

⑩



Europäisches Patentamt
European Patent Office
Office européen des brevets

⑪ Publication number:

0 146 206
B1

⑫

EUROPEAN PATENT SPECIFICATION

⑬ Date of publication of patent specification: **26.10.88**

⑭ Int. Cl.⁴: **A 47 B 17/02, A 47 C 16/02**

⑮ Application number: **84305754.8**

⑯ Date of filing: **22.08.84**

⑰ A platform support means.

⑱ Priority: **23.08.83 AU 986/83**

⑲ Date of publication of application:
26.06.85 Bulletin 85/26

⑳ Publication of the grant of the patent:
26.10.88 Bulletin 88/43

㉑ Designated Contracting States:
AT BE CH DE FR GB IT LI LU NL SE

㉒ References cited:
US-A-3 606 458

㉓ Proprietor: **CO.DESIGN PTY LIMITED**
261-263 Pacific Highway
North Sydney New South Wales (AU)

㉔ Inventor: **Cuffe, Michael**
261-263 Pacific Highway
North Sydney, NSW (AU)

㉕ Representative: **Rooney, Paul Blaise et al**
D.Young & Co. 10 Staple Inn
London WC1V 7RD (GB)

EP 0 146 206 B1

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European patent convention).

Description

This invention relates to platform support means of the kind used for the support of computer keyboards, type-writing machines, word processor keyboards and the like.

However the invention is not confined to platform support means for mounting keyboards, but is applicable to any platform required to be adjustable as to elevation or tilt to suit a specific user of the platform.

Thus, the invention is applicable to such things as a foot-rest platform used by typists and others. However the invention will be described herein mainly in terms of adjustable platforms for the support of keyboard instruments of one kind or another.

US—A—3606,458 discloses a leg support stool having an adjustable height and inclination support platform (12, 16, 18) supported on fixed laterally extending pins (23, 24) adjustably positioned in grooved trackways provided in facing surfaces of two spaced apart vertical side members (26, 18). Each trackway is made up of a plurality of finger like grooves each of the same length slightly inclined to the horizontal and superimposed directly one above another. One end of each finger like groove is closed and the other end opens into a vertically extending groove (30, 34, 38, 42).

This particular form of trackway construction has the result that when the platform is displaced, for readjustment purposes, along the finger like grooves, immediately the pins (23, 24) enter the vertical grooves (30, 34, 38, 42) the platform will drop vertically down to the bottom of the grooves (30, 34, 38, 42). This rapid, uncontrolled descent could cause pain to the legs of a user and would make this form of trackway construction unsuitable for use with a platform support means intended to support delicate mechanisms such as a typewriter or computer keyboard.

There is thus a need for an improved platform support means which while being simple and inexpensive, enables the user of the platform (or or the instrument mounted thereon) controllably to adjust the elevation and tilt of the platform quickly, safely, easily and positively.

According to the present invention there is provided a platform mounting means comprising:

a pair of parallel side boards forming two opposite sides of a stationary platform support frame, and having upright, mutually-facing surfaces,

a platform extending between said surfaces, two runway grooves located in each of said surfaces, and

two platform support elements borne at each side of said platform and respectively projecting into said runway grooves at the related side of said platform so as to run freely therealong,

each of said runway grooves consisting of a plurality of substantially horizontal portions arranged one above the other, closed at one end

and opening at the other end into a substantially vertical or inclined portion,

characterised in that the support elements are rollers freely rotatably borne at each side of said platform and in that each of the substantially vertical or inclined portions opens into the substantially horizontal portion immediately below it so as to form a step like way for the rollers.

Preferred embodiments of the invention are described, by way of example, by reference to the accompanying drawings in which;

Figure 1 is an exploded perspective view of a platform according to the invention,

Figure 2 is an enlarged perspective view of a side board in Figure 1, and

Figure 3 is a side elevation of a bracket according to the invention.

Referring to Figures 1 and 2 a stationarily supported, platform support frame 1, according to a first embodiment comprises a pair of sideboards 2, cross-bar 3 and rear member 4. A platform 5, upon which the keyboard is mounted in conventional manner, is located between sideboards 2 being furnished with support elements in the form of freely rotatable front mounting rollers 6 and rear rollers 7.

These rollers project into runway grooves 8 formed in the mutually-facing surfaces of sideboards 2.

Each of the runway grooves consists of a plurality of substantially horizontal portions or flights 9 arranged one above the other, closed at one end and opening at the other end into a substantially vertical or inclined portion 10. Each portion or riser 10 opens into the portion or flight 9 immediately below it to form a step like way for the rollers 6, 7.

