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(54) Workplace with integrated interface for identification of a user

(57) A workplace (100) comprising a piece of furniture (1) comprising a control unit (30) for controlling functions (10, 12, 14, 42) at said workplace, wherein said piece of furniture (1) further comprises an integrated interface (20) for a communicative connection to a mobile device (50), said integrated interface (20) being connected to said control unit (30), said integrated interface (20) further being adapted to communicate a user specific identification from said mobile device (50) to said control unit (30), and said control unit (30) is configured to control said functions (10, 12, 14, 42) at said workplace (100) based on said user specific identification.

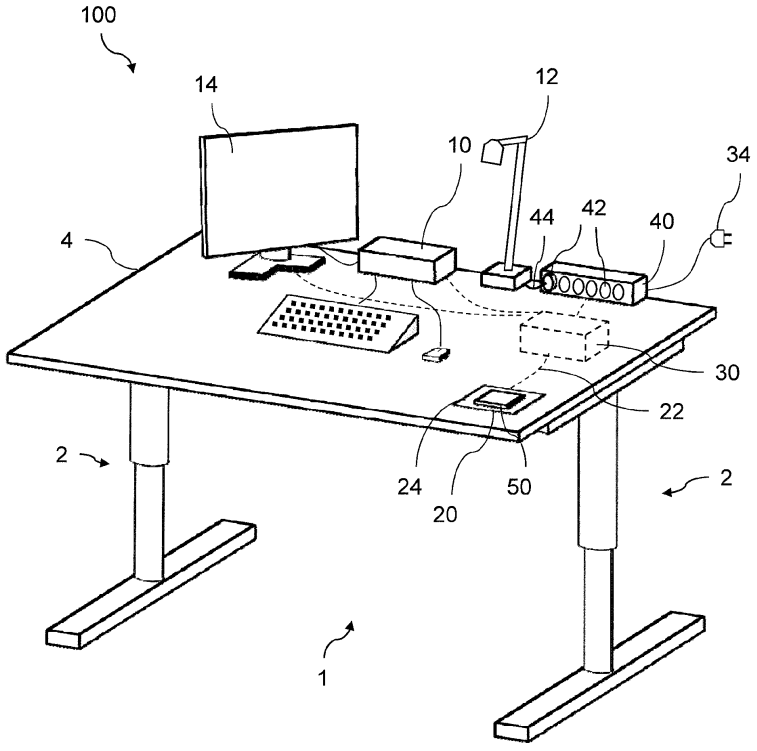

Fig. 1

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Description

Technical field of the invention

[0001] The present invention relates to control of height adjustable furniture and other surrounding functions.

Technology Background

[0002] In many modern offices a flexible office landscape is used where the workplaces are not tied to a specific employee but rather open to be used by all or several employees. Moreover, a modern workplace comprises a plurality of devices and functions that can be controlled, such as raising or lowering the desk, adjusting the lighting conditions, the phone properties, the computer etc. Further, different employees prefer different settings for the devices and functions. Given the combination of not having a set workplace and the plurality of devices and functions with a variety of adjustments that can be made, a lot of time is spent on adjusting different devices and functions for an employee.

[0003] Thereby, there is a need for a modern workplace where the employee does not have to spend time and effort on configuring devices and functions so as to fit the user's preferences.

Summary of the Invention

[0004] In the view of the above-mentioned and other drawbacks of prior art, the object of the invention is to achieve a workplace that reduce the time and effort an employee have to spend on adjusting devices and functions at said workplace to match his or her preference.

[0005] The invention is based on the inventors' realization that this problem can be combined with the problem that many workplaces require identification for logging into for example a computer and/or network. Further, the inventors have realized by providing workplace with a piece of furniture comprising an integrated interface for identifying a user from a mobile device, said adjustments to the devices and functions can be achieved automatically, without needing a user to manually make adjustments. Moreover, the same integrated interface can identify a user from a mobile device so that said user can gain access to a computer or a network. Thereby, two the problems can be solved with one solution.

[0006] According to a first aspect of the inventive concept, above and other objects are achieved through a workplace comprising a piece of furniture comprising a control unit for controlling functions at said workplace, wherein said piece of furniture further comprises an integrated interface for a communicative connection to a mobile device, said integrated interface being connected to said control unit, said integrated interface further being adapted to communicate a user specific identification from said mobile device to said control unit, and said control unit is configured to control said functions at said workplace based on said user specific identification.

[0007] In the context of this application a "mobile device" should be interpreted as a mobile device including a processor unit, a storing unit and a graphical user interface adapted display. Examples of such mobile devices are a smartphone, tablet computer and a personal digital assistant (PDA). Moreover, in the context of this application, a "workplace" should be interpreted as an arrangement of furniture where a user can perform a variety of office work such as reading, writing etc. Examples of furniture in such an arrangement could comprise are a table, a chair and/or a hutch.

