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(54) FLOOR FOR SPORTS ACTIVITIES, FOR EXAMPLE ROLLER SKATING

(71) We, ROLL-RINK S.A., a Swiss company, of chemin de Ballallaz 14, Montreux, Switzerland, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

plate engaging with at least two of said 50 deck sections.

Each tile or plate may have a corrugated edge.

Preferably each connector stud has a longitudinal split therein. 55

The first face of each plate or tile may be smooth, granular or formed as artificial grass.

Each plate or tile may be substantially square or polygonal. 60

According to a further aspect of the present invention there is provided a floor for sports activities comprising a plurality of parallel deck sections, and a plurality of adjacent plates or tiles formed of plastics material, each deck section consisting of an elongate member having a base and a flat face portion which has a plurality of parallel channels or grooves therein, each of said plates or tiles having a floor forming first face and a plurality of connector studs depending from a second face longitudinally spaced along and lockingly engaged in each of said channels or grooves, each plate or tile having a plurality of locator pins depending from the second face thereof and received in corresponding openings in the flat face portions of the deck sections. 65 70 75

The locator pins may be longer than the connector studs. 80

The deck sections may be formed from aluminium alloy.

The invention is illustrated, merely by way of example, in the accompanying drawings in which:— 85

Figure 1 is a perspective view from underneath of a plate or tile of a floor according to the present invention;

Figure 2 is a fragmentary perspective view of a floor or deck section of a floor according to the present invention; 90

Figure 3 is a fragmentary perspective view of an assembled floor according to the present invention; and

Figure 4 is a perspective view on a reduced scale of the floor of Figure 3. 95

Referring to the drawings in detail an elongate floor or deck section 10, for example

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of aluminum alloy, is of any desired length and is relatively rigid but reasonably light-weight in the interest of portability. The deck section 10 includes vertical webs 11 having horizontal feet 12 which may be placed on any stable base, such as a bed of sand or gravel. The deck section has a flat level upper plate portion 13 interrupted by a plurality (three shown) of spaced parallel longitudinal grooves or channels 14, 15 and 16. A row of openings 17 are formed in the plate portion 13 between channels 14 and 15 and parallel thereto.

Preferably square floor plates or tiles 18 formed of moulded or injected plastics material are used in conjunction with a plurality of adjacent deck sections 10 for producing a floor, as shown in Figure 4. Instead of being square the plates or tiles 20 may be polygonal. Each plate or tile 18 has a flat plate body portion 19 which is adapted to lie on top of the plate portion 13, and which is of the same width as the latter. On its under face only, each plate or tile 18 has a plurality (three shown) of spaced parallel rows of connector studs 20 depending therefrom. These studs 20 are preferably equidistantly spaced in rows and each has a central split 21 to give it resiliency and a tapered arrow-like head 22 for entry into the grooves or channels 14, 15 and 16 for interlocking engagement therein, as shown clearly by Figure 3. The studs 20 are easily caused to snap into the grooves or channels 14, 15, 16 by a slight tapping or pressing on the plates or tiles.

Between two of the three rows of studs 20, each plate or tile 18 has a single row of cylindrical locator pins 23 spaced for entry into the openings 17. The locator pins are somewhat longer than the studs 20 and their main purpose is to pilot or guide the plates or tiles 18 into proper assembly positions with the deck sections 10.

With reference to Figure 3, it may be observed that each plate or tile 18 engages two adjacent sections 10. The groove or channel 16 of one deck section receives the first row of connector studs 20 of the next adjacent plate or tile 18; the arrangement being such that the adjacent plates or tiles making up an expanse of flooring such as shown in Figure 4, actually serve to interconnect adjacent deck sections 10 detachably in assembled relationship. Thus, the plates or tiles serve the additional purpose of uniting the floor and holding it together during use but allow its ready separation into sections when required. Also, individual plates or tiles are easily replaceable after wear or damage. No glue or other adhesive is employed in the assembly and the parts are united solely by mechanical interlocking.

The plates or tiles 18 have modulating

edges 24 which interfit snugly with adjacent plates or tiles.

The floor surface produced by the plates or tiles 18 may be perfectly smooth or may possess a granular texture. The plates or tiles can be processed to provide an artificial grass surface for sports such as tennis and football.