If the four rollers 6 and 7 are respectively disposed within the lowermost flights 9, then the platform is horizontal and at its lowermost elevation. If the platform is to be tilted so that its back is a little higher than its front, the platform is first drawn forwardly and rear rollers may then be elevated by way of the lowermost riser and moved into the second lowermost flight (or some higher flight) while the front rollers are allowed to remain in the lowermost flight.

If the platform is to be elevated from the bottom flight level, and remain horizontal, all four rollers are equally elevated into a higher flight.

During normal usage of the platform there is virtually no substantial tendency on the part of the platform for it to move forwardly and thus inadvertently descend to a lower level than that required. However, if desired, means may be included as safeguard against unwanted movement of the platform relative to the support frame.

Such means may consist of a magnet 11 on the frame and a magnetisable plate 12 on the platform 5. Alternatively, the blind or closed ends of the flights 9 may be shallowly notched to receive the rollers.

Referring now to figure 3, runway grooves 8 rather than being formed in the side boards 2,

may be preformed in moulded plastic elements 13 which are attachable to, or recessed into the side boards 2.

In this case the flights 9 are inclined upwardly from their blind ends. Also the open end of the flights include an upstanding retaining nipple 14, restraining the platform 5 from moving relative to support frame 1.

The risers 10 are disposed in a continuous inclined track 15, allowing multiple flight adjustments.

Claims

1. A platform mounting means comprising:

a pair of parallel side boards (2) forming two opposite sides of a stationary platform support frame (1), and having upright, mutually facing surfaces,

a platform (5) extending between said surfaces, two runway grooves (8) located in each of said surfaces, and

two platform support elements (6, 7) borne at each side of said platform (5) and respectively projecting into said runway grooves (8) at the related side of said platform so as to run freely therealong,

each of said runway grooves (8) consisting of a plurality of substantially horizontal portions (9) arranged one above the other, closed at one end and opening at the other end into a substantially vertical or inclined portion (10),

characterised in that the support elements (6, 7) are rollers (6, 7) freely rotatably borne at each side of said platform (5) and in that each of the substantially vertical or inclined portions (10) opens into the substantially horizontal portion (9) immediately below it so as to form a step like way for the rollers (6, 7).

2. A platform mounting means according to claim 1, wherein the vertical or inclined portions (10) are disposed adjacent the front of the substantially horizontal portions (9).

3. A platform mounting means according to claim 2, wherein the vertical or inclined portions (10) form a continuous upwardly and backwardly inclined track or way.

4. A platform mounting means according to claim 2, wherein the vertical or inclined portions (10) are in the form of a series of upwardly and backwardly directed steps.

5. A platform mounting means according to any one of the preceding claims, wherein the substantially horizontal portions (9) are inclined upwardly towards the vertical or inclined portions (10).

6. A platform mounting means according to any one of the preceding claims, wherein the lower surface of each substantially horizontal portion (9) adjacent the vertical or inclined portions (10) includes an upstanding retaining nipple (14).

7. A platform mounting means according to any one of the preceding claims, wherein the said runway grooves (8) are formed directly into said side boards (2).

8. A platform mounting means according to any one of claims 1 to 6, wherein said runway grooves (8) are preformed into an element (13) attachable to said side boards (2).

Patentansprüche

1. Halterung für ein Regalbrett, mit zwei parallelen Seitenwänden (2), welche gegenüberliegende Seiten eines feststehenden Halterrahmens (1) bilden und aufrecht einander gegenüberstehende Wandflächen aufweisen, zwischen denen sich ein Regalbrett (5) erstreckt, zwei in bzw. an den Wandflächen angeordneten Führungskulissen (8) und jeweils zwei an jeder Seite des Regalbretts (5) angeordneten Tragelementen (6, 7), welche in die Führungskulissen (8) an der jeweiligen Seite des Regalbretts hineinragen und frei beweglich in diesen geführt sind, wobei jede Führungskulisse (8) eine Anzahl von übereinander angeordneten, im wesentlichen waagerechten Abschnitten (9) aufweist, welche an einem Ende geschlossen sind und am anderen Ende in einen im wesentlichen senkrechten oder geneigten Abschnitt (10) ausmünden, dadurch gekennzeichnet, daß die Tragelemente (6, 7) an der jeweiligen Seite des Regalbretts (5) frei drehbar gelagerte Rollen (6, 7) sind, und daß jeder im wesentlichen senkrechte oder geneigte Abschnitt (10) in den unmittelbar darunter liegenden im wesentlichen waagerechten Abschnitt (9) ausmündet, so daß eine treppenförmige Führung für die Rollen (6, 7) gebildet ist.

