



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
24.03.2010 Bulletin 2010/12

(51) Int Cl.:
G09F 3/20 (2006.01)

(21) Application number: **09170739.8**

(22) Date of filing: **18.09.2009**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
Designated Extension States:
AL BA RS

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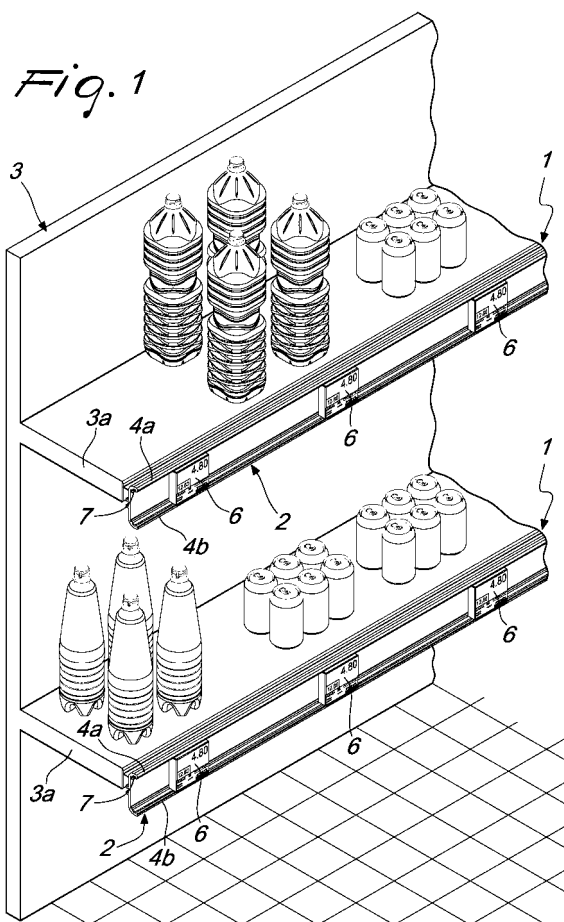
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(30) Priority: **23.09.2008 IT VR20080107**

(54) **Support for electronic tags**

(57) A support for electronic tags, which comprises at least one anchoring profile (2), which can be fixed to a supporting structure and has a pair of mutually facing lateral retention wings (4a, 4b) that are mutually joined by a central body (2a) in order to form an accommodation seat (5) for at least one electronic tag (6); the lateral retention wings (4a, 4b) are adapted to fasten the electronic tag (6) on two mutually opposite sides (6a, 6b) thereof. On at least one of the lateral retention wings (4a, 4b) there is at least one locking layer (7), which can be engaged by contact by at least one portion of the corresponding side (6a, 6b) of the electronic tag (6) and is made of a material that has a higher friction coefficient, with respect to the electronic tag (6), than the anchoring profile (2), in order to contrast the possibility of the electronic tag (6) to slide along the anchoring profile (2).



Description

[0001] The present invention relates to a support for electronic tags.

[0002] As is known, programmable electronic tags are currently used in shops and allow, by means of a display, to provide information regarding prices, the best-before date or others, of products displayed on racks.

[0003] The electronic tags are coupled to the racks usually by using supports constituted by anchoring profiles made of plastic material, which are fixed to the free edge of a corresponding shelf of the rack. These anchoring profiles generally have, in transverse cross-section, a substantially C-shaped configuration, with a central body that can be coupled to a shelf on one of its sides and joins two mutually facing lateral wings on its opposite side, so as to form a receptacle in which it is possible to insert and engage by snap action one or more electronic tags.

[0004] Although they are used extensively, anchoring profiles of the type described above, however, have the drawback of not blocking the sliding of the electronic tags along their longitudinal extension, so that the electronic tags can be moved accidentally from the position in which they are arranged with respect to the rack or can be deliberately slid off one end of the anchoring profile and therefore be stolen.

[0005] To try to solve this problem, anchoring profiles have been proposed which have, on their central body, an elastic tab which is arranged in a position that is intermediate between the two lateral wings and runs longitudinally along the extension of the anchoring profile.

[0006] With this solution, the electronic tag, when it is mated with the anchoring profile, rests against the elastic tab with its rear face, which is designed to be directed toward the central body, so as to always remain spaced from the central body.

[0007] The spacing ensured by the elastic tab between the electronic tag and the central body of the anchoring profile allows to produce a flexural deformation of the central body of the anchoring profile, so as to produce, by elastic reaction, an increase in the fastening applied by the lateral wings against the opposite sides of the electronic tag.

[0008] Although such a solution provides safer locking of the electronic tag than traditional anchoring profiles, it is still sufficient to apply a relatively low force to produce the sliding of the electronic tag along the anchoring profile.

[0009] In another known solution, the electronic tag is provided with a locking pin, which can move axially between a retracted position, in which it is accommodated within the box-like body of the electronic tag, and an extracted position, in which it protrudes from the upper side of the box-like body of the electronic tag, so as to be able to engage locking holes distributed uniformly along the upper lateral wing of the anchoring profile, thus blocking the possibility of the electronic tag to slide along the an-

choring profile.

[0010] The movement of the locking pin from the retracted position to the extracted position is performed, in contrast with return springs, by means of an automatic actuation device, which is accommodated within the box-like body of the electronic tag and can be activated by moving a suitable activation magnet toward the electronic tag.

[0011] It is evident that this last solution, despite being adapted to ensure perfect locking of the electronic tag to the anchoring profile, is however far more complicated from the constructive standpoint and therefore also more expensive than other known solutions.

