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Other: **None**

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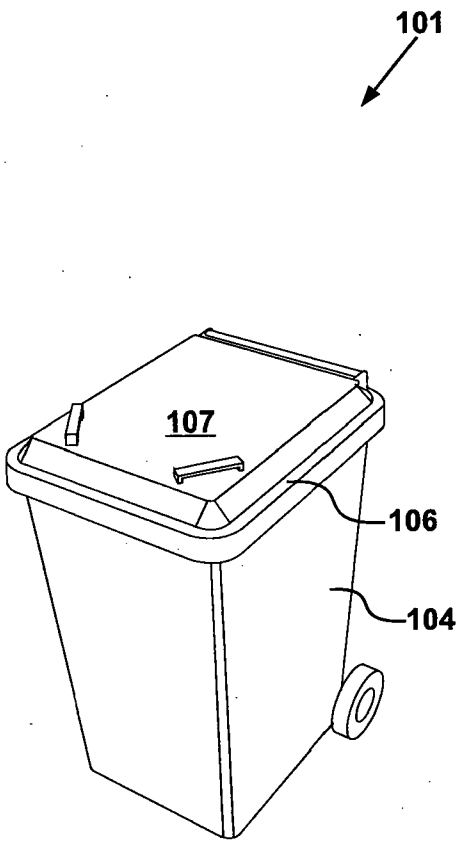

