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(54) **ARMCHAIR FOR MULTI-USE ROOMS, CONFERENCE ROOMS OR CLASSROOMS**

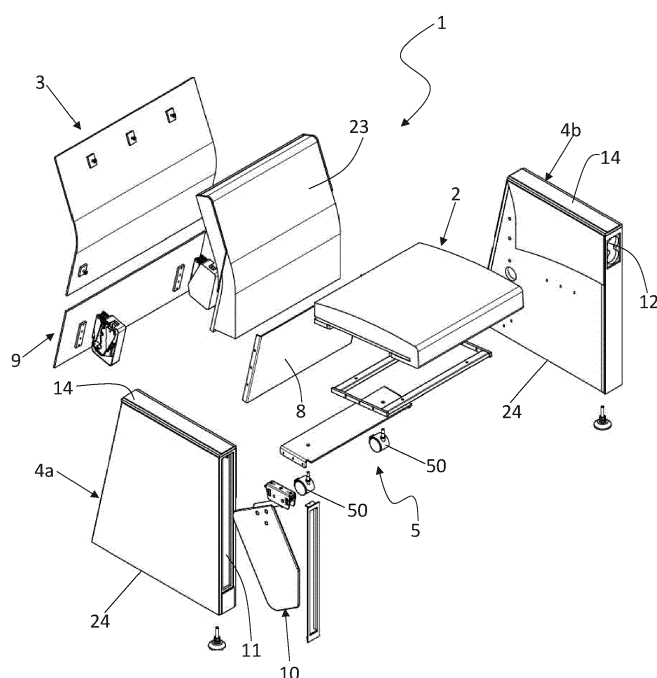
(57) An armchair (1) for use in multi-use rooms, conference rooms or classrooms, comprising:

- a seat (2);
- a back (3);
- two sides (4a, 4b) situated on sides opposite the seat (2) and back (3) assembly, said sides (4a, 4b) and said back (3) extending substantially to near a rest surface

(T) of the armchair (1) and being arranged so as to create a single structure that envelops said seat (2), i.e. spans the seat (2), each side (4a, 4b) having an upper portion (14) defining an arm and a lower portion (24) having rest means (5) on said surface (T);

- at least one supply battery (6) arranged in a protected chamber (7) obtained inside the armchair (1).

FIG. 5



Description

[0001] The present invention relates to an armchair for multi-use rooms, conference rooms or classrooms.

[0002] In this context, a "pozzetto" armchair is defined as a type of armchair in which the seat is bounded by a back and by two sides that extend substantially as far as the ground (apart from feet or resting wheels). The upper part of the sides defines the zone of the arms.

[0003] The back and the sides can be distinct components but shaped and arranged so as to give rise to a single structure that spans the seat so as to make the seat more enveloping.

[0004] It is also envisaged that the back and the sides are made as a single square or curved block that spans the seat.

[0005] Different models are known of pozzetto armchairs for use in conference rooms, university classrooms or multi-use rooms.

[0006] The armchairs are organized in rows, so that each armchair is constrained in a fixed manner inside the row to which the armchair belongs. They are electrically powered armchairs connected to a power supply of the room.

[0007] In the field, the need is felt to easily and quickly free rooms to use them for other needs. There is also the need to modify the configuration of the armchairs, which is not possible with the solutions known until today.

[0008] In this context, the technical task at the basis of the present invention is to propose an armchair for multi-use rooms, conference rooms or classrooms that overcomes the drawbacks of the aforesaid prior art.

[0009] In particular, the object of the present invention is to make available an armchair for multi-use rooms, conference rooms or classrooms that adapts to different conditions of use without compromising the typical compactness of this type of seat.

[0010] The defined technical task and the specified objects are substantially reached by an armchair for multi-use rooms, conference rooms or classrooms, comprising:

- a seat, fixed or flippable;
- a back;
- two sides situated on sides opposite the seat and back assembly, in which the sides and back extend substantially as far as near a rest surface of the armchair and are arranged so as to create a single structure that envelops the seat, i.e. spans the seat, and in which each side has an upper portion defining an arm and a lower portion having rest means on the surface;
- at least one supply battery arranged in a protected chamber obtained inside the armchair.

[0011] Preferably, the supply battery is a rechargeable lithium battery.

[0012] According to one aspect of the invention, the

chamber is obtained below the back.

[0013] According to one embodiment, the armchair further comprises a buffer panel that extends below the seat and extends in a direction moving away from the seat.

[0014] In particular, the chamber is bounded by the sides, by the buffer panel and by a cover element situated below the back.

[0015] Preferably, the cover element is configurable in at least one first position in which the cover element is arranged to protect the chamber, preventing access thereto, and in a second position in which the cover element makes the chamber accessible.

