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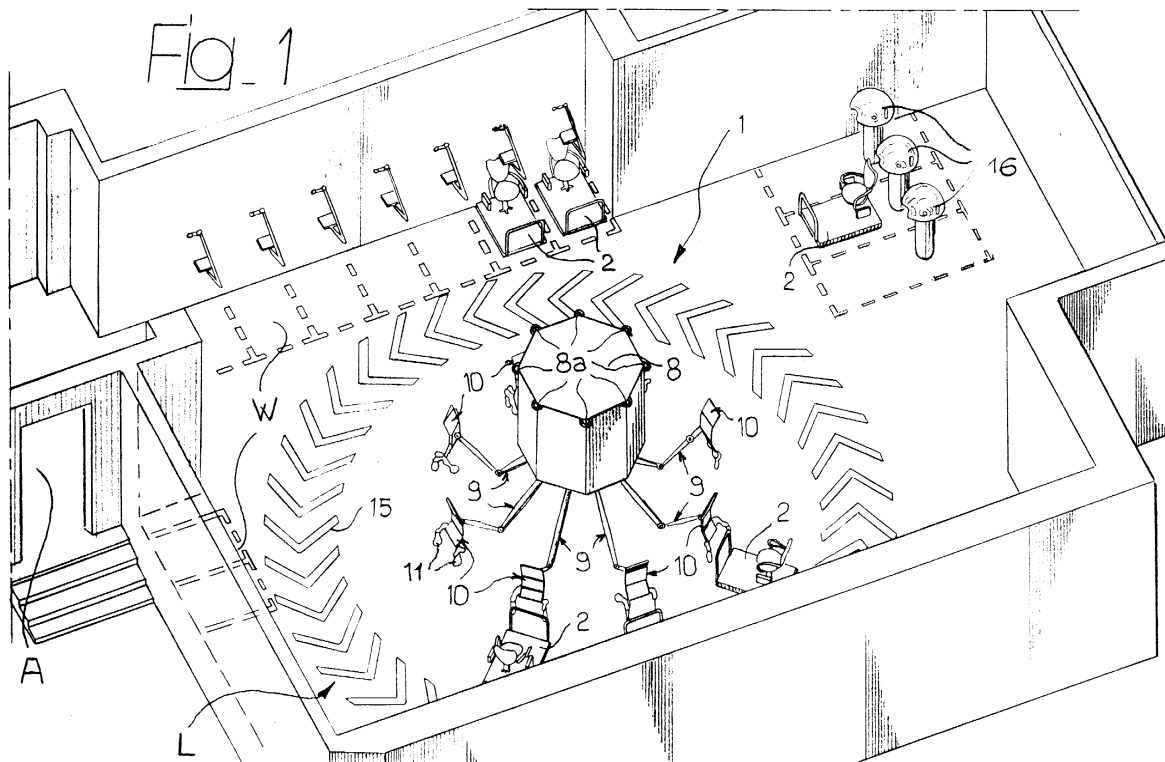
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(54) **An installation for providing services**

(57) An installation for providing services, such as hairdressing services, includes, in combination, a service providing unit (8) with a set of service modules (9) as well as a set of carrier units (2) for users, provided

with means (5) for carrying at least one respective user. The carrier units (2) are arranged to be independently displaced within the installation in order to be selectively located in correspondence of at least one service module (9) of the service dispensing unit (8).



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Description

[0001] The invention deals with problem of providing services, particularly services to persons.

[0002] During the last decades increasing efforts have been devoted to innovation of industrial plants. By way of example, reference may be made to the increasing diffusion of so-called robotised plants for e.g. manufacturing motor-vehicles, house appliances, etc.

[0003] Conversely, very little has been done in respect of improving widely established methods of providing services to persons.

[0004] According to a first traditional approach, persons form a queue at a box or counter while waiting to be served by another person acting as the server. This approach, with its intrinsic drawbacks (annoyance and/or tension states developed while waiting, etc.), tends to be reproduced without significant changes also in those situations involving a point of service of a different kind (for example by having the server sitting at a table or desk), or where provision of services is automated.

