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(54) **COMPUTER FURNITURE SYSTEM AND A METHOD**
MÖBELSYSTEM FÜR RECHNER UND VERFAHREN
SYSTEME D'AMEUBLEMENT POUR ORDINATEUR ET PROCEDE

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DE-C- 277 878 **GB-A- 2 319 467**
GB-A- 191 512 167 **US-A- 4 440 373**
US-A- 4 562 482 **US-A- 5 452 950**
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EP 1 237 442 B1

Description

[0001] The present invention relates to a computer furniture system and a method.

[0002] Computer furniture systems such as tables comprising a computer partly or wholly are known within the art. The central part of the computer itself is often built into some kind of drawer or space in which the user may operate the units of the central part by pulling out the drawer or by the fronts of the units extending from the table in such a manner that they are accessible to the user.

[0003] This type of table has also generated several suggestions as to how the computer screen may be integrated in a reasonable way. This includes a manner which ensures that the screen is accessible to the user both when actually using the computer and when the computer is not in use.

[0004] An example of a computer furniture system is disclosed in GB-A 2 319 467. The document discloses an invention in which a flat display screen is positioned in a recess of a table work surface but not integrated into the table as such. The screen has a pivotal connection to the compartment and is positioned with the display surface upward in a storage position. The screen may be raised to a use position by lifting and pivoting the screen in relation to the connection.

[0005] Further, a commonly known approach is to build a kind of stowaway compartment under the table which extends to the upper side of the table. The screen is subsequently raised from a position in the stowaway compartment under the table when not in use to a position on or above the upper side of the table when in use. Apart from a lifting motor, the stowaway compartment furthermore comprises a some kind of chain drive which transfers power to the plate on which the screen is often placed. The movement of the plate is generally controlled by some kind of rail extending in the vertical direction in the side of the stowaway compartment.

[0006] A computer screen used together with the above-mentioned system may be based on cathode tubes or flat screen technology.

[0007] Examples of state of the art are disclosed in US-A 4,735,467 and US-A 5,242,217.

[0008] However, a table with the explained screen solution has several drawbacks, one of the primary drawbacks being that the system requires a lot of space in the table itself and around/in relation to the table. Especially the stowaway compartment under the table is disadvantageous since it limits the space for the user's legs when seated at the table. Thus, the user will be locked/forced into certain sitting positions or alternatively often bump particularly his feet or knees against the stowaway compartment. As the stowaway compartment will often be made of a solid metal, this will be painful.

[0009] At the same time, the stowaway compartment will comprise one or more motors together with other electronic equipment increasing the risk of the stowa-

way compartment conducting quite a lot of heat to which the user's legs will be exposed. This, in turn, will result in discomfort to the user when spending long working periods at the table.

[0010] Also, it will be complicated to construct a table with a screen stowaway compartment which is elegant and at the same time light and which may be mounted without requiring extensive training of the assembler/engineer in relation to the construction/operation of the table.

[0011] The purpose of the invention is to create a table with a controllable screen arrangement wherein the above-mentioned problems have been eliminated. In particular, the purpose of the invention is to create a table which is compact and user-friendly.

The invention

[0012] The invention relates to a computer furniture system as defined in claim 1.

[0013] The manner in which the system is designed facilitates positioning of the system anywhere on the surface of the piece of furniture because the system does not take up a lot of space under the surface. In particular, the system will not require a lot of space in the vertical direction as is the case with some of the prior art solutions.

[0014] The rotational movement is particularly advantageous since it does not involve a vertical lift of the display screen but only a substantially horizontal movement of the screen. The energy required to perform this substantially horizontal movement is significantly less than when performing a vertical lift and results in less requirements to the driving means. Due to this, the driving means may be smaller and lighter in dimension.

[0015] The amount of heat generated by the system will be less than the amount generated by some of the prior art solutions. At the same time, the heat will be generated further away from the user's legs and the user-friendliness is hereby improved.

[0016] It should be emphasised that the plate-like object may be a single plate similar in size to that of the computer screen or a number of smaller plates, each working as a kind of arm in connection with the display screen.

[0017] It should also be emphasised that the first connection is usually a connection pivotable around an axis in a fixed position. An example may be one or more separate hinges of any kind connecting the plate-like object with the surface. However, an integrated hinge in the plate-like object and/or in the surface is also possible.

[0018] The second connection is usually a connection pivotable around an axis where the axis may be moved within a space. An example may also be one or more separate hinges of any kind connecting the plate-like object with the display screen. However, an integrated hinge in the plate-like object and/or in the display screen is also possible.

[0019] When said display screen is a flat screen, it is possible to reduce the size of the system.

[0020] When said at least one plate-like object is made of wood, it is possible to establish visual cooperation with the surface of the furniture.

[0021] In addition, it is possible to minimise the weight of the plate-like object when using wood instead of e.g. metal.

[0022] It should, however, be emphasised that the plate-like object may be made of plastic or metal as mentioned above.

[0023] When said at least one plate-like object is substantially identical in size with that of the display screen, it is possible to perform an almost symmetrical movement.

[0024] It is also possible to establish improved electric signal connections to the display screen from the rest of the computer by placing the lines on the lower side of the plate-like object.

[0025] When said furniture comprises one or more driving means, it is possible to control the movement of the display screen in a preferred manner. The possibility of adjusting the stop position of the screen is particularly advantageous since the angle of the screen can be controlled which ensures a favourable position in relation to the user.

[0026] When said driving means includes at least one electric motor, it is possible to adjust the angle of the display screen in a stepless fashion.

[0027] It should be emphasised that the driving means may be a DC motor, a linear motor, pneumatic or hydraulic pump means or any other form of power-driven means. Also, it should be emphasised that the movement of the display screen by driving means may be in only one direction i.e. from the storage position to the in-use position. The movement of the display screen in the opposite direction may be achieved by the user moving it to its storage position.

[0028] When said furniture comprises sliding means, it is possible to control the movement of the display screen in a preferable manner in which the friction coefficient is minimised.

[0029] When said sliding means comprises at least two rails, it is possible to guide the slide off the display screen in a preferred manner.

[0030] In particular, it is very easy to establish end stops at one or both ends of the rails and hereby define the possible movements of the display screen.

[0031] When said display screen is rotated from storage position to an in-use position, it is possible to design the driving means to only perform a limited operation.

[0032] When the angle of the rotation from a storage position to an in-use position is between 60 and 180 degrees, and preferably between 75 and 120 degrees, it is possible to achieve a preferred embodiment of the invention.

