



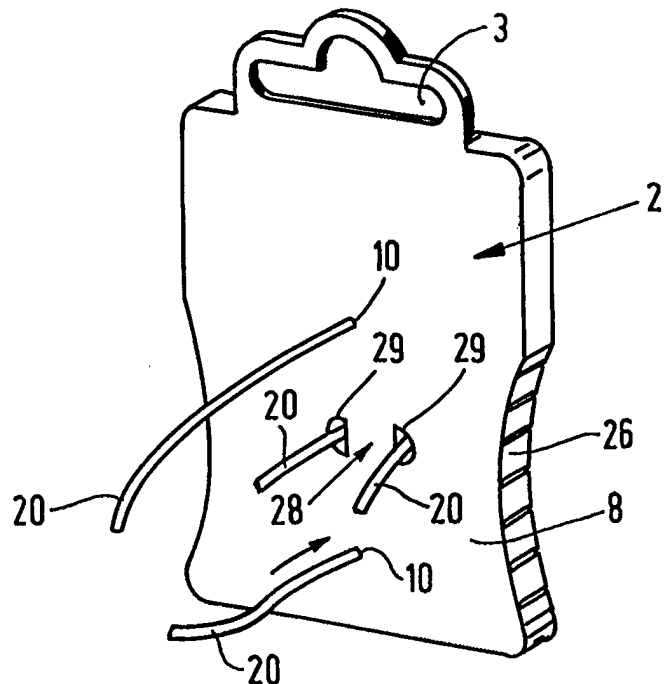
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<p>(21) International Application Number: PCT/NL98/00141</p> <p>(22) International Filing Date: 10 March 1998 (10.03.98)</p> <p>(30) Priority Data:</p> <table border="0"> <tr> <td>1005486</td> <td>11 March 1997 (11.03.97)</td> <td>NL</td> </tr> <tr> <td>1006433</td> <td>30 June 1997 (30.06.97)</td> <td>NL</td> </tr> </table> <p>(71)(72) Applicant and Inventor: AARTS, Mathieu [NL/NL]; Chrysantenstraat 15, NL-6214 SX Maastricht (NL).</p> <p>(74) Agent: VAN KAN, Ir., J., J., H.; Algemeen Octrooibureau, World Trade Center, Past. Petersstraat 160, NL-5612 LV Eindhoven (NL).</p>	1005486	11 March 1997 (11.03.97)	NL	1006433	30 June 1997 (30.06.97)	NL	<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p><b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments. In English translation (filed in Dutch).</i></p>
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(54) Title: AN ASSEMBLY, A METHOD AND A SECURITY DEVICE FOR SECURING AND/OR PACKAGING A PRODUCT TEMPORARILY

## (57) Abstract

An assembly, a security device and a method for securing and/or packaging a product (22) temporarily, which security device is provided with a carrier (2), a cord (20), a locking mechanism, in which a first end (24) of the cord (20) can be detachably secured, and a tensioning-locking mechanism, in which a second end (25) of the cord (20) can be detachably secured, and through which the cord (20) can be moved in a tensioning direction away from the tensioning-locking mechanism. The product (22) and the carrier (2) can be connected together by means of the cord portion that is present between said locking mechanism and said tensioning-locking mechanism. The assembly furthermore comprises an unlocking mechanism for unlocking the cord (20). The locking mechanism can be unlocked by means of the unlocking mechanism, whereby the first end can be removed from the locking mechanism in a direction towards the cord portion.



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An assembly, a method and a security device for securing and/or packaging a product temporarily.

5 The invention relates to an assembly for securing and/or packaging a product temporarily, which assembly comprises a security device which is provided with a carrier, a cord, a locking mechanism, in which a first end of the cord can be detachably secured, and a tensioning-locking mechanism, in which a second end of the cord can be detachably secured, and through which the cord can be moved in a tensioning direction away  
10 from the tensioning-locking mechanism, whilst the assembly furthermore comprises an unlocking mechanism for unlocking the cord, whereby the product and the carrier can be connected together by means of the cord portion that is present between said locking mechanism and said tensioning-locking mechanism.

15 The invention also relates to a security device for securing and/or packaging a product temporarily, which security device is provided with a carrier, a cord, a locking mechanism, in which a first end of the cord can be detachably secured, and a tensioning-locking mechanism, in which a second end of the cord can be detachably secured,  
20 and through which the cord can be moved in a tensioning direction away from the tensioning-locking mechanism, whereby the product and the carrier can be connected together by means of the cord portion that is present between said locking mechanism and said tensioning-locking mechanism.

25 The invention furthermore relates to a method for securing and/or packaging a product by means of a carrier and a cord, wherein a first end of the cord is secured with respect to the carrier by means of a locking mechanism, after which the cord is passed over or through the product, and the second end of the cord is tensioned with respect to the carrier by means of a tensioning-locking mechanism, whereby  
30 the carrier and the product are connected together.

35 The protection against theft or damaging of goods in shops must be constantly improved. Particularly relatively small products, such as scissors, boxes of screws, CD's, etc. are often simply taken out by people in their coat or trouser pockets. The unauthorized taking of products is made easier because the amount of material used for packaging the product is constantly being decreased, and in some cases no packaging material at all is used for the products. The minimal use of packaging

material or the complete absence thereof is a positive contribution as regards the waste problem, and consequently this is stimulated by the authorities.

5 An assembly as referred to in the introduction is known from European patent EP-A1-0 615 041, wherein the cord is band-shaped and wherein it is provided with a number of spaced-apart holes, and wherein the cord is furthermore provided with a thickening at one end. With this assembly the band is successively moved through a slot which functions as a locking mechanism, until the thickening butts against one edge of  
10 the slot. Then the strip is passed over the product to be secured, after which the end of the band remote from the thickening is passed through a tensioning-locking mechanism. The tensioning-locking mechanism is provided with a pin, which is brought into engagement with one of the openings provided in the band. When the product is to be removed, the  
15 tensioning-locking mechanism is unlocked by means of an unlocking mechanism, after which the band can be moved out of the tensioning-locking mechanism, from the product and out of the locking mechanism in a reverse order. The band is thereby moved in a direction towards the thickening. This known assembly has a number of drawbacks.

20 In the first place, the manufacture of the band is relatively laborious, since the band must be provided with a thickening and with spaced-apart openings. In the second place, the product is positioned on the same side of the carrier as the locking mechanism and the tensioning-locking mechanism, which affects the appearance of the  
25 product, which hangs in a shop. Furthermore, when the band is being provided, it must be passed through the locking mechanism from a side remote from the product, which makes the placing of the band a relatively laborious activity.

30 The object of the invention is to provide an assembly and a security device, wherein a product can be connected to the carrier in a relatively quick manner, whilst the carrier can be quickly removed again, by someone who is authorized to do so, for example in a shop, by means of a separate unlocking mechanism.

35 This objective is accomplished with the assembly and the security device according to the invention in that the locking mechanism can be unlocked by means of the unlocking mechanism, whereby the first end can be removed from the locking mechanism in a direction

towards the cord portion.

This makes it possible to insert the cord into the locking mechanism also from the product side, as a result of which it becomes relatively simple to connect the carrier and the product together. Then the cord can be inserted into the tensioning-locking mechanism, likewise from the product side, and be tensioned from a side remote from the product. Upon unlocking, the locking mechanism is unlocked first, whereby said first end is moved in a direction towards the product, and subsequently the entire cord can be pulled through the tensioning-locking mechanism and be removed from the carrier. It is important that the carrier and the cord can be separated from each other, because this makes it possible to transport carriers and cords separately, and to replace the cord when it exhibits wear. With the assembly and the security device according to the invention it is possible, therefore, to provide the cord, tension it round the product, and remove it from the carrier in a relatively simple manner.

Depending on the dimension of the product in comparison with the carrier, the product is tied down on the carrier by means of said cord, or the carrier is attached to the product by means of said cord. The carrier and the product are connected tightly together by pulling the cord through the tensioning-locking device, which gives the product to be sold a neat appearance. The composition of the cord must be such that it is impossible to cut the cord through with relatively simple tools, such as hand scissors, nippers or a pocket knife. As a result of this it is not possible to remove the product from the carrier with normal household tools. If the carrier has relatively large dimensions, it becomes more difficult to take along the product, which is tied down on the carrier, without this being noticed. The carrier may be provided with an anti-theft element, by means of which an alarm installation is activated if it is nevertheless attempted to steal the product along with the carrier. If the carrier is provided with an anti-theft element or a monitoring sensor, the dimensions of the carrier may be relatively small in comparison with those of the product. Only an authorized person, for example a staff member of the shop, such as the person operating the cash desk, is capable of unlocking the locking mechanism by means of the unlocking mechanism, as a result of which the cord is detached from the product and the product is removed from the carrier. The package remains

behind in the shop and may be reused. The customer is given the product he or she has bought with a minimum of packaging material, or no packaging material at all.

5 One embodiment of the security device according to the invention is characterized in that the tensioning-locking mechanism and the locking mechanism are positioned on a rear side, remote from the product side of the carrier, in line with cord passages provided in the carrier.

10 With such a relatively simple security device the cord is first secured in the tensioning-locking mechanism via the cord passage, after which the cord is passed over the product, and subsequently it is passed through another cord passage to the tensioning-locking mechanism, where the cord is tensioned and then secured. The shape of the carrier need not depend on the product to be secured and packaged, as a result  
15 of which the carrier can be successively used for a wide range of products.

The invention also relates to a method wherein the drawbacks of a known method are avoided.

This objective is accomplished with the method according to the invention in that the locking mechanism is unlocked by means of  
20 the unlocking mechanism when the product is to be removed from the carrier, wherein the first end of the cord is detached from the locking mechanism, after which the carrier is removed from the product.

The method according to the invention makes it possible to connect products to a carrier, for example a plate, and detach them  
25 again, in a quick and efficient manner. The length of the cord extending over the product or through the product can be adapted to the dimension of the product by tightening the cord.

The invention will be explained in more detail with reference to the drawings, in which:

30 Figures 1A and 1B are a perspective rear view and front view respectively of a carrier of an assembly according to the invention;

Figures 2A and 2B show a tensioning-locking mechanism in locked and unlocked condition respectively;

35 Figure 3 is a perspective front view of the second embodiment of a carrier shown in Figure 1B;

Figure 4 is a rear view of a third embodiment of a carrier according to the invention;

Figure 5 is a perspective front view of the carrier shown in Figure 4;

Figure 6 is a perspective front view of another embodiment of the carrier shown in Figure 4;

5 Figure 7 is a perspective front view of yet another embodiment of the carrier shown in Figure 4;

Figures 8A and 8B are a perspective plan view and bottom view respectively of another carrier of an assembly according to the invention;

10 Figures 9A and 9B show an assembly according to the invention with a product to be fastened thereto and with a product fastened thereto respectively;

Figure 10 is a perspective view, which illustrates the stacking of a number of carriers of assemblies according to the invention;

15 Figures 11A and 11B are perspective views of the fastening of a product to a carrier;

Figure 12 is a perspective view of another carrier according to the invention;

20 Figure 13 is a perspective view of a second embodiment of an assembly according to the invention;

Figure 14 is a perspective view of two assemblies, which abut against each other, according to a third embodiment of the invention; and

25 Figures 15A and 15B show details of the assemblies shown in Figure 14.

Parts that correspond with each other are indicated by the same numerals in the figures.

