



EUROPEAN PATENT APPLICATION

(43) Date of publication:
02.09.2020 Bulletin 2020/36

(51) Int Cl.:
A47C 7/72 (2006.01) **A47C 11/00** (2006.01)
H02J 7/00 (2006.01) **H01R 13/00** (2006.01)

(21) Application number: **20160367.7**

(22) Date of filing: **02.03.2020**

(84) Designated Contracting States:
**AL 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 RS SE SI SK SM TR**
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(71) Applicant: **Lensvelt Contract B.V.**
1016 BR Amsterdam (NL)

(72) Inventor: **Hutten, Richard Gerardus Jozef**
1016BR Amsterdam (NL)

(74) Representative: **Wittop Koning, Tom Hugo**
Biopatents IP Consultancy
Parkzoom 3
2614 TC Delft (NL)

(30) Priority: **01.03.2019 NL 2022666**
01.03.2019 NL 2022668

(54) **WAITING AREA SEATING FURNITURE**

(57) A piece of waiting area seating furniture (1) is described which has one or more adjacently situated seating elements (2, 3, 4), comprising a seat (32, 33, 34), each of them bounded at their front by a seat front edge (42, 43, 44), which seating elements are adapted for having several users sitting down next to each other, wherein the seating furniture comprises a supporting beam (10) on which the one or more seating elements (2, 3, 4) are individually mounted so as to be detachable, wherein the supporting beam (10) extends transverse to the intended seating direction of the users, wherein the supporting

beam (10) comprises means for accommodating cabling (50) for transmitting information and/or power which cabling extends along the length of the supporting beam (10), wherein near at least one of the one or more seating elements (2, 3, 4) connection means (6) are positioned that are connected to the cabling (50) and are intended for connecting devices of the users for transmitting data or power to said devices via the cabling (50), characterized in that the connection means (6) are each time positioned below the seat (32, 33, 34) near its seat front edge (42, 43, 44).

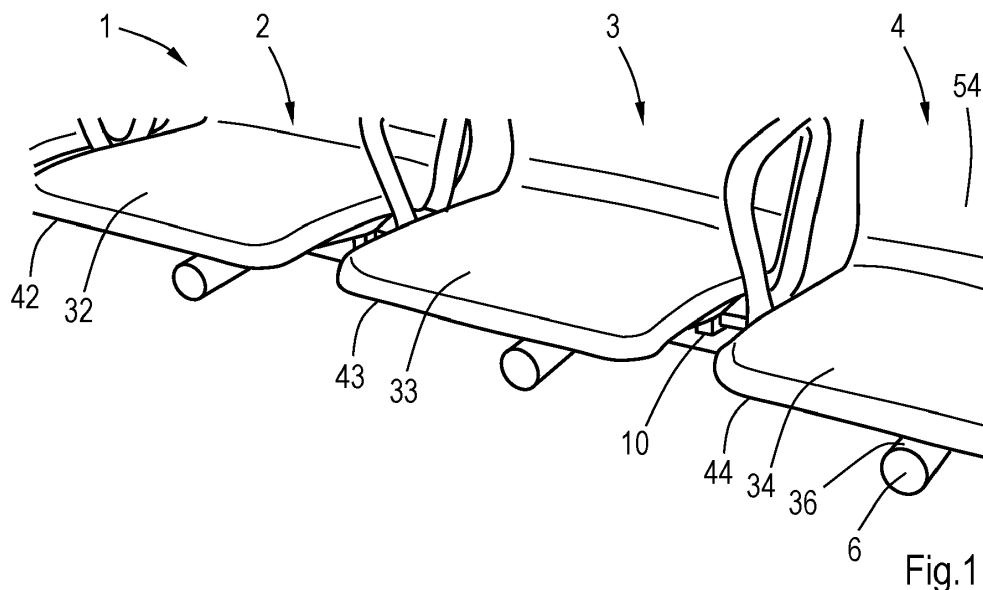


Fig.1

Description

[0001] The invention relates to waiting area seating furniture having one or more adjacently situated seats, each of them bounded at their front by a seat front edge, which seats are adapted for having several users sitting down next to each other, wherein the seating furniture comprises a supporting beam on which the one or more seats are individually mounted so as to be detachable, wherein the supporting beam extends transverse to the intended seating direction of the users, wherein the supporting beam comprises means for accommodating cabling for transmitting information and/or power which cabling extends along the length of the supporting beam, wherein connection means are positioned near at least one of the one or more seats, which connection means are connected to the cabling and are intended for connecting devices of the users for transmitting data or power to said devices via the cabling. Such waiting area seating furniture is particularly intended for placement in waiting areas of for instance hospitals, airports, stations, government institutions, office buildings and the like. Such furniture is also popular on the private market. As such furniture largely defines the look and feel of a room, its design is paid a lot of attention to, striving for an optimal combination of functionality and aesthetic value.

[0002] US3,226,071 for instance, describes a piece of seating furniture having several seating elements situated next to each other, each of them being bounded by a seat front edge at the front. The users can sit down next to each other on a seat of an individually detachable seating element, wherein the thighs extend to beyond the said seat front edge so that when sitting down on one of the seating elements the knees can be bent and the feet can rest on the ground. By means of engagement means, the seating elements are mounted to a supporting beam configured as T-profile that extends transverse to the intended seating direction of the users. The seating elements can be slid around the lateral flanges of the T-profile, as a result of which a piece of seating furniture having several seating elements is formed. The seating elements may also be provided with a backrest or one or two armrests. The seating elements can also be alternated by table elements comprising a tabletop to which similar engagement means are mounted. This timeless design is considered attractive in particular due to its compact build, simplicity and symmetry.

[0003] However, this design goes back to the time when there was no need for individual facilities such as providing connections for transmitting information or power. Nowadays, a user expects a waiting room to have facilities for power and data transmission to which the devices that they brought along with them, such as a mobile telephone or laptop, can be connected. In the state of the art, facilities for connection means such as sockets are known, but they are usually situated next to the seating elements or at backrest level, as described in for instance US6,683,394 and JP2016-002431. A seat-

ing element can no longer be placed at such a location, which unnecessarily takes away room for seating. Placing sockets and other connections next to the seating element, dictates the seating elements to be placed further apart from each other on the supporting beam. The designs from the state of the art do not allow a compact build.