2. Halterung für ein Regalbrett nach Anspruch 1, dadurch gekennzeichnet, daß die senkrechten oder geneigten Abschnitte (10) zunächst dem vorderen Ende der im wesentlichen waagerechten Abschnitte (9) angeordnet sind.

3. Halterung für ein Regalbrett nach Anspruch 2, dadurch gekennzeichnet, daß die senkrechten oder geneigten Abschnitte (10) eine durchgehende, aufwärts und rückwärts geseigte Führungsbahn bilden.

4. Halterung für ein Regalbrett nach Anspruch 2, dadurch gekennzeichnet, daß die senkrechten oder geneigten Abschnitte (10) Reihe von aufwärts und rückwärts gerichteten Stufen bilden.

5. Halterung für ein Regalbrett nach einem der vorstehenden Ansprüche dadurch gekennzeichnet, daß die im wesentlichen waagerechten Abschnitte (9) schrägaufwärts zu den senkrechten oder geneigten Abschnitten (10) verlaufen.

6. Halterung für ein Regalbrett nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, daß die untere Begrenzungsfläche jedes im wesentlichen waagerechten Abschnitts (9) zunächst dem jeweiligen senkrechten oder geneigten Abschnitt (10) eine aufrecht stehende Haltenase (14) aufweist.

7. Halterung für ein Regalbrett nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, daß die Führungskulissen (8) unmittelbar in den Seitenwänden (2) ausgebildet sind.

8. Halterung für ein Regalbrett nach einem der Ansprüche 1 bis 6, dadurch gekennzeichnet, daß die Führungskulissen (8) in an den Seitenwänden

(2) befestigbaren Elementen (13) ausgebildet sind.

Revendications

1. Moyen de montage à plate-forme comprenant:

—deux planches latérales parallèles (2) constituant deux côtés opposés d'un bâti de support de plate-forme fixe (1) et présentant des surfaces verticales se faisant face,

—une plate-forme (5) s'étendant entre lesdites surfaces,

—deux rainures-glissières (8) situées dans chacune desdites surfaces, et

—deux éléments de support de plate-forme (6, 7) portés de chaque côté de ladite plate-forme (5) et dépassant respectivement dans lesdites rainures-glissières (8) du côté intéressé de ladite plate-forme de façon à glisser librement suivant leur longueur,

—chacune desdites rainures-glissières (8) étant composée d'une série de tronçons sensiblement horizontaux (9) disposés l'un au-dessus de l'autre, fermés à une extrémité et débouchant à l'autre extrémité dans un tronçon sensiblement vertical ou incliné (10),

—caractérisée en ce que les éléments de support (6, 7) sont des rouleaux (6, 7) tourillonnant de chaque côté de la plate-forme (5) et en ce que chacun des tronçons sensiblement verticaux ou inclinés (10) débouche dans le tronçon horizontal (9) situé immédiatement au-dessous de lui de façon à offrir un chemin en gradins aux rouleaux (6, 7).

2. Moyen de montage à plate-forme selon la revendication 1, dans lequel les tronçons verticaux ou inclinés (10) sont disposés près de l'avant des tronçons sensiblement horizontaux (9):

3. Moyen de montage à plate-forme selon la revendication 2, dans lequel les tronçons verticaux ou inclinés (10) constituent une piste ou voie continue inclinée vers le haut et vers l'arrière.

4. Moyen de montage à plate-forme selon la revendication 2, dans lequel les tronçons verticaux ou inclinés (10) se présentent sous la forme d'une série de gradins inclinés vers le haut et vers l'arrière.

5. Moyen de montage à plate-forme selon l'une quelconque des revendications précédentes, dans lequel les tronçons sensiblement horizontaux (9) sont inclinés de bas en haut vers les tronçons verticaux ou inclinés (10).

6. Moyen de montage à plate-forme selon l'une quelconque des revendications précédentes, dans lequel la surface inférieure de chaque tronçon sensiblement horizontal (9) présente près des tronçons verticaux ou inclinés (10) un mamelon de retenue dressé vers le haut (14).

7. Moyen de montage à plate-forme selon l'une quelconque des revendications précédentes, dans lequel lesdites rainures /glissières (8) sont ménagées directement dans lesdites planches latérales (2).

8. Moyen de montage à plate-forme selon l'une quelconque des revendications 1 à 6, dans lequel lesdites rainures-glissières (8) sont préformées dans un élément (13) pouvant être fixé auxdites planches latérales (2).

