



(11)

EP 1 621 479 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
01.02.2006 Bulletin 2006/05

(51) Int Cl.:
B65D 83/08 (2006.01) A45F 5/00 (2006.01)

(21) Application number: **05106935.9**

(22) Date of filing: **27.07.2005**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI
SK TR**
Designated Extension States:
AL BA HR MK YU

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(30) Priority: **27.07.2004 NL 1026733**

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(54) **Mobile holder for tissue package and assembly of such a holder and at least one tissue package**

(57) Moistened tissues or cloths in particular are generally packaged medium-tightly in a foil package in order to enable the moisture content in the tissues to be main-

tained. The invention relates to a mobile holder (3) for such tissue packages (2). The invention further relates to an assembly (1) of such a mobile holder (3) and at least one tissue package (2).

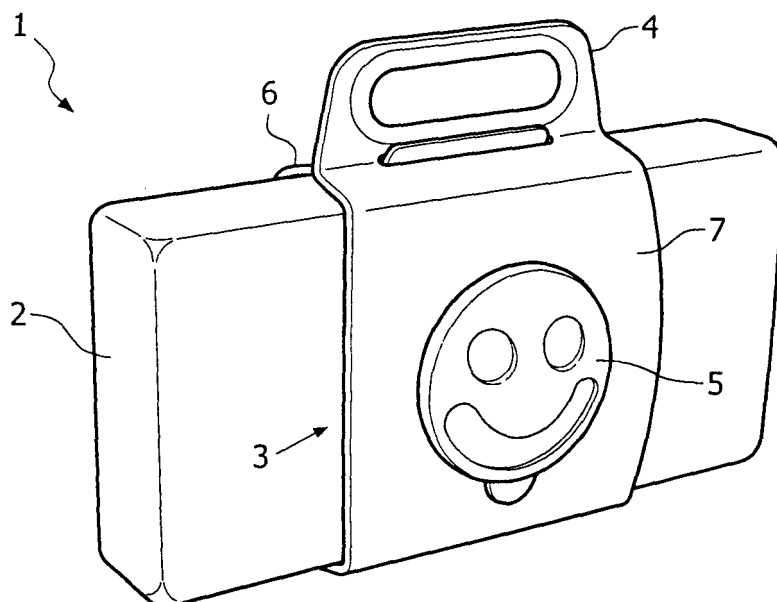


FIG. 1a

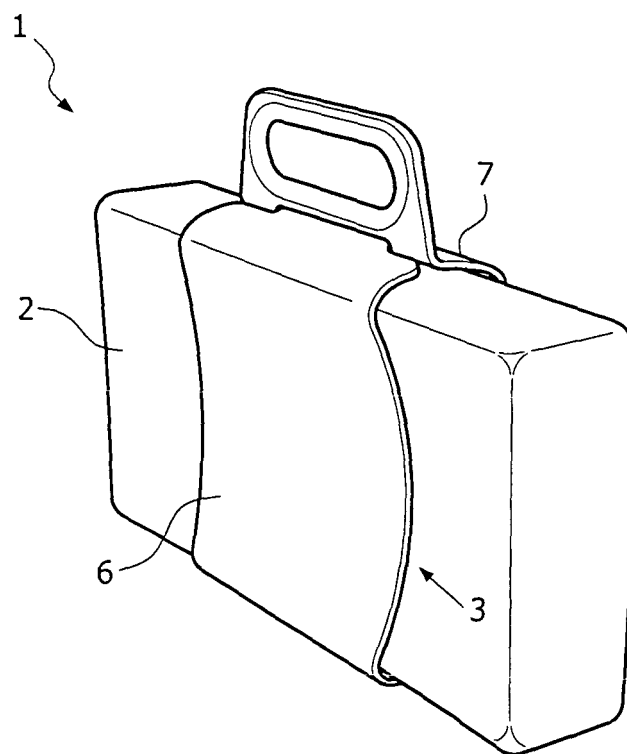


FIG. 1b

Description

[0001] The invention relates to a mobile holder for tissue packages. The invention further relates to an assembly of such a mobile holder and at least one tissue package.

[0002] Moistened tissues or cloths in particular are generally packaged medium-tightly in a foil package in order to enable the moisture content in the tissues to be maintained. The foil package is herein generally provided with a closable removal opening for the tissues. The tissues received in the foil package are generally stacked and are each folded in particular manner such that separate removal of the tissues from the foil package can be facilitated. After purchase of the foil package, the foil package can be wholly removed, whereafter the tissues can be transferred to a more durable, rigid housing. Such a housing generally has large dimensions and is generally adapted for more or less permanent placing. Both the foil package and the rigid housing have a plurality of drawbacks. A significant drawback of the foil package is that the foil package is per se vulnerable and can be damaged (torn) relatively easily, which generally has an adverse effect on the quality of the tissues. A significant drawback of the rigid housing is that it is generally dimensioned too awkwardly to allow relatively convenient and simple transport thereof. Transport of the assembly of the housing and tissue package is usually desired during displacement of for instance (small) children between two locations, wherein the tissues can thus for instance be employed to clean the children or to remove dirt residues from the children. A further drawback of the housing is that the number of tissues remaining in the housing is not visible at a glance. In addition, it often occurs that the tissues dry out at least partially as a result of evaporation of moisture held in the tissues into the free space present in the housing of relatively large dimensions, which likewise has an adverse effect on the quality of the tissues.

[0003] The invention has for its object to provide a holder for foil packages with which the above stated drawbacks can be obviated.

