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(71) Applicant: **Fluidra Industry France  
66000 Perpignan (FR)**

(72) Inventor: **Chabellard, Eric  
66000 PERPIGNAN (FR)**

(74) Representative: **Balder IP Law, S.L.  
Paseo de la Castellana 93  
5a planta  
28046 Madrid (ES)**

(54) **Assembly for a swimming-pool cover**

(57) Assembly for forming a swimming-pool cover (100), the swimming-pool cover (100) being formed by a number N of slats (10), the slats (10) being arranged and articulated parallel to each other, each slat (10) being closed by two plugs (20), each plug (20) being water-tightly adjustable inside one end of the slat, the swimming-pool cover further comprising two wings (200, 200a, 200b, 200c), each wing (200, 200a, 200b, 200c) being mountable on each plug and protruding from the slat end when mounted on the slat (10);

wherein the assembly comprises:

- at least a group of slats (10) each slat with two plugs (20), all slats in the group having a same first length (Ls); and
- a plurality of groups of wings (200, 200a, 200b, 200c), all wings in each group of wings having a same second length (Lw), the length of the wings in a group of wings being different from the length of the wings in the rest of groups of wings; the different lengths (Lw) of the wings being such that the length (Ls) of the slat plus twice the length of the wing (200, 200a, 200b, 200c) is less than a width (w) of the swimming pool where the cover is to be installed.

The invention also relates to a method of forming a swimming-pool cover with an assembly as defined above.

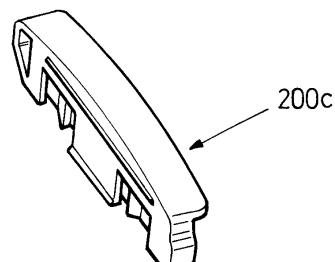
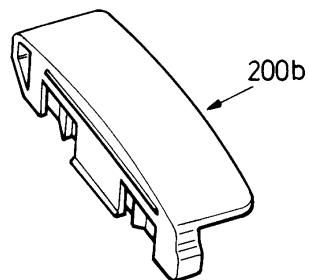
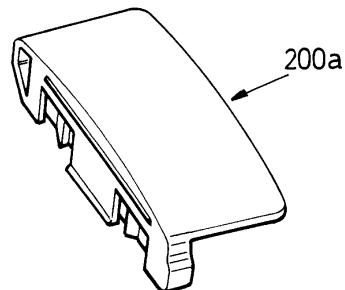


FIG.4

**Description****TECHNICAL FIELD**

5 [0001] The present invention relates to the field of swimming pool covers, especially those composed of a series of sets of profiled members connected to each another and which float over the water surface.

**STATE OF THE ART**

10 [0002] There are many different types of swimming-pool covers known in the prior art.

[0003] For instance, the swimming-pool cover can be made of a blanket or tarp extended over the surface of the swimming-pool and anchored to its periphery.

[0004] Patent document US-6517285-B2 discloses a swimming-pool cover which comprises a plurality of buoyant flexible membrane strips interconnected along adjacent edges and anchored by anchor members about the periphery of the pool.

[0005] There are also swimming-pool covers which are made of a plurality of hollow elongated elements, usually made of plastic (typically PVC), which are articulated to each other, float over the water surface and can be rolled up over a cylinder located at one of the ends of the swimming-pool. The hollow elongated elements are usually provided with water-tight plugs or caps at their ends.

20 [0006] Patent document FR-2629854-A1 discloses a swimming-pool cover of the latter type, made of hollow plates of plastic material articulated to each other, the plates having bristles at their free ends.

[0007] Patent document FR-2719622-A1 also discloses a motorised swimming-pool cover of this type.

25 [0008] These elongated elements have to be made to substantially fit within the swimming-pool to be covered. And though many swimming-pools have dimensions of theoretically standard widths and lengths, the fact is that the actual width of each swimming-pool depends on how the swimming-pool was built. As a result, the real width of the swimming-pool may differ between 1% and 3% to its standard width. For example, a swimming-pool having a standard width of 3.5 m may have a real width of 3.45 m or even 3.60 m.

