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(54) **PREFAB MATERIAL FOR ADJUSTING LEVEL OF FLOOR**

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(57) **ABSTRACT**

The present invention relates to a sectional floor-covering capable of adjusting level, which includes a height adjusting block; a supporter coupled to the upper surface of the height adjusting block; slip floorings coupled to the upper surface of the supporter; and horizon adjusting devices mounted to the height adjusting block. The height adjusting blocks and supporters are assembled and installed at a desired position, and slip floorings are mounted and fixed on the assembled height adjusting blocks and supporters so as to install the floor to a wanted height.

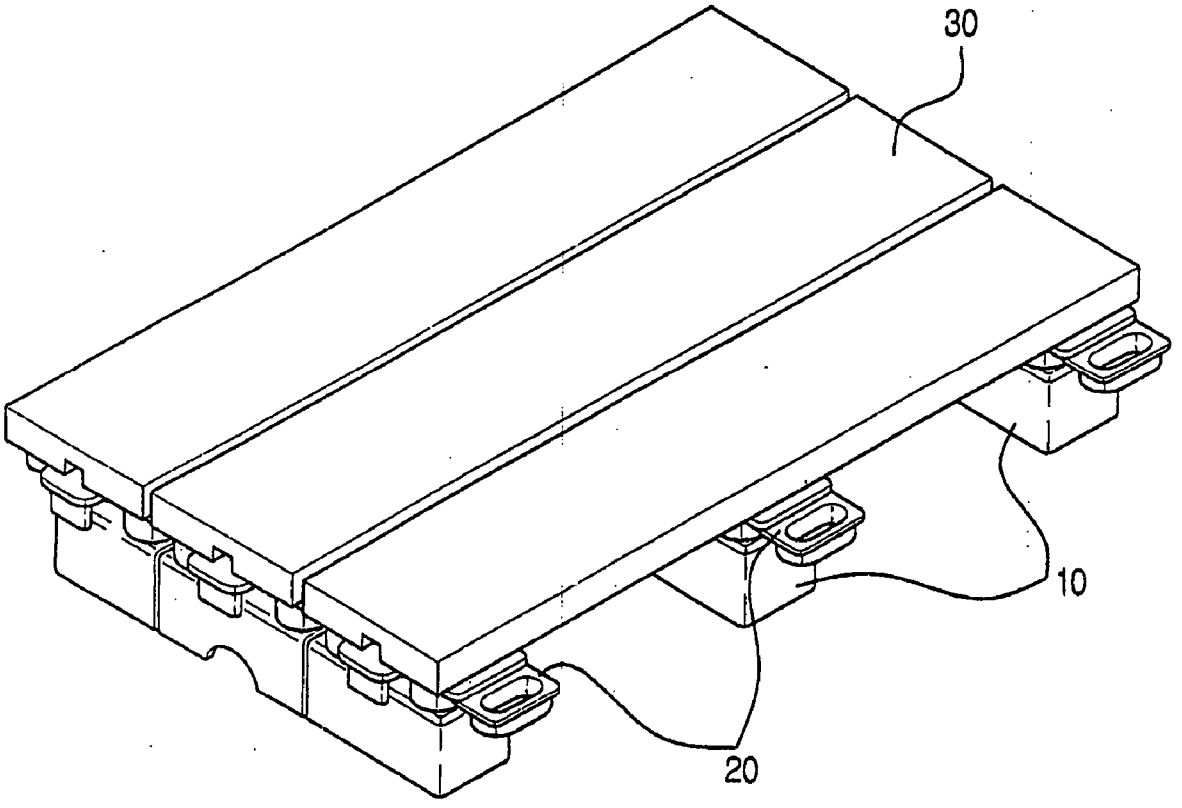


FIG. 1

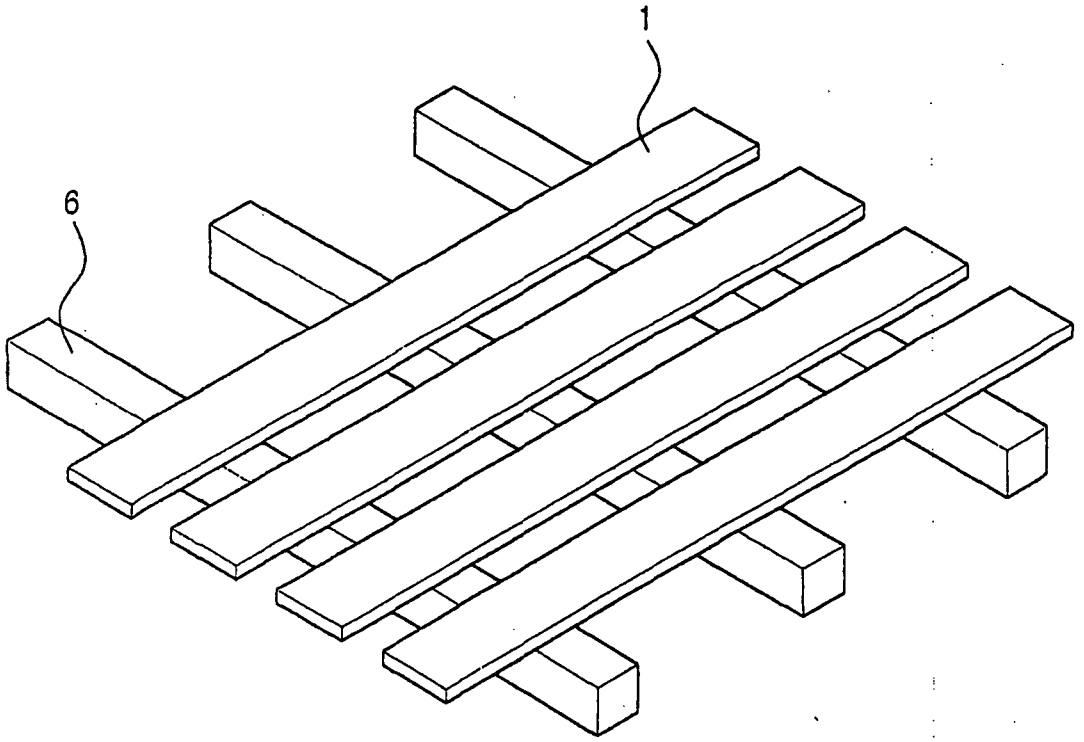


FIG. 2

