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[Continued on next page]

(54) Title: ROLL HOLDER

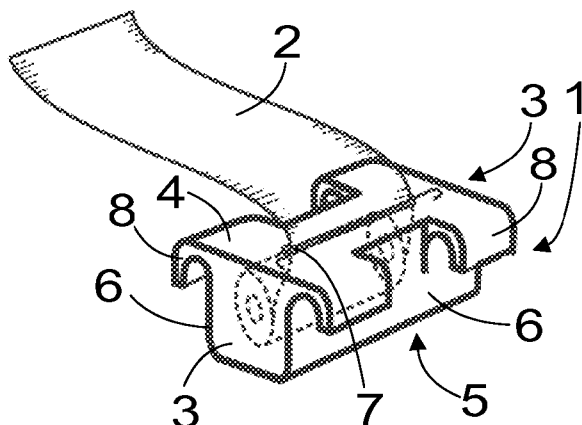


FIG. 1

(57) Abstract: A roll holder (1) may be used for dis-
pensing and distributing a disposable cloth (2) suit-
able for patient care and stored in the form of a roll.
The roll holder is substantially casing-like, compris-
ing two opposite ends (3) and, between them, a top
surface (4), a bottom surface (5) and two sides (6).
The cloth web (2) is arrangeable substantially inside
the roll holder (1). The roll holder (1) comprises an
elongated dispensing opening (7) for dispensing the
cloth web (2) from the roll and means (8, 12, 13) for
fastening the roll holder to a fastening site (9) so that
the roll holder (1) is placeable to an immediate vi-
cinity of a patient (10).



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Roll holder

Background of the invention

[0001] The invention relates to a roll holder.

[0002] In a hospital environment in particular there are a multitude of uses for a disposable cloth. The uses may be associated with protecting the garments of nurses or patients, for example. Further, the uses may relate to moving and/or supporting a patient.

[0003] The disposable cloths in question are typically delivered and stored in rolls. In a roll, the cloth material is easy to store and transport tightly in a compact space and an amount of cloth needed for each purpose is easy to take from the roll. The rolls in question may typically be kept either in a separate storage room or on roll holders that may be either standing free on the floor or permanently fixed to a wall. However, often the distance from the roll holder or the storage room to the place where the cloth is to be used is so long that the cloth may be contaminated. Moreover, if the nurse is working alone, patient safety may be compromised when the nurse leaves to get a cloth or some other aid. On the other hand, the nurse may find it laborious and time-consuming to fetch the cloth or other aid and decide to move the patient without any aids, which is unhygienic and unergonomic, and may risk the nurse's health.

Summary of the invention

[0004] An object of this invention is to provide a novel roll holder and a method for arranging the roll holder to a fastening site.

[0005] The roll holder according to the invention is characterised by what is disclosed in the independent claims.

[0006] Some embodiments of the invention are disclosed in the dependent claims.

[0007] The basic idea of the solution is to enable the roll holder to be arranged to the immediate vicinity of a patient.

[0008] An advantage of the method and system of the invention is that the nurse does not have to leave the patient to go to a utility storage room or a cloth holder, for example, to get a cloth to be used as an aid in patient care.

List of figures

[0009] The invention will now be described in more detail in connection with preferred embodiments and with reference to the accompanying drawings, in which:

Figure 1 shows a roll holder;

Figure 2 shows a second roll holder;

Figure 3 shows a situation of use of a roll holder;

Figure 4 shows a fastening site and some means of fastening a roll holder to the fastening site

Figure 5 shows a second fastening site and some means of fastening a roll holder to the fastening site;

Figure 6 shows yet another roll holder fastened to a fastening site; and

Figure 7 shows a method for arranging a roll holder to a fastening site.

Detailed description of the invention

[0010] Figures 1 and 2 show some roll holders. The roll holder 1 may be used for storing and distributing a disposable cloth suitable for patient care. The cloth may be a disposable transfer cloth used for moving patients, for example, and may be provided with desired friction properties to facilitate the moving of a patient 10. The cloth may be placeable between the patient and the bed top or between the patient and the nurse, for example. Depending on the purpose of use, a friction-reducing cloth may be used, for example, when slidably shifting the patient or changing his/her position and/or location on the hospital bed, or a friction-increasing cloth, for example, when assisting the patient in getting up by supporting him/her with the cloth placed between the bodies of the patient and the nurse and/or when protecting the nurse's uniform from contamination. In addition, a friction-increasing cloth may be utilized to prevent the patient's feet from skidding when the patient is being assisted to stand up from the hospital bed. Figure 3 shows an example of this type of nursing situation. A friction-increasing cloth or cloth portion may also be used together with a friction-reducing cloth or cloth portion; for example, the friction-increasing cloth or cloth portion may be used for preventing the skidding of the patient's feet in situations where the patient is able to contribute

with his/her feet strength to the assisted transfer performed with the friction-reducing cloth or cloth section.

