(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 199 013 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
24.04.2002 Bulletin 2002/17

(51) Int Cl.[7]: **A47F 7/00**, A47F 7/16

(21) Application number: **01203894.9**

(22) Date of filing: **17.10.2001**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **18.10.2000 NL 1016430**

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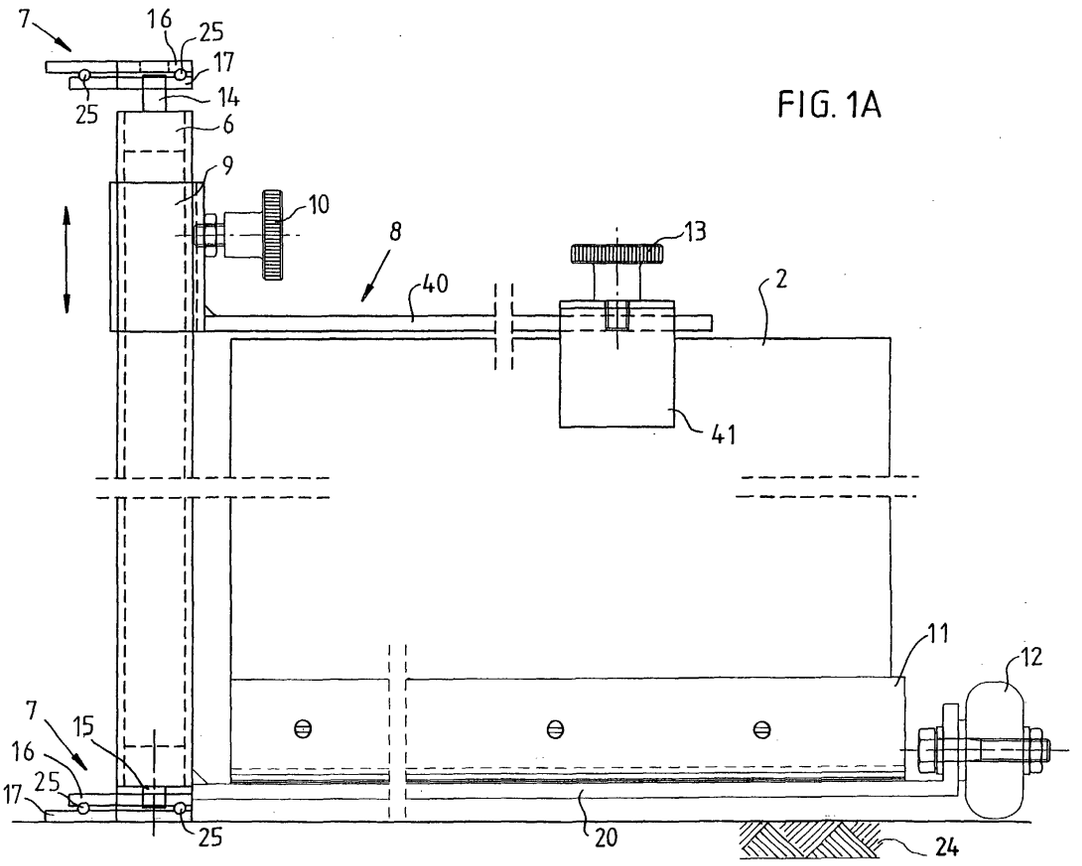
(54) Collapsible display system

(57) Device (1) comprising a carrying device to which samples (2), particularly of floor coverings, can be attached, and means for keeping the samples in a substantially vertical position, the samples with their lower sides being hingedly connected to the carrying device for folding down the samples to a substantially horizontal orientation. Preferably the hinging connection is situated near a floor.

FIG. 1A



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Description

[0001] The invention relates to a device comprising a carrying device to which samples, particularly of floor coverings, can be attached, and means for keeping the samples in a substantially vertical position.

[0002] A device of the above-mentioned type is generally known and is used a lot in shops for home furnishings. An example of such a device is for instance a casing in which above each other, or suspended from a rail, floor coverings are displayed. When a customer wants to get an idea of how a floor covering will actually look he can take along a sample or put the sample on the floor in the shop.

[0003] The known devices have the drawback of the sample often being too small to get a good impression of how a certain floor covering will actually look, whereas for showing large samples casings are necessary that take up a lot of space.

[0004] It is an object of the invention to provide a device of the type described above in which at least one of these drawbacks is solved.

[0005] To that end the invention provides a device comprising a carrying device to which samples, particularly of floor coverings, can be attached, and means for keeping the samples in a substantially vertical position, the samples with their lower ends being hingedly connected to the lower end of the carrying device for folding down the samples to a substantially horizontal orientation on a floor or ground.

[0006] The device then takes up relatively little space whereas relatively large samples can indeed be displayed. A sample can be folded down easily, the connection being maintained, wherein the sample can be easily folded up again: the device is easy to manage. Because the sample can be folded down, up to -at least almost- flat on the ground a good realistic impression can be obtained of the floor covering in question.

[0007] It is noted that in German patent application 1.267.530 a sales display for carpets is shown, which is provided with a number of L-shaped sample holders for carpet samples of a large surface. With their legs the sample holders are each hingedly attached about a vertical centre line to a rod, which at its lower end is hingedly attached about a horizontal axis to the carrying device and which in a vertical position can be fixed in spring clamps on the carrying device. After detaching the rod from the spring clamps it can be rotated over 45 degrees, in order to let the sample tilt downwardly inclined so as to be able to easily remove the sample from the sample holder, without having to use a stepladder.

[0008] Preferably the sample is hingedly connected at its lower edge to the lower end of the carrying device.