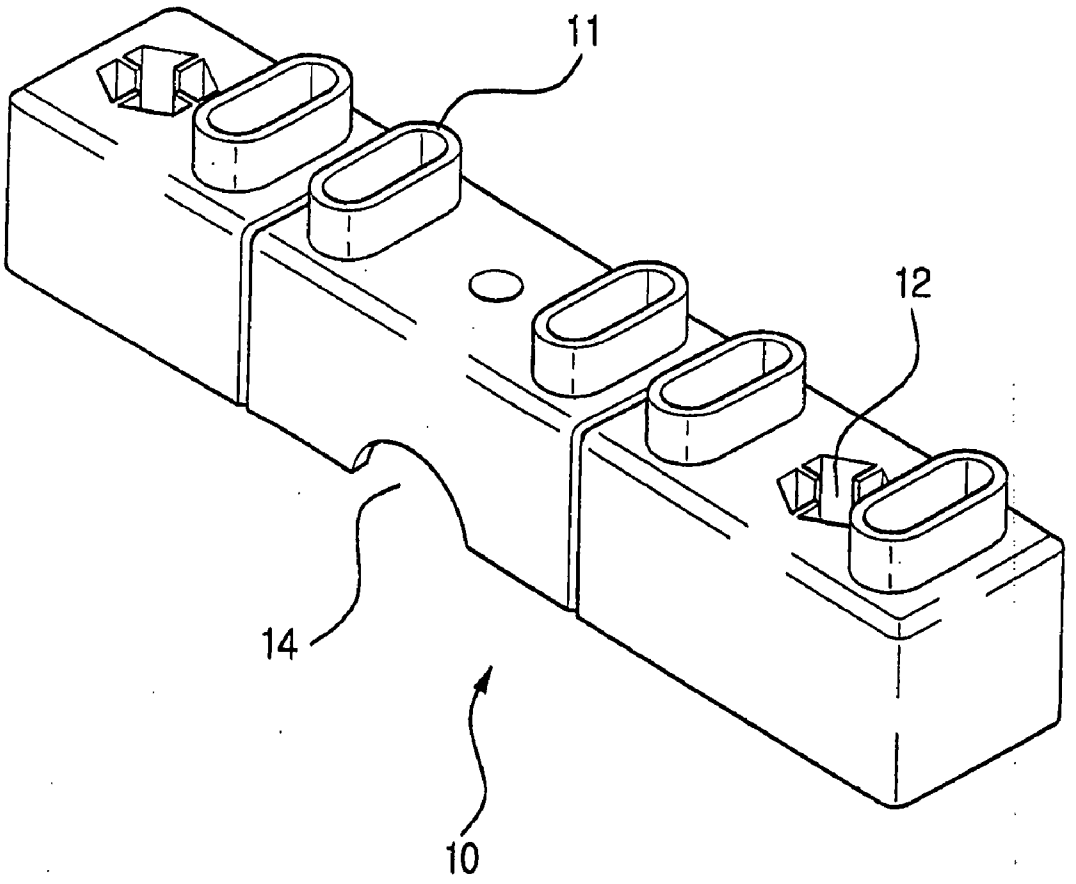


FIG. 3

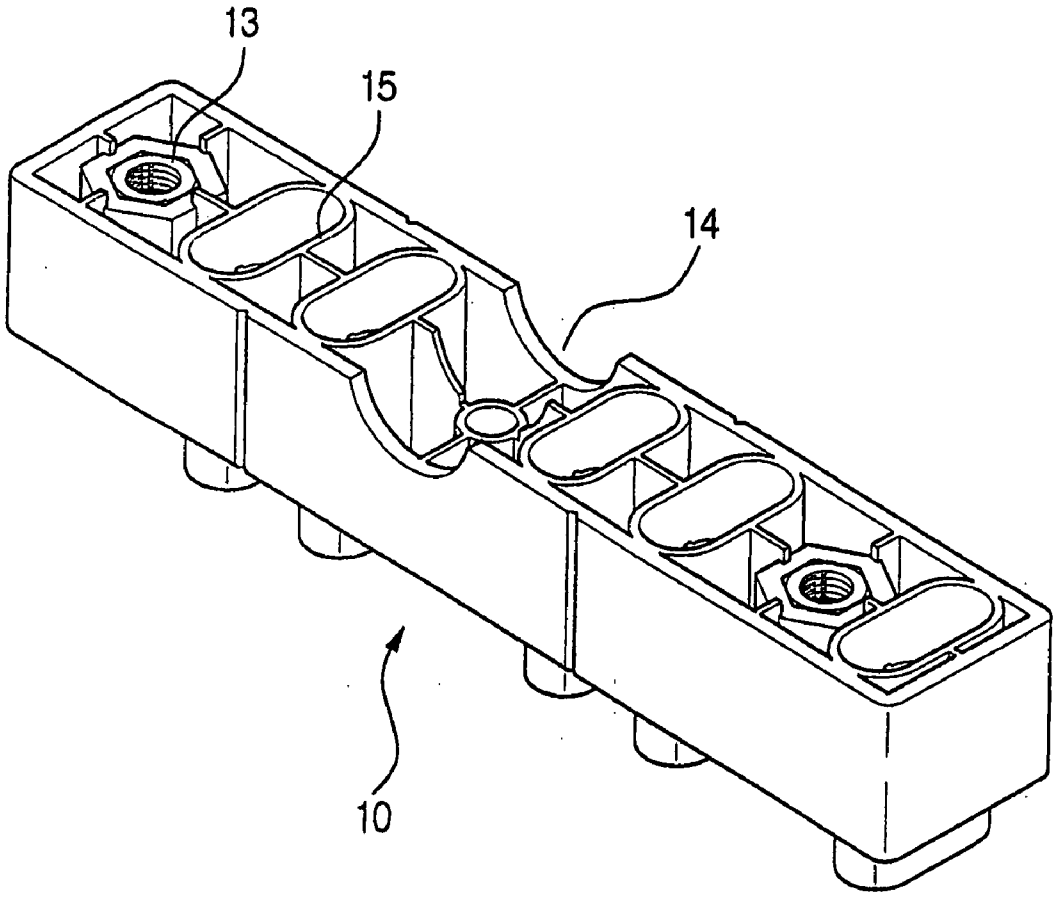


FIG. 4

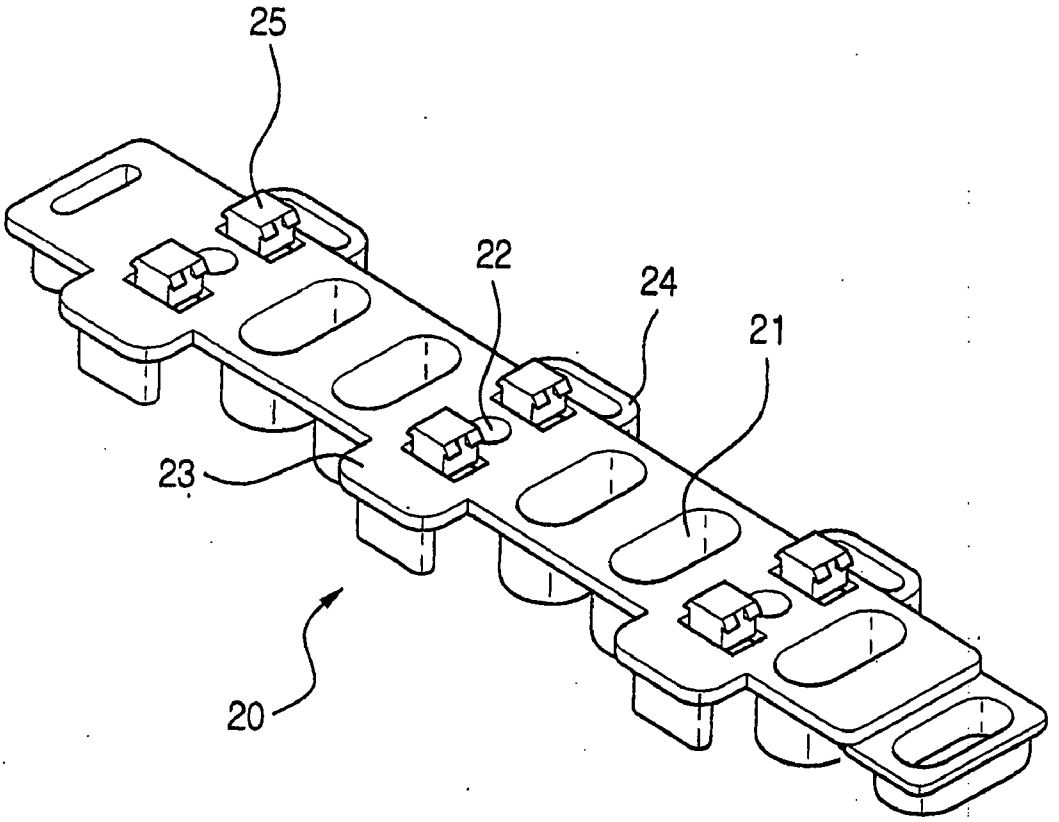


FIG. 5

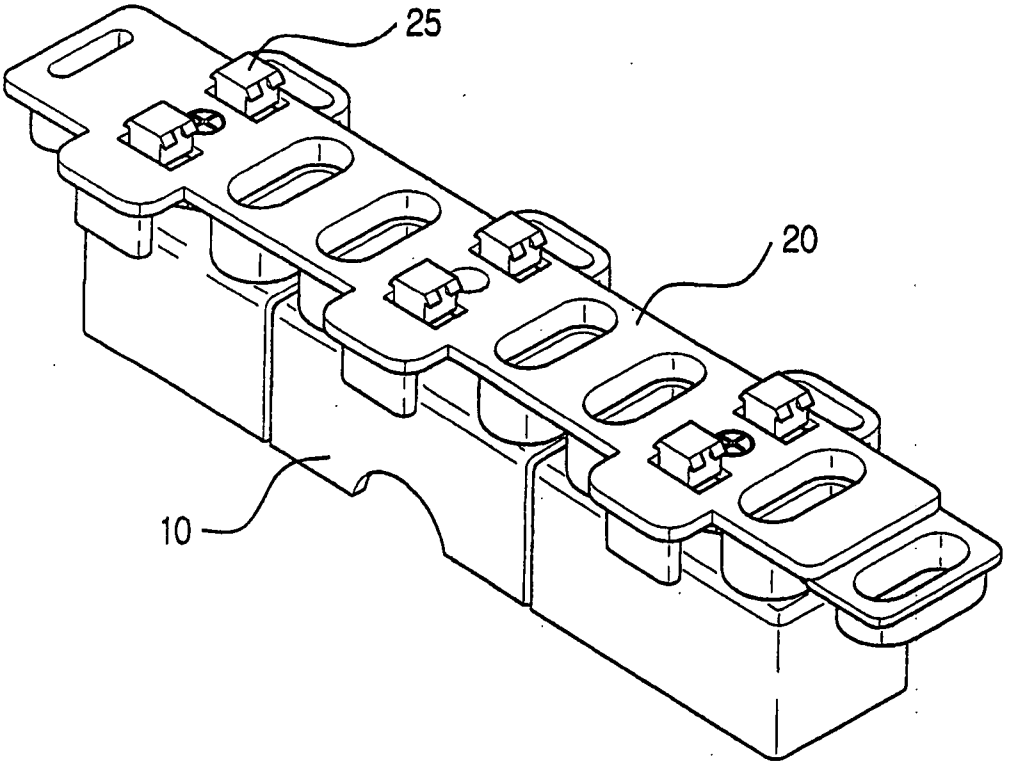


FIG. 6

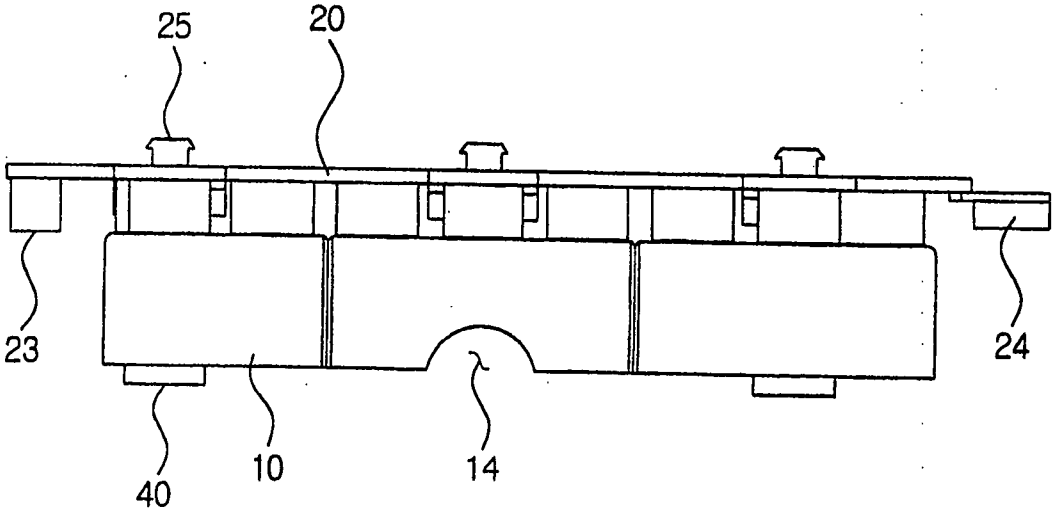


FIG. 7

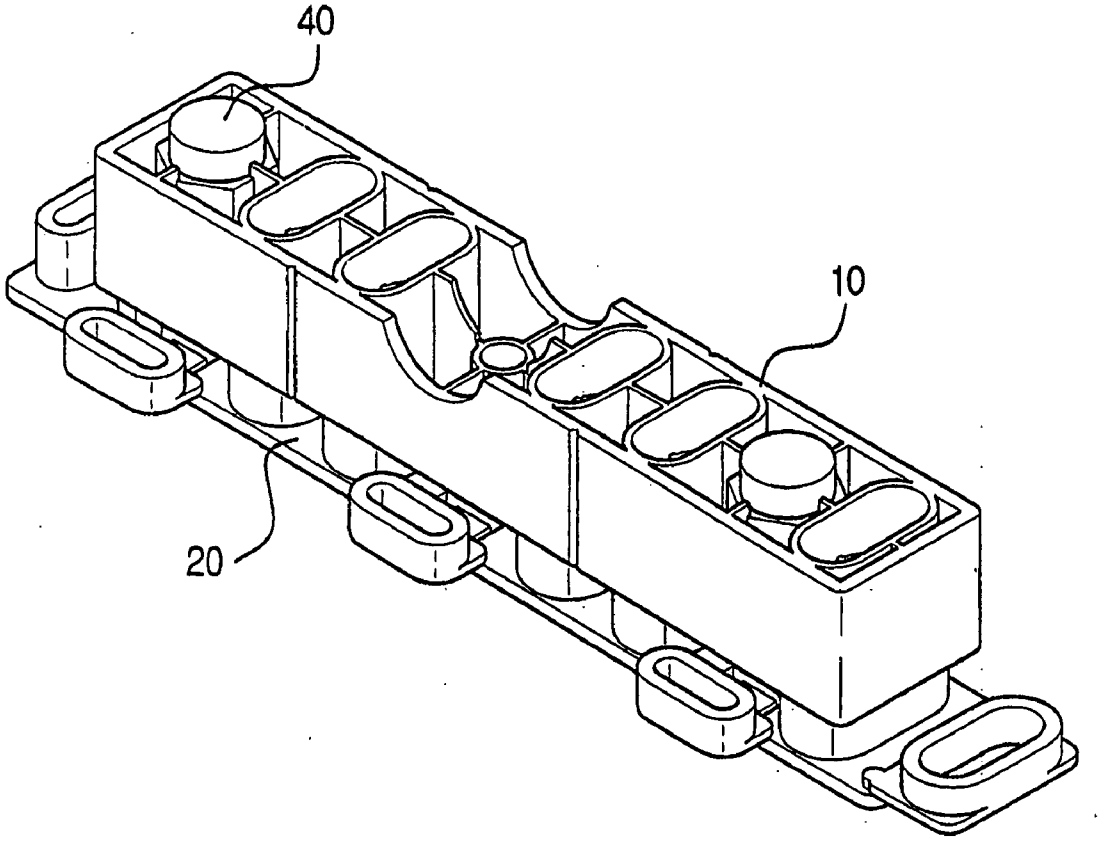


FIG. 8