[0011] The cloth may comprise filmlike material that may be formed into a long cloth web 2 wound in a roll. It is advantageous to store the cloth web 2 as a roll because the cloth web 2 can thus be kept smooth and in an as compact a space as possible. In addition, it is easy to dispense a desired amount of cloth from the roll and to cut it into sheets of a desired length. The roll may have a width of 20 to 70 cm, for example, preferably 30 to 50 cm.

[0012] The cloth may preferably comprise material that may be burned for use as energy, thus the used cloth can be further utilized and, at the same time, disinfected in an easy and economical manner. Examples of the materials in question include polyethylene PE, polypropene PP, polyamide PA, ethylene-vinyl acetate EVA, polyethylene terephthalate PET, polylactide PLA and polyglycolic acid PGA. In embodiments where a friction-increasing cloth is needed, at least part of at least one surface of the cloth web may comprise a friction coating. The friction coating may comprise repositionable adhesive or some other surface causing friction or adhesion. If the friction surface is applied to both sides of the cloth web 2, the areas with friction surface may preferably be arranged to overlap in the width direction of the cloth web 2 so that, during rolling, the friction surfaces of two different surfaces of successive turns do not set one on top of the other and hence the successive turns of the cloth web 2 do not stick to one another.

[0013] The roll holder 1 may be substantially casing-like, comprising two opposite ends 3 and, between them, a top surface 4, a bottom surface 5 and two sides 6 so that the cloth web 2 may be arranged substantially inside the roll holder 1. In addition, the roll holder may comprise an elongated dispensing opening 7 having a length that is at least equal to the width of the cloth web 2, thus allowing the cloth web 2 to be dispensed from the roll in the roll holder 1 through a dispensing opening 7.

[0014] The roll holder 1 may further comprise means for fastening the roll holder to a fastening site 9 so that the roll holder 1 is placeable to an immediate vicinity of the patient 10. When moving from the patient 10 to a next one, the nurse 11 may thus take the roll holder along and fasten the roll holder 1 to the immediate vicinity of the patient in question in each case, or the roll holder 1 may be moved from one bed to the next as patients or the treatments needed change. Consequently, the nurse 11 does not have to leave the

patient 10 in order to get the cloth, whereby patient safety is improved and the treatment runs smoothly. In an embodiment, the roll holder 1 may be fastened and unfastened manually, without tools. This facilitates and speeds up the transfer of the roll holder 1 and the cloth web 2 from the patient 10 to the next. In yet another embodiment, the roll holder 1 may be fastened and unfastened with one hand, the other hand of the nurse 11 remaining free for other tasks, such as assisting the patient.

[0015] In an embodiment, the dispensing opening 7 may be arranged on the top surface 4 of the roll holder 1 and/or the roll holder 1 may be made symmetrical so that the cloth web 2 may be dispensed from the roll in the direction of either side 6 of the roll holder 1. In an embodiment, the dispensing opening 7 may be arranged on the top surface 4 of the roll holder 1 and, on both sides of the dispensing opening 7, means for fastening the roll holder to the fastening site 9 are arranged. The roll holder 1 may thus be fastened from either side to the fastening site 9 at the immediate vicinity of the patient 10. This is advantageous because in different nursing situations it may be necessary to dispense the cloth in different directions and, on the other hand, in some nursing situations it is more advantageous to fasten the roll holder 1 to the outward side of the fastening site 9 and in others to the inward side of the fastening site 9. With the roll holder fastening means provided on both sides 6 of the roll holder 1, the roll holder 1 may be fastened to the fastening site 9 from either side of the holder. Since the cloth web 2 may be dispensed from the roll holder 1 in the direction of either side 6 of the roll holder, the roll may be dispensed, depending on the nursing situation and the fastening site, e.g. towards the patient 10 or the fastening site 9 or away from the patient 10 or the fastening site 9.

[0016] Figure 3 shows a nursing situation and Figures 4 and 5 show some fastening options for the roll holder 1 and some dispensing directions. Figure 4 shows examples of fastening the roll holder 1 to both ends of the fastening site 9, in this case a hospital bed, although naturally only one roll holder 1 at a time is typically fastened to the fastening site 9. However, when cloths of several types are used, two or more roll holders 1 may also be arranged to the fastening site 9. Figures 4 and 5 show alternative ways of arranging the roll holder 1 to the inward and outward sides of each end of the fastening site 9, in this case a hospital bed, with the dispensing direction towards the patient and/or the hospital bed or away from the patient and/or the

hospital bed. Figure 6 shows an embodiment in which the roll holder 1 is fastened to the outward side of a side rail of a hospital bed so that the cloth web 2 is dispensed in a direction away from the hospital bed. Different embodiments naturally enable the roll holder 1 to be arranged to the inward side of the side rail and/or with the dispensing direction of the cloth web 2 towards the hospital bed.

[0017] In an embodiment, the means for fastening the roll holder to the fastening site 9 are formed as an integral part of the roll holder 1. Roll holders of this type are shown in Figures 1, 3 and 4, for example. The structure in question is strong and easy to use, and applicable to most purposes of use. In some embodiments, e.g. in those shown in Figures 1, 3 and 4, the means for fastening the roll holder to the fastening site 9 may comprise at least one hooked integral fastening member 8 which in its position of use is open at its bottom edge, which fastening means enables fastening the roll holder 1 detachably to a substantially horizontal fastening site 9 or part of the fastening site 9. This type of roll holder 1 is easy to fasten to the fastening site 9 and to detach therefrom with one hand, for example. Moreover, because of the detachable fastening the nurse can also move the roll holder to the next patient to be assisted and fasten it there, or the roll holder may be moved from one hospital bed to another as the patient to be assisted changes beds, for example.

