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**(54) Method for squaring panels made of wood or the like**

Verfahren für das Abvieren von einer Platte aus Holz oder ähnlichem Material

Procédé pour l'équarrissage de la bordure d'un panneau de bois ou d'un matériau similiaire.

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## Description

**[0001]** The present invention relates to a method for squaring and edging panels made of wood or the like according to the preamble of claim 1. Such a method is known from document EP 1 475 204 A1.

**[0002]** The present invention is particularly advantageously applied to edging machines of semiautomatic type, i.e. edging machines in which the panel is to be manually positioned, to which explicit reference will be made in the following description without therefore losing in generality.

**[0003]** In the field of edging panels made of wood or the like, it is known to provide a machine comprising an elongated base extending in a given first direction; a feeding unit to move a panel forward through a rectifying station and an edging station arranged in sequence along the base; first stopping means for correctly positioning the panel in a second direction, substantially transversal to the first direction; second stopping means opposed to the first stopping means for correctly positioning the panel in the second direction; third stopping means for correctly positioning the panel in the first direction; and a grip and transfer unit for transferring the panel to the feeding unit.

**[0004]** In use, the panel is manually moved to bring a first side thereof in contact with the first stopping means, and it is then moved forward in the first direction through the rectifying and edging stations to rectify and edge the first side, respectively.

**[0005]** At this point, once the second stopping means have been correctly positioned in the second direction, the panel is manually moved to bring the first side in contact with the second stopping means themselves, and it is then moved forward in the first direction through the rectifying and edging stations to rectify and edge a second side of the panel opposed to the first side, respectively.

**[0006]** Next, the panel is manually moved to bring the first side in contact with the third stopping means and to bring a third side thereof in contact with the first stopping means, and it is then moved forward in the first direction through the rectifying and edging stations to rectify and edge the third side, respectively.

**[0007]** Finally, once the second stopping means have been correctly positioned in the second direction, the panel is manually moved to bring the second side in contact with the third stopping means and the third side in contact with the second stopping means themselves, and it is then moved forward in the first direction through the rectifying and edging stations to rectify and edge a fourth side of the panel opposed to the third side, respectively.

**[0008]** The known machines for edging panels of the above-described type have some drawbacks mainly deriving from that the operator must necessarily move the panel in contact with the second stopping means for correctly rectifying and edging the fourth side of the panel. Therefore, a possible error in positioning the panel in

contact with the first stopping means compromises the rectifying and edging operations of the fourth side and causes the panel itself to be rejected.

**[0009]** It is an object of the present invention to provide a method for squaring and edging panels made of wood or the like, which is free from the above-described drawbacks, and which is simple and cost-effective to be implemented.

**[0010]** According to the present invention, there is provided a method for squaring and edging panels made of wood or the like as claimed in the claims from 1 to 10.

**[0011]** The present invention will now be described with reference to the accompanying drawings, which illustrate a non-limitative embodiment thereof, in which:

figure 1 is a first diagrammatic perspective view, with parts removed for clarity, of a preferred embodiment of the machine of the present invention;

figure 2 is a second diagrammatic perspective view, with parts removed for clarity, of the machine in figure 1;

figure 3 is a diagrammatic plan view, with parts removed for clarity, of the machine in figures 1 and 2; and

figures from 4 to 7 diagrammatically show the operating principle of the machine in figures 1, 2 and 3.

**[0012]** With reference to figures 1, 2, and 3, numeral 1 indicates, as a whole, a machine for squaring and edging panels 2 made of wood or the like, each of which is substantially rectangular in shape, has a lower face 3 and an upper face 4 parallel to each other, and is laterally delimited by a profile comprising a first pair of sides 5, 6, opposed to each other, and a second pair of sides 7, 8, opposed to each other.

**[0013]** Machine 1 comprises an elongated base 9, which extends in a horizontal direction 10, and defines a supporting plane P for at least one panel 2; a rectifying station 11 (figures from 4 to 7) and an edging station (not shown) mounted in sequence along the base 9; a feeding unit 12 to move forward the panels 2 through the rectifying station 11 and the edging station; and a grip and transfer unit 13 for transferring the panels 2 to unit 12.

**[0014]** Unit 12 comprises a lower belt conveyor 14, which has an upper transport branch 15 extending along a slit 16 obtained through the base 9 in a vertical direction 17 orthogonal to plane P, and an upper pressor device 18, which is adapted to secure the panels 2 against the branch 15, is provided with a plurality of rollers 19, and comprises an inlet portion 20, mobile between a raised resting position, in which the corresponding rollers 19 are arranged at a greater distance from the plane P than the thickness of a panel 2, and a lowered working position in which the corresponding rollers 19 engage the upper face 4 of panel 2.

**[0015]** Unit 13 comprises a supporting arm 21, which extends over the base 9 in a horizontal direction 22 orthogonal to the directions 10 and 17, and is coupled to

the base 9 in a known manner to carry out rectilinear movements in direction 10 with respect to the base 9 itself along a path substantially extending by the side of the portion 20.

**[0016]** Arm 21 is provided with a guide 23 fixed to the arm 21 parallel to direction 22, and supports a plurality of grip and transport elements 24, which are selectively distributed along the arm 21, are slidably coupled to the guide 23, and are fixed to a coupling bar 25 parallel to direction 22 and mobile along the arm 21 in the direction 22 itself, under the bias of an actuating device (not shown) and by interposing a shock-absorbing device (not shown).

**[0017]** Each element 24 comprises a suction cap 26, which is connected to a pneumatic suction device of known type and not shown, and is mobile between a lowered working position, in which the suction cap 26 is arranged in contact with the upper face 4 of a panel 2, and a raised resting position, in which the suction cap 26 is arranged at a predetermined distance from the panel 2 itself.

**[0018]** Element 24 (hereinafter indicated by numeral 24a) facing the device 18 and the element 24 (hereinafter indicated by numeral 24b) mounted at the free end of arm 21 each cooperate with a respective stopping element 27a, 27b (figures from 4 to 7), which is provided with a sensor (not shown) adapted to detect the contact of a panel 2 with the element 27a, 27b itself, and is mobile with respect to the corresponding element 24a and 24b, between a lowered working position in which the element 27a, 27b is arranged at a smaller distance from the plane P than the thickness of a panel 2, and a raised resting position in which the element 27a, 27b is arranged at a greater distance from the plane P than the thickness of a panel 2.

**[0019]** Furthermore, the suction cap 26 of element 24a is pivotally coupled to the element 24a to rotate about a longitudinal axis thereof, parallel to direction 17, with respect to the element 24a itself and under the bias of an actuating device (not shown).