[0004] An intended compact build can now be realised by the invention because the connection means are each time placed below the seat near the seat front edge. By placing the connection means below the seats instead of, as known from the state of the art, next to them, room is saved on the common supporting beam and the seating elements can be placed closer next to each other on the supporting beam which results in an important saving of space. The connection means may for instance be configured as socket for a connection plug for passing on electricity and/or transmitting data. The connection means may for instance comprise standard electric connections, USB ports or data cable connections. The type of the connections may differ from one country to the next, depending on the connection systems used there.

[0005] The connection means preferably are located below the seat and at a distance of 0 - 15 cm from the vertical tangent plane of the seat front edge. This vertical tangent plane defines the position of the front edge of the seat, over which the thighs of a waiting user extend and along which the knees can be bent downward. The location where the seat contacts this tangent plane, will in this document also be referred to as "seat front edge". "Below the seat" means that the connection means are located below the seat of the seating element or extend beyond the free front edge of the seat and not next to it. That means the connection means are not located next to the seats as is described in JP2016-002431. Due to this position of the connection means, they are readily and easily accessible to the user sitting on the seat in question, whereas a compact build of the seating furniture is possible. 0 - 15 cm from the vertical tangent plane means that the connection means are located at a distance of 0 cm in the tangent plane, and at 15 cm at a distance of 15 cm from this tangent plane. However, it is preferable to let the connection means extend beyond the front of this tangent plane as little as possible, as in that case the user could easily bump into it and injure themselves. Preferably, the connection means are located no more than 6, 5, 4, 3, 2 or 1 cm beyond the tangent plane, but most preferably the connection means are located below the seat without extending beyond the tangent plane. The connection means preferably are located below the seat and are located at a distance of 0 - 15 cm below the seat without extending beyond the tangent plane, so between the seat front edge and the rear of the seat. This distance preferably is 0 - 10 cm from the seat front edge and most preferably 0 - 5 cm. Positioned like that, the connection means are readily accessible, and they do not form an obstacle for the user either in case of connected devices.

[0006] The adjacent seating elements of the waiting area seating furniture preferably are borne by one single supporting beam. For that purpose, the seating furniture comprises only one supporting beam to which all adjacently placed seating elements are mounted. For that purpose, the supporting beam preferably is configured as a T-profile, in the simplest case having two horizontally extending lateral flanges and a vertically extending flange situated centrally between both lateral flanges. The seating elements will then be slid over both lateral flanges or mounted thereto in another way without the seating elements having to be over the supporting beam. In the latter case, exchanging seating elements will be easier. It is also possible to provide a piece of waiting area seating furniture wherein two supporting beams extend parallel to each other on each of which several seating elements are placed, and in such a way that the seating elements are positioned back-to-back to each other on both supporting beams. At their outer ends, both supporting beams can then for instance be supported by an A-shaped or inverted V-shaped support frame.

[0007] The cabling can be mounted to the supporting beam by means of suitable fasteners such as for instance cable binders (tie wraps) or cable ducts. Although such a solution results in ready accessibility, it also renders the cabling prone to damage. That is why in a specific embodiment the supporting beam comprises a cavity in which the cabling is accommodated. The supporting beam may for that purpose for instance be configured as a hollow profile having a triangular cross-section, in an advantageous embodiment an equilateral triangle. For example, it can be oriented with an acute side facing downwards and with a flat side horizontally upwards. The seating elements can then be provided with engagement means engaging around this horizontal surface on the supporting beam. A T-profile of which the vertical flange is configured hollow, is another attractive embodiment for accommodating the cabling in the cavity.

[0008] In an attractive embodiment, one or more hollow elements for accommodating the cabling, which hollow elements are each time positioned below a seat, are mounted to the supporting beam, which hollow elements extend substantially perpendicular to the supporting beam to near the seat front edge of the seating element in question, wherein the connection means are positioned at the outer end of the hollow elements. These hollow elements pass the cabling from the support element to the connection means that are situated at the position described above, that means preferably below the seat without extending beyond the seat front edge. In this embodiment, the cabling is protected up to the connection means and the risk of damage is minimal. Moreover, the cables are hidden from view, which has aesthetic value as well. In a specific embodiment, a number of hollow elements are mounted to the supporting beam at a regular distance relative to each other, which regular distance preferably corresponds to the width of the individual seating elements mounted to the

supporting beam. That way, the connection means are situated at a regular distance from each other and they are always placed at the same position relative to seating elements in question. The connection means can be placed centre below the seat, but also off-centre towards either the left-hand edge or right-hand edge of the seat. However, the centre is preferable in order to provide the legs of a user with an optimum freedom of movement.

[0009] In a highly attractive embodiment, the waiting room furniture according to the invention comprises a supporting beam assembly, which supporting beam assembly comprises the supporting beam and a cover element, which supporting beam comprises:

- i. a first flange portion extending along the length of the supporting beam perpendicular to the axis of the supporting beam;
- ii. a second flange portion extending along the length of the supporting beam at a first angle (α) to the first flange portion at a first length (l_1), measured perpendicular from the first flange portion, and extending perpendicular to the axis of the supporting beam (10);
- iii. a third flange portion extending along the length of the supporting beam at a second angle (β) to the first flange portion at a second length (l_2), measured perpendicular from the first flange portion, and extending perpendicular to the axis of the supporting beam, such that the second and third flange portions are located on either side of the first flange portion, and the first length (l_1) and second length (l_2) run parallel to each other, wherein the second and third flange portions form engagement means for detachably mounting the one or more seating elements to the supporting beam assembly, wherein the first length (l_1) is larger than the second length (l_2) by a third length (l_3) so that $l_1 = l_2 + l_3$,

and which cover element has a length that substantially corresponds to the length of the supporting beam wherein the cover element is bounded along its length by a first edge portion and a second edge portion running substantially parallel thereto, wherein the cover element is adapted to be mounted to the supporting beam, and upon mounting extends along the length of the supporting beam wherein the cover element with its first edge portion engages onto the first flange portion of the supporting beam, and with its second edge portion engages onto the second flange portion of the supporting beam, such that upon mounting the cover element to the supporting beam a space is formed, extending substantially along the length of the supporting beam, which space is bounded by the cover element and the first and second flange portions of the supporting beam and which space houses the cabling.