[0005] Another approach still prevailing in areas such as hairdressing or medical or paramedical services provides for the person being served sitting on a chair or armchair. In order to be provided different services, the person must quite often move to another chair or armchair. This drawback is a particularly critical one in those situations where the person being served must, for example, be protected by towels and/or covers, these having to be removed or at least repositioned as a result of that person being displaced to another location.

[0006] Additional drawbacks may arise when different operators are required to provide different services to the same person at the same time or about the same time.

[0007] The object of the present invention is thus providing a solution overcoming the cited drawbacks.

[0008] According to the present invention, that object is achieved by means of an installation having the features called for in the following claims. The invention also concerns the respective method.

[0009] In brief, the invention applies criteria which are typical of an industrial environment to providing services to persons.

[0010] The invention thus avoids, in the first place, that the persons waiting to be served may be led to feel themselves in a totally useless waiting condition, thereby avoiding states of annoyance and tension.

[0011] The solution of the invention also lends itself in an ideal way to be implemented under circumstances where, in addition to being put in conditions of ease (typically sitting on a chair or armchair), the persons waiting to be served can also become involved in entertainment activities (music and/or video programs, games, etc.).

[0012] Also, in the installation of the invention the person being served is not required to leave the seat where he or she is sitting to move to another seat in order to be provided with different services. In a complementary

manner, operators providing services are in a condition to serve different persons without having to move, and - more to the point - without having to carry with themselves the tools or implements possibly required to provide certain services.

[0013] The presently preferred embodiments of the invention also provide additional advantages. A significant advantage is, for instance, related to an installation according to the invention lending itself to be located in a room in such a way to facilitate prompt clearing of the floor in order to proceed with cleaning/maintenance operations: this advantage is a particularly significant one in those applications related to providing beauty (e.g. hairdressing) and/or medical or para-medical treatment services.

[0014] An additional advantage related to that feature is that the same room used for the installation of the invention can be easily and rapidly re-converted to other uses, thus enabling e.g. the same room to be used for different purposes at different times of day.

[0015] The invention will now be described, by way of non-limiting example only, with reference to the annexed drawings, wherein:

- Figure 1 is a general perspective view from above of a room where an installation according to the invention is located;
- Figure 2 is a plan view of the installation of figure 1 showing further advantageous features of the invention; and
- Figures 3 to 5 show different aspects of a possible embodiment of an installation according to the invention.

[0016] In the enclosed drawings, reference L indicates a room where an installation according to the invention is located. Such an installation is designated overall by reference 1.

[0017] The exemplary embodiment shown herein in detail refers - it is stressed, by way of non-limiting example only - to the possible application of the invention to providing services such as hairdressing.

[0018] It must however be underlined, once more, that such a possible application is presented by way of example only as the invention lends itself to be applied for providing a wide range of services.

[0019] Other possible fields of use, listed in the following by way of example only without any limiting intent of the scope of the invention, are the following:

- beauty services such as, in addition to those already mentioned in the foregoing, make-up, facial and body massages and similar applications,
- medical or para-medical treatments such as orthodontic treatments, prophylaxis and therapy of children's diseases (in this application it is particularly advantageous that several persons may be subjected to treatment simultaneously, without feeling iso-

lated), massage and/or electro-massage treatments, etc.

- educational services (for instance teaching languages, driving schools, etc.), and
- various entertainment services.

[0020] By referring again to the example of a hair-dressing salon, reference A designates the entrance area to room L. In the proximity of area A one or more reception areas W are located. There, a number of carrier units 2 are usually parked which, in the preferred embodiment of the invention, are realised according to the structure shown in greater detail in figure 4.

[0021] One has substantially to do with units 2 comprised of a platform 3, adapted for movement on the floor due to presence of rolling elements such as wheels 4 and provided with a reception fixture for the users of installation 1. Such a fixture is usually realised in the form of seat such as a chair or armchair 5 where a person P can sit (figure 3).

[0022] Carrier units 2 may be provided with means, such as a handle 6, possibly of the tilting type (for example due to the presence of hinges 7), in a such a manner to permit displacement by pulling or pushing by an operator O (see figure 3).