[0004] The invention provides for this purpose a holder of the type stated in the preamble, comprising at least one receiving space for receiving at least a part of at least one tissue package, wherein the holder is adapted for multilateral engagement on at least a part of the tissue package. According to the invention the tissues no longer have to be removed from the tissue package. The tissue package can be positioned at least partly in the receiving space of the holder in relatively stable manner, preferably with clamping fit. The dimensioning of the holder can be minimized in order to allow handling of the holder to be optimized. The holder will generally be folded around at least a part of the tissue package, although it is also possible to envisage the receiving space being already pre-formed by a relatively rigid holder. The tissue package does not have to be wholly and completely enclosed by the holder. A relatively stable accommodation of the

tissue package in the holder is however generally important. The tissue package will usually protrude multilaterally relative to the holder. This has the advantage that the tissue package, and therewith an optional informative printing, remains permanently visible to people, whereby information relating to the tissues can be observed by the relevant person at a glance. Because of the permanent visibility of the tissue package a relatively quick estimate can moreover be made of the number of tissues remaining in the tissue package. An additional advantage of the holder according to the invention is that the holder can be realized in structurally relatively simple manner, which is favourable for the cost price of the holder according to the invention (compared to the cost price of a conventional housing). It is noted that the holder, in particular the one or more receiving spaces of the holder, can also be adapted to simultaneously hold a plurality of tissue packages, optionally of mutually differing dimensions. The tissues accommodated in the tissue package will usually be somewhat moist and be manufactured on the basis of cellulose. However, the tissues do not necessarily have to be moistened and/or be manufactured on the basis of cellulose. The choice of material for the tissues or handkerchiefs and/or cloths can be very diverse, wherein it is possible to envisage the tissues or cloths being manufactured from for instance paper, plastic (microfibrés), textile and the like, or a combination of two or more of these materials.

[0005] The geometry and dimensioning of the holder can be of diverse nature, but is preferably such that on the one hand a tissue package can be received in relatively stable manner in the receiving space of the holder, and on the other hand the holder retains a relatively handy size to enable relatively easy transport thereof. For this purpose the holder is preferably given at least partly a substantially rigid form. The holder is preferably manufactured herein from a substantially form-retaining and substantially rigid plastic.

[0006] In a preferred embodiment, the holder comprises biasing means for exerting a bias on a side of the tissue package remote from the first passage opening of the tissue package. Owing to this bias the - generally flexible - tissue package will be deformed to at least a certain degree, such that tissues situated in the tissue package are pushed in the direction of the first passage opening, which generally will considerably facilitate removal of tissues from the tissue package. The imposing of a bias can be realized in a number of ways. For this purpose a rigid part of the holder - preferably manufactured from plastic - can thus be adapted to exert a bias on a side of the tissue package remote from the first passage opening of the tissue package. Tests have shown however that relaxation of the plastic, and in particular the substantially rigid plastic part of the holder adapted to exert the bias, occurs after a determined time, which relaxation can be of a nature such that the biasing force exerted on the tissue package by the holder is reduced dramatically. A significant reduction in the biasing force

exerted on the tissue package will thus no longer result in the desired advantage of facilitating removal of the tissues from the tissue package. The degree to which relaxation of the plastic holder occurs over time depends on, among other factors, the nature of the plastic and the design of the holder. It would be possible to opt for a holder, or at least a part thereof, manufactured from metal, in particular spring steel, but manufacturing at least a part of the holder from metal is generally relatively expensive and generally limits the freedom of design considerably, whereby manufacture of the holder from metal is generally less preferable. It is therefore generally recommended to manufacture the holder, or at least a part thereof, from plastic. In order to enable a sufficient bias to be exerted permanently on the tissue package, and in order to be able to enhance the freedom of design of the holder - preferably manufactured from plastic - the biasing means preferably comprise at least one resilient element for exerting the bias on the tissue package. It is also possible here to envisage a plurality of resilient elements being applied in the holder. In a particular preferred embodiment, the resilient element is manufactured from an elastomer. An elastomer is a thermoset with a low crosslink density, wherein the temperature during use must be above the glass transition temperature (T_g). In elastomers the glass transition temperature is generally (considerably) lower than room temperature. Elastomers are characterized by an elasticity which is higher than 100%, wherein the elastomer returns to the original shape after the bias is removed. Examples of elastomers are rubbers, butylates, butadienes, polyurethanes, vinyl polymers and silicones. In addition to applying an elastomer as a resilient element, it is also possible to envisage applying other resilient elements for the purpose of exerting a bias, for instance by means of physical springs such as compression springs or leaf springs. In order to enable facilitated removal of the tissues from the tissue package, the biasing means are adapted to exert one or more biasing forces, which biasing forces are preferably oriented substantially in the direction of the first passage opening. Tests have shown that facilitated removal of tissues from the tissue package is particularly possible in the case that the distance between the first passage opening and the first tissue to be removed is minimized. Such a situation, in which the first tissue to be removed lies against the first passage opening, can be achieved (among other ways) by applying a bias to the tissue package as described in the foregoing.

[0007] In a preferred embodiment, the holder comprises a plurality of mutually pivotable holder parts for engaging round the tissue package. The holder parts herein usually take a substantially rigid form. The mutually pivotable holder parts are herein mutually connected by means of a hinge which can be of diverse nature. Two adjacent holder parts can thus be mutually connected by means of for instance a piano hinge or one or more weakening lines (fold lines) arranged between the holder parts. In order to allow the holder to engage multilaterally in

stable manner, more than two holder parts generally take a mutually pivotable form. In a preferred embodiment the holder, in particular at least one holder part, is provided with a second passage opening for tissues received in the tissue package. It is not therefore necessary to remove the tissue package from the receiving space of the holder in order to enable removal of tissues from the tissue package. In a particular preferred embodiment, the second passage opening lies substantially in line with the first passage opening. Such a relative orientation of the two passage openings will further facilitate removal of tissues. The second passage opening is preferably closable by for instance a flap-like element, so as to be able to prevent drying out of the tissues due to possible leakages in or around the first passage opening on the one hand, and dirt deposition in the second passage opening on the other.

[0008] In another preferred embodiment, the holder is adapted for three-sided engagement on the tissue package. In this three-sided engagement at least two opposite sides of the tissue package are generally engaged by the holder in order to be able to stabilize accommodation of the tissue package in the receiving space. The end surfaces of the tissue package are usually free, as already elucidated above, whereby usually only at least a part of the other (non-end) surfaces of the tissue package is engaged by the holder. It is noted that two-sided engagement of the holder on the tissue package alone can already be sufficient to accommodate the tissue package in the receiving space of the holder.

[0009] The holder is preferably constructed integrally from a single material layer. The material layer can herein optionally be formed by a blank. The holder can in fact be formed here by deforming the material layer while forming the receiving space.