[0010] Such a supporting beam assembly makes it possible to accommodate the cabling in the supporting beam assembly, whereas the supporting beam assembly

may have the look of a single symmetric supporting beam. In this embodiment the supporting beam has an asymmetric basic T-shape, having a first vertical flange portion and two lateral flange portions that have different lengths. That is how the vertical flange is 'off-centre'. The cover element is formed such, that it engages onto the longer lateral second flange portion and the vertical first flange portion. The length of the second flange portion is l_1 , and that of the third flange portion is l_2 , which is smaller than l_1 by a length l_3 , so $l_1 = l_2 + l_3$. The cover element provides a space in which the cabling can be accommodated. As the cover element engages onto the longer second flange portion, its length will seem optically smaller than l_1 .

[0011] Supporting beam assemblies for mounting seating elements are known, such as for instance described in CN201810949949.4. This is a supporting beam composed of several parts and having an inverted V-shape. Seating elements are mounted next to each other on the surfaces of the V-shape. Although one of the parts of this known supporting beam describes a T-profile having lateral flanges, both lateral flanges are equally long (so $l_1 = l_2$), and the seating elements are not mounted to the supporting beam by these flanges. Moreover, there is no cover element engaging onto the first and second flange portions of the supporting beam, and accommodation of cabling is not described. AU2007234466 describes a supporting beam having a round and oblique side onto which engagement means of seating elements engage. Accommodating cabling using a cover element is not described. WO2010/108474 discussed above, describes a square closed tubular beam in which cabling may be accommodated. The cabling is not accessible via a cover element

[0012] In a specific embodiment, the cover element is detachably mounted to the supporting beam. And it can be detached from the supporting beam without the seating elements having to be removed from the supporting beam. For that purpose, the engagement means of the seating elements with which the seating elements are mounted to the supporting beam are spaced apart from the edge portions of the cover element, so that the cover element can be freely removed from the supporting beam.

[0013] The cover element preferably comprises a first wall and a second wall connected thereto at an angle γ , which first and second walls extend substantially perpendicular to the longitudinal axis of the cover element parallel to each other, wherein the first wall is bounded along its length by the first edge portion and the second wall by the second edge portion. The cover element thus has the shape of an angle profile of which the free sides engage onto the supporting beam and in that way provides the space for the cabling. When angle γ traces an angle of 90° , the cover element in particular has the shape of an L-profile.

[0014] The second edge portion of the cover element preferably engages onto the second flange portion at a

distance l from the first flange portion, wherein said distance l corresponds to the third length l_3 . The cover element thus engages onto the lateral second flange portion at a length l_3 from the vertical first flange portion, so that a length l_2 is left for the lateral second flange portion, as a result of which it optically seems as if the lateral second flange has a length l_2 , just like the lateral third flange portion, and in that way suggests a symmetrical shape of the supporting beam assembly. To that end, the second wall of the cover element preferably runs substantially parallel to its first flange portion when being mounted to the supporting beam, so that said second wall of the cover element together with the first flange portion of the supporting beam suggests one single vertical flange having a thickness corresponding to the distance between the first flange portion and the second wall of the cover element (including its thickness).

[0015] In a specific embodiment, the first flange portion comprises several legs running parallel to each other which extend along the length of the supporting beam, wherein an intermediate space extending along the length of the supporting beam is formed between the two legs, wherein the intermediate space preferably comprises means for mounting the first edge portion of the cover element to the first flange portion of the supporting beam. The intermediate space of the legs of the first flange portion may for instance be formed such that a nut can be secured between the legs, so that the cover element can be mounted from below to the supporting beam by tightening a suitable bolt in said nut. That way the cover element can be removed without the seating elements needing to be removed from the supporting beam to do so. Other forms of connection such as for instance a clamping or snap connection are also possible.

[0016] In a specific embodiment the one or more hollow elements described above are mounted at the side of the second flange portion. The cabling is located at the side of the lateral second flange portion. As a result, passing the cabling from the space of the supporting beam assembly through the hollow elements is facilitated.

[0017] The invention also provides a supporting beam assembly as described herein. Such a supporting beam assembly is particularly suitable to be used in the waiting area seating furniture according to the invention.

[0018] The invention will be elucidated on the basis of the following drawings.

Figure 1 shows a piece of seating furniture having adjacently positioned detachable seats including connection means according to the invention.

Figure 2 is a cross-section/view of a part of a piece of seating furniture as shown in figure 1 in individual parts.

Figure 3 is a cross-section/view of a part of a piece of seating furniture as shown in figure 2 in assembled condition.

Figures 4 and 5 are cross-sections of a supporting beam assembly, wherein figure 4 shows the assem-

bly of supporting beam and cover element in disassembled condition, and figure 5 shows the same assembly in mounted condition.

Figure 6 is a cross-section of another embodiment of a supporting beam assembly.

[0019] In the figures the same reference numbers are used for the same parts. In figure 1 a piece of waiting area seating furniture 1 is shown, built up from individual seating elements 2, 3, 4. The seating elements have a seat 32, 33, 34 and a backrest 54. The front of the seating elements is bounded by a seat front edge 42, 43, 44. The seating elements are individually mounted to a supporting beam 10 so as to be detachable, to which supporting beam a number of hollow elements are mounted placed at a regular distance from each other, the hollow elements being configured as hollow tubes 36. The distance between the tubes 36 corresponds to the width of the seating elements 2, 3, 4 as a result of which a hollow tube extends below each seating element up to a few centimetres before the vertical tangent plane to the seat front edge 42, 43, 44. At the outer end of the hollow tubes 36 a socket 6 is placed, intended for connecting devices of the users of the seating furniture. Via the socket 6, the users are able to connect wanted devices to a source of electric power for in that way being able to use or recharge the devices in question. It is for instance also possible to provide a connection in that way for a network cable, for instance for obtaining a cabled connection to the internet.