[0012] In another solution that is currently used an anchoring profile is provided, which again has a C-shaped transverse cross-section, whose lower lateral wing is made entirely of an elastically yielding material and in which there is a retention lip that protrudes toward the upper lateral wing and delimits the outward side of an engagement seat which a mating tooth, provided on the lower side of the electronic tag, is designed to enter.

[0013] With this solution, in order to mate the electronic tag to the anchoring profile it is necessary to apply a slight pressure to the electronic tag, so as to produce the yielding of the retention lip under the pressure of the mating tooth of the electronic tag and allow the latter to move beyond the retention lip so as to thus enter its own engagement seat.

[0014] Therefore, although this solution facilitates the operation for mating the electronic tags to the anchoring profile, it is however unable to give sufficient assurances of safety against attempted theft of the electronic tags, since manual extraction of such electronic tags from the anchoring profile is also very easy due to the elastic yielding of the entire lower lateral wing and of its retention lip.

[0015] Moreover, with this solution, incorrect placements of the electronic tag on the anchoring profile may often occur due to failure of the mating tooth of the electronic tag to move beyond the retention lip, with consequent impossibility on the part of the anchoring profile to retain with the appropriate safety the electronic tag that is mated thereto.

[0016] The aim of the present invention is to solve the above-mentioned drawbacks by providing a support for electronic tags that is capable of locking perfectly the electronic tags to the anchoring profiles, preventing in a very simple manner the possibility of their sliding along the extension of such anchoring profiles.

[0017] Within this aim, an object of the invention is to provide a support for electronic tags that is capable of giving the greatest assurances of reliability and safety in use.

[0018] Another object of the present invention is to provide a support for electronic tags that can be obtained easily starting from commonly commercially available elements and materials and is further advantageous also from a purely economic standpoint.

[0019] This aim, as well as these and other objects that

will become better apparent hereinafter, are achieved by a support for electronic tags, according to the invention, as defined in claim 1.

[0020] Further characteristics and advantages of the invention will become better apparent from the following detailed description of a preferred but not exclusive embodiment of the support according to the invention, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a schematic perspective view of the application of a support according to the invention to a rack for displaying products on sale;

Figure 2 is a perspective view of the support according to the invention, associated with a shelf and with an electronic tag mated thereto;

Figure 3 is an exploded perspective view, illustrating the electronic tag and the support according to the invention;

Figure 4 is a front view of the support according to the invention, with an electronic tag applied thereto;

Figure 5 is a transverse sectional view, taken along the line V-V of Figure 4;

Figure 6 is a schematic transverse sectional view of the support according to the invention, fixed to a shelf and with an electronic tag associated therewith;

Figure 7 is a sectional view, similar to Figure 4, which however illustrates the use of an accessory of the support according to the invention;

Figure 8 is a transverse sectional view of the support according to the invention, fixed to a shelf in a manner that is different from the one shown in Figure 6.

[0021] With reference to the figures, a support for electronic tags, according to the invention, generally designated by the reference numeral 1, comprises at least one anchoring profile 2, which can be fixed to a supporting structure constituted for example by a rack 3, for the display of products on sale in shops.

[0022] The anchoring profile 2 has, in a transverse cross-section, a substantially C-shaped configuration, with a pair of lateral retention wings 4a, 4b, which face each other and are mutually joined by means of a central body 2a of the anchoring profile 2, so as to form an accommodation seat 5 for at least one electronic tag 6.

[0023] In particular, the electronic tag 6 can be inserted by snap action in the accommodation seat 5, so that it is fastened, on two mutually opposite sides 6a and 6b thereof, between the lateral retention wings 4a and 4b of the anchoring profile 2.

[0024] According to the invention, on at least one of the lateral retention wings 4a, 4b there is at least one locking layer 7, which can be engaged by contact by at least one portion of the corresponding side 6a, 6b of the electronic tag 6 and is made of a material that has a friction coefficient, with respect to the electronic tag 6, that is higher than the anchoring profile 2, so as to contrast the possibility of the electronic tag 6 to slide along

the longitudinal extension of the anchoring profile 2.

[0025] Advantageously, the locking layer 7 is made of a material that has a higher elastic compression deformability than the material of which the anchoring profile 2 is made.

[0026] Conveniently, the locking layer 7 is engaged by at least one mating tooth 9, which protrudes from the corresponding side 6a, 6b of the electronic tag 6 and is designed to deform by compression the locking layer 7, so as to increase the friction that contrasts the sliding of the electronic tag 6 along the longitudinal extension of the anchoring profile 2.

[0027] As an alternative, the locking layer 7 can optionally be engaged also by a portion of one of the two sides 6a, 6b of the electronic tag 6 that is affected by recesses or hollows.

[0028] Optionally, it is also possible to provide for the presence of at least one locking layer 7 on each one of the lateral retention wings 4a and 4b, so as to obtain a more effective retention in the locked position of the electronic tag 6 within the accommodation seat 5 formed by the anchoring profile 2.

[0029] As shown, the lateral retention wings 4a, 4b advantageously form respective engagement seats 8, in which it is possible to accommodate by snap action corresponding mating teeth 9, provided on each one of the sides 6a, 6b of the electronic tag 6.

[0030] In this case, the locking layer 7 is conveniently arranged on the bottom of at least one of the engagement seats 8 formed on the lateral retention wings 4a, 4b, so that it can be compressed validly by the mating tooth 9 arranged on the corresponding side 6a, 6b of the electronic tag 6.

[0031] Preferably, the locking layer 7 is made of natural or synthetic rubber or other similar material.