[0009] In a simple embodiment the hinging connection has a horizontal centre line, which is substantially parallel to the sample in question. The folding down of the sample can here take place by rotation about a single hinge pin.

[0010] When the samples can be folded down into a position flat against a floor or ground they can be walked on by the customer without risk of damage. Props, such as vases can be placed in stable manner.

[0011] In a preferred embodiment the sample is connected to the carrying device at its lower edge by means of a pivot pin connection or pivot sleeve connection, a roller or wheel also being attached to the lower edge, the centre lines of the sleeve or pin connection and the roller axis or wheel axis being aligned with each other. This embodiment is simple, as in this way the wheel has two functions, namely roller support and tilting point. It is preferred here that the pivot pin or roller or the wheel are separate parts so that the width of the samples is of no importance during mounting.

[0012] Preferably different samples are arranged on either side of a rigid plate, the hinging connection being capable of hinging in two directions. In that way twice as many types of floor coverings can be displayed with respect to the plates that can be folded down in one direction only.

[0013] In a preferred embodiment the samples at their upper sides are detachably connected to the carrying device. As a result a firm connection to the carrying device of the sample that is not folded down is obtained whereas for folding down said connection can easily be undone.

[0014] In an advantageous manner the samples are separately rotatable about a pivot rod accompanying each sample and attached to the carrying device. In that way adjacent samples can be turned away in order to create sufficient room for folding down a sample. The samples that are not folded down situated in front of and behind the folded down sample may give the impression of a wall whereas one of these samples can also be used for hanging curtain fabric over it so that an even more realistic impression may be obtained of the future soft furnishings of the customer's home. Said three samples lie in a separate X,Y,Z-plane.

[0015] By way of example a number of exemplary embodiments of the invention will be described below in the drawings.

[0016] Figure 1 is a cross-section of a first exemplary embodiment of the device with details 1A and 1B, and a first alternative in figure 1C.

[0017] Figure 2 is a cross-section of another exemplary embodiment of the device with details 2A and 2B.

[0018] Figure 3 is a top view of the exemplary embodiment of figure 1.

[0019] Figure 4 is a schematic view in perspective of the exemplary embodiment of the device in which a sample has been folded down.

[0020] Figure 1 is a cross-section of an exemplary embodiment of the device 1. The samples 2 are connected to the column 3 by means of a pivot rod 6. To that end two semi-circular rings 7 having holes are attached to the column 3, the pivot rods 6 with their ends, for instance nipples, fitting in the holes of the rings 7.

The nipples may be bearing mounted in the pivot rod 6, or serve as bearing themselves. The rings 7 attached to the column 3 serve as carrying device. In this exemplary embodiment the rings 7 are circular. Alternatively the rings 7 may have a different shape, or be designed as a part of a circle. The connection of the pivot rods 6 to the rings 7 is shown in more detail in figure 1A to be discussed later.

[0021] The samples 2 at their upper ends are attached to the pivot rods 6 by means of lockings 8. The locking 8 can be seen in detail in figure 1A, and comprises a sleeve 9 having fixation screw 10 to be fixed on the pivot rod 6 and to be moved along it. By loosening the screw 10 the sleeve 9 can be slid in height over the pivot rod 6 to accommodate samples 2 of different height in the device 1. The locking 8 further comprises an arm 40, on which an inverted U profile 41 can be moved and fixed by means of fixation screw 13, so that panels of various width can be adjusted to. Alternatively the U-profile 41 can be fixed to the arm 40, and the screw 13 can engage to the upper edge of the panel/the sample 2, in order to fixate it.

[0022] At its lower side the sample 2 is arranged in a U-profile 11, which U-profile 11 has been arranged on a strip 20. At the end of the strip 20 a support wheel 12 is provided. The U-profile 11 and the strip 20 are connected to the hinge for folding down a sample 2. A detail of the U-profile 11 and the strip 20 is shown in figure 1A. An alternative for the U-profile 11 and the strip 20 is shown in figure 1C.

[0023] A sample 2 is therefore -detachably- clamped between the locking 8, particularly U-profile 41, and the U-profile 11.

[0024] Also sown in figure 1A are two nipples 14, 15 with which the pivot rod 6 has been arranged in the rings 7. Each ring 7 comprises an upper part 16 and a lower part 17 between which bearings 25 have been arranged. In this way the samples 2 can also be rotated about the column 3. The device 1 is then called collapsible carousel. Alternatively the samples 2 can be arranged in a manner so as not to be rotatable with respect to the column 3.

[0025] Figure 1B shows a detail of the hinging connection between the U-profile 11 and the strip 20. Two hinge points 22 and 23 situated close to the ground 24 are provided for being able to fold down the U-profile 11 in two directions. The U-shaped profile 11 is shown in various positions with respect to a floor 24. The hinge, also called Bommel-hinge, also comprises three accompanying hinge leaves 30, 31 and 32.

[0026] Figure 1C shows a round tube 18 situated close to the floor 24, with which tube the U-shaped profile 11 is connected for folding down a sample 2. The circular tube 18 is an alternative for the Bommel-hinge shown in figure 1B. The tube 18 to that end comprises an inner tube 28 and an outer tube 38, which inner tube 28 and outer tube 38 can be rotated with respect to each other. The inner tube 28 can be attached to the pivot rod 6, and the outer tube 38 to the sample 2. When using the round tube 18 the U-shaped profile 11 can take up the positions showed in dashed lines, in down-folded position of the sample 2. Relative to the Bommel-hinge, the round tube 18 offers the advantage that the sample 2 when folding down comes to lie even closer and practically level onto the floor 24. The centre line of the wheel 12 is aligned with the centre line of both tubes 28, 38.