30 Figures 1A and 1B are a perspective rear view and front view respectively of a carrier 1 of an assembly according to the invention. Carrier 1 is provided with a rectangular plate 2 of preferably transparent plastic material, which is provided near one end with an elongated so-called Euroslot 3, by means of which carrier 1 can be suspended on a rack in a shop. It is also possible, of course, to provide plate 2 with other means by which said plate can be suspended on a rack or be placed into  
35 said rack. In addition to this it is possible to attach the plate to a product in such a manner that the plate is freely suspended therefrom. Plate 2 is furthermore provided with two tensioning-locking mechanisms

9, which will be explained in detail with reference to Figures 2A and 2B. The tensioning-locking mechanisms 9 are disposed on a rear side 4 of plate 2, remote from the product to be secured and/or packaged, and they are fixed to plate 2, for example by means of a glue. The tensioning-locking mechanisms may also be detachable via rear side 4.

Figures 2A and 2B show a tensioning-locking mechanism 9 in locked and unlocked condition respectively. Locking mechanism 9 comprises a housing 12 of plastic material, in which a conical holder 13 is disposed. The conical holder is narrower near its front side 8 than near its rear side 4. A number of balls 15, three for example, are present in the space 14 that is enclosed by conical holder 13 and housing 12, which balls are pressed in the direction of the narrower portion of conical holder 13 near front side 8 by means of a spring 16. An elongated channel 17, which is provided with an inlet opening 18 present on front side 8 and an outlet opening 19 present on rear side 4, extends through conical holder 13 and housing 12. The operation of tensioning-locking mechanism 9 is as follows. A cord 20 is passed through inlet opening 18, into channel 17 of mechanism 9, in the direction indicated by arrow P1. Balls 15 are likewise urged in the direction indicated by arrow P1 by the cord, until the space present between balls 15 is large enough for cord 20 to pass therethrough. In the position shown in Figure 2A, cord 20 can be pulled in the direction indicated by arrow P1 until cord 20 is tensioned. If it is attempted to move cord 20 in a direction opposed to the direction indicated by arrow P1, balls 15 will likewise be moved in a direction opposed to the direction indicated by arrow P1, whereby balls 15 will exert a clamping action on cord 20, partially under the influence of spring 16, thus preventing cord 20 from moving in a direction opposed to the direction indicated by arrow P1.

The assembly according to the invention is provided with an unlocking mechanism 21, by means of which the locking action of mechanism 9 can be cancelled. Unlocking mechanism 21 comprises an annular magnet, which can be positioned round housing 12 of mechanism 9. The annular magnet exerts forces in the direction indicated by arrow P2 on balls 15, as a result of which the metal balls 15 are moved in the direction indicated by arrow P1 against the spring force of spring 16. Annular magnet 21 also exerts a radially outward force on balls 15, which causes the balls to move along the wall of conical holder 13, in the



direction indicated by arrow P1, as a result of which the spacing between the balls will be increased, and balls 15 will be positioned clear of cord 20. As a result of this, cord 20 can be freely moved in a direction P3 opposed to the direction indicated by arrow P1.

5 It is also possible to close the outlet opening 19 present on the bottom side, as a result of which mechanism 9 can only function as a locking mechanism and not as a tensioning mechanism. Such a locking mechanism may be combined with an unlocking mechanism 21, which extends completely round the part of housing 12 that is positioned on the  
10 rear side, whereby a relatively large magnet may be used, which exerts relatively large forces in the directions indicated by arrow P2. If such a relatively strong magnet can be used, it is also possible to use a relatively strong spring 16, as a result of which the clamping forces exerted on cord 20 in the locked position that is shown in Figure 2A will  
15 be relatively large. As is shown in Figure 1A, the lower mechanism 9 is provided with an outlet opening 19, and consequently it is capable of functioning both as a locking mechanism and as a tensioning mechanism, whilst the outlet opening 19 of upper mechanism 9 is closed, so that said mechanism 9 can only function as a locking mechanism.

20 With the carrier 1 which is shown in Figures 1A and 1B, mechanisms 9 abut against the rear side 4 of plate 2, whereby the inlet openings 18 are in line with the passages 10 provided in plate 2.

Carrier 1 according to the invention is used in the following manner. A product is placed against the front side 8 of plate  
25 2, in such a manner that a passage provided in the product will be positioned opposite locking mechanism 9.

The assembly is provided with a cord 20, which is made of a number of entwined metal wires, for example steel wires, which are enveloped by a sheath of a thermoplastic material.

30 First end 24 of cord 20 is inserted into locking mechanism 9, via passage 10 and inlet opening 18, in a direction indicated by arrow P4, until the first end 24 is secured in locking mechanism 9. The other, second end 25 of cord 20 is inserted into the product through a passage, if present, and subsequently inserted into inlet opening 18  
35 of the other tensioning-locking mechanism 9, via passage 10, in the direction indicated by arrow P5, until said end 25 extends through outlet opening 19. Then the end 25 is pulled at from rear side 4 until cord 20

butts tightly against the product and plate 2. If cord 20 is pulled at in order to remove the cord from plate 1, the two locking mechanisms 9 will prevent cord 20 from getting loose. The product cannot be removed from plate 2, therefore. Plate 2 carrying the product is suspended on a rack in a shop via slot 3. If a customer wishes to purchase the product, he or she will take the product and carrier 2 to the cash desk, where the locking mechanism 9 present near Euroslot 3 is unlocked by means of an unlocking mechanism 21, as a result of which first end 24 can be detached from locking mechanism 9. The product can then be removed from plate 2 and be handed to the customer. Then the second end 25 of cord 20 is pulled at in the direction indicated by arrow P5, so that the cord 20 is passed through locking mechanism 9 and detached from plate 2. Plate 2 and cord 20 can then be stored separately and be reused for packaging a product temporarily.

If one mechanism 9 or both mechanisms 9 are detachably connected to plate 2, the detachable mechanisms 9 will be removed from plate 2 and likewise be stored separately.

The mechanism 9 that is used only as a locking mechanism preferably has a colour which is different from that of the mechanism 9 that is used as a locking-tensioning mechanism. This makes the difference between the two mechanisms more clearly distinguishable.

Plate 2 may be provided with portions 26 which curve towards each other, as a result of which a better grip on plate 2 is obtained when taking hold of plate 2. The distance between the two mechanisms 9 may be relatively small, as a result of which the dimension of plate 2 is likewise relatively limited. If plate 2 is provided with an integrated monitoring sensor, such as a coil, it is possible in a relatively simple manner to detect that a product and a plate 2 attached thereto are being removed from a shop in an unauthorized manner. Plate 2 can be clamped tightly against the product by tightening cord 20 in the direction indicated by arrow P5. As a result of this, a relatively neat appearance of the product remains ensured, whilst the loop-shaped portion 27 of cord 20 is at the same time prevented from hooking behind other products or objects.

Figure 3 is a perspective front view of a second embodiment of the carrier 1 shown in Figures 1A-1B, which is provided with a U-shaped passage 28, which comprises two openings 29 on the front side

8, and one passage (not visible) present in plate 2. When a relatively small product is being attached to the carrier 2, a first end 24 of the cord is first inserted into a locking mechanism 9. Then cord 20 is passed over the product, after which the second end 25 is inserted into first opening 29 and passed outside through opening 29. Then cord 20 is passed over the product again, after which it is inserted into tensioning-locking mechanism 9 via passage 10. Then cord 20 is tightened in the direction indicated by arrow P5, whereby the product is placed in abutting relationship with plate 2.

Figure 4 is a perspective rear view of a second embodiment of a plate-shaped carrier 2 according to the invention, which is provided with a locking mechanism 9 which is disposed near Euroslot 3, and which is fixedly connected to plate 2. Plate 2 is furthermore provided with a number of blind holes 20 extending from rear side 4, which are each provided with a passage 10 near their centre. Plate 2 is furthermore provided near its upper side with slots 31, 32, which are present on either side of Euroslot 3, and which extend parallel to the main surface of plate 2. Slots 31, 32 are interconnected by means of a slot 33 present above Euroslot 3. Slots 31, 32, 33 are open on the upper side of plate 2, and they can be closed by means of an elongated strip (not shown), which can be fixed in the slots via elongated opening 34.

Plate 2 is furthermore provided with an opening 35, which is disposed symmetrically with respect to the centre of plate 2. When a number of plates 2 are stored, plates 2 are placed against one another in pairs, in such a manner that the mechanism 9 that is fixedly connected to plate 2 will be positioned in the opening 35 of the other plate 2.

Figure 5 is a perspective front view of the plate 2 shown in Figure 4, whereby slot 31 contains a card 36, which has been inserted into slot 31 via opening 34, which card is for example provided with product information or publicity.

As can be seen in Figure 5, passage 10 extends conically near front side 8, which facilitates the insertion of the second end 25 of cord 20.

Figure 6 is a perspective front view of the plate 2 shown in Figure 4, wherein slot 31 contains a card 36, which is provided with product information, and slot 32 contains a plate-shaped security

sensor 37.

Figure 7 is a perspective front view of the plate 2 shown in Figure 4, wherein slot 32 contains an annular security sensor 38.

5                   The attaching of a product to the plate shown in Figures 4 - 7 takes place as follows. One end 24 of cord 20 is inserted into the locking mechanism 9 that is fixedly connected to plate 2. Then the product is placed against the front side 8, after which cord 20 is passed over and/or through the product, and through a number of openings 10, if  
10                   desired. Then the tensioning-locking mechanism 9 that is detachably connected to plate 2 is inserted into one of the blind holes 30, after which the second end 25 of the cord is passed through the opening 10 in the tensioning-locking mechanism 9, whereupon it is tightened. The product is now securely attached to plate 2 by means of cord 20. If a different  
15                   product must be attached to plate 2, cord 20 can be passed through different passages 10 in a different manner, and tensioning-locking mechanism 9 can be fixed in a different blind hole 30. The plate shown in Figures 4 - 7 is suitable for temporarily packaging and temporarily securing a wide variety of products, therefore. When plate 2 is used for  
20                   a different product, plate 36 may be replaced, if desired, after removal of the strip present in opening 34. Monitoring sensor 37, 38 may remain present in slot 32 thereby, and need not be replaced.

                  The dimensions of plate 2 may vary from a few square centimetres to any size that is desired.