[0008] The workplace according to abovementioned embodiment may enable a user to spend less time and effort to adjust functions at the workplace so that the functions correspond to the user's preference. Moreover, since many users today have a mobile device, a workplace as described above may not require the user to invest in further devices, and thereby also limit the risk of losing an identification means, such as an identification card.

[0009] Since less time is spent on adjusting functions at the workplace, more time may be spent on performing actual working tasks.

[0010] In one embodiment, the user specific identification may be associated with a user profile comprising predefined settings for said functions.

[0011] In another embodiment, said user profile associated with said user specific identification may vary depending on point of time of the communicatively connection.

[0012] In yet another embodiment, the said user profile associated with said user specific identification may vary depending on the type of furniture to which the mobile device is communicatively connected.

[0013] In yet another embodiment, the functions may include adjustments of a height of said piece of furniture.

[0014] In yet another embodiment, the piece of furniture may be a height adjustable table comprising an electric motor for driving said height adjustable furniture, and wherein said control unit further controls the operation of the electric motor.

[0015] Thereby, the required time and effort for a user to adjust the height of the piece of furniture may be reduced to substantially no time or effort. The only thing the user needs to do is to communicatively connect the mobile device to the integrated interface, and then the control unit will adjust the table height to a predefined preferred height.

[0016] Moreover, this may simplify the process of choosing a table in a working area with several workplaces, since when the table automatically adjusts once the user communicatively connects a mobile device to the integrated interface and the user does not have to evaluate the tables based on height.

[0017] In another embodiment, the functions may further comprise adjustments of lighting conditions.

[0018] Thereby, the user may not have to manually

adjust the lighting conditions when the user chooses a workplace. The only thing the user may need to do is to communicatively connect the mobile device to the integrated interface, and then the lighting conditions will adjust to his predefined preferred settings. Moreover, the user may avoid having to turn on/off or increase/decrease the lighting on a physical lighting switch. Furthermore, the user may avoid moving from the furniture to adjust the lighting conditions. Such a workplace further may decrease the amount of time and effort needed from the user to set up his workplace.

[0019] In yet another embodiment, the functions may further comprise providing a user access to a network.

[0020] Thereby, the user may not have to manually provide log on information, such as user-ID and passwords, to gain access to the network. The only thing the user may need to do is to communicatively connect the mobile device to the integrated interface, and then the control unit will provide the user access to the network. Thereby, time and effort needed from the user to set up his workplace may be further decreased.

[0021] In another embodiment, the functions further comprise control of electrical power outlets.

[0022] Thereby, the user may not have to spend time on manually adjusting the electrical power outlet activation/deactivation to the user's preference. Instead, the only thing the user needs to do is to communicatively connect the mobile device to the integrated interface, and then the control unit will automatically adjust the electrical power outlets to match the user's predefined preferred settings.

[0023] In another embodiment, the workspace may further comprise a telephone and said telephone may, based on the identification from said mobile device, be configured to be operable with a telephone number associated with said user.

[0024] Thereby, a user that chooses a workplace in a flexible working area may not have to adapt to the telephone number of the chosen workplace. Instead, the only thing the user needs to do is to communicatively connect the mobile device to the integrated interface, and then the control unit will automatically configure the telephone to be operable with a telephone number associated with said user.

[0025] In yet another embodiment, the telephone number associated with said user may be the same telephone number that belongs to the mobile device.

[0026] In another embodiment the telephone number associated with said user may be a different number than the telephone number that belongs to the mobile device.

[0027] In yet another embodiment, the communicative connection between said interface and said mobile device may be a wireless connection.

[0028] With such a wireless connection the user may communicatively connect the mobile device to said adjustable piece of furniture's interface without the requirement of any cables or physical connectors. Thereby, less valuable workspace may be dedicated and the risk of losing a cable is eliminated. Further, mobile device's position may be flexible within the wireless communication range, which is dependent on the type of wireless connection that is used.

[0029] In yet another embodiment, the wireless connection may be a near field communication connection.

[0030] With a near field communication connection the mobile device may be communicatively connected to the interface through that mobile device is brought into the close range of the interface. Moreover, the mobile device may be communicatively disconnected from the adjustable piece of furniture's interface through that the mobile device is brought out of range of the near field communication. Thereby a user may save time and effort on how to connect and disconnect the mobile device to the interface.

[0031] Moreover, a near field communication connection may be a relative secure connection due to the small range in which it is operable, typically a few centimeters. Moreover, buy using a near field communication connection, there may be no risk of accidently connecting the mobile device to a proximate work station in the scenario where several workplaces, as described above, are situated next to each other to form a flexible working area.

[0032] In yet another embodiment the wireless connection may be a Bluetooth connection.

[0033] With a Bluetooth connection the mobile device may be communicatively connected to the integrated interface by an established standard which allows many different devices to be compatible with said interface.

[0034] In yet another embodiment, the wireless connection may be a WLAN connection.