[0027] The method of folding down a sample 2 is as follows: first the screw 10 is loosened. Subsequently the locking 8 is slid upwards. After that the plate with samples 2 is folded down to the desired side about the hinge connection situated at the lower edge.

[0028] The collapsible carousel 1' shown in front view in figure 2 largely corresponds to the one according to figure 1, though it has a different solution for the horizontal hinge for the sample 2'. Comparable parts have the same reference numbers, provided with an accent (').

[0029] At the upper edge the panel 2' is engaged by U-profile 41', which is now fixed to arm 40', which can be adjusted in height. At the lower edge of the samples 2' U-shaped profiles 11' and 33' have been attached, for instance by means of a screw connection, which if necessary can be loosened, to replace the sample by another one. The U-profile 11' is separate from the U-profile 33'. The U-profile L' is fixed to a bearing block 20' for a wheel 12'. The U-profile 33' is fixed to a bush 32', which is bearing mounted on a pin 31', which is fixed to the pivot rod 6'. The centre line of the pivot pin 31' and of the wheel 12' are aligned, according to centre line S, as can be seen in figure 2A.

[0030] In figure 2B is shown that the centre line S is situated at a distance h above the floor 34', which is half the width (2h) of the U-profiles 11' and 33'. As a result, as shown in figure 2B, the U-profiles 11' and 33' will in the position tilted over 90° be able to abut the floor 34' flat with the sides, and the same will hold good for the panel or the sample 2' accommodated in those U-profiles.

[0031] Figure 3 is a top view of a collapsible carousel 1 of figure 1. Because the samples 2b have been turned away about the pivot rod 6 accompanying each sample 2 and attached to the column 3, sufficient room has been created to be able to fold down the sample 2a. By means of the collapsible carousel 1 four samples 2 can simultaneously be folded down.

[0032] Figure 4 shows the collapsible carousel 1 having samples 2 of floor coverings, one sample 2a being folded down against the floor. The samples 2 are arranged on rigid plates and are attached to a column 3, for instance a concrete column that is already present in a room or showroom. It is noted that the samples 2 themselves may be resilient (for instance a carpet) or rigid (for instance parquet floor). No additional plate is needed in case of a rigid sample 2. Alternatively a column specially designed for the collapsible carousel 1 can be used. As a result of the relatively large surface

of the folded down sample 2a, a viewer 4 is given a realistic impression of the floor covering. By using props 5, in this case for instance a plant, table and painting, an even higher degree of reality is achieved.

Claims

1. Device comprising a carrying device to which samples, particularly of floor coverings, can be attached, and means for keeping the samples in a substantially vertical position, the samples with their lower ends being hingedly connected to the lower end of the carrying device for folding down the samples to a substantially horizontal orientation on a floor or ground.

2. Device according to claim 1, the sample at its lower edge being hingedly connected to the lower end of the carrying device.

3. Device according to claim 1 or 2, the hinging connection having a horizontal centre line, which is substantially parallel to the sample in question.

4. Device according to claim 1, 2 or 3, the samples being down foldable to a position flat against a floor or ground.

5. Device according to any one of the preceding claims, the sample at its lower edge being connected to the carrying device by means of a pivot pin connection or pivot sleeve connection, a roller or wheel also being attached to the lower edge, the centre lines of the sleeve or pin connection and the roller axis or wheel axis preferably being aligned with each other.

6. Device according to claim 5, the pivot pin connection or pivot sleeve connection being shorter than the width of the sample and the pivot pin and the roller or wheel preferably being separate parts.

7. Device according to any one of the preceding claims, a sample being arranged on a rigid plate, a sample preferably being arranged on either side of the plate.

8. Device according to any one of the preceding claims, the hinging connection being capable of hinging in two directions.

9. Device according to any one of the preceding claims, the samples at their upper sides being detachably connected to the carrying device.

10. Device according to any one of the preceding claims, the samples being separately rotatable about a substantially vertical pivot rod accompanying each sample and attached to the carrying device.

11. Device according to any one of the preceding claims, the samples being attached to the carrying device according to a circumferential path, preferably a circular path, which circular path is preferably formed by a ring rotatable around the carrying device.