Briefly, the floor is assembled by placing the deck sections 10 in spaced parallel relation on a suitable base, such as sand or gravel. The plates or tiles 18 are attached to the deck sections by inserting the locator pins 23 in the openings 17 and by tapping or pressing the resilient connector studs 20 into the grooves or channels 14, 15, 16 of the decking. Once assembled, the floor can be carried as a unit or in separate sections to the surface which has been prepared for it.

The floor shown in the drawings can be rapidly dismantled should it be necessary to remove it for use elsewhere. The floor is wether-resistant, and water is not retained but flows away beneath the deck sections. Likewise, the floor is indifferent to humidity changes, and the influences of expansion and contraction due to temperature changes are minimal. This is in contradistinction to known flooring and skating rinks which have been constructed from sections of plastic glued onto plywood plates. In addition to being very expensive, such known flooring is highly sensitive to temperature and humidity changes and is damaged by the weather. Cracks form during cold weather and curling occurs at the joints in hot weather and water infiltrating the joints causes irreparable damage. In the invention, no adhesives are employed and the materials used inherently resist these factors.

The portability of the floor illustrated in the drawings allows it to be installed in any convenient location at a relatively very low cost. For example, the deck sections 10 may be placed over and across a swimming pool.

WHAT WE CLAIM IS:—

1. A floor for sports activities comprising a plurality of parallel deck sections, and a plurality of adjacent plates or tiles formed of plastics material, each deck section consisting of an elongate member having a base and a flat face portion which has a plurality of parallel channels or grooves therein, each of said plates or tiles having a floor forming first face and a plurality of connector studs depending from a second face longitudinally spaced along and lockingly engaged in each of said channels or grooves, the said tile or plate engaging with at least two of said deck sections.

2. A floor as claimed in claim 1 in which each plate or tile has a corrugated edge.

of aluminum alloy, is of any desired length and is relatively rigid but reasonably light-weight in the interest of portability. The deck section 10 includes vertical webs 11 having horizontal feet 12 which may be placed on any stable base, such as a bed of sand or gravel. The deck section has a flat level upper plate portion 13 interrupted by a plurality (three shown) of spaced parallel longitudinal grooves or channels 14, 15 and 16. A row of openings 17 are formed in the plate portion 13 between channels 14 and 15 and parallel thereto.

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The portability of the floor illustrated in the drawings allows it to be installed in any convenient location at a relatively very low cost. For example, the deck sections 10 may be placed over and across a swimming pool.

WHAT WE CLAIM IS:—

1. A floor for sports activities comprising a plurality of parallel deck sections, and a plurality of adjacent plates or tiles formed of plastics material, each deck section consisting of an elongate member having a base and a flat face portion which has a plurality of parallel channels or grooves therein, each of said plates or tiles having a floor forming first face and a plurality of connector studs depending from a second face longitudinally spaced along and lockingly engaged in each of said channels or grooves, the said tile or plate engaging with at least two of said deck sections.

2. A floor as claimed in claim 1 in which each plate or tile has a corrugated edge.



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3. A floor as claimed in claim 1 in which each connector stud has a longitudinal split therein.
4. A floor as claimed in any preceding claim in which the first face of each plate or tile is smooth.
5. A floor as claimed in any of claims 1 to 3 in which the first face of each plate or tile is granular.
- 10 6. A floor as claimed in any of claims 1 to 3 in which the first face of each plate or tile is formed as artificial grass.
- 15 7. A floor as claimed in any preceding claim in which each plate or tile is substantially square.
8. A floor as claimed in any of claims 1 to 6 in which each plate or tile is polygonal.
- 20 9. A floor for sports activities comprising a plurality of parallel deck sections, and a plurality of adjacent plates or tiles formed of plastics material, each deck section consisting of an elongate member having a base and a flat face portion which has a plurality of parallel channels or grooves therein, each
- 25 of said plates or tiles having a floor forming first face and a plurality of connector studs depending from a second face longitudinally spaced along and lockingly engaged in each of said channels or grooves, each plate or tile having a plurality of locator pins depending from the second face thereof and received in corresponding openings in the flat face portions of the deck sections.
10. A floor as claimed in claim 9 in which the locator pins are longer than the connector studs.
11. A floor as claimed in any preceding claim in which the deck sections are formed from aluminium alloy.
- 40 12. A floor for sports activities substantially as herein described with reference to and as shown in the accompanying drawings.

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