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(54) **METHOD FOR COATING A MATTRESS AND APPARATUS FOR COATING A MATTRESS**

METHODE UND VORRICHTUNG FÜR DAS UMHÜLLEN VON MATRATZEN

PROCEDE D'ENVELOPPAGE D'UN MATELAS ET APPAREIL ASSOCIE

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DE-A- 2 700 830 **DE-A- 2 856 599**
US-A- 4 711 067

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Description

[0001] The invention relates to a method for coating a mattress presented in the introductory part of Claim 1. The invention relates also to an apparatus for coating a mattress according to the method, presented in the introductory part of claim 2.

[0002] Particularly mattresses made of cellular plastic and raw rubber are coated with a fabric or a corresponding coating, *inter alia* for improving the comfort of use and appearance of the mattress. The coating is usually releasable, bag-like, wherein the mattress can be placed in the inner volume of the coating. Further, the coating is provided with a sealable opening which is preferably slightly smaller than the cross-sectional surface of the mattress, whereby the mattress can be inserted to the coating through this opening. At times, the coating must be removed from above the mattress for cleaning. Thus the means for closing the opening formed in the coating, for example a zipper, is opened, whereby the mattress can be drawn out. The placement of the mattress back into the coating is often difficult, because the perimeter of the opening is often smaller than the perimeter of the cross-section of the mattress in the direction of inserting the mattress.

[0003] Mattresses of cellular plastic and raw rubber are resilient, but their surface is poorly slipping, whereby drawing the coating on top of the mattress is difficult and thus also time-consuming. Methods have been developed for inserting the mattress into the coating in an easier and quicker way. One such method is presented in British patent GB-1 483 185. By this method, the mattress is placed inside a plastic bag which is connected to a suction apparatus. After that, the suction apparatus is turned on, whereby when the air is removed, the volume of the plastic bag is reduced and the mattress is thus partly compressed. Following this, the plastic bag is closed. Because the volume of the mattress is reduced, it is possible to place the mattress within the plastic bag more easily into the coating. Furthermore, the plastic bag reduces the surface friction between the coating and the mattress, which will also make it easier to place the mattress into the coating. When the mattress is inside the coating, the plastic bag is opened, whereby air is allowed to flow into the plastic bag and the mattress returns substantially to its original size.

[0004] This method has e.g. the disadvantage that the suction device is complicated and makes noise at the suction stage. Installation of the plastic bag in the coating device and placing the mattress into the plastic bag increase the work stages required for coating the mattress and prolong the time of coating the mattress. The plastic bag makes the surface of the mattress harder and causes a sweaty feeling. Further, the possible rustling sound produced by the plastic bag may cause an uncomfortable feeling. Also, returning of the compressed mattress into its original size may take a relatively long time, which is not desirable in view of usability

of the mattress.

[0005] German application publication DE-14 85 526 presents a method and an apparatus for coating a mattress, whereby the mattress is moved with band-like conveyors in the horizontal direction. The band-like conveyors are arranged in a wedge-like relation to each other, whereby they form a sharp angle and thus induce a contraction of the mattress in the cross-sectional direction. Following this, the mattress is led into the inner volume of a bag-like coating. As extensions of the vertical conveyors, there are stationary guide means which keep the mattress compressed at the stage when the mattress is led into the inner volume of the bag-like coating. During coating of the mattress, the bag-like coating is situated outside these guide means. A disadvantage in this solution is the fact that the friction between the mattress and the guide means will considerably increase the force required for transportation of the mattress. Another disadvantage in the apparatus presented in this German application publication is the fact that it can only be used for coating mattresses of substantially uniform size. If there is a need to coat mattresses of different sizes, a different apparatus must be built for each mattress size.

[0006] German application publication DE-A-28 56 599 presents an apparatus for coating a mattress. The apparatus comprises horizontal and vertical conveyor belts which move the mattress into a coating. However, the vertical conveyor belts are not situated inside the coating during the coating process. Therefore the coating is kept in place during the coating process with the horizontal conveyor means and with rollers 28, 29 of the arms 24, 25 respectively. The structure of the arms with rollers is quite complicated. In addition, the horizontal conveyor belts are situated near the edges of the mattress to be coated. This causes the mattress to bulge on the centre area wherein the mattress may not fit equally well into the coating in the centre area than near the edges of the coating.