[0018] In an embodiment, the means for fastening the roll holder to the fastening site comprise at least one suction cup arranged to the roll holder 1 to allow the roll holder 1 to be detachably fastened to the fastening site 9. The suction cup may in that case comprise a suction cup known per se and suitable for fastening, which is why the suction cups are not described in closer detail in this context.

[0019] In an embodiment, the means for fastening the roll holder to the fastening site 9 may comprise one or more fastening openings 12 formed to the top surface 4 of the roll holder 1, and the openings may have at least one separate fastening member 13 detachably attached thereto, as shown in the embodiments of Figures 2, 5 and 6, for example. This offers different fastening alternatives because a separate fastening member or separate fastening members 13 may be arranged to the fastening openings 12 of the roll holder 1 as best suited from the point of view of the embodiment, as shown in Figure 5, for example. Consequently, the roll holder 1 may be fastened so that

the individual shapes of the fastening sites 9 and the location of other structures in the fastening sites 9, for example, will be even better taken into account. Moreover, specific fastening members 13 to be arranged to the roll holder 1 may also be formed, if necessary, for different purposes of use.

[0020] In an embodiment, the means for fastening the roll holder to the fastening site may further comprise at least one separate hooked fastening member 13 that may be detachably arrangeable to the fastening opening 12 formed on the top surface of the roll holder 1. The separate fastening member 13 may comprise two projections, for example, at its end that becomes fastened to the roll holder 1, which projections may be squeezed towards one another in order to pass the end through the fastening opening 12 and, as the squeezing is released, they regain their original position, thus locking the separate fastening member 13 to the roll holder. The separate fastening member 13 may be detached, correspondingly, from the roll holder 1 by squeezing the projections towards one another and then pulling the separate fastening member 13 from the fastening opening 12. Different locking and release methods based on squeezing/pinching are known per se from various buckle and installation applications, for example, and are therefore not explained in greater detail herein.

[0021] In an embodiment, the fastening site 9 may comprise a substantially rod-like or plate-like site to which the roll holder 1 may be fastened. In that case the roll holder 1 may be fastened onto an edge of the plate-like site or onto the rod-like site.

[0022] In an embodiment, the fastening site 9 comprises an end of a hospital bed, as in the embodiment of Figure 3, for example, or a rail of a hospital bed, as in the embodiment of Figure 6. This is particularly advantageous, because the disposable cloth web 2 stored in a roll and suitable for use in patient care may preferably be used for changing the patient's position on the bed or when assisting the patient to or from the bed, for example.

[0023] In an embodiment, the cloth web 2 may be cut into sheets by providing the cloth web 2 with perforations, for example, from which the cloth may be torn into cloth sheets 14 of a predetermined length. In another embodiment, the cloth web 2 may be uniform and the cloth may be cut with a knife or scissors, for example, into cloth sheets of a desired length. In yet another embodiment, the roll holder 1 may comprise a cutting member (not

shown), such as a sharp edge or a knife or the like with a straight or toothed edge for cutting a cloth web dispensed from the roll holder into a required length, i.e. a cloth sheet 14 of a required length. The cutting members in question are known per se from other applications and are therefore not described in greater detail herein. In an embodiment, the cutting member in question may be arranged on both sides of the dispensing opening 7 to allow the cloth web 2 to be cut irrespective of to which side 6 of the cloth holder 1 the cloth web 2 is being dispensed.

[0024] Figure 7 illustrates a method for arranging the roll holder 1 to the fastening site 9, the roll holder 1 being suitable for dispensing and distributing a disposable cloth web 2 suitable for patient care. The roll holder 1 may be substantially casing-like, comprising two opposite ends 3 and, between them, a top surface 4, a bottom surface 5 and two sides 6 so that the cloth web may be arranged substantially inside the roll holder, and the roll holder comprising an elongated dispensing opening, whose length is at least equal to the width of the cloth web, for dispensing the cloth web from the roll.

[0025] In the method the roll holder is fastened 71 to the fastening site to an immediate vicinity of the patient with means 8, 12, 13 for fastening the roll holder. In addition, in the method the cloth web 2 is dispensed 72 in the direction of a side 3 of the roll holder 1, the cloth web 2 is cut 73 to a required length and the cut cloth sheet 14 is used 74 as an aid in patient care, for example for moving a patient.

[0026] In an embodiment, the fastening site is a hospital bed and in the method the roll holder is fastened to an end or a rail of the hospital bed, to the outward side of the end or the rail. In another embodiment, the fastening site is a hospital bed and in the method the roll holder is fastened to an end or a rail of the hospital bed, to the inward side of the end or the rail. In yet another embodiment, the fastening site may be a table top to which the roll holder 1 is fastened by means of a suction cup fastening, for example.