[0035] With a WLAN connection the mobile device may be communicatively connected to the interface by an established standard which allows many different devices to be compatible with said interface. Furthermore, the WLAN connection may enable the mobile device to be communicatively connected to the interface within a wide distance range, allowing the user be identified and obtain the predefined preferred settings from a distance.

[0036] In yet another embodiment the communicative connection between said interface and said mobile device may be a wired connection.

[0037] With a wired connection the mobile device can be communicatively connected to the interface by an established standard which allows many different devices to be compatible with said interface. For example the wired connection may be a USB-connection, mini-USB-connection, micro-USB-connection, 30-pin dock connector or other wired connections. Moreover, with a wired connector charging of the mobile device is enabled. Further, the user may visually confirm that the mobile device is connected to the integrated interface.

[0038] In yet another embodiment the mobile device may be voice-controlled.

[0039] With such a system the functions controlled by the control unit may be controlled by voice commands. Thereby, the user may not have to physically interact with

the mobile device for controlling the functions. That could be desirable when the user's hands are busy with other tasks or when the user would like make a great impression on another person.

[0040] In yet another embodiment the mobile device may be a mobile phone with software adapted to communicatively connect to said integrated interface.

[0041] Many potential users of a workplace as described carry a mobile phone, such as a smart phone, thus no further devices may be needed. Moreover, if the mobile device may be used for configuring the predefined settings, and or change the settings associated with the identity of the user, the user is already familiar to the smartphone's interface from prior use of the smartphone, thus shortening the time to set up the preferred settings.

[0042] In yet another embodiment the mobile device may be a tablet computer with software adapted to communicatively connect to said integrated interface.

[0043] Many potential users of a workplace as described carry a tablet computer, thus no further devices are needed. Moreover, if the mobile device may be used for configuring the predefined settings, and or change the settings associated with the identity of the user, the user may already be familiar to the table computer's interface from prior use of the tablet computer, thus shortening the time to set up the preferred settings.

Brief description of drawings

[0044] The invention will in the following be described in more detail with reference to the enclosed drawings, wherein:

Fig. 1 schematically illustrates a perspective-view of a workplace according to an embodiment of the invention comprising a piece of furniture comprising an integrated interface for establishing a wireless connection to a mobile device, and

Fig. 2 schematically illustrates a perspective-view of a workplace according to an embodiment of the invention comprising a piece of furniture comprising an integrated interface for establishing a wired connection to a mobile device, and

Fig. 3 schematically illustrates a perspective-view of a workplace according to an embodiment of the invention comprising a piece of furniture, without height adjustable legs, comprising an integrated interface for establishing a wireless connection to a mobile device.

Detailed description

[0045] The present invention will be described more fully hereinafter with reference to the accompanying drawings, in which preferred embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. In the drawings, like numbers refer to like elements.

[0046] In the description below a workplace with furniture, wherein said furniture is a height adjustable table is mainly discussed. It should however be noted that this by no means should limit the scope of the application which is equally applicable on a regular table, a bureau, a bookcase, a hutch, a desk or any other furniture with a top surface.

[0047] Fig. 1 illustrates a workplace 100 according to an embodiment of the inventive concept. The workplace 100 comprises a piece of furniture illustrated as a height adjustable table 1. The height adjustable table 1 further comprises an integrated interface 20 for communicative connection with a mobile device 50 such as a mobile telephone, a smart phone or a tablet computer. The integrated interface 20 is configured to identify a user from the mobile device 50.

[0048] The height adjustable table 1 further comprises a control unit 30. The control unit 30 is connected to a mains power supply network via a power socket 34. The control unit 30 thereby supplies power to the workplace 100. The control unit 30 comprises control means for controlling the operation of the power supply i.e. controlling the connection and disconnection of the power supply to the workplace 100. The interface 20 is connected to the control unit 30 via a cable 22.

[0049] The height adjustable table 1 comprises two extendable legs 2 and a table top 4. The legs 2 may be extendable in a telescopic manner providing a height adjustment function of the height adjustable table 1. The height adjustment of the height adjustable table 1 may be driven by one or more electric motors (not shown).

[0050] The workplace 100 may be equipped with office equipment such as a computer 10, a computer screen 14, a telephone (not shown), lights 12, a power supply unit 40 and the like, which are also connected to the control unit 30 via cables. In one embodiment the office equipment is directly coupled to the control unit 30, for example the computer 10 and computer screen 14 as shown in fig. 1. In another embodiment, the office equipment is indirectly coupled to the control unit via the power supply unit 40, for example the lamp 12 as also illustrated in fig. 1. In the latter embodiment the office equipment can be connected by means of intermediate power cables 44.

[0051] In one embodiment of the inventive concept the integrated interface 20 identifies a user specific identification when a mobile device 50 is connected to the interface 20. The user specific identification is associated with user specific predefined settings. When the user specific identification is identified, the control unit controls functions and settings at the workplace so that they correspond to the predefined settings associated with the user specific identification. The predefined settings can be stored in the mobile device 50, in the control unit 30

or in on a remote location such as a server (not shown).