[0010] In a preferred embodiment, the holder is provided with an additional receiving space for utility articles. The receiving space can herein have a closable form and can for instance be formed by a pouch. The additional receiving space is particularly adapted to accommodate relatively small objects such as keys, small cosmetic products, money, toys, writing materials and so on.

[0011] In another preferred embodiment, the holder is provided with coupling means for coupling the holder to an external object. The external object can herein be of very diverse nature and can for instance also be formed by a utility article such as a soap bottle, but can also be formed by a support structure to enable the assembly of the holder and the tissue package to be hung on the support structure. It is thus made possible to hang up the assembly relatively easily in for instance a living space, in a vehicle and so on.

[0012] In yet another preferred embodiment, the holder is provided with at least one handle. The handle is adapted to facilitate transport of the holder by a person. The handle can be of diverse nature and design, and can be attached releasably or non-releasably to the holder at a plurality of locations on the holder.

[0013] The holder preferably takes an at least partly flexible form. An advantage of giving the holder a flexible form is that the volume of the receiving space adjusts itself to the volume of the tissue package, whereby the holder can take a relatively compact form in the position of use, wherein the amount of unused space can be minimized. The holder can herein be manufactured from for instance plastic or textile.

[0014] In another preferred embodiment, the holder at least partly takes a substantially rigid form. Embodying at least a part of the tissue package in rigid form provides a relatively good, reliable and durable protection of the tissue package. It is however also possible to envisage embodying the holder in partly rigid and partly flexible form, whereby advantages of both above-stated embodiments can be combined in a single embodiment. The holder can herein be manufactured from for instance plastic, metal or cardboard.

[0015] The invention also relates to an assembly of such a mobile holder and at least one tissue package. By means of the holder the tissue package can be transported relatively easily and efficiently. In a preferred embodiment the tissue package is given a substantially flexible form, in particular as a foil package, which will generally be the case.

[0016] The invention will be elucidated on the basis of non-limitative exemplary embodiments shown in the following figures. Herein:

figure 1a shows a perspective front view of an assembly of a tissue package and a mobile holder according to the invention,
 figure 1b shows a perspective rear view of the assembly according to figure 1a,
 figure 2a shows a perspective view of the mobile holder of figures 1a-1b in an opened position,
 figure 2b shows a perspective view of the mobile holder of figures 1a-1b in a closed position,
 figure 3 is a perspective view of another assembly of a tissue package and a mobile holder according to the invention,
 figure 4 is a perspective view of an alternative assembly of a tissue package and a mobile holder according to the invention,
 figure 5 is a perspective view of another holder according to the invention,
 figure 6 shows a cross-section of the holder according to figure 5 and a tissue package received therein,
 figure 7 is a perspective view of yet another holder according to the invention,
 figure 8a shows a perspective view of an assembly of the holder of figure 7 and a relatively full tissue package received therein, and
 figure 8b shows a perspective view of an assembly of the holder of figure 7 and a relatively empty tissue package received therein.

[0017] Figure 1a shows a perspective front view of an

assembly 1 of a tissue package 2 and a mobile holder 3 according to the invention enclosing tissue package 2 with clamping fit. Tissue package 2 is here formed by a foil package in which a plurality of tissues are received in ordered manner. Mobile holder 3 is folded around tissue package 2, on the one hand to facilitate transport of tissue package 2 and on the other hand to be able to provide the - usually vulnerable - tissue package 2 with some protection. Holder 3 is provided with a handle 4 in order to further facilitate transport of assembly 1. Holder 3 is furthermore provided with a second passage opening (not shown) for tissues, closed by closing element 5. The second passage opening herein connects to a first passage opening for tissues which is arranged in tissue package 2. In the shown embodiment holder 3 engages on tissue package 2 on four sides, wherein no side of tissue package 2 is wholly covered by holder 3. It is thus possible to have a permanent view of tissue package 2, whereby diverse types of (textual) information, such as for instance the nature and quality of the tissues and the number of tissues remaining in tissue package 2, can be inferred relatively quickly and easily at a glance. The durable holder 3 is here constructed from a relatively rigid plastic to enable the protection of tissue package 2 to be optimized without detracting from the (visual) accessibility of tissue package 2.

Figure 1b shows a perspective rear view of assembly 1 according to figure 1a. Holder 3 of assembly 1 comprises two mutually pivotable, substantially rigid holder parts 6, 7, wherein the rear holder part 6 has a curved form. The curvature of the rear holder part 6 extends in a direction toward tissue package 2, which results in a (slight) deformation of tissue package 2 in a direction toward the first passage opening of tissue package 2. The tissues accommodated in tissue package 2 are thus pushed in the direction of the first (and second) passage opening, which generally facilitates removal of the tissues from tissue package 2.

[0018] Figure 2a shows a perspective view of mobile holder 3 according to figures 1a-1b in an opened position. Shown clearly here is that holder 3 comprises two holder parts 6, 7 mutually connected by means of a weakening line 8 (leaf hinge). Both holder parts 6, 7 herein have a curved form, wherein the curvatures of both holder parts 6, 7 extend in the same direction during the (closed) position of use (see figure 2). The rear holder part 6 is herein provided with a protruding lip 9 adapted for co-action with a slot 10 arranged in the front holder part 7 to thus enable reliable closing of holder 3 as shown in figure 2b. Slot 10 is herein arranged between handle 4 and the front holder part 7. Figure 2a also clearly shows that closing element 5 fully closes the second passage opening 11, optionally in medium-tight manner. Figure 2b shows a perspective view of mobile holder 3 of figures 1a-1b in a closed position. In the closed position of holder 3, the lip 9 connected to the rear holder part 6 is arranged under some bias in slot 10 connected to front holder part 7, whereby a receiving space 12 for tissue package 2 (not shown

here) forms between the two holder parts 6, 7.