25                   Figures 8A and 8B are a perspective plan view and bottom view respectively of a carrier 41 of an assembly according to the invention. Carrier 41 is provided with a rectangular plate 42 of plastic material, preferably transparent, which is provided near one end with an elongated so-called Euroslot 43, by means of which carrier 41 can be  
30                   suspended on a rack in a shop. It is also possible, of course, to provide plate 42 with other means by which plate 42 can be suspended on a rack or be placed into said rack. Plate 42 is furthermore provided with four pins 45 disposed near the corners, which extend from rear side 44. Plate 42 is furthermore provided with a number of holes 47, a number of which  
35                   are disposed in mirror symmetry with pins 45 with respect to mirror line 46. The reason for this will be discussed in more detail with reference to Figure 10. In the embodiment which is shown in Figures 8A and 8B, holes

47 extend fully through plate 42. It is also possible, however, for holes 47 to extend from the rear side 44 to a location spaced from front side 48, forming blind holes, as it were. Plate 42 is furthermore provided with two tensioning-locking mechanisms 9, which have already been explained with reference to Figures 2A and 2B. The tensioning-locking mechanisms 9 are disposed in holes 50 in plate 42, and they are fixed to plate 42, for example by means of a glue. The tensioning-locking mechanism may also be detachable via rear side 44. Plate 42 is furthermore provided with two holes 51, which are disposed in mirror symmetry with tensioning-locking mechanisms 9 with respect to mirror line 46.

Figures 9A and 9B show the use of the assembly according to the invention as a package. A product, such as a pair of scissors 62, is placed on the plate 41, in such a manner that an annular handle 63 is positioned above locking mechanism 9.

If a customer wishes to purchase the scissors, he or she will take the scissors and carrier 42 to the cash desk, where the locking mechanism 9 present near handle 63 is unlocked, as a result of which first end 24 can be detached from locking mechanism 9 and scissors 62 can be handed to the customer.

After cord 20 and plate 42 have subsequently been separated from each other, loose plates 42 can be stacked in the manner shown in Figure 10, whereby two plates 42 are placed with their rear sides 44 facing each other. Plates 42 are turned through 180° with respect to each other, however, as a result of which plates 42 are positioned in mirror symmetry with respect to each other, as it were. As a result of this, pins 45 of one plate will be positioned opposite holes 47 in the other plate, and vice versa. Furthermore, mechanisms 9 of one plate will be positioned opposite holes 51 in the other plate, and vice versa. In this way the plates 42 can be stacked in a simple manner, and the pins 45 and the mechanisms 9 present on the rear side 44 are protected against being damaged during transport of plates 42. The volume which plates 42 take up is minimized at the same time. When a product is placed on plate 42, pins 45 function as spacers between plate 42 and a base, whereby the length of pins 45 is such that locking mechanism 9 can be kept spaced from said base.

Figures 11A and 11B show another assembly according to the invention, wherein plate 70 comprises a portion 71, which is

recessed with respect to front side 48. The dimensions of the recessed portion 71 correspond with the dimensions of the product 72 to be packed, for example a CD box or a box of screws. Provided along the circumference of the recessed portion 71 are a number of holes 51, as are a number of mechanisms 9 present in holes 50. When product 72 is being packaged, said product 72 is placed into recess 71, after which a cord 20 is inserted into a mechanism 9' with a first end. Then cord 20 is passed over the product, through opening 51', and subsequently via the rear side 44 to opening 51''. The second end 25 of the cord is then passed through the part of the cord that is already present on product 72, after which end 25 is inserted into mechanism 9'', and tightened in the direction indicated by arrow P6 via rear side 44. In this manner a product which is not provided with a recess through which cord 20 can be passed, can be fastened to a plate 42 in a simple manner after all. Instead of using a single cord 20, it is also possible to use a number of cords, of course. Thus, it is possible to achieve a wide variety of tensioning possibilities of products on a plate by means of a cord by suitably selecting the position and the number of holes and mechanisms 9.

Figure 12 shows another embodiment of a carrier 75 according to the invention, which is provided with a number of recessed portions 76, 77, 78, whereby mechanisms 9 are positioned within recessed portions 76, 78. The amount of material which is required for carrier 75 is minimized as a result of the presence of the recessed portions.

Tensioning-locking mechanisms 9 may be fixedly connected to the carrier, or they may be detachably connected to the carrier via a rear side 44. If the locking mechanisms are detachably connected to the carrier, the number of locking mechanisms can be limited to the number which is actually used. As a result of this the cost price of the carrier is reduced to a minimum.

Plate 42 may be fitted with an anti-theft element, by means of which an alarm system will be activated when a person attempts to steal the plate and a product attached thereto.

It is possible to provide plate 42 with information with regard to the product to be sold, its price, other products which can be purchased in the shop, actions, publicity, etc.

Figure 13 shows another embodiment of an assembly 80 according to the invention, which comprises a plate 81 made of a

transparent plastic material, which is provided with a number of holes 50, in which a tensioning-locking mechanism 9 can be detachably attached. Plate 81 is provided along its front side with an upright edge 82, which extends circumferentially along plate 81. Plate 81 is furthermore provided with an anti-theft element 83, for example comprising a coil, which is incorporated in the plastic material of the plate 81. Preferably one mechanism 9, for example the mechanism located near slot 43, is fixedly connected to plate 81, and it is exclusively intended for use as a locking mechanism. Another tensioning-locking mechanism may be inserted into a suitable opening 50 from the rear side as required, whereby opening 10 is provided near its front side with an upright flange, which functions to prevent mechanism 9 from sliding through plate 81. Cord 20 is first inserted into the mechanism which is fixedly connected to plate 81. Then cord 20 is passed through or over the product to be packaged, after which cord 20 is passed through the opening 50 in question, and a tensioning-locking mechanism 9 is slipped over cord 20 from the rear side. Then cord 20 is tightened, as a result of which mechanism 9 will be positioned in opening 10. When cord 20 is removed, the mechanism 9 that is fixedly connected to plate 81 will be unlocked, after which cord 20 can be removed from plate 81 together with the other mechanism 9 that has been slipped over said cord.

Figure 14 shows two plates 90 disposed in abutting relationship, which are each provided with a slot 43, a number of holes 50 and a locking mechanism 9 fixed in a hole 51. Each plate 90 is provided with a circumferentially extending recessed edge 91 on its front side, and with a circumferentially extending upright edge 92 on its rear side. Each plate 90 is provided with a hole 51, which is positioned mirror-symmetrically opposite the hole 51 in which a locking mechanism 9 is present. Plates 90 are stacked together in Figure 14, whereby an upright edge 92 of one plate engages round the edge 91 of the other plate. Plates 90 are turned 180° with respect to each other, so that the locking mechanism 9 of one plate is positioned opposite a hole 51 in the other plate, so that it partially extends into said hole. See Figure 15B. Figure 15B also shows the fixation of a locking mechanism 9 in plate 90, whereby opening 50 is made up of a circular upright flange 93, and of an annular flange 94 extending transversely thereto. Annular flange 94 prevents the locking mechanism from exiting plate 90 via the front side.

## CLAIMS.

1. An assembly for securing and/or packaging a product temporarily, which assembly comprises a security device which is provided with a carrier, a cord, a locking mechanism, in which a first end of the cord can be detachably secured, and a tensioning-locking mechanism, in which a second end of the cord can be detachably secured, and through which the cord can be moved in a tensioning direction away from the tensioning-locking mechanism, whilst the assembly furthermore comprises an unlocking mechanism for unlocking the cord, whereby the product and the carrier can be connected together by means of the cord portion that is present between said locking mechanism and said tensioning-locking mechanism, characterized in that the locking mechanism can be unlocked by means of the unlocking mechanism, whereby the first end can be removed from the locking mechanism in a direction towards said cord portion.
2. A security device for securing and/or packaging a product temporarily, which security device is provided with a carrier, a cord, a locking mechanism, in which a first end of the cord can be detachably secured, and a tensioning-locking mechanism, in which a second end of the cord can be detachably secured, and through which the cord can be moved in a tensioning direction away from the tensioning-locking mechanism, whereby the product and the carrier can be connected together by means of the cord portion that is present between said locking mechanism and said tensioning-locking mechanism, characterized in that the locking mechanism can be unlocked, whereby the first end can be removed from the locking mechanism in a direction towards the cord.
3. A security device according to claim 2, characterized in that said tensioning-locking mechanism and said locking mechanism are positioned on a rear side remote from the product side of the carrier, in line with cord passages provided in the carrier.
4. An security device according to claim 2 or 3, characterized in that said tensioning-locking mechanism and said locking mechanism are spaced apart by a distance which is relatively small in comparison with the dimension of the product to be secured.
5. A security device according to any one of the preceding claims, characterized in that said security device is provided with a second tensioning-locking mechanism, which comprises said locking



mechanism.

6. A security device according to any one of the preceding claims, characterized in that said tensioning-locking mechanism and/or said locking mechanism is (are) provided with a conical holder extending  
5 along an axis, in which balls are present, which balls are capable of movement along walls of said conical holder, from a first locking position, in which the balls are positioned near a narrowed portion of the conical holder, to an unlocked position, in which the balls are positioned against spring force near a widened portion of the conical holder, and vice versa.

10 7. A security device according to claim 6, characterized in that the holder of the locking mechanism is closed near said widened portion.

8. A security device according to claim 6 or 7, characterized in that said balls can be moved by magnetic force, against  
15 spring force, to said widened portion.

9. A security device according to any one of the preceding claims, characterized in that said locking mechanism and/or said tensioning-locking mechanism is/are detachably connected to said carrier.

10. A security device according to any one of the preceding  
20 claims, characterized in that said carrier is provided with a number of cord passages.

11. A security device according to claim 10, characterized in that a cord passage is U-shaped, whereby the two ends of the cord passage are disposed on the same side of the carrier.

25 12. A security device according to any one of the preceding claims, characterized in that said cord is made of a entwined metal wires, for example steel wires, which are enveloped by a outer sheath of a thermoplastic material.

13. A security device according to claim 12, characterized  
30 in that the ends of the cord have been shrunk and that a metal film has been applied thereto.

14. A security device according to any one of the preceding claims, characterized in that the plate-shaped carrier is provided with at least one closable slot, which extends parallel to the carrier.