[0007] Swiss application publication CH-A-508551 presents a device for coating a mattress. The device comprises vertical conveyor belts which move the mattress into a coating. There are also horizontal rollers in two rows in the machine which reduce the thickness of the mattress to some extent. The rollers are fixed in length therein it is not possible to change the distance between the vertical conveyor means. Also the distance between upper and lower rollers is fixed in the apparatus of the Swiss application publication, wherein the apparatus is only suitable for coating mattresses having certain breadth and height.

[0008] German application publication DE-A-2700830 presents a device for coating a mattress.

[0009] The device comprises vertical conveyors belts, which move the mattress into a coating, thus reduce the width of the mattress. Horizontally, the mattress moves on 2 Half curved plates, but the thickness of the mattress is not affected.

[0010] Also other methods are known for coating a mattress, which are based largely on the use of a suction apparatus or the like. Also these methods have the disadvantages described above, such as complicated construction and noise of the apparatus.

[0011] The purpose of the present invention is to eliminate the above-mentioned disadvantages to a large extent and to provide a practical and quick method and apparatus for coating a mattress. The invention is characterized in what will be presented in the characterizing part of the appended Claims 1 and 2.

[0012] The invention gives considerable advantages to the methods and apparatuses of prior art. The method according to the invention is quick and it can be implemented with a relatively inexpensive apparatus, whereby the use of the method and apparatus of the invention is inexpensive also when coating in smaller scale. The steplessly adjustable coating apparatus of the invention makes it possible to coat easily mattresses of different sizes. Furthermore, by using the method of the invention, the use of various plastic bags and other auxiliary means is avoided. Thus, the properties of the coated mattress are not impaired. Another advantage is that by using the method of the invention, the coating of the mattress can be conducted quickly, whereby the coating costs will be reduced. The coating device of the invention is almost noiseless and does not raise dust.

[0013] Other particular embodiments of the invention are set out in claims 2-5.

[0014] In the following, the invention will be described in more detail with reference to the appended drawings, in which

Fig. 1 shows the apparatus according to an advantageous embodiment of the invention seen from above, and

Fig. 2 shows a detail in cross-section at point I—I in Fig. 1.

[0015] The placement of a mattress 1 into the inner volume of a coating 8 can be conducted according to a coating apparatus 2 according to an advantageous embodiment shown in Fig. 1 for example in a way that the mattress 1 to be coated is placed on a mattress feeding conveyor 3. The mattress feeding conveyor 3 consists advantageously of two conveyor belts 3a, 3b known as such. Rollers are provided at both ends of the conveyor belt and, if necessary, also auxiliary rollers in the intermediate section of the conveyor belt. Power transmission is advantageously coupled to a roller placed at one end of the conveyor belt 3a, 3b and whose rotation makes the conveyor belt 3a, 3b move.

[0016] Next, the distance d1 between horizontal transportation means 4 is adjusted in a way that the distance d1 is slightly smaller than the thickness of the mattress 1 (Fig. 2). In a corresponding way, the distance d2 between vertical transportation means 5 is adjusted in

a way that the distance d2 is slightly smaller than the width of the mattress 1. The distance d1 between the horizontal transportation means 4 can be adjusted advantageously by turning on a first electric motor (not shown) coupled via a first transmission mechanism (not shown) to the support means of the horizontal transportation means 4. The first transmission mechanism can comprise e.g. a first screw arm, wherein the support means of the horizontal transportation means 4 are provided with respective first screw means fitting to the first screw arm, whereby upon turning the first screw arm in the first direction, the screw means move the upper horizontal transportation means 4a upwards and the lower horizontal transportation means 4b downwards, wherein the distance d1 will increase. In a corresponding manner, when turning the first screw arm in the opposite direction, the distance d1 will decrease. The implementation of the transmission mechanism is obvious to a man skilled in the art, whereby its further explanation in this context will be unnecessary.

[0017] The adjustment of the distance d2 between the vertical transportation means 5 is advantageously conducted with a second motor 10. The second motor 10 is coupled to a second transmission mechanism, such as a second screw arm 11. Thus, the frame parts 12a, 12b of the coating apparatus 2 are provided with second screw means fitting to the threading of the screw arm. When the second motor 10 revolves the screw arm 11 in the first direction, the second screw means make the frame parts 12a, 12b move farther apart from each other. The first vertical transportation means 5a move along with the first frame part 12a, and the second vertical transportation means 5b move along with the second frame part 12b, wherein the distance d2 between the vertical transportation means 5a, 5b will increase. In a corresponding manner, when the motor 10 revolves the screw arm 11 in the opposite direction, the frame parts 12a, 12b will move closer to each other, wherein the distance d2 between the vertical transportation means 5a, 5b will be reduced. In the upper section of the frame parts 12a, 12b, there is a support means 13 for supporting the top of the frame parts 12a, 12b when adjusting the distance d2.