[0032] Conveniently, the anchoring profile is instead made of PVC or polystyrene.

[0033] In practice, the anchoring profile 2 and the locking layer 7 can be obtained advantageously by coextrusion of the various materials of which they are made.

[0034] Preferably, in the accommodation seat 5, the anchoring profile 2 forms at least one abutment shoulder 11, against which the rear face 6c of the electronic tag 6 is designed to rest in order to keep the electronic tag 6 spaced from the central body 2a of the anchoring profile 2. The abutment shoulder 11 is provided for example by means of a pair of mutually opposite walls 12, each of which protrudes from a respective lateral retention wing 4a, 4b toward the inside of the accommodation seat 5, delimiting at least partially the engagement seats 8 on their side directed toward the central body 2a of the anchoring profile 2.

[0035] Advantageously, on the opposite side with respect to the walls 12, the engagement seats 8 are delimited by a respective stop protrusion 13, which protrudes from the surface of the corresponding lateral retention wing 4a, 4b that is directed toward the accommodation seat 5, in the direction of the other lateral retention wing 4a, 4b.

[0036] For the sake of completeness in description, it should be noted that the anchoring profile 2, on its opposite side with respect to the accommodation seat 5, conveniently has per se known fixing means 15, which allow to associate stably the anchoring profile 2 to the free edge of the shelf 3a of the rack 3. The fixing means 15 comprise, for example, a connecting tab 16, which is constituted by a plate 17 that is joined to the central body 2a of the anchoring profile by means of a flexible tab 18. The plate 17 is designed to be anchored to the front surface of the free edge of the shelf 3a of the rack 3 by way of threaded elements 100, such as screws or the like, which are screwed into the body of the shelf 3a so as to pass through the plate 17.

[0037] As an alternative, as shown in Figure 8, the plate 17 can be inserted optionally by pressing in an accommodation slot 19, which is open upward and is formed by a supporting profile 20, which has a substantially U-shaped cross-section and can be coupled stably to the free edge of the shelf 3a of the rack 3.

[0038] Conveniently, on at least one of the internal walls of the accommodation slot 19 there is a longitudinal retention protrusion 21, which is designed to engage detachably a corresponding notch 22 that is formed on the plate 17.

[0039] Advantageously, the anchoring profile 2 is further provided with mating means that allow to associate detachably with the anchoring profile 2 various accessory elements, such as for example a tilting wedge 24, which can be interposed between the central body 2a of the anchoring profile 2 and the plate 17, in order to vary the inclination of the central body 2a of the anchoring profile 2 and therefore of the electronic tag 6 with respect to the free edge of the shelf 3a, in order to facilitate correct viewing of the display of the electronic tag 6 by users whatever the height at which the shelf 3a is located, with respect to the floor, on the rack 3.

[0040] Conveniently, the mating means comprise one or more longitudinal ridges 25, which protrude from the face of the central body 2a of the anchoring profile 2 that is directed opposite with respect to the accommodation seat 5 and end advantageously at their free end with an expansion 25a.

[0041] As shown, the tilting wedge 24 has a mating face 24a, on which there is a plurality of engagement slots 26, which are mutually parallel and spaced along a direction of extension of the tilting wedge 24, and can engage selectively the longitudinal ridges 25 in order to allow the possibility to vary the position of the tilting wedge 24 with respect to the anchoring profile 2 and achieve accordingly a corresponding variation of the inclination of the anchoring profile 2 with respect to the free edge of the shelf 3a. In particular, on the opposite side with respect to the mating face 24a, the tilting wedge 24 has a resting face 24b, which is tilted with respect to the mating face 24a and is designed to be directed toward the shelf 3a, in order to be able to rest against the plate 17, as in the example of Figure 7, or against the outer

surface of the supporting profile 20 in which the plate 17 is inserted, as in the example of Figure 8.

[0042] The use of the support according to the invention is as follows.

[0043] In order to position the electronic tag 6 in the accommodation seat 5 of the anchoring profile 2, it is sufficient to rest one side 6a, 6b of the electronic tag 6 on one of the lateral retention wings 4a, 4b of the anchoring profile 2, so as to insert the corresponding mating tooth 9 in the corresponding engagement seat 8, and then apply pressure to the electronic tag 6 in the direction of the central body 2a of the anchoring profile 2, so that the mating tooth 9 of the other side of the electronic tag 6 also can enter by snap action the engagement seat 8 of the other lateral retention wing.

[0044] By doing so, the electronic tag 6 is fastened between the lateral retention wings 4a and 4b of the anchoring profile 2 and rests, with its rear face 6c, against the abutment shoulder formed by the walls 11.

[0045] With the electronic tag 6 arranged in the accommodation seat 5 of the anchoring profile 2, the locking layer 7 arranged on the bottom of the engagement seats 8 formed on the lateral retention wings 4a, 4b is compressed and deformed by the mating teeth 9 of the electronic tag 6, so as to retain with absolute safety the electronic tag 6, thanks to the high friction, which in this manner is capable of providing against the sliding of the electronic tag 6 along the anchoring profile 2.

[0046] In order to uncouple the electronic tag 6 from the anchoring profile 2, it is sufficient to move mutually apart the lateral retention wings 4a, 4b of the anchoring profile 2, using conveniently an appropriate lever-like tool, so as to free the electronic tag 6 from the fastening applied by the lateral retention wings 4a, 4b on its opposite sides 6a, 6b and thus allow its easy extraction from the accommodation seat 5.

[0047] In practice it has been found that the support according to the invention fully achieves the intended aim and objects, since it is capable of ensuring effective locking of the electronic tags on the anchoring profiles.