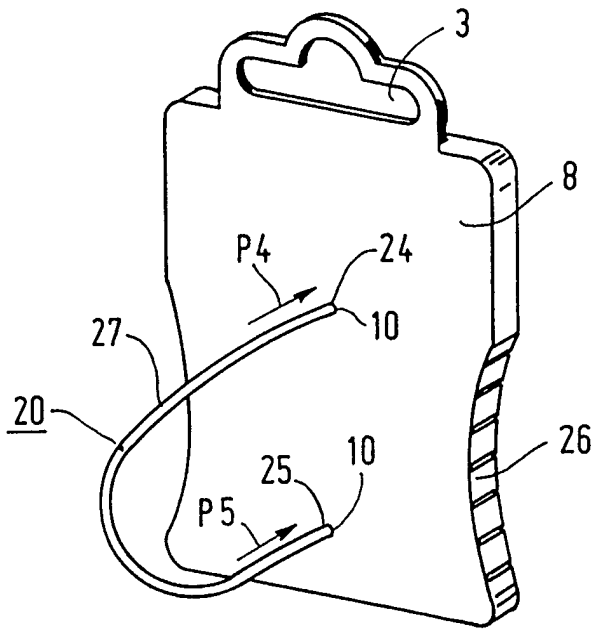
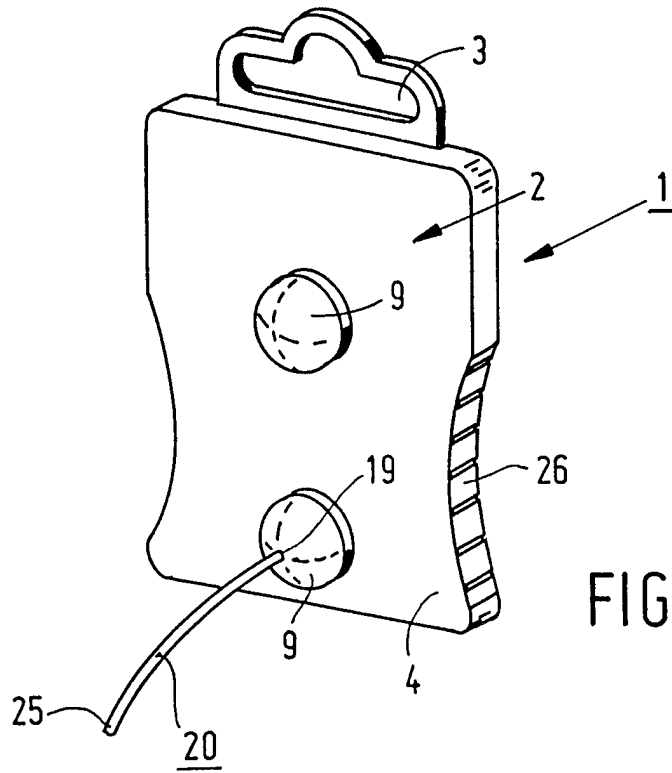
35 15. A security device according to claim 14, characterized in that a detachable insert plate, which is provided with a bar code, is present in said slot.

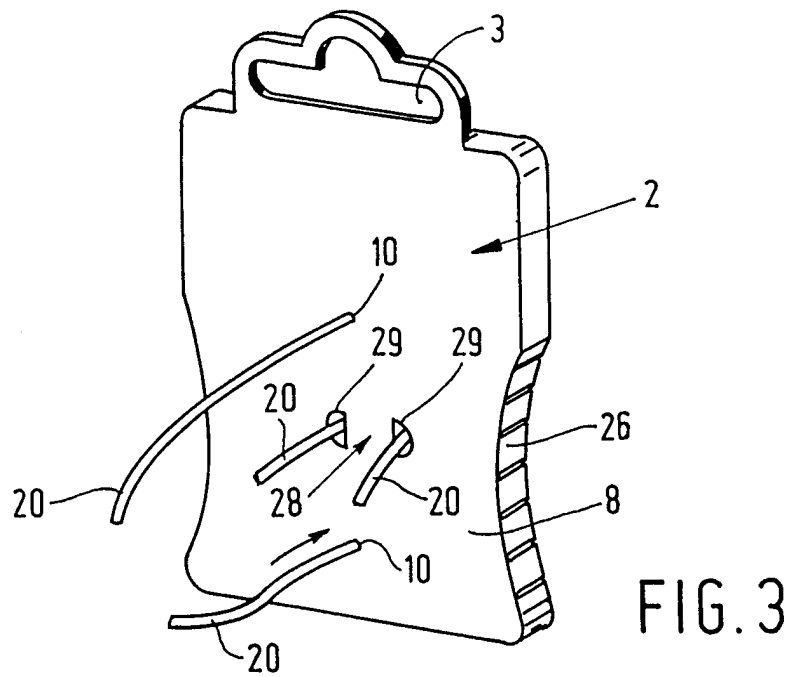
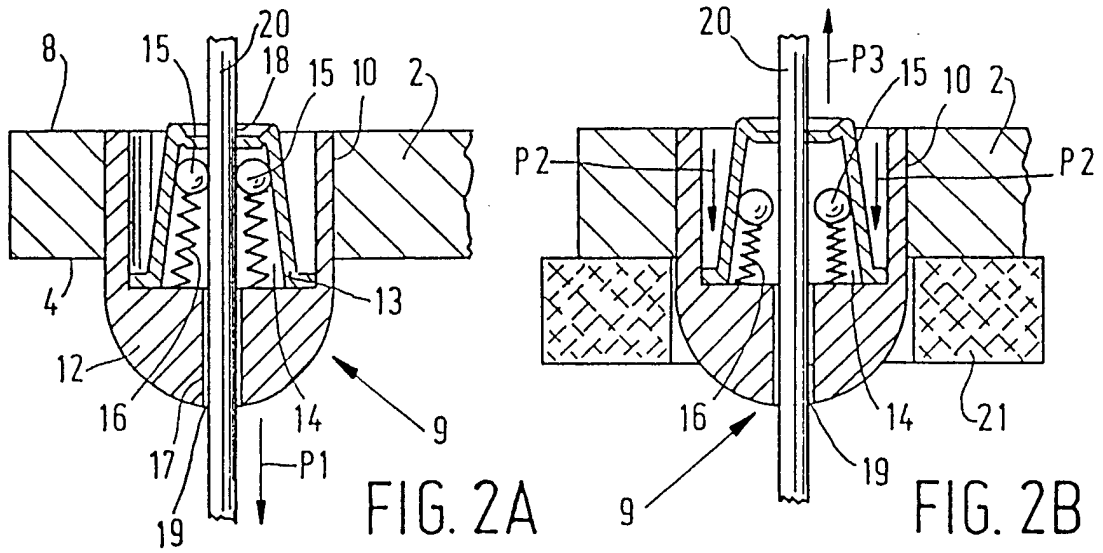
16. A security device according to any one of the preceding claims, characterized in that said carrier is provided with a monitoring sensor.

5 17. A security device according to claims 14 and 16, characterized in that said monitoring sensor is present in said slot.

10 18. A method for securing and/or packaging a product by means of a carrier and a cord, wherein a first end of the cord is secured with respect to the carrier by means of a locking mechanism, after which the cord is passed over or through the product, and the second end of the cord is tensioned with respect to the carrier by means of a tensioning-locking mechanism, whereby the carrier and the product are connected together, characterized in that the locking mechanism is unlocked by means of the unlocking mechanism when the product is to be detached from the package, whereby the first end of the cord is detached from the locking  
15 mechanism, after which the carrier is removed from the product.

19. A method according to claim 18, characterized in that the cord is pulled completely through the tensioning-locking mechanism and removed from the tensioning-locking mechanism once the locking mechanism has been unlocked.