[0020] The cabling required to that end can be accommodated in supporting beam 10, but can also be mounted to the supporting beam using means intended for that purpose for accommodating the cabling, such as a self-adhesive cable duct, tie wraps or cable clamps that are spaced apart from each other.

[0021] Figure 2 shows a cross-section/view of the longitudinal support supporting beam of the seating element as shown in figure 1, wherein the mounting of a hollow tube 36 to the supporting beam 10 in the individual parts is shown. The supporting beam 10 has a chamber 25 in which the cabling 50 can be accommodated, as shown in figure 3. With its outer end 41 that faces the supporting beam 10, the hollow tube 36 is connected to the supporting beam 10 via a coupling piece 39. For that purpose, the coupling piece 39 is secured to the supporting beam, around the lateral flanges 12 and 13 of the supporting beam 10 by means of a bolt 43 using end piece 42

[0022] In figure 3, the hollow element 36 is shown in assembled condition, wherein the coupling piece 39 in assembled condition together with the end piece 42 engages onto lateral flanges 12, 13 of the supporting beam 10. In the space 25 cabling 50 is present for transmitting, for instance, data or electricity, which cabling 50 is passed through the hollow tube 36. This can for instance be a copper or fibreglass cable. However, any cables intended for this purpose are suitable. At the location of the outer end 38 facing away from the supporting beam, the hollow tube 36 is provided with connection means for

transmitting data or power, such as for instance a socket for electricity, a USB connection or a network connection. The connection means are connected to the cabling and are intended for connecting devices of the users for transmitting data or power to said devices via the cabling. The cabling may comprise several cables and locally be interrupted by plugs. Examples of devices are for instance mobile telephones and portable computers.

[0023] The hollow tube 36 is placed below seating element 4 and the outer end 38 of hollow tube 36 extends to near the seat front edge 44 of the seat 34 of the seating element 4 which edge faces away from the backrest 54. The vertical tangent plane including the seat front edge 44 is indicated by X. The term "near" here means that the distance between the edge 44 of the seat 34 and the connection element 6 placed at the outer end 38 of the hollow tube 36, which distance is indicated by double arrow A, preferably is less than 15 cm, more preferably less than 10 cm and most preferably is between 0 and 6 cm from the edge, wherein said distance is measured from the outer end 38 of the hollow element 36 up to the vertical tangent plane X of the seat front edge 44. The outer end 38 preferably is located below the seat 34 and preferably does not extend beyond it thus minimising damage or filthiness. However, if so desired, it is possible to have the outer end 38 extend beyond the seat front edge 44, which may be of practical use for certain applications.

[0024] In figure 4, 10 indicates the supporting beam of figures 2 and 3, with a first flange portion 11 extending downwards in vertical direction, perpendicular to the axis of the supporting beam 10. The supporting beam 10 comprises a second flange portion 12, extending laterally at an angle α to the first flange portion 11. This second flange portion 12 extends along a length l_1 , measured perpendicular from the first flange portion 11 and perpendicular to the axis of the supporting beam 10. Supporting beam 10 furthermore comprises a third flange portion 13, extending laterally at an angle β to the first flange portion 11. This second flange portion 12 extends along a length l_2 , measured perpendicular from the first flange portion 11 and perpendicular to the axis of the supporting beam 10. The second flange portion 12 and third flange portion 13 extend on either side of the first flange portion 11. As length l_1 and length l_2 are given perpendicular to the first flange portion 11 said two lengths run parallel to each other. The second flange portion 12 and third flange portion 13 each form engagement means for a seating element. A seating element can be slid over the cam-shaped outer ends of the second and third flange portions 12, 13 and be mounted to the supporting beam 10. Length l_1 is larger than length l_2 , wherein the difference between both lengths is l_3 . This is shown in the figure, wherein l_2 equals l_2' . As the lengths l_1 and l_2 are different, the supporting beam 10 as such is not symmetric. The first flange portion 11 is situated 'off-centre' relative to the outer ends of the second flange portion 12 and the third flange portion 13. At a distance

of l_3 from the first flange portion 11 a groove 121 extending along the length of the second flange portion 12 is arranged in the second flange portion 12.

[0025] The first flange portion 11 comprises two legs 14, 15 running parallel to each other, the legs extending along the length of the supporting beam 10, between which legs 14, 15 an intermediate space 16 is formed. The supporting beam 10 may have more than two of such legs, as a result of which several intermediate spaces that run substantially parallel to each other are formed. A stop 17 is situated at the inside of both legs 14, 15. Such a stop 18 is also formed at the outer end of both legs 14 and 15. Between the stops 17 and 18 a nut can be secured that may serve to mount the cover element 20 to the supporting beam 10. To save on material and weight, a cavity 19 is situated in the interior of the supporting beam 10. The supporting beam 10 may for instance be manufactured of a metal or metal alloy, or a synthetic material. Such a supporting beam may for instance be formed using known extrusion techniques.

[0026] Cover element 20 has a length corresponding to the length of the supporting beam 10, and along its length the cover element 20 is bounded by a first edge portion 21, and a second edge portion 22 running parallel to each other. Cover element 20 has a first wall 23 and a second wall 24, that are connected to each other at an angle γ of 90° . Both walls 23 and 24 extend substantially perpendicular to the longitudinal axis of the cover element 20 and parallel to each other. The first wall 23 is bounded by edge portion 21 and the second wall 24 by edge portion 22.