[0048] In particular, the fact is stressed that the support according to the invention, thanks to its particular structure, ensures, by way of the lateral retention wings, an action for retention of the electronic tags in the accommodation seat of the anchoring profile that is capable of contrasting effectively unauthorized attempts at manual extraction of the electronic tags from the anchoring profile and at the same time allows, by means of the locking layer provided on the lateral retention wings, to keep firmly in position the electronic tags on the anchoring profile, contrasting the possibility of their sliding along the longitudinal extension of the anchoring profile, so as to avoid accidental changes of their position and prevent their lateral extraction from the anchoring profile.

[0049] Moreover, thanks to its structure and of the presence in particular of the locking layer, the support according to the invention is capable of performing with absolute safety the retention of the electronic tag without

requiring, differently from current solutions, very narrow tolerances between the dimensions of the electronic tag and the dimensions of the anchoring profile.

[0050] All the characteristics of the invention indicated above as advantageous, convenient or the like may also be omitted or be replaced with equivalents.

[0051] The individual characteristics described with reference to general teachings or to particular embodiments may all be present in other embodiments or may replace characteristics in these embodiments.

[0052] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims.

[0053] In practice, the materials employed, so long as they are compatible with the specific use, as well as the contingent shapes and dimensions, may be any according to requirements.

[0054] All the details may further be replaced with other technically equivalent elements.

[0055] The disclosures in Italian Patent Application No. VR2008A000107 from which this application claims priority are incorporated herein by reference.

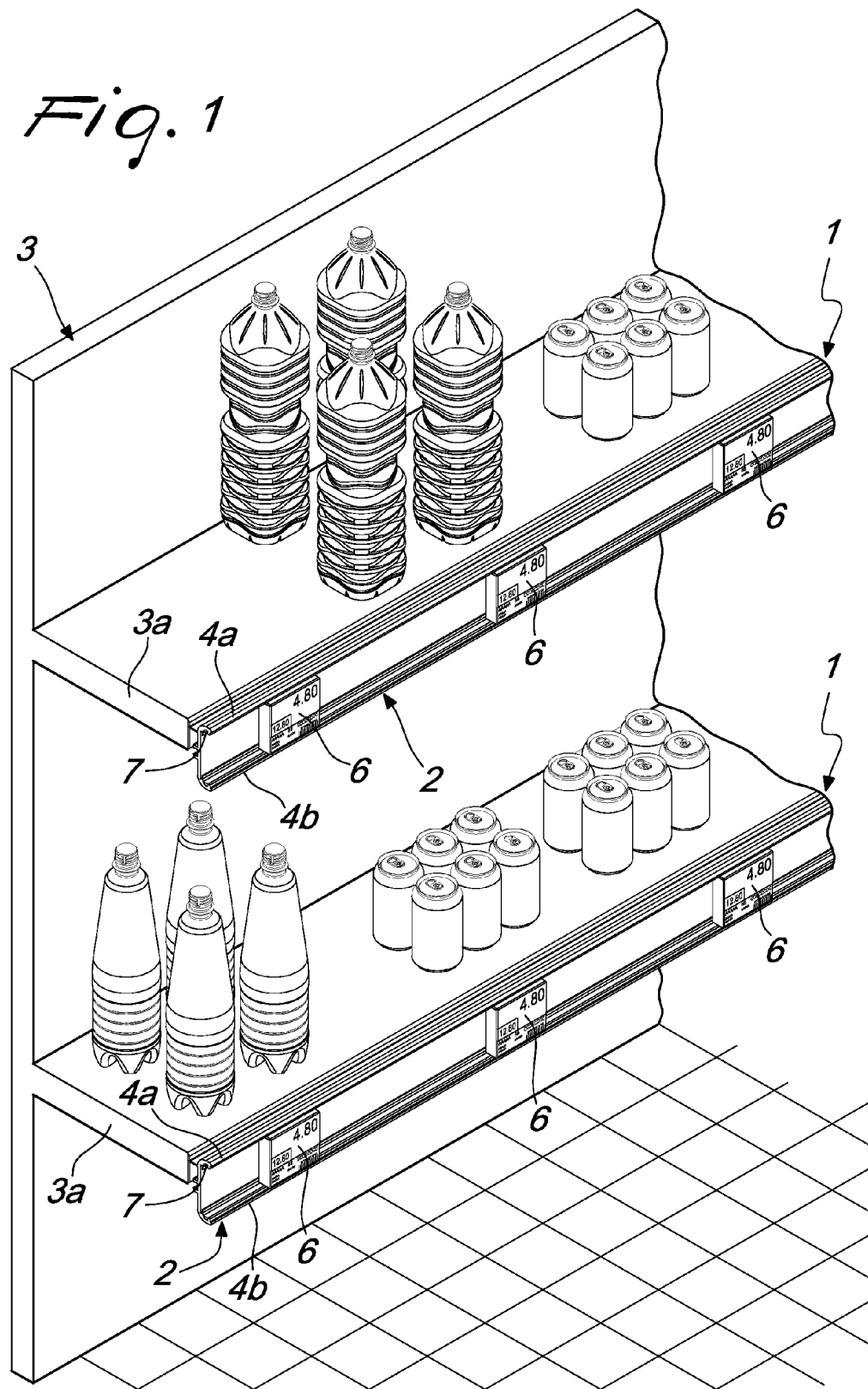
[0056] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A support for electronic tags, comprising at least one anchoring profile (2), which can be fixed to a supporting structure and has a pair of mutually facing lateral retention wings (4a, 4b) that are mutually joined by a central body (2a) in order to form an accommodation seat (5) for at least one electronic tag (6), said lateral retention wings (4a, 4b) being adapted to fasten said at least one electronic tag (6) on two mutually opposite sides (6a, 6b) thereof, **characterized in that** it comprises, on at least one of said lateral retention wings (4a, 4b), at least one locking layer (7), which can be engaged by contact by at least one portion of the corresponding side (6a, 6b) of said at least one electronic tag (6), said at least one locking layer (7) being made of a material that has a higher friction coefficient, with respect to said at least one electronic tag (6), than said anchoring profile (2), in order to contrast the possibility of said at least one electronic tag (6) to slide along said anchoring profile (2).
2. The support according to claim 1, **characterized in that** said at least one locking layer (7) is made of a material that has an elastic compression deformability that is greater than that of said anchoring profile