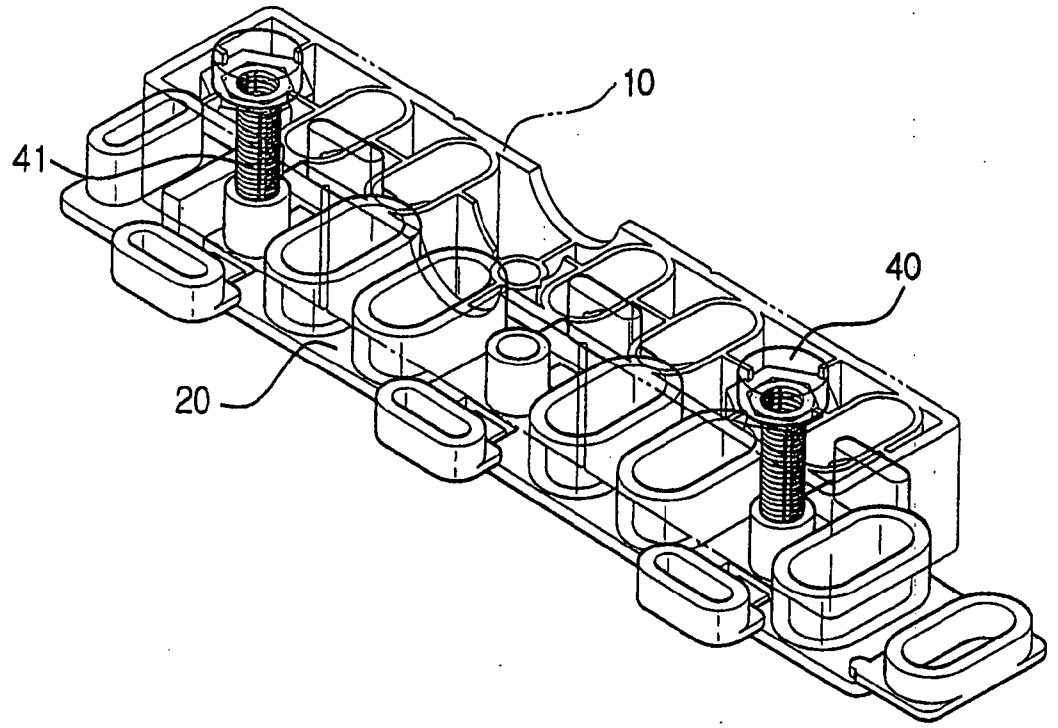


FIG. 9

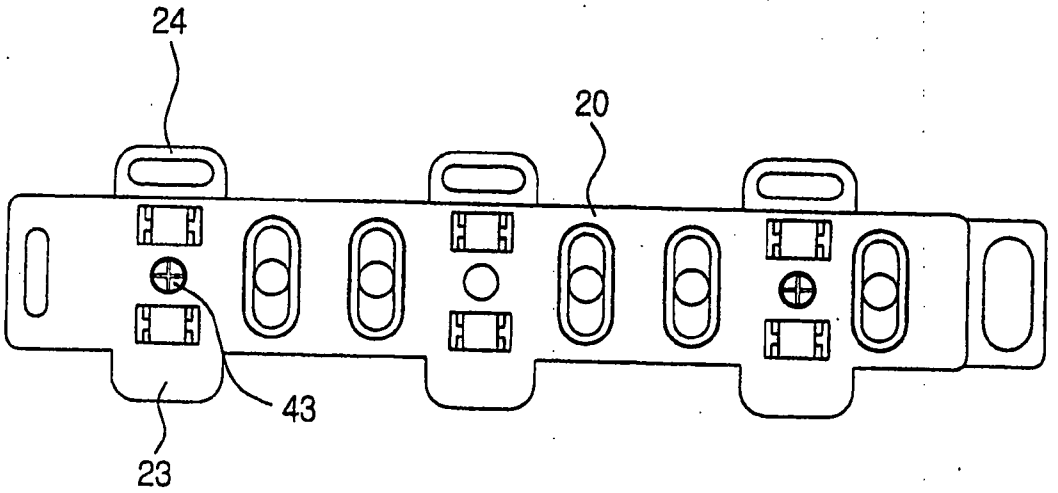


FIG. 10

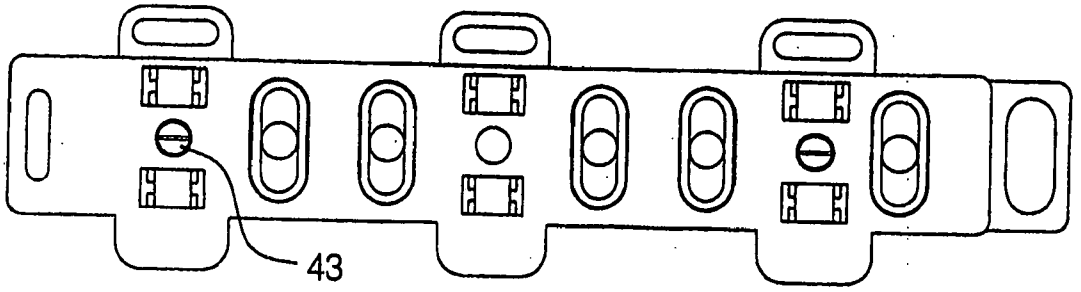


FIG. 11

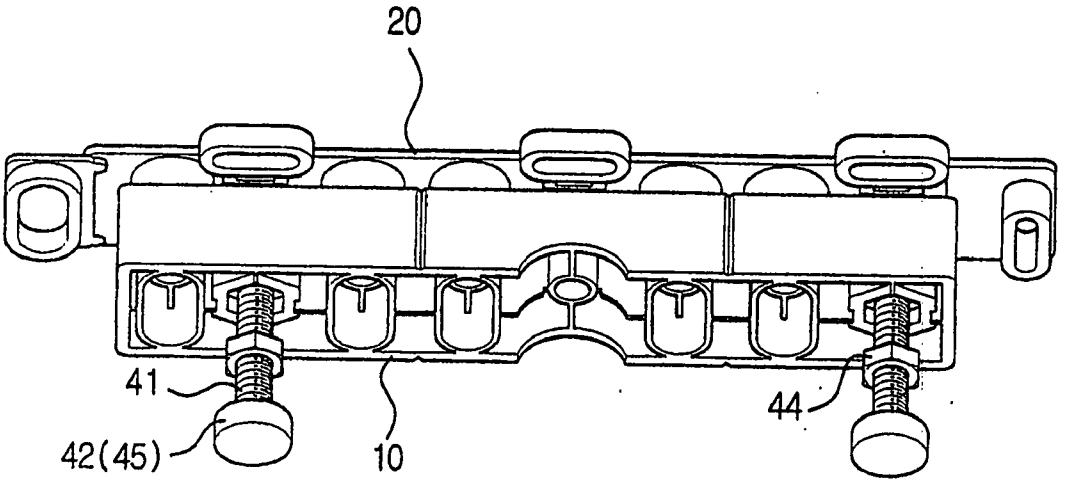


FIG. 12

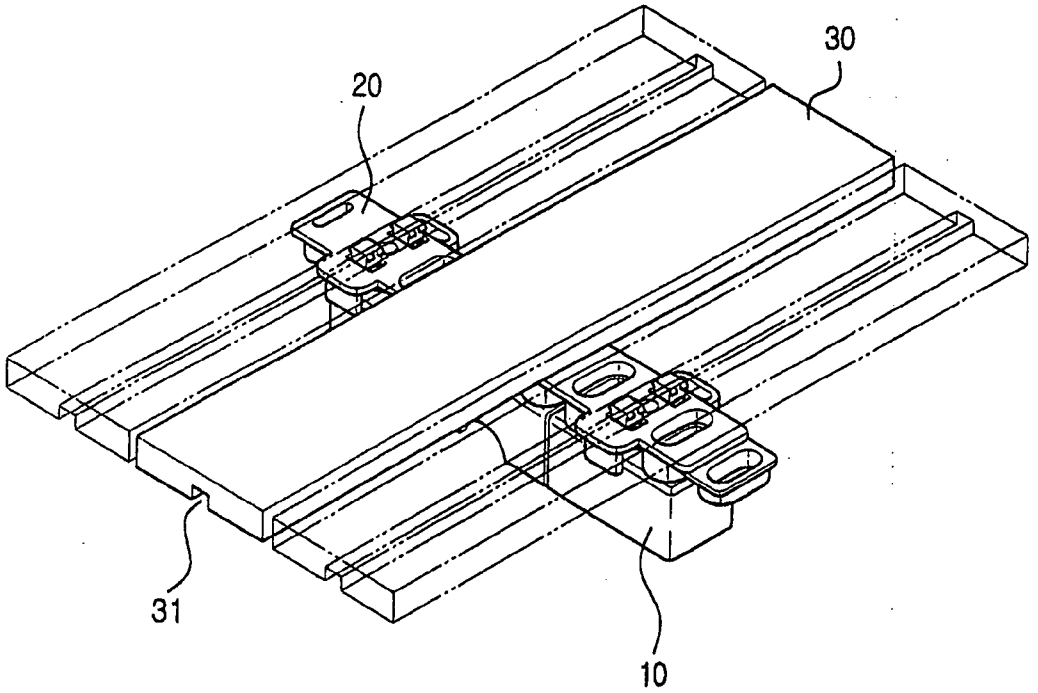
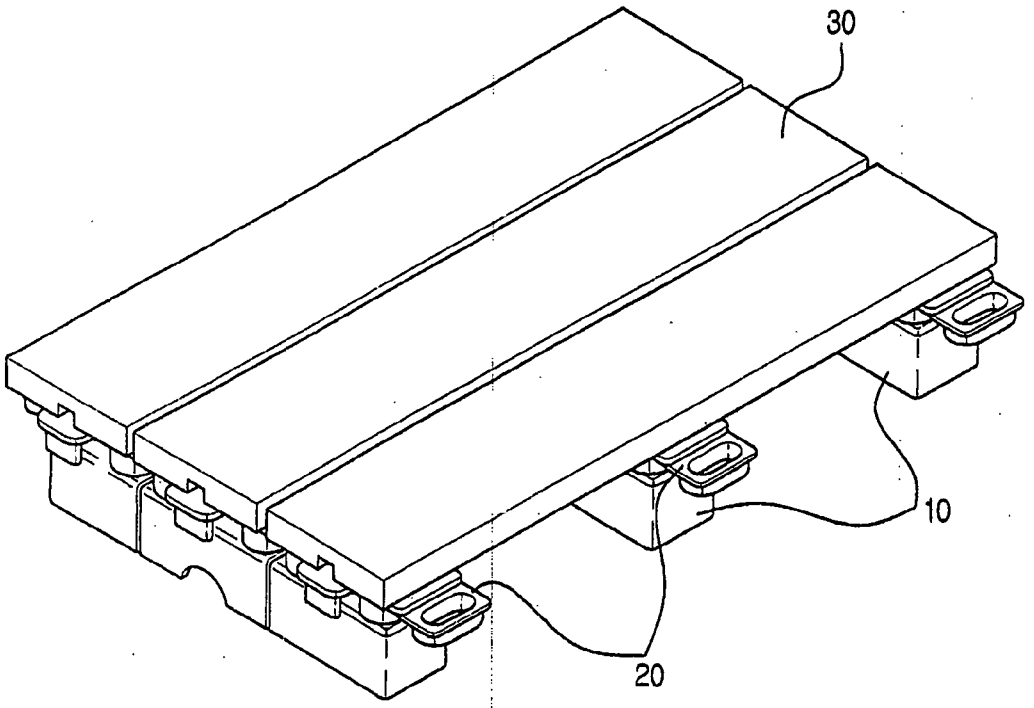