[0018] The conveyor means 4, 5 consist of conveyor belts. The conveyor means are advantageously elongated, wherein the conveyor means 4, 5 are at their both ends provided with a roller or the like for generating the movement of the conveyor belt. Thus that section of the conveyor belt which is between the end rollers at each time, against the surface of the mattress 1, moves in the direction of transferring the mattress, wherein also the mattress will move in this direction. In a corresponding way, the other section of the conveyor belts, which is between the end rollers on the other side at the time, moves in the opposite direction.

[0019] Furthermore, the conveyor means 4, 5 are arranged in relation to each other advantageously so that when the mattress 1 is moved on the feeding conveyor

3 towards the transportation means 4, 5, the mattress 1 is first subjected to the effect of the vertical transportation means 5 before the horizontal transportation means 4.

[0020] After the distances d1, d2 of the horizontal 4 and vertical transportation means 5 have been adjusted suitable, the coating 8 is placed in the coating apparatus 2. Also coating support means 7 are fixed to the transportation means 4, 5, whereby the coating 8 can be placed around the support means 7. The coating support means 7 make the feeding opening 9 of the coating open preferably to its maximum size. At this stage, the coating 8 is placed advantageously so that the transportation means 4, 5, are partly within the inner volume of the coating, at least one end of the transportation means 4, 5. By the effect of the movement of the transportation means 4, 5, the mattress 1 moves gradually towards the other end of the transportation means 4, 5. Simultaneously the other end of the transportation conveyors, moving in a direction opposite to the transportation direction of the mattress, makes the coating 8 move in this direction, which will facilitate the coating 8 to remain in its position during coating. Following this, the feeding conveyor 3 and the transportation means 4, 5 can be started. Thus the mattress 1 begins to move towards the feeding opening 9 formed by the frame parts 12a, 12b. The coating 8 can also be supported manually at the support means 7 to secure that the coating 8 will not disengage too early from the coating apparatus 2.

[0021] Consequently, the transportation means 4, 5 reduce the perimeter of the mattress to some extent at least at the transportation means 4, 5. This situation is illustrated in Fig. 2, in which the cross-section of the mattress is shown by broken lines as an example. Because the perimeter of the mattress 1 is at this stage smaller than the perimeter of the feeding opening 9 of the coating 8, the mattress 1 is gradually moved inside the coating 8. At the stage when the front end of the mattress in the direction of moving is at the second end of the transportation means 4, 5, this part of the mattress begins to return to its original shape. The transportation means 4, 5 keep on pushing the mattress forward. In the end, the mattress 1 is wholly inside the inner volume of the coating 8, after which the mattress 1 and the coating 8 disengage from the coating apparatus 2 and the mattress fills substantially the whole inner volume of the coating 8. Following this, the feeding opening 9 can be closed.

[0022] Because the distance d1, d2 between the transportation means 4, 5 can be adjusted in a stepless manner, it is possible to use the coating apparatus of the invention for coating mattresses of different sizes.

[0023] Tests on the mattress coating apparatus according to the invention have shown e.g. that the vertical transportation means 5 must be placed as precisely as possible parallel to each other and to the direction of movement of the mattress. Thus, the mattress 1 will be subjected to a minimum number of torsional moments disturbing the movement of the mattress.

[0024] It is also possible to connect a formula control device to the coating apparatus according to the invention. The most common mattress sizes, particularly cross-sectional sizes, can be stored in the memory of the formula control device, whereby the size of the mattress to be coated can be selected advantageously by pressing one button. Thus, the formula control device will identify which button was pressed and will adjust the distance d1, d2 between the transportation means to correspond to the selected mattress size. Mattress sizes which are not stored in the memory of the formula control device can be coated e.g. by entering the readings corresponding to the thickness and width of the mattress via the keyboard of the formula control device.

[0025] Furthermore, the coating apparatus 2 comprises support strips 14 coated with Teflon, whereby the mattress to be coated is better kept in its shape in the area between the horizontal transportation means 4. Moreover, the support strips 14 reduce the surface friction between the mattress 1 and the coating 8, facilitating the placement of the mattress 1 in the inner volume of the coating 8.