[0052] In one embodiment of the inventive concept the integrated interface 20 identifies a user profile with settings predefined by the user, when a mobile device 50 is connected to the interface 20. Moreover, when the user profile is identified, the control unit can control functions and settings at the workplace so that they correspond to the predefined settings stored for the identified user profile. The predefined settings can be stored in the mobile device 50, in the control unit 30 or in on a remote location such as a server (not shown). The integrated interface 20 further enables the mobile device 50 to send and receive signals from the control unit 30.

[0053] The stored user profile can contain settings for the light 12 conditions, the computer 10, the computer screen 14, the telephone (not shown), the power supply unity 40 and/or the like.

[0054] After communicatively connecting the mobile device 50 to the integrated interface 20, the mobile device 50 can be used to control the height of the table top 4. Moreover the mobile device 50 can control activation/deactivation/adjustments of the light 12, the computer 10, the computer screen 14, the telephone and/or the like. Further, the interface 20 enables the mobile device 50 to control the power supply unit 40.

[0055] The mobile device 50 can comprise software with a graphical user interface for controlling the different functions and devices. Thereby, a user can further adjust settings for the functions and devices according to the user's preference.

[0056] Moreover, when connected to the interface 20, the mobile device 50 may be charged by the control unit, via the connection to the interface 20.

[0057] In some embodiments where the control unit 30 controls the electrical power outlets 42, lighting 12 and/or other functions, said power outlets 42, lighting 12 or other functions are arranged in proximity to said height adjustable furniture 1. One example as shown in fig. 1, is power outlets 42 at the workspace intended for charging a mobile phone, providing power supply for the computer 10 or similar. Another example is a desk lamp 12.

[0058] In some other embodiments, when the control unit 30 also controls electrical power outlets 42, lighting 12 and/or other functions, said power outlets 42, lighting 12 and/or other functions are arranged at another location than the height adjustable furniture 1. One example is power outlets located at another place in a room (not shown), intended for providing power supply for a radiator, a fan, a light fixture or similar. Another example is a lighting fixture (not shown) arranged in a ceiling.

[0059] The interface 20 between the height adjustable table 1 and the mobile device 50 may be provided in a plurality of implementations. The interface 20 may be provided with a cable 26 for attachment and communicative connection with the mobile device 50 as illustrated in fig. 2. The cable may be a USB cable, mini-USB-connection, micro-USB-connection, 30-pin dock connector or any other communication cable adapted for attachment to a mobile device 50.

[0060] Alternatively, the interface may comprise wireless connection means 24 for wireless connection with the mobile device 50 as illustrated in fig. 1. The wireless connection means may be adapted for connection to the mobile device 50 via WLAN, Bluetooth, Near Field Communication (NFC) or the like. The interface 20 is an integrated part of the table top 4. The wireless connection means of the interface can be provided in a specified area 24 of the table top 4 as illustrated in fig. 1.

[0061] In one embodiment, e.g. when the wireless connection is a NFC connection the communicatively connection between the interface 20 and the mobile device 50 is only active when the mobile device is placed within a predefined distance from the specified area 24 of the table top 4. The predefined distance can vary from about 0 cm to about 50 cm, preferably about 0 cm to about 10 cm most preferably from about 0 cm to about 5 cm

[0062] In other embodiments the wireless connection is an encrypted connection, e.g. a secure sockets layer (SSL), preventing security attacks such as eavesdropping.

[0063] In another embodiment of the inventive concept, the mobile device 50 is adapted to register other settings and/or statistics for different functions or equipment connected to the control unit 20. Such register information may contain information of the time and/or the setting for each device. The mobile device 50 would thereby for instance register at what points of time and duration the user has the height adjustable table 1 in sitting height and at what points of time and duration the user has the height adjustable table 1 in a standing height. Moreover, other registrations may contain light 12 settings and variations over time, and/or how much time is spent on the computer etc. Also this registered information may be stored in the mobile device 50, the control unit 30 or a remote server (not shown).

[0064] A user of the workplace 100 and the mobile device 50 may thereby be able to analyze the settings for different devices. The information may also be transferred further by the mobile device 50, to a central server (not shown) or an administrator. Thereby, analysis can be made on how to improve or change a behavior.

[0065] In yet another embodiment the registered statistics for the different functions or equipment stored can be used to create the user profile. Either by conforming to the behavior recorded in the statistics, or by adjusting the behavior recorded in the statistics with the purpose to improve ergonomics for the user.

[0066] In one embodiment of the inventive concept, the mobile device can present recommendations for settings to the user. The recommendations can be based on stored and/or analyzed data from the usage, but they could also be based on other inputs. Such recommendations could be to encourage the user to for example alter the settings of the height adjustable table 1 or the light 12 settings. Thereby, the user can get feedback on how to obtain an ergonomically improved position and/or

light setting or equivalent.