FIG. 13



PREFAB MATERIAL FOR ADJUSTING LEVEL OF FLOOR

TECHNICAL FIELD

[0001] The present invention relates to a sectional floor-covering mounted on a balcony in a building such as an apartment. More particularly, the present invention relates to a sectional floor-covering capable of adjusting level, which includes a height adjusting block; a supporter coupled to the upper surface of the height adjusting block; slip floorings coupled to the upper surface of the supporter; and horizon adjusting devices mounted to the height adjusting block.

BACKGROUND ART

[0002] In general, in most of apartments, a balcony is mounted on the outer part of a living room, and the floor surface of the living room is constructed higher than the floor surface of the balcony, and thereby, the border between the living room and the balcony has a stepped part of a predetermined height.

[0003] So, in case of that the existing balcony is remodeled into a part of the living room to use the living room wider, construction workers pour concrete on the floor surface of the balcony and level up the height of the balcony to that of the living room. However, such construction for leveling up the floor height of the balcony by pouring concrete on the floor surface of the balcony may cause a large-scale accident, such as its own collapse, as exceeding support intensity in an aspect of structural mechanics of the balcony without regard to whether or not it is admitted by the construction laws. In addition, when the balcony is remodeled, it hinders neighbors' living as there occurs noise, and it requires excessive construction costs.

[0004] As described above, the floor height of the balcony can be leveled by pouring concrete. Furthermore, as another method to level the floor height of the balcony, as shown in **FIG. 1**, balks **6** are fixed on the floor with nails to be adjusted in level, and then, strip flooring boards **1** are fixed on the balks **6** with nails or adhesives. However, the flooring construction generates lots of noise and is expensive. Moreover, the conventional flooring construction has another disadvantage in that it is difficult for non-skilled persons to construct the floor.

[0005] To solve the above problems and to construct a balcony of the same level as a living room by a simple construction method, sectional floor coverings of various kinds have been used, but most of them cannot be adjusted in level. So, if the surface of the floor installed in the balcony and the surface of the floor installed in the living room are not leveled, spacers are mounted under the sectional floor coverings, so that the floor mounted in the balcony is leveled with the floor of the living room.

[0006] Furthermore, there is another sectional floor covering capable of adjusting level without mounting of spacers. However, in the sectional floor covering capable of adjusting level, a sectional supporter is mounted on the upper portion of a height adjusting block, a strip flooring is fixed at the upper portion of the sectional supporter, and a height adjusting unit is mounted at the lower portion of the height adjusting block. So, to adjust height, the sectional floor covering must be turned over, and therefore, it is inconvenient to adjust height, and it takes lots of time to adjust height.

DISCLOSURE OF INVENTION

[0007] Accordingly, the present invention has been made: in view of the above problems, and objects of the present invention to solve the above problems are as follows.

[0008] An object of the present invention is to provide a sectional floor covering, which is mounted simply without additional flooring construction work.

[0009] Another object of the present invention is to provide a sectional floor covering, which is a unit product of a uniform size, and which can be connected and expanded in all directions.

[0010] A still other object of the present invention is to provide a sectional floor covering capable of adjusting level without mounting spacers.

[0011] A still other object of the present invention is to provide a sectional floor covering, which provides a level-adjustable unit to easily adjust level at the upper surface of the sectional floor covering.

[0012] A still other object of the present invention is to provide a sectional floor covering, which provides a slip preventing unit between the surface of the sectional floor covering and that of a balcony.

[0013] A still other object of the present invention is to provide a sectional floor covering, which can keep an adjusted level condition of the assembled sectional floor coverings stably.

[0014] A still other object of the present invention is to provide a sectional floor covering, which provides a water drain unit under a state in which the sectional floor coverings are assembled and mounted.

[0015] To achieve the above objects, the present invention provides a sectional floor covering capable of adjusting level includes: a height adjusting block; a supporter coupled to the upper surface of the height adjusting block; slip floorings coupled to the upper surface of the supporter; and horizon adjusting devices mounted to the height adjusting block.

[0016] The height adjusting block includes: connecting tongues formed on the upper surface of the height adjusting block; vertical holes perforating the upper and lower surfaces of the height adjusting block; and built-in nuts embedded and fixed into the vertical holes.

[0017] The supporter includes: connecting holes formed in the lower surface of the supporter and coupled with the connecting tongues; vertical working holes formed in positions corresponding to the vertical holes under a condition in which the supporter is coupled with the height adjusting block, and perforating the upper and lower surfaces of the supporter; connection protrusions extending from a side of the upper surface of the supporter and protruding vertically; connection receiving parts extending from the other side of the upper surface of the supporter; and slip flooring connection pins vertically protruding from the upper surface of the supporter, wherein the connection protrusions are coupled with the connection receiving parts formed on another supporter, which is installed adjacent to the present supporter.

[0018] The sling flooring includes a coupling groove formed in the lower surface thereof, receiving the slip flooring connection pin, and coupled with the supporter.

[0019] The horizon adjusting device includes: a screw bar having a screw thread; a head part formed at a side end portion of the screw bar; and a driver hole of a "+" or "−" shape formed in the front end of the other side end portion of the screw bar, wherein the screw bar is inserted into the lower surface of the height adjusting block and coupled with the built-in nut.

[0020] Therefore, the present invention can adjust level also at the upper surface of the sectional floor covering by rotating the screw bar of the horizon adjusting device after the simple tool, such as the driver, is inserted into the vertical working hole of the supporter and the vertical hole of the height adjusting block and fit to the driver hole of the horizon adjusting device.