[0027] In an embodiment, when a friction-reducing cloth is used, a roll holder 1 is arranged at one of the hospital bed ends in such a manner that the roll holder may be slid at the bed end from right to left and vice versa.

[0028] In an embodiment, the roll holder 1 may be detachably fastened to the fastening site 9, such as a hospital bed, as disclosed for example in connection with some embodiments in this specification. In another embodiment, the roll holder 1 may be fixedly fastened to the fastening site 9. In

that case the roll holder 1 may comprise a separate structure or it may form an integral part of the structure of the fastening site 9, such as a hospital bed or, in particular, an end of the hospital bed. For example, the roll holder 1 may be fastened to a fastening site 9, which fastening site may comprise e.g. an end or a rail of a hospital bed, as an integral part the structure of the fastening site 9, such as the hospital bed. In other respects the embodiments may correspond to one another and to other embodiments of the roll holder and the method mentioned in this specification.

[0029] In an embodiment, when a friction-reducing cloth is used, the roll holder 1 is arranged to the outward side of the hospital bed with hooks.

[0030] In an embodiment, more than one cloth sheet 14 may be used as an aid in patient care. In that case the cloth sheets 14 are either similar or dissimilar regarding their properties so that all cloth sheets may be friction-increasing ones, friction-reducing ones or some of the cloth sheets 14 may be friction-increasing ones while others are friction-reducing ones. For example, the embodiment of Figure 3 illustrates two cloth sheets 14 cut from the cloth web 2, one of them being arranged under the patient's 10 feet and the other between the bodies of the patient 10 and the nurse 11.

[0031] In an embodiment, the hospital bed may comprise a roll holder according to the above disclosure that is fixedly arrangeable to a fastening site 9, in this case a hospital bed, as part of the integral structure of the hospital bed. The hospital bed in question may comprise a hospital bed and a roll holder 1 according to any one of Figures 3 to 6 with the roll holder, however, not detachably arranged to the hospital bed but as part of the integral structure of the hospital bed. Alternatively, the hospital bed may in that case comprise, instead of the hospital bed disclosed in the figures, e.g. a hospital bed with a structure known per se and comprising the roll holder 1 as part of the integral structure of the hospital bed.

[0032] A person skilled in the art will find it obvious that, as technology advances, the basic idea of the invention may be implemented in various ways. The invention and its embodiments are thus not restricted to the above examples but may vary within the scope of the claims.

Claims

1. A roll holder (1) for a disposable cloth web (2) suitable for patient care and stored in the form of a roll, characterised in that:

the roll holder (1) is substantially casing-like, comprising two opposite ends (3) and, between them, a top surface (4), a bottom surface (5) and two sides (6) so that the cloth web (2) is substantially arrangeable inside the roll holder (1), and the roll holder (1) comprising an elongated dispensing opening (7) whose length is at least equal to the width of the cloth web (2) for dispensing the cloth web from the roll and in that

roll holder (1) comprises means (8, 12, 13) for fastening the roll holder to a fastening site (9), the fastening site comprising an end or a rail of a hospital bed, so that the roll holder (1) is placeable to an immediate vicinity of a patient (10);

and that the patient care comprises at least moving of the patients.

2. A roll holder as claimed in claim 1, characterised in that the dispensing opening (7) is arranged on the top surface (4) of the roll holder (1) so that the cloth web (2) may be dispensed from the roll in the direction of either side (6) of the roll holder (1).

3. A roll holder as claimed in claim 1 or 2, characterised in that the dispensing opening (7) is arranged on the top surface (4) of the roll holder and the means (8, 12, 13) for fastening the roll holder to the fastening site (9) are arranged on both sides of the dispensing opening (7), the roll holder (1) being thus fastenable from either side (6) thereof to the fastening site (9) to the immediate vicinity of the patient (10).

4. A roll holder as claimed in any one of claims 1 to 3, characterised in that the means for fastening the roll holder to the fastening site (9) are formed as an integral part of the roll holder (1).

5. A roll holder as claimed in any one of claims 1 to 4, characterised in that the means for fastening the roll holder to the fastening site comprise at least one hooked integral fastening member (8) which in its position of use is open at its bottom edge, which fastening member enables fastening the roll holder (1) detachably to a substantially horizontal fastening site (9) or part of the fastening site.

6. A roll holder as claimed in any one of claims 1 to 5, characterised in that the means for fastening the roll holder to the

fastening site comprise at least one suction cup arranged to the roll holder to allow the roll holder (1) to be detachably fastened to the fastening site (9).

7. A roll holder as claimed in any one of claims 1 to 3 or a roll holder as claimed in any one of claims 5 to 6, characterised in that the means for fastening the roll holder to the fastening site (9) comprise one or more fastening openings (12) formed to the top surface of the roll holder, to which opening at least one separate fastening member (13) is detachably attachable.

8. A roll holder as claimed in claim 7, characterised in that the means for fastening the roll holder to the fastening site (9) may further comprise at least one separate hooked fastening member (13) that is detachably attachable to the fastening opening (12) formed on the top surface (4) of the roll holder (1).