[0067] In yet another embodiment of the invention, the height adjustable table 1 and the office equipment can be voice-controlled by the user giving voice commands to the mobile device 50. The mobile device 50 can have software that recognizes voice commands to for example lower the table top 4, turning off the light 12 or turning on the power to the power supply unit 40.

[0068] In further one embodiment the mobile device 50 enables users to create a plurality of profiles each containing a set of settings. The profiles can be saved on the mobile device 50, the control unit 30 or on a remote server. For example a user that often gets tired in the afternoon can create a profile named "Afternoon" and configure that profile so that the lights are set on maximum light output, the desk is in a standing position and/or other desired settings.

[0069] Moreover, the profiles can be associated with different points of time, time spans or pieces of furniture. For example, the profile "afternoon" can be associated with the time span 13.00-18.00 so that if the user communicatively connects the mobile device at a point of time between 13.00 and 18.00 the settings in the profile "afternoon" will be implemented to the workplace and surrounding functions controlled by the control unit 30.

[0070] Further, the profiles can be adapted to the surroundings, for example if there is a pedestal of drawers (not shown) placed under the height adjustable table 1 and a painting (not shown) hanging on the wall above the height adjustable table 1, the length of stroke of the two extendable legs 2 can be limited so that the table top 4 does not move lower than the pedestal of drawers or higher than the painting.

[0071] According to yet another embodiment of the invention, the piece of furniture 1 is not a height adjustable piece of furniture, but a static piece of furniture as shown in fig 3. In a workplace with a static piece of furniture other functions than the height of the table top 4 can still be controlled according to what is described above. As illustrated in fig. 3, a static piece of furniture can comprise an integrated interface 20 for establishing a wireless communicative connection to a mobile device 50. However, in an alternative embodiment the static piece of furniture can have a wired communicative connection to said mobile device 50.

[0072] In one embodiment of the inventive concept, the integrated interface 20 of the workplace 100 may function as a time registering means for registering the amount of time a user spend working at the workplace. Thereby, the user does not have to sign in to/sign out from a system for starting/stopping the time registration, thus eliminating the risk of forgetting to sign in or sign out.

[0073] In yet another embodiment of the inventive concept, the mobile device's 50 settings are altered when the mobile device 50 is communicatively connected to the integrated interface 20 and a user is identified. For example, the mobile device 50 can gain access to a WLAN when it is communicatively connected to the integrated interface 20 and the user is identified. Another example could be that the mobile device's 50 ringtone and volume can be altered when it is communicatively connected to the integrated interface 20 and a user is identified.

[0074] In one embodiment of the inventive concept, the user profiles comprising predefined settings for said functions at the workplace can be remotely updated. In one embodiment user profiles can be added and removed from a specific workplace, several workplaces or all workplaces included in a system. In yet one embodiment predefined settings in an existing profile can be remotely altered. Remote updates can be done from the mobile device 50, a remote server or from a computer.

[0075] While the present invention has been described with reference to a number of preferred embodiments, it will be understood by those skilled in the art that various changes may be made and equivalents may be substituted for elements thereof without departing from the scope of the invention. In addition, many modifications may be made to adapt a particular situation or material to the teachings of the invention without departing from the essential scope thereof. Therefore, it is intended that the invention not be limited to the particular embodiments disclosed as the best mode contemplated for carrying out this invention, but that the invention will include all embodiments falling within the scope of the appended claims. Moreover, the use of the terms first, second, etc. do not denote any order or importance, but rather the terms first, second, etc. are used to distinguish one element from another.

In the drawings and specification, there have been disclosed preferred embodiments and examples of the invention and, although specific terms are employed, they are used in a generic and descriptive sense only and not for the purpose of limitation, the scope of the invention being set forth in the following claims.

Claims

1. A workplace (100) comprising:

a piece of furniture (1) comprising a control unit (30) for controlling functions (10, 12, 14, 42) at said workplace,

characterized in that

said piece of furniture (1) further comprises an integrated interface (20) for a communicative connection to a mobile device (50),

said integrated interface (20) being connected to said control unit (30),

said integrated interface (20) further being adapted to communicate a user specific identification from said mobile device (50) to said control unit (30), and

said control unit (30) is configured to control said functions (10, 12, 14, 42) at said workplace (100)

based on said user specific identification.

2. A workplace (100) according to claim 1, wherein said functions include adjustments of a height of said piece of furniture (1).

3. A workplace (100) according to claims 1 or 2, wherein said piece of furniture (1) is a height adjustable table comprising an electric motor for driving said height adjustable furniture, and wherein said control unit (30) further controls the operation of the electric motor.

4. A workplace (100) according to any of claims 1-3, wherein said functions further comprise adjustments of lighting (12) conditions.

