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(54) **A modular system for the formation of guide tracks, especially for a sliding pool cover**

(57) A modular system for formation of a tracks guide, especially for travel of pools enclosure, whose essence lies in that it consists of at least two mutually coupled shaped lengthwise segments (3), which are next to each other placed in the way to form parallel guide grooves (4) for travel wheels (5), whereas the basic seg-

ment (3) is formed by a shaped profile, which consists of a collaterally horizontally led lower base (31) and an upper base (32) which are connected by girders (33), where the girders (33) are profiled in the way to form, in the segment (3), a central chamber (34) and side cavities (35) opened in an outward direction.

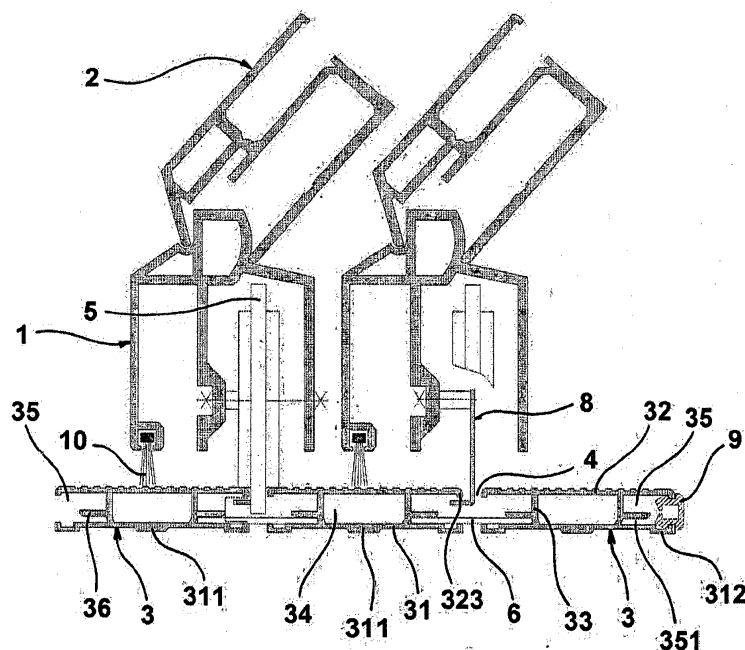


FIG. 1

Description

Art Domain

[0001] This technical solution concerns a structure of a modular system for formation of tracks guide for use especially for travel of telescopic enclosures of pools.

Present Prior Art

[0002] At present are for pools enclosure used different systems of structures namely stationary folding systems, coiling or rolling devices, while very spread are telescopic modular enclosures with different types of travels. For guide of particular segments is used either tracks guide or the slide of particular modules is solved without tracks. In a trackless design the slide is realized directly on the existing surface of the pool surrounding, the particular segments are not guided in the tract, thus tracks, and the direction of their slide is primarily determined by force exerted by the service. The main disadvantage of trackless enclosure is impossibility of reaching the same end points of the slide. There are known also combinations of both designs, thus tracks and trackless, when is for guarantee of guide in a particular track used mostly only one guide lath or a number of guide laths which is lower than amount of sliding segments. The example of this conception is for example solution according to the file CZ 23602 U1.

[0003] Regarding telescopic enclosure of pools lead constructions with travels guided on tracks which are situated along whole length of a pool, whereas the travel of each module is realized on independent track. If is required slide of the enclosure outside of the pool it is necessary to prolong the tracks behind the edge of the pool of the slide length. Used tracks guides are of different design and basically it is possible to divide them into walkable and non-walkable guides. Non-walkable guides are partly placed above the level of surrounding surface of the pools, when the examples of their designs are solutions described in the files CZ 6286 U1 or CZ 7449 U1 and partly on the level of surrounding surface of the pools, whereas they differ by their design in dependence on design of a supporting frame of enclosure. Generally then the classic non-walkable tracks guides contain a shaped raised guide ridge for travel wheels which is constructed in the way to create, by the help of in direction situated cogs or other catches, a cavity or a chamber for guide of safeguard elements, protecting particular parts of the enclosure from lifting namely due to wind activity or during the slide by the service when using too much power in an incorrect direction. Tracks guides are made up from particular modules, mutually connectable by the help of standard lock fastenings. The examples of these designs are solutions described in the files DE 202005015344 U1 or DE 19533739. Except for the fact that these guides create a noticeable design touch in surrounding of a pool and have a disruptive effect they are not suitable for pools