[0027] In figure 5 the supporting beam assembly is shown in assembled condition, wherein the parts that have already been discussed are not referred to again. In the assembled condition, the outer end of the edge portion 22 of the second wall 24 engages onto groove 121 of the second flange portion 12 and is retained therein. As discussed in figure 4, between stops 17 and 18 a number of fastening elements, such as nut elements, can be placed in the interior space 16 along the length of the supporting beam 10, as a result of which the cover element 20 can be mounted to the supporting beam 10 by means of suitable bolts. However, it is also possible to mount the outer end of the edge portion 21 of the first wall 23 to the outer end of leg 15 of the first flange portion 11 by means of an adhesive strip. By mounting the cover element 20 to the supporting beam 10, a space 25 is formed, extending substantially along the length of the supporting beam 10, which space is bounded by both walls 23 and 24 of the cover element 20 and the first flange portion 11 and second flange portion 12. Advantageously, cabling for transmitting information and/or power, such as electricity, can be accommodated in this space 25.

[0028] In the mounted condition in this embodiment, the second wall 24 of the cover element 20 runs parallel to the first flange portion 11. The supporting beam assembly thus formed has an attractive symmetrical shape.

This is caused by the second edge portion 22 of the cover element 20 engaging onto the second flange portion 12 at a distance l from the first flange portion 11, wherein said distance l corresponds to the third length l_3 . That is why the second flange portion 12 seems to extend equally far from the centre of the supporting beam assembly as the third flange portion does.

[0029] In figure 6, an alternative, simple embodiment of the supporting beam assembly is shown in assembled condition, wherein for corresponding parts the same reference numbers as in figures 1 and 2 have been used. For instance, the supporting beam 10 has a first flange portion 11, a second flange portion 12 and a third flange portion 13. A cover element 20 having a first wall 23 and a second wall 24 is mounted to the supporting beam 10, as a result of which space 25 is formed. The outer end of edge portion 22 of the second wall 24 of the cover element 20 engages onto the second flange portion 12 at a distance l_3 from the first flange portion 11.

Claims

1. Waiting area seating furniture (1) having one or more adjacently situated seating elements (2, 3, 4), comprising a seat (32, 33, 34), each of them bounded at their front by a seat front edge (42, 43, 44), which seating elements are adapted for having several users sitting down next to each other, wherein the seating furniture comprises a supporting beam (10) on which the one or more seating elements (2, 3, 4) are individually mounted so as to be detachable, wherein the supporting beam (10) extends transverse to the intended seating direction of the users, wherein the supporting beam (10) comprises means for accommodating cabling (50) for transmitting information and/or power which cabling extends along the length of the supporting beam (10), wherein near at least one of the one or more seating elements (2, 3, 4) connection means (6) are positioned that are connected to the cabling (50) and are intended for connecting devices of the users for transmitting data or power to said devices via the cabling (50), **characterized in that** the connection means (6) are each time positioned below the seat (32, 33, 34) near its seat front edge (42, 43, 44).
2. Waiting area seating furniture (1) according to claim 1, **characterized in that** the connection means (6) are located below the seat (32, 33, 34) and are located at a distance of 0 - 15 cm from the vertical tangent plane (X) of the seat front edge (42, 43, 44).
3. Waiting area seating furniture (1) according to claims 1 or 2, wherein the adjacent seating elements (2, 3, 4) are borne by one single supporting beam (10).
4. Waiting area seating furniture (1) according to any

one of the preceding claims, **characterized in that** the supporting beam (10) is configured as a T-profile.

5. Waiting area seating furniture (1) according to any one of the preceding claims, **characterized in that** the supporting beam (10) comprises a cavity (25) in which the cabling (50) is accommodated. 5
6. Waiting area seating furniture (1) according to any one of the preceding claims, **characterized in that** one or more hollow elements (36) for accommodating the cabling (50) that are each time positioned below a seat are mounted to the supporting beam (10), which hollow elements (36) extend substantially perpendicular to the supporting beam (10) to near the seat front edge (42, 43, 44) of the seating element (2, 3, 4) in question, wherein the connection means (6) are positioned at the outer end (38) of the hollow elements (36). 10 15 20
7. Waiting area seating furniture (1) according to claim 5, **characterized in that** a number of hollow elements (36) are mounted to the supporting beam (10) at a regular distance relative to each other, which regular distance preferably corresponds to the width of the individual seating elements (2, 3, 4) mounted to the supporting beam (10). 25
8. Waiting area seating furniture (1) according to any one of the preceding claims, **characterized in that** the waiting area seating furniture (1) comprises a supporting beam assembly, which supporting beam assembly comprises the supporting beam (10) and a cover element (20), 30 35
 - a. which supporting beam (10) comprises:
 - i. a first flange portion (11) extending along the length of the supporting beam (10) perpendicular to the axis of the supporting beam (10); 40
 - ii. a second flange portion (12) extending along the length of the supporting beam (10) at a first angle (α) to the first flange portion (11) at a first length (l_1), measured perpendicular from the first flange portion (11), and extending perpendicular to the axis of the supporting beam (10); 45
 - iii. a third flange portion (13) extending along the length of the supporting beam (10) at a second angle (β) to the first flange portion (11) at a second length (l_2), measured perpendicular from the first flange portion (11), and extending perpendicular to the axis of the supporting beam (10), such that the second and third flange portions (12, 13) are located on either side of the first flange portion (11) and the first length (l_1) and second