5. A workplace (100) according to any of claims 1-4, wherein said functions further comprise providing a user access to a network.

6. A workplace (100) according to any of claims 1-5, wherein said functions further comprise control of electrical power outlets (42).

7. A workplace (100) according to any of claims 1-6, wherein said workspace further comprises a telephone and said telephone is, based on the identification from said mobile device, configured to be operable with a telephone number associated with said user.

8. A workplace (100) according to any of claims 1-7, wherein the communicative connection between said interface (20) and said mobile device (50) is a wireless connection (24).

9. A workplace (100) according to claim 8, wherein said wireless connection (24) is a near field communication connection.

10. A workplace (100) according to claim 8, wherein said wireless connection (24) is a Bluetooth connection.

11. A workplace (100) according to claim 8, wherein said wireless connection (24) is a WLAN connection.

12. A workplace (100) according to any of claims 1-7, wherein the communicative connection between said interface (20) and said mobile device (50) is a wired (26) connection.

13. A workplace (100) according to any of claims 1-12, wherein said mobile device (50) is voice-controlled.

14. A workplace (100) according to any of claims 1-13, wherein said mobile device (50) is a mobile phone with software adapted to communicatively connect to said integrated interface (20).

15. A workplace (100) according to any of claims 1-13, wherein said mobile device (50) is a tablet computer with software adapted to communicatively connect to said integrated interface (20).