[0016] Preferably, the cover element is substantially flush with the back when it is in the first position.

[0017] For example, the cover element consists of a door for hinged on the sides. In another example, the cover element consists of a door hinged on a lower end of the back.

[0018] In another example, the cover element consists of a door slidably mounted to the back.

[0019] According to one embodiment, the rest means of each side comprises at least one wheel hinged on the lower portion of the corresponding side.

[0020] Preferably, the rest means of each side comprises a further wheel hinged on the lower portion of the corresponding side. The wheel and the further wheel are hinged in opposite zones of the lower portion.

[0021] Preferably, the rest means further comprises a fixed support placed near each wheel.

[0022] Each wheel is operationally connected to elastic means to cushion the descent of the armchair in the event of the user sitting on the seat.

[0023] According to another embodiment, the rest means of each side further comprises a fixed support constrained on the lower portion of the corresponding side. The wheel and the fixed support are hinged in opposite zones of the lower portion.

[0024] According to one aspect of the invention, the armchair can further comprise a flippable table.

[0025] Further features and advantages of the present invention will become clearer from the description, which is illustrative and accordingly not limiting of a preferred but non-exclusive embodiment of an armchair for use in multi-use rooms, conference rooms or classrooms, as illustrated in the attached drawings, in which:

- figures 1 and 2 illustrate an embodiment of an armchair for multi-use rooms, conference rooms or classrooms, according to the present invention, in two different versions (without and with flippable table);
- figures 3 and 4 illustrate another embodiment of an armchair for multi-use rooms, conference rooms or classrooms, according to the present invention, in two different versions (without and with flippable table);
- figure 5 illustrates an exploded view of figure 4.

[0026] With reference to the figures, number 1 indicates an armchair for multi-use rooms, conference rooms or university classrooms.

[0027] The armchair 1 comprises a seat 2 and a back 3.

[0028] The seat 2 is preferably fixed, but can also be flippable.

[0029] The armchair 1 further comprises two sides 4a, 4b that are situated on opposite sides with respect to the assembly constituted by the seat 2 and by the back 3.

[0030] Preferably, the back 3 is constrained on the sides 4a, 4b.

[0031] Both the sides 4a, 4b and the back 3 extend substantially as far as near a rest surface T of the armchair 1, for example as far as the floor.

[0032] The sides 4a, 4b and the back 3 are shaped and arranged in such a manner as to create a single structure that encompasses the seat 2. In other words, the sides 4a, 4b and the back 3 span the seat 2.

[0033] Each side 4a, 4b has an upper portion 14 defining an arm and a lower portion 24 having rest means 5 on the surface T.

[0034] In particular, the armchair 1 is a pozzetto armchair.

[0035] In the embodiment disclosed and illustrated herein, the two sides 4a, 4b have a substantially planar extent and are parallel to one another.

[0036] Advantageously, in the armchair 1 a protected chamber 7 is obtained inside which at least one supply battery 6 is housed.

[0037] For example, the supply battery 6 is a rechargeable lithium battery.

[0038] According to one aspect of the invention, the chamber 7 is obtained below the back 3.

[0039] According to one embodiment, the armchair 1 has a buffer panel 8 that extends below the seat 2 and extends in a direction moving away from the seat 2 itself. In particular, as is seen from the figures, the buffer panel 8 extends substantially as far as near the rest surface T.

[0040] The chamber 7 is preferably bounded by the sides 4a, 4b, by the buffer panel 8 and by a cover element 9 situated below the back 3.

[0041] In particular, the cover element 9 is configurable in at least:

- a first position in which it is arranged to protect the chamber 7 preventing access thereto, as illustrated for example in figure 3, and
- in a second position in which it makes the chamber 7 accessible, as illustrated for example in figure 4.

[0042] According to one aspect of the invention, when the cover element 9 takes up the first position, it is substantially flush with the back 3.

[0043] According to one embodiment, the cover element 9 consists of a door hinged on the sides 4a, 4b. Preferably, the transition from the first to the second position occurs by rotating the door 9 downwards, on the other hand the transition from the second to the first po-

sition occurs by rotating the door 9 upwards.

[0044] According to another embodiment, the cover element 9 consists of a door hinged on a lower end of the back 3. Preferably, the transition from the first to the second position occurs by rotating the door 9 upwards, vice versa the transition from the second to the first position occurs by rotating the door 9 downwards.

[0045] According to another embodiment, the cover element 9 consists of a door fitted slidably to the back 3. Preferably, the transition from the first to the second position and vice versa occurs by sliding the door 9 laterally.

[0046] According to another embodiment, the cover element 9 is of the "roller shutter" type.