which are designed for children or public, when a possible careless entry on tracks guide can lead to injury. Therefore are, for this guidance, used several removable covers, described for instance in the files DE 102005046527 A1, DE 102005046528. A1 or DE 10200021 A1, which are put on tracks guide after enclosure shunt. The covers decrease an injury risk for pool users but mean certain complication during installing or removing of enclosure. There is effort to remove disadvantages of non-walkable tracks guides by amount of shape modifications of their profiles in the way to become walkable, when an example of these solutions are solutions mentioned in the files FR 2928394, EP 2098661 or EP 2177692. Regarding walkable solutions there are particular modules of tracks guides equipped with compensation bulges which by their shape partially eliminate elevation difference and thus total gap between elevation of guide ridge which is made for wheels guide and lower area of the module and simultaneously cover open side of a safeguard cavity. Contemporary designs of walkable tracks systems which offer certain elimination of gaps size between particular shaped parts of tracks are focused on solution of rounding of guide ridges and compensation bulges at ensuring proper function of the system also at tilt of travel wheels of enclosure modules which is dependent on movement geometry of these wheels. A disadvantage of these solutions of tracks guides is the fact that their upper travel wall is not totally flat and integral, whereas this set contains elements which create recesses and humps which is not optimal for a walkway contact with bare feet of pool users.

[0004] The aim of featured solution is to introduce new design of a modular system for tracks guide, designed especially for moving of enclosure segments of the pools, which would take out disadvantages of known solutions, ensure safe guide of travel wheels of the enclosure modules, would be structurally relatively simple and at the same time would not have dangerous bumps and recesses on surface of the travel.

Essence of technical solution

[0005] The set goal is reached by a technical solution which is a modular system for formation of tracks guide, especially for travel of a pools enclosure, whose essence is in the fact that it consists of at least two mutually coupled shaped lengthwise segments, which are set next to each other in the way that they form parallel guide grooves for travel wheels, whereas the basic segment is formed by the shaped profile which consists of collaterally horizontally placed lower and upper bases, which are connected by girders, when the girders are profiled in the way that they form a central chamber in the segment and in an outward direction opened side cavities.

[0006] In an advantageous design are into the lower parts of the side cavities from the girders made, collaterally with the inner wall of the lower base, defining ribs, that the outer wall of the lower base is procured with a

central reinforcing strip and end recesses and that the outer travel surface of the upper base is equipped with a lengthwise grooving and in end parts is procured with in a downward direction directed cogs.

[0007] Furthermore is advantageous when the segments are mutually coupled either by the help of a distant element, which is removable slide-in way set in notches which are formed in side cavities between the inner wall of lower base and defining ribs, or by distant lamellas which solidly fix lower bases of neighbouring segments.

[0008] Finally it is advantageous when the modular system is procured with side covers for blinding of side cavities of end segments.

[0009] With described solution can be reached new and higher efficiency due to the fact that by relatively simple constructional modifications of a basic segment of tracks guide is at ensuring of a perfect functionality of travel wheels of the enclosure modules created a safe flat travel surface of the segments, which is procured only with skidproof lengthwise grooves.

Description of the figures in enclosed drawings

[0010] Particular examples of construction of a modular system for formation of a tracks guide of travels for pools enclosure are schematically illustrated in enclosed drawings, where:

- Fig.1 is a crosscut of a basic design of a system which contains tracks guide with illustration of two integrated lower parts of enclosure modules,
- Fig. 2 is a crosscut of a basic segment of a modular system,
- Fig. 3 is a crosscut of a demountable two segmental tracks guide of a basic demountable design from Fig.1 and
- Fig. 4 is a crosscut of an alternative design of non-demountable three segmental guide.

[0011] The drawings which describe technical solution and consequently described examples do not in any case limit extend of the protection mentioned in the definition, but just clarify essence of the invention.