12. Assembly of a device according to any one of the preceding claims and a stationary column for the carrying device.

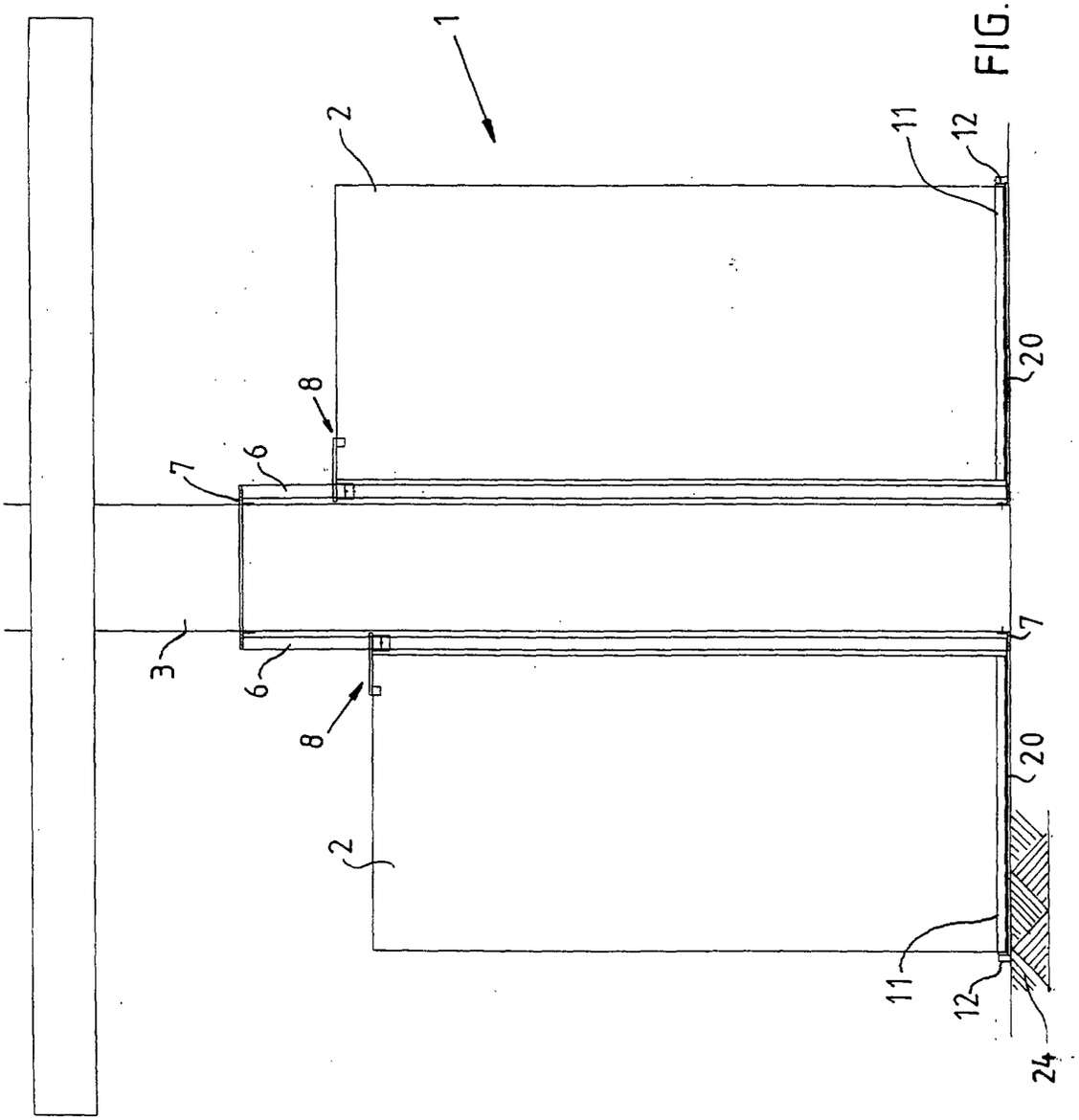
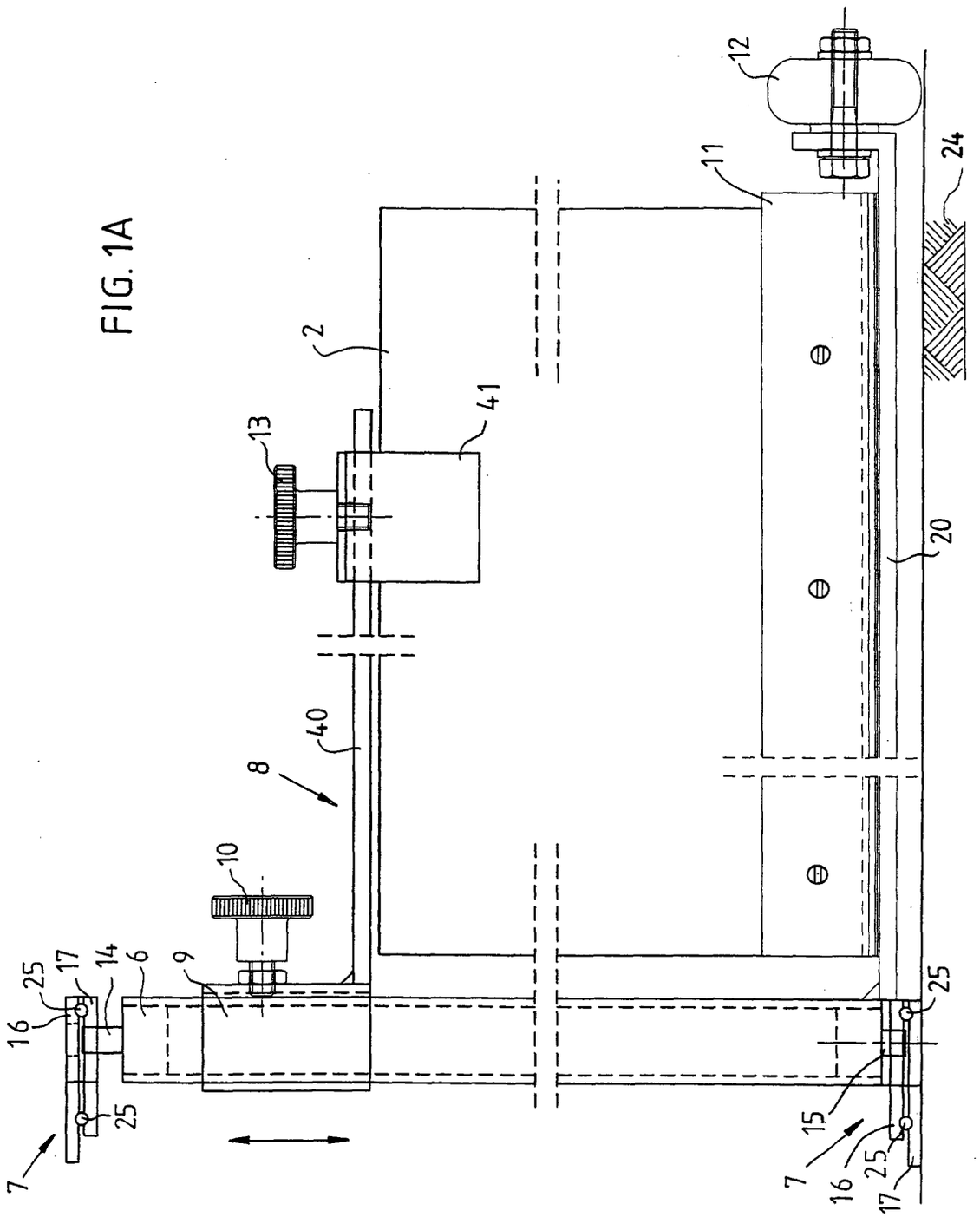