9. A roll holder as claimed in any one of claims 1 to 8, characterised in that fastening site (9) comprises a substantially rod-like or plate-like site and in that the roll holder (1) is detachably attachable to this fastening site (9).

10. A hospital bed, characterised in that the hospital bed comprises a roll holder according to any one of claims 1 to 4 as part of the integral structure of the hospital bed.

11. A roll holder as claimed in any one of claims 1 to 10, characterised in that roll holder further comprises a cutting means for cutting the cloth web (2) dispensed from the roll holder (1) to a required length.

12. A method for arranging a roll holder to a fastening site, the roll holder (1) being suitable for dispensing and distributing a disposable cloth web (2) suitable for patient care and stored in the form of a roll, characterised in that the roll holder is substantially casing-like, comprising two opposite ends (3) and, between them, a top surface (4), a bottom surface (5) and two sides (6) so that the cloth web (2) may be arranged substantially inside the roll holder (1), and the roll holder (1) comprising an elongated dispensing opening (7) whose length is at least equal to the width of the cloth web (2) for dispensing the cloth web from the roll;

and in that the method comprises

fastening the roll holder (1) to a fastening site (9), the fastening site comprising an end or a rail of the hospital bed for fastening the roll holder to an immediate vicinity of a patient (10) with means (8, 12, 13);

dispensing the cloth web (2) in the direction of a side (6) of the roll holder (1);

cutting the cloth web (2) to a required length; and

using the cut cloth sheet as an aid in patient care at least for transfer of patients.

13. A method as claimed in claim 12, characterised in that the roll holder (1) comprises a cutting means and the cloth web (2) is cut with this cutting means.

14. A method as claimed in claim 12 or 13, characterised in that in the method comprises detachably fastening the roll holder to an end or a rail of the hospital bed, to an outward side of the end or the rail; or

that the method comprises detachably fastening the roll holder to an end or a rail of the hospital bed, to an inward side of the end or the rail.

15. A method as claimed in claim 12 or 13, characterised in that the roll holder (1) is fastened to the fastening site (9), which fastening site comprises an end or a rail of the hospital bed, as an integral part of the structure of the hospital bed.