Examples of technical solution design

[0012] A modular system for formation of a tracks guide designed to provide movement of two supporting frames 1 of bearing cases 2 of the modules of pool enclosure which is illustrated in Fig. 1 consists of three mutually coupled shaped lengthwise segments 3 which are placed next to each other in the way that they form parallel guide grooves 4 for travel wheels 5 of the enclosure modules. The basic segment 3 of the tracks guide is in design according to the Fig. 2 formed by a shaped profile which consists of a collaterally horizontally led lower base 31 and an upper base 32, which are connected by vertical girders 33. The girders 33 are profiled in the way that

they form in the segment 3 a central chamber 34 and in outward direction opened side cavities 35, into whose lower parts are from the girders 33 made, collaterally with the inner wall of the lower base 31, defining ribs 36. The outer wall of the lower base 31 is procured with a central reinforcing strip 311 and end recesses 312. An outer travel surface 321 of the upper base 32 is then procured with a skid proof lengthwise grooving 322 and in end parts is procured with in downward direction directed cogs 323.

[0013] In a basic demountable design of the modular system which is illustrated in Fig. 3 the segments 3 are mutually coupled by the help of a distant element 6, for example a flat strip, which is inserted into notches 351 formed in the side cavities 35 between the inner wall of the lower base 31 and defining ribs 36. The width of the distant element 6 is selected in the way to have, between the end parts of the upper bases 32 of two neighbouring segments 3, at their coupling, a guiding groove 7 for placing travel wheels 5 and end catches of locking elements 8 of supporting frames 1 of enclosure modules. As it is clear from Fig. 1 the part of the modular system are also side covers 9 for blinding of the side cavities 35 of the end segments 3 and sealing strips 10 fixed in the supporting frames 1 in the way that, due to prevention of entry of impurities under the enclosure, they overlay the gap between the lower part of the supporting frame 1 and the outer travel surface 321 of the upper base 32.

[0014] The described solution is not the only possible constructional variant according to the technical solution, yet as it is clear from Fig. 4 the tracks guide of the modular system can be formed by solidly coupled segments 3 when demountable distant elements 6 are replaced by distant lamellas 61 which solidly connect lower bases 31 of neighbouring segments 3. For a function of the modular system is then irrelevant if the travel wheels 5 are in the guiding grooves 7 guided vertically to the upper base 31 or, in dependence on constructional design of enclosure, in another level.

Industrial usability

[0015] A modular system for formation of tracks guide according to the technical solution is designed for use especially for travels of telescopic enclosure of pools, but there is not excluded possibility of use in other branches, for example for modular covers of winter gardens, hot tubes, green houses or other objects, namely in construction business as well as in industrial production, where is required possibility of slide of whole segments or their parts.

Claims

1. A modular system for formation of a tracks guide, especially for travel of pools enclosure, wherein it consists of at least two mutually coupled shaped lengthwise segments (3), which are next to each oth-

er placed in the way to form parallel guide grooves (4) for travel wheels (5), whereas the basic segment (3) is formed by a shaped profile, which consists of a collaterally horizontally led a lower base (31) and an upper base (32) which are connected by girders (33), where the girders (33) are profiled in the way to form, in the segment (3), a central chamber (34) and side cavities (35) opened in an outward direction.

2. The modular system according to the claim 1, **wherein** are into the lower parts of the side cavities (35) from the girders (33) made, collaterally with an inner wall of the lower base (31), defining ribs (36). 10
3. The modular system according to the claims 1 or 2, **wherein** an outer wall of the lower base (31) is procured with a central reinforcing strip (311) and end recesses (312). 15
4. The modular system according to some of the claims 1 to 3, **wherein** an outer travel surface (321) of the upper base (32) is procured with a lengthwise grooving (322) and in end parts is procured with in downward direction directed cogs (323). 20
5. The modular system according to some of the claims 1 to 4, **wherein** the segments (3) are mutually coupled by the help of a distant element (6), which is, removable slide-in way, placed in notches (351) which are formed in the side cavities (35) between the inner wall of the lower base (31) and the defining ribs (36). 25
6. The modular system according to some of the claims 1 to 4, **wherein** the segments (3) are coupled by distant lamellas (61) which solidly connect the lower bases (31) of neighbouring segments (3). 30
7. The modular system according to some of the claims 1 to 6, **wherein** it is procured with side covers (9) for blinding of the side cavities (35) of end segments (3). 35