[0047] According to one aspect of the invention, the cover element 9 is provided with locking means, for example a lock or a padlock or the like. In this manner, the user of the armchair 1 is prevented from being able to access the supply battery 6 when the chamber 7 is shut, i.e. when the cover element 9 is in the first position. Access to the chamber 7 is generally permitted to persons assigned to replacing and/or maintaining the supply battery 6.

[0048] Preferably, the supply battery 6 is located inside a box or case arranged in the chamber 7.

[0049] For each side 4a, 4b, the rest means 5 comprises at least one wheel 50 hinged on the lower portion 24 of the side 4a, 4b.

[0050] According to one embodiment, illustrated in figures 1-2, each side 4a, 4b comprises two wheels 50, 51, hinged respectively in a rear zone and in a forward (i.e. front) zone of the lower portion 24 of the side 4a, 4b.

[0051] Preferably, near each wheel 50, 51 a fixed support 60, 61 (for example a foot) is located.

[0052] In particular, for each side 4a, 4b one foot 60 is located constrained on the rear zone and the other foot 61 is located constrained on the forward zone of the lower portion 24 of the side 4a, 4b.

[0053] The prevalence of wheels or feet is defined by elastic means 20 operationally connected to each of the wheels 50, 51, in function of the sitting session of the user.

[0054] In particular, the wheels 50, 51 are always resting on the rest surface T (i.e. they do not rise up) but when the user sits down also the feet 60, 61 rest on the rest surface T and maintain the armchair 1 stationary. In practice, with the user sitting, the feet 60, 61 prevail on the wheels 50, 51, which thus remain locked. The elastic means 20 is used to "cushion" the descent of the armchair 1 when the user sits down and to permit the gradual reascent of the armchair 1 and of the feet 60, 61 when the user stands up. The wheels 50, 51, as said, always remain on the rest surface T.

[0055] In this manner, the armchair 1 remains substantially fixed in position.

[0056] When the user stands up, so that the armchair 1 is not in use, the wheels 50, 51 are lowered to rest on the rest surface T, whilst the feet 60, 61 are raised. In this manner, the armchair 1 can be easily moved in the room.

[0057] According to one aspect of the invention, each wheel 50, 51 can be provided with a braking element.

[0058] According to another embodiment, illustrated in figures 3-4, each side 4a, 4b comprises a wheel 50 and a fixed support 61 (for example one foot), hinged respectively in a rear zone and in a forward (i.e. front) zone of the lower portion 24 of the side 4a, 4b.

[0059] In this manner, the feet 61 ensure the armchair 1 remains fixed in position, whereas the presence of the wheels 50 enables the armchair 1 to be moved once it is raised to the zone of the feet 61.

[0060] Preferably, the armchair 1 comprises a handle (not illustrated), preferably placed below the seat 2. In this manner, the user can easily grasp the armchair 1 to lift it by the side of the feet 61 and move the armchair 1 inside the room, by making the armchair 1 run on the wheels 50.

[0061] According to one aspect of the invention, the armchair 1 also comprises a flippable table 10.

[0062] In the embodiment disclosed and illustrated herein, the table 10 can be folded away.

[0063] In particular, the table 10 is hinged internally to one of the two sides, for example a first side 4a. In particular, when it is not in use, the table 10 remains completely inside a housing 11 obtained in the first side 4a. When the table has to be used, the user extracts the table 10 from the housing 11 by rotating the table owing to the hinge thereof.

[0064] According to one aspect of the invention, one of the two sides houses a plurality of connections for electric sockets and audiovisual devices (e.g. USB ports, connector for microphone or for headphones, etc), indicated overall by number 12.

[0065] According to the embodiment disclosed and illustrated herein, these connectors 12 are positioned near the upper portion 14 of a second side 4b, opposite the first side 4a that has the table 10.

[0066] Preferably, one part of the connectors 12 is located on the arm and one part of the connectors 12 is located on an upper front area of the second side 4b.

[0067] According to one embodiment, the back 3 is made of aluminium. Alternatively, the back 3 can be made of wood or of a multilayered laminate.

[0068] The back 3 can be also be made of a combination of different materials. In particular, the back 3 can be made of different layers, each of which is made of materials listed above.

[0069] According to the embodiment disclosed and illustrated herein, a padding 13 is applied to the back 3, the padding 13 being covered with a covering.

[0070] For example, the padding 13 is made of expanded polyurethane, whilst the covering is made of leather, synthetic leather or fabric.

[0071] According to one embodiment, the seat 2 and the sides 4a, 4b are made of wood.

[0072] Alternatively, the seat 2 can have a multilayer or steel core, then be padded and covered.