[0019] Figure 3 shows a perspective view of another assembly 13 of a tissue package 14 and a mobile holder 15 according to the invention. In the exemplary embodiment shown in figure 3 tissue package 14 takes a substantially rigid and thus substantially form-retaining form, and is releasably received with clamping fit in a receiving space 16 enclosed by holder 15. Holder 15 is provided for this purpose with a plurality of curved holder parts 17 which engage on two sides under some bias on the substantially rigid tissue package 14. Holder 15 is herein manufactured integrally, for instance by means of injection moulding, wherein receiving space 16 is already pre-defined and permanently encloses a substantially constant volume. Holder 15 is provided with a handle 18 to enable facilitated transport of mobile holder 15. Holder 15 is furthermore provided with an additional receiving space 19 in which a soap bottle 20 is accommodated. Just as the (moistened) tissues received in tissue package 14, the soap held in soap bottle 20 can be employed for diverse cleaning purposes, such as for instance personal cleaning, cleaning of others such as for instance children and disabled persons, or cleaning surfaces such as floors, walls, objects and so on. Receiving space 19 is herein bounded by two holder parts 17, tissue package 14 and a locking element 21 forming part of holder 15. In the shown exemplary embodiment holder 15 is also provided with two hook-like members 22 which function as coupling means for coupling assembly 13 to a support structure (not shown) in order to allow assembly 13 to be hung up relatively easily in for instance a vehicle such as a car.

[0020] Figure 4 shows a perspective view of an alternative assembly 23 of a tissue package 24 and a mobile holder 25 according to the invention. Holder 25 is manufactured from plastic and comprises two mutually connected holder parts 26, 27, in particular a front, curved holder part 26 and a rear, substantially flat holder part 27. Tissue package 24 is formed by a flexible plastic foil. In tissue package 24 is arranged a quantity of tissues 28 such as optionally paper (moistened) cleaning cloths, handkerchiefs and the like. Tissue package 24 is provided with a passage opening 30 for tissues 28 which can be closed off by a foil part 29. In the shown exemplary embodiment a tissue 28 is partially removed from tissue package 24. Since the curved holder part 26 exerts a certain bias on tissue package 24, removal of tissues 24 can be facilitated. The front holder part 26 is also provided with a passage opening 31 for tissues 28. Passage opening 31 of holder part 26 can herein be closed by a flap part 32 connected to holder part 26, which flap part 32 is shown here in an opened position. Flap part 32 is preferably adapted to engage on holder part 26 in substantially medium-tight manner so as to be able to prevent for instance deposition of dirt, drying out of pre-moistened tissues 24, bacterial infection and accumulation of moisture in passage openings 30, 31 and in tissue package 24. Holder 25 comprises a handle 33 to facilitate transport

of mobile holder 25.

[0021] Figure 5 shows a perspective view of another holder 34 according to the invention in an opened position. Holder 34 is adapted for receiving a tissue package, as shown in figure 6. Holder 34 comprises a base structure 35 and a top structure 36 pivotally connected to base structure 35. The base structure is herein provided with an annular elastic band 37 to enable a permanent bias to be exerted on the tissue package for facilitated removal of tissues arranged in the tissue package. For positioning of elastic band 37 the base structure 35 is provided with two eyes 38 and a plurality of recesses 39 arranged in base structure 35. Elastic band 37 can thus be positioned and/or tensioned in base structure 35 in the shown particular manner. Elastic band 37 is preferably manufactured from rubber or a similar entropy-elastic material. Top structure 36 is provided with a closable flap 40 to allow access to be provided to or to cover a passage opening for tissues which forms part of the tissue package. Top structure 36 is further provided with a coupling element 41 adapted for co-action with a mating element 42 which forms part of base structure 35 for the purpose of enabling secure closing of holder 34.

[0022] Figure 6 shows a cross-section of holder 34 according to figure 5 in a closed position, and a tissue package 43 received therein. As shown, elastic band 37 exerts a biasing force on tissue package 43 (see arrows A) in the direction of passage opening 44 forming part of tissue package 43, for the purpose of facilitated removal of tissues 45 from tissue package 43. The elasticity of band 37 will not decrease at all in the course of time, whereby the ability to exert the bias on tissue package 43 permanently (long-term) can be guaranteed.

[0023] Figure 7 shows a perspective view of yet another holder 46 according to the invention in opened position. Holder 46 comprises a base structure 47 and a top structure 48 pivotally connected to base structure 47. Base structure 47 and top structure 48 are both manufactured from a substantially form-retaining plastic. Base structure 47 is provided with a curved base element 49 to enable a bias to be exerted on a tissue package received in holder 46. Top structure 48 is herein provided with a closing element 50 to enable access to the tissue package or to enable the tissue package to be closed. The bias is in fact applied by an elastic band 51 connected to base structure 47. Elastic band 51 is also adapted for co-action with top structure 48, at least in the closed position of holder 46, as shown in figures 8a and 8b. Top structure 48 is provided with a coupling element 52 adapted for co-action with a mating element 53 forming part of base structure 47. Both coupling element 52 and mating element 53 are herein provided with a lip 54, 55 to enable holding of elastic band 51.

[0024] Figure 8a shows a perspective view of an assembly of holder 46 according to figure 7 and a relatively full (flexible) tissue package 56 received therein. As is clearly shown, elastic band 51 co-acts with lips 54, 55 of top structure 48 and base structure 47. In the shown po-

sition the elastic band 51 is stretched somewhat and therefore exerts a biasing force on base structure 47 as well as top structure 48 in a direction toward each other. The biasing force will also be exerted on tissue package 56. Because of the curved base element 49 the tissues arranged in tissue package 56 are pushed in the direction of closing element 50, whereby facilitated removal of the tissues from tissue package 56 is made possible. As shown, elastic band 51 is not in physical contact with tissue package 56. The extent of the bias exerted on tissue package 56, determined by the magnitude of the biasing force exerted by elastic band 51, does however depend on the quantity of tissues arranged in tissue package 56.

[0025] Figure 8b shows for instance a perspective view of the assembly of holder 46 of figure 7 and a relatively empty tissue package 56 received therein. As shown, the relative orientation between base structure 47 and top structure 48 is (somewhat) changed relative to this orientation as shown in figure 8a. By removing tissues from the flexible tissue package 56, tissue package 56 has become less voluminous, whereby the stretching of elastic band 51 has gradually decreased. However, even in the shown, less stretched situation of band 51, band 51 will nevertheless continue to exert a biasing force on tissue package 56 in order to allow guaranteed facilitated removal of tissues from tissue package 56 in sustained manner.