**[0020]** Machine 1 further comprises a first stopping bar 28, which extends in direction 10 from one end of the base 9, and is slidably coupled to the base 9 to carry out rectilinear movements in direction 22 with respect to the base 9 itself and under the bias of an actuating device 29; and a second stopping bar 30, which extends in direction 10, is arranged in sequence with the bar 28, is slidably coupled to the base 9 to carry out rectilinear movements in direction 22, with respect to the base 9 itself and under the bias of the device 29, and is provided with a plurality of supporting elements 31 distributed along the bar 30 in the direction 10 itself.

**[0021]** Each element 31 is slidably coupled to the bar 30 to carry out rectilinear movements in direction 22 with respect to the bar 30, is normally kept in an extracted position, in which the element 31 protrudes from the bar 30 and is coplanar with a supporting surface of the bar 28, by a shock-absorbing device interposed between the

bar 30 and the element 31, is mobile under the bias of a panel 2 to a retracted position, and is adapted to be blocked in its extracted position (figure 4).

**[0022]** Machine 1 further comprises a third stopping bar 32, which extends in direction 10, faces the bar 30 and is slidably coupled to the base 9 to carry out rectilinear movements in direction 22 with respect to the base 9 itself.

**[0023]** Machine 1 is finally provided with a measuring device 33 comprising a guide 34, which protrudes from the base 9 in direction 22, faces the bar 28 and supports a cursor 35 slidably coupled to the guide 34 to move a sensing element 36 in direction 22, the distance of which from a reference plane R orthogonal to direction 22 is measured, in this case by means of a metric scale (not shown) mounted to the base 9 parallel to the direction 22 itself.

**[0024]** The operation of machine 1 will now be described with reference to figures 4, 5, 6, and 7 starting from a moment when (figure 4):

the supporting elements 31 of the stopping bar 30 have been blocked in their extracted positions;  
the supporting arm 21 of the grip and transport unit 13 is arranged at an inlet end of the portion 20 of the pressor device 18;  
the suction caps 26 are arranged in their raised resting positions; and  
the stopping element 27a and the portion 20 are arranged in their lowered working positions.

**[0025]** Panel 2 is manually moved onto plane P with the side 5 being in contact with bar 28, and with the side 7 being in contact with element 27a (figure 4).

**[0026]** Once panel 2 has been correctly positioned in directions 10 and 22, the sensor (not shown) associated with element 27a detects the presence of the panel 2 and controls the descent and activation of the suction caps 26; the arm 21 is moved in direction 10 at a slower forward speed than the forward speed of unit 12 to insert the panel 2 between conveyor 14 and device 18; the suction caps 26 are deactivated and moved to their raised resting positions; the arm 21 is moved in direction 10 at a faster forward speed than the forward speed of unit 12 to disengage the element 27a from the panel 2 itself; the element 27a is moved to its raised resting position to allow the passage of panel 2; and the panel 2 itself is moved forward by the unit 12 through the station 11 to rectify the side 5 by means of a milling tool 37, and then through the edging station (not shown) to apply an edge 38 on side 5.

**[0027]** At this point, elements 31 are released; element 27a is lowered; portion 20 is raised; panel 2 is manually moved on the plane P with the side 6 being in contact with the bar 28 and with the side 8 being in contact with the element 27a (figure 5a).

**[0028]** Once panel 2 has been positioned in directions 10 and 22, the sensor (not shown) associated with the

element 27a detects the presence of the panel 2 and controls the descent and activation of the suction caps 26 and the raising of the element 27a; the arm 21 is moved in direction 10 at a slower forward speed than the forward speed of the unit 12 to insert the panel 2 under the portion 20 and between the bars 30 and 32; the bar 28 is moved in direction 22 to a retracted position; the bar 32 is moved in direction 22 to correctly position panel 2 in the direction 22 itself (figure 5b); the portion 20 is lowered; the suction caps 26 are deactivated and raised; and the panel 2 is moved forward by unit 12 through the station 11 to rectify the side 6 by means of tool 37, and then through the edging station (not shown) for applying an edge 39 on the side 6 itself.

[0029] With this regards, it is worth noting that possible errors by the operator when positioning the side 6 against the bar 28 are corrected by the rotation of the suction cap 26 of element 24a.

[0030] At this point, the elements 31 are blocked in their extracted positions again; the bar 28 is moved to a forward position again; the elements 27a and 27b and the portion 20 are lowered; and the panel 2 is manually moved on plane P with the side 7 being in contact with the bar 28 and with the side 6 being in contact with the elements 27a and 27b (figure 6).

[0031] Once panel 2 has been correctly positioned in directions 10 and 22, the sensors (not shown) associated with the elements 27a and 27b detect the presence of the panel 2 and control the descent and activation of the suction caps 26; the arm 21 is moved in direction 10 at a slower forward speed than the forward speed of unit 12 to insert the panel 2 between conveyor 14 and portion 20; the suction caps 26 are deactivated and raised; the arm 21 is moved in direction 10 at a faster forward speed than the forward speed of unit 12 to disengage the elements 27a and 27b from the panel 2 itself; the elements 27a and 27b are raised to allow the passage of panel 2; and the panel 2 itself is moved forward by the unit 12 through the station 11 to rectify the side 7 by means of a milling tool 37, and then through the edging station (not shown) to apply an edge 40 on the side 7 itself.

[0032] At this point, the elements 31 are released again; the elements 27a and 27b are lowered; and the panel 2 is manually moved on plane P with the side 8 being in contact with the bar 28 and with the side 5 being in contact with the elements 27a and 27b (figure 6a).

[0033] Once panel 2 has been positioned in directions 10 and 22, the sensors (not shown) associated with the elements 27a and 27b detect the presence of the panel 2 and control the descent and activation of the suction caps 26; the bar 28 is moved to its retracted position; and the cursor 35 is moved forward along the guide 34 in direction 22 to move the sensing element 36 into contact with side 7 and to measure the distance of side 7 from the reference plane R, and thus the dimension of panel 2 in direction 22.

[0034] The coupling bar 25 of the elements 24 is then moved in direction 22 according to the difference be-

tween the nominal dimension of panel 2 stored in machine 1 and the actual dimension measured by the device 33 to correctly position the panel 2 in the direction 22 itself.

5 [0035] By measuring the distance of side 7 from plane R, the device 33 obviously allows to correctly position the panel 2 in direction 22 even if the operator has not arranged the panel 2 in contact with bar 28.