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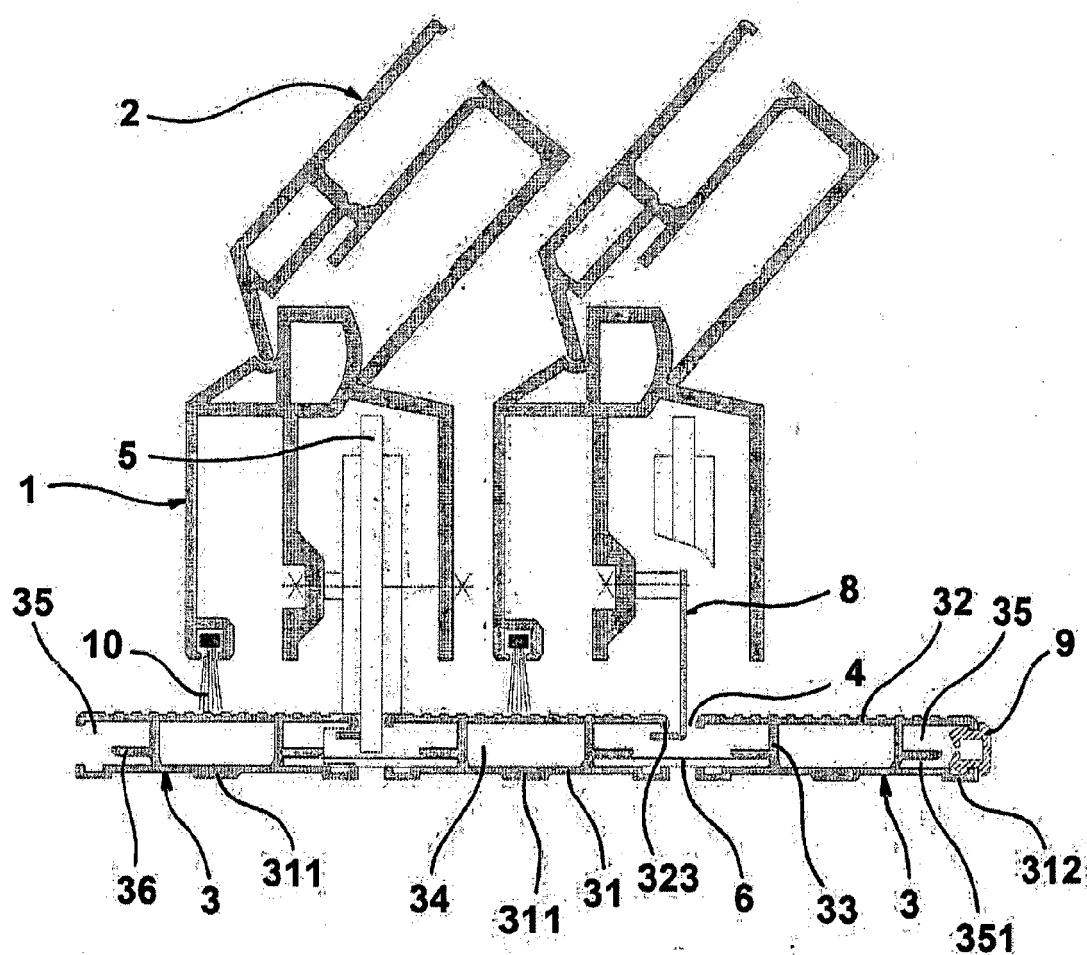