[0026] It will be apparent that the invention is not limited to the exemplary embodiments shown and described here, but that within the scope of the appended claims numerous variants are possible which will be self-evident for a skilled person in this field.

Claims

1. Mobile holder for tissue packages, comprising at least one receiving space for receiving at least a part of at least one tissue package provided with a first passage opening for tissues, wherein the holder is adapted for multilateral engagement on at least a part of the tissue package.
2. Holder as claimed in claim 1, **characterized in that** the receiving space is adapted to receive a tissue package with clamping fit.
3. Holder as claimed in any of the foregoing claims, **characterized in that** the holder is given at least partly a substantially rigid form.
4. Holder as claimed in any of the foregoing claims, **characterized in that** the holder comprises biasing means for exerting a bias on a side of the tissue package remote from the first passage opening of the tissue package.
5. Holder as claimed in claim 4, **characterized in that** the biasing means comprise at least one resilient element for exerting the bias.
6. Holder as claimed in claim 5, **characterized in that** the resilient element is manufactured from an elastomer.
7. Holder as claimed in claim 3 and any of the claims 4-6, **characterized in that** a rigid part of the holder is adapted to exert a bias on a side of the tissue package remote from the first passage opening of the tissue package.
8. Holder as claimed in any of the claims 4-7, **characterized in that** the at least one biasing force exerted by the biasing means is oriented substantially in the direction of the first passage opening.
9. Holder as claimed in any of the foregoing claims, **characterized in that** the holder comprises a plurality of mutually pivotable holder parts for engaging round the tissue package.
10. Holder as claimed in claim 9, **characterized in that** at least one holder part is provided with a second passage opening for tissues received in the tissue package.
11. Holder as claimed in claim 10, **characterized in that** the second passage opening lies substantially in line with the first passage opening.
12. Holder as claimed in either of claims 10 or 11, **characterized in that** the second passage opening is closable.
13. Holder as claimed in any of the foregoing claims, **characterized in that** the holder is adapted for three-sided engagement on the tissue package.
14. Holder as claimed in any of the foregoing claims, **characterized in that** the holder is constructed substantially integrally from a single material layer.
15. Holder as claimed in any of the foregoing claims, **characterized in that** the holder is provided with an additional receiving space for utility articles.
16. Holder as claimed in any of the foregoing claims, **characterized in that** the holder is provided with coupling means for coupling the holder to an external object.
17. Holder as claimed in any of the foregoing claims, **characterized in that** the holder is provided with at least one handle.

18. Holder as claimed in any of the foregoing claims, **characterized in that** the holder takes an at least partly flexible form.
19. Assembly of a mobile holder as claimed in any of the claims 1-18 and at least one tissue package. 5
20. Assembly as claimed in claim 19, **characterized in that** the tissue package is given a substantially flexible form. 10

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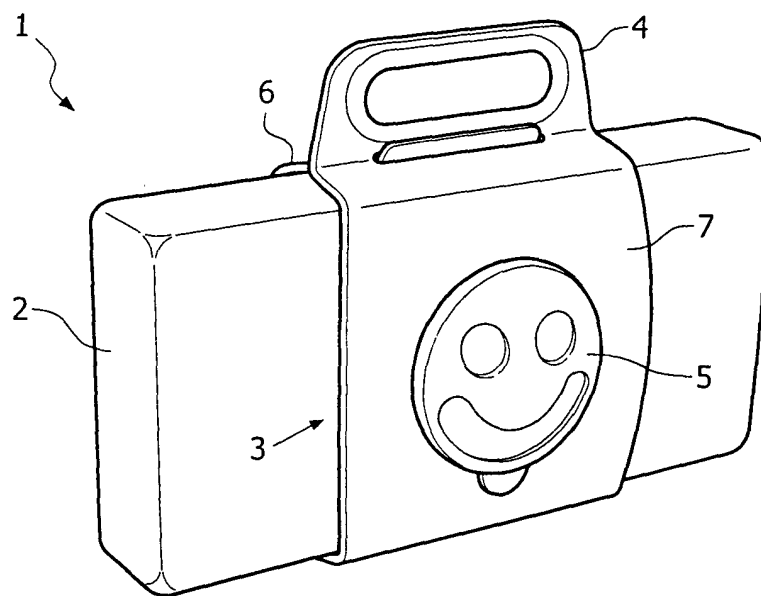