10 [0036] Finally, the arm 21 is moved in direction 10 at a slower forward speed than the forward speed of unit 12 to insert the panel 2 between conveyor 14 and portion 20; the suction caps 26 are deactivated and raised; the arm 21 is moved in direction 10 at a faster forward speed than the forward speed of unit 12 to disengage the elements 27a and 27b from the panel 2 itself; the elements 27a and 27b are raised to allow the passage of panel 2; and the panel 2 itself is moved forward by unit 12 through the station 11 to rectify the side 8 by means of tool 37, and then through the edging station (not shown) to apply an edge (not shown) on the side 8 itself.

## Claims

25 1. Method for squaring panels (2) made of wood or the like having a substantially rectangular shape, the method comprising the steps of:

30 putting a first side (5) of a panel (2) in contact with first stopping means (28, 30) to correctly position the panel (2) in a given first direction (22);  
moving forward the panel (2) in a second direction (10) substantially transversal to the first direction (22) and through a rectifying station (11) and an edging station for rectifying and, respectively, edging the first side (5);  
35 measuring the distance between the third side (7) and a reference plane (R) substantially orthogonal to the first direction (22);  
and being **characterized in that** the method is for squaring and edging panels and **in that** it further comprises the steps of:

45 putting the first side (5) in contact with second stopping means (32) opposed to the first stopping means (28, 30) to correctly position the panel (2) in the first direction (22);  
moving forward the panel (2) in the second direction (10) and through the rectifying station (11) and the edging station for rectifying and, respectively, edging a second side (6) of the panel (2) opposed to the first side (5);  
50 putting one of said first and second side (5, 6) in contact with third stopping means (27a, 27b) to correctly position the panel (2) in the second direction (10);  
55 putting a third side (7) of the panel (2) in

- contact with the first stopping means (28, 30) or a fourth side (8) of the panel (2) opposed to the third side (7) in contact with the second stopping means (32) to correctly position the panel (2) in the first direction (22);  
moving forward the panel (2) in the second direction (10) and through the rectifying station (11) and the edging station for rectifying and, respectively, edging the third side (7); and  
putting one of said first and second side (5, 6) in contact with the third stopping means (27a, 27b) to correctly position the panel (2) in the second direction (10);  
moving the panel (2) in the first direction (22) according to said distance to correctly position the panel (2) in the first direction (22); and  
moving forward the panel (2) in the second direction (10) and through the rectifying station (11) and the edging station for rectifying and, respectively, edging the fourth side (8).
2. Method according to Claim 1, and further comprising the step of:  
putting the fourth side (8) in contact with the first stopping means (28, 30) before measuring said distance.
3. Method according to Claim 1 or 2 and further comprising the step of:  
putting the second side (6) in contact with the first stopping means (28, 30) before putting the first side (5) in contact with the second stopping means (32).
4. Method according to Claim 3, wherein the steps of putting the panel (2) in contact with the first stopping means (28, 30) and with the third stopping means (27a, 27b) are carried out by hand.
5. Method according to any one of the preceding Claims, wherein the steps of putting the panel (2) in contact with the second stopping means (32) and of moving the panel (2) in the first direction (22) according to said distance are carried out by means of a grip and transfer unit (13) mobile in the first and in the second direction (22, 10).
6. Method according to Claim 5 and comprising the steps of:  
moving forward the panel (2) through the rectifying station (11) and the edging station in the second direction (10) by means of a feeding unit (12) comprising a lower supporting device (14) and an upper pressor device (18); and inserting the panel (2) between the lower supporting device (14) and the upper pressor device (18) by means of the grip and transfer unit (13).
7. Method according to Claim 6 and further comprising the step of:  
lifting at least a part of the upper pressor device (18) when the panel (2) is put in contact with the second stopping means (32).
8. Method according to any one of the preceding Claims, wherein the first stopping means (28, 30) comprise at least a supporting element (31) mobile in the first direction (22) by interposing a shock absorbing device; the method comprising the steps of:  
locking the supporting element (31) in the first direction (22) when the panel (2) is put in contact with the first stopping means (28, 30); and releasing the supporting element (31) in the first direction (22) when the panel (2) is put in contact with the second stopping means (32) and when the panel (2) is moved in the first direction (22) according to said distance.
9. Method according to any one of the preceding Claims, wherein said distance is measured by a measuring device (33); the method comprising the step of:  
moving the measuring device (33) in the first direction (22).
10. Method according to any one of the preceding Claims, and further comprising the step of:  
moving at least a part (28) of the first stopping means (28, 30) in the first direction (22) when the panel (2) is put in contact with the second stopping means (32) and when the panel (2) is moved in the first direction (22) according to said distance.

#### Patentansprüche

1. Verfahren zum Abvieren von Platten (2) aus Holz oder dergleichen mit im Wesentlichen rechteckiger Gestalt, umfassend die folgenden Verfahrensschritte:  
Verbringen einer ersten Seite (5) der Platte (2) in Berührung mit ersten Anschlägen (28, 30), um die Platte (2) in einer vorgegebenen ersten Richtung (22) genau zu positionieren;

Bewegen der Platte (2) in einer zweiten Richtung (10) nach vorn, im Wesentlichen quer zur ersten Richtung (22) sowie durch eine Rektifizierstation (11) und eine Abkantstation zum Rektifizieren sowie entsprechendes Abkanten der ersten Seite (5);

Messen des Abstandes zwischen der dritten Seite (7) und einer Bezugsebene (R) im Wesentlichen rechtwinklig zur ersten Richtung (22); **dadurch gekennzeichnet, dass** das Verfahren zum Abvieren und Abkanten von Platten weiterhin umfasst:

Verbringen der ersten Seite (5) in Berührung mit zweiten Anschlägen (32) gegenüberliegend den ersten Anschlägen (28, 30), um die Platte (2) in der ersten Richtung (22) genau zu positionieren;

Vorwärtsbewegen der Platte (2) in der zweiten Richtung (10) sowie durch die Rektifizierstation (11) und die Abkantstation zum Rektifizieren und entsprechend Abkanten einer zweiten Seite (6) der Platte (2) gegenüberliegend der ersten Seite (5);

Verbringen der ersten oder der zweiten Seite (5, 6) in Berührung mit dritten Anschlägen (27a, 27b), um die Platte (2) in der zweiten Richtung (10) genau zu positionieren;

Verbringen einer dritten Seite (7) der Platte (2) in Berührung mit den ersten Anschlägen (28, 30) oder einer vierten Seite (8) der Platte, der dritten Seite (7) gegenüberliegend, in Berührung mit den zweiten Anschlägen (32), um die Platte (2) in der ersten Richtung (22) genau zu positionieren;

Vorwärtsbewegen der Platte (2) in der zweiten Richtung (10) und durch die Rektifizierstation (11) und die Abkantstation zum Rektifizieren und gegebenenfalls Abkanten der dritten Seite (7); und

Verbringen der ersten oder der zweiten Seite (5, 6) in Berührung mit den dritten Anschlägen (27a, 27b), um die Platte (2) in der zweiten Richtung (10) genau zu positionieren;

Bewegen der Platte (2) in der ersten Richtung (22) gemäß dem Abstand, um die Platte (2) in der ersten Richtung (22) genau zu positionieren; und

Vorwärtsbewegen der Platte (2) in der zweiten Richtung (10) sowie durch die Rektifizierstation (11) und die Abkantstation zum Rektifizieren und gegebenenfalls Abkanten der vierten Seite (8).