Fig. 1a

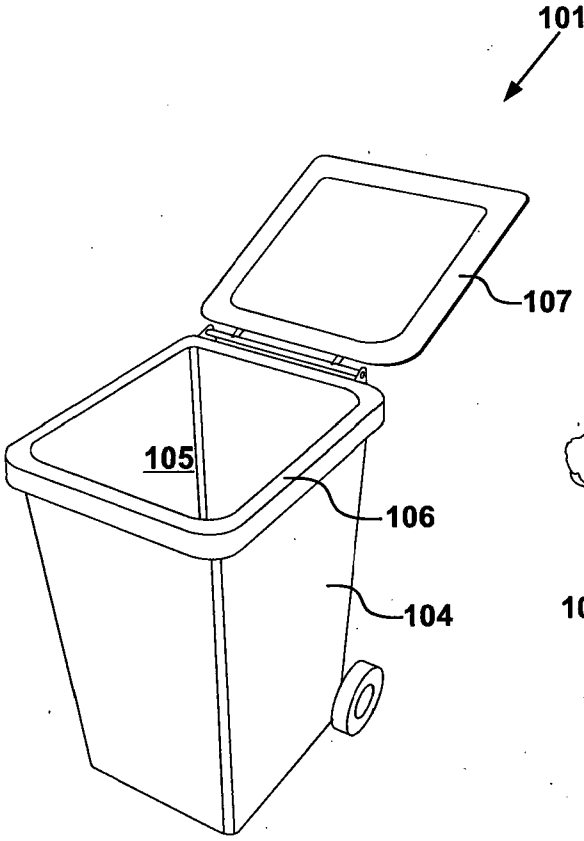

Fig. 1b

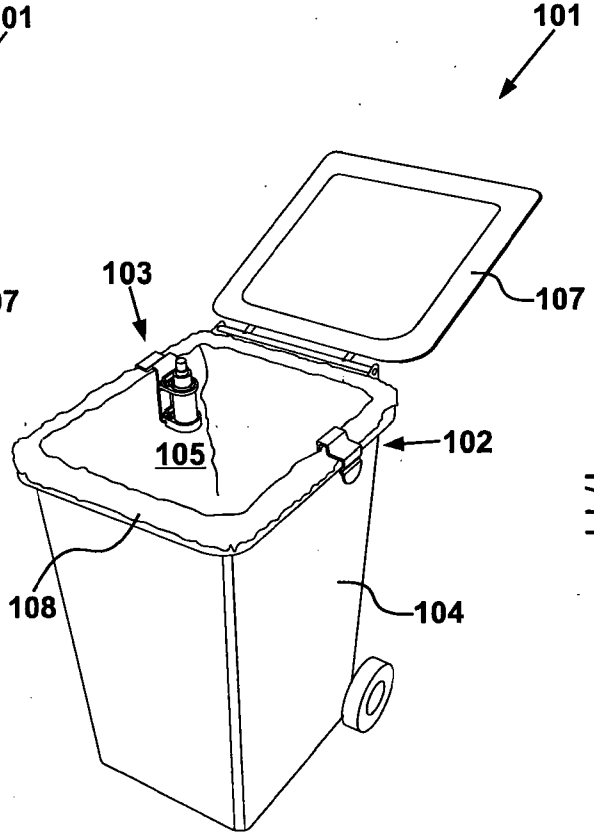

Fig. 1c

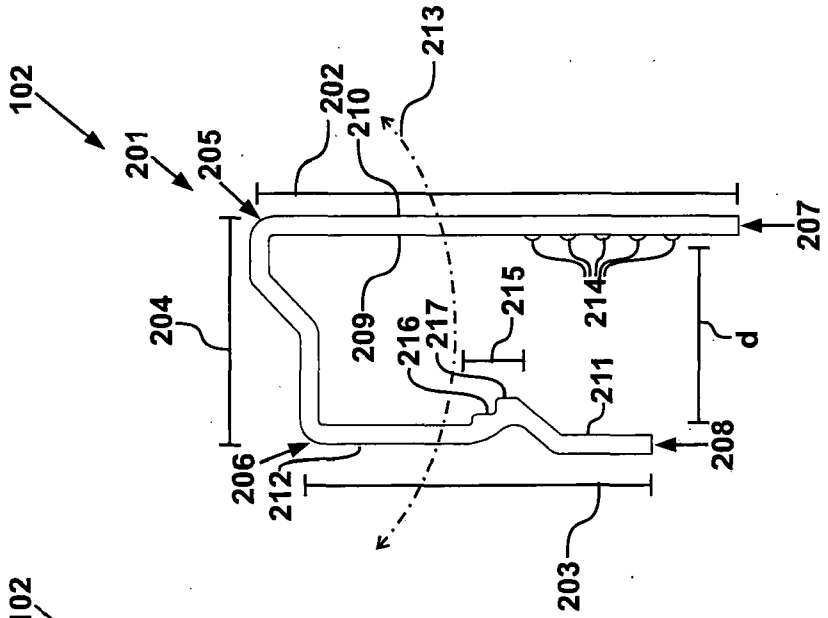

Fig. 2c

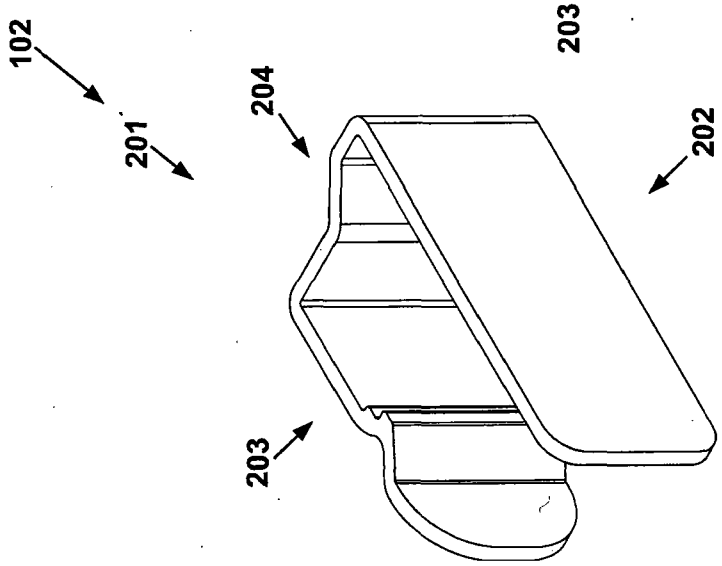

Fig. 2b

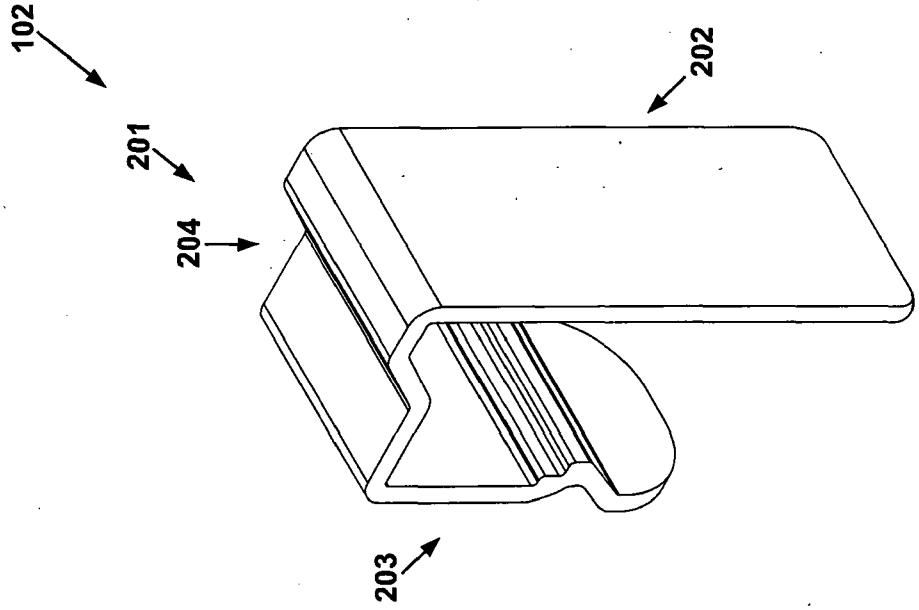

Fig. 2a

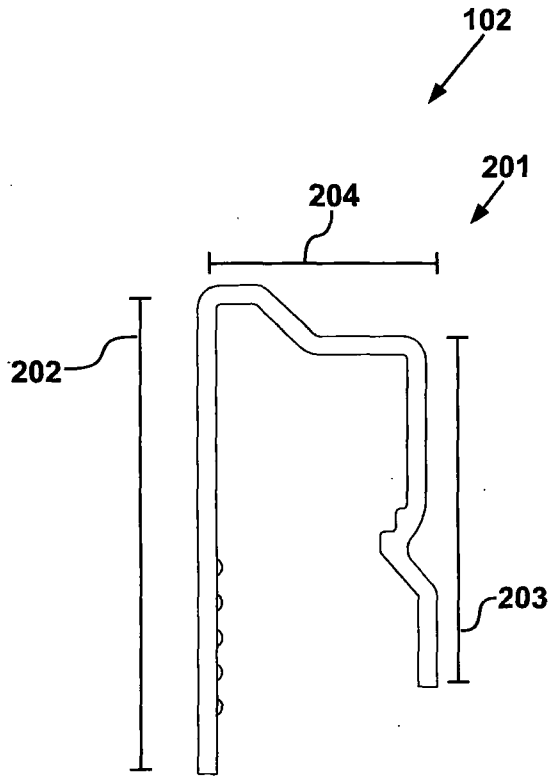

Fig. 2d

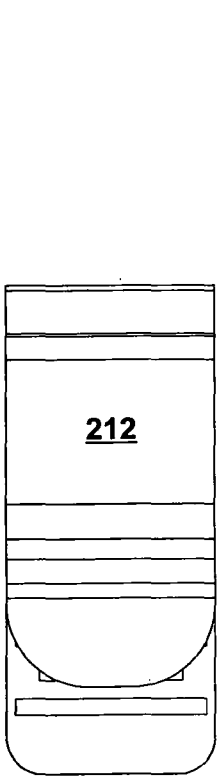

Fig. 2e

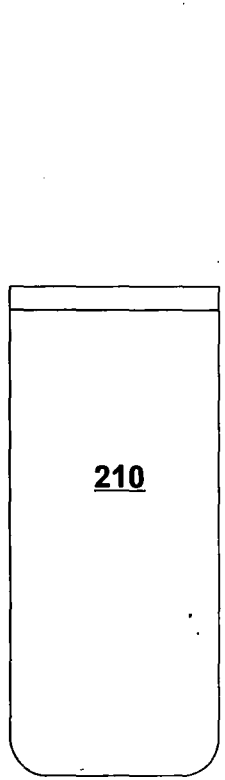

Fig. 2f

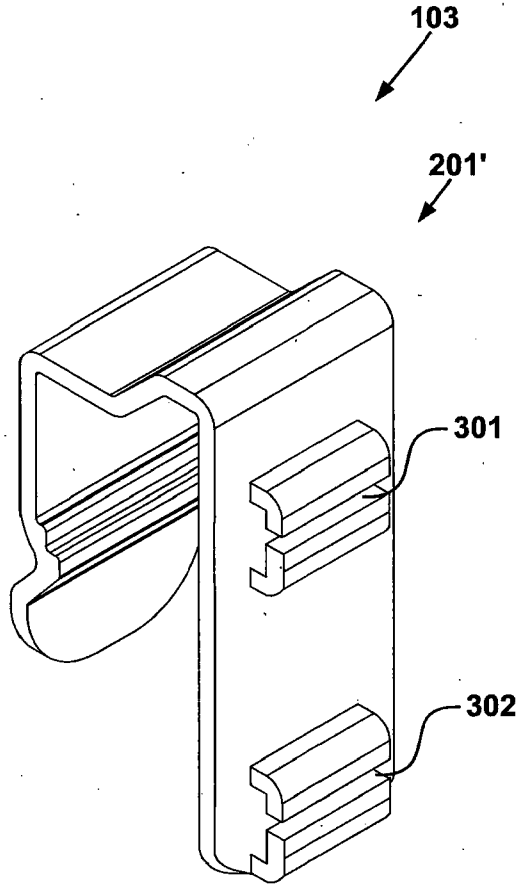

Fig. 3a

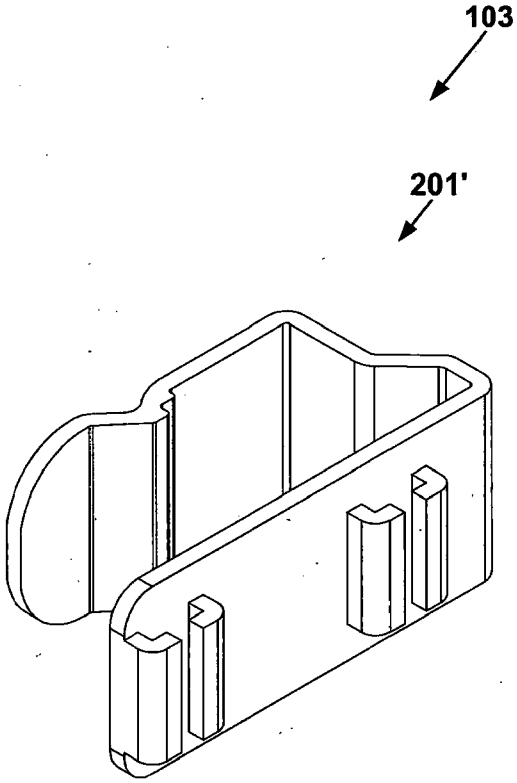

Fig. 3b

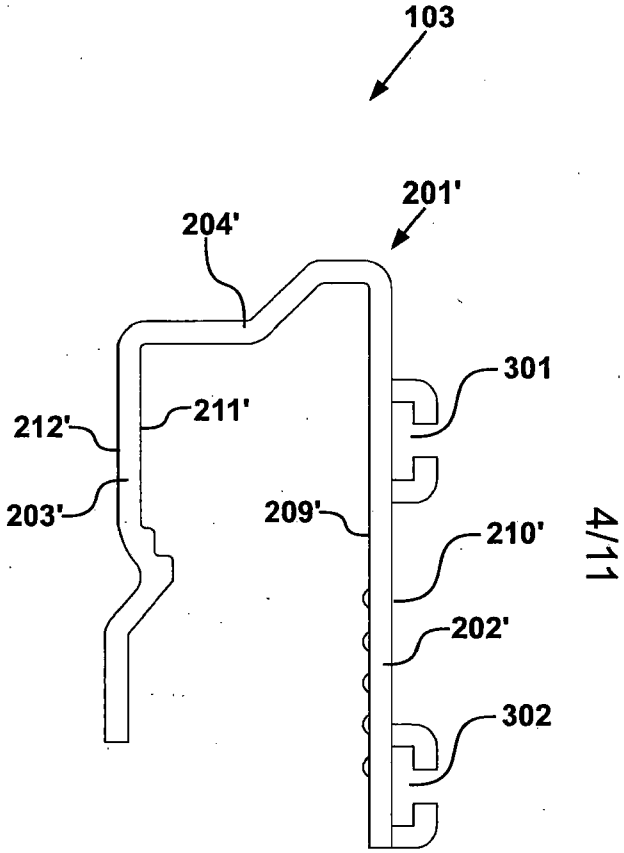

Fig. 3c

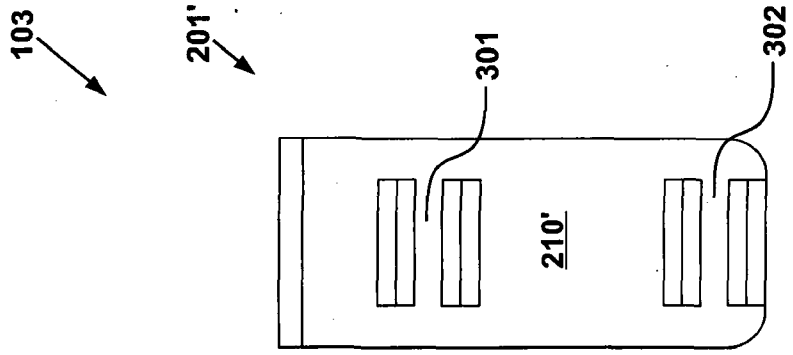

Fig. 3f

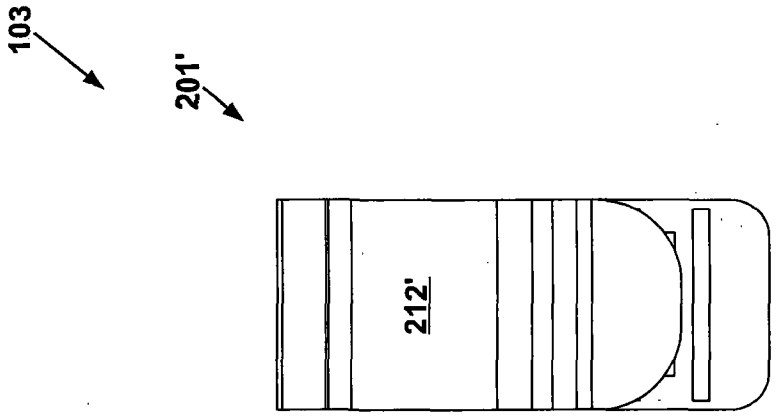

Fig. 3e

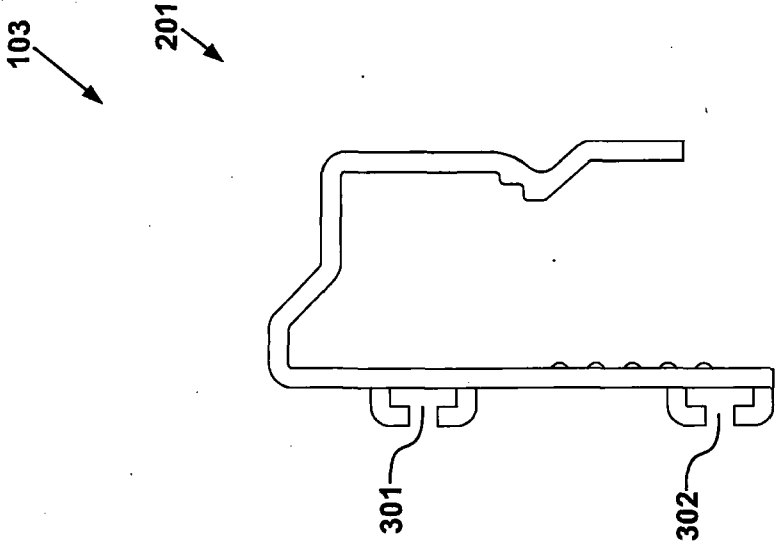

Fig. 3d

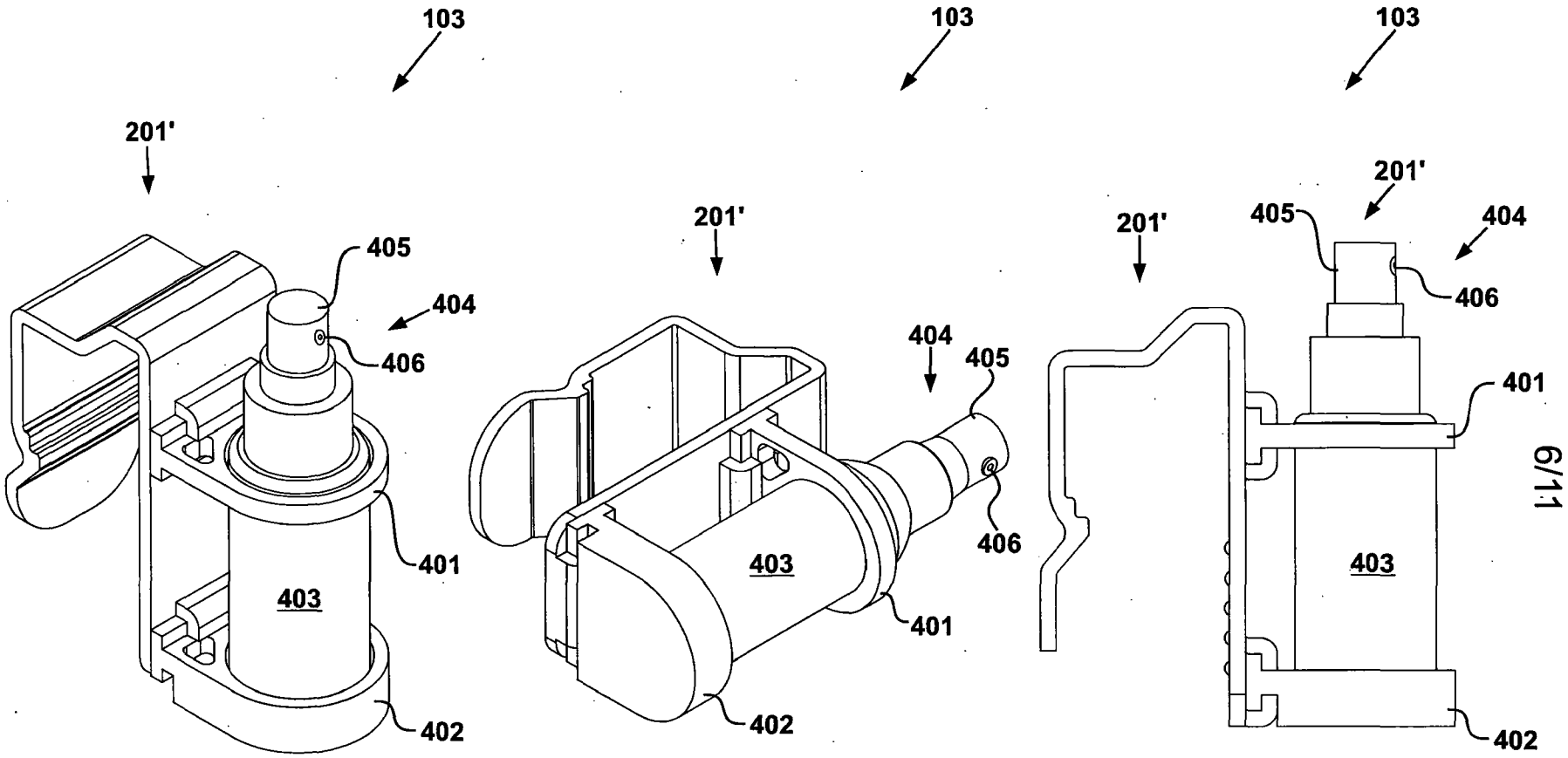

Fig. 4a Fig. 4b Fig. 4c

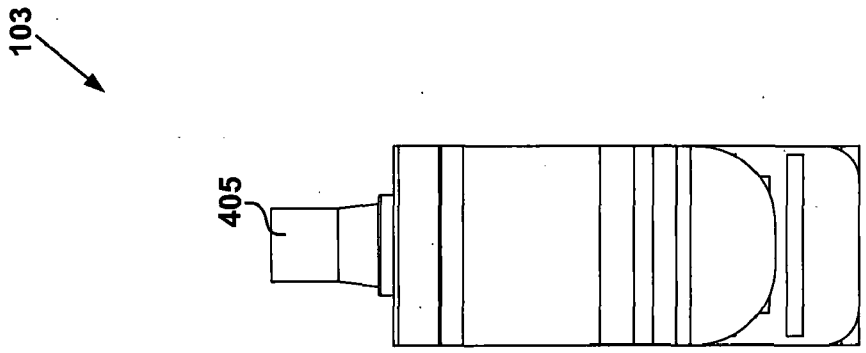

Fig. 4f

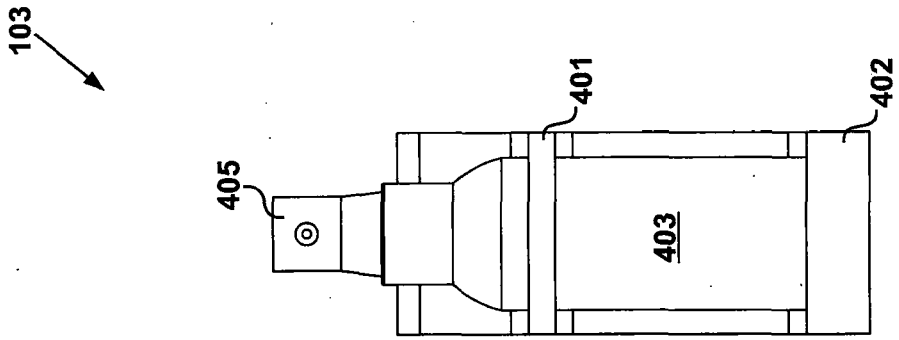

Fig. 4e

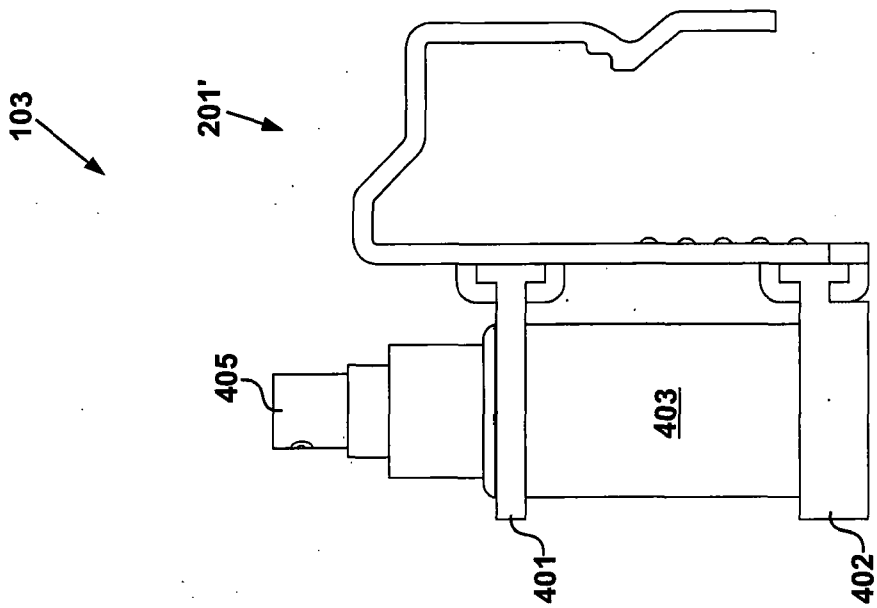

Fig. 4d

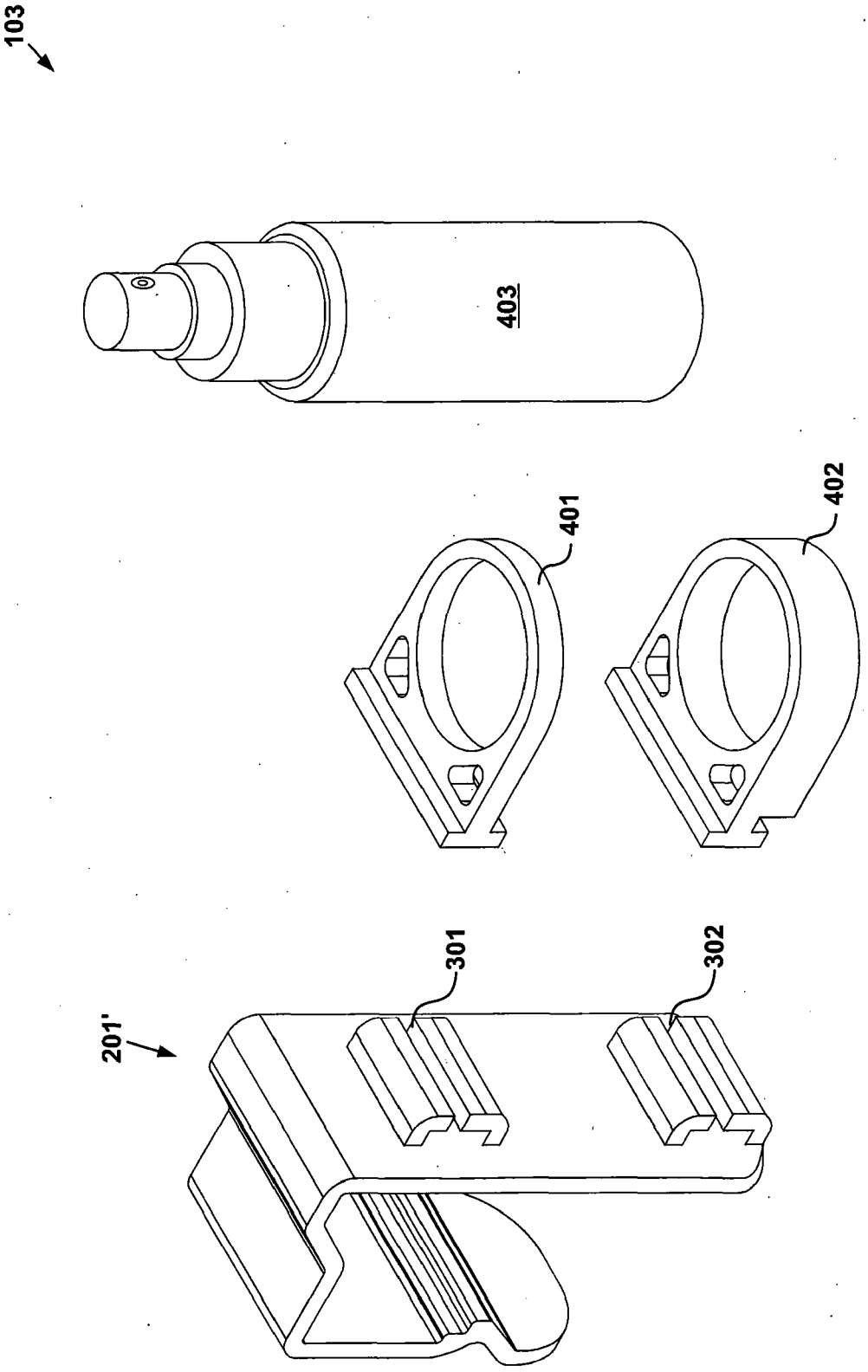

Fig. 4g

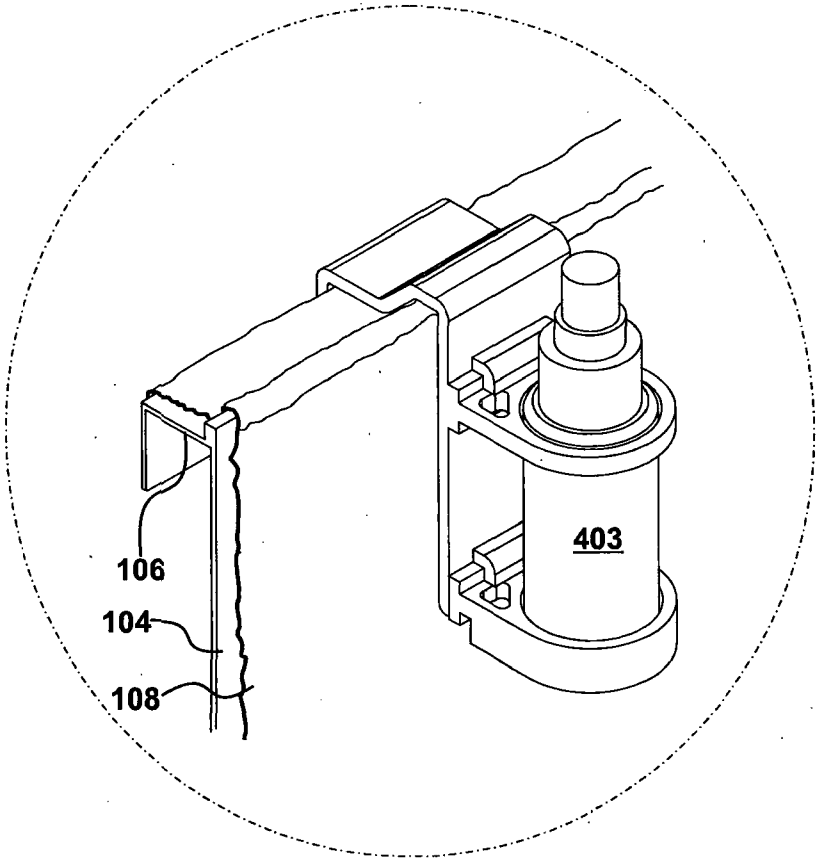

Fig. 5a

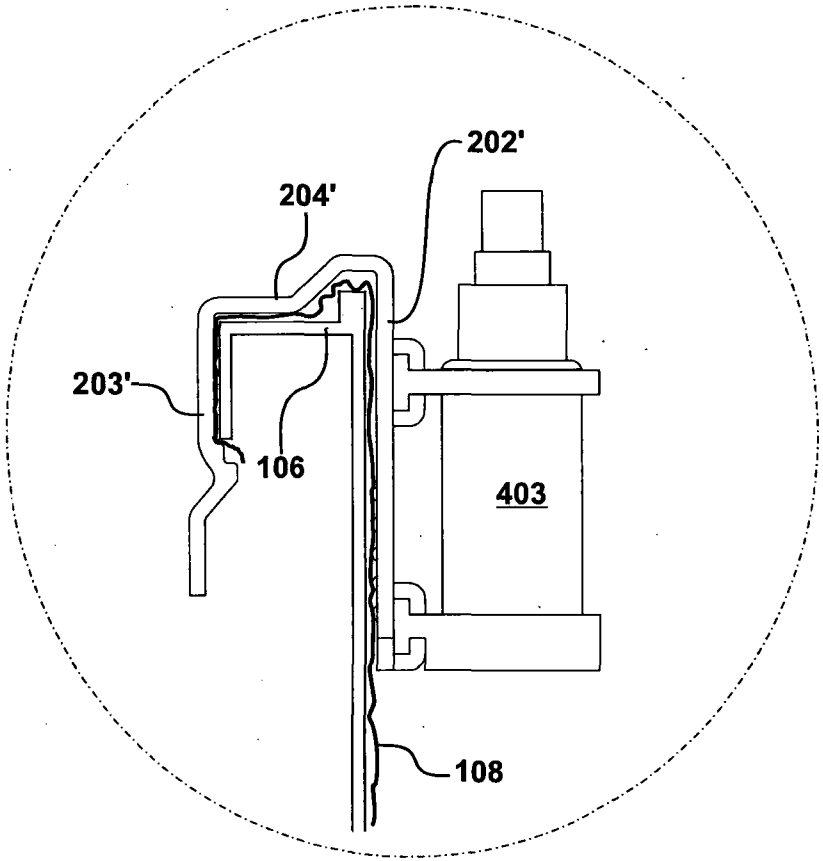

Fig. 5b

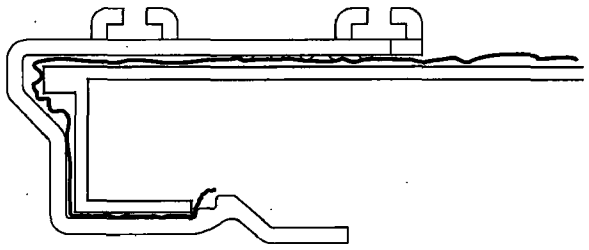

Fig. 6c

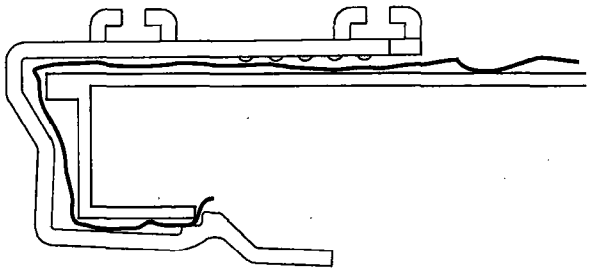

Fig. 6b

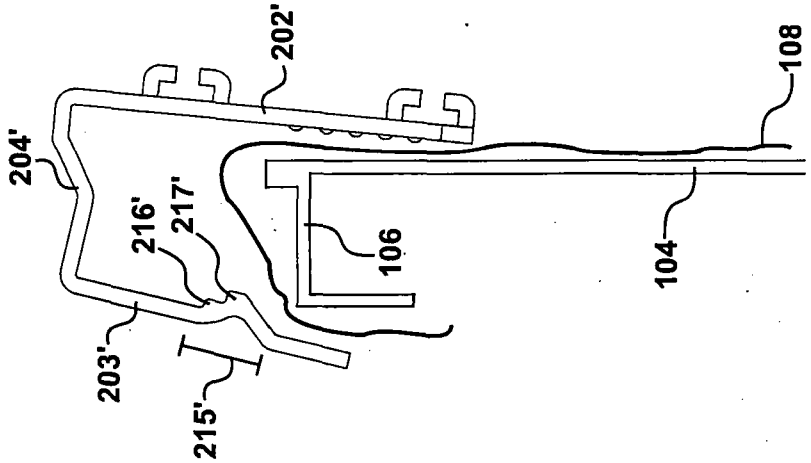

Fig. 6a

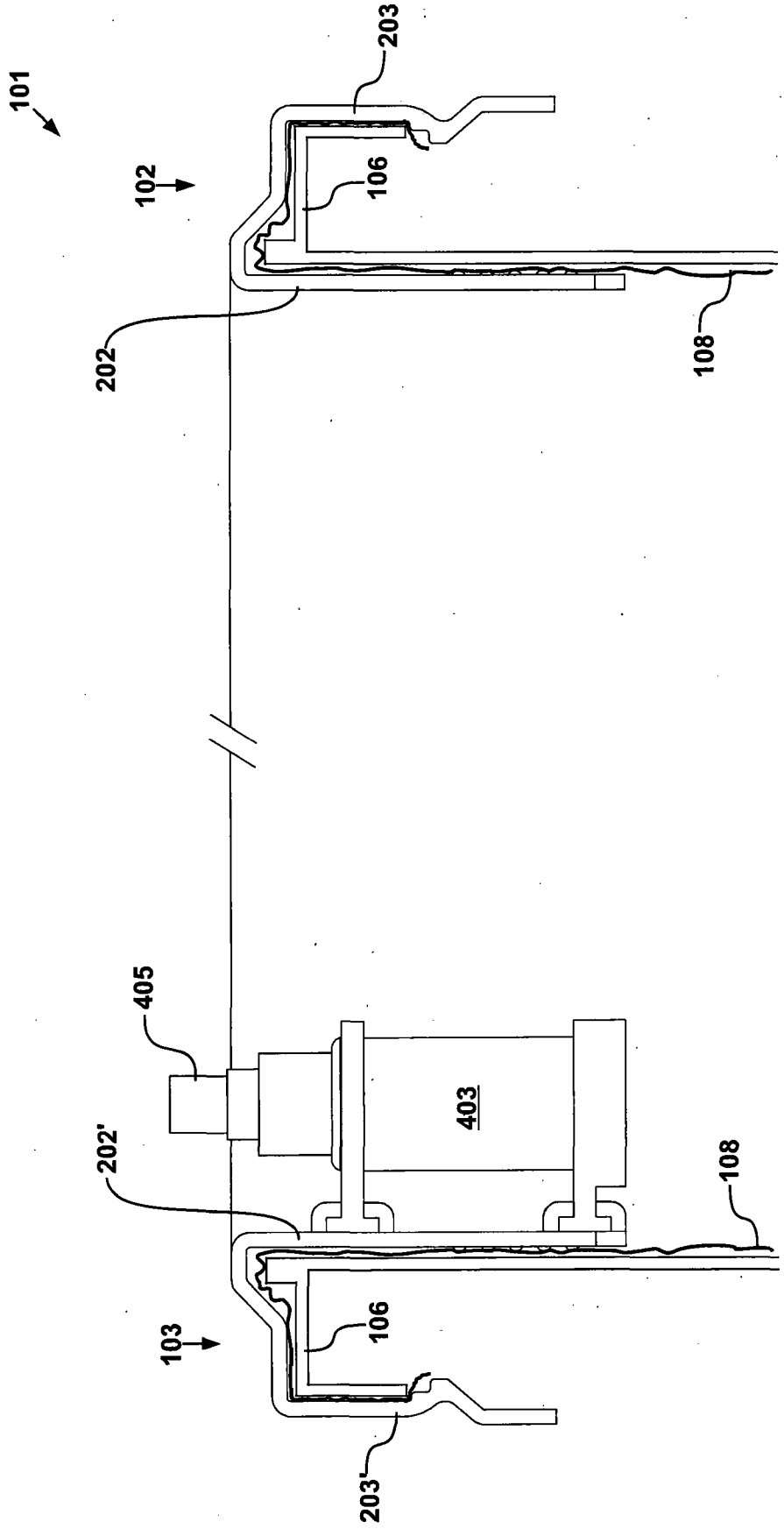

Fig. 7

A Clip