[0023] Carrier units 2 may also be of the self-propelled type thanks to the presence of respective motor means (for instance electric motors) and/or means for controlling movement according to pre-determined paths. In other words one has to do with the same kind of solution used for instance, in certain assembly lines of industrial plants where the items being manufactured/assembled (for instance bodyworks of vehicles) are arranged on self-propelled trolleys or trucks (so called AGV's, an acronym for Automated Guide Vehicles), causing them to move through the various handling/assembly stations of the plant.

[0024] An important feature of the invention is carrier units 2 (whether self-propelled or not) being adapted for being displaced within installation 1 independently. This permits the paths of movement followed within installation 1 by the persons being served to be made likewise independent of each other. The path followed by each person within the installation may thus be "personalised" in such a way to render the kind of service or services provided to each person different or, in any case, independent of the kind of service or services provided to the other persons present in installation 1 at the same time.

[0025] The core of installation 1 is constituted of a service providing unit 8. Unit 8 is preferably comprised of a structure adapted to be located in a central position with respect to room L and including a set of service modules 9.

[0026] In the presently preferred embodiment of the invention, unit 8 exhibits at least one of the following features:

- unit 8 is arranged (for instance through the provision of anchoring or suspension elements, known per se and indicated 8a overall) to be located in a suspended position from the ceiling of room L, and/or
- unit 8 generally has a star-like structure, with service modules 9 extending radially from the core of unit 8 itself.

[0027] In a less preferred embodiment, even without being suspended from the ceiling of the room L, unit 8 is in any way arranged (e.g. by post-mounting) to be in a raised position with respect to the floor.

[0028] The suspended or, in any case, raised location is advantageous in that it minimises the space requirement of unit 8 at the level of the floor of room L, by thoroughly dispensing with such a requirement in the case of unit 8 being suspended.

[0029] In addition to rendering more space available within room L, such a raised arrangement has the further advantage of making cleaning/maintenance operations easier as the floor below and/or surrounding unit 8 is promptly accessible or suitable to be promptly cleared for access whenever required.

[0030] In the presently preferred embodiment, modules 9 extend from unit 8 according to a general arm-like structure while carrying at their distal ends respective service devices 10. This i.a. enables operators to act on persons being served substantially from above.

[0031] Resorting to an arm-like structure for modules 9 is not imperative however. The modules in question can be constituted simply by faces of unit 8 which in that case assumes a fairly compact structure and a polygonal shape overall.

[0032] Such an arrangement can be used in the case where service modules 9 are constituted, for example, by screens onto which images are projected intended to be viewed by the persons located in the carrier units 2 arranged around unit 8.

[0033] In those cases where an arm-like structure is used the possibility exists of using fixed arms as well as arms having an extension and/or orientation capability. The figures of the annexed drawing refer by way of example to a solution wherein modules 9 include articulated arms having respective proximal ends 9a connected to unit 8 and respective distal ends 9b carrying the service devices 10 already mentioned in the foregoing.

[0034] That designation identifies, in general, all those devices, tools, instruments or implements used or adapted to be used for and in relation to providing services within installation 1. The type, number and characteristics of those devices are evidently related to the services provided in installation 1.

[0035] For instance, with reference to the exemplary application referred to herein, the devices in question may include:

- tools or instruments 11 for hairdressing treatment (combs, brushes, various cutting tools, hairdryers,

etc.), and

- interaction instruments such as, for instance, cameras or video cameras enabling the operator to frame the head of the person served at the moment in order to display respective images on one or more screens 12 (for instance one for the front view and another for the rear view of the head), and/or
- entertainment devices 13 such as, for instance, video-screens, loudspeakers, control interfaces for videogames, etc.

[0036] At least some of these service devices, especially insofar as possible entertainment devices are concerned, may also be located on board units 2.

[0037] For instance, the enclosed drawings refer to a solution wherein units 2 are equipped with one or more interface 14 (for instance of the keyboard or play-station type) enabling the person occupying the unit 2 e.g. to interact with any homologous devices 13 provided in service module 9 in front of which the person is located at the moment.