FIG. 1a

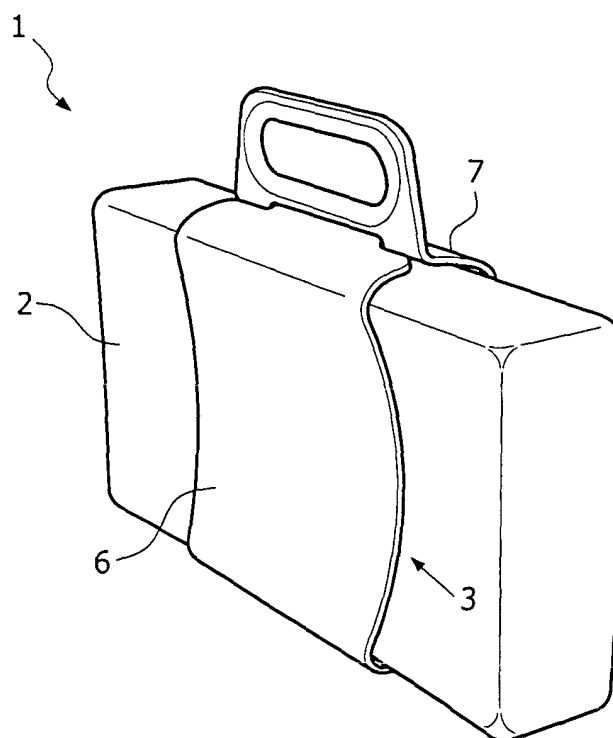


FIG. 1b

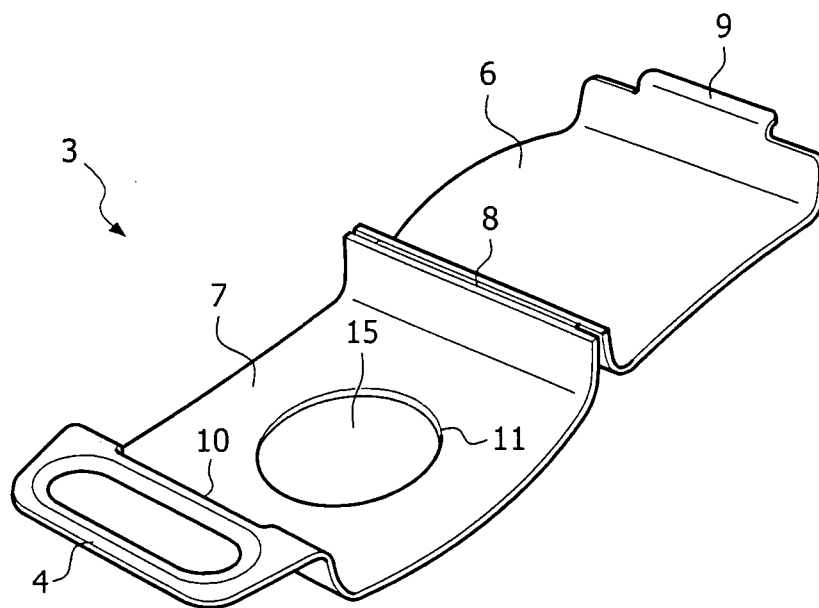


FIG. 2a

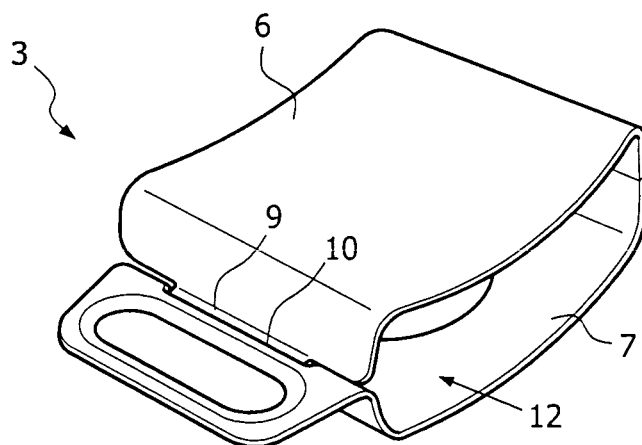


FIG. 2b

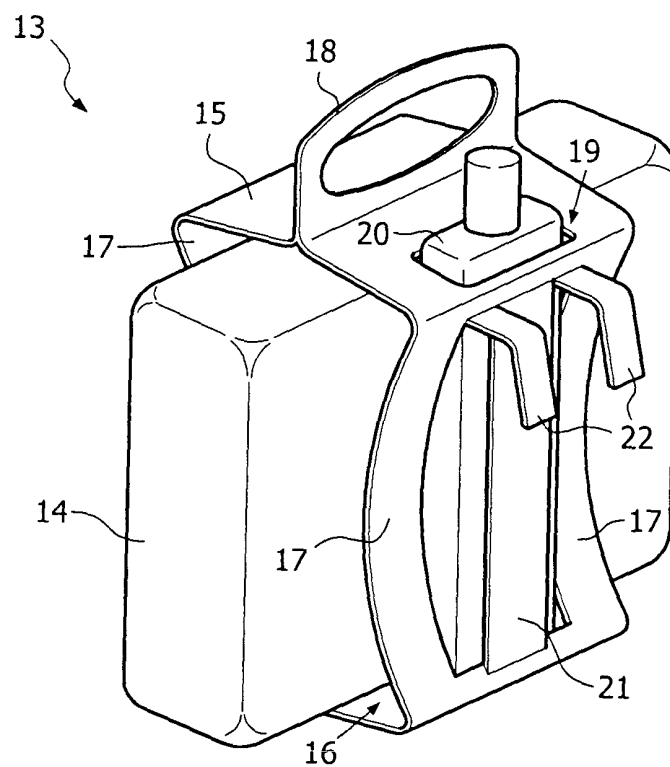


FIG. 3

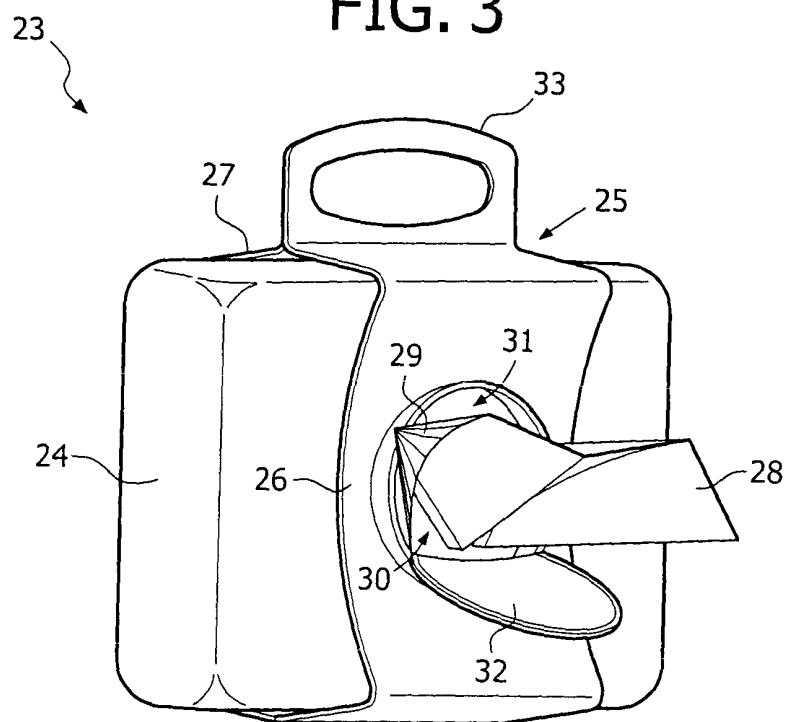


FIG. 4

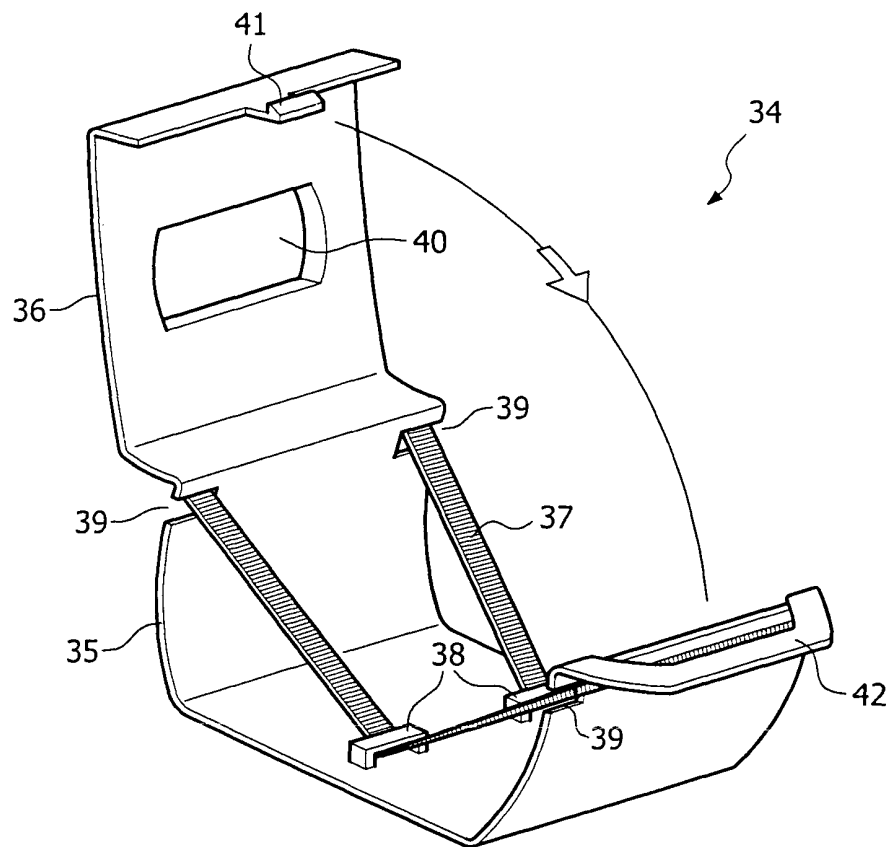


FIG. 5

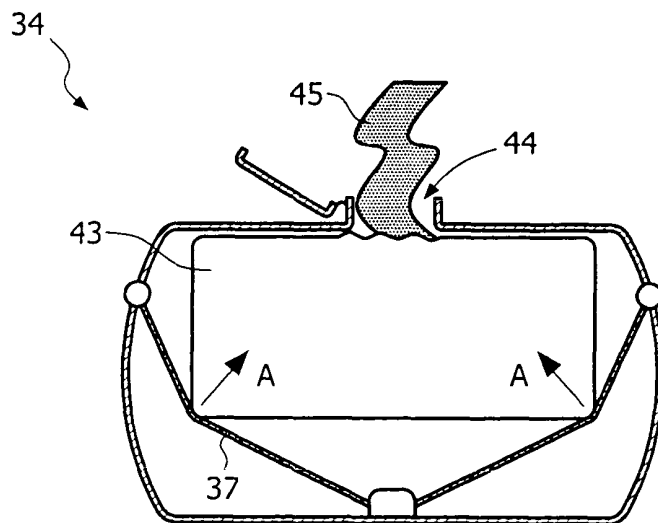


FIG. 6

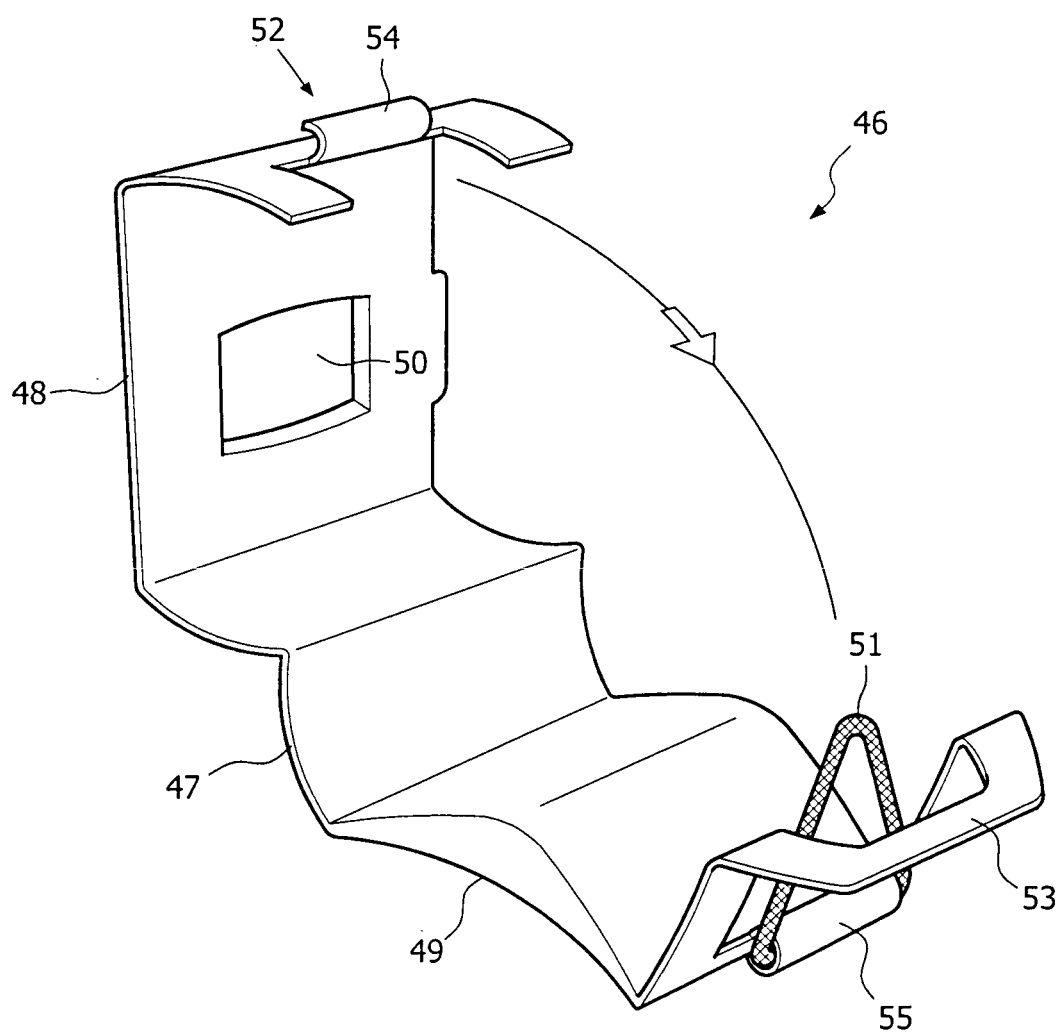