[0026] The density/weight ratio of mattresses 1 can vary to a great extent, the resiliency and compressibility of the mattress varying accordingly. Thus, the user of the mattress can select a mattress most suitable to his/her weight. By means of the coating apparatus 2 of the invention, it is possible to use mattresses having different density/weight ratios. If necessary, it is possible to reduce the diminishing of the perimeter of mattresses with a higher density/weight ratio in the apparatus, taking into account the perimeter of the feeding opening 9 of the coating 8. Thus, the density/weight ratio of the mattress can be used as one parameter in the formula control device.

[0027] Further, it is possible to use a mattress manipulator in connection with the coating apparatus 2 of the invention, whereby stacks of mattresses are placed in the manipulator, preferably mattresses of equal size in the same stack. Thus the manipulator takes one stack at a time for processing. The manipulator moves one mattress at a time from the stack to the feeding conveyor 3 of the coating apparatus 2. The operator of the coating apparatus 2 puts a coating 8 fitting the mattress 1 in its place and turns on the coating apparatus 2, as described above in the description. After processing one stack of mattresses, the manipulator will take the next stack of mattresses for processing, and the operator will set the distances d1, d2 of the transportation means 4, 5 of the coating apparatus 2 to correspond to the mattress size to be processed.

[0028] Although the invention has been described above in connection with coating a mattress, the invention can also be applied for coating other pieces preferably made of a resilient material, with a coating 8. For example, coatings of sofa cushions and seat cushions are designed to be baggy, and they have a feeding opening 9 for removing the cushion from the coating 8

e.g. to be washed and placed back in the cushion 8. It is specific also to these kinds of cushions that the inner volume of the coating 8 is advantageously slightly smaller than the free volume of the cushion and that the perimeter of the feeding opening 9 is smaller than the perimeter of the cushion in a direction perpendicular to the direction of feeding.

[0029] The invention is not limited solely to the embodiments presented above, but it can be modified within the scope of the appended claims.

Claims

1. Method for coating a mattress (1) with a baggy coating (8) forming an inner volume, the coating (8) having a feeding opening (9), whereby the method uses transportation means (4, 5) for moving the mattress (1) into the inner volume and the transportation means (4, 5) reduce the perimeter of the mattress (1) in a direction perpendicular to the direction of moving the mattress (1) at least in that part of the mattress (1) which is at the feeding opening (9) at the time, the transportation means (4, 5) consist of horizontal transportation means (4) and vertical transportation means (5), wherein the horizontal transportation means (4) are placed close to the end portions of the mattress in a cross-section perpendicular to the direction of moving the mattress (1) and that the horizontal transportation means comprise lower conveyor belts (4a) and upper conveyor belts (4b), and the vertical transportation means comprise first vertical conveyor belts (5a) and second vertical conveyor belts (5b), **characterized in that** both the vertical and horizontal transportation means (4, 5) are partly placed into the inner volume, and that the mattress to be coated is supported by support strips (14) coated with Teflon in the area between the horizontal transportation means (4) to keep the mattress to be coated in its shape and to reduce the surface friction between the mattress (1) and the coating (8).

2. Coating apparatus (2) for coating a mattress (1) with a baggy coating (8) comprising an inner volume, the coating (8) having a feeding opening (9), whereby the coating apparatus (2) comprises transportation means (4, 5) for moving the mattress (1) into the inner volume and the transportation means (4, 5) are arranged to reduce the perimeter of the mattress (1) in a direction perpendicular to the direction of moving the mattress (1) at least in that part of the mattress (1) which is at the feeding opening (9) at the time, the transportation means (4, 5) consist of horizontal transportation means (4) and vertical transportation means (5), wherein the horizontal transportation means (4) are arranged to be placed close to the end portions of the mattress in a cross-

section perpendicular to the direction of moving the mattress (1) and, that the horizontal transportation means comprise lower conveyor belts (4a) and upper conveyor belts (4b), and that the vertical transportation means comprise first vertical conveyor belts (5a) and second vertical conveyor belts (5b), **characterized in that** both the vertical and horizontal transportation means (4, 5) are arranged to be placed partly into the inner volume during the stage of coating the mattress and that the coating apparatus (2) further comprises support strips (14) coated with Teflon to support the mattress to be coated in the area between the horizontal transportation means (4) and to reduce the surface friction between the mattress (1) and the coating (8).

3. Coating apparatus (2) according to Claim 2, **characterized in that** the coating apparatus (2) comprises adjusting members, whereby the distance (d1) between the horizontal transportation means (4a, 4b) and the distance (d2) between the vertical transportation means (5a, 5b) can be adjusted.