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a clip. More particularly the present invention relates to a clip for retaining a waste bag within a waste receptacle. Further, the present invention relates to a waste receptacle comprising such a clip.

2. Description of the Related Art

It is common to line the inside of a waste receptacle, such as a domestic refuse bin, with a removable liner, for example, a disposable bag.

A first benefit of using a removable liner, such as a disposable bag, is that ease of emptying the bin is improved, as the bin may be emptied of waste simply by removing the bag, and discarding the bag and its contents complete. Furthermore, if a liner is not used, it is likely that the interior surfaces of the bin will become contaminated with residue from the waste deposited therein. Over time, if the interior of the bin is not cleaned, the residue and any other contaminants from the items of waste may begin to decompose, resulting in generation of unpleasant odours and gases. Particularly in the case of bins stored outdoors, for example, roadside collection wheeled bins “wheelie bins”, the decomposing contaminants and resultant odours may tend to attract insects and vermin to the bin area.

A problem is encountered however when using a removable liner, such as a disposable bag, in a bin, inasmuch that the liner can tend to become displaced in use. Typically removable bags tend to be inserted into the bin and attached to the bin by stretching the opening of the bag about the

rim of the bin. The bag is then suspended inside the bin extending downwardly from the rim of the bin. However, it is common for bags to become detached from the rim of the bin under the weight of the items of waste contained therein. When this happens the bag may tend to fall into the bin, inhibiting the placing of further items of waste into the bag, and moreover increasing the likelihood of waste coming into contact with the interior of the bin, and contaminants being deposited thereon, necessitating cleaning of the bin interior.

BRIEF SUMMARY OF THE INVENTION

According to a first aspect of the present invention, there is provided a clip suitable to be mounted over a rim of a waste receptacle to retain a waste bag within the waste receptacle, said clip comprising:

a first leg part;

a second leg part;

a resiliently deformable bridge part;

said resiliently deformable bridge part being non-planar, but having a substantially planar portion;

said first leg part, said bridge part, and said second leg part being formed as a single integral moulding of plastics material;

said first leg part coupled to said second leg part by said resiliently deformable bridge part, such that said first leg part is resiliently movable relative to said second leg part, and

an inner surface of the first leg part being arranged to face an inner surface of the second leg part;

said first and second leg parts each extending substantially orthogonally from said bridge part along substantially parallel planes;

said first and second leg parts each extending substantially parallel respective first and second planes;

said first leg part defines a first generally planar strip extending from a first end joined to said bridge part to a distal end of said first leg;

said second leg part defines a second generally planar strip extending from a first end joined to said bridge part;

wherein said first leg part defines protrusions on its inner surface; and

wherein said second leg part defines a catch part protruding from its inner surface,

said catch part defining a plurality of ridges;

said plurality of ridges comprising a first ridge and a second ridge each protruding inwardly from said inner surface of said second leg;

said first ridge and said second ridge being suitable for abutting said rim of said waste receptacle so as to fit the clip to rooms of varying widths;

said first ridge extending a first distance from said inner surface of said second leg; and

said second ridge extending a second distance from said inner surface of said second leg;

wherein said second distance is greater than said first distance;

characterised in that

each said ridge comprises one planar surface nearest said bridge and parallel to the planar portion of said bridge; and

one planar surface nearest said second leg and parallel to the planar portion of said second leg.