[0033] When said storage position and said in-use position are defined by end stops controlling said driving

means, it is possible to protect the system against damage. The end stops will ensure that the travelling of the display screen will not exceed the limits.

[0034] When said driving means follows a pre-established moment curve, it is possible to ensure that the display screen and the plate-like object perform the desired movement. When initiated, the moment curve may be different from that of the end of a movement and the actual performance may be measured. Hereby, it is possible to compare the moment curve with the measured performance values and determine whether the computer furniture system is working properly.

[0035] When said display screen is connected to a curtain and a curtain holder, it is possible to prevent the user from being able to see into the interior compartment of the desk. Also, the user is prevented from dropping or sticking items directly into the compartment and e.g. into the mechanical parts.

[0036] The life of the system is also prolonged due to the fact that the different parts of the system are protected against dust and other kinds of dirt.

[0037] When the system includes computer means electrically connected to said display screen and where said computer means are placed in one or more compartments in the piece of furniture, it is possible to create a compact piece of computer furniture in which the computer can be totally concealed.

[0038] When a visual display unit for a piece of furniture comprising at least one plate-like object, at least one display screen where said plate-like object comprises a connection to said display screen, and where said display screen is capable of performing a rotational movement with the centre of rotation being in said connection from a storage position to an in-use position and vice versa, it is possible to create a compact and user-friendly unit.

[0039] The visual display unit may be used as a computer screen in a computer system. It is, however, also possible to use the system in connection with e.g. information systems or television systems. Another field of application may be in relation to a teaching system where a number of visual display units may be connected to a central computer operated by the teacher. Yet another field of application may be in relation to an information system with a visual display unit such as libraries, public offices or similar places where the possibility of placing the display screen in a protected storage position when not in use is particularly advantageous.

[0040] The invention also relates to a method of transferring a display screen from a substantially horizontal position in which it is partly or completely concealed in a compartment of a piece of furniture by being substantially faced down into a position in which it can be viewed by a user of the display screen or vice versa, the piece of furniture includes a surface defining a plane and drive means such as power driving means, where said display screen is rotated around an axis defined by a second

connection between the display screen and at least one plate-like object from the substantially horizontal position to the position in which it can be viewed or vice versa, said plate-like object pivots around an axis defining a first connection between said object and said furniture and a part of said display screen opposite said second connection performs a sliding movement in relation to said surface plane by said drive means.

[0041] The rotational movement is particularly advantageous since it does not involve a vertical lift of the display screen but only a substantially horizontal movement of the screen. The energy required to perform this substantially horizontal movement is significantly less than when performing a vertical lift and results in less requirements to the driving means. Due to this, the driving means may be smaller and lighter in dimension.

[0042] The amount of heat generated by the system will be less than the amount generated by some of the prior art solutions. At the same time, the heat will be generated further away from the users legs and the user-friendliness is hereby improved.

[0043] When said screen is rotated at an angle between 60 and 180 degrees, and preferably between 75 and 120 degrees, a preferred embodiment of the invention may be achieved.

[0044] When any part of said display screen other than said axis is moved linearly in relation to said surface, it is possible to control the movement in an easy manner because of the stability throughout the movement.

[0045] It should be emphasised that the part of the display screen in question will usually and preferably be the base of the display screen. However, the part in question may also be on the sides of the display screen and usually in the lower part of the screen.

[0046] When any part of said display screen other than said axis is moved along a curve in relation to said surface, it is possible to have curved rails.

[0047] In an embodiment of the invention, the rails may curve downwards in the part close to the storage position and upwards against the in-use position. In this situation, it will be easy to move the display screen from the storage position because of gravitation. Similarly, the return to the storage position will also be smoother because of the uphill movement.

[0048] When said part is moved by means of driving means, such as power-driven means, it is possible to adjust the angle of the display screen in a stepless fashion. Hereby, the user may adjust the screen to a personally advantageous viewing position.

[0049] When said part of said display screen is connected to curtain means which is moved during said rotation of said display screen, it is possible to prevent the user from being able to see into the interior compartment of the desk. Also, the user is prevented from dropping or sticking items directly into the compartment and e.g. into the mechanical parts.

[0050] The life of the system is also prolonged due to

the fact that the different parts of the system are protected against dust and other kinds of dirt.

[0051] When said movement is performed as a winding/unwinding operation, it is possible to design a very simple and reliable system. One part of the rolling/unrolling operation may involve a spring to move the curtain or to assist in the movement of the curtain.

[0052] When said movement is performed as a stretching operation of said curtain means, it is possible to create a system without or almost without any mechanical parts in the curtain system by using a very easily stretchable material.

[0053] When a part of said display is connected to a toothed belt which moves said part in a substantially horizontal direction, it is possible to move the display screen in a simple and efficient manner.

[0054] Especially the direct connection of the display screen to the toothed belt is advantageous over an indirect connection e.g. through a number of wheels. The movement in a horizontal direction is advantageous due to the reduced energy requirements when performing the movement.

[0055] When said toothed belt is driven by an electric motor, it is possible to adjust the angle of the display screen in a stepless fashion. Hereby, the user may adjust the screen to a personally advantageous viewing position.

[0056] When the current to said motor is regulated and/or controlled during said movements, it is possible to protect the system and the user against damage and injury. The regulation or control will ensure that the travelling of the display screen will not exceed any limits or cause malfunction in any other way by keeping the current under a certain value.

[0057] When said current is reduced when said display screen is close to an end point of its movement, it is possible to reduce or remove the vibrations transferred to the display screen when locking in the in-use position or the storage position.

[0058] The invention will be described in the following with reference to the figures, in which

fig. 1 shows a desk with a display screen arrangement according to the invention,

fig. 2 shows the desk of fig. 1 seen from above and in storage position,

fig. 3 shows the movement pattern of a display screen such as computer screen,

fig. 4 shows a possible construction according to the invention which also comprises a curtain arrangement, and

fig. 5 shows an motor system to be used in connection with the screen arrangement.

Detailed description

[0059] In a preferred embodiment, the invention relates to a display screen arrangement for a computer system, said system being incorporated in a piece of furniture such as a desk or a similar piece of furniture and said screen arrangement also being partly incorporated therein.

[0060] Fig. 1 shows a preferred embodiment of the invention where the furniture is a desk 10. The desk has a writing surface 11 and a number of drawers 14 where the drawers 14 may contain a different parts of a computer system such as a central unit and computer read and write units, i.e. CD-ROM and diskette drives. The desk further comprises a drawer or compartment 15 for one or more computer input devices such as a keyboard and a computer mouse. In addition, peripheral equipment such as printers, plotters etc., may also be placed in the drawer or compartment 15.