[0038] Thanks to the arrangement on units 2, interaction between the persons being served and the unit 8 from which these service are being provided takes place in a very flexible manner.

[0039] To sum up, the arrangement of the invention enables a given person P to be subsequently located at different modules 9 in order to be provided respective services without having to leave that carrier unit 2 where he or she was originally hosted. All this, it is to be stressed, with the possibility of letting different persons follow different, independent service paths through installation 1.

[0040] The same flexibility also exists in the case where the type of service provided requires the person, once located on respective carrier unit 2, to be placed in correspondence of even just one of modules 9. In that case, flexibility of the installation according to the invention lies in that the person being served can be easily located in front of the first module 9 which is free and available for providing service. The installation according to the invention may thus be identified as an installation of the n-server type (n identifies the total number of service modules 9 or, at least, the number of modules 9 that provide the same service) overcoming the intrinsic drawbacks of single server queues.

[0041] Displacement of carrier units 2 within the installation may be rendered more efficient by signalling 15 provided on the floor of the room L. If carrier units 2 of the self-propelling type are used, such signalling may include guide formations proper (for instance conductor lines adapted to transmit command signals towards carrier units 2 to control movement thereof) adapted to be arranged on the floor of room L without this making necessary to intervene radically on room L.

[0042] Such feature enables i.a. room L to be easily reconfigured for different uses: practically, in order to convert room L to a different use it is enough to clear

room L of carrier units 2 by taking advantage for the rest of the suspended/raised location of unit 9, with the further possibility of withdrawing upwardly the arms of modules 9.

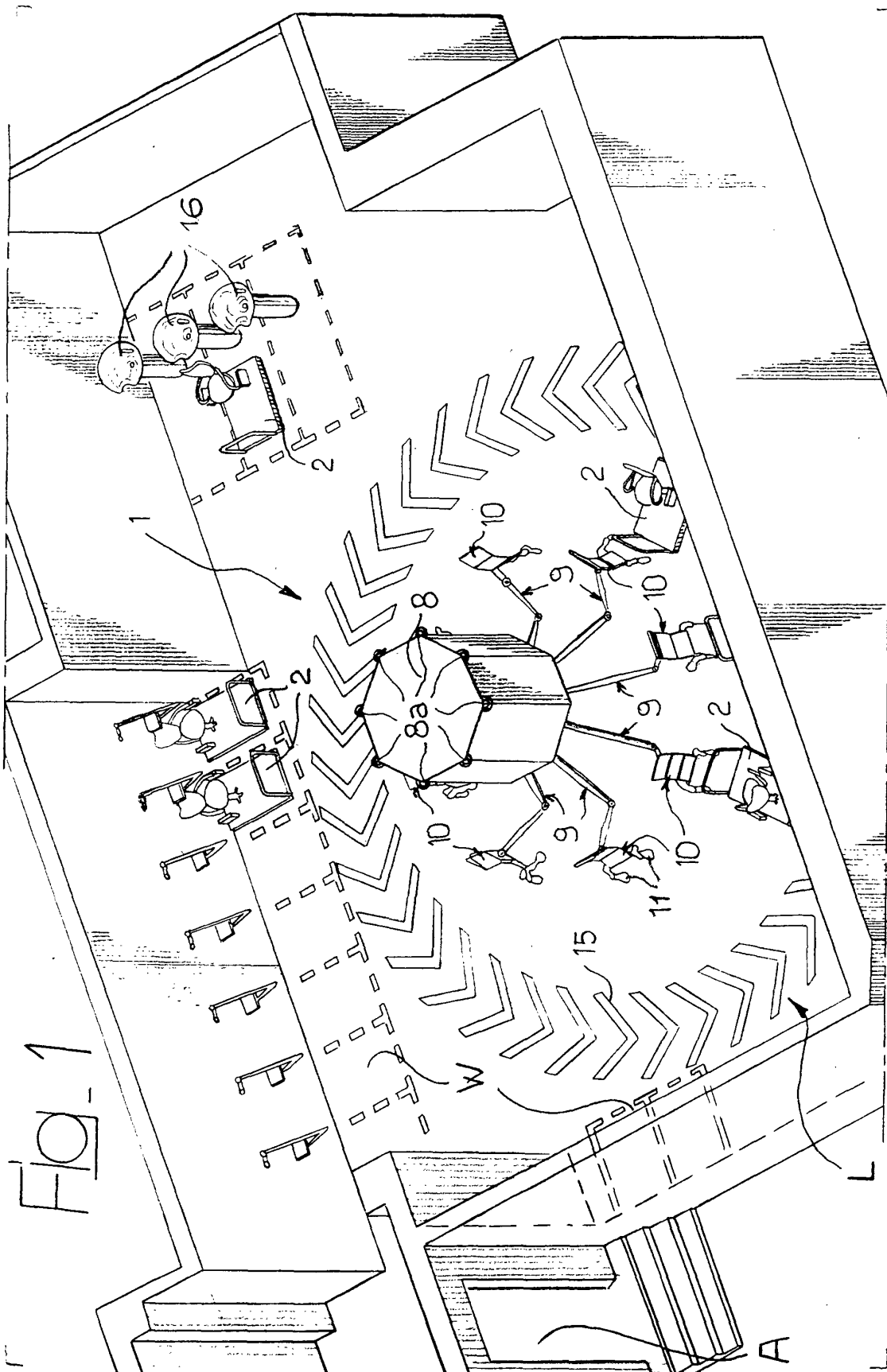
5 **[0043]** The enclosed drawings show one or more auxiliary modules 16 (for instance, in the case of a hair-dressing salon, one or more modules where washes or hair dye treatments are effected, provided with respective wash basins) which are autonomous with respect to unit 8 but may be reached by carrier units 2.