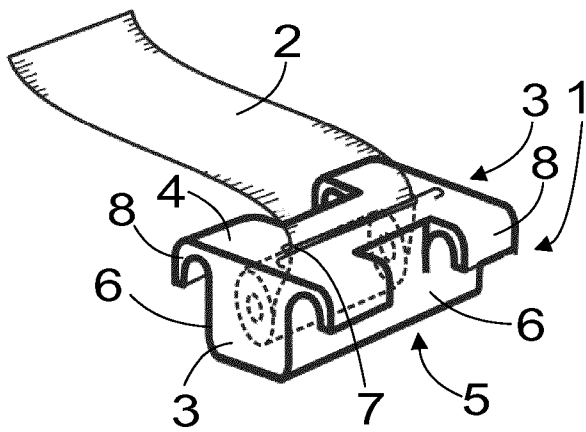


FIG. 1

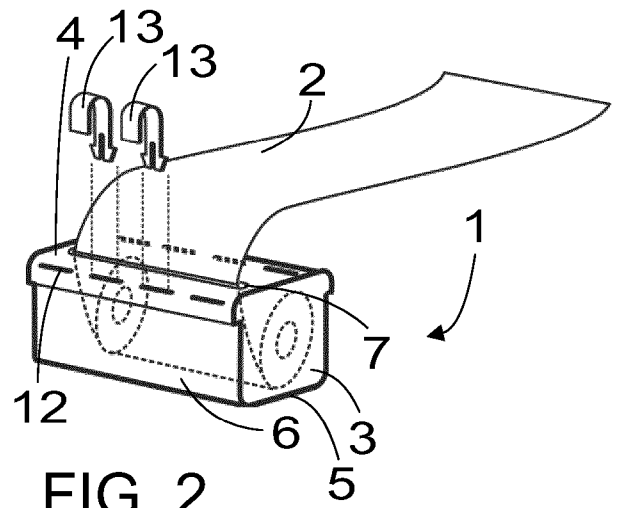


FIG. 2

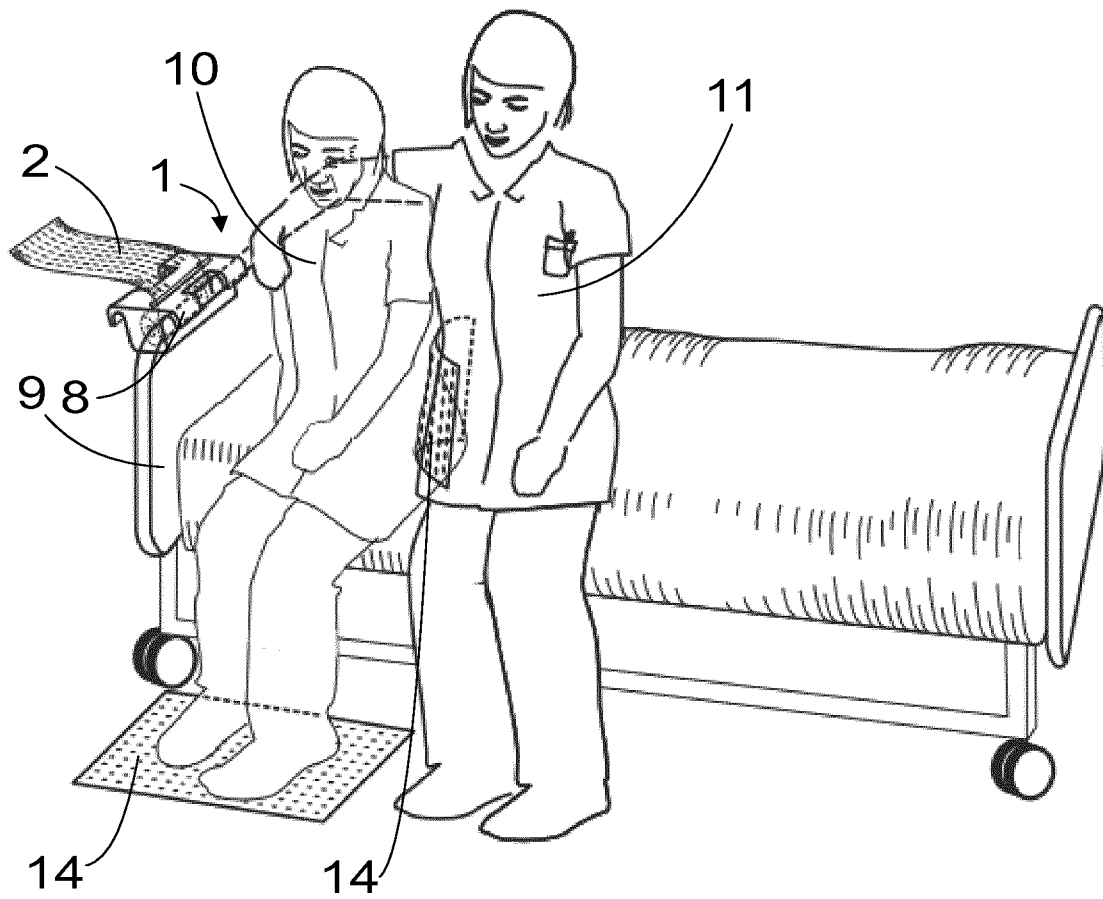


FIG. 3

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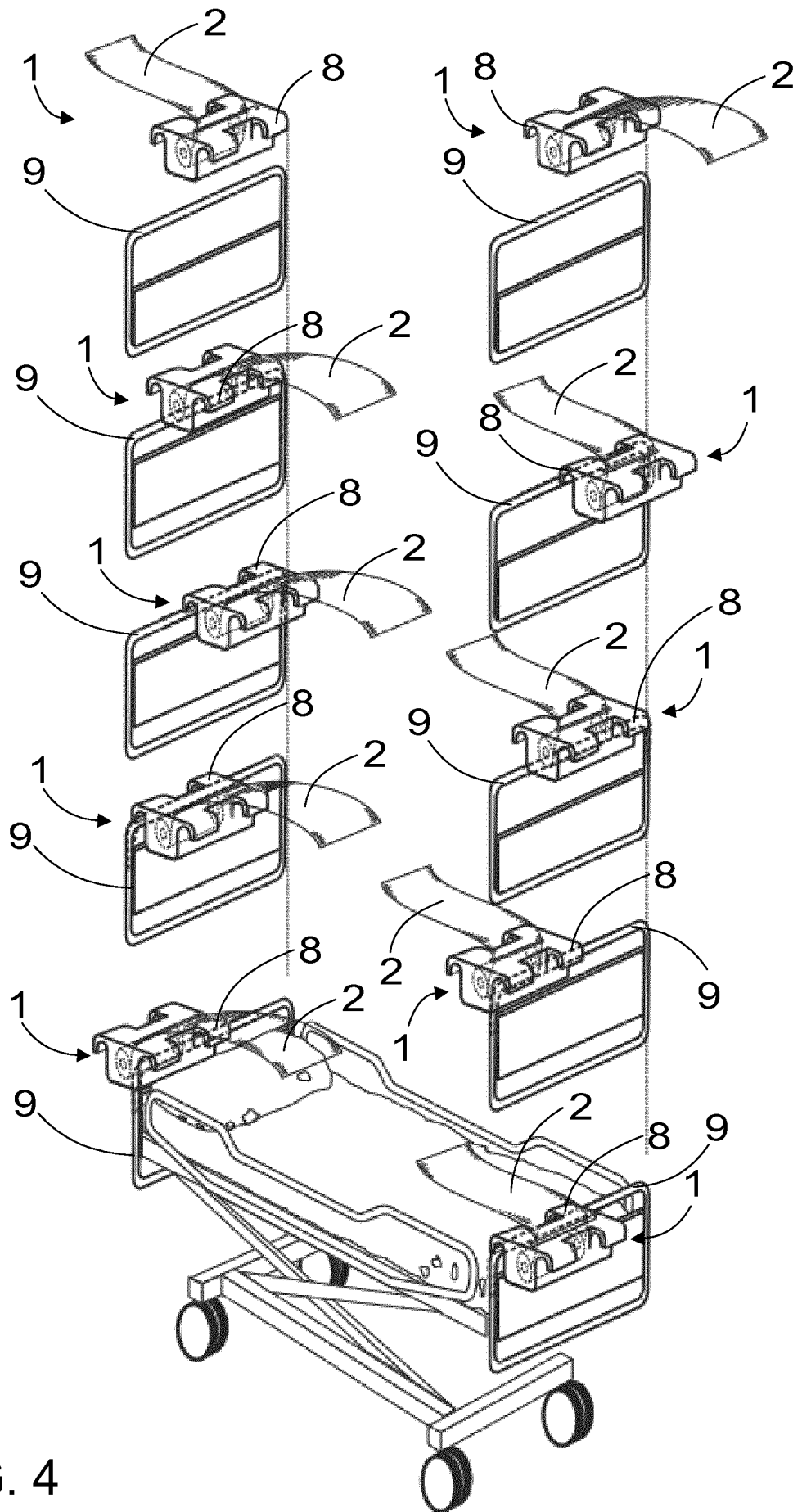