[0061] The computer system has an electrical connection to a display screen 12 placed on the surface of the desk. The display screen 12 is mechanically connected to a plate-like object 13 which is mechanically connected to the surface 11. The display screen 12 is preferably a flat screen and the plate-like object 13 is a wooden plate similar in size to that of the flat screen.

[0062] Fig. 2 shows the desk from fig. 1 seen from above in storage position. It is seen that the plate-like object closes tightly around the surface of the desk. In an embodiment of the invention, the surface has a groove and a sealing ring beneath the object which enhances the tightness even further.

[0063] Fig. 3 shows the computer furniture system with a display screen 12 and a plate-like object 13 in different positions seen from the side. A person using the display screen is positioned to the left of the display screen and has to look to his right to see the display screen.

[0064] The line 20 illustrates sliding means such as rails wherein the display screen may slide from a storage position (marked A) to an in-use position (marked E).

[0065] In the storage position (marked A), the front side of the display screen 12 is substantially facing downwards and follows the angle of the sliding means 20. The plate-like object 13 is levelled with the surface 11 of the desk 10.

[0066] In a second position (marked B), the driving means has pushed the display screen 12 and the plate-like object 13 up from the surface but the screen is still substantially facing downwards and the angle between the display screen 12 and the plate-like object 13 is quite small.

[0067] In a third and a fourth position (marked C and D), the driving means has pushed the display screen 12 and the plate-like object 13 further up from the surface and the screen no longer faces downwards but has become increasingly vertical. The angle between the dis-

play screen 12 and the plate-like object 13 has become wider.

[0068] In a fifth position (marked E), the display screen 12 is in an in-use position where the front of the display screen faces the person using the display screen. The plate-like object 13 is holding and supporting the display screen 12 in an in-use position.

[0069] Fig. 4 shows the computer furniture system where the display screen 12 and the plate-like object 13 is in an in-use position as described above. The system further has a curtain 21 and a curtain holder 22, the curtain being connected to the display screen at the base of the screen.

[0070] When moving from storage position to an in-use position, the display screen 12 will draw out the curtain 21 from the curtain holder 22. Hereby, the hole in the surface of the piece of furniture, which appears between the base of the display screen and the base of the plate-like object, is concealed.

[0071] Fig. 5 shows a preferred embodiment of the driving means to the computer furniture system.

[0072] The driving means includes an electric motor 31 which is connected with a first driving shaft 38. The first driving shaft 38 is connected with a second adjustable shaft 39 by a toothed belt 41. The power from the driving shaft 38 is transmitted via a first toothed belt wheel 42 to the toothed belt 41 and via a second toothed belt wheel 43 to the second shaft where the wheels 42, 43 are mounted on the driving shaft 38 and the second shaft 39, respectively. The toothed belt 41 is connected to an arm with pivotable connection braces 45 capable of holding the display screen since the ends of the display screen arm are mounted slideably into two rails 33, 34 on each side. The rails 33, 34 further have means for holding the other shafts in fixed positions including the shaft in the curtain holder 47. The curtain 46 has means for connecting the curtain directly or indirectly with the display screen 12 where the indirect connection may be to the toothed belt 41 right behind the display screen.

[0073] The driving means further includes a shaft 40 to keep the toothed belt 41 tight together with front 35 and back frames 36. The front frame includes a foam rubber list 37 to ensure that the display screen 12 is not damaged when returning it to storage position A.

[0074] The front frame and the back frame, the rails on the right and left sides and the bottom plate define an interior compartment of the piece of furniture. In the storage position of the display screen, the plate-like object will close the compartment at the top and in the in-use position, the curtain will have the same function.

The functionality of the driving means is as follows:

[0075] The motor 31 rotates the first driving shaft which is aided by the second shaft and drives the toothed belt forward. The display screen 12 mounted on an arm 44 will also move forward from its storage position A because the arm is connected to the toothed belt

41. The display screen 12 will also move upwards due to the connection to the plate-like object 13, said object having a further connection to the area of the back frame 36. The plate-like object defines a fixed distance at which the top of the display screen is connected to the plate-like object.

[0076] When the toothed belt 41 has moved the display screen 12 forward to the second shaft 39, the screen will be in an in-use position E.

[0077] If the motor 31 rotates in the direction opposite the toothed belt 41, the display screen 12 will move towards the back frame 36 and the screen will return to storage position A. In this position, the display screen 12 will be substantially horizontal with the front facing downwards and the plate-like object 13 on top of it.

[0078] The display screen 12 may be moved by one toothed belt 41 or a number of belts such as two belts placed at each side of the system to ensure symmetric transmission of power to the display screen 12.

[0079] The movement of the display screen 12 is controlled by end stops positioned at each end of the rails 33, 34. The end stops preferably control a switch mounted in the power lines which connects or disconnects power to the electric motor.

[0080] The end stops or similar switches in the path of the display screen may be used to control the on/off function of the display screen and/or the rest of a computer system. In a similar way, it will be possible to control the position of the display screen by turning the computer system on or off, i.e. the display screen will move to an in-use position when the computer is turned on and to a storage position when it is turned off.

[0081] It should be emphasized that the above-mentioned embodiment may be subject to several variations within the scope of the invention. In a variation, toothed wheels or a rack and pinion drive may replace the toothed belt.

List

[0082]

10. A piece of furniture such as a table
11. Surface of a piece of furniture
12. Display screen
13. Plate-like object
14. Drawers
15. Keyboard/computer mouse drawer
16. First connection
17. Second connection
18. Groove and sealing ring
20. Sliding means
21. Curtain
22. Curtain holder
30. Motor control system
31. Motor
32. Bottom plate
- 33, 34. Rails

35. Front frame
36. Back frame
37. Foam rubber list
38. Driving shaft
- 5 39. Second shaft
40. Tightening shaft
41. Toothed belt
42. First toothed belt wheel
43. Second toothed belt wheel
- 10 44. Arm for a display screen
45. Connection braces for a display screen
46. Curtain
47. Curtain holder

Claims

1. Computer furniture system including a surface (11) defining a horizontal plane, said system comprising at least one plate-like object (13), at least one display screen (12), one or more driving means, such as power driving means, where said plate-like object (13) comprises a first connection (16) to said surface (11) in one end and a second connection (17) to said display screen (12) in the other end, where said first connection (16) is pivotable around an axis in relation to said surface plane (11), where said display screen (12) is capable of performing a rotational movement in relation to said plate-like object (13) with the centre of rotation being in said second connection (17), and whereby said display screen (12) is rotated from a storage position (A) to an in-use position (E), and **characterised in that:**

a part of said display screen (12) opposite said second connection (17) comprises sliding means (20) in which said display screen (12) performs a sliding movement in relation to said surface plane, driven by said driving means

and said display screen (12) is substantially faced down in said storage position.