Preferably said first and second leg parts are each joined to said bridge part at respective first ends and extend therefrom to respective distal ends.

Preferably said first leg part is attached to said bridge part at a first position and said second leg part is attached to said bridge part at a second position.

Preferably said first and second planar leg parts each define inner and outer planar surfaces.

Preferably an inner surface of said first leg part is arranged to face an inner surface of said second leg part.

Preferably said protrusions of said first leg part extend substantially the full width of the first leg part.

Preferably said first ridge is positioned closer to said first end of said second leg part than said second ridge.

Preferably said clip further comprises at least a first bracket part suitable for attachment to either of said first leg part or said second leg part, said bracket being suitable for supporting an article in a fixed position relative to said clip.

Preferably said first leg part further defines at least one channel on an outer surface thereof, said channel being suitable to facilitate attachment of items thereto.

Preferably said at least one bracket is suitable for connection to said at least one channel.

Preferably said clip further comprises a fluid storage bottle suitable for attachment to said first leg part.

Preferably said fluid storage bottle comprises a fluid dispensing valve.

Preferably said bracket is suitable for supporting said fluid storage bottle.

Preferably said clip is suitable for retaining a waste receptacle liner inside a waste receptacle.

Preferably said clip is suitable for retaining a waste bag inside a waste receptacle.

Preferably said clip is suitable for attachment to a waste receptacle proximal an opening of said receptacle.

Preferably said clip is suitable for attachment to a peripheral rim of an opening of a waste receptacle.

Preferably said first leg part and second leg parts are suitable to bear against inner and outer surfaces of a waste receptacle respectively.

Preferably said bridge part is suitable to extend across a peripheral rim of an opening of a waste receptacle.

Preferably said protrusions defined by said inner surface of said first leg part increase the frictional resistance between the surface of a waste receptacle and a waste receptacle liner.

Preferably said catch part defined by said second leg part is suitable to engage a peripheral rim of an opening of a waste receptacle to thereby secure said clip to said waste receptacle.

Preferably said bracket is suitable to support said fluid storage bottle relative to a waste receptacle at a position such that an actuator part of said fluid dispensing valve extends above a peripheral rim of an opening of said a waste receptacle.

According to another aspect of the present invention, there is provided a method of retaining a waste bag within a waste receptacle, said method comprising:

providing a waste receptacle having a wall and a rim, and a waste bag adapted to line said waste receptacle with the waste bag securely mounted to said rim;

providing at least one clip, suitable to be mounted over the rim of the waste receptacle to retain the waste bag within the waste receptacle,

the or each clip comprising:

a first leg part;

a second leg part; and

a resiliently deformable bridge part;

said resiliently deformable bridge part being non-planar, but having a substantially planar portion;

said first leg part, said second leg part and said bridge being formed as a single integral moulding of a plastics material;

said first leg part being coupled to said second leg part by said resiliently deformable bridge part, such that said first leg part is resiliently movable relative to said second leg part;

an inner surface of the first leg part being arranged to face an inner surface of the second leg part, such that with the first leg part extending within the waste receptacle and the second leg part extending outside the waste receptacle, the rim and the wall of the waste receptacle are gripped between said respective inner surfaces;

said first and second leg parts each extending in substantially parallel planes;

said first leg part defines a first generally planar strip extending from a first end joined to said bridge part to a distal end of said first leg;

said second leg part defines a second generally planar strip extending from a first end joined to said bridge part;

wherein said first leg part defines protrusions on its inner surface which increase grip between the first leg part and the wall of the waste receptacle,

wherein said second leg part defines a catch part protruding from its inner surface;

said catch part defining a plurality of ridges;

said plurality of ridges comprising a first ridge and a second ridge each protruding inwardly from said inner surface of said second leg;

said first ridge and said second ridge suitable for abutting said rim of said waste receptacle so as to fit the clip to rims of varying widths;

said first ridge extending a first distance from said inner surface of said second leg;

said second ridge extending a second distance from said inner surface of said second leg;

wherein said second distance is greater than said first distance;

said at least one clip characterised in that

each said ridge comprises one planar surface nearest said bridge and parallel to the planar portion of said bridge; and

one planar surface nearest the second leg and parallel to the planar portion of said second leg;

locating the waste bag in a desired position extending within the wall of the waste receptacle and over the rim of the waste receptacle; and

mounting the or each clip over the rim of the waste receptacle with its first leg part extending within the waste receptacle and its second leg part extending outside the waste receptacle, the first and second leg parts between them gripping the wall and rim of the waste receptacle,

such that the waste bag is pinched between the protrusions of the first leg part and the inner surface of the wall, and is further held between the rim of the waste receptacle and the catch part of the second leg part.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be described by way of example only with reference to the accompanying drawings, which are purely schematic and not to scale, of which:

Figures 1a, 1b & 1c show a waste receptacle according to an embodiment of the present invention in perspective views.;

Figures 2a, 2b, 2c, 2d, 2e & 2f show a clip according to a first embodiment of the present invention in first and second perspective, left side, right side, front and rear views;

Figures 3a, 3b, 3c, 3d, 3e & 3f show a clip according to a second embodiment of the present invention in first and second perspective, left side, right side, front and rear views;

Figures 4a, 4b, 4c, 4d, 4e, 4f & 4g show the clip in first and second perspective views, left side, right side, front, rear and exploded perspective views;

Figures 5a & 5b show the clip fitted to the waste receptacle in a close-up perspective view in Figure 5a, and in a side cross-sectional view in Figure 5b;

Figures 6a, 6b & 6c show the clip being attached to the rim of the waste receptacle; and

Figure 7 shows a cross-sectional view of the rim of the waste receptacle showing a pair of clips according to embodiments of the presented invention fitted.

DETAILED DESCRIPTION OF EXAMPLE EMBODIMENTS

Figures 1a, 1b & 1c

A waste receptacle 101 according to an embodiment of the present

invention is shown in perspective views in Figures 1a, 1b and 1c. Said waste receptacle 101 is fitted with a pair of (substantially like) clips 102, 103 according to two embodiments of the present invention.

In the embodiment, said waste receptacle 101 takes the form of a wheeled refuse bin (a "wheelie bin"). As is conventional, wheeled refuse bin 101 is substantially rectangular in shape, and comprises generally of a container part 104 for holding items of waste internally, accessed via a (generally square-shaped) opening 105 uppermost defined by rim 106. The dimensions of container 104, and so its internal capacity, may vary depending on the intended use of the bin, although typically the internal capacity of the container 104 may be approximately 240 litres.

Wheeled refuse bin 101 further comprises a lid part 107 hingedly connected to the rim 106 proximal the opening 105. Lid part 107 is movable about the hinged connection between a closed position, as shown in Figure 1a, in which the lid 107 overlies the opening 105 occluding the opening 105, and an open position, as shown in Figures 1b and 1c, in which the lid 107 is hinged clear of the opening 105 and access to the interior of the container 104 through the opening 105 is permitted.

Referring particularly to Figure 1c, as is conventional, wheeled bin 101 is provided with a waste receptacle liner in the form of disposable waste bag 108. Bag 108 is attached to the rim 106 about the opening 105 of the container part 104, such that the opening of the bag extends about the opening 105 and the walls of the bag extend downwardly. In this way, items of waste placed through the opening 105 are held within bag 108.

As illustrated, wheeled bin 101 is provided with a pair of substantially like clips 102, 103 according to embodiments of the present invention. As will be described, clips 102, 103 are generally U-shaped in form, and configured

to extend about the rim 106 of the container 104, with the bag 108 'pinched' between the clip and the surface of the container 104. Thus, in the embodiment clips 102, 103 are configured to assist in securing the bag 108 to the rim 106 of the container 104 to thereby prevent its accidental detachment in use.

Figures 2a, 2b, 2c, 2d, 2e & 2f

Clip 102 previously described with reference to Figure 1c is shown in first and second perspective, left side, right side, front and rear views, in Figures 2a, 2b, 2c, 2d, 2e and 2f respectively.

Referring to the Figures, clip 102 comprises a main body 201, the main body 201 comprising principally of first and second leg parts 202, 203, and bridge part 204. As illustrated, in the embodiment each of said first and second leg parts 202, 203, define generally planar strips extending from respective first ends 205, 206, joined to said bridge part 204, to respective distal ends 207, 208. As illustrated, said first and second leg parts 202, 203, each define inner and outer surfaces 209, 210 and 211, 212 respectively, the inner surface 209, 211, of the first and second leg parts 202, 203 being opposed.

As will be understood with reference to Figures 1a to 1c, clip 102 is configured to extend about the rim 106 of the container 104, with said first leg part 202 extending generally downwardly against the interior wall of the container 104 adjacent the rim 106, the second leg part 203 extending generally downwardly against an exterior wall of the container 104 adjacent the rim 106, and bridge part 204 joining the two leg parts 202, 203, extending across the width of rim 106, with the bag 108 retained between the clip and the surface of the container 104.