2. Verfahren nach Anspruch 1, weiterhin umfassend den Verfahrensschritt des Verbringens der vierten Seite (8) in Berührung mit den ersten Anschlägen

(28, 30) vor dem Messen des Abstandes.

3. Verfahren nach Anspruch 1 oder 2, weiterhin umfassend den Verfahrensschritt des Verbringens der zweiten Seite (6) in Berührung mit den ersten Anschlägen (28, 30) vor dem Verbringen der ersten Seite (5) in Berührung mit dem zweiten Anschlag (32).

4. Verfahren nach Anspruch 3, wobei die Schritte des Verbringens der Platte (2) in Berührung mit den ersten Anschlägen (28, 30) und mit den dritten Anschlägen (27a, 27b) von Hand ausgeführt wird.

5. Verfahren nach einem der vorausgegangenen Ansprüche, wobei die Schritte des Verbringens der Platte (2) in Berührung mit dem zweiten Anschlag (32) und des Bewegens der Platte (2) in der ersten Richtung (22) gemäß dem genannten Abstand ausgeführt werden mittels einer Greif- und Transfereinheit (13), die in der ersten und in der zweiten Richtung (22, 10) beweglich ist.

6. Verfahren nach Anspruch 5, umfassend die folgenden Verfahrensschritte:

Vorwärtsbewegen der Platte (2) durch die Rektifizierstation (11) und die Abkantstation in der zweiten Richtung (10) mittels einer Zufuhreinheit (12), umfassend eine untere Trageinrichtung (14) und eine obere Presseinrichtung (18); und

Einführen der Platte (2) zwischen die untere Trageinrichtung (14) und die obere Presseinrichtung (18) mittels der Greif- und Transfereinheit (13).

7. Verfahren nach Anspruch 6, weiterhin umfassend den folgenden Verfahrensschritt:

Anheben wenigstens eines Teiles der oberen Presseinrichtung (18), wenn die Platte (2) mit dem zweiten Anschlag (32) in Berührung gebracht wird.

8. Verfahren gemäß einem der vorausgegangenen Ansprüche, wobei die ersten Anschläge (28, 30) wenigstens ein Tragelement (31) umfassen, beweglich in der ersten Richtung (22) durch Einführen eines Stoßdämpfers, wobei das Verfahren die folgenden Schritte umfasst:

Verriegelung des Tragelementes (31) in der ersten Richtung (22), wenn die Platte (2) mit den ersten Anschlägen (28, 30) in Kontakt gebracht wird; und

Freilassen des Tragelementes (31) in der ersten Richtung (22), wenn die Platte (2) mit dem zweiten Anschlag (32) in Berührung gebracht wird,

und wenn die Platte (2) in der ersten Richtung (22) entsprechend dem genannten Abstand bewegt wird.

9. Verfahren nach einem der vorausgegangenen Ansprüche, wobei der genannte Abstand durch eine Messeinrichtung (33) gemessen wird, wobei das Verfahren den folgenden Schritt umfasst: 5

Bewegen der Messeinrichtung (33) in der ersten Richtung (22). 10

10. Verfahren nach einem der vorausgegangenen Ansprüche, weiterhin umfassend den folgenden Verfahrensschritt: 15

Bewegen wenigstens eines Teiles (28) der ersten Anschläge (28, 30) in der ersten Richtung (22), wenn die Platte (2) in Kontakt gebracht wird mit den zweiten Anschlägen (32) und wenn die Platte (2) in der ersten Richtung (22) gemäß dem genannten Abstand bewegt wird. 20

#### Revendications 25

1. Procédé destiné à équarrer des panneaux (2) réalisés en bois ou analogue ayant une forme essentiellement rectangulaire, le procédé comprenant les étapes qui consistent : 30

à mettre un premier côté (5) d'un panneau (2) en contact avec le premier moyen d'arrêt (28, 30) pour positionner correctement le panneau (2) dans une première direction donnée (22) ; 35  
à déplacer vers l'avant le panneau (2) dans une deuxième direction (10) essentiellement transversale à la première direction (22) et à travers une station de rectification (11) et une station de bordage pour la rectification et, respectivement, le bordage du premier côté (5) ; 40  
à mesurer la distance entre le troisième côté (7) et un plan de référence (R) essentiellement orthogonal à la première direction (22) ;  
et étant **caractérisé en ce que** le procédé est destiné à équarrer et à effectuer le bordage des panneaux et **en ce qu'il** comprend en outre les étapes qui consistent : 45

à mettre le premier côté (5) en contact avec le deuxième moyen d'arrêt (32) opposé au premier moyen d'arrêt (28, 30) pour positionner correctement le panneau (2) dans la première direction (22) ; 50  
à déplacer vers l'avant le panneau (2) dans la deuxième direction (10) et à travers la station de rectification (11) et la station de bordage pour la rectification et, respective- 55

ment, le bordage d'un deuxième côté (6) du panneau (2) opposé au premier côté (5) ;  
à mettre l'un desdits premier et deuxième côtés (5, 6) en contact avec le troisième moyen d'arrêt (27a, 27b) pour positionner correctement le panneau (2) dans la deuxième direction (10) ;  
à mettre un troisième côté (7) du panneau (2) en contact avec le premier moyen d'arrêt (28, 30) ou un quatrième côté (8) du panneau (2) opposé au troisième côté (7) en contact avec le deuxième moyen d'arrêt (32) pour positionner correctement le panneau (2) dans la première direction (22) ;  
à déplacer vers l'avant le panneau (2) dans la deuxième direction (10) et à travers la station de rectification (11) et la station de bordage pour la rectification et, respectivement, le bordage du troisième côté (7) ; et  
à mettre l'un desdits premier et deuxième côtés (5, 6) en contact avec le troisième moyen d'arrêt (27a, 27b) pour positionner correctement le panneau (2) dans la deuxième direction (10) ;  
à déplacer le panneau (2) dans la première direction (22) selon ladite distance pour positionner correctement le panneau (2) dans la première direction (22) ; et  
à déplacer vers l'avant le panneau (2) dans la deuxième direction (10) et à travers la station de rectification (11) et la station de bordage pour la rectification et, respectivement, le bordage du quatrième côté (8).