2. Computer furniture system according to claim 1, where said display screen (12) is a flat screen.
- 50 3. Computer furniture system according to claim 1, where said at least one plate-like object (13) is made of wood.
- 55 4. Computer furniture system according to claim 1, where said at least one plate-like object (13) is substantially similar in size to that of said display screen.

5. Computer furniture system according to claim 1, where said driving means includes at least one electric motor (31).
6. Computer furniture system according to claim 1, where said sliding means comprises at least two rails (33, 34) positioned in relation to said surface plane.
7. Computer furniture system according to claim 1, where the angle of rotation from said storage position (A) to said in-use position (E) is between 60 and 180 degrees, and preferably between 75 and 120 degrees.
8. Computer furniture system according to claim 1, where said storage position (A) and said in-use position (E) are defined by end stops controlling said driving means.
9. Computer furniture system according to claim 1, where said driving means follows a pre-established moment curve.
10. Computer furniture system according to claim 1, where said display screen (12) is connected to a curtain (21, 46) and a curtain holder (22, 47).
11. Computer furniture system according to claim 1 where the system includes computer means electrically connected to said display screen and where said computer means are placed in one or more compartments in the piece of furniture.
12. Method of transferring a display screen (12) from a substantially horizontal position in which it is partly or completely concealed in a compartment of a piece of furniture by being substantially faced down into a position in which it can be viewed by a user of the display screen or vice versa, whereby the piece of furniture includes a surface (11) defining a horizontal plane and driving means such as power driving means, where said display screen (12) is rotated around an axis defined by a second connection (17) between the display screen (12) and at least one plate-like object (13) from the substantially horizontal position to the position in which it can be viewed or vice versa, said plate-like object (13) pivots around an axis defining a first connection (16) between said plate-like object and said furniture, and a part of said display screen (12) opposite said second connection (17) performs a sliding movement in relation to said surface plane (11) by said driving means.
13. Method according to claim 12 whereby said screen is rotated at an angle between 60 and 180 degrees, and preferably between 75 and 120 degrees.
14. Method according to claim 12 or 13 whereby said part of said display screen is connected to curtain means moved during said rotation of said display screen.
15. Method according to claim 14 whereby said movement is performed as a winding/unwinding operation.
16. Method according to claim 14 whereby said movement is performed as a stretching operation of said curtain means.
17. Method according to any of claims 12 to 16 whereby part of said display is connected to a toothed belt which moves said part in a substantially horizontal direction.
18. Method according to claim 17 whereby said toothed belt is driven by an electric motor.
19. Method according to claim 18 whereby the current to said motor is regulated and/or controlled during said movements.
20. Method according to claim 19 whereby said current is reduced when said display screen is close to an end point of its movement.

Patentansprüche

1. Möbelsystem für Rechner umfassend eine Oberfläche (11), die eine horizontale Ebene bestimmt, wobei das System umfaßt wenigstens einen plattenförmigen Gegenstand (13), wenigstens einen Bild- oder Displayschirm (12), eines oder mehrere Antriebsmittel, wie in motorische Antriebsmittel, wobei der plattenförmige Gegenstand (13) eine erste Verbindung (16) mit der Oberfläche (11) an einem Ende und eine zweite Verbindung (17) mit dem Bildschirm (12) an dem anderen Ende umfaßt, wobei die erste Verbindung (16) um eine Achse relativ zur Oberflächenebene (11) schwenkbar ist, wobei der Bildschirm (12) in der Lage ist, eine Rotationsbewegung mit dem Rotationszentrum in der zweiten Verbindung (17) relativ zu dem plattenförmigen Gegenstand (13) auszuführen, und wobei der Bildschirm (12) aus einer Lagerposition (A) in eine Arbeitsposition (E) drehbar ist, und **dadurch gekennzeichnet, daß:**