BRIEF DESCRIPTION OF DRAWINGS

[0021] Further objects and advantages of the invention can be ore fully understood from the following detailed description aken in conjunction with the accompanying drawings in which:

[0022] **FIG. 1** is a perspective view showing an example in which conventional slip flooring is installed;

[0023] **FIG. 2** is a detailed perspective view of a height adjusting block according to the present invention;

[0024] **FIG. 3** is a bottom perspective view showing a state in which built-in nuts are coupled with vertical holes of the height adjusting block;

[0025] **FIG. 4** is a perspective view showing a detailed example of a supporter according to the present invention;

[0026] **FIG. 5** is a perspective view showing a state in which the supporter is coupled with the height adjusting block;

[0027] **FIG. 6** is a front view showing a state in which the supporter is coupled with the height adjusting block;

[0028] **FIG. 7** is a bottom perspective view showing a state in which the supporter is coupled with the height adjusting block;

[0029] **FIG. 8** is a bottom perspective view showing a state in which a horizon adjusting device is mounted under the condition in which the supporter is coupled with the height adjusting lock;

[0030] **FIG. 9** is a plan view showing the state in which he horizon adjusting device is mounted under the condition in which the supporter is coupled with the height adjusting block, in which a "+" shaped driver hole is formed in the front end portion of a screw bar;

[0031] **FIG. 10** is a plan view showing the state in which he horizon adjusting device is mounted under the condition in which the supporter is coupled with the height adjusting block, in which a "−" shaped driver hole is formed in the front end portion of the screw bar;

[0032] **FIG. 11** is a bottom perspective view showing the state in which he horizon adjusting device is mounted under the condition in which the supporter is coupled with the height adjusting block, which is a state before a locking nut is tightened;

[0033] **FIG. 12** is a perspective view showing a state in which a slip flooring is installed on the upper surface of the supporter under the condition in which the supporter is coupled with the height adjusting block; and

[0034] **FIG. 13** is a perspective view showing a completely assembled state of the sectional floor coverings capable of adjusting level according to the present invention.

[0035] <Explanation of Reference Numerals of Essential Parts in Drawings>

10: height adjusting block	11: connecting tongue
12: vertical hole	13: built-in nut
14: drain hole	15: connecting groove
20: supporter	21: connecting hole
22: vertical working hole	23: connection protrusion
24: connection receiving part	
25: slip flooring connection pin	
30: slip flooring	31: coupling groove
40: horizon adjusting device	41: screw bar
42: head part	43: driver hole
44: locking nut	45: rubber cover

BEST MODE FOR CARRYING OUT THE INVENTION

[0036] The present invention will now be described in detail in connection with preferred embodiments with reference to the accompanying drawings.

[0037] As shown in **FIGS. 2 and 3**, a height adjusting block **10** includes connecting tongues **11** formed on the upper surface of a height adjusting block **10**, vertical holes **12** perforating the upper surface and the lower surface of the height adjusting block **10**, and built-in nuts **13** respectively embedded and fixed in the vertical holes **12**.

[0038] The shape of the connecting tongues **11** is not restricted to the shape shown in **FIG. 2**, and one of various shapes, such as a circle, an oval and others, can be selected. Also, the shape of the section of the vertical hole **12** is not restricted to the shape shown in **FIG. 2** or **3**, and one of various shapes, such as a circle, a hexagon and others, can be selected if the built-in nut is embedded and fixed therein and spaces for moving screw bars of horizon adjusting devices **40** vertically through the vertical holes **12** are secured.

[0039] The connecting tongues **11** of the height adjusting block **10** are coupled with connecting holes **21** of a supporter **20** shown in **FIG. 4**, and the horizon adjusting devices **40** are mounted in the vertical holes **12** respectively, in which the built-in nuts **13** are embedded, as shown in **FIG. 11**. Meanwhile, as shown in **FIG. 2** or **6**, semicircular drain holes **14** are formed in the lower surface of the height adjusting block **10** to allow a smooth water flow along a water curving slant surface of the floor of a balcony. Moreover, as shown in **FIG. 3**, connecting grooves **15**, which will be coupled with the connecting tongues **11**, are formed at the lower surface of the height adjusting block **10** in correspondence with the shape of the connecting tongues **11**, so that a number of the height adjusting blocks **10** can be piled up by coupling the connecting tongues **11** with the connecting grooves **15**.

[0040] As shown in **FIG. 4**, the supporter **20** includes: connecting holes **21** formed in the lower surface thereof,

which will be coupled with the connecting tongues **11** corresponding to the shape of the connecting tongues **11** of the height adjusting block **10**; vertical working holes **22** formed in positions, where they correspond with the vertical holes **12** of the height adjusting block **10**, to perforate the upper and lower surfaces of the supporter **20** under a condition in which the height adjusting block **10** and the supporter **20** are coupled with each other by the connecting tongues **11** and the connecting holes **21**; connection protrusions **23** extending from a side of the upper surface of the supporter **20** and protruding vertically; connection receiving parts **24** extending from the other side of the upper surface of the supporter **20** and corresponding to the shape of the connection protrusions **23**; and slip flooring connection pins **25** protruding from the upper surface of the supporter **20** vertically. The connection protrusions **23** are coupled to the connection receiving parts **24** formed on another supporter **20**, which is mounted adjacent to the present supporter **20**, so that a number of supporters **20** can be connected vertically and horizontally to expand the floor covering.

[**0041**] As shown in **FIG. 4**, the connecting holes **21** formed in the supporter **20** can be formed to perforate the upper and lower surfaces of the supporter **20**, are not restricted to the shape shown in **FIG. 4**, and can have any shape if the connection protrusions **23** and the connection receiving parts **24** are connected with each other to continuously connect a number of the supporters **20** vertically and horizontally. The shape of the slip flooring connection pins **25** is not restricted to the shape shown in **FIG. 4**, and can be selected from various shapes capable of fixing a slip flooring **30** by being coupled with coupling grooves **31** respectively formed in the lower surfaces of the slip floorings **30**.

[**0042**] The slip coupling groove **31** formed in the lower surface of the slip flooring **30** has the same shape as the slip flooring connection pin **25**, so that the slip floorings **30** can be fixed to the supporter **20** by coupling the slip flooring connection pins **25** with the coupling grooves **31** thereof.

[**0043**] As shown in **FIG. 11**, the horizon adjusting device **40** includes a screw bar **41** having a screw thread, a head part **42** formed on an end portion of a side of the screw bar **41**, and "+" or "−" shaped driver hole **43** formed in the front end portion of the other side end of the screw bar **41**. The screw bar **41** is inserted into the lower surface of the height adjusting block **10** coupled to the built-in nut **13**.