2. Procédé selon la revendication 1, et comprenant en outre l'étape qui consiste : 35

à mettre le quatrième côté (8) en contact avec le premier moyen d'arrêt (28, 30) avant la mesure de ladite distance. 40

3. Procédé selon la revendication 1 ou 2, et comprenant en outre l'étape qui consiste : 45

à mettre le deuxième côté (6) en contact avec le premier moyen d'arrêt (28, 30) avant de mettre le premier côté (5) en contact avec le deuxième moyen d'arrêt (32). 50

4. Procédé selon la revendication 3, dans lequel les étapes qui consistent à mettre le panneau (2) en contact avec le premier moyen d'arrêt (28, 30) et avec le troisième moyen d'arrêt (27a, 27b) sont effectuées à la main. 55

5. Procédé selon l'une quelconque des revendications précédentes, dans lequel les étapes qui consistent à mettre le panneau (2) en contact avec le deuxième 60

moyen d'arrêt (32) et à déplacer le panneau (2) dans la première direction (22) selon ladite distance sont effectuées au moyen d'une unité de poignée et de transfert (13) mobile dans la première direction et dans la deuxième direction (22, 10).

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6. Procédé selon la revendication 5 et comprenant les étapes qui consistent :

à déplacer vers l'avant le panneau (2) à travers la station de rectification (11) et la station de bordage dans la deuxième direction (10) au moyen d'une unité d'alimentation (12) comprenant un dispositif de support inférieur (14) et un dispositif presseur supérieur (18) ; et  
à insérer le panneau (2) entre le dispositif de support inférieur (14) et le dispositif presseur supérieur (18) au moyen de l'unité de poignée et de transfert (13).

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7. Procédé selon la revendication 6 et comprenant en outre l'étape qui consiste :

à soulever au moins une partie du dispositif presseur supérieur (18) lorsque le panneau (2) est mis en contact avec le deuxième moyen d'arrêt (32).

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8. Procédé selon l'une quelconque des revendications précédentes, dans lequel le premier moyen d'arrêt (28, 30) comprend au moins un élément de support (31) mobile dans la première direction (22) en interposant un dispositif d'absorption des chocs ; le procédé comprenant les étapes qui consistent :

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à verrouiller l'élément de support (31) dans la première direction (22) lorsque le panneau (2) est mis en contact avec le premier moyen d'arrêt (28, 30) ; et  
à libérer l'élément de support (31) dans la première direction (22) lorsque le panneau (2) est mis en contact avec le deuxième moyen d'arrêt (32) et lorsque le panneau (2) est déplacé dans la première direction (22) selon ladite distance.

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9. Procédé selon l'une quelconque des revendications précédentes, dans lequel ladite distance est mesurée par un dispositif de mesure (33) ; le procédé comprenant l'étape qui consiste :

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à déplacer le dispositif de mesure (33) dans la première direction (22).

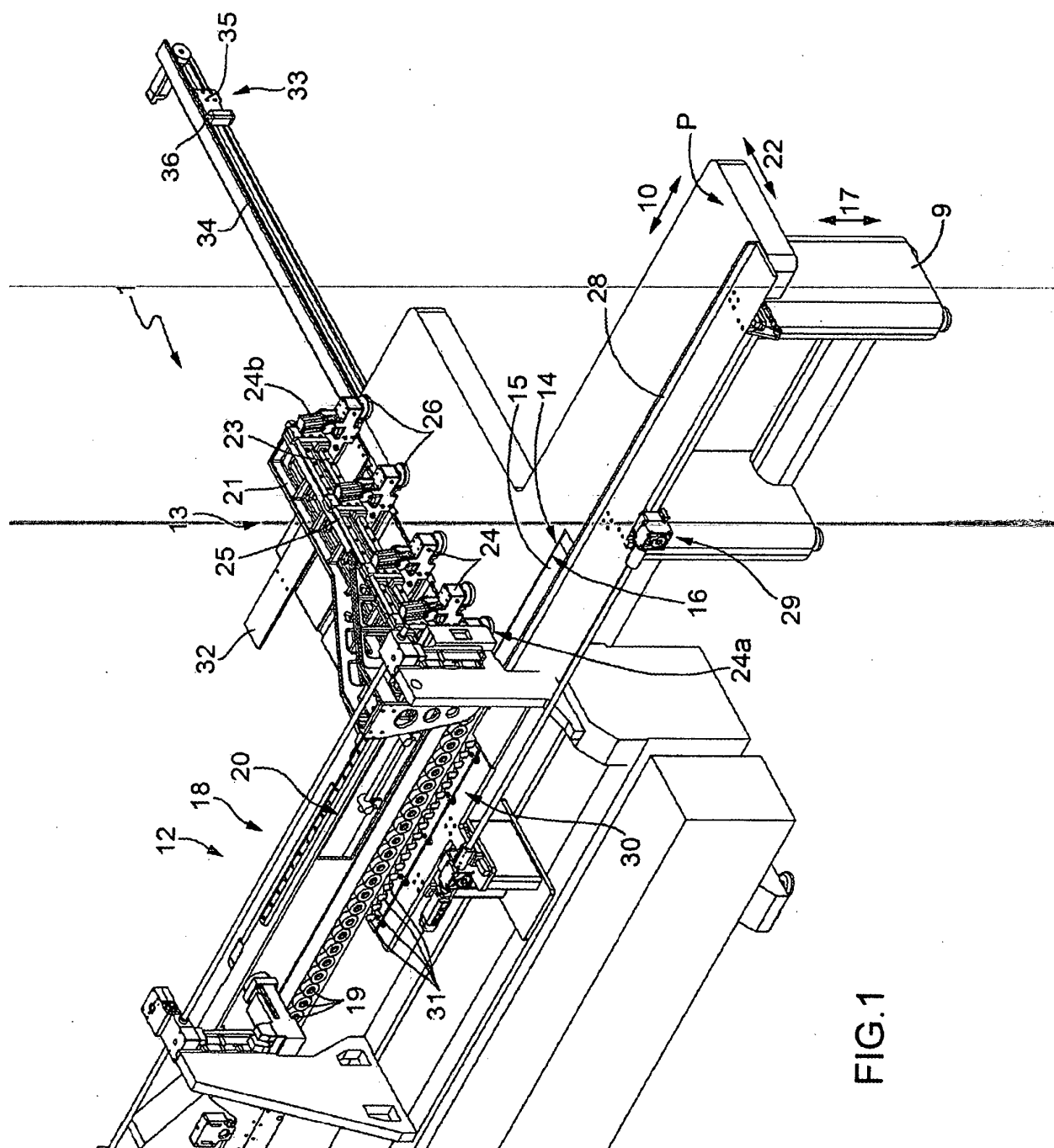
10. Procédé selon l'une quelconque des revendications précédentes, et comprenant en outre l'étape qui consiste :