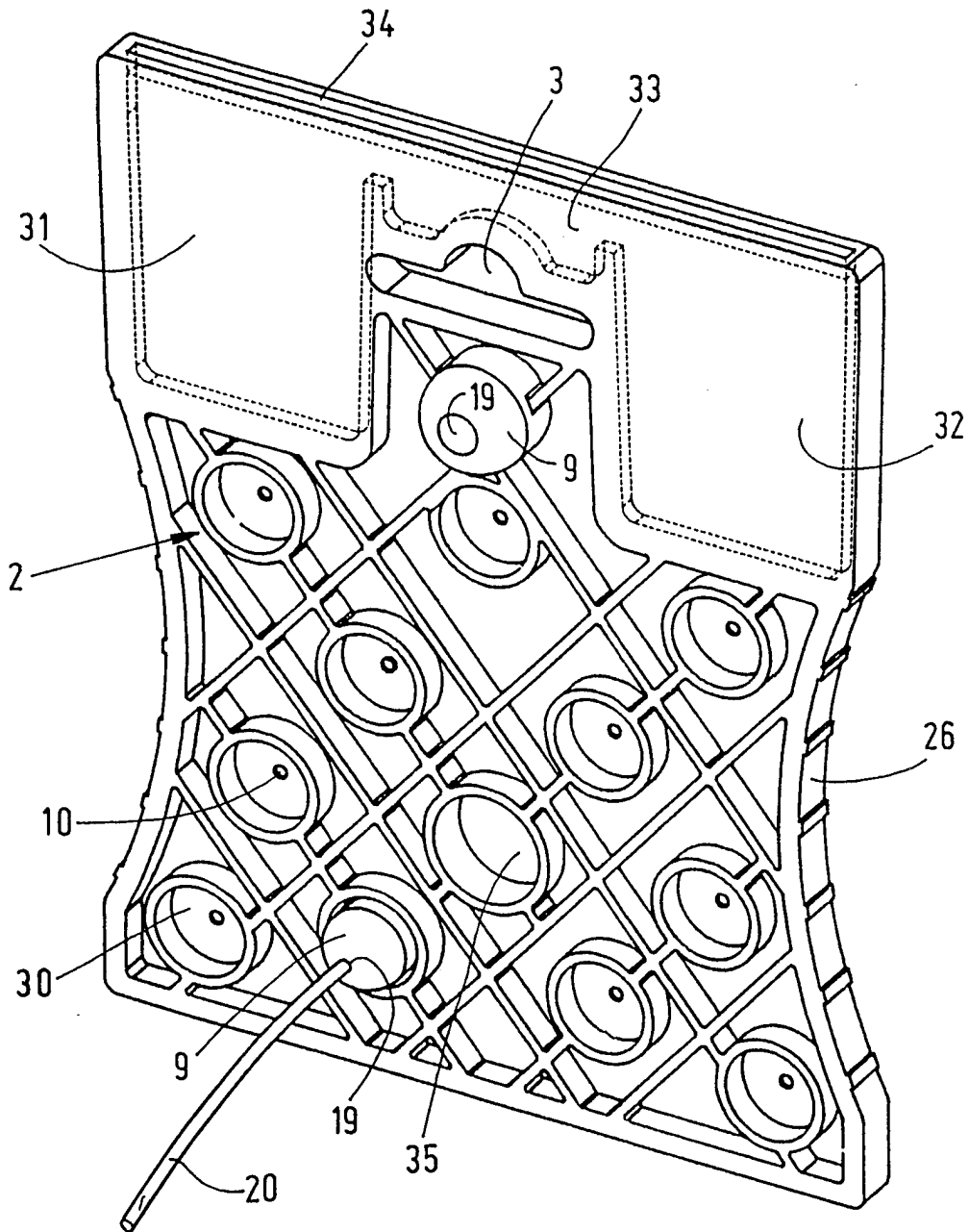


FIG. 4

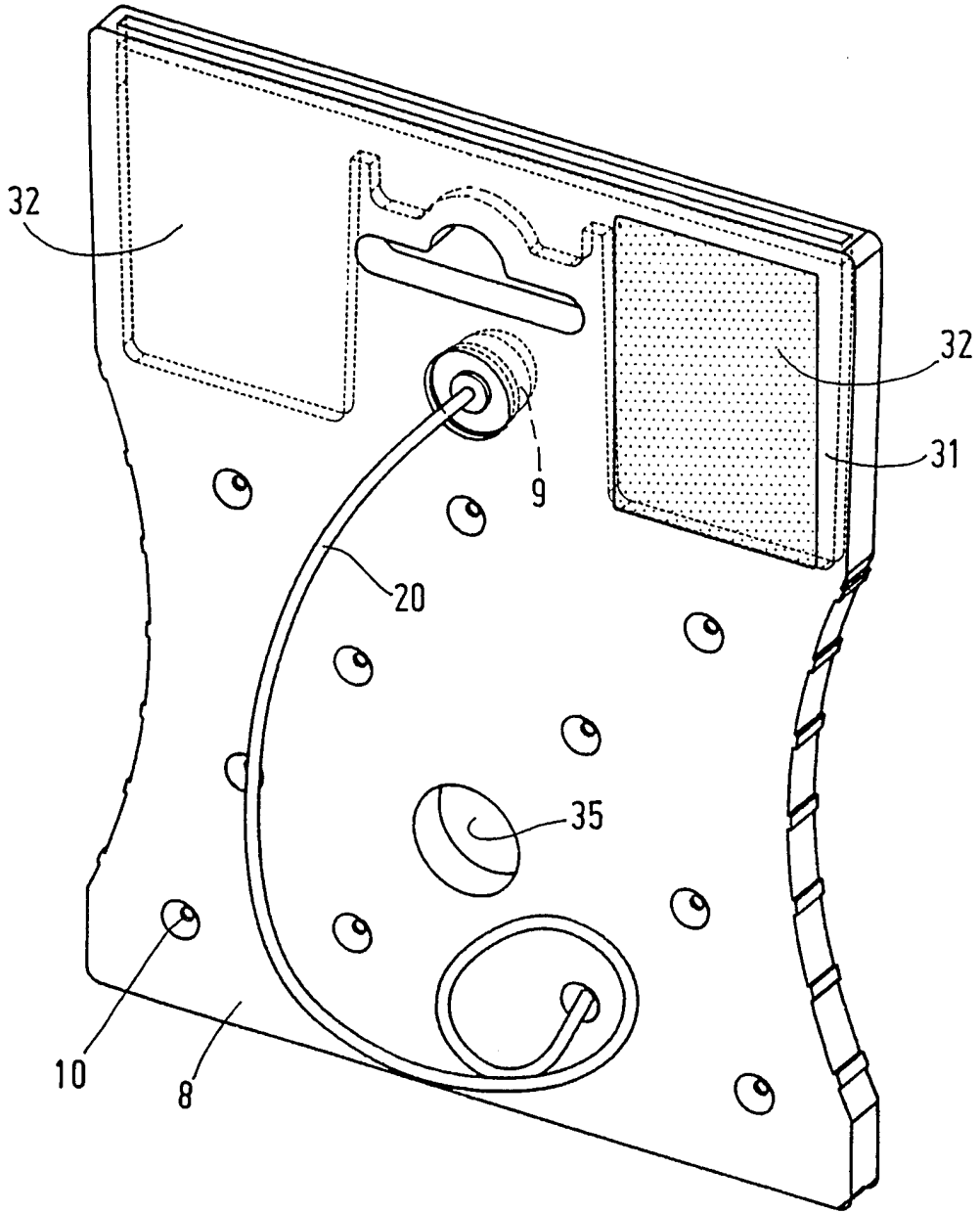


FIG. 5

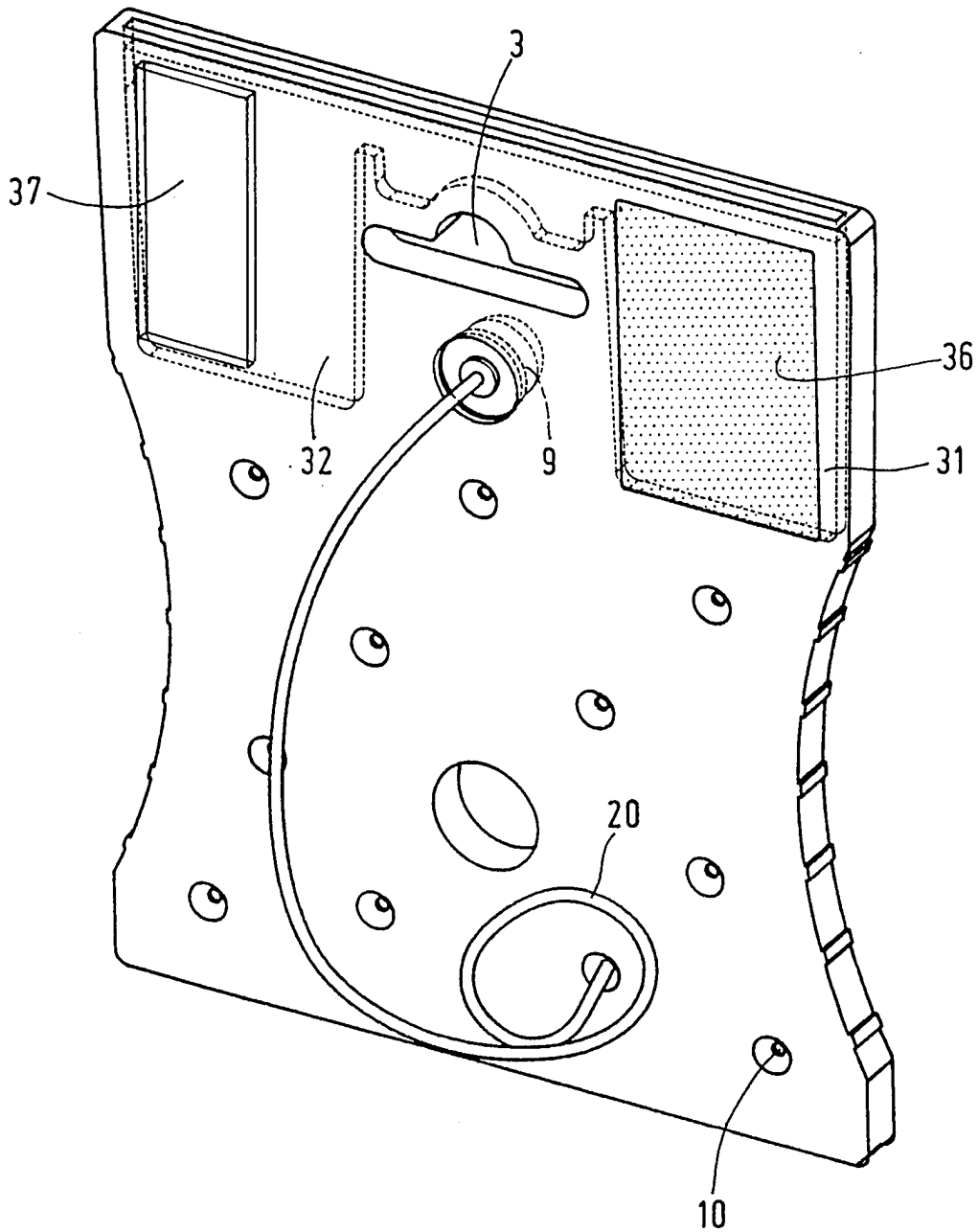