FIG. 4

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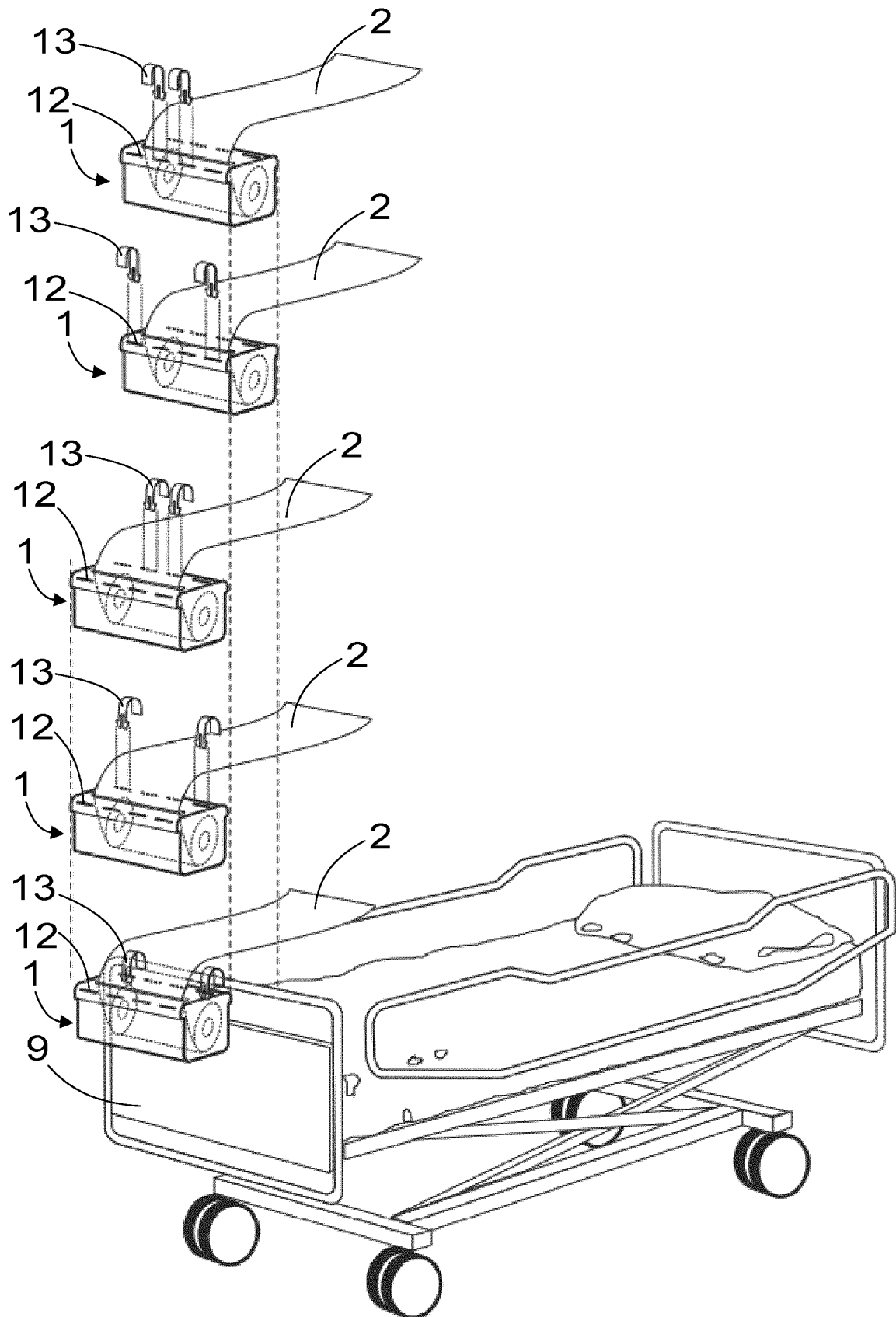