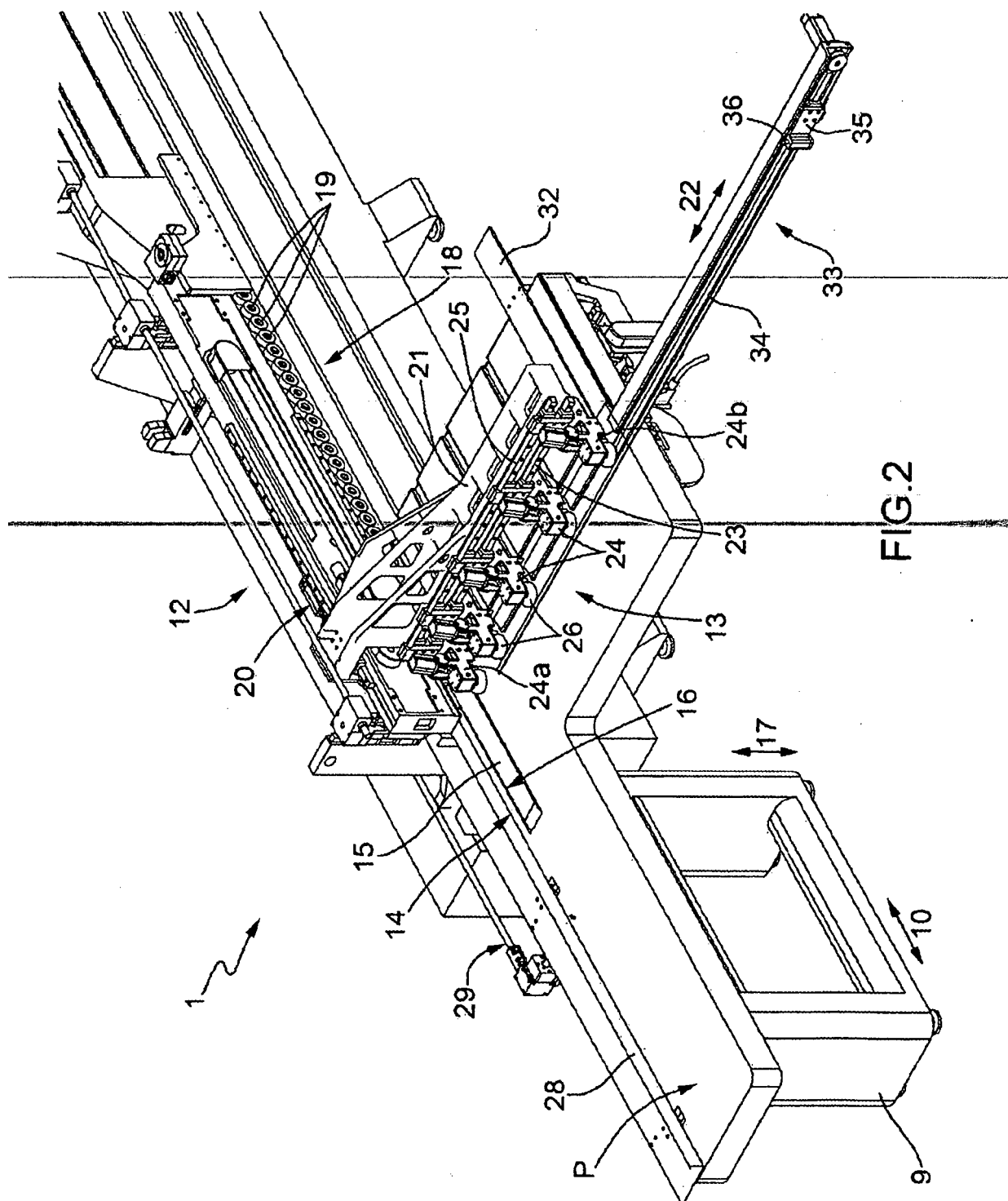
50

à déplacer au moins une partie (28) du premier

moyen d'arrêt (28, 30) dans la première direction (22) lorsque le panneau (2) est mis en contact avec le deuxième moyen d'arrêt (32) et lorsque le panneau (2) est déplacé dans la première direction (22) selon ladite distance.