FIG. 1

FIG. 1A



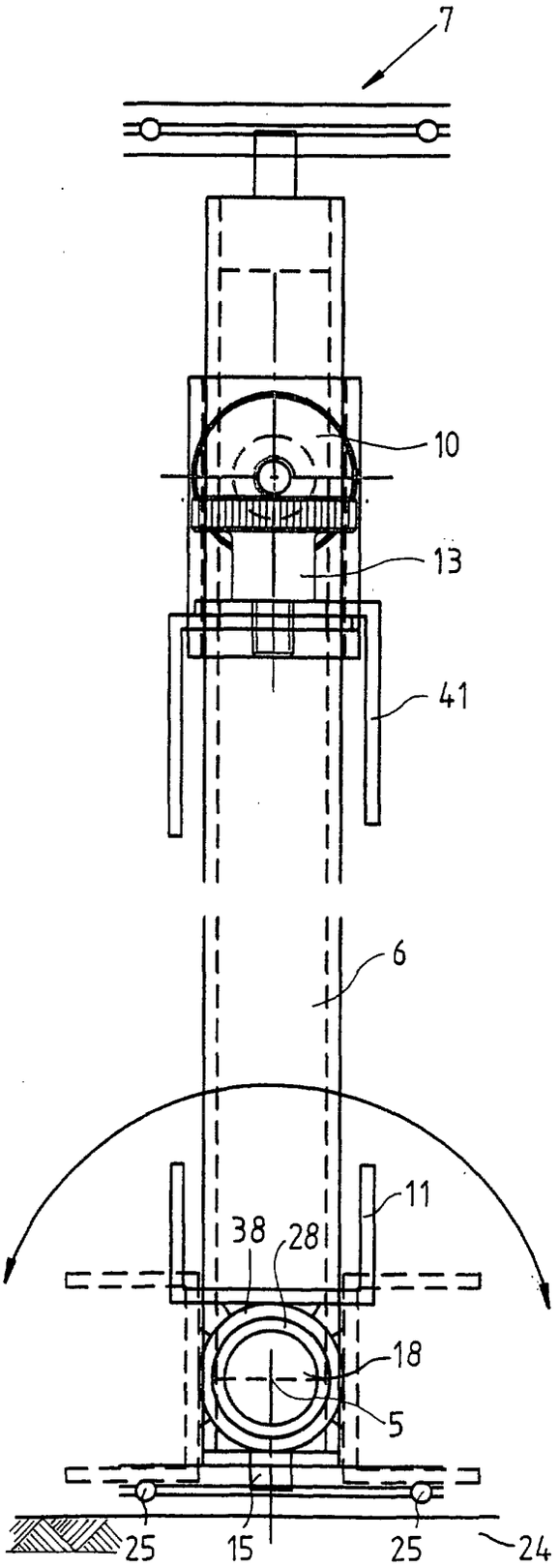


FIG. 1C

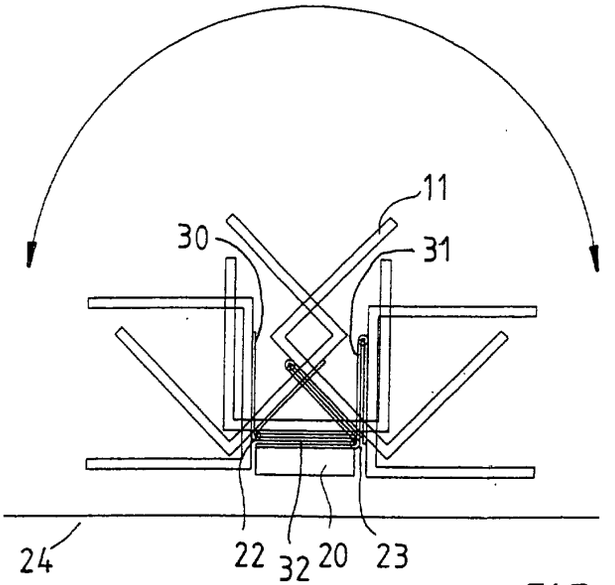


FIG. 1B

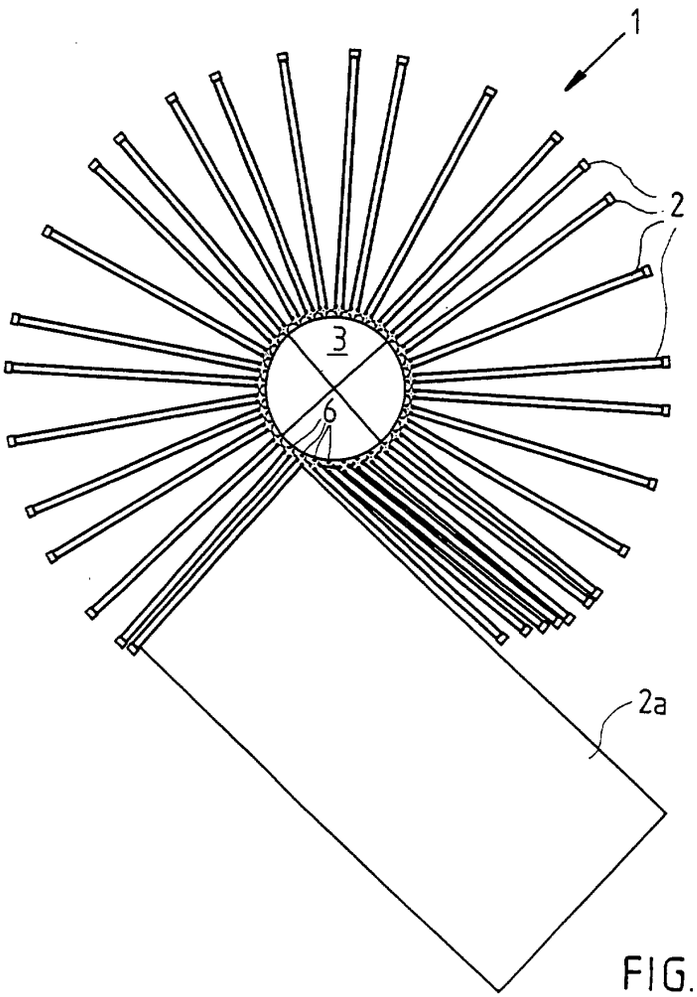


FIG. 3

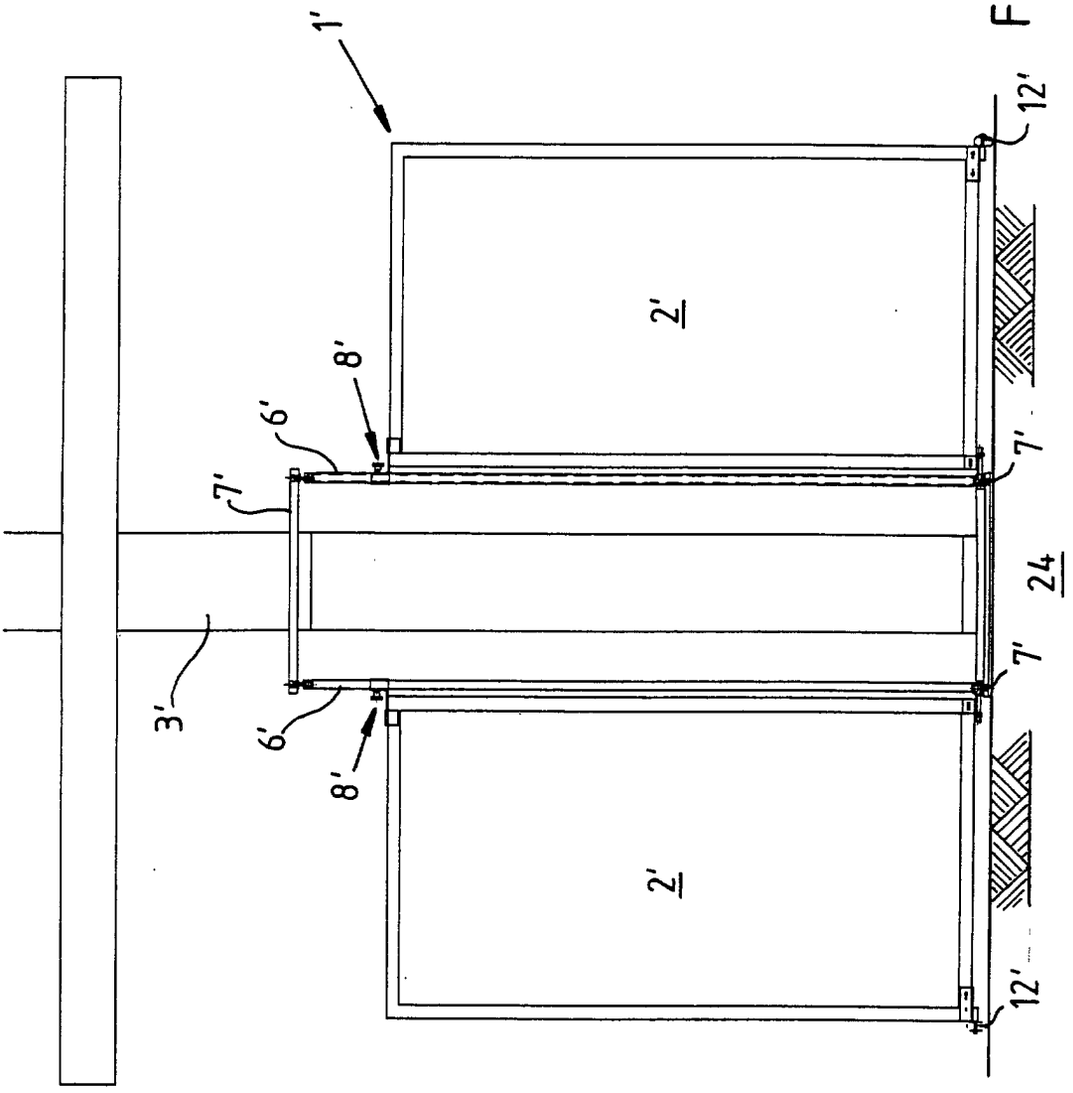


FIG.2

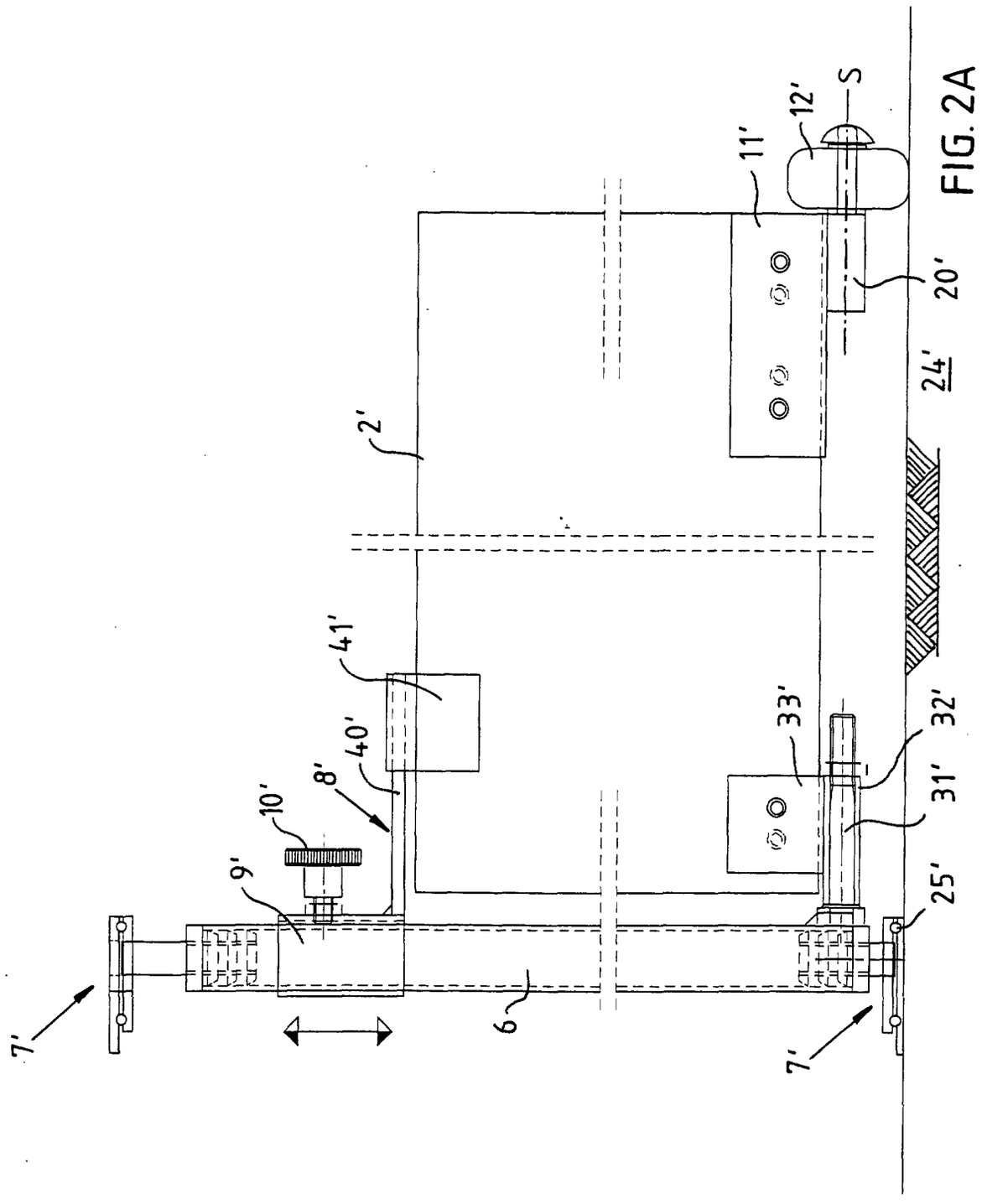


FIG. 2A

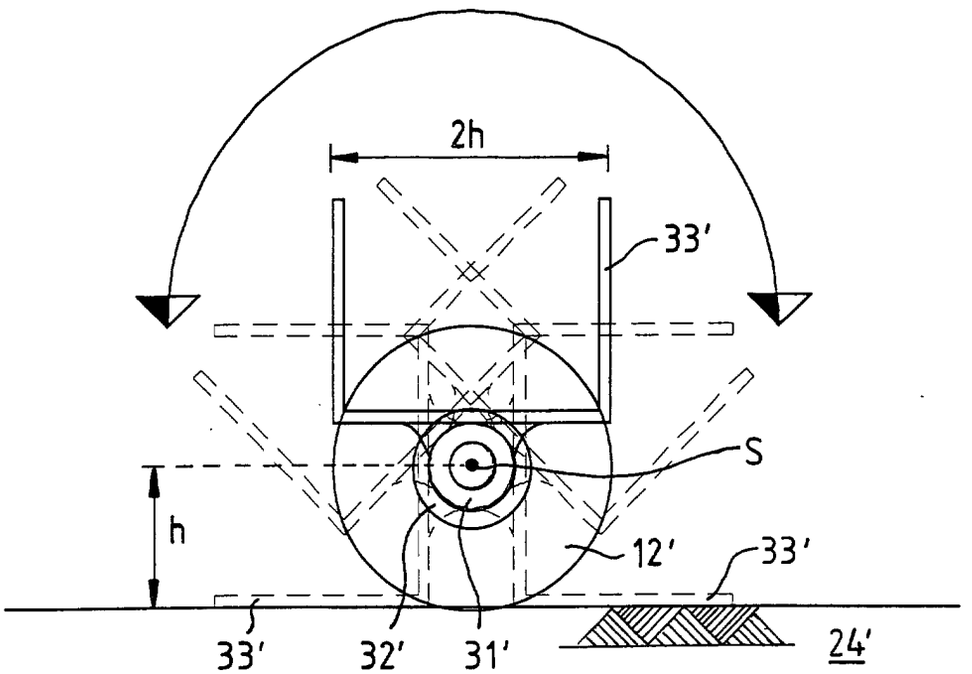


FIG. 2B

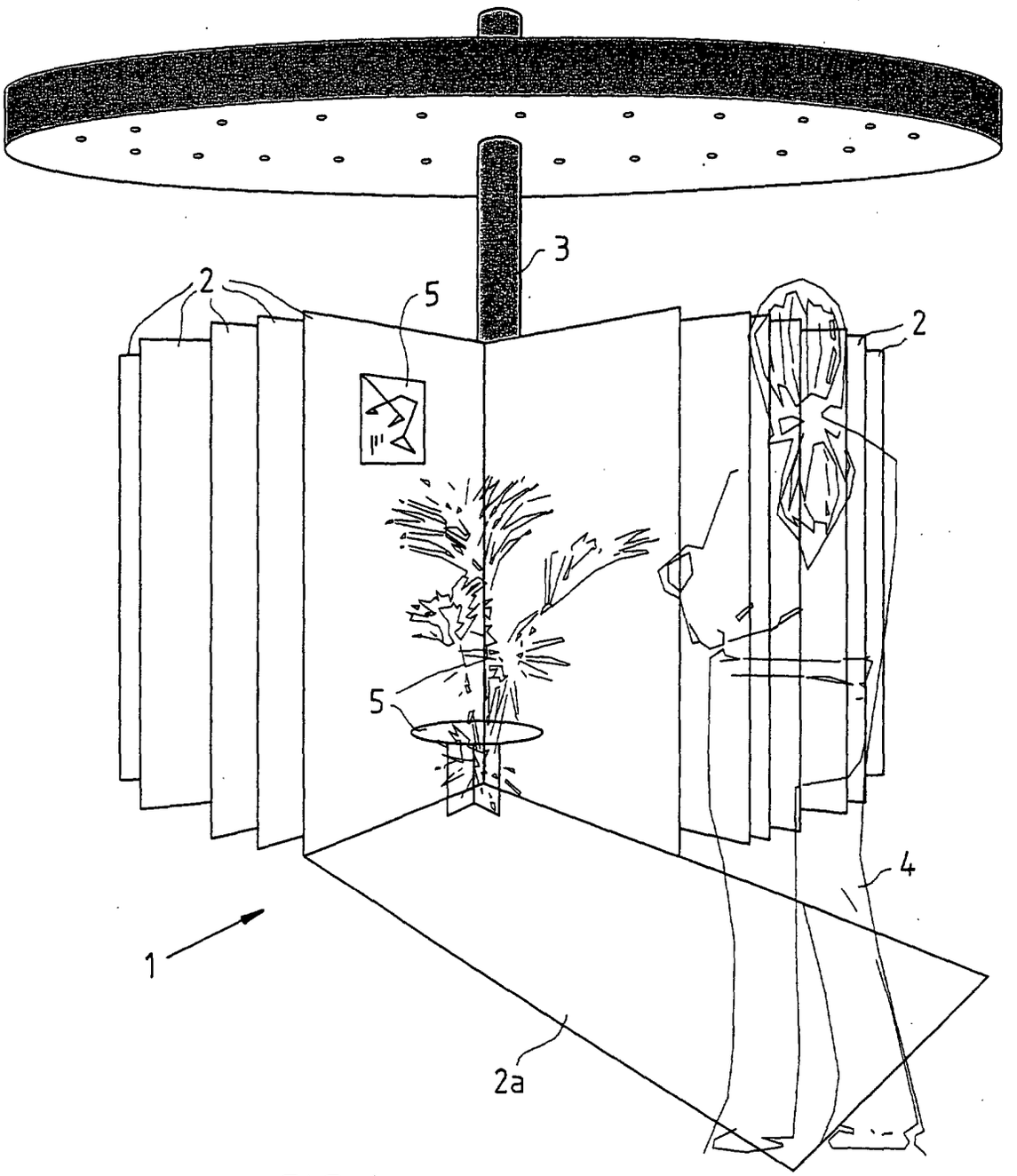


FIG. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 01 20 3894

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X A	DE 12 67 530 B (JULIUS UNFRIED) 2 May 1968 (1968-05-02) * the whole document *	1-4,7,9, 12 5,6,8, 10,11	A47F7/00 A47F7/16
A	FR 2 464 680 A (EYCHENNE JEAN) 20 March 1981 (1981-03-20) * the whole document *	1-12	
A	US 6 000 561 A (SCHUMACHER LARRY) 14 December 1999 (1999-12-14) * the whole document *	1-12	
A	US 4 702 534 A (WITT HENRY C ET AL) 27 October 1987 (1987-10-27) * the whole document *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7) A47F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	4 February 2002	Lupo, A

CATEGORY OF CITED DOCUMENTS

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 01 20 3894

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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04-02-2002

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 1267530 B		NONE	
FR 2464680 A	20-03-1981	FR 2464680 A1	20-03-1981
US 6000561 A	14-12-1999	NONE	
US 4702534 A	27-10-1987	NONE	