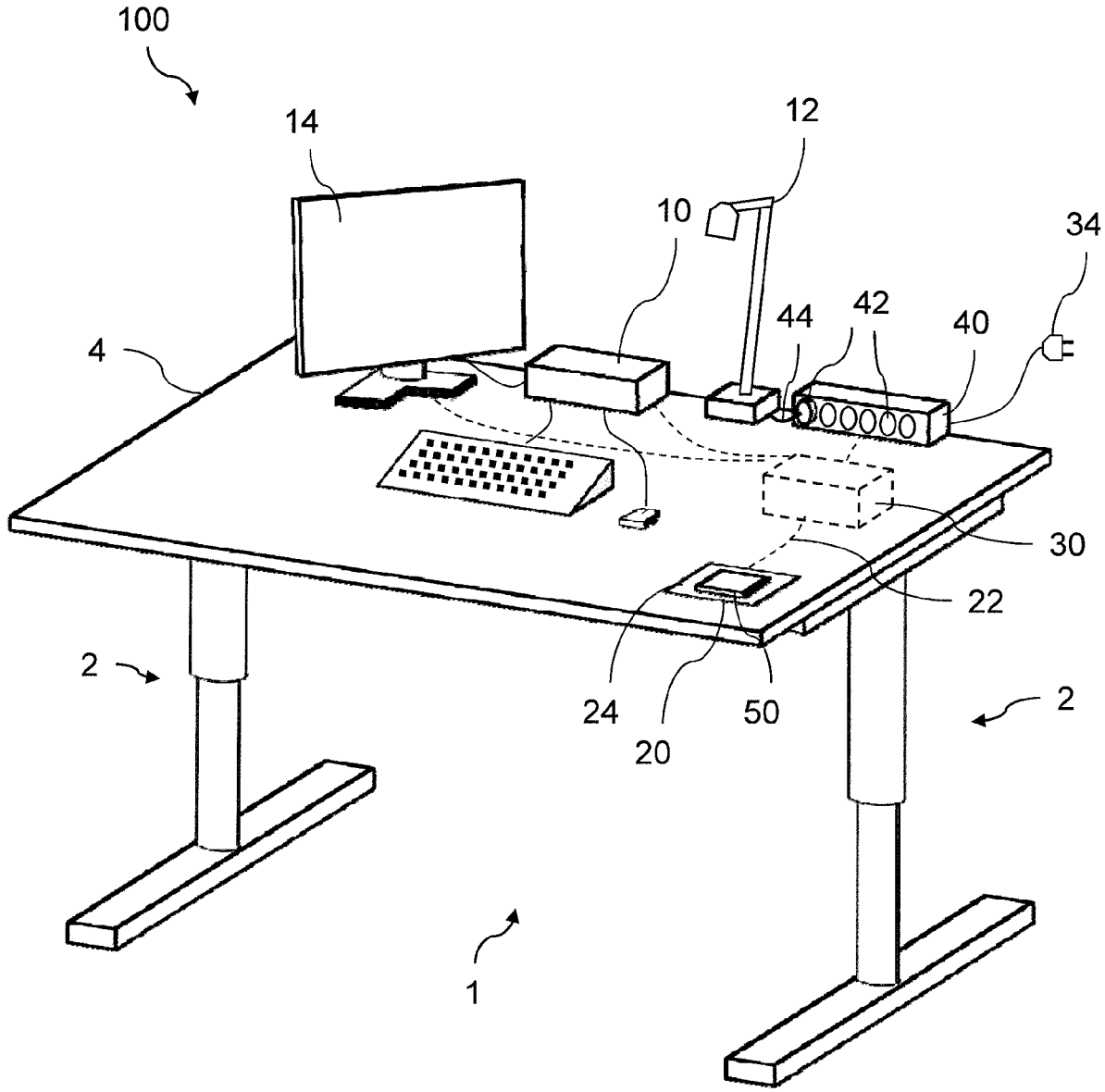

Fig. 1

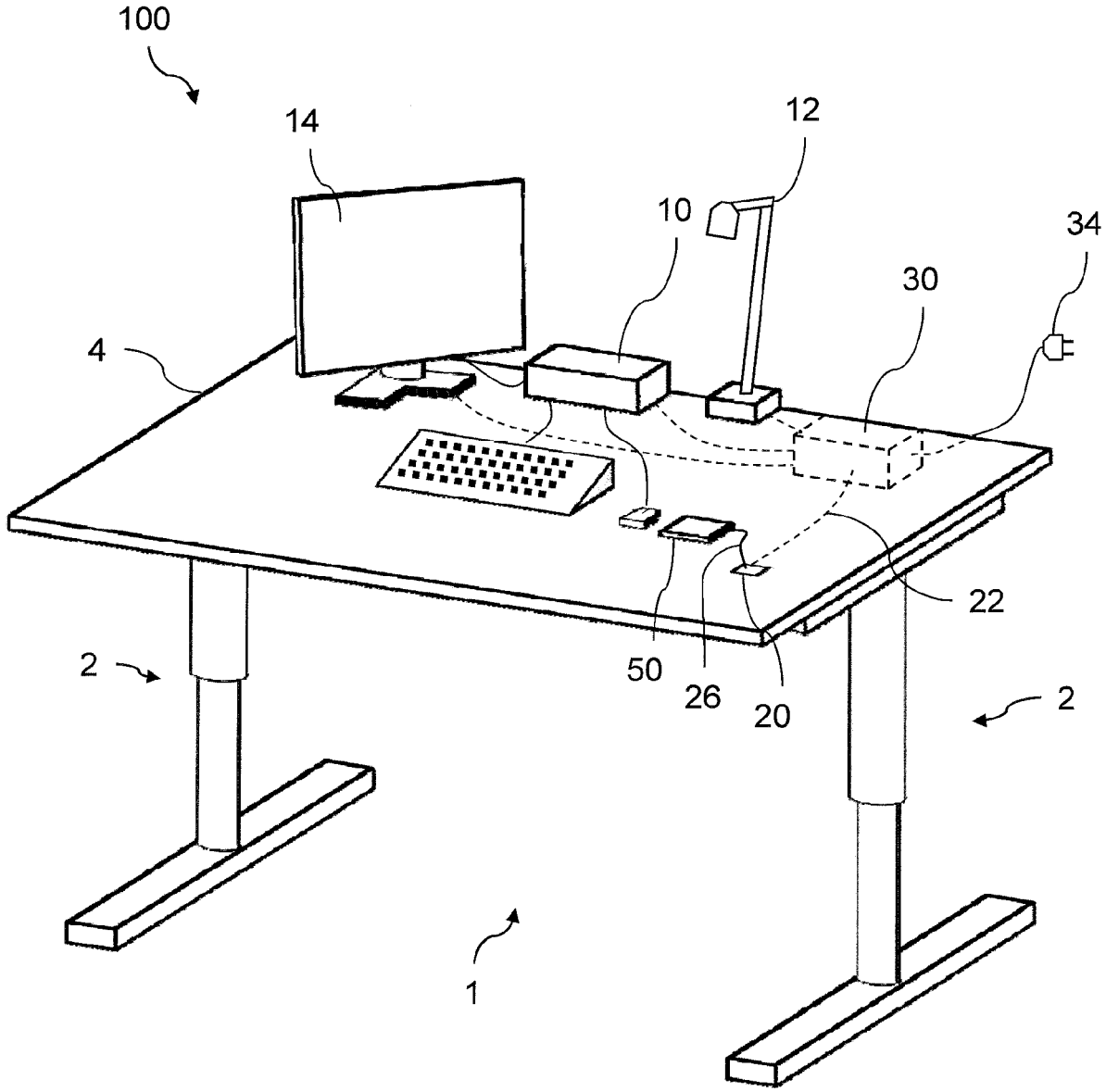

Fig. 2

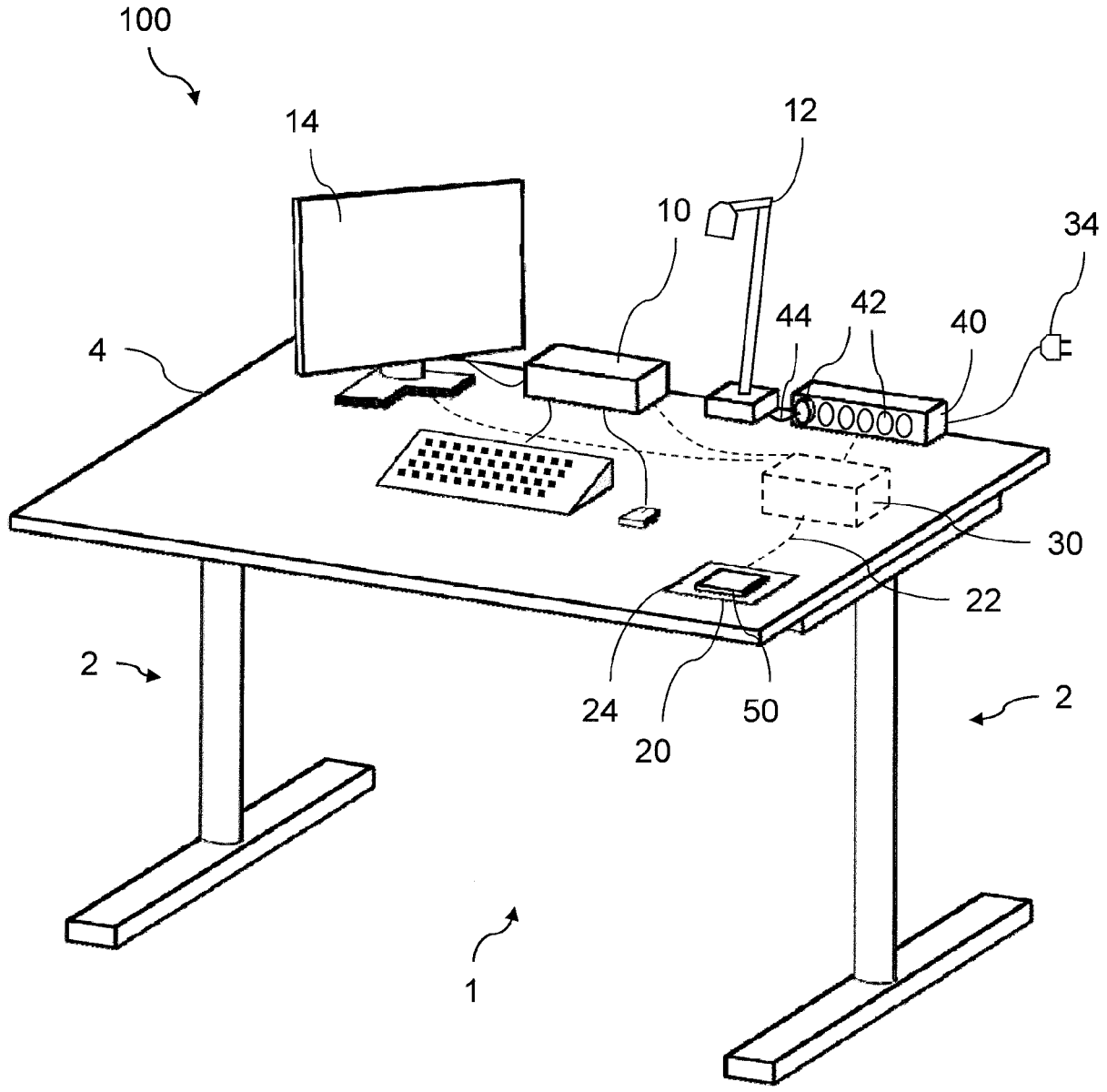

Fig. 3

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EUROPEAN SEARCH REPORT

Application Number
EP 12 15 4164

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 Y	WO 01/37163 A1 (ABBOUD JOSEPH [US]; DONNEL COURTNEY [US]) 25 May 2001 (2001-05-25) * page 7, line 6 - page 13, line 6; figures 1-7 *	1,4-15 2,3	INV. A47B9/00 A47B21/00
Y	WO 2008/155642 A1 (MAVROGENIS SOEREN [DK]) 24 December 2008 (2008-12-24) * page 4, line 3 - line 19; figures 1,2 *	2,3	
X Y	EP 1 462 027 A1 (WALDNER LABOR UND SCHULEINRICH [DE]) 29 September 2004 (2004-09-29) * paragraph [0012] - paragraph [0021]; figures 1,2 *	1,4-15 2,3	
X A	US 2007/228680 A1 (REPPERT DAVID A [US] ET AL) 4 October 2007 (2007-10-04) * paragraph [0059] - paragraph [0120]; figures 1-27 *	1,4-15 2,3	
X Y	DE 10 2010 026478 A1 (BIALAS TAMMO [DE]) 12 January 2012 (2012-01-12) * paragraph [0018] - paragraph [0027]; figures 1-3 *	1,4-15 2,3	TECHNICAL FIELDS SEARCHED (IPC) A47B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	2 July 2012	Klintebäck, Daniel

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
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E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 12 15 4164

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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02-07-2012

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