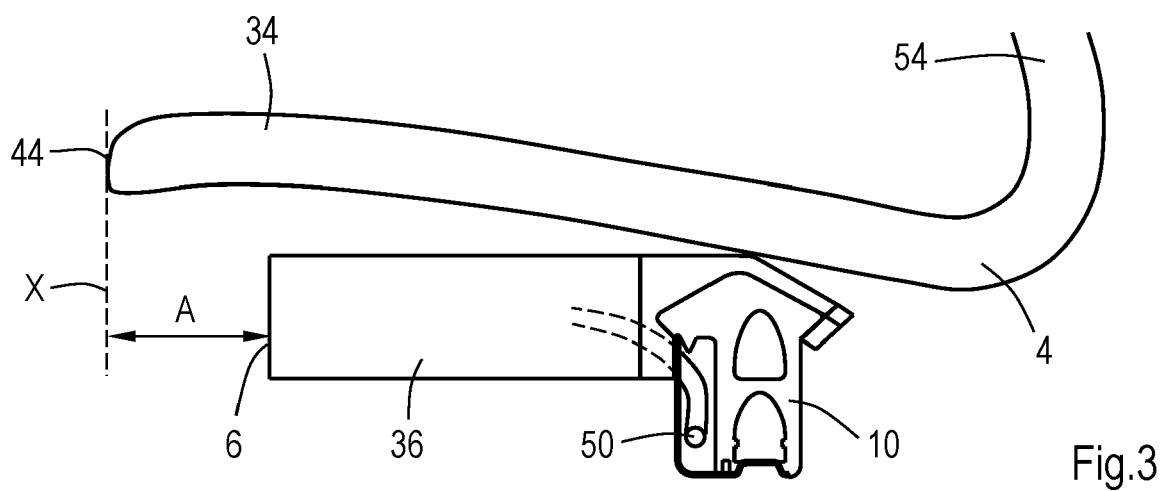
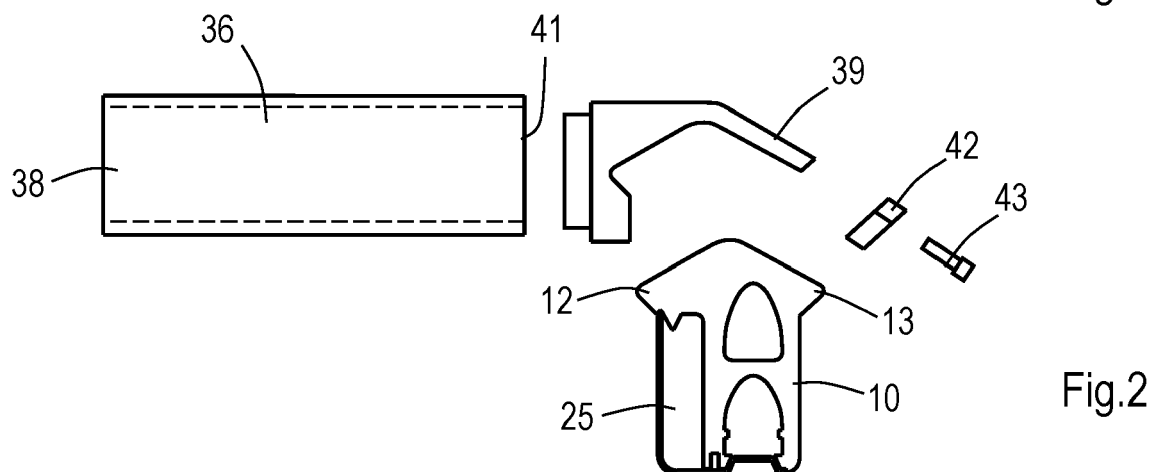
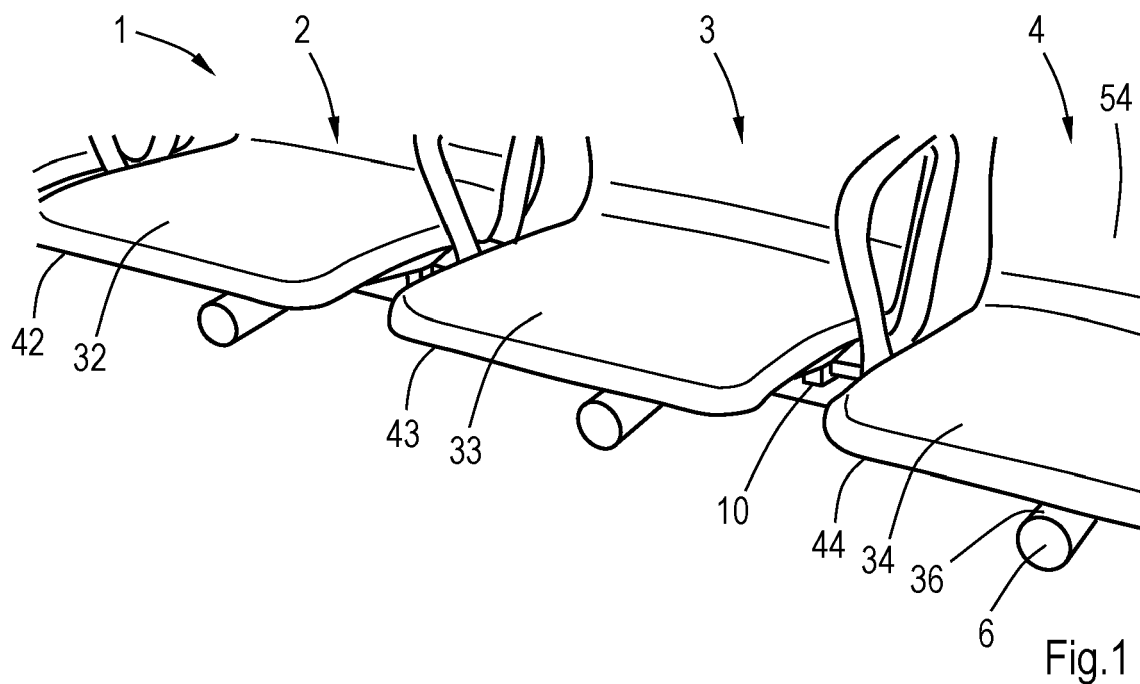
length (l_2) run parallel to each other, wherein the second and third flange portions (12, 13) form engagement means for detachably mounting the one or more seating elements (2, 3, 4) to the supporting beam assembly, wherein the first length (l_1) is larger than the second length (l_2) by a third length (l_3) so that $l_1 = l_2 + l_3$.

b. which cover element (20) has a length that substantially corresponds to the length of the supporting beam (10) wherein the cover element (20) is bounded along its length by a first edge portion (21) and a second edge portion (22) running substantially parallel thereto, wherein the cover element (20) is adapted to be mounted to the supporting beam (10), and upon mounting extends along the length of the supporting beam (10) wherein the cover element (20) with its first edge portion (21) engages onto the first flange portion (11) of the supporting beam (10), and with its second edge portion (22) engages onto the second flange portion (12) of the supporting beam, such that upon mounting the cover element (20) to the supporting beam (10) a space (25) is formed, extending substantially along the length of the supporting beam (10), which space is bounded by the cover element (20) and the first and second flange portions (11, 12) of the supporting beam (10) and which space (25) houses the cabling (50).