(2).

3. The support according to one or more of the preceding claims, **characterized in that** said at least one locking layer (7) can be engaged by compression by at least one mating tooth (9) that protrudes from the corresponding side (6a, 6b) of said at least one electronic tag (6).
4. The support according to one or more of the preceding claims, **characterized in that** said lateral retention wings (4a, 4b) form at least one respective engagement seat (8), which is adapted to accommodate the mating tooth (9) provided on the corresponding side (6a, 6b) of said at least one electronic tag (6), said at least one locking layer (7) being formed on the bottom of the engagement seat (8) of at least one of said lateral retention wings (4a, 4b).
5. The support according to one or more of the preceding claims, **characterized in that** it comprises at least one locking layer (7) on each one of said lateral retention wings (4a, 4b).
6. The support according to one or more of the preceding claims, **characterized in that** said locking layer (7) is made of rubber.
7. The support according to one or more of the preceding claims, **characterized in that** said anchoring profile (2) is made of PVC or polystyrene.
8. The support according to one or more of the preceding claims, **characterized in that** said anchoring profile (2) and said locking layer (7) are obtained by coextrusion.



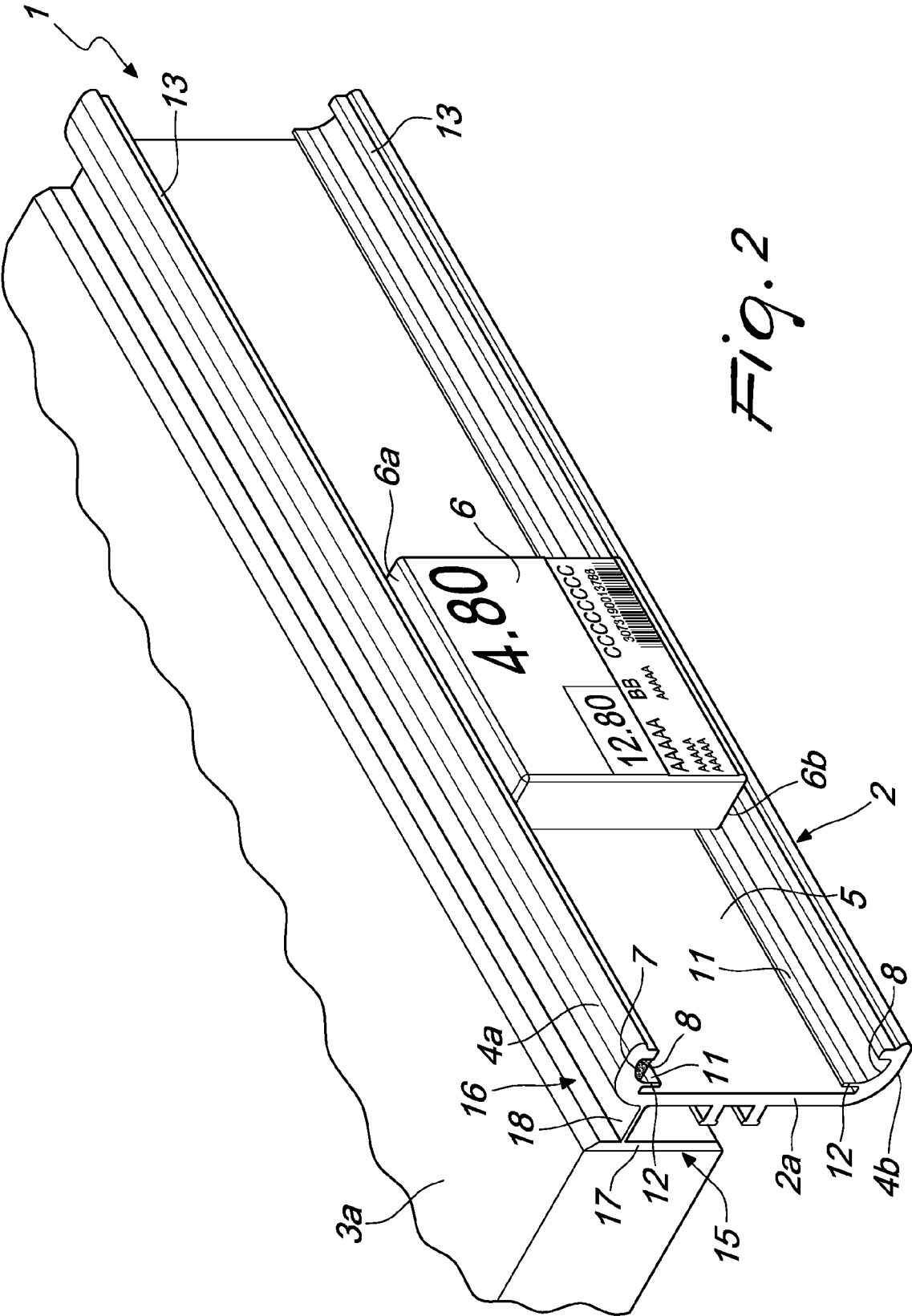
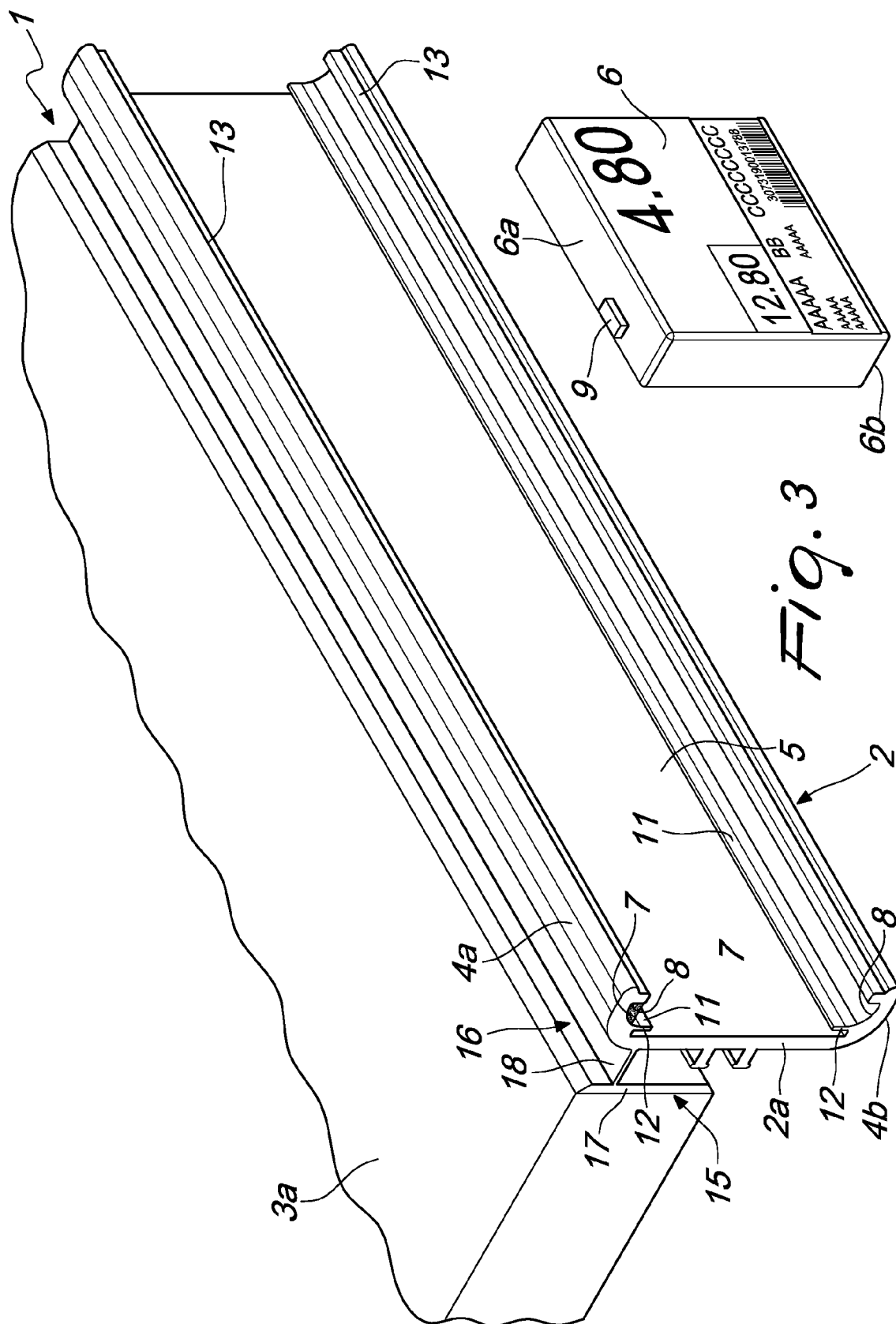