4. Coating apparatus (2) according to Claim 2 or 3, **characterized in that** the coating apparatus (2) comprises further a feeding conveyor (3) for moving the mattress (1) to the coverage area of the transportation force generated by the transportation means (4, 5).

5. Coating apparatus (2) according to any of the Claims 2 to 4, **characterized in that** the coating apparatus (2) comprises further a formula control device, whereby the formula control device is provided with

- means for storing different mattress sizes,
- means for selecting a stored mattress size, and
- means for adjusting the transportation means (4, 5) to correspond to the selected mattress size.

Patentansprüche

1. Verfahren zum Überziehen einer Matratze (1) mit einem sackartigen Überzug (8), welcher ein inneres Volumen und eine Einführöffnung (9) aufweist, wobei das Verfahren Transportvorrichtungen (4, 5) zum Befördern der Matratze (1) in das innere Volumen verwendet, die Transportvorrichtungen (4, 5) den Umfang der Matratze (1), zumindest von dem Teil der Matratze (1), welcher sich jeweils an der Einführöffnung (9) befindet, in einer Richtung senkrecht zur Bewegungsrichtung der Matratze (1), verkleinern, und die Transportvorrichtungen (4, 5) aus horizontalen Transportvorrichtungen (4) und vertikalen Transportvorrichtungen (5) gebildet sind, wo-

bei die horizontalen Transportvorrichtungen (4) nahe an den Endabschnitten der Matratze (1) in einem Querschnitt senkrecht zur Bewegungsrichtung der Matratze (1) angeordnet sind, die horizontalen Transportvorrichtungen untere Förderbänder (4a) und obere Förderbänder (4b) aufweisen, und die vertikalen Transportvorrichtungen erste vertikale Förderbänder (5a) und zweite vertikale Förderbänder (5b) aufweisen,

dadurch gekennzeichnet, dass

sowohl die vertikalen als auch die horizontalen Transportvorrichtungen (4, 5) teilweise im inneren Volumen untergebracht sind, und die zu umhüllende Matratze im Bereich zwischen den horizontalen Transportvorrichtungen (4) durch mit Teflon beschichtete Stützleisten (14) gestützt wird, um die zu umhüllende Matratze in ihrer Form zu halten und die Oberflächenreibung zwischen Matratze (1) und Überzug (8) zu verringern.

2. Überzugsvorrichtung (2) für das Umhüllen einer Matratze (1) mit einem sackartigen Überzug (8), welcher ein inneres Volumen umfasst und eine Einführöffnung (9) aufweist, wobei die Überzugsvorrichtung (2) Transportvorrichtungen (4, 5) zum Transportieren der Matratze (1) in das innere Volumen aufweist, die Transportvorrichtungen derart angeordnet sind, dass sie den Umfang der Matratze (1), zumindest von dem Teil der Matratze (1), welcher sich jeweils an der Einführöffnung (9) befindet, in einer Richtung senkrecht zur Bewegungsrichtung der Matratze (1), verkleinern, und die Transportvorrichtungen (4, 5) aus horizontalen Transportvorrichtungen (4) und vertikalen Transportvorrichtungen (5) gebildet sind, wobei die horizontalen Transportvorrichtungen (4) nahe an den Endabschnitten der Matratze in einem Querschnitt senkrecht zur Bewegungsrichtung der Matratze (1) angeordnet sind, die horizontalen Transportvorrichtungen untere Förderbänder (4a) und obere Förderbänder (4b) aufweisen, und die horizontalen Transportvorrichtungen erste vertikale Förderbänder (5a) und zweite vertikale Förderbänder (5b) aufweisen

dadurch gekennzeichnet, dass

sowohl die vertikalen und die horizontalen Transportvorrichtungen (4, 5) so angeordnet sind, dass sie während des Umhüllungsvorgangs teilweise im inneren Volumen untergebracht sind, und die Überzugsvorrichtung (2) mit Teflon beschichtete Stützleisten (14) aufweist, um die zu umhüllende Matratze (1) im Bereich zwischen den horizontalen Transportvorrichtungen (4) zu stützen und die Oberflächenreibung zwischen Matratze (1) und Überzug (8) zu verringern.