FIG. 6

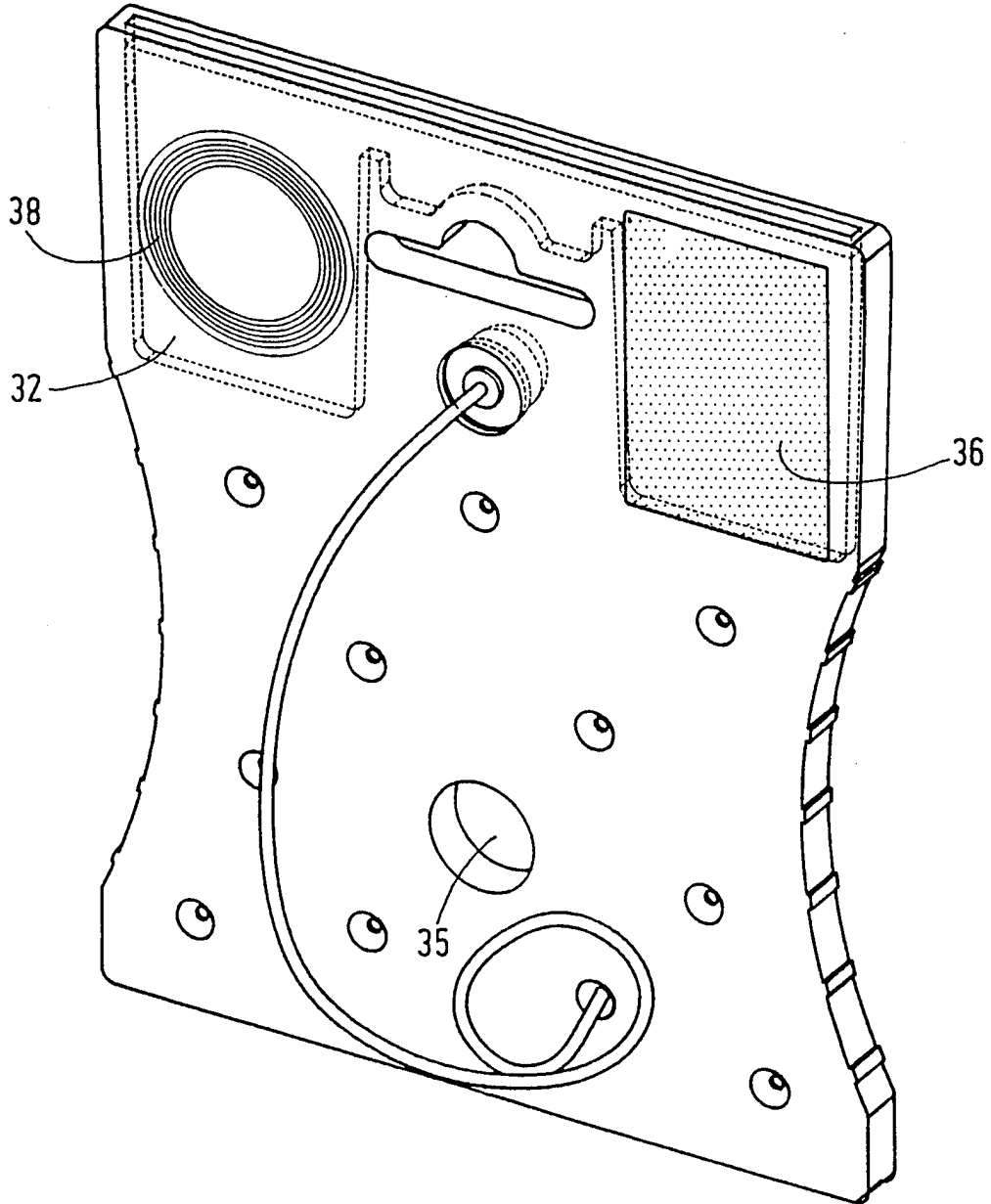
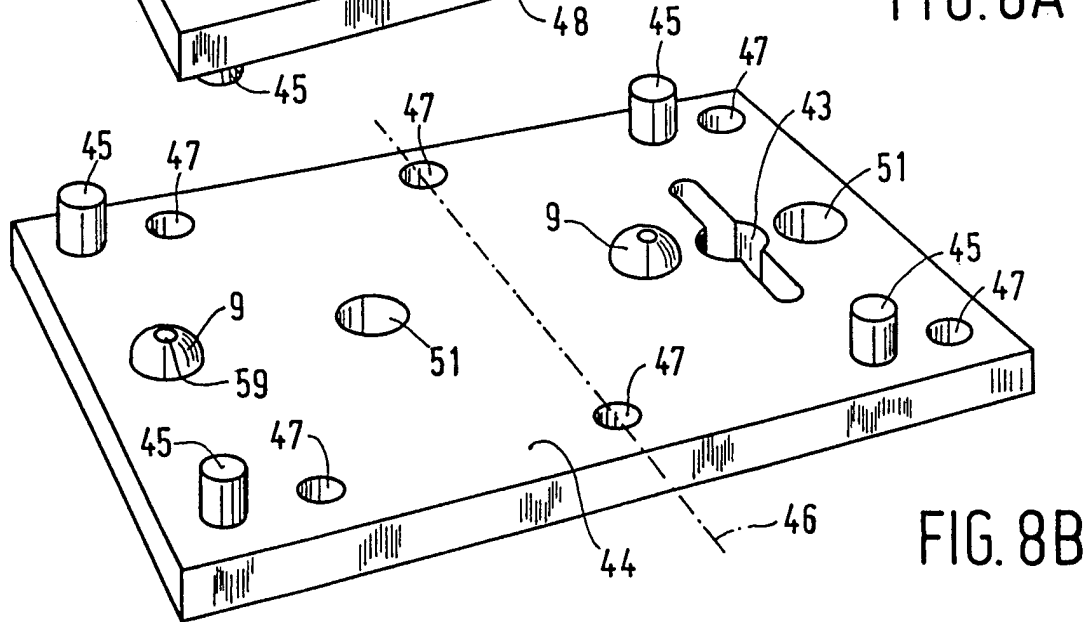
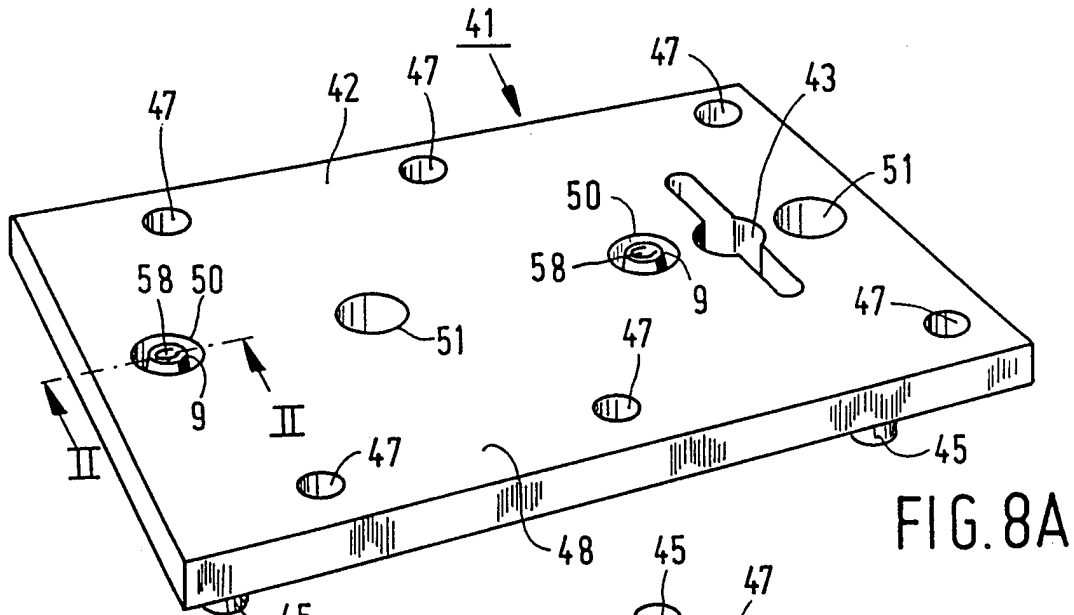