FIG. 7

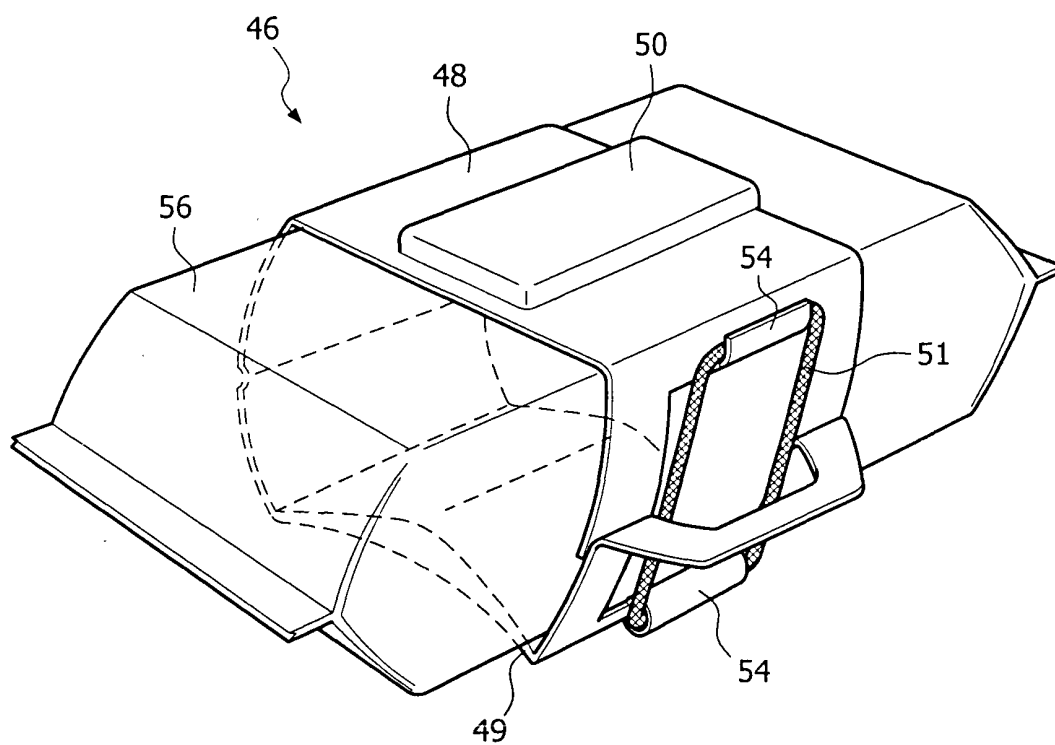


FIG. 8a

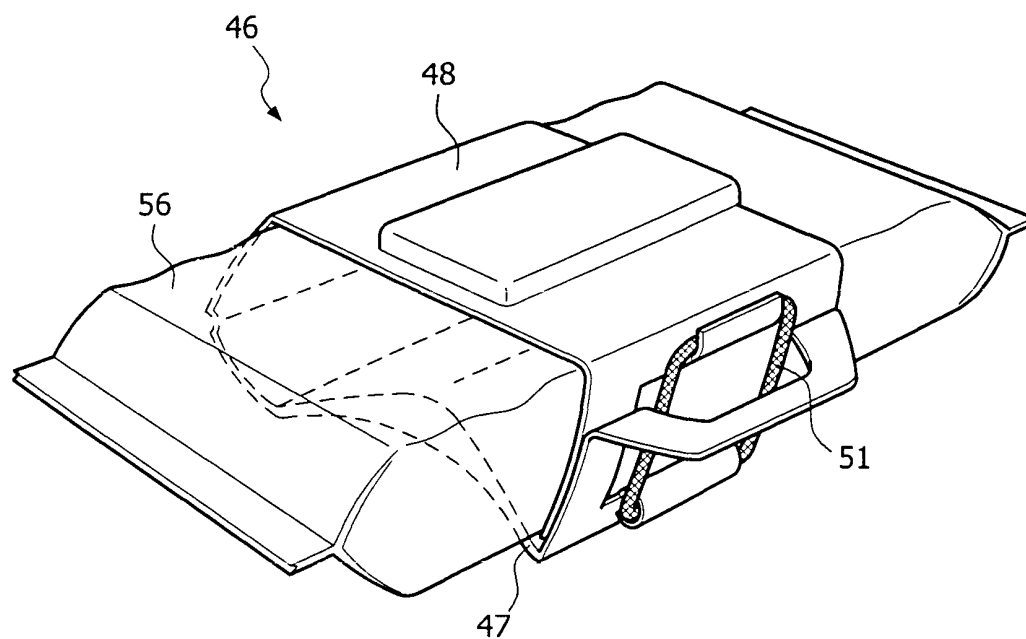


FIG. 8b



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 05 10 6935

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2004/004169 A1 (HAYS) 8 January 2004 (2004-01-08) * paragraph [0005] * * paragraph [0014] - paragraph [0016] * * paragraph [0018] - paragraph [0023]; figures 1,3-6 *	1-8, 10-14, 16-20	B65D83/08 A45F5/00
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 30 November 2005	Examiner Vesterholm, M
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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Place of search Munich		Date of completion of the search 30 November 2005	Examiner Vesterholm, M
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