cologne, perfume and antiperspirant.

[0022] The hopper type vending device could be used for dispensing any type of consumer product suitable for storage in a hopper.

[0023] Although an atomising spray is suggested, a roll-on applicator may be used instead.

[0024] It is thus possible to provide deodorant-container vending apparatus for dispensing a single-application or one-shot throw-away deodorant container. The container may also be formed of recyclable material. It is also possible to provide a new style of vending machine utilising a hopper, preferably having a viewing window on a front surface.

[0025] The embodiments described above are provided by way of example only, and further modifications may be envisaged by a person skilled in the field without departing from the scope of the invention as defined by the appended claims.

Claims

1. Deodorant-container vending apparatus (10) comprising : a vending device (12) having a housing (16), a storage compartment (18) in the housing (16), and a user-operable dispensing mechanism (20) in the housing (16); and a plurality of pre-filled disposable deodorant containers (14) provided in the storage compartment (18) of the housing (16), the said deodorant containers (14) being dispensable one at a time from the housing (16) via the dispensing mechanism (20), the disposable deodorant container (14) having a spray applicator (38) and a contents volume suitable for no more than two separate applications so that a size of the deodorant container (14) is small enough to be carried discreetly and disposed of without taking up a large amount of space.
2. Deodorant-container vending apparatus (10) as claimed in claim 1, wherein the storage compartment (18) in the housing (16) of the vending device (12) is a hopper (22).
3. Deodorant-container vending apparatus (10) as claimed in claim 2, wherein the hopper (22) includes a viewing window (28).
4. Deodorant-container vending apparatus (10) as claimed in claim 3, wherein the viewing window (28) is provided in a front surface of the housing (16).
5. Deodorant-container vending apparatus (10) as claimed in anyone of the preceding claims, wherein the dispensing mechanism (20) is payment-operable only following correct payment by a user.
6. Deodorant-container vending apparatus (10) as claimed in any one of the preceding claims, wherein the dispensing mechanism (20) includes a rotatable cog-wheel (30) having a space between adjacent teeth (32) adapted to releasably hold a single deodorant container (14).
7. Deodorant-container vending apparatus (10) as claimed in claim 6, wherein the cog-wheel (30) is manually rotatable by a user.
8. Deodorant-container vending apparatus (10) as claimed in claim 6 or claim 7, wherein the cog-wheel (30) is gravity-fed by the storage compartment (18).
9. Deodorant-container vending apparatus (10) as claimed in any one of the preceding claims, wherein the disposable deodorant container (14) has a contents volume suitable for only a single application.
10. Deodorant-container vending apparatus (10) as claimed in any one of the preceding claims, wherein

the disposable deodorant container (14) is a one-use device before requiring disposal.

11. Deodorant-container vending apparatus (10) as claimed in any one of the preceding claims, wherein the deodorant container (14) is dimensioned to fit in a user's pocket. 5
12. Deodorant-container vending apparatus (10) as claimed in any one of the preceding claims, wherein the deodorant container (14) is flexible so that it can be hand compacted for disposal. 10
13. Deodorant-container vending apparatus (10) as claimed in any one of the preceding claims, wherein a content contained in the deodorant container (14) is one of a deodorant, antiperspirant, cologne, and a perfume. 15
14. Deodorant-container vending apparatus (10) as claimed in any one of the preceding claims, wherein the spray applicator (38) includes an atomising spray mechanism. 20
15. Deodorant-container vending apparatus (10) as claimed in any one of the preceding claims, wherein the housing (16), storage compartment (18) and/or the deodorant container (14) includes an advertising display area portion. 25

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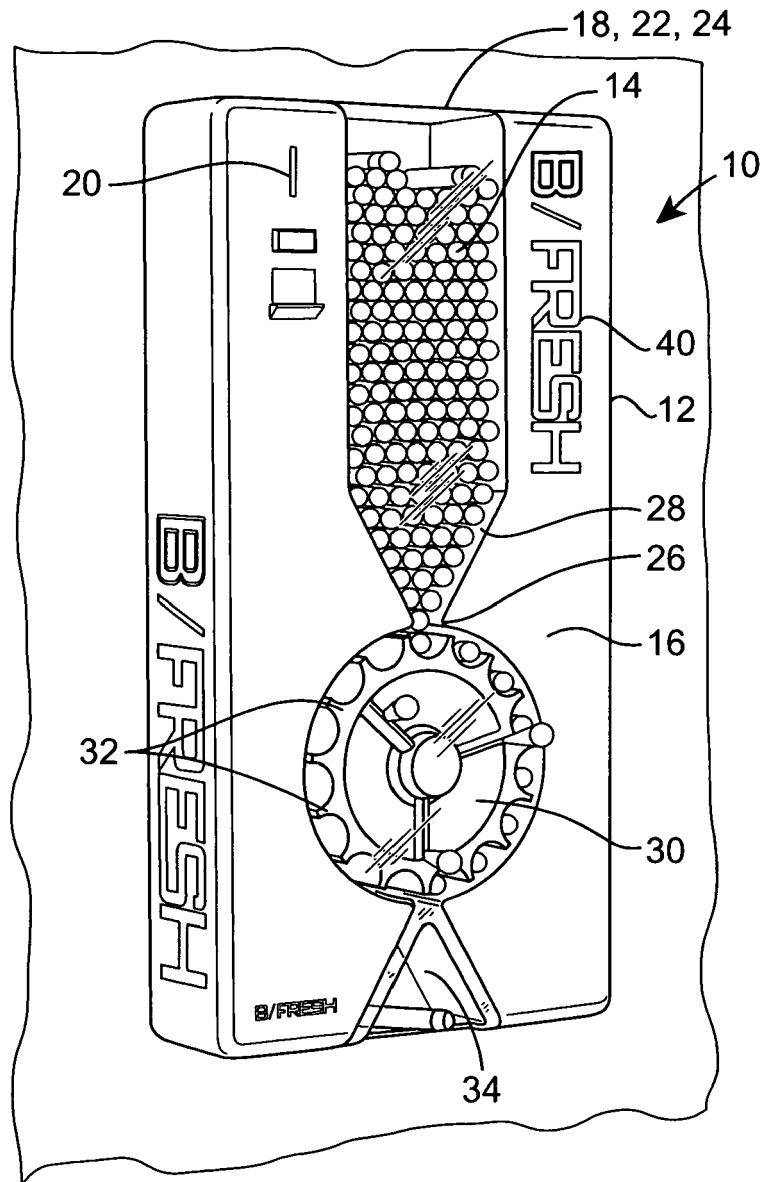


Fig. 1

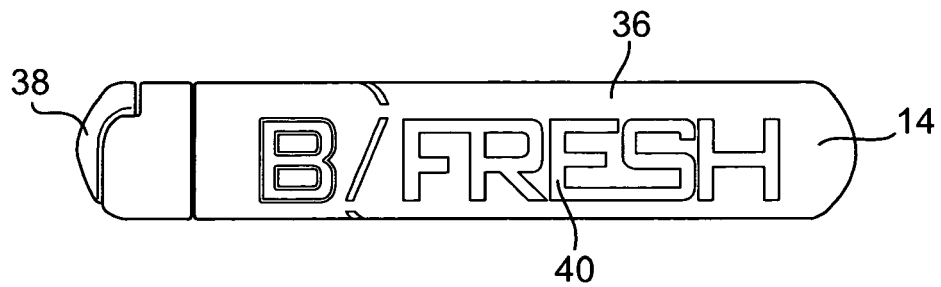


Fig. 2