FIG. 1

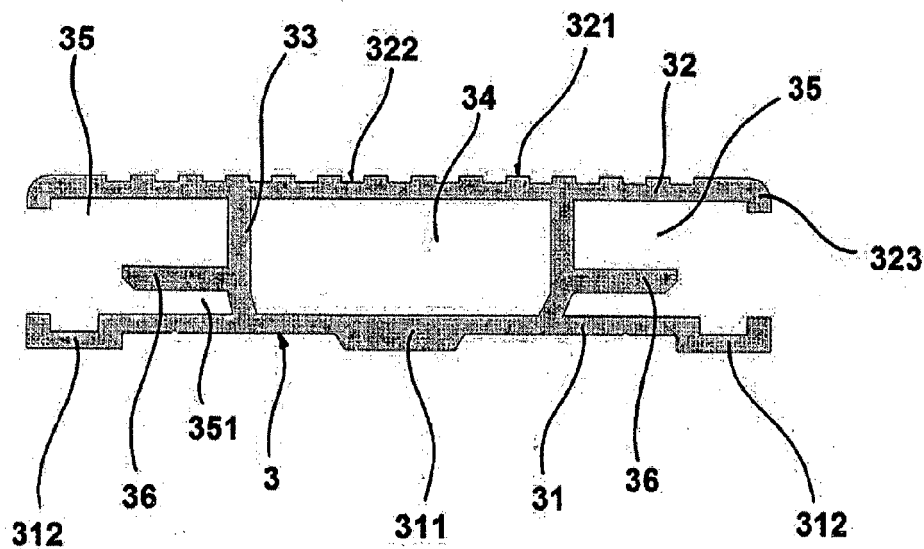


FIG. 2

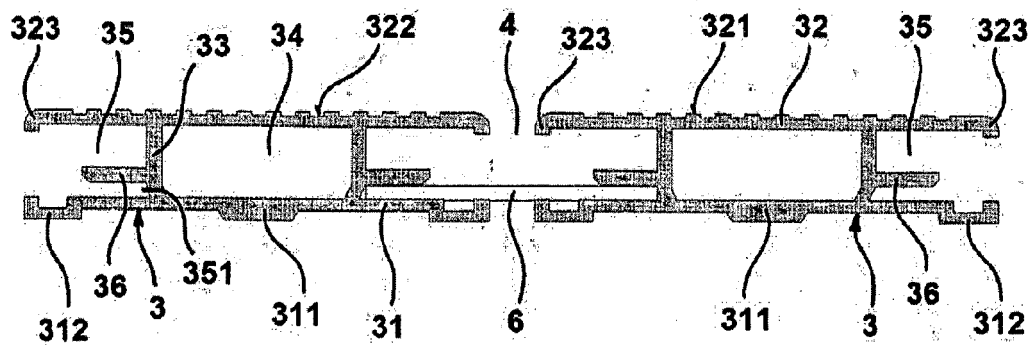


FIG. 3

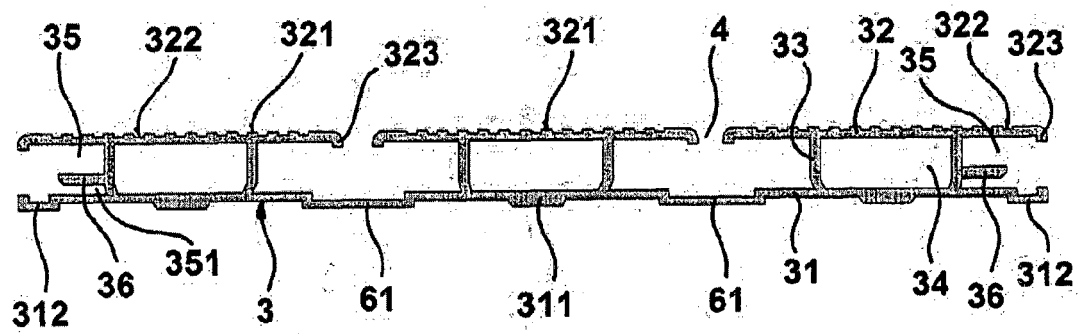


FIG. 4



EUROPEAN SEARCH REPORT

Application Number
EP 14 00 0188

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A,D	EP 2 177 692 A2 (AURA SCHWIMMBADUEBERDACHUNGEN [AT]) 21 April 2010 (2010-04-21) * the whole document *	1-7	INV. E04H4/08
A	EP 2 372 066 A1 (ELFA INT AB [SE]) 5 October 2011 (2011-10-05) * claim 1; figures 3a,3b *	1-7	
			TECHNICAL FIELDS SEARCHED (IPC)
			E04H E04B E06B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 7 January 2015	Examiner Rosborough, John
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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