3. Überzugsvorrichtung nach Anspruch 2
dadurch gekennzeichnet, dass
die Überzugsvorrichtung Justiereinheiten aufweist,

womit der Abstand (d1) zwischen den horizontalen Transportvorrichtungen (4a, 4b) und der Abstand (d2) zwischen den vertikalen Transportvorrichtungen (5a, 5b) angepasst werden kann.

4. Überzugsvorrichtung nach Anspruch 2

dadurch gekennzeichnet, dass

die Überzugsvorrichtung (2) zusätzlich ein zuführendes Förderband (3) umfasst, um die Matratze (1) in die Reichweite der Transportkraft, welche von den Transportvorrichtungen (4, 5) erzeugt wird, zu bringen.

5. Überzugsvorrichtung nach einem der Ansprüche 2 bis 4

dadurch gekennzeichnet, dass

die Überzugsvorrichtung (2) zusätzlich eine programmierte Ansteuerungsvorrichtung umfasst, welche ausgestattet ist mit einer

- Vorrichtung zum Speichern verschiedener Matratzengrößen,
- Vorrichtung zum Auswählen einer gespeicherten Matratzengröße,
- Vorrichtung zum Justieren der Transportvorrichtungen (4, 5), entsprechend der ausgewählten Matratzengröße.

Revendications

1. Procédé de revêtement d'un matelas (1) avec un revêtement (8) flottant formant un volume intérieur, le revêtement (8) ayant une ouverture d'introduction (9), dans lequel le procédé utilise des moyens de transport (4, 5) pour déplacer le matelas (1) à l'intérieur du volume intérieur, et les moyens de transport (4, 5) permettant de réduire le périmètre du matelas (1) dans une direction perpendiculaire à la direction de déplacement du matelas (1), au moins dans la partie du matelas (1) qui se trouve à l'ouverture d'introduction (8) à ce moment, les moyens de transport (4, 5) étant formés de moyens de transport (4) horizontaux et de moyens de transport (5) verticaux, dans lequel les moyens de transport (4) horizontaux sont placés près des parties d'extrémité du matelas, en observant en une coupe perpendiculaire à la direction de déplacement du matelas (1), et en ce que les moyens de transport horizontaux comprennent des courroies de convoyage inférieures (4a) et des courroies de convoyage inférieures (4b), et les moyens de transport verticaux comprennent des premières courroies de convoyage verticales (5a) et des deuxièmes courroies de convoyage verticales (5b), **caractérisé en ce que** les moyens de transport verticaux et horizontaux (4, 5) sont tous deux placés en partie dans le volume intérieur, et **en ce que** le matelas à revêtir est sup-

porté par des bandes support (14) revêtues de Téflon dans la zone située entre les moyens de transport horizontaux (4), pour maintenir à sa forme le matelas à revêtir, et pour réduire le frottement de surface se produisant entre le matelas (1) et le revêtement (8).

2. Dispositif de revêtement (2) pour revêtir un matelas (1) par un revêtement (8) flottant, comprenant un volume intérieur, le revêtement (8) ayant une ouverture d'introduction (9), dans lequel le dispositif de revêtement (2) comprend des moyens de transport (4, 5) pour déplacer le matelas (1) dans le volume intérieur, et les moyens de transport (4, 5) sont agencés pour réduire le périmètre du matelas (1) dans une direction perpendiculaire à la direction de déplacement du matelas (1), au moins dans la partie du matelas (1) se trouvant à l'ouverture d'introduction (9) à ce moment, les moyens de transport (4, 5) étant formés de moyens de transport horizontaux (4) et de moyens de transport verticaux (5) dans lequel les moyens de transport horizontal (4) sont agencés pour être placés près des parties d'extrémité du matelas, observés en coupe perpendiculaire à la direction de déplacement du matelas (1), et en ce que les moyens de transport horizontaux comprennent des courroies de convoyage inférieures (4a) et des courroies de convoyage supérieures (4b), et en ce que les moyens de transport verticaux comprennent des premières courroies de convoyage verticales (5a) et des deuxièmes courroies de convoyage verticales (5b), **caractérisé en ce que** les moyens de transport verticaux et horizontaux (4, 5) sont agencés pour être placés en partie dans le volume intérieur durant l'étape de revêtement du matelas, et l'appareil de revêtement (2) comprenant en outre des bandes support (14) revêtues par du Téflon, pour supporter le matelas à revêtir dans la zone située entre les moyens de transport horizontaux (4) et pour réduire le frottement de surface intervenant entre le matelas (1) et le revêtement (8).