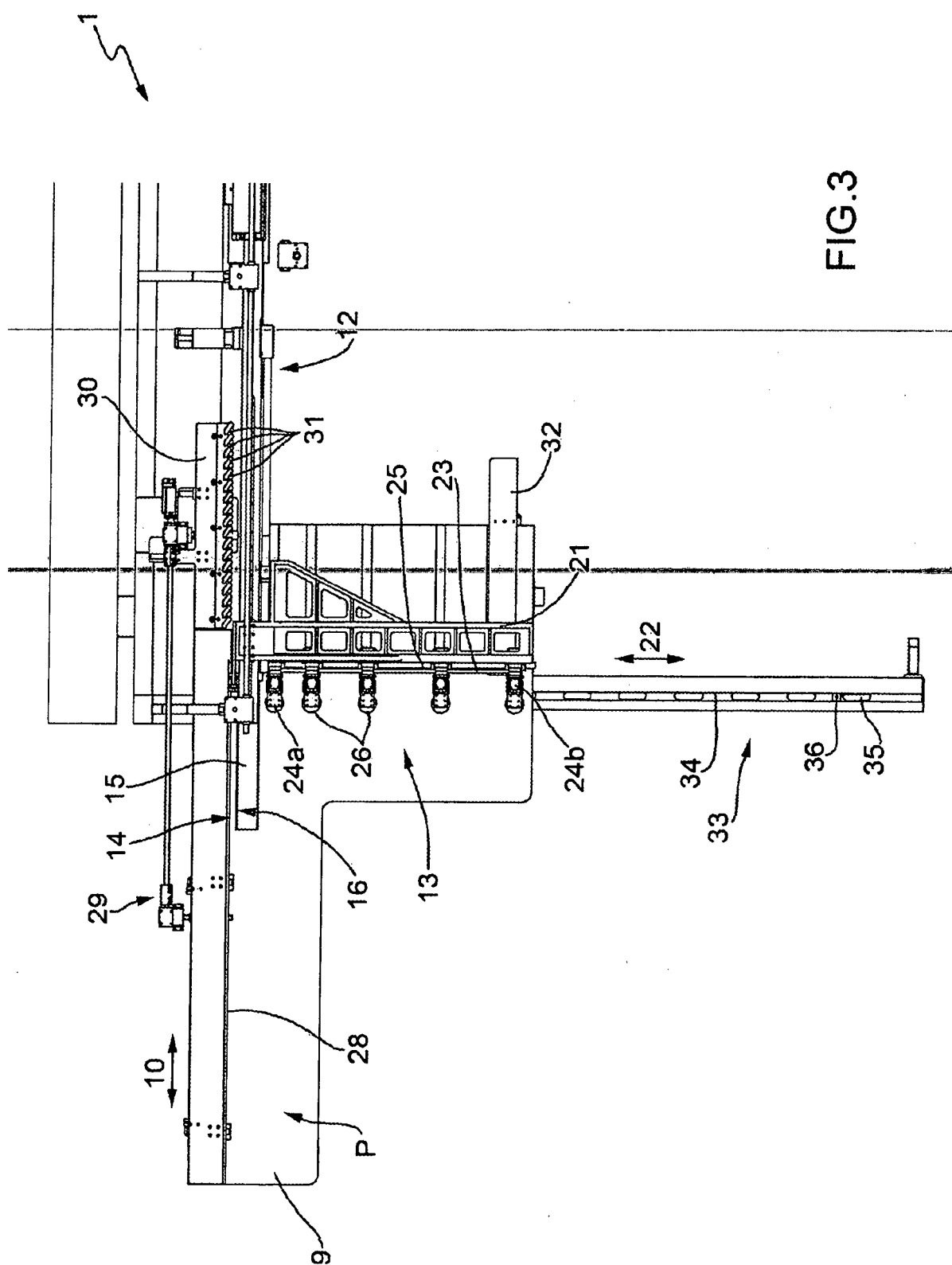


FIG.3

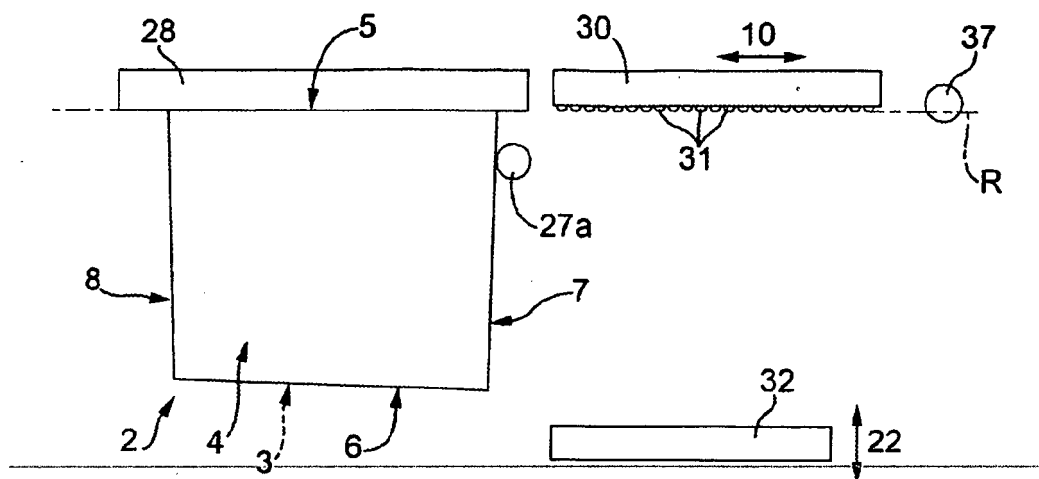
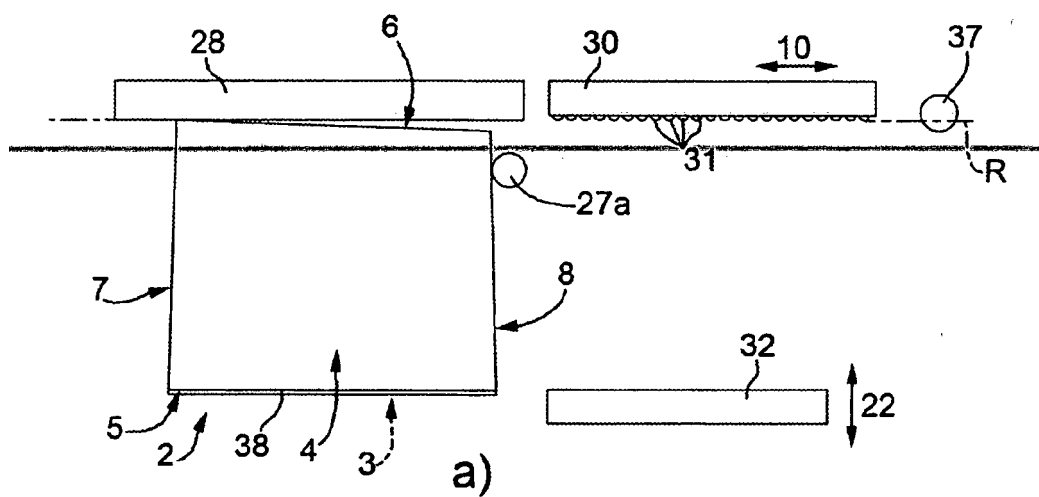
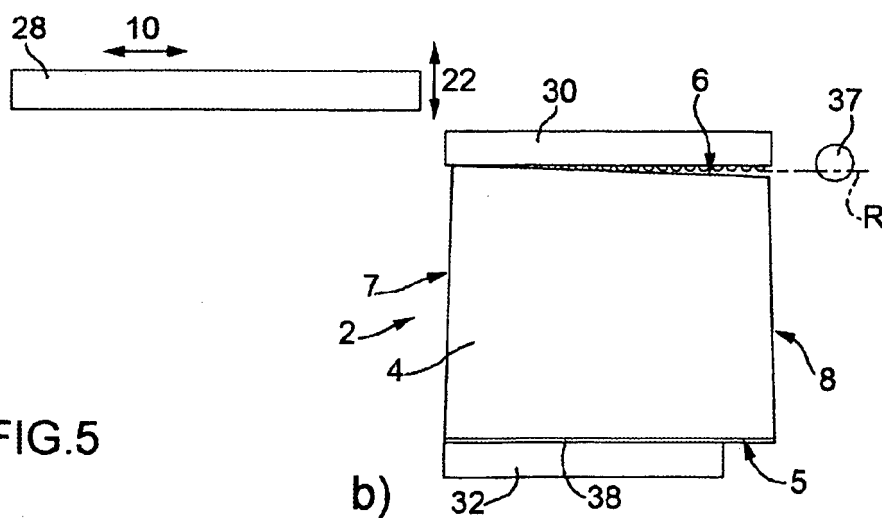