FIG. 7





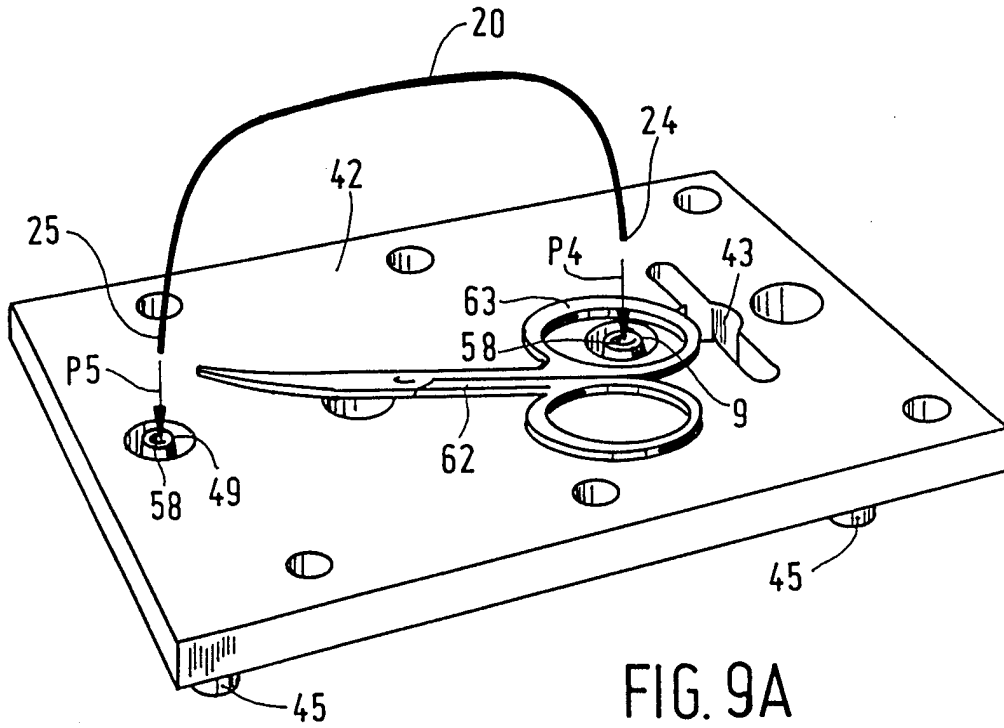


FIG. 9A

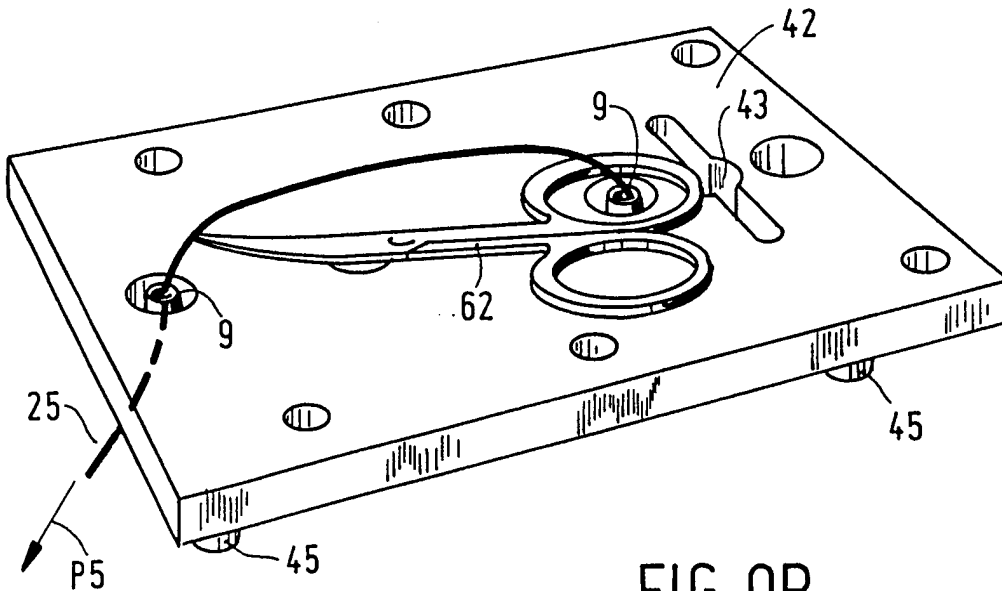


FIG. 9B

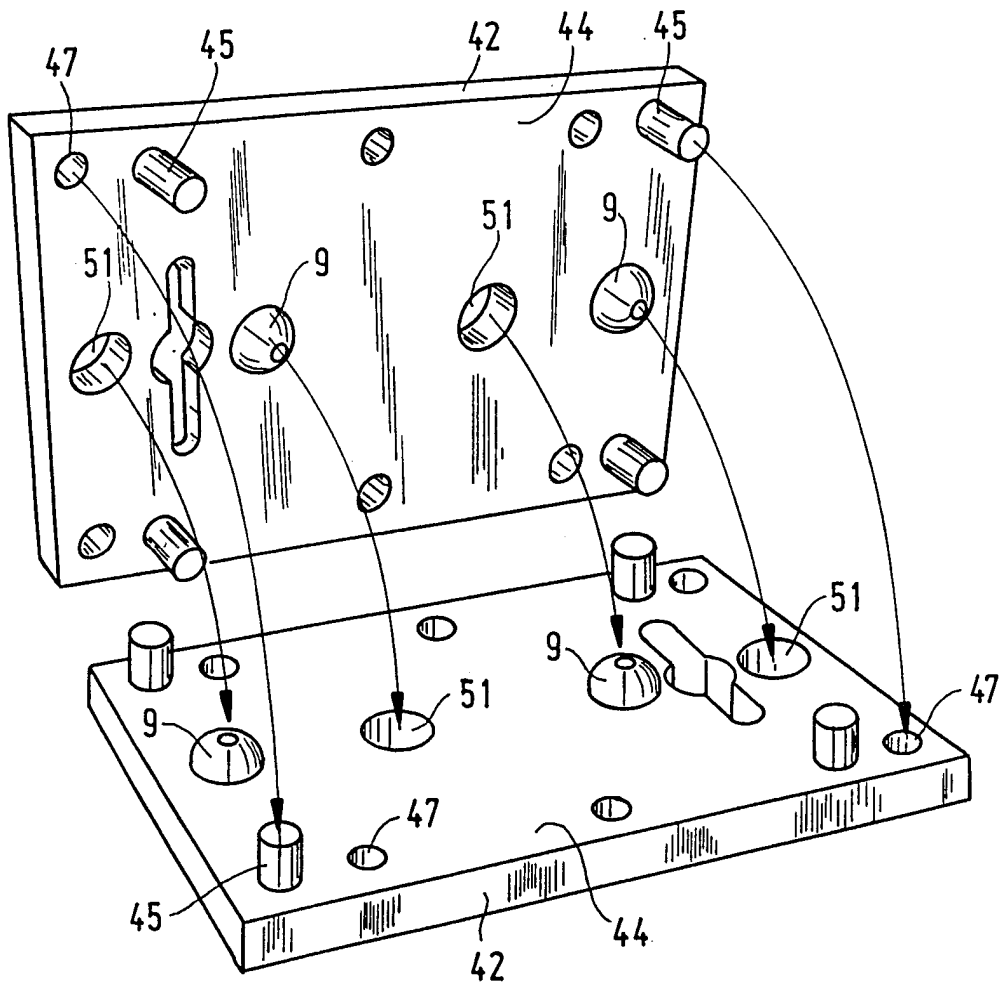


FIG. 10

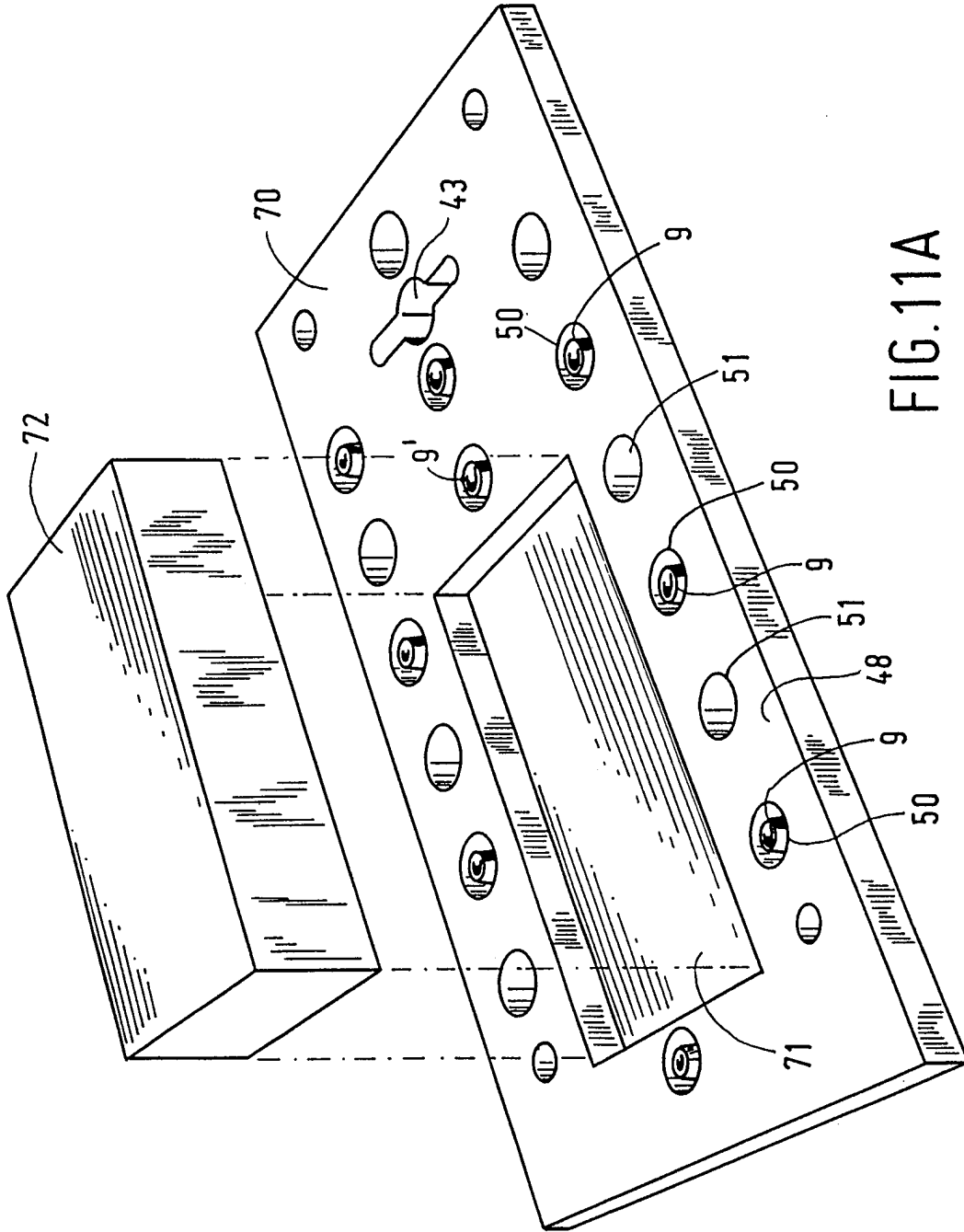
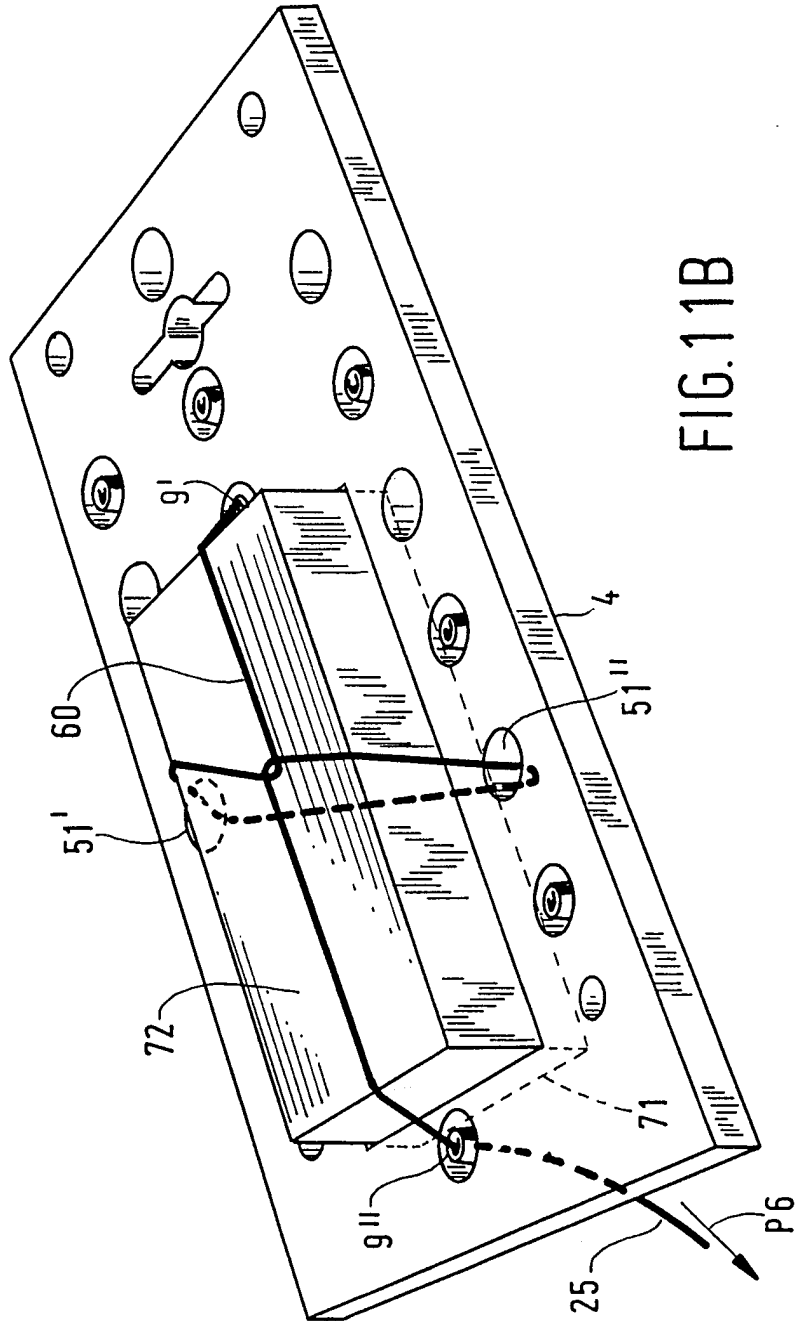