In the embodiment, said bridge part 204 comprises of a resiliently flexible material capable of flexing along its length under an applied load. Flexing of said bridge part 204 allows relative movement of said first leg part 202 relative to said second leg part 203, or vice versa. In the embodiment, said bridge part 204 is configured to flex to permit movement of said first leg part 202 relative to said second leg part 203 generally about the arc 213.

Thus, as will be described further with particular reference to Figures 7a to 7c, in the embodiment bridge part 204 retains said first and second leg parts 202, 203 in the relaxed condition shown in the Figures, in which the first and second leg parts 202, 203 extend substantially orthogonally away from the bridge part 204, along substantially parallel planes, separated by a distance 'd' uniformly with respect to the length of the leg parts. The first and second leg parts 202, 203 are movable relative to the other however by applying a force to either of the leg parts 202, 203 to cause the bridge part 204 to flex, so as to increase the distance 'd' between the pair by movement of said first leg part 202 relative to said second leg part 203 (or vice versa) generally about the arc 213. Bridge part 204 is resiliently flexible, and so returns to its original form on removal of the disruptive force, thereby returning the leg parts 202, 203 to their relaxed, generally parallel, condition.

The resilient movement of the first leg part 202 relative to the second leg part 203 facilitates attachment of the clip 102 to the rim 106 of wheeled bin 101, by enabling the distance 'd' between the leg parts 202, 203 at the distal ends 207, 208, to be increased by flexing of the bridge part, thereby allowing the clip to be 'stretched' over the rim 106 before returning towards its relaxed condition, in which the inner surfaces 209, 211 of the leg parts 202, 203 grip the interior and exterior walls of the container 104 adjacent the rim 106, thus pinching the bag 108 against the surface of the container.

Referring particularly to Figures 2c and 2d, in the embodiment said first leg part 202 defines a series of protrusions in the form of ridges 214 protruding outwardly of the inner surface 209. Ridges 214 are provided to increase the gripping force at the point of the ridges between the leg part 202 and the interior surface of the container 104. Ridges 214 thus act to further increase the frictional resistance between the bag 108 and the surface of the container 104, thereby further preventing accidental detachment of the bag 108 from the rim 106 of container 104. In the specific embodiment, said ridges 214 extend substantially the full width of the inner surface 209 of the leg part 202.

Referring now to said second leg part 203, in the embodiment said second leg part 203 defines a catch part 215 in the way of a pair of stepped ridges 216, 217, protruding inwardly from the inner surface 211. In the embodiment, said ridges 216, 217 extend substantially the full width of the leg part 203. As illustrated, in the embodiment, said pair of ridges 216, 217 are graduated in height, i.e. the distance to which they protrude from the inner surface 211. The ridges 216, 217, serve, in effect, to decrease the distance 'd' between the inner surface 209 of the first leg part 202, and the inner surface 211 of the second leg part 203. Ridges 216, 217 thus facilitate attachment of the clip to waste receptacles having a wall thickness, or rim width, of different sizes. Thus, a first of said ridges 216 extends a first distance from the inner surface 211 of the second leg part 203, and a second of said ridges 217 extends a second distance from the inner surface 211 of the second leg part 203, the second distance being greater than the first difference.

It will of course be appreciated that, whilst the various parts of said main body 201, such as first leg part 202, second leg part 203, and bridge

part 204, have been described as though being discrete components, in actuality, it is preferable that the main body 201 may comprise a single moulding. Indeed, in the preferred embodiment illustrated, said first leg part 202, said second leg part 203, and said bridge part 204 comprise a single moulded plastics component, formed using an injection moulding technique.

Figures 3a, 3b, 3c, 3d, 3e & 3f

The main body 201' of clip 103 (previously described with reference to Figure 1c) is shown in first and second perspective views, left side, right side, front and rear views in Figures 3a, 3b, 3c, 3d, 3e and 3f respectively.

As previously described clip 103 is substantially like clip 102, save that clip 103 further defines a pair of channels 301, 302, for attaching articles thereto, and furthermore comprises a pair of brackets and a fluid dispensing bottle. Like features will therefore share like numbers. Thus, clip 103 comprises main body 201', substantially similar to the main body 201 of clip 102 described previously with reference to Figures 2a, 2b, 2c, 2d, 2e and 2f, excepting that first leg part 202' further defines channels 301, 302 on said outer face 210'. As will be described further with reference to Figures 4a, 4b, 4c, 4d, 4e and 4g, said channels 301, 302, are configured to facilitate attachment of items to the clip 103.

Figures 4a, 4b, 4c, 4d, 4e, 4f & 4g

Clip 103 is shown in first and second perspective views, left side, right side, front, rear and exploded perspective views in Figures 4a, 4b, 4c, 4d, 4e, 4f and 4g respectively.

As previously described clip 103 is substantially like clip 102, save that clip 103 defines channels 301, 302 on the outer surface 210' of said first leg

part 202', and, in the embodiment, further comprises a pair of brackets 401, 402, and a fluid storage bottle 403 attached thereto.

Thus, clip 103 comprises main body 201', substantially similar to the main body 201 of clip 102 described previously with reference to Figures 2a, 2b, 2c, 2d and 2e (excepting that first leg part 202' further defines channels 301, 302 on said outer face 210'), and further comprises first and second brackets 401, 402 slidably received in said channels 301, 302 on the outer surface 210' of said first leg part 202'. An engagement part of said first bracket 401 is slidably received in said channel 301, and an engagement part of said second bracket 402 is slidably received in said channel 302. In this way, said brackets 401, 402 are maintained extending generally orthogonally outwardly of said outer surface 210', and support fluid storage bottle 403.

In the embodiment, said fluid storage bottle 403 contains a volume of a waste receptacle treatment fluid. Preferably said bottle 403 may contain a liquid disinfectant, insecticide, or perfume formulation. Storage bottle 403 is provided with a dispensing valve 404 which, in the embodiment, is a pump-action dispensing valve, in which depression of the actuator button 405 downwardly towards the body of the bottle, causes a pump mechanism internal to the bottle to dispense a set amount of the fluid contents via the aperture 406. Preferably the dispensing valve 404 comprises an atomiser spray, in which the treatment fluid is discharged as an aerosol.

In the illustrated embodiment, said bottle 403 comprises a dispensing valve configured to dispense treatment fluid through said aperture 406, which aperture 406 is arranged substantially flush with an outer surface of said actuator button 405. It will of course be appreciated however that bottle 403 may alternatively be equipped with a conduit in fluid communication with aperture 406. In such an alternative embodiment, the conduit may be

configured to allow the direction of fluid dispensed through the aperture to be varied. In a particular alternative embodiment, the conduit may be movably coupled to the bottle adjacent the aperture 406, such that fluid ejected from the aperture may be dispensed through the conduit, being ejected from the conduit in the desired direction, or carried by the conduit to a desired position within the container 104. Thus, in an alternative embodiment, said bottle 403 may further comprise a movable conduit in fluid communication with said aperture 406.

As will be described further with particular reference to Figure 5b, in an embodiment said clip 103 is configured to support bottle 403 at a position such that actuator button 405 extends upwardly out of opening 105 above the height of rim 106.

Figures 5a & 5b

Clip 103 previously described with reference to Figures 3a to 3f and 4a to 4g, is shown fitted to waste receptacle 101 in a close-up perspective view in Figure 5a, and in a side cross-sectional view in Figure 5b.

Referring to the Figures, clip 103 is fitted to the rim 106 of container 104 proximal the opening 105. As previously described, clip 103 is generally U-shaped in form, and comprises a main body 201' comprising first and second leg parts 202', 203', and bridge part 204'. Said first and second leg parts 202', 203' are configured to bear against inner and outer surfaces of said container part 104 respectively, with the inner surface 209' of said first leg part 202' bearing against an inner surface of the container 104, generally adjacent the rim 106, and the inner surface 211' of said second leg part 203' bearing against an outer surface of the container part 104, generally adjacent the rim 106.

Thus, said clip 103 is configured to be fitted to the rim 106 of the container 104 over bag 108, so as to grip the bag 108 between the inner surface 209' of the first leg part 202' and the inner surface of the rim 106 of the container 104. Ridges 214' protruding from the inner surface 209 of the leg part 202' increase the clamping force exerted on the bag 108 by the clip 103.

In the specific embodiment, said first leg part 202' is configured to support said fluid storage bottle 403 (via said brackets 401, 402), at a position such that the actuator button 405 of fluid dispensing valve 404 protrudes above the height of rim 106.

The purpose of supporting the actuator button 405 above the height of rim 106 is two-fold. In the illustrated embodiment, said actuator button 405 is configured for manual operation, in which manual actuation of said button 405, for example, depression of the button 405 by a user, causes valve 404 to dispense a quantity of the fluid contained in bottle 403 within the container. Thus, supporting said bottle 403 with said actuator button 405 above the height of rim 106 improves the ease with which the button 405 may be actuated by the user.

In an alternative embodiment however, it is envisaged that actuator button 405 may be configured for automatic operation, in such a way that when lid 107 is moved from the open position to the closed position, button 405 is depressed, thereby causing valve 404 to dispense fluid within container 104 'automatically'. In such an alternative embodiment, it is advantageous that the bottle 403 is supported such that actuator button 405 is positioned above the height of rim 106, such that lid 107, in the closed condition, depresses the actuator button 405 with respect to bottle 403.