Fig. 2



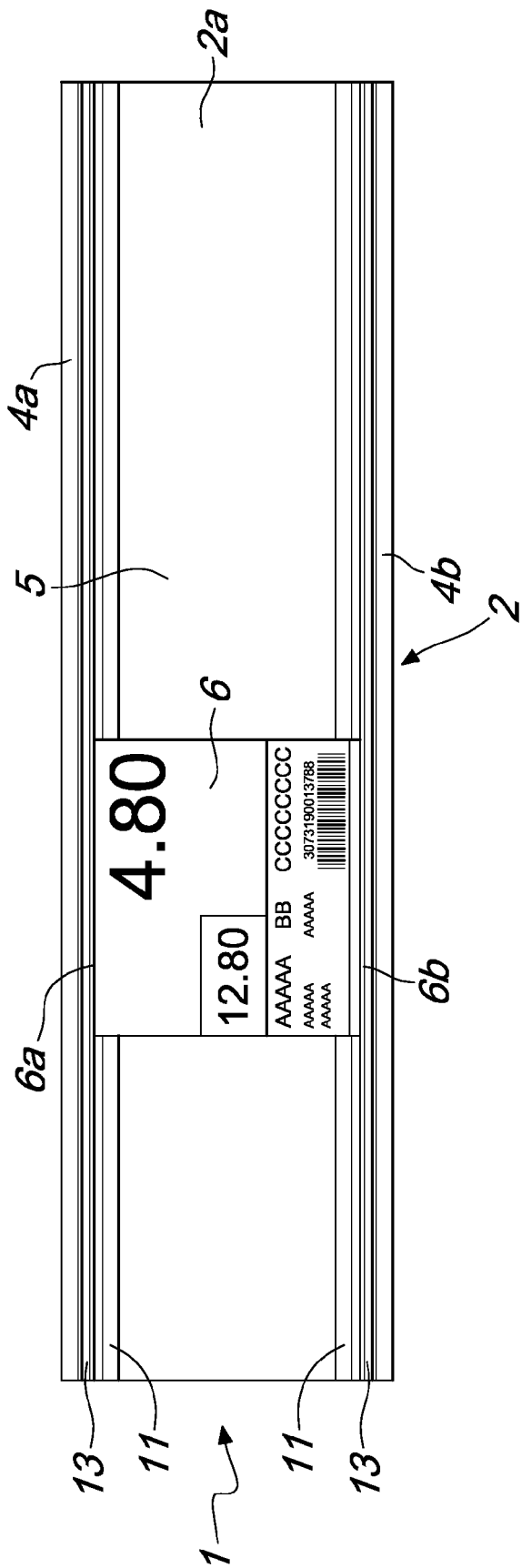


Fig. 4

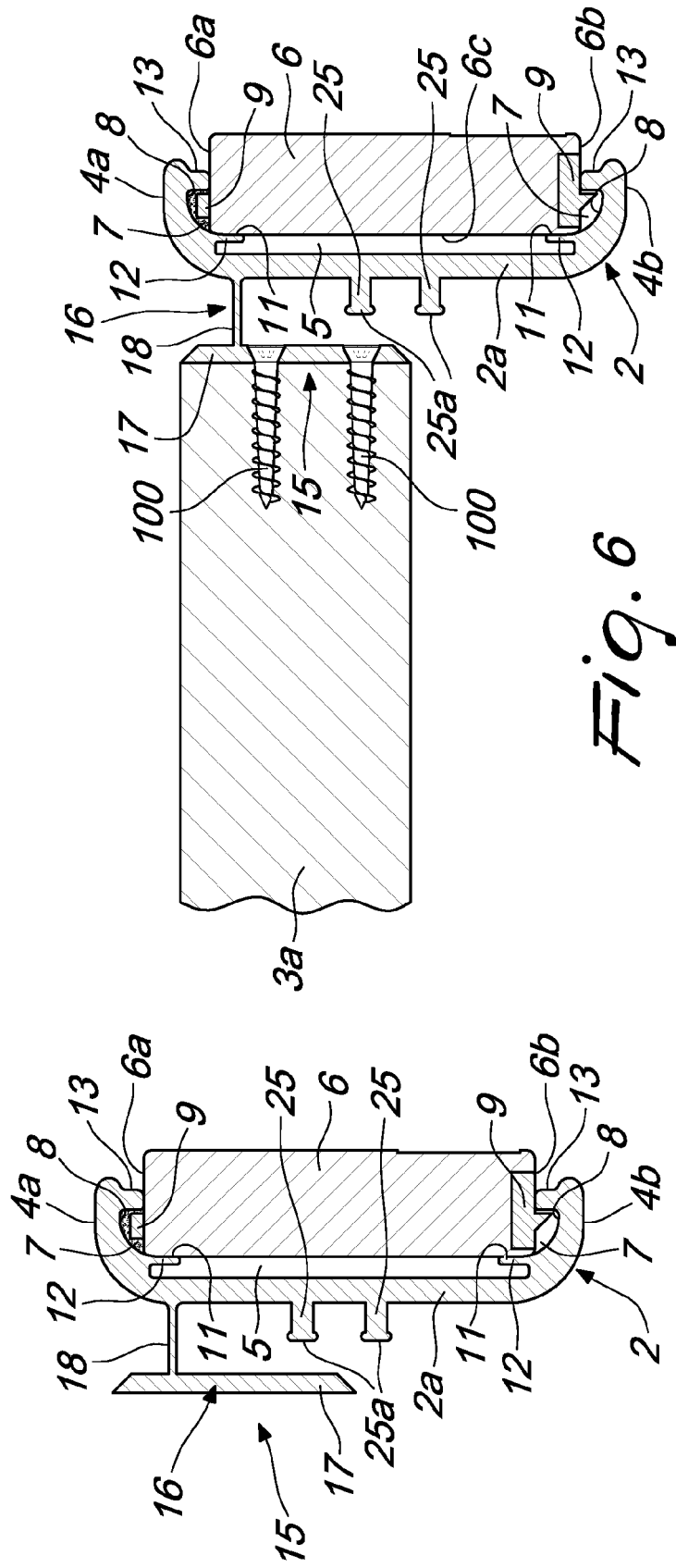
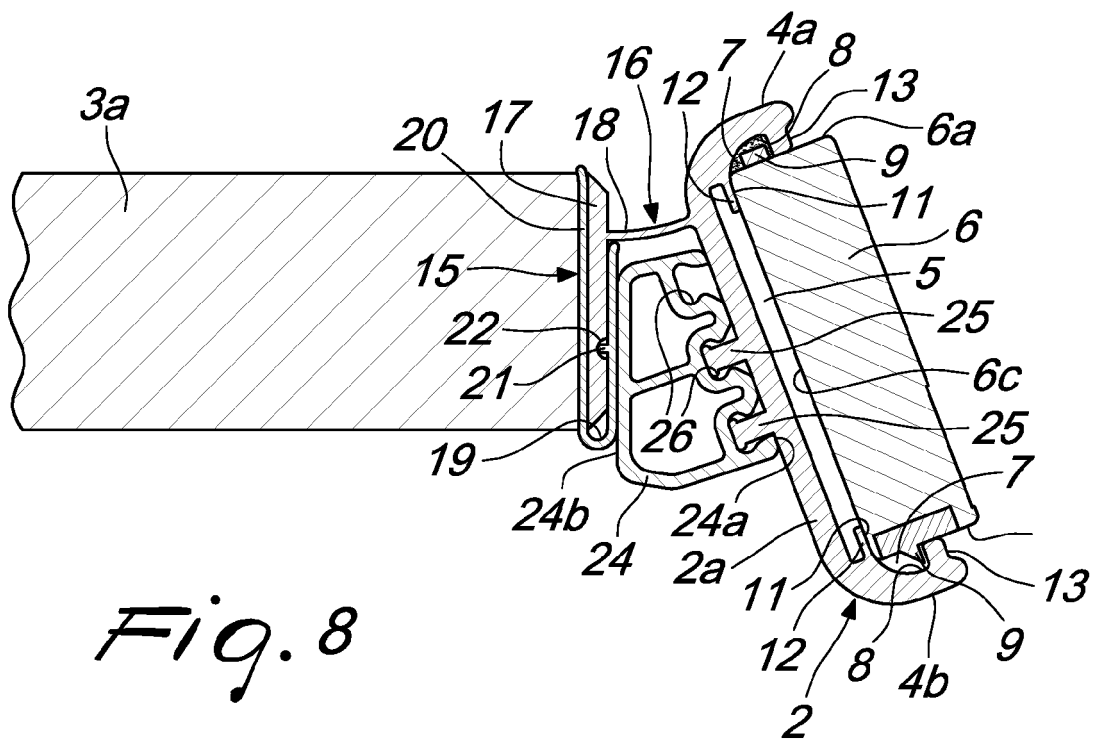
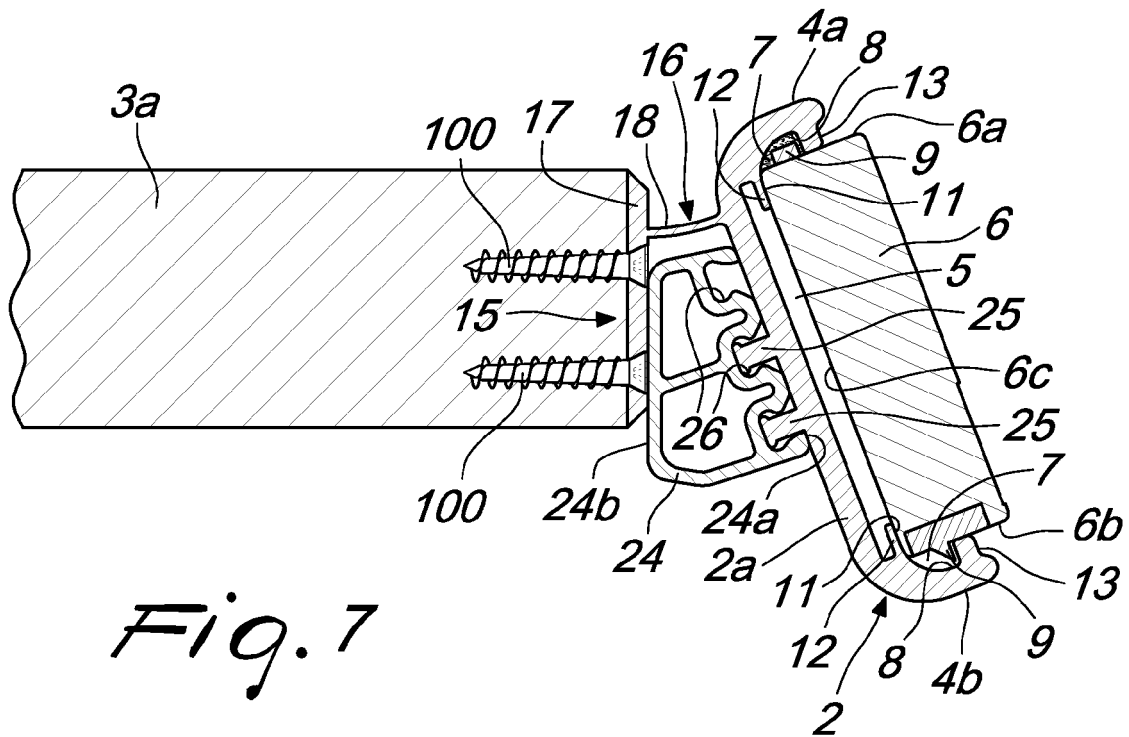


Fig. 6

Fig. 5





EUROPEAN SEARCH REPORT

Application Number
EP 09 17 0739

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	FR 2 765 018 A1 (RASEC COMMUNICATION SA [FR]) 24 December 1998 (1998-12-24) * page 3, line 22 - page 7, line 2; figures 1-5 *	1-8	INV. G09F3/20
A	WO 2004/079698 A1 (PRICER AB [SE]; NILSSON BJOERN [SE]) 16 September 2004 (2004-09-16) * page 3, line 26 - page 5, line 12; figures 1-9 *	1-8	
			TECHNICAL FIELDS SEARCHED (IPC)
			G09F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 25 January 2010	Examiner Klintebäck, Daniel
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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 09 17 0739

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25-01-2010

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FR 2765018	A1	24-12-1998	NONE
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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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