[0073] The chamber 7 housing the supply battery 6

could also be obtained in other inner zones of the armchair 1. For example, the chamber 7 could be located below the seat 2, in particular the chamber 7 could be accessible from the front. Alternatively, the chamber 7 could be obtained in one of the two sides 4a, 4b.

[0074] From the description given, the features are clear of the armchair for use in multi-use rooms, conference rooms or classrooms, according to the present invention, as are the advantages thereof.

[0075] In particular, as the supply battery is in a chamber obtained in the armchair, the latter can be shifted flexibly inside a room or from one environment to another because there is no need to be near electric supply sockets. In fact, there has been a transition from a traditional electrified armchair to an armchair that, having a battery, becomes completely independent from the point of view of the electric supply.

[0076] The presence of wheels moreover enables the armchair proposed herein to be moved easily, which can thus take on different configurations according to specific needs. For example, let the need be considered to free easily an auditorium or set up groups of armchairs to promote group activities or make rows having different curves.

[0077] The proposed solution is particularly appreciated for compactness as the supply battery is not applied outside the armchair, but in a housing obtained in the armchair.

[0078] The specific location of the battery in the housing below the back, in a position that is hidden and not easily accessible by the user, also meets a safety need.

[0079] Further the aesthetic impact of the armchair is not diminished by the fact that the armchair includes the supply battery owing to the fact that the housing is protected by the cover element, which is substantially "flush" with the back.

[0080] The use of a rechargeable lithium battery further permits rapid replacement. It is in fact easy to set up areas in conference rooms that are dedicated to containing reserve batteries.

Claims

1. An armchair (1) for use in multi-use rooms, conference rooms or classrooms, comprising:
 - a seat (2);
 - a back (3);
 - two sides (4a, 4b) situated on sides opposite the seat (2) and back (3) assembly, said sides (4a, 4b) and said back (3) extending substantially to near a rest surface (T) of the armchair (1) and being arranged so as to create a single structure that envelops said seat (2), i.e. spans the seat (2), each side (4a, 4b) having an upper portion (14) defining an arm and a lower portion (24) having rest means (5) on said surface (T);

- at least one supply battery (6) arranged in a protected chamber (7) obtained inside the armchair (1).
- 2. The armchair (1) according to any of the preceding claims, wherein said at least one supply battery (6) is a rechargeable lithium battery.
- 3. The armchair (1) according to claim 1 or 2, wherein said chamber (7) is obtained below said back (3).
- 4. The armchair (1) according to claim 3, further comprising a buffer panel (8) that extends below the seat (2) and extends in a direction moving away from said seat (2), said chamber (7) being bounded by the sides (4a, 4b), by the buffer panel (8) and by a cover element (9) situated below the back (3).
- 5. The armchair (1) according to claim 4, wherein said cover element (9) is configurable in at least one first position in which said cover element (9) is arranged to protect the chamber (7) preventing access thereto, and in a second position in which said cover element (9) makes said chamber (7) accessible.
- 6. The armchair (1) according to claim 5, wherein said cover element (9) is substantially flush with said back (3) when situated in the first position.
- 7. The armchair (1) according to any one of claims 4 to 6, wherein said cover element (9) consists of a door hinged on said sides (4a, 4b).
- 8. The armchair (1) according to any one of claims 4 to 6, wherein said cover element (9) consists of a door hinged on a lower end of the back (3).
- 9. The armchair (1) according to any one of claims 4 to 6, wherein said cover element (9) consists of a door fitted slidably to the back (3).
- 10. The armchair (1) according to any of the preceding claims, wherein the rest means (5) of each side (4a, 4b) comprises at least one wheel (50) hinged on the lower portion (24) of the corresponding side (4a, 4b).
- 11. The armchair (1) according to claim 10, wherein the rest means (5) of each side (4a, 4b) comprises a further wheel (51) hinged on the lower portion (24) of the corresponding side (4a, 4b), said wheel (50) and said further wheel (51) being hinged in opposite zones of said lower portion (24).
- 12. The armchair (1) according to claim 11, wherein the rest means (5) further comprises a fixed support (60, 61) placed near each wheel (50, 51), each wheel (50, 51) being operationally connected to elastic means (20) to cushion the descent of the armchair

(1) in the event of the user sitting on said seat (2).

- 13. The armchair (1) according to claim 10, wherein the rest means (5) of each side (4a, 4b) further comprises a fixed support (61) constrained on the lower portion (24) of the corresponding side (4a, 4b), said wheel (50) and said fixed support (61) being hinged in opposite zones of said lower portion (24).
- 14. The armchair (1) according to any of the preceding claims, wherein said seat (2) is fixed or flippable.
- 15. The armchair (1) according to any of the preceding claims, further comprising a flippable table (10).