ein Teil des Bildschirms (12) entgegengesetzt

- der zweiten Verbindung (17) Gleitmittel (20) umfaßt, in denen der Bildschirm (12) eine Gleitbewegung relativ zu der Oberflächenebene ausführt, angetrieben durch die Antriebsmittel, und der Bildschirm (12) in der Lagerposition im wesentlichen mit seiner Vorderseite nach unten gerichtet liegt.
2. Möbelsystem für Rechner nach Anspruch 1, wobei der Bildschirm (12) ein Flachschild ist.
 3. Möbelsystem für Rechner nach Anspruch 1, wobei der wenigstens eine plattenförmige Gegenstand (13) aus Holz hergestellt ist.
 4. Möbelsystem für Rechner nach Anspruch 1, wobei der wenigstens eine plattenförmige Gegenstand (13) im wesentlichen in seiner Größe der des Bildschirms gleich ist.
 5. Möbelsystem für Rechner nach Anspruch 1, wobei das Antriebsmittel wenigstens einen Elektromotor (31) einschließt.
 6. Möbelsystem für Rechner nach Anspruch 1, wobei das Gleitmittel wenigstens zwei Schienen (33, 34) umfaßt, die relativ zu der Oberflächenebene gelagert sind.
 7. Möbelsystem für Rechner nach Anspruch 1, wobei der Drehwinkel von der Lagerposition (A) in die Arbeitsposition (E) zwischen 60 und 180 Grad liegt, und bevorzugt zwischen 75 und 120 Grad.
 8. Möbelsystem für Rechner nach Anspruch 1, wobei die Lagerposition (A) und die Arbeitsposition (E) durch Endanschläge definiert sind, die das Antriebsmittel steuern.
 9. Möbelsystem für Rechner nach Anspruch 1, wobei das Antriebsmittel einer voreingestellten Momentenkurve folgt.
 10. Möbelsystem für Rechner nach Anspruch 1, wobei der Bildschirm (12) mit einem Vorhang (21, 46) und einem Vorhanghalter (22, 47) verbunden ist.
 11. Möbelsystem für Rechner nach Anspruch 1, wobei das System Rechermittel einschließt, die elektrisch mit dem Bildschirm verbunden sind, und wobei die Rechermittel in einer oder mehreren Abteilen in dem Möbelstück angeordnet sind.
 12. Verfahren zum Verlagern eines Bildschirms (12) aus einer im wesentlichen horizontalen Lage, in der er teilweise oder vollständig in einem Abteil eines Möbelstückes verborgen ist, indem er im wesentli-
- chen mit der Vorderseite nach unten liegt, in eine Position, in der er von einem Benutzer des Bildschirms an bzw. eingesehen werden kann, oder umgekehrt, wobei das Möbelstück eine Oberfläche (11), die eine horizontale Ebene definiert, sowie Antriebsmittel wie motorische Antriebsmittel einschließt; wobei der Bildschirm (12) um eine Achse gedreht wird, die durch eine zweite Verbindung (17) zwischen dem Bildschirm (12) und wenigstens einem plattenförmigen Gegenstand (13) aus der im wesentlichen horizontalen Position in die Position, in der er an bzw. eingesehen werden kann, oder umgekehrt gedreht wird, der plattenförmige Gegenstand (13) um eine Achse schwenkt, die eine erste Verbindung (16) zwischen dem plattenförmigen Gegenstand und dem Möbel bestimmt, und ein Teil des Bildschirms (12) entgegengesetzt der zweiten Verbindung (17) durch die Antriebsmittel eine Gleitbewegung relativ zu der Oberflächenebene (11) ausführt.
13. Verfahren nach Anspruch 12, wobei der Schirm in einem Winkel zwischen 60 und 180 Grad und vorzugsweise zwischen 75 und 120 Grad gedreht wird.
 14. Verfahren nach Anspruch 12 oder 13, wobei der Teil des Bildschirms mit Vorhangmitteln verbunden ist, die während der Drehung des Bildschirms bewegt werden.
 15. Verfahren nach Anspruch 14, wobei die Bewegung als Aufroll-/Abrollvorgang durchgeführt wird.
 16. Verfahren nach Anspruch 14, wobei die Bewegung als Streckvorgang der Vorhangmittel durchgeführt wird.
 17. Verfahren nach einem der Ansprüche 12 bis 16, wobei ein Teil des Displays mit einem Zahnriemen verbunden ist, der das Teil in im wesentlichen horizontaler Richtung bewegt.
 18. Verfahren nach Anspruch 17, wobei der Zahnriemen von einem Elektromotor getrieben wird.
 19. Verfahren nach Anspruch 18, wobei der Strom zum Motor während der Bewegungen geregelt und/oder gesteuert wird.
 20. Verfahren nach Anspruch 19, wobei der Strom verringert wird, wenn der Bildschirm sich dicht an einem Endpunkt seiner Bewegung befindet.

Revendications

1. Système d'ameublement pour ordinateur comprenant une surface (11) définissant un plan horizontal, ledit système comprenant:

au moins un objet ayant la forme d'une plaque (13);

au moins un écran d'affichage (12);

un ou plusieurs moyens d'entraînement, comme des moyens d'entraînement électriques par exemple;

dans lequel ledit objet ayant la forme d'une plaque (13) comprend une première connexion (16) avec ladite surface (11) au niveau de l'une de ses extrémités, et une deuxième connexion (17) avec ledit écran d'affichage (12) au niveau de l'autre de ses extrémités;

dans lequel ladite première connexion (16) peut pivoter autour d'un axe par rapport au dit plan de surface (11);

dans lequel ledit écran d'affichage (12) peut exécuter un mouvement de rotation par rapport au dit objet ayant la forme d'une plaque (13) le centre de rotation se situant au niveau de ladite deuxième connexion (17), et moyennant quoi ledit écran d'affichage (12) tourne depuis une position de rangement (A) jusqu'à une position d'utilisation (E); et **caractérisé en ce que:**

une partie dudit écran d'affichage (12) opposée à ladite deuxième connexion (17) comprend des moyens de coulissement (20), dans lesquels ledit écran d'affichage (12) exécute un mouvement de coulissement par rapport au dit plan de surface, entraîné par lesdits moyens d'entraînement;

et ledit écran d'affichage (12) est sensiblement dirigé face vers le bas dans ladite position de rangement.

2. Système d'ameublement pour ordinateur selon la revendication 1, dans lequel ledit écran d'affichage (12) est un écran plat.

3. Système d'ameublement pour ordinateur selon la revendication 1, dans lequel ledit au moins un objet ayant la forme d'une plaque (13) est en bois.

4. Système d'ameublement pour ordinateur selon la revendication 1, dans lequel ledit au moins un objet ayant la forme d'une plaque (13) a des dimensions sensiblement semblables à celles dudit écran d'affichage.

5. Système d'ameublement pour ordinateur selon la revendication 1, dans lequel lesdits moyens d'entraînement comprennent au moins un moteur électrique (31).

6. Système d'ameublement pour ordinateur selon la revendication 1, dans lequel lesdits moyens de coulissement comprennent au moins deux rails (33, 34) agencés en relation avec ledit plan de surface.

7. Système d'ameublement pour ordinateur selon la revendication 1, dans lequel l'angle de rotation depuis ladite position de rangement (A) jusqu'à ladite position d'utilisation (E) est compris entre 60 et 180 degrés et, de préférence, entre 75 et 120 degrés.

8. Système d'ameublement pour ordinateur selon la revendication 1, dans lequel ladite position de rangement (A) et ladite position d'utilisation (E) sont délimitées par des butées d'extrémité qui contrôlent lesdits moyens d'entraînement.

9. Système d'ameublement pour ordinateur selon la revendication 1, dans lequel lesdits moyens d'entraînement suivent une courbe de moment pré établie.

10. Système d'ameublement pour ordinateur selon la revendication 1, dans lequel ledit écran d'affichage (12) est relié à un rideau (21, 46) et à un dispositif de support de rideau (22,47).

11. Système d'ameublement pour ordinateur selon la revendication 1, dans lequel le système comprend des moyens d'ordinateur reliés par des moyens électriques audit écran d'affichage, et dans lequel lesdits moyens d'ordinateur sont placés dans un ou plusieurs compartiment(s) de l'élément d'ameublement.