FIG.11A



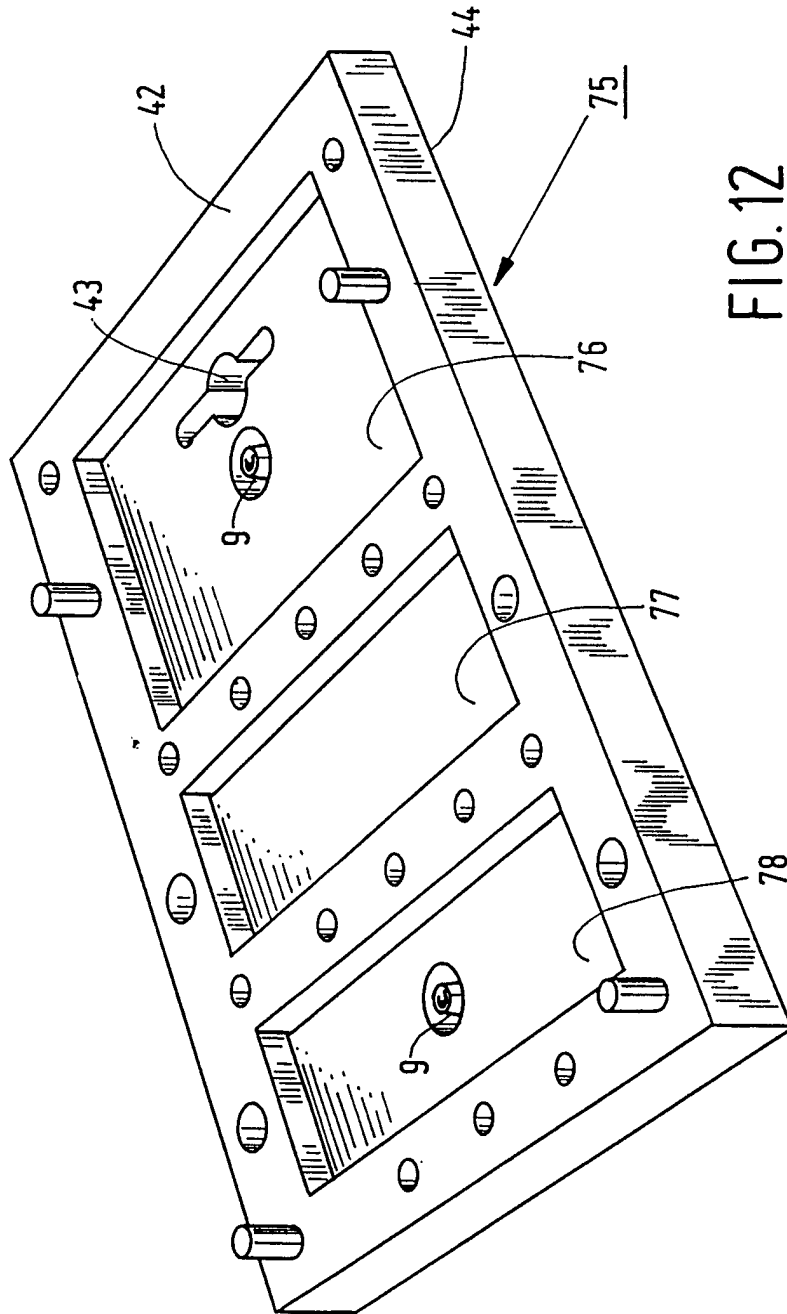


FIG. 12

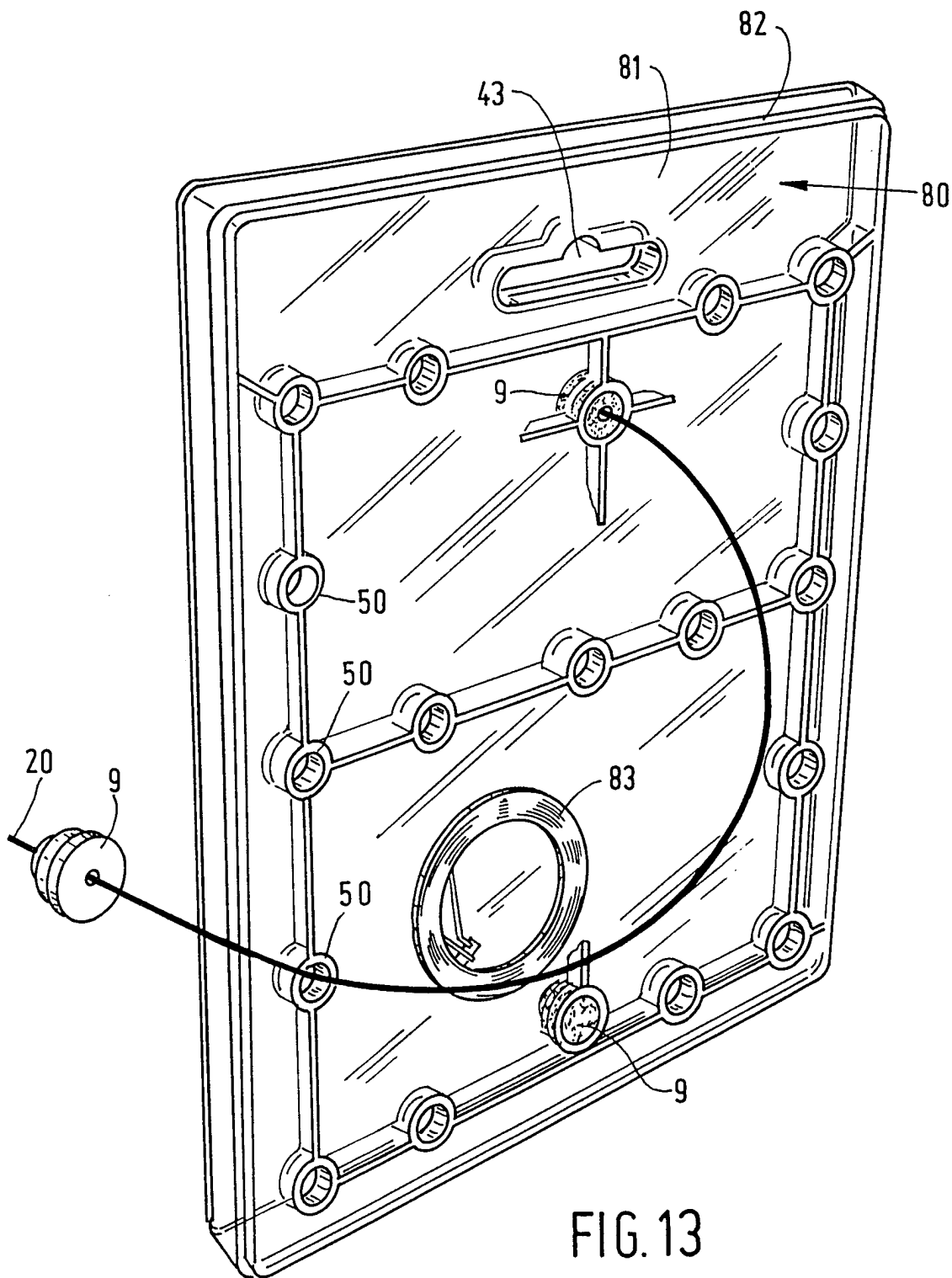


FIG. 13

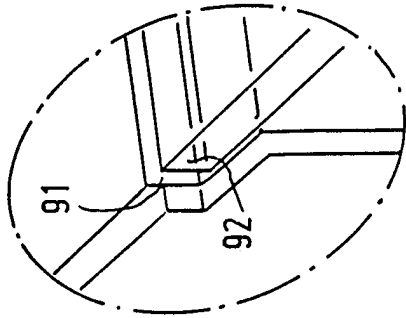


FIG. 15A

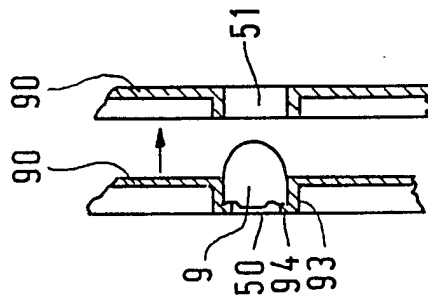


FIG. 15B

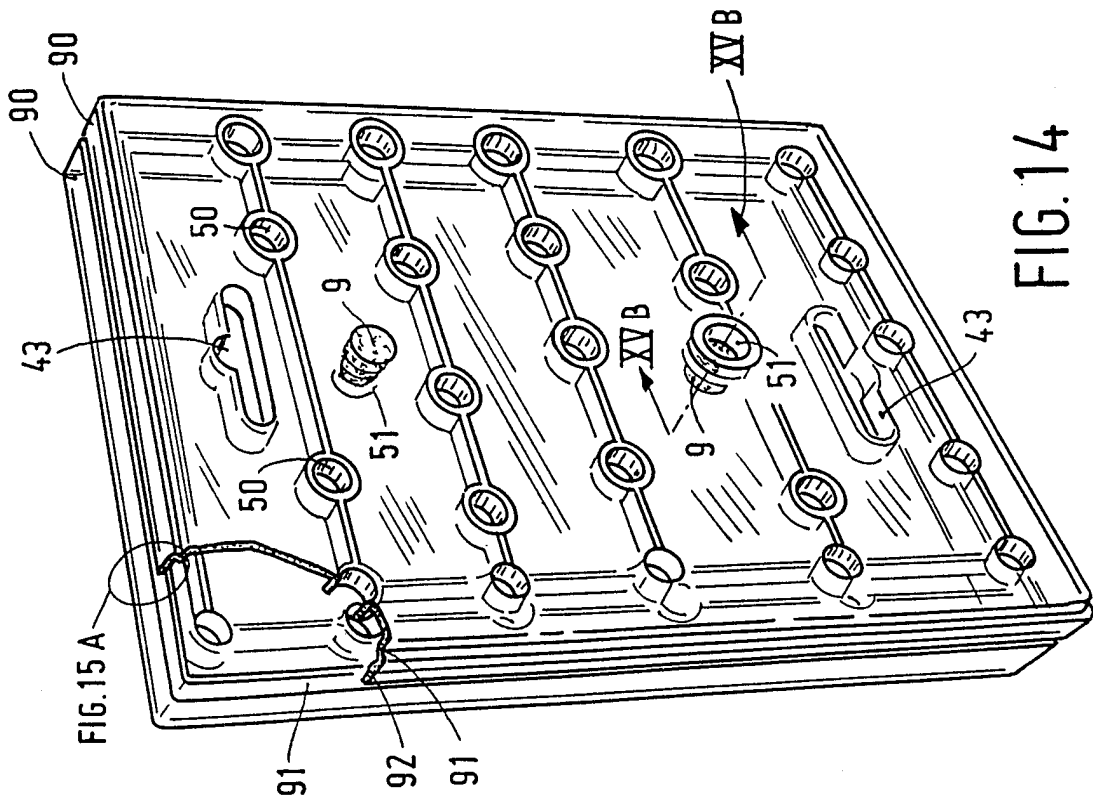


FIG. 14



# INTERNATIONAL SEARCH REPORT

Internat. Application No

PCT/NL 98/00141

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 6 E05B73/00

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 6 E05B B65D G08B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CH 667 339 A (SCANMATIC SECURITY SYSTEMS AG) 30 September 1988	1-9, 12-19
Y	see the whole document	10
A	& CH 656 472 A (CSANMATIC SEC. SYSTEMS AG) see the whole document	14-17
X	EP 0 615 041 A (PLASTI MAX SRL) 14 September 1994 cited in the application see column 1, line 52 - column 4, line 10; figures	1, 2, 4, 5, 7-9, 11, 19
Y	FR 2 181 233 A (MULTIER HENRI) 30 November 1973	10
A	see page 2, line 19 - page 4, line 32; figures	1-3
	-/--	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Date of the actual completion of the international search

25 June 1998

Date of mailing of the international search report

09/07/1998

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# INTERNATIONAL SEARCH REPORT

Internat . Application No PCT/NL 98/00141
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**C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 282 678 A (VAUX ETS ED) 21 September 1988  see column 3, line 30 - column 6, line 51; figures  ---	1-5, 8, 9, 12-14, 16-19
A	FR 2 724 634 A (WATERMAN SA) 22 March 1996  see page 3, line 36 - page 7, line 30; figures  ---	1, 2, 14, 16-19
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A	US 5 460 266 A (MUNDORF LARRY K ET AL) 24 October 1995 see the whole document  ---	1, 2, 10, 18
A	EP 0 107 541 A (SICFO SOC IND COMM FR OUTILL) 2 May 1984 see the whole document  -----	1, 2, 10, 18

# INTERNATIONAL SEARCH REPORT

Information on patent family members

Internati	Application No
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