9. Waiting area seating furniture (1) according to claim 8, **characterized in that** the cover element (20) is detachably mounted to the supporting beam (10). 35
10. Waiting area seating furniture (1) according to claim 8 or 9, **characterized in that** the cover element (20) comprises a first wall (23) and a second wall (24) connected thereto at an angle (γ), which first and second walls (23, 24) extend substantially perpendicular to the longitudinal axis of the cover element (20) parallel to each other, wherein the first wall (23) is bounded along its length by the first edge portion (21) and the second wall (24) by the second edge portion (22). 40 45
11. Waiting area seating furniture (1) according to any one of the claims 8 - 10, **characterized in that** the second edge portion (22) of the cover element (20) engages onto the second flange portion (12) at a distance l from the first flange portion (11), wherein said distance l corresponds to the third length (l_3). 50
12. Waiting area seating furniture (1) according to claim 10 or 11, **characterized in that** upon mounting to the supporting beam (10), the second wall (24) of the cover element (20) runs substantially parallel to 55

its first flange portion (11).

13. Waiting area seating furniture (1) according to any one of the claims 9 - 13, **characterized in that** the first flange portion (11) comprises several legs (14, 15) running parallel to each other which extend along the length of the supporting beam (10), wherein between the two legs (14, 15) an intermediate space (16) extending along the length of the supporting beam (10) is formed, wherein the intermediate space (16) preferably comprises means (17, 18) for mounting the first edge portion (21) of the cover element (20) to the first flange portion (11) of the supporting beam (10).
14. Waiting area seating furniture according to any one of the claims 9 - 14, **characterized in that** the one or more hollow elements (50) are mounted at the side of the second flange portion (12).
15. Supporting beam assembly as defined in any one of the claims 8 - 14.