12. Procédé permettant de faire passer un écran d'affichage (12) d'une position sensiblement horizontale dans laquelle il est partiellement ou complètement enfermé dans un compartiment d'un élément d'ameublement en étant sensiblement dirigé face vers le bas, jusqu'à une position dans laquelle il peut être vu par un utilisateur de l'écran l'affichage, ou vice versa, par lequel l'élément d'ameublement comprend une surface (11) définissant un plan horizontal et des moyens d'entraînement comme des moyens d'entraînement électriques par exemple; dans lequel ledit écran d'affichage (12) tourne autour d'un axe défini par une deuxième connexion (17) entre l'écran l'affichage (12) et au moins un objet ayant la forme d'une plaque (13), depuis la position sensiblement horizontale jusqu'à la position dans laquelle il peut être vu, ou vice versa;

ledit objet ayant la forme d'une plaque (13) pivote autour d'un axe définissant une première connexion (16) entre ledit objet ayant la forme d'une plaque et ledit ameublement;

et

une partie dudit écran d'affichage (12) opposée à ladite deuxième connexion (17) exécute un mouvement de coulissement par rapport audit plan de surface (11), par lesdits moyens d'entraînement.

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13. Procédé selon la revendication 12, par lequel ledit écran tourne à un angle compris entre 60 et 180 degrés et, de préférence, entre 75 et 120 degrés.
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14. Procédé selon la revendication 12 ou 13, par lequel ladite partie dudit écran d'affichage est reliée à des moyens de rideau déplacés au cours de ladite rotation dudit écran d'affichage.
- 20
15. Procédé selon la revendication 14, par lequel ledit mouvement est exécuté sous la forme d'une opération d'enroulement / de déroulement.
- 25
16. Procédé selon la revendication 14, par lequel ledit mouvement est exécuté sous la forme d'une opération d'étirement desdits moyens de rideau.
- 30
17. Procédé selon l'une quelconque des revendications 12 à 16, par lequel une partie dudit écran d'affichage est reliée à une courroie dentée qui déplace ladite partie dans une direction sensiblement horizontale.
- 35
18. Procédé selon la revendication 17, par lequel ladite courroie dentée est entraînée par un moteur électrique.
- 40
19. Procédé selon la revendication 18, par lequel le courant qui alimente ledit moteur est régulé et/ou contrôlé pendant lesdits mouvements.
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20. Procédé selon la revendication 19, par lequel ledit courant est réduit lorsque ledit écran d'affichage est proche d'un point d'extrémité de son mouvement.

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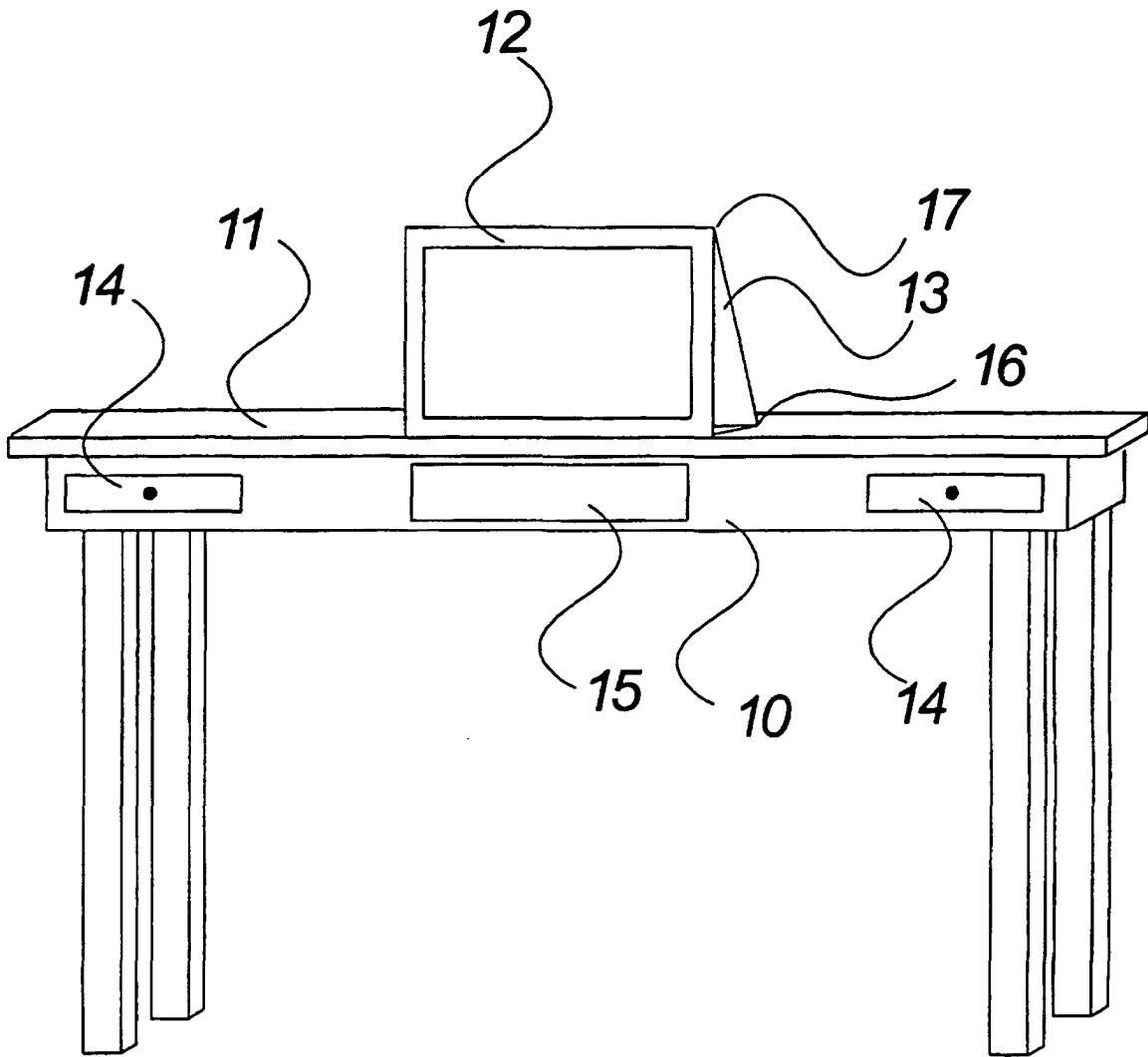