FIG. 4

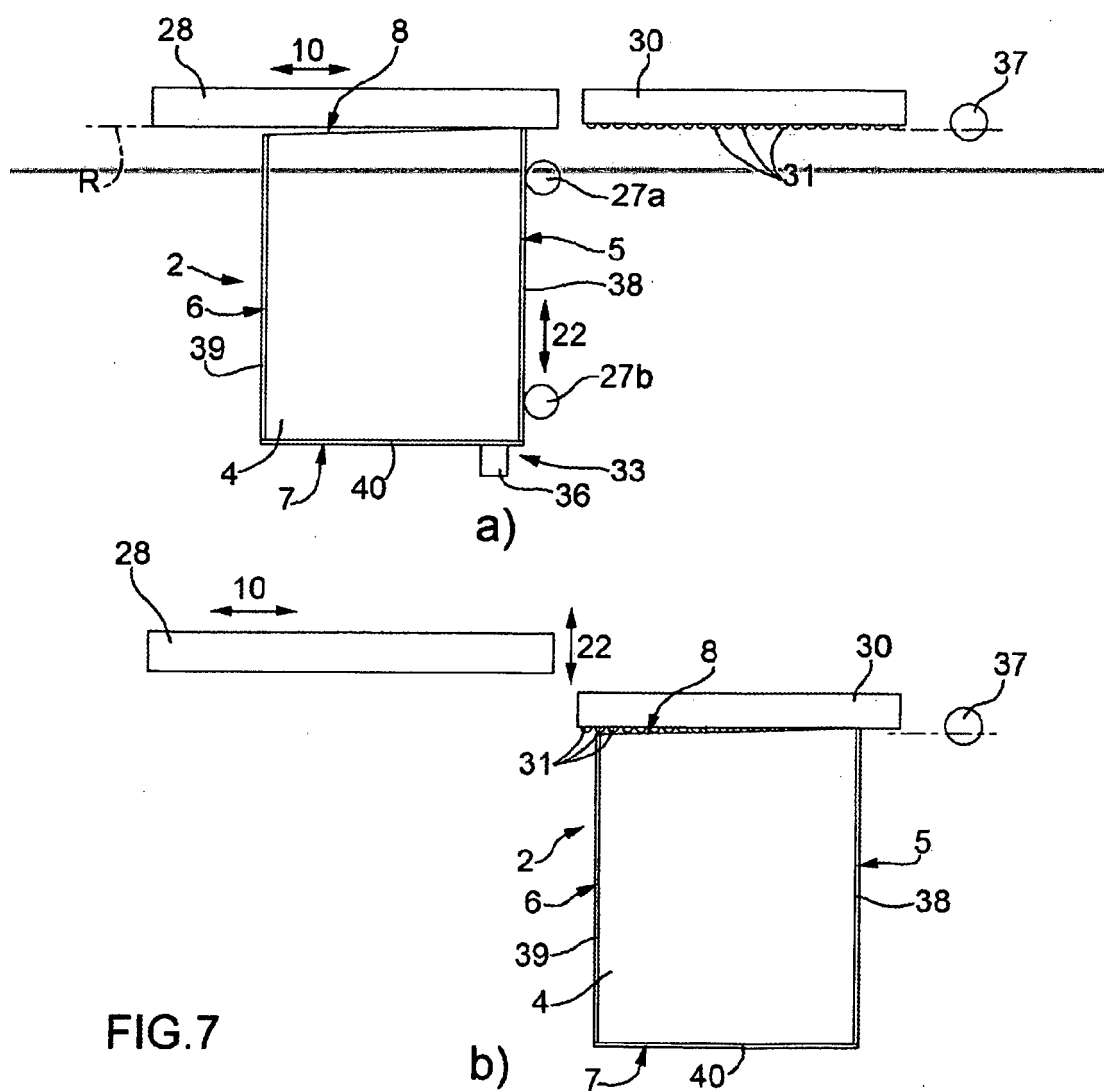
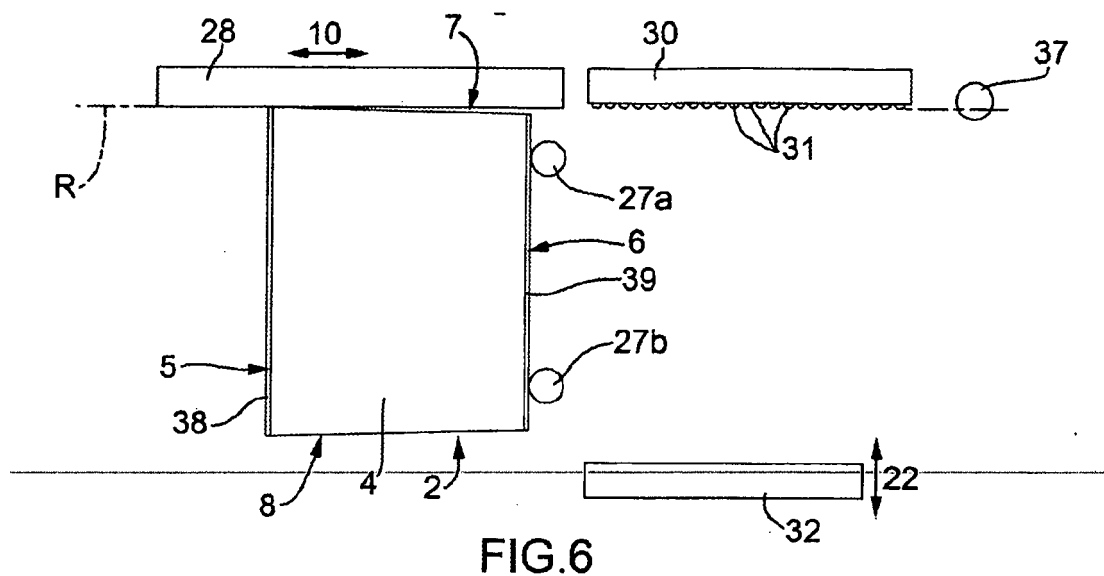


a)



b)

FIG. 5



**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

- EP 1475204 A1 [0001]