10 **[0044]** Naturally, the details of the invention and the embodiments thereof may be widely varied with respect to what has been described and shown, without departing from the scope of the present invention, as defined in the following claims.

Claims

- 20 1. An installation for providing services to users (P), characterized in that it includes, in combination:
- a service providing unit (8) including a set of service modules (9), and
 - 25 - a set of carrier units (2) for users (P), said carrier units (2) being provided with means (5) for carrying at least one respective user (P), said carrier units (2) being arranged to be independently displaced within the installation in order to be selectively located in correspondence of at least one service module (9) of said set.
- 30 2. An installation according to claim 1, characterized in that said carrier units (2) are in the form of trolleys or trucks.
- 35 3. An installation according to claim 1 or claim 2, characterized in that said carrier units (2) include at least one seat (5) for a respective user.
- 40 4. An installation according to any one of claims 1 to 3, characterized in that said carrier units (2) include means (6) for producing motion thereof by pulling or pushing.
- 45 5. An installation according to any one of claims 1 to 3, characterized in that said carrier units (2) are of the self-propelled type.
- 50 6. An installation according to any one of the preceding claims, characterized in that said carrier units (2) are equipped with entertainment means (14) for users (P).
- 55 7. An installation according to any one of claims 1 to 6, characterized in that said service providing unit (8) is adapted for being located in a raised position.

8. An installation according to claim 7, characterized in that said service providing unit (8) has associated suspension means (8a) for locating said service providing unit (8) in a suspended position. 5
9. An installation according to any one of the preceding claims, characterized in that said service modules (9) are associated to said service providing unit (8) according to substantially star-like arrangement. 10
10. An installation according to any one of the preceding claims, characterized in that said service modules (9) have respective distal ends (9b) with respect to said service providing unit (8) carrying associated service devices (10) located at said distal distal ends (9b) . 15
11. An installation according to claim 1 or claim 10, characterized in that said service modules (9) have associated service devices (10) selected in the group consisting of: 20
- instruments or tools (11) for providing services,
 - interfaces (12) for presenting information concerning provision of said services, and 25
 - entertainment means (13) for said users.
12. An installation according to claim 1 or claim 10, characterized in that said service modules (9) have an arm-like structure. 30
13. An installation according to claim 12, characterized in that said service modules (9) include an arm-like structure of an extendible and/or orientable type. 35
14. An installation according to any one of the preceding claims, characterized in that it further includes at least one auxiliary service module (16), which is autonomous with respect to said service providing unit (8) and is adapted for being reached by said carrier units (2). 40
15. A method for providing services to users (P), characterized in that it includes the steps of: 45
- providing a service providing unit (8) including a set of service modules (9),
 - locating said users (P) on respective carrier units (2),
 - independently displacing said carrier units (3) to selectively locate said carrier units (3) carrying respective users (P) in correspondence of at least one of said service modules (9), and 50
 - providing services to said users (P) from said service providing unit (8) while said users are located in a respective carrier unit (2), each user (P) remaining on a respective one of said carrier units (2) while said services are being pro- 55