Fig. 1

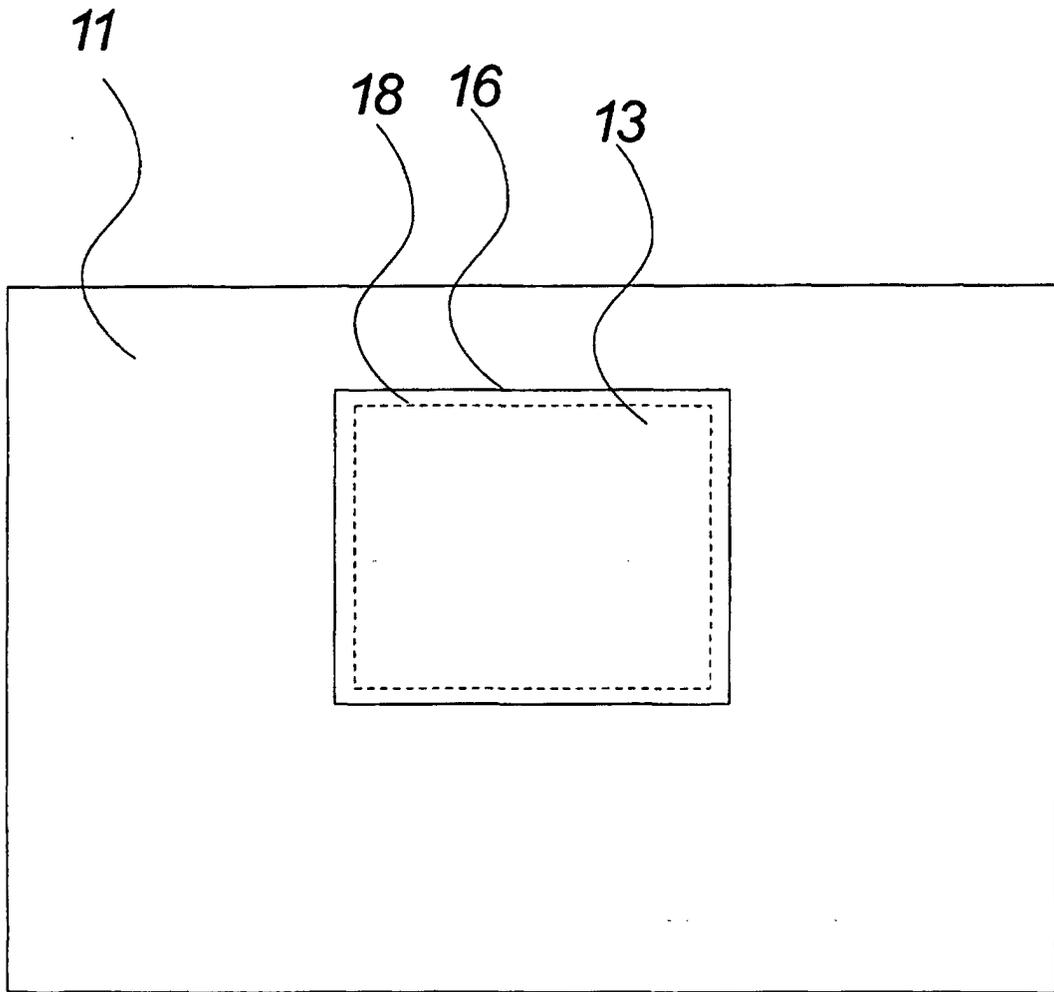


Fig. 2

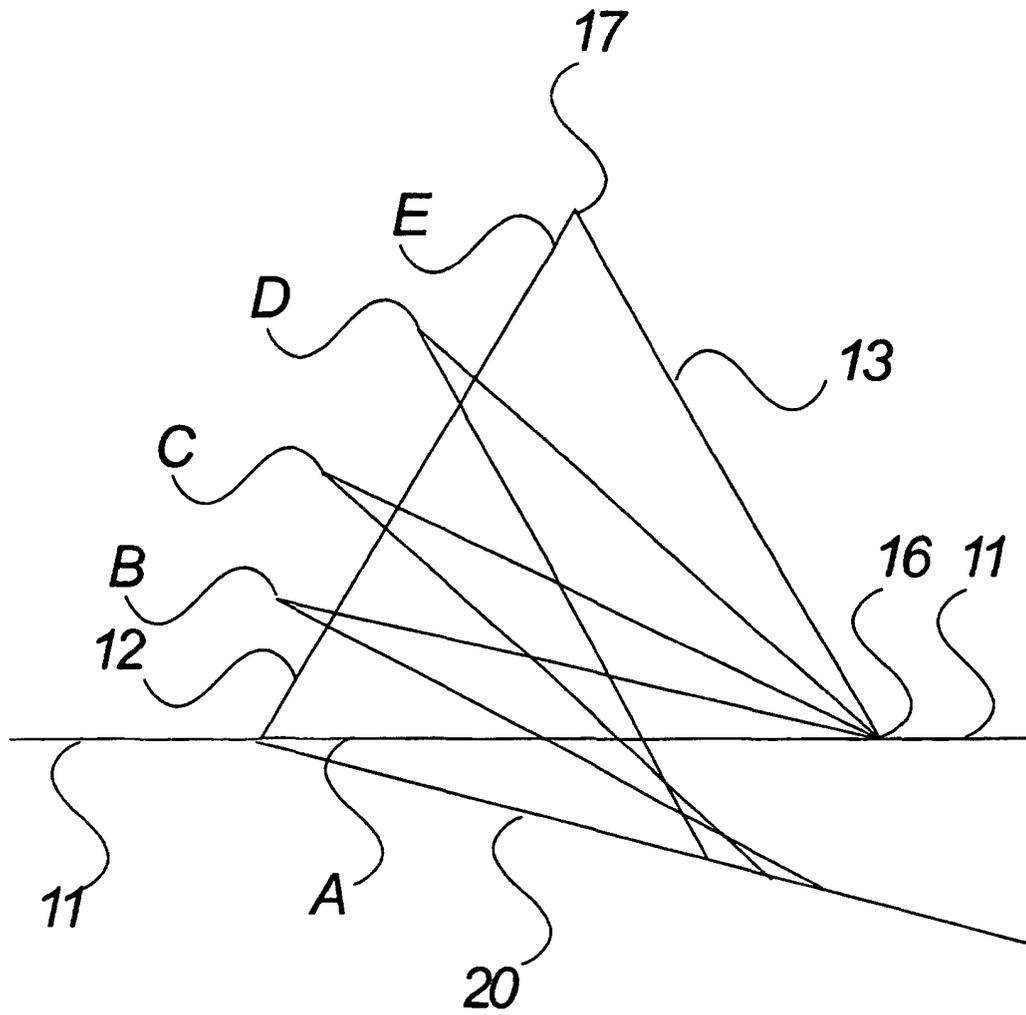