Amended claims in accordance with Rule 137(2) EPC.

- 1. A pozzetto armchair (1) for use in multi-use rooms, conference rooms or classrooms, comprising:
 - a seat (2);
 - a back (3);
 - two sides (4a, 4b) situated on sides opposite the seat (2) and back (3) assembly, said sides (4a, 4b) and said back (3) extending substantially as far as the floor and being arranged so as to create a single structure that envelops said seat (2), i.e. spans the seat (2), each side (4a, 4b) having an upper portion (14) defining an arm and a lower portion (24) having rest means (5) on said surface (T), said sides (4a, 4b) having a substantially planar extent and being parallel to one another;
 - at least one supply battery (6) arranged in a protected chamber (7) obtained inside the armchair (1), said chamber (7) being obtained below said back (3);
 - a buffer panel (8) that extends below the seat (2) and extends in a direction moving away from said seat (2), said chamber (7) being bounded by the sides (4a, 4b), by the buffer panel (8) and by a cover element (9) situated below the back (3).
- 2. The armchair (1) according to any of the preceding claims, wherein said at least one supply battery (6) is a rechargeable lithium battery.
- 3. The armchair (1) according to claim 1, wherein said cover element (9) is configurable in at least one first position in which said cover element (9) is arranged to protect the chamber (7) preventing access thereto, and in a second position in which said cover element (9) makes said chamber (7) accessible.
- 4. The armchair (1) according to claim 3, wherein said cover element (9) is substantially flush with said back (3) when situated in the first position.

5. The armchair (1) according to any one of claims 1 to 4, wherein said cover element (9) consists of a door hinged on said sides (4a, 4b).
6. The armchair (1) according to any one of claims 1 to 4, wherein said cover element (9) consists of a door hinged on a lower end of the back (3). 5
7. The armchair (1) according to any one of claims 1 to 4, wherein said cover element (9) consists of a door fitted slidably to the back (3). 10
8. The armchair (1) according to any of the preceding claims, wherein the rest means (5) of each side (4a, 4b) comprises at least one wheel (50) hinged on the lower portion (24) of the corresponding side (4a, 4b). 15
9. The armchair (1) according to claim 8, wherein the rest means (5) of each side (4a, 4b) comprises a further wheel (51) hinged on the lower portion (24) of the corresponding side (4a, 4b), said wheel (50) and said further wheel (51) being hinged in opposite zones of said lower portion (24). 20
10. The armchair (1) according to claim 9, wherein the rest means (5) further comprises a fixed support (60, 61) placed near each wheel (50, 51), each wheel (50, 51) being operationally connected to elastic means (20) to cushion the descent of the armchair (1) in the event of the user sitting on said seat (2). 25
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11. The armchair (1) according to claim 8, wherein the rest means (5) of each side (4a, 4b) further comprises a fixed support (61) constrained on the lower portion (24) of the corresponding side (4a, 4b), said wheel (50) and said fixed support (61) being hinged in opposite zones of said lower portion (24). 35
12. The armchair (1) according to any of the preceding claims, wherein said seat (2) is fixed or flippable. 40
13. The armchair (1) according to any of the preceding claims, further comprising a flippable table (10). 45