[**0044**] Therefore, when the horizon adjusting devices **40** are coupled with the built-in nuts **13**, the screw bars **41** can be moved vertically while rotating through the vertical working holes **22** of the supporter **20** and the vertical holes **12** of the height adjusting block **10**, and it can be checked if a worker looks down the driver hole **43**, which is formed at the front end of the screw bar **41**, at the upper surface of the supporter **20**, as shown in **FIGS. 9 and 10**. The reason is that positions of the vertical holes **12** of the height adjusting block **10** and those of the vertical working holes **22** of the supporter **20** are corresponded with each other when the height adjusting block **10** is coupled with the supporter **20**, and that the screw bar **41** is coupled with the built-in nut **13** embedded in the vertical hole **12** of the height adjusting block **10**. Therefore, the screw bar **41** can be moved vertically by rotating the screw bar **41** using a simple tool, such as a driver, through the vertical working hole **22** and the vertical hole **12** from the upper surface of the supporter **20**. As described above, the present invention can adjust level of the floor coverings conveniently by rotating the screw bar **41** of the horizon adjusting device **40** using the simple tool, such as the driver, from the upper surface of the supporter **20** under a condition that the height adjusting block **10** and the supporter **20** are coupled with each other and the combination of the height adjusting block **10** and supporter **20** is spread on the balcony.

[**0045**] Furthermore, as shown in **FIG. 11**, the screw bar **41** of the horizon adjusting device **40** further includes a locking nut **44** without regard to the built-in nuts **13** embedded in the vertical hole **12** of the height adjusting block **10**. The locking nut **44** can prevent rotation of the screw bar **41** when the adjustment of level is finished, thereby providing floor stability of the floor coverings. In other words, when the screw bar **41** is fixed and the locking nut **44** is rotated and tightened, the screw bar **41** of the horizon adjusting device **40** is tightly fixed to the height adjusting block **10** to always maintain a uniform height. In addition, as shown in **FIG. 11**, the head part **42** of the horizon adjusting device **40** is packed with a rubber cover **45** to prevent slip of a tile floor surface of the balcony or a bath room.

[**0046**] **FIG. 12** shows a state in which the slip flooring **30** is assembled to the sectional floor covering capable of adjusting level according to the present invention. In the drawing, the connecting tongues **11** of the height adjusting block **10** are coupled with the connecting holes **21** of the supporter **20**, and the coupling grooves **31** of the slip floorings **30** are coupled and fixed to the slip flooring connection pins **25**.

[**0047**] **FIG. 13** is a brief view of a detail embodiment of the present invention, in which the supporter **20** is assembled onto the height adjusting bock **10** and the slip flooring **30** is attached to the upper surface of the supporter **20**. In the drawing, the horizon adjusting device **40** is not shown, but the head part **42** of the horizon adjusting device **40** is mounted on the lower surface of the height adjusting block **10**, and at this time, the head part **42** is directed toward the ground.

INDUSTRIAL APPLICABILITY

[**0048**] By the above structure, the present invention has the following effects.

[**0049**] First, the sectional floor covering according to the present invention can be easily installed using the height adjusting block **10** and the horizon adjusting devices **40** without additional flooring construction, thereby removing various ill effects (noise, financial burden, occurrence of defect of a building, and so on) caused by excessive expansion construction of the balcony, and providing environmentally friendly efficiency and economical efficiency by a rapid installation.

[**0050**] Second, as the present invention is a unit product of a uniform size, the present invention can be connected and expanded in all directions by coupling and connecting the connection protrusions **23** and the connection receiving parts **24** of the supporter **20**.

[**0051**] Third, the present invention can adjust level using the height adjusting block **10** and the horizon adjusting devices **40** without installation of spacers.

[0052] Fourth, the present invention can adjust level also at the upper surface of the sectional floor covering by rotating the screw bar **41** after the simple tool, such as the driver, is inserted into the vertical working hole **22** of the supporter **20** and the vertical hole **12** of the height adjusting block **10** and fit to the driver hole **43** formed in the front end of the screw bar **41**.

[0053] Fifth, the present invention can prevent slip between the sectional floor covering and the surface of the balcony by packing the head part **42** of the horizon adjusting device **40** with the rubber cover **45**.

[0054] Sixth, the present invention has the locking nut **44** for removing a unstably fixed condition by an interval between the built-in nut **13** and the screw bar **41** of the horizon adjusting device **40**.

[0055] Seventh, the present invention can provide a smooth water drain even under a condition in which the sectional floor covering is installed as having the drain hole **14** formed in the lower surface of the height adjusting block **10**.

[0056] While the present invention has been described with reference to the particular illustrative embodiments, it is not to be restricted by the embodiments but only by the appended claims. It is to be appreciated that those skilled in the art can change or modify the embodiments without departing from the scope and spirit of the present invention.

What is claimed is:

1. A sectional floor covering capable of adjusting level, the sectional floor covering comprising:

a height adjusting block;

a supporter coupled to the upper surface of the height adjusting block;

slip floorings coupled to the upper surface of the supporter; and

horizon adjusting devices mounted to the height adjusting block,

wherein the height adjusting block includes:

connecting tongues formed on the upper surface of the height adjusting block;

vertical holes perforating the upper and lower surfaces of the height adjusting block; and

built-in nuts embedded and fixed into the vertical holes,

wherein the supporter includes:

connecting holes formed in the lower surface of the supporter and coupled with the connecting tongues;

vertical working holes formed in positions corresponding to the vertical holes under a condition in which the supporter is coupled with the height adjusting block, and perforating the upper and lower surfaces of the supporter;

connection protrusions extending from a side of the upper surface of the supporter and protruding vertically;

connection receiving parts extending from the other side of the upper surface of the supporter; and

slip flooring connection pins formed on the upper surface of the supporter, wherein the connection protrusions are coupled with the connection receiving parts formed on another supporter, which is installed adjacent to the present supporter,

wherein the sling flooring includes a coupling groove formed in the lower surface thereof, receiving the slip flooring connection pin and coupled with the supporter,

wherein the horizon adjusting device includes:

a screw bar having a screw thread;

a head part formed at a side end portion of the screw bar; and

a driver hole of a "+" or "−"shape formed in the front end of the other side end portion of the screw bar, wherein the screw bar is inserted into the lower surface of the height adjusting block and coupled with the built-in nut.

2. A sectional floor covering capable of adjusting level according to claim 1, further comprising a locking nut fastened to the screw bar of the horizon adjusting device.

3. A sectional floor covering capable of adjusting level according to claim 1, wherein the head part of the horizon adjusting device is packed with a rubber cover.

4. A sectional floor covering capable of adjusting level according to claim 1, wherein the height adjusting block has drain holes formed in the lower surface thereof.

5. A sectional floor covering capable of adjusting level according to claim 1, wherein the height adjusting block has connecting grooves formed in the lower surface thereof, so that a number of height adjusting blocks can be piled up by coupling the connecting tongues and the connecting grooves with each other.

* * * * *