5

10

15

20

25

30

35

40

45

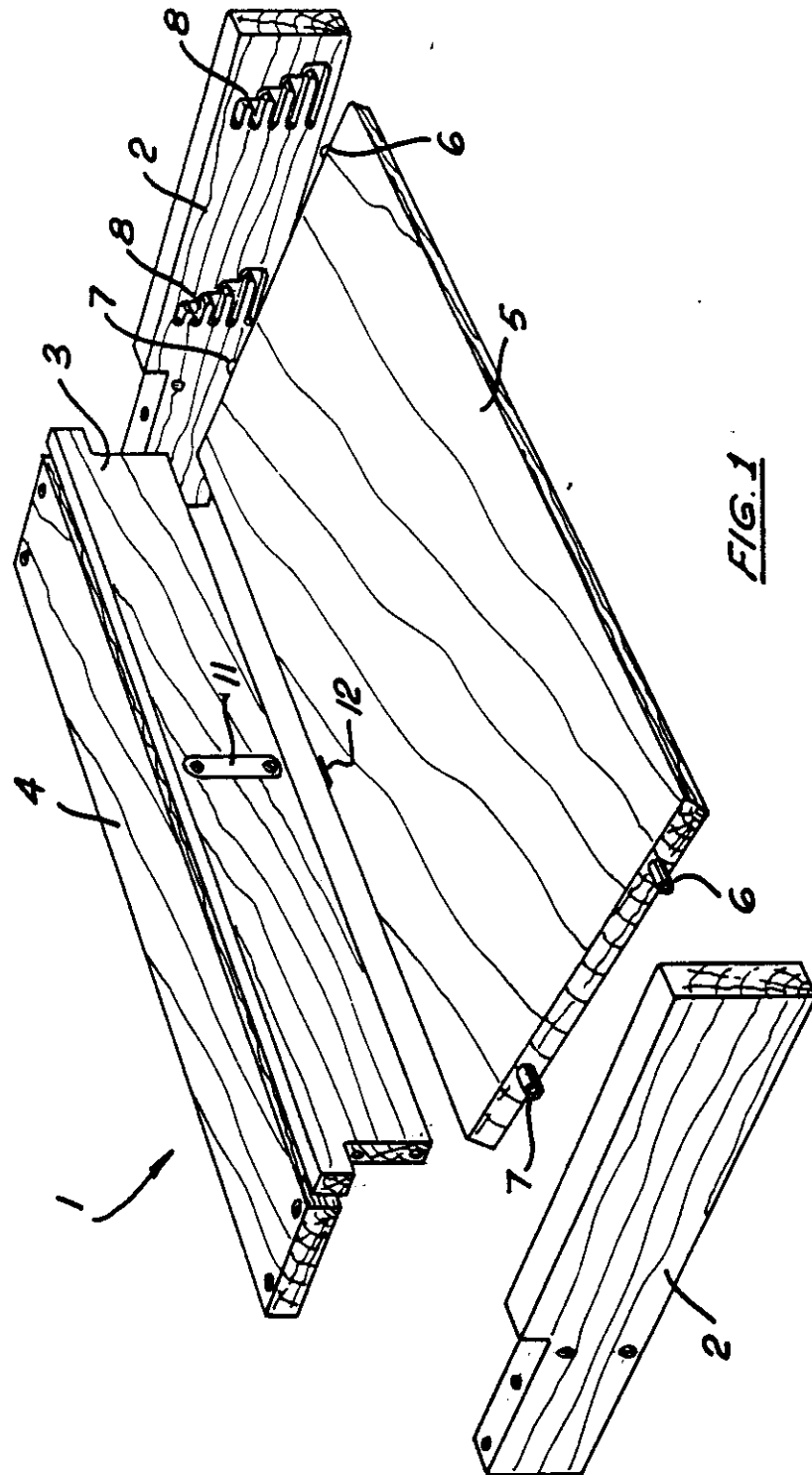
50

55

60

65

4



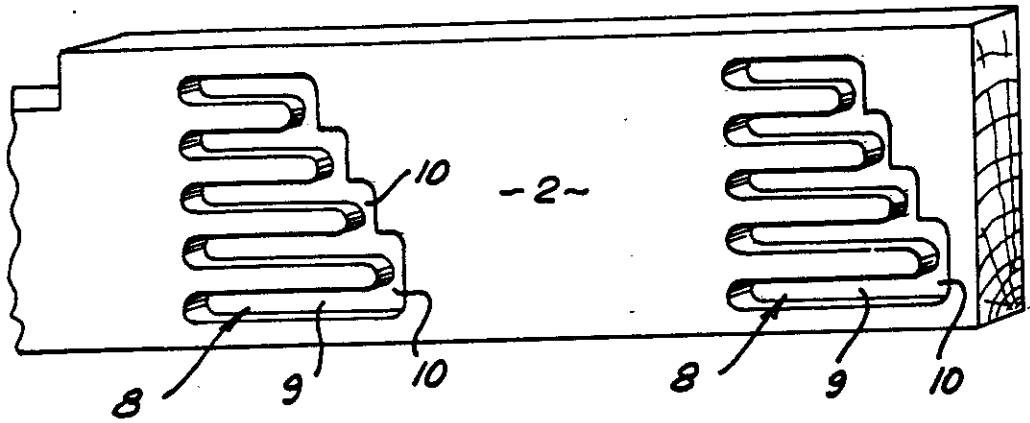


FIG. 2

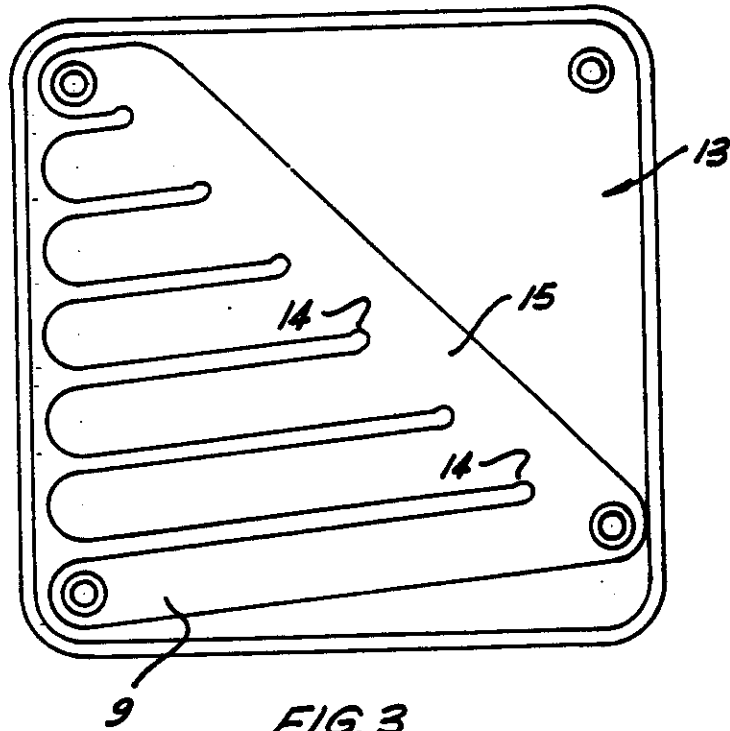


FIG. 3

TIMED: 08/05/90 11:00:45

PAGE: 1

REGISTER ENTRY FOR EP0146206 /

European Application No EP84305754.8 filing date 22.08.1984 /

Priority claimed:

23.08.1983 in Australia - doc: 98683

Designated States BE CH DE FR GB IT LI LU NL SE AT

Title

Applicant/Proprietor /

CO.DESIGN PTY LIMITED, 261-263 Pacific Highway, North Sydney New South
Wales, Australia

[ADP No. 50384114001]

Inventor

MICHAEL CUPPE, 261-263 Pacific Highway, North Sydney, NSW, Australia

[ADP No. 53418125001]

Classified to

A4L U1S

A47B A47C

Address for Service

D YOUNG & CO, 10 Staple Inn, London, WC1V 7RD, United Kingdom

[ADP No. 00000059001]

EPO Representative

PAUL BLAISE ROONEY, D.Young & Co. 10 Staple Inn, London WC1V 7RD, United
Kingdom

[ADP No. 50767177001]

Publication No EP0146206 dated 26.06.1985

Publication in English

Examination requested 22.08.1984 /

Patent Granted with effect from 26.10.1988 (Section 25(1)) with title A
PLATFORM SUPPORT MEANS /

14.02.1989 Section 32 application filed

Entry Type 10.1 Staff ID. ABAC Auth ID. BACK

27.02.1989 FELTEX COMMERCIAL INTERIORS PTY LTD, 171 Briens Road, North Mead,
New South Wales, Australia

[ADP No. 04347233001]

registered as Applicant/Proprietor in place of

CO.DESIGN PTY LIMITED, 261-263 Pacific Highway, North Sydney New
South Wales, Australia

[ADP No. 50384114001]

by virtue of deed of assignment dated 01.12.1988. Certified copy
filed on 0146206

Entry Type 8.4 Staff ID. ABAC Auth ID. BACK

27.02.1989 File raised

Entry Type 10.1 Staff ID. ABAC Auth ID. BACK