3. Dispositif de revêtement (2) selon la revendication 2, **caractérisé en ce que** le dispositif de revêtement (2) comprend des organes d'ajustement, de manière que la distance (d1) entre les moyens de transport horizontaux (4a, 4b) et la distance (d2) entre les moyens transports verticaux (5a, 5b) puissent être ajustées.

4. Dispositif de revêtement 2 selon la revendication 2 ou 3, **caractérisé en ce que** le dispositif de revêtement (2) comprend en outre un convoyeur d'introduction (3) pour déplacer le matelas (1) à la zone de couverture de la force de transport générée par les moyens de transport (4, 5).

5. Dispositif de revêtement (2) selon l'une quelconque des revendications 2 à 4, **caractérisé en ce que** le dispositif de revêtement (2) comprend en outre un dispositif de commande de formules, dans lequel le dispositif de commande de formule comporte :

- des moyens pour mémoriser des tailles de matelas différentes
- des moyens pour sélectionner une taille de matelas stockée mémorisée, et
- des moyens pour ajuster les moyens de transport (4, 5), pour correspondre à la taille de matelas sélectionnée.

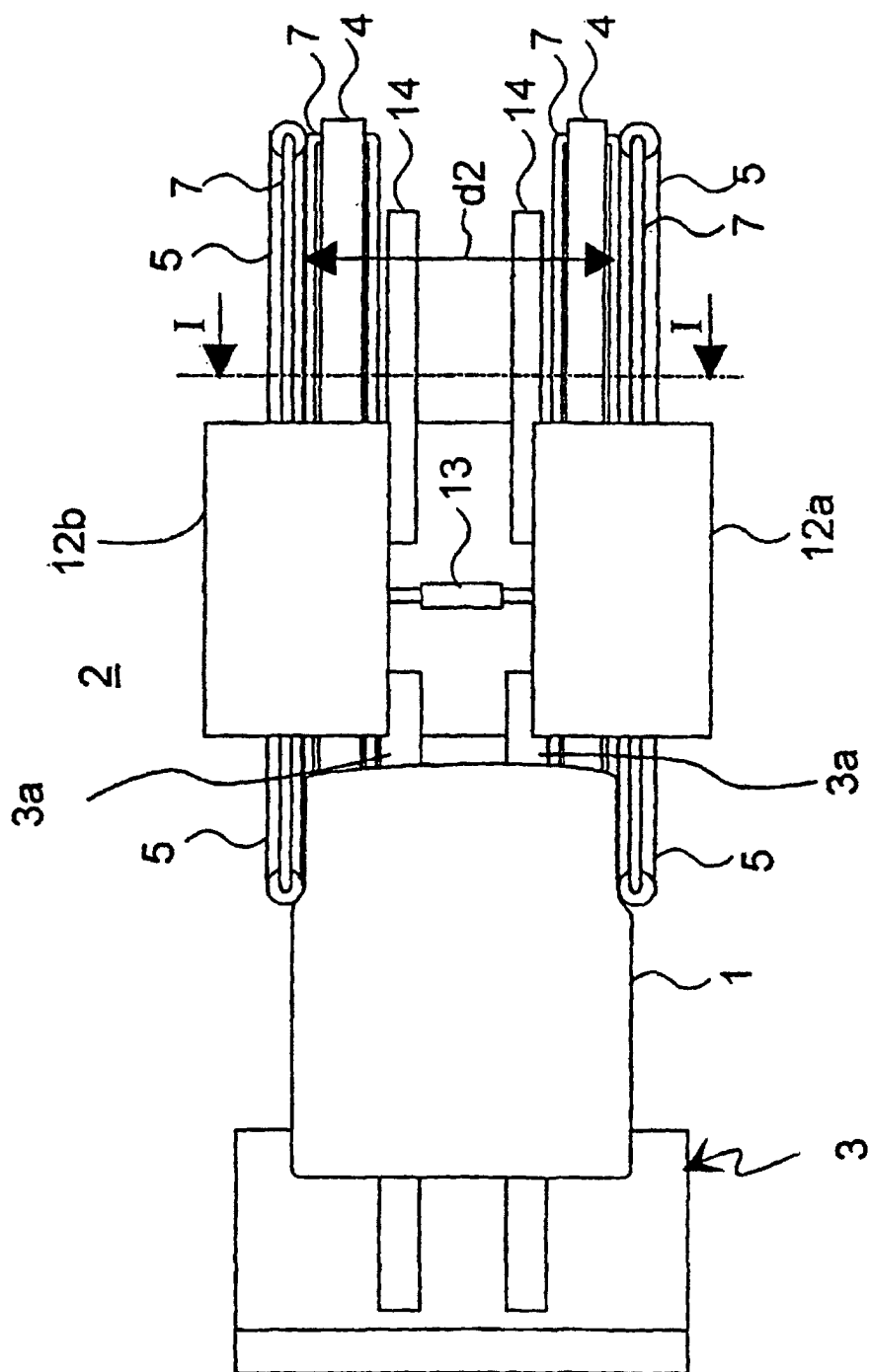


Fig. 1

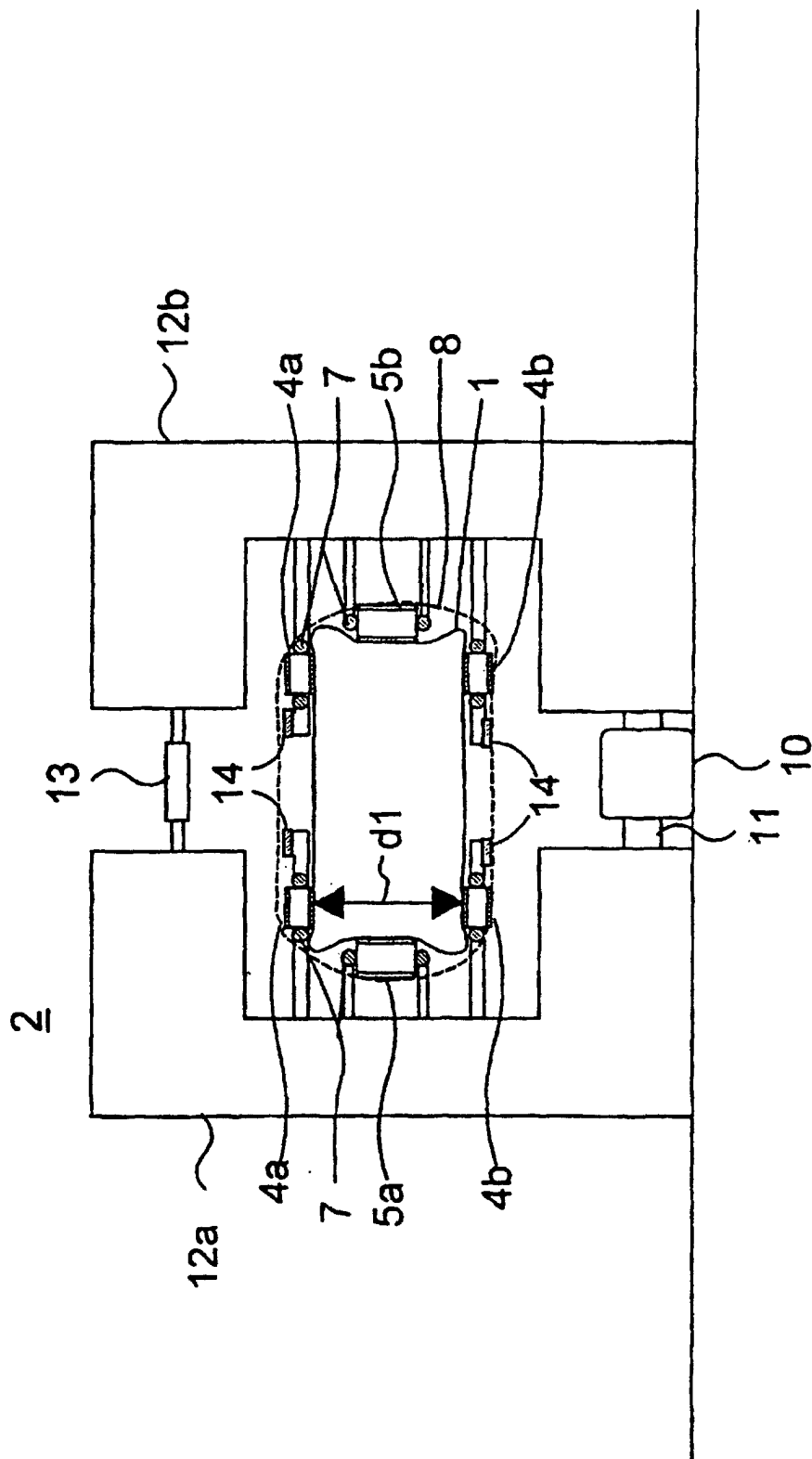


Fig. 2