Figures 6a, 6b & 6c

Clip 103 is shown being attached to the rim 106 of container 104 in side cross-sectional views Figures 6a, 6b and 6c. In the drawings, bottle 403 and brackets 401 and 402 are omitted for clarity.

Referring firstly to Figure 6a, a clip 103 has been selected for attachment to the rim 106 of container 104. Clip 103 is attached to rim 106 by movement of the first leg part 202' relative to the second leg part 203', so as to increase the angle therebetween, more particularly to increase the distance 'd' between the distal ends 207', 208' of the leg parts 202', 203'. In this way the clip 103 may be forced downwardly over the enlarged rim 106 of the container 104, trapping the bag 108 between the inner surface of the container part 104 adjacent the rim 106, and the inner surface 209' of the first leg part 202'.

In this respect, it will of course be appreciated that the size of clip 103, and most pertinently the distance 'd' between the inner surfaces 209', 211' of the leg parts 202', 203', may vary, and will be selected in dependence on the width of rim 106. Ideally the size of clip 103, and thus the distance 'd' between the inner surfaces 209', 211' of the leg parts 202', 203', should be selected such that in the fitted position (shown in Figures 6b and 6c) in which the inner surface 209' of the first leg part 202' bears against the inner surface of the container 104 adjacent the rim 106, and the inner surface 211' of the second leg part 203' bears against the outer surface of the container 104 adjacent the rim 106, the bridge part 204' is flexed slightly. In such a flexed condition the resiliently flexible nature of the bridge part acts to bias the leg parts 202', 203', back towards the relaxed condition, thereby pressing the bag 108 against the inner surface of the container part 104 adjacent the rim 106.

Clip 103 is provided with catch part 215' on the inner surface 211' of the outer leg part 203', to thereby facilitate securing of the clip 103 to the rim 106. Of course, it will be appreciated that it is desirable that a single clip should be able to fit bins of rim widths with a range of widths to reduce the need for a different clip matched to the precise width of each bin rim. Thus, in the embodiment, 215' catch part comprised stepped ridges 216', 217'. Thus, referring to Figures 6b and 6c, stepped ridges 216', 217' allow the clip to be fitted to rims of varying widths, or moreover, allows the gripping force between the clip and the rim to be adjusted.

Referring to Figure 6b, clip 103 is shown in a first position, in which the outer surface of the rim 106 is pinched against the ridge 217', whilst in Figure 6c clip 103 is shown in a second position, in which the outer surface of the rim 106 is abutted against the ridge 216'. The distance between the inner surface of ridge 217' and the inner surface 211' of said second leg part 203' is relatively less than the distance between the inner surface of ridge 216' and the inner surface 211' of second leg part 203', and so the clamping force in the first position is greater. Moreover, in the first position the clip 103 may be fitted to containers having a rim with a lesser width.

Figure 7

A cross-sectional view of the rim 106 of waste receptacle 101 showing clips 102, 103 fitted is shown in Figure 7.

Referring to the Figures, it is seen that the waste receptacle 101 is fitted with a pair of clips 102, 103 on opposing sides of the rim 106 for securing the bag 108 to the rim 106 of the bin. As illustrated, bin 101 is fitted with clip 102, which clip serves only to clamp the opening of the bag 108 to the rim 106 of the container 104. Bin 101 further fitted with clip 103, which

clip supports fluid bottle 403 internally of the container 104 at a position such that actuator 405 of fluid dispensing valve 404 extends above the height of rim 106.

Thus, both clips 102 and 103 act to secure the opening of the bag 108 to the rim 106 of the container 104, but clip 103 further serves to support bottle 403 within the container 104. As described previously, bottle 403 contains a treatment fluid, which may be a disinfectant fluid or a deodorising fluid, and may be configured to dispense the fluid either by manual actuation of the actuator button 405 by a user, or to dispense the fluid 'automatically' when the lid 107 of the bin is moved to the closed condition.

Claims

1. A clip suitable to be mounted over a rim of a waste receptacle to retain a waste bag within the waste receptacle, said clip comprising:

a first leg part;

a second leg part;

a resiliently deformable bridge part;

said resiliently deformable bridge part being non – planar, but having a substantially planar portion;

said first leg part, said bridge part, and said second leg part being formed as a single integral moulding of plastics material;

said first leg part coupled to said second leg part by said resiliently deformable bridge part such that said first leg part is resiliently movable relative to said second leg part, and

an inner surface of the first leg part being arranged to face an inner surface of the second leg part;

said first and second leg parts each extending substantially orthogonally from said bridge part along substantially parallel planes;

said first and second leg parts each extending in substantially parallel respective first and second planes;

said first leg part defines a first generally planar strip extending from a first end joined to said bridge part to a distal end of said first leg;

said second leg part defines a second generally planar strip extending from a first end joined to said bridge part;

wherein said first leg part defines protrusions on its inner surface; and

wherein said second leg part defines a catch part protruding from its inner surface,

said catch part defining a plurality of ridges;

said plurality of ridges comprising a first ridge and a second ridge each protruding inwardly from said inner surface of said second leg;

said first ridge and said second ridge being suitable for abutting said rim of said waste receptacle so as to fit the clip to rims of varying widths;

said first ridge extending a first distance from said inner surface of said second leg; and

said second ridge extending a second distance from said inner surface of said second leg;

wherein said second distance is greater than said first distance;

characterised in that

each said ridge comprises one planar surface nearest said bridge and parallel to the planar portion of said bridge; and

one planar surface nearest said second leg and parallel to the planar portion of said second leg.

2. A clip as claimed in any one of the preceding claims, further comprising at least a first bracket part suitable for attachment to either of said first leg part or said second leg part, said bracket being configured for supporting an article in a fixed position relative to said clip.

3. A clip as claimed in claim 2, in which said first leg part further defines at least one channel on an outer surface thereof, said channel being configured to facilitate attachment of items thereto.

4. A clip as claimed in claim 3, in which said at least one bracket is configured for connection to said at least one channel.

5. A clip as claimed in any one of claims 1 to 4, further comprising a fluid storage bottle suitable for attachment to said first leg part.

6. A clip as claimed in claim 5, in which said fluid storage bottle comprises a fluid dispensing valve.

7. A method of retaining a waste bag within a waste receptacle, said method comprising:

providing a waste receptacle having a wall and a rim, and a waste bag adapted to line said waste receptacle with the waste bag securely mounted to said rim;

providing at least one clip, suitable to be mounted over the rim of the waste receptacle to retain the waste bag within the waste receptacle,

the or each clip comprising:

a first leg part;

a second leg part; and

a resiliently deformable bridge part;

said resiliently deformable bridge part being non-planar, but having a substantially planar portion;

said first leg part, said second leg part and said bridge being formed as a single integral moulding of a plastics material;

said first leg part being coupled to said second leg part by said resiliently deformable bridge part, such that said first leg part is resiliently movable relative to said second leg part;

an inner surface of the first leg part being arranged to face an inner surface of the second leg part, such that with the first leg part extending

within the waste receptacle and the second leg part extending outside the waste receptacle, the rim and the wall of the waste receptacle are gripped between said respective inner surfaces, said first and second leg parts each extending in substantially parallel planes;

said first leg part defines a first generally planar strip extending from a first end joined to said bridge part to a distal end of said first leg;

said second leg part defines a second generally planar strip extending from a first end joined to said bridge part;

wherein said first leg part defines protrusions on its inner surface which increase grip between the first leg part and the wall of the waste receptacle;

wherein said second leg part defines a catch part protruding from its inner surface;

said catch part defining a plurality of ridges;

said plurality of ridges comprising a first ridge and a second ridge each protruding inwardly from said inner surface of said second leg;

said first ridge and said second ridge suitable for abutting said rim of said waste receptacle so as to fit the clip to rims of varying widths;

said first ridge extending a first distance from said inner surface of said second leg;

said second ridge extending a second distance from said inner surface of said second leg;

wherein said second distance is greater than said first distance;

said at least one clip characterised in that

each said ridge comprises one planar surface nearest said bridge and parallel to the planar portion of said bridge; and

one planar surface nearest the second leg and parallel to the planar

portion of said second leg;

locating the waste bag in a desired position extending within the wall of the waste receptacle and over the rim of the waste receptacle; and

mounting the or each clip over the rim of the waste receptacle with its first leg part extending within the waste receptacle and its second leg part extending outside the waste receptacle, the first and second leg parts between them gripping the wall and rim of the waste receptacle,

such that the waste bag is pinched between the protrusions of the first leg part and the inner surface of the wall, and is further held between the rim of the waste receptacle and the catch part of the second leg part.

8 The method as claimed in claim 7, wherein

at least one of the clips provided further comprises at least a first bracket part suitable for attachment to either of said first leg part or said second leg part, said bracket part being configured for supporting an article in a fixed position relative to said clip;

said bracket part is attached to either leg part of the clip; and

an article is supported on the bracket part.

9. The method as claimed in claim 8, wherein said clip comprises, or is further provided with, a fluid storage bottle suitable for attachment to the first leg part of the clip.