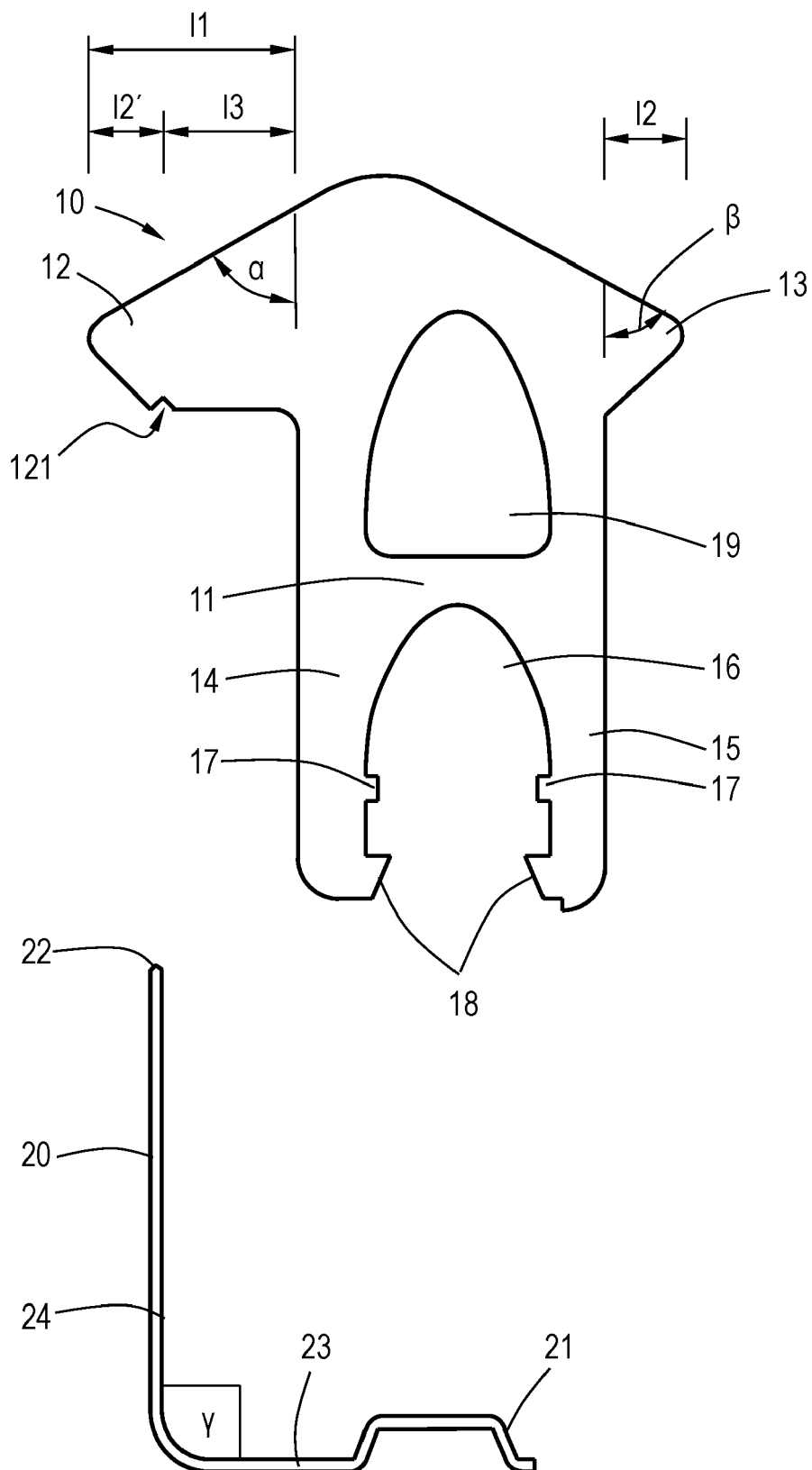


Fig.4

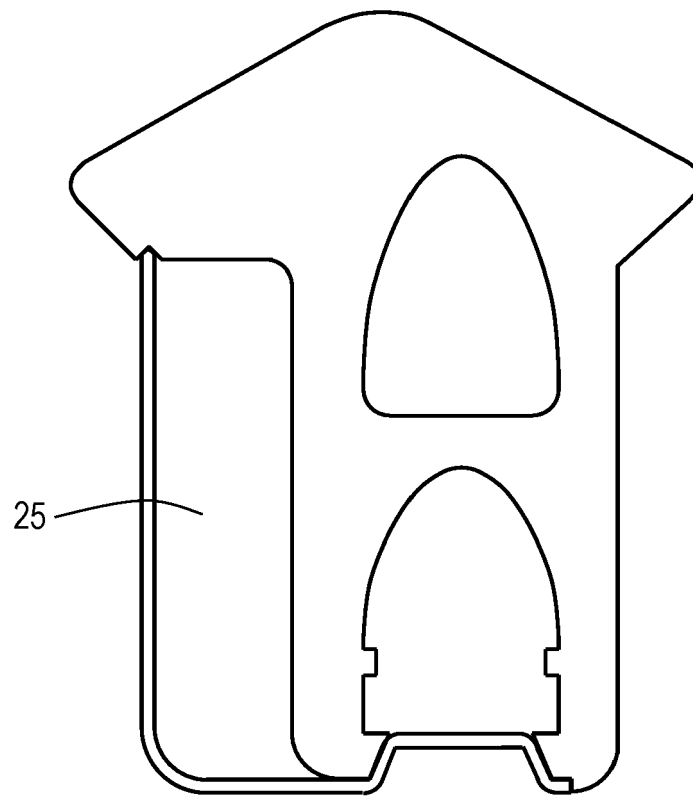


Fig.5

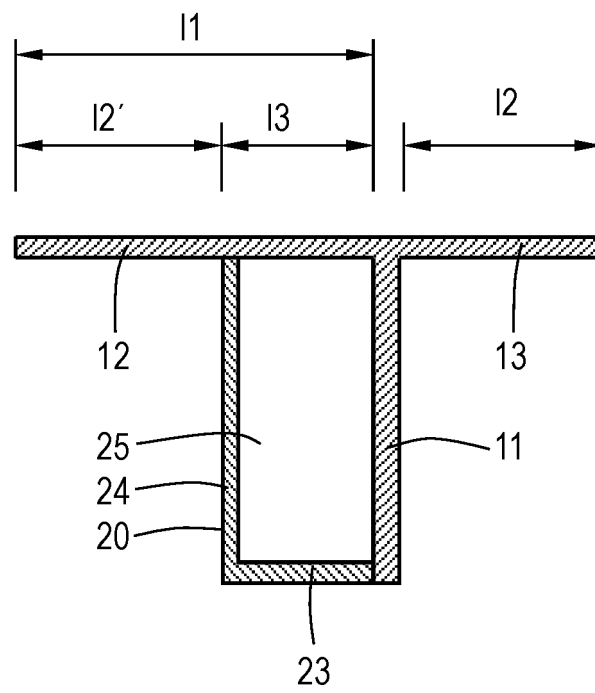


Fig.6



EUROPEAN SEARCH REPORT

 Application Number
 EP 20 16 0367

5

10

15

20

25

30

35

40

45

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	JP 2016 002431 A (OKAMURA CORP) 12 January 2016 (2016-01-12)	1-3,5-7, 15	INV. A47C7/72
Y	* paragraph [0022] - paragraph [0082]; figures 1-8 *	4,8-14	A47C11/00 H02J7/00 H01R13/00
X	US 6 683 394 B1 (GEVAERT STEVEN C [US]) 27 January 2004 (2004-01-27)	1-3,6,7, 15	
Y	* column 4, line 13 - column 11, line 67; figures 1-19 *	4,8-14	
X	CN 208 301 339 U (FOSHAN YIJIAHAO METAL PRODUCTS CO LTD) 1 January 2019 (2019-01-01)	1-3,5-7, 15	
Y	* paragraph [0015] - paragraph [0020]; figures 1,2 *	1-7,15	
Y	CN 108 354 371 A (GUANGZHOU XIAOXIANG TECH CO LTD) 3 August 2018 (2018-08-03) * figures 1,5,6,9 *	1-7,15	
Y	WO 2010/108474 A1 (BRUNNER GMBH [DE]; BRUNNER MARC [DE]) 30 September 2010 (2010-09-30) * page 4, line 13 - page 11, line 34; figures 1-6 *	1-7,15	TECHNICAL FIELDS SEARCHED (IPC) A47C H02J H01R
Y	CN 108 903 429 A (CHANG CHONG TECH BEIJING CO LTD) 30 November 2018 (2018-11-30) * paragraph [0053] - paragraph [0017]; figures 1-13 *	4,8-14	
Y	AU 2007 234 466 A1 (CAMATIC PTY LTD) 29 November 2007 (2007-11-29) * page 3, line 17 - page 15, line 18; figures 1-13 *	4,8-14	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 11 June 2020	Examiner Kus, Slawomir
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

2

50

55

EPO FORM 1503 03.82 (P04C01)

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

EP 20 16 0367

5

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

11-06-2020

10

15

20

25

30

35

40

45

50

55

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2016002431 A	12-01-2016	CN 105310331 A	10-02-2016
		JP 6478373 B2	06-03-2019
		JP 2016002431 A	12-01-2016
US 6683394 B1	27-01-2004	CA 2322095 A1	20-04-2001
		MX PA00009917 A	04-11-2002
		US 6683394 B1	27-01-2004
		US 2004095019 A1	20-05-2004
CN 208301339 U	01-01-2019	NONE	
CN 108354371 A	03-08-2018	NONE	
WO 2010108474 A1	30-09-2010	DE 102009014083 A1	30-09-2010
		EP 2410891 A1	01-02-2012
		WO 2010108474 A1	30-09-2010
CN 108903429 A	30-11-2018	NONE	
AU 2007234466 A1	29-11-2007	NONE	

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- US 3226071 A [0002]
- US 6683394 B [0003]
- JP 2016002431 A [0003] [0005]
- CN 201810949949 [0011]
- AU 2007234466 [0011]
- WO 2010108474 A [0011]