FIG. 5

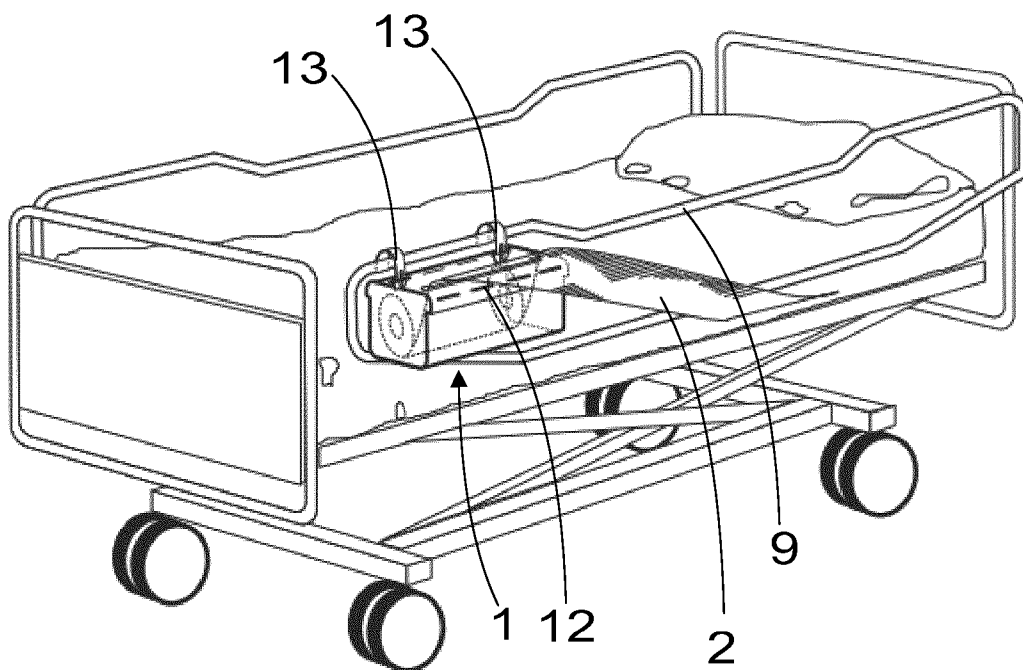


FIG. 6

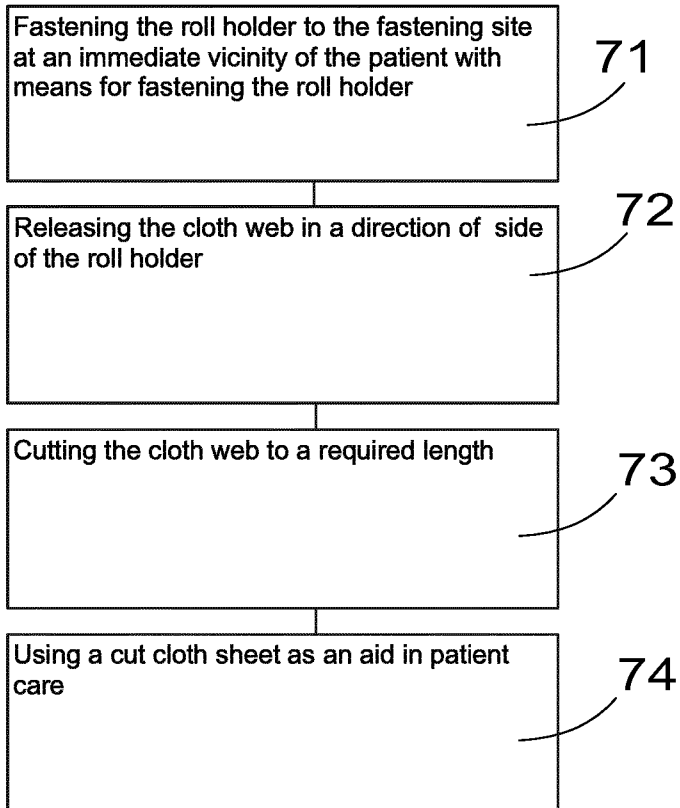


FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI2016/050214

A. CLASSIFICATION OF SUBJECT MATTER

See extra sheet

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: A47K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
FI, SE, NO, DK

Electronic data base consulted during the international search (name of data base, and, where practicable, search terms used)

EPO-Internal, WPIAP

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2009127276 A1 (RIPPL CARL G [US] et al.) 21 May 2009 (21.05.2009) whole document; especially paragraphs [0030], [0031], [0035], [0039]-[0041]; figures 8, 9	1-15
X	JP S4924039 U (-) 01 March 1974 (01.03.1974) figures 1-4	1, 4
A	US 2009314794 A1 (ZYLKA KENNETH R [US] et al.) 24 December 2009 (24.12.2009) whole document	1-15
A	JP 2000325221 A (NAKADA IWANORI) 28 November 2000 (28.11.2000) whole document & abstract [online] EPOQUENET EPODOC & machine translation into English [online] EPOQUENET TXPJPOEA	1-15

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INTERNATIONAL SEARCH REPORT
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