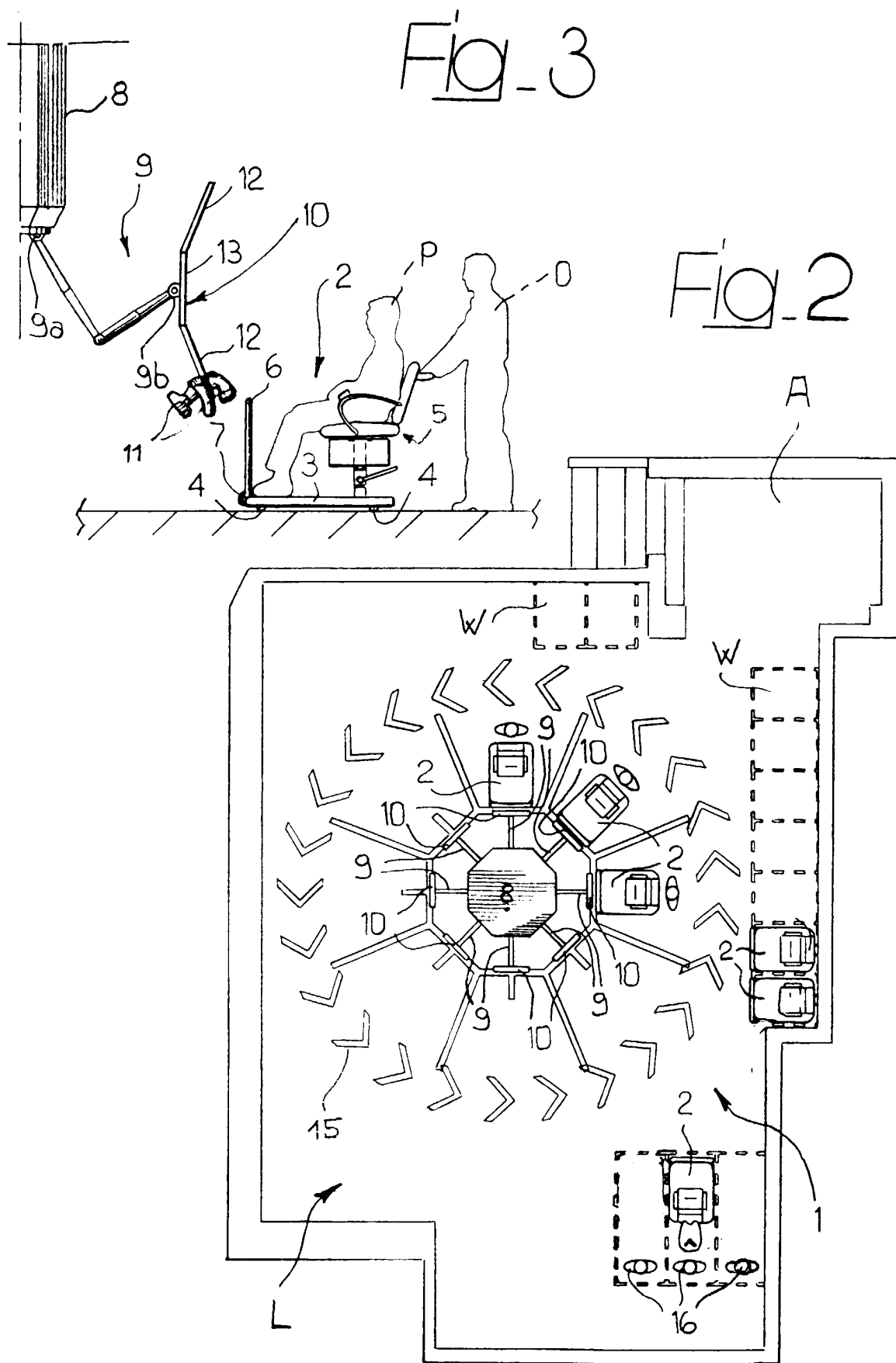
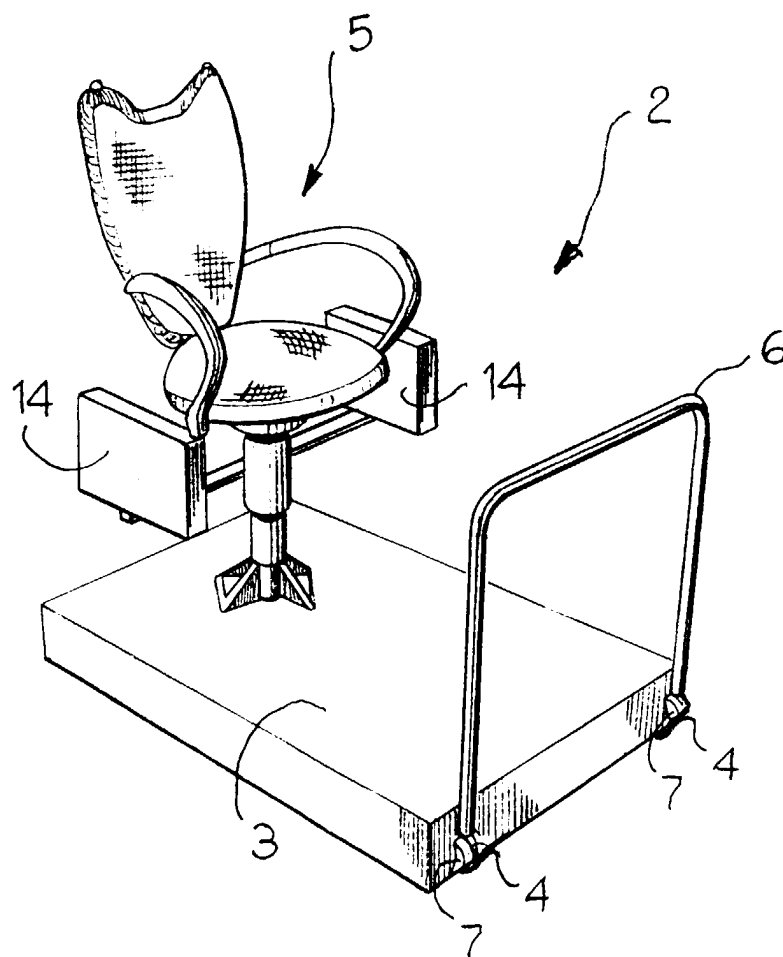
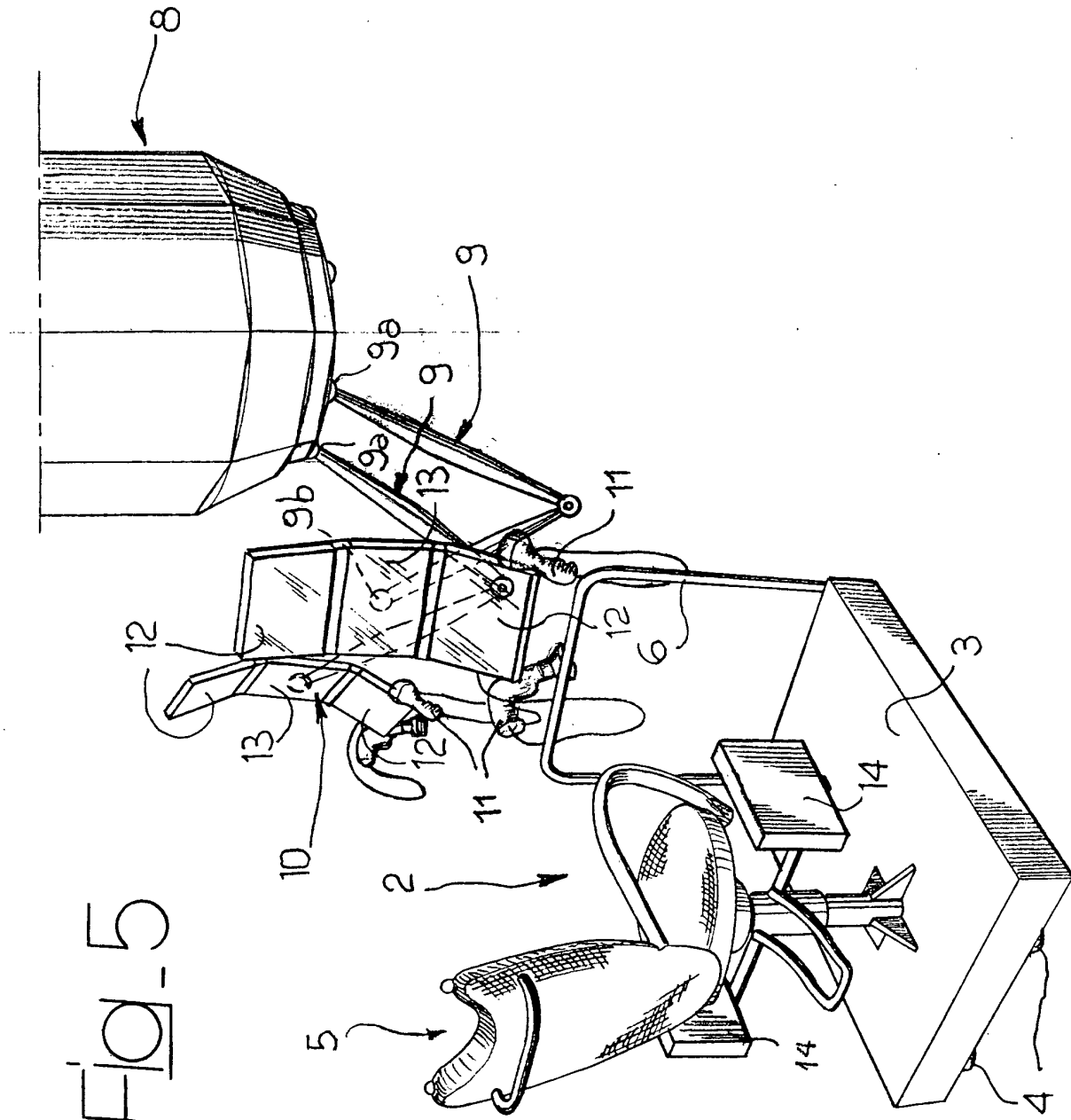


Fig. 4







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EUROPEAN SEARCH REPORT

Application Number
EP 99 12 2373

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 4 840 000 A (GRINES TYRONE C) 20 June 1989 (1989-06-20) * column 2, line 1 - line 24; figures 1-6 *	1-5, 7-11, 13, 15	A47C1/04
A	US 5 040 939 A (BOOTH E CHRISTINE) 20 August 1991 (1991-08-20) * column 1, line 63 - line 68 *	1,2	
A	US 5 782 045 A (PASCHAL RICHARD CRAIG) 21 July 1998 (1998-07-21) * column 5, line 54 - line 59 *	9	
A	US 5 620 230 A (WU JUNG-TE) 15 April 1997 (1997-04-15) * column 1, line 40 - line 50 *	6,12	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7) A47C A61G
Place of search THE HAGUE		Date of completion of the search 19 April 2000	Examiner Joosting, T
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			

EPO FORM 1503 03/02 (P04C01)

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

EP 99 12 2373

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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19-04-2000

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4840000	A	20-06-1989	NONE	
US 5040939	A	20-08-1991	NONE	
US 5782045	A	21-07-1998	NONE	
US 5620230	A	15-04-1997	FR 2734135 A GB 2300804 A, B	22-11-1996 20-11-1996

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