Fig. 3

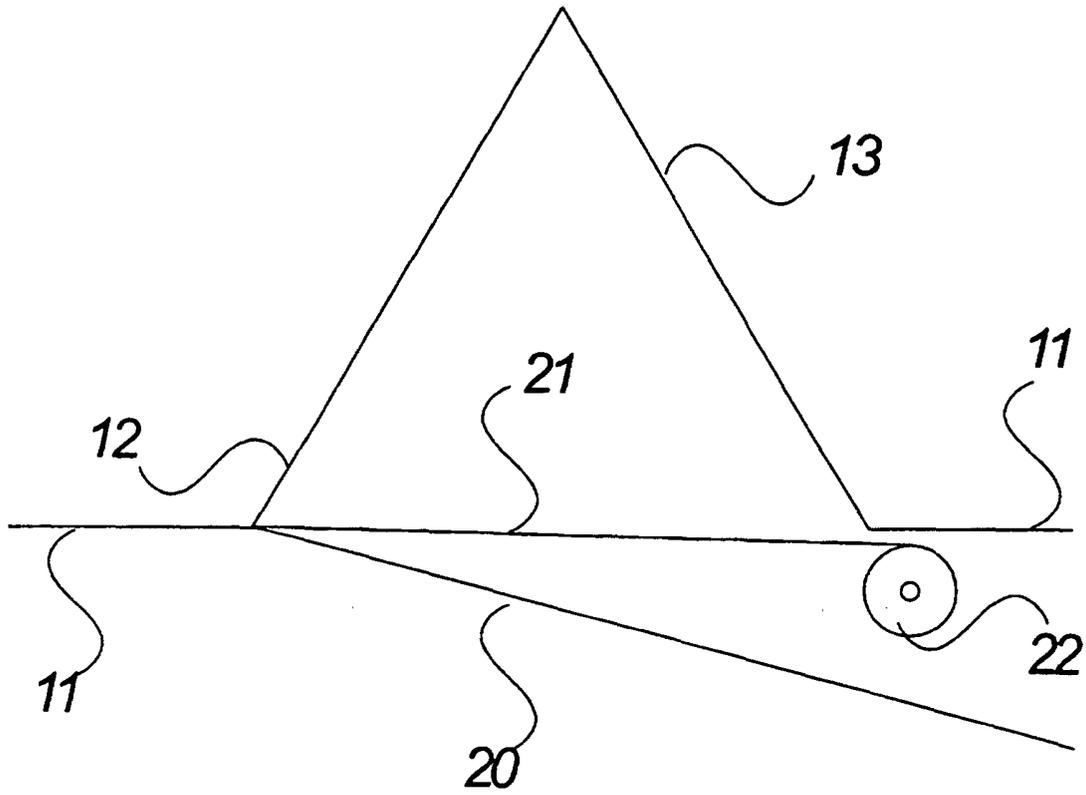


Fig. 4

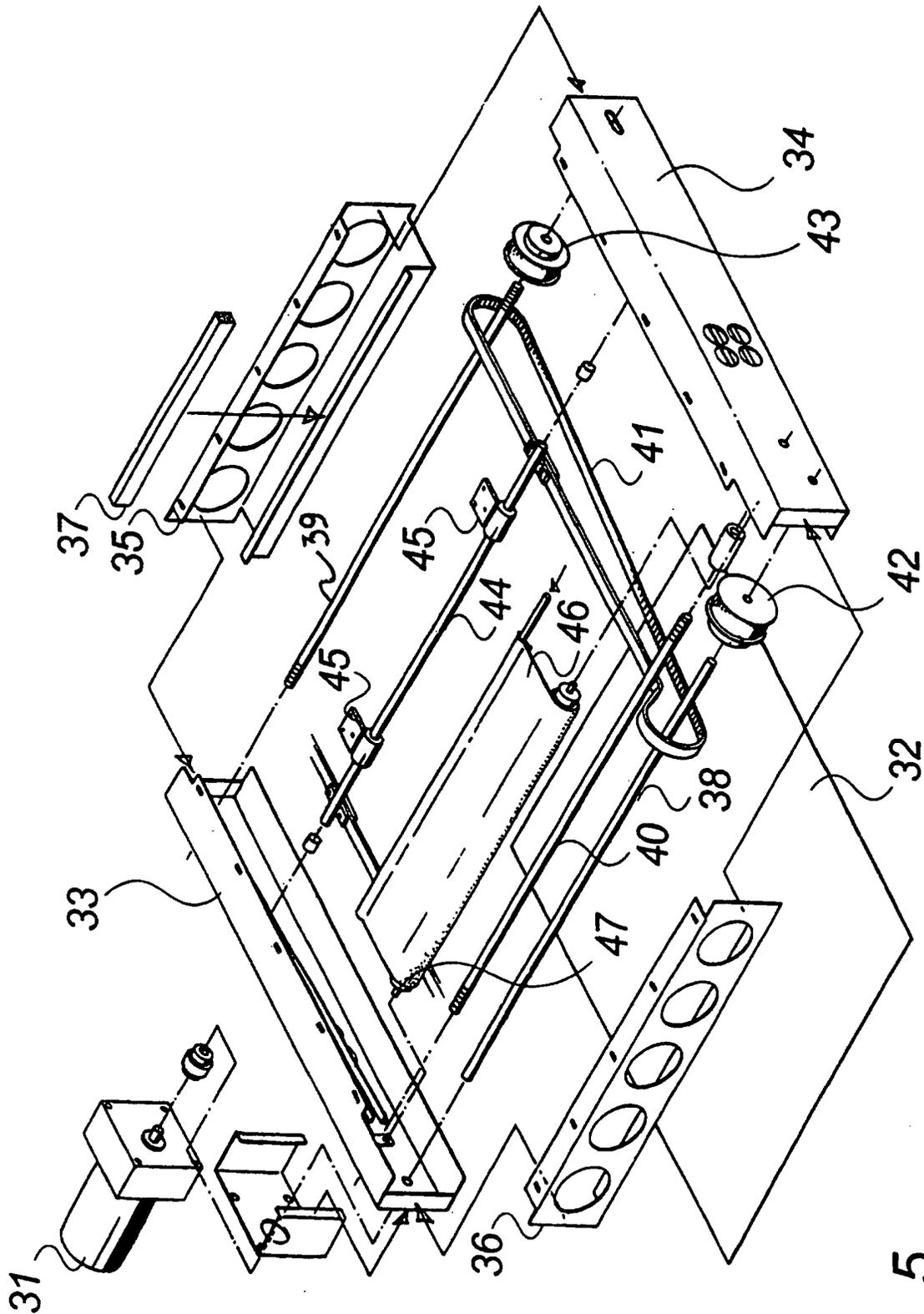


Fig. 5