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FIG. 1

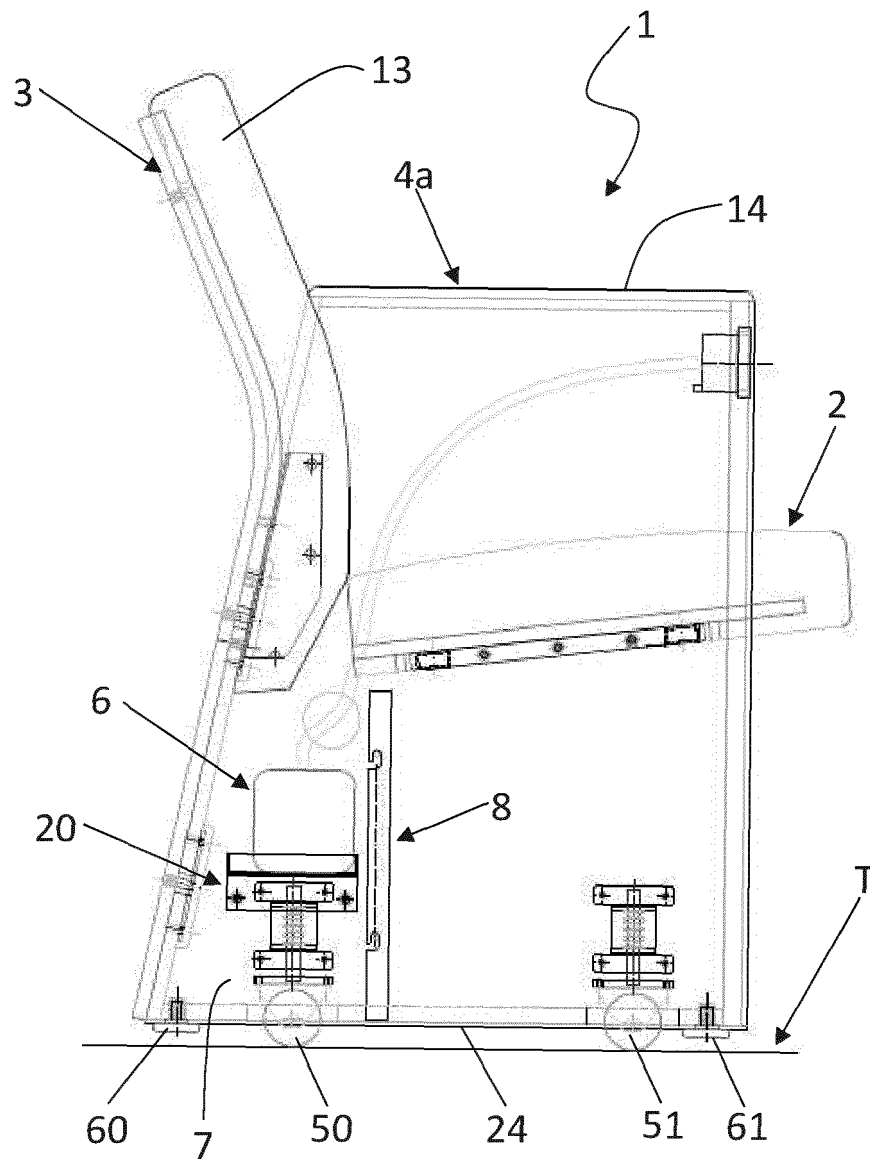


FIG. 2

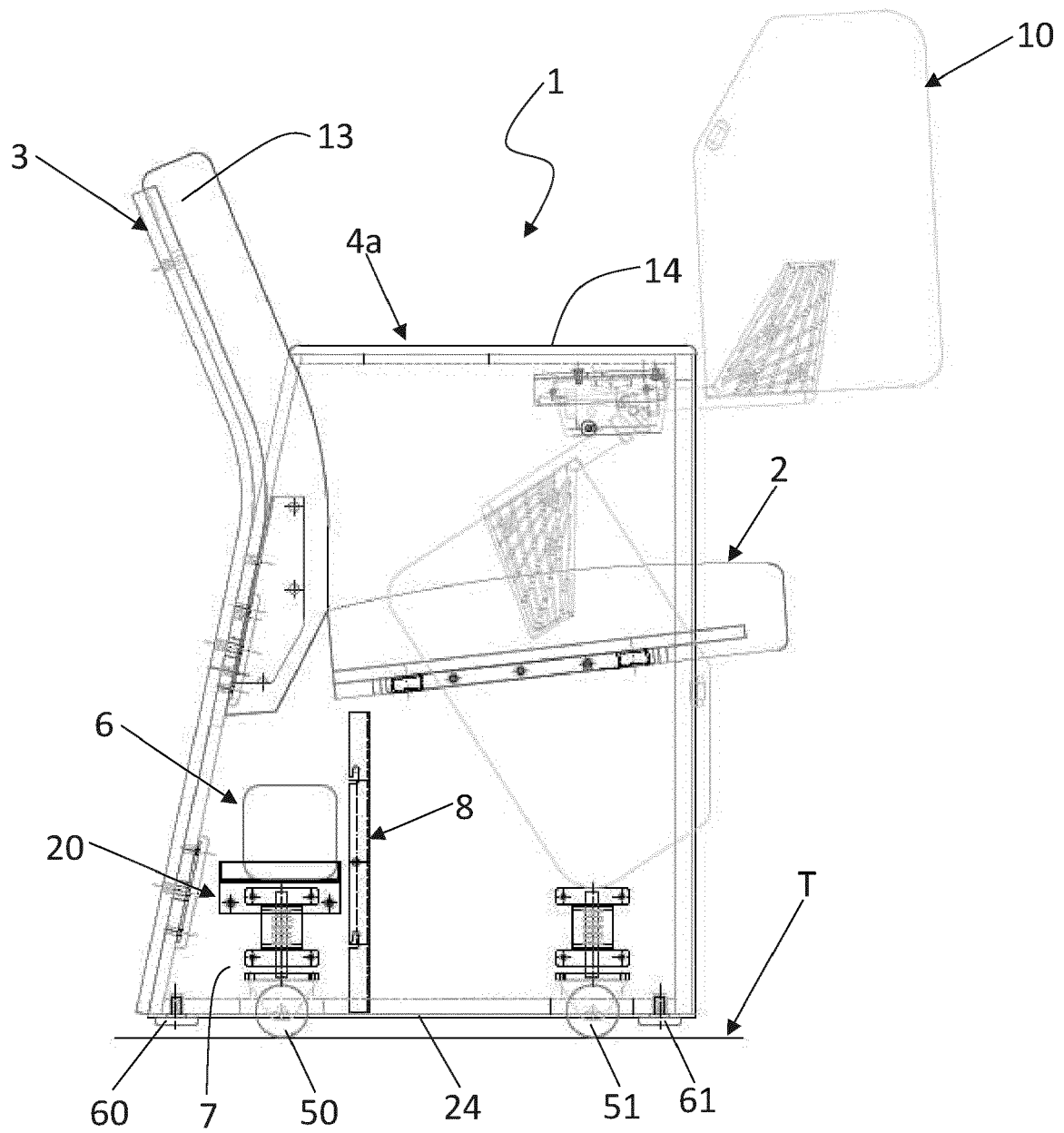


FIG. 3

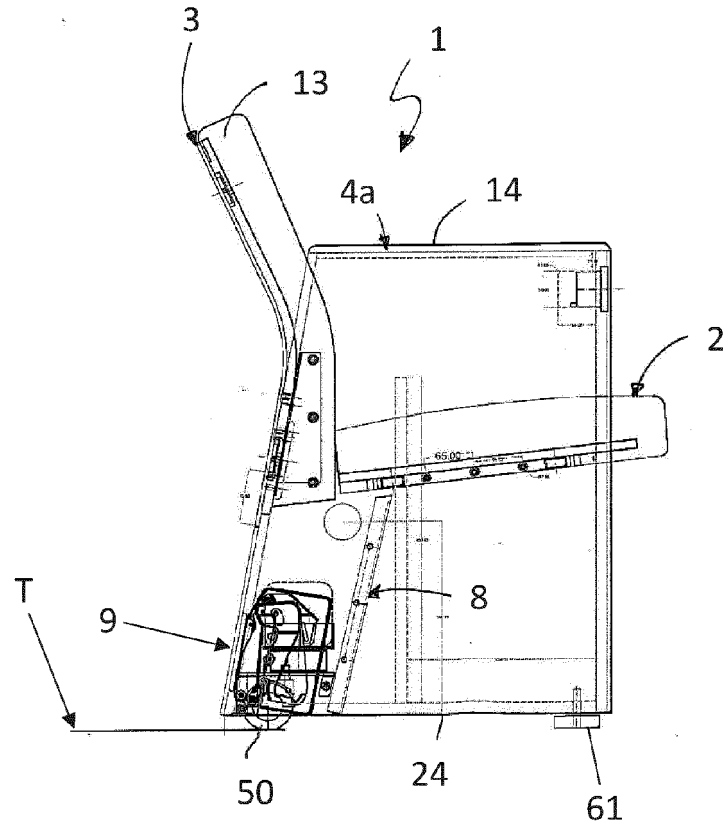


FIG. 4

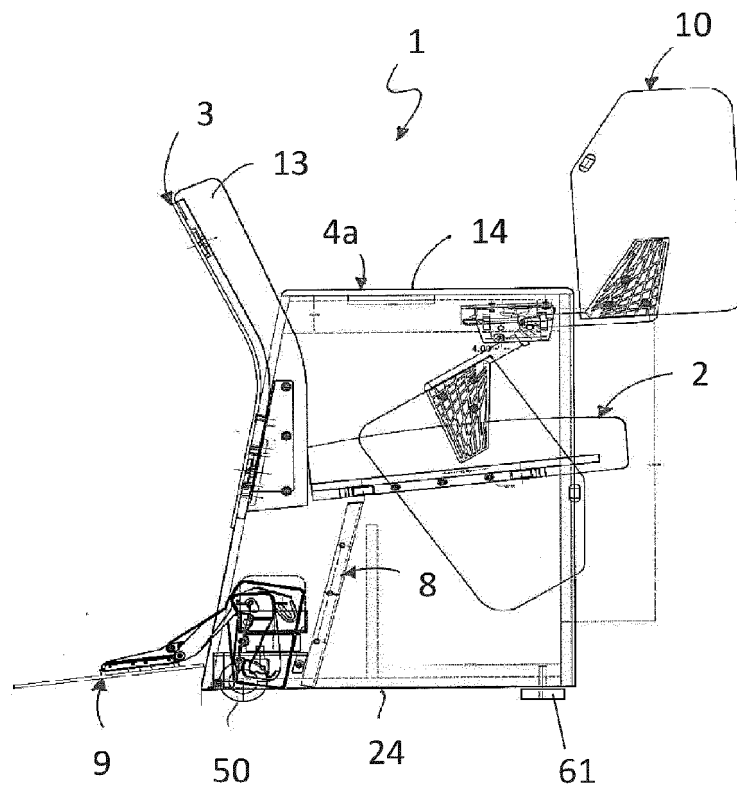
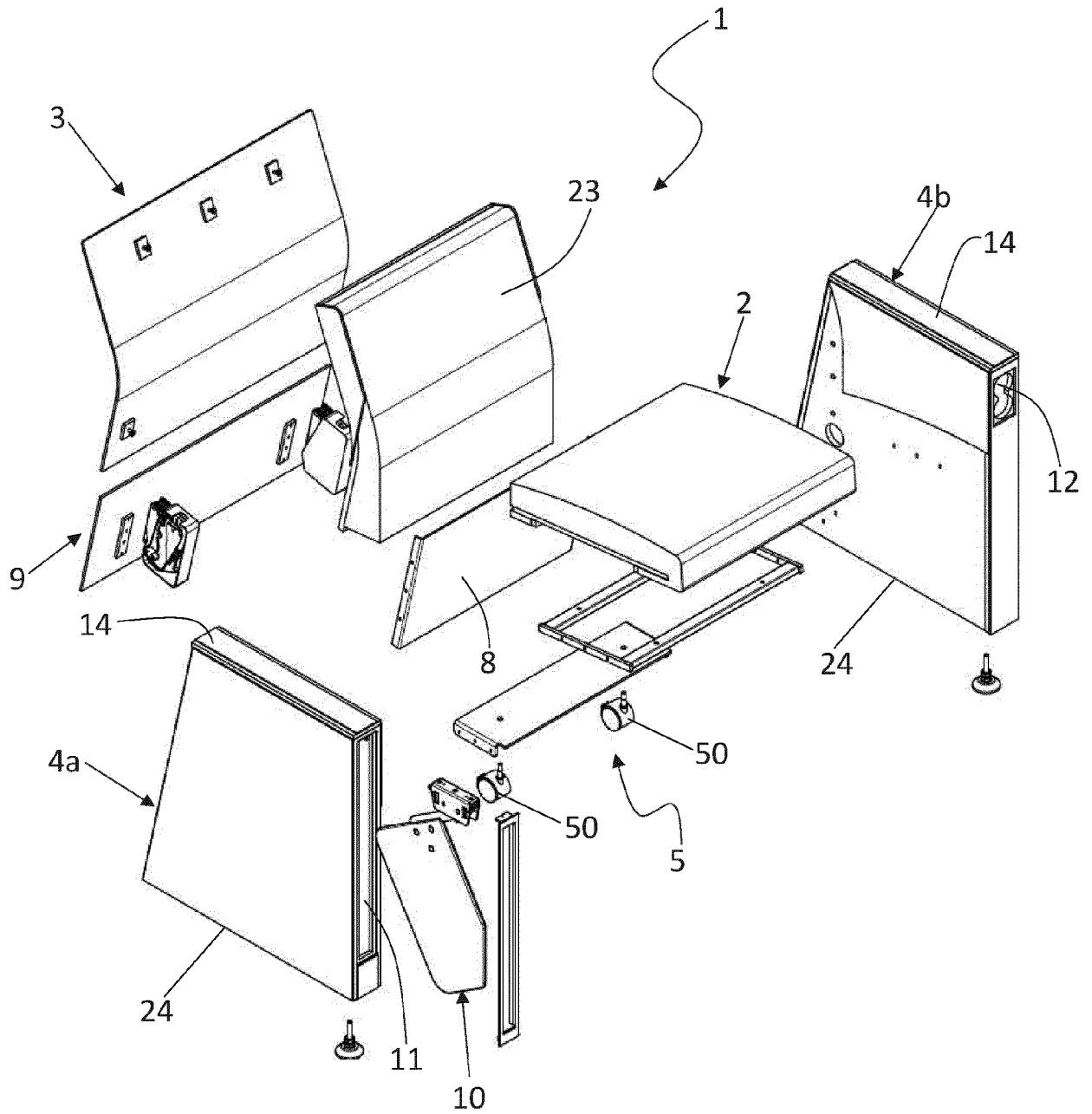


FIG. 5





EUROPEAN SEARCH REPORT

 Application Number
 EP 20 16 2003

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			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 25 June 2020	Examiner Lehe, Jörn
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	

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 EPO FORM 1503 03.02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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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
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