30 [0009] Thus, due to the different real sizes of the swimming pools, each group of profiled elements or slats which will constitute the swimming-pool cover have to be manufactured individually to fit the specific width of the swimming-pool where the cover is intended to be installed. This implies that, during the manufacturing process, the cutting machine has to be stopped after each group of slats have been cut to the made-to-measure length of just one swimming-pool, and then programmed to the new specific length of another swimming pool. Thus, having to cut each group or set of slats to a "dedicated" length is time consuming and impedes the cutting machine from working in a continuous manner.

35 [0010] Patent document FR-2885930-A1 discloses a swimming pool cover which includes an assembly of slats having variable length. Each of the slats has a slat body which cooperates at one of its ends with a movable end piece by sliding interlocking connections, which allows varying the lengths of the slats. Once the desired length of the slat is achieved, the slat body and the movable end piece are fixed by a screw.

40 [0011] A problem with this solution is that the sliding interlocking connections can give away during use (for instance, upon repeatedly hitting the walls of the swimming-pool), which may cause the movable end piece to slide inside the slat, thereby decreasing the total length of the slat. In such case the play or free space left between the cover and the swimming-pool wall may increase and surpass its maximum permitted value. Additionally, in this solution each slat has to be adjusted manually with a screw at each of its ends. Further, the slats and movable end pieces having that interlocking connections are more difficult to manufacture, transport and stock.

**45 DESCRIPTION OF THE INVENTION**

50 [0012] The present invention avoids the problems posed by the known swimming-pool covers by providing an assembly for forming a swimming-pool cover which comprises sets of slats and wings, which can be previously manufactured to standard and pre-established sizes, instead of having to cut the dimension of the slats to fit the specific dimensions of each swimming pool or of having to manufacture the slat in a made-to-measure way. In a preferred embodiment of the assembly, some of the mechanical components of the swimming-pool cover are also standardized to the pre-established lengths/sizes of the slats and wings.

55 [0013] The invention refers to an assembly for forming a swimming-pool cover, the swimming-pool cover being formed by a number N of slats, the slats being arranged and articulated parallel to each other, each slat being closed at its ends by two plugs, one plug being water-tightly adjustable inside one end of a slat, the swimming-pool cover further comprising two wings, each wing being mountable on each plug (which can preferably be in a releasable manner) and protruding from the slat end when mounted in the slat. According to a first aspect of the invention, the assembly comprises:

- at least a group of slats, each slat with two plugs, all slats in a group having a same first length  $L_s$ ; and
- a plurality of groups of wings, all wings in each group of wings having a same second length  $L_w$ , the length of the wings in a group of wings being different from the length of the wings in the rest of groups of wings;

5 wherein the length  $L_w$  of the wings in each group of wings is selected such that the length  $L_s$  of the slat plus twice the length of the end piece -plug plus wing- is less than the width of the swimming pool where the cover is to be installed.

[0014] That is, instead of adjusting the width of the cover by cutting the slats or by manufacturing each slat to a dedicated length for a specific swimming-pool, the assembly of the invention provides at least one group or set of slats of a specific length, which can be manufactured in series in a continuous way, the at least one group of slats being combinable with several sets of wings, each set of wings having different length. In the assembly of the invention different lengths of the wings are provided, and the swimming-pool cover can be formed with one of the provided sets of wings such that the total length of the slat (including the two plugs at its ends) plus the length of the two wings mountable at each slat end is smaller than the width of the swimming-pool.

[0015] Preferably, the total length of the slat plus the length of the wings differs from the width of the swimming-pool 15 where the cover is to be installed by less than a pre-established value, independently of whether the swimming-pool cover is an automatic cover with a submerged motorised roller or the motorised roller is above ground (not submerged). The pre-established value is preferably 7 cm or below.

[0016] The assembly of the present invention preferably further comprises a plurality of groups of slats, all slats in 20 each group having a same predefined first length  $L_s$ , the length of each slat in a group of slats being different from the length of the slats in the rest of groups of slats.

[0017] Since the assembly comprises different group of wings, each group of wings having different length, the set of 25 wings to be used to form the swimming-pool cover is selected depending on the length  $L_s$  of the slat and the actual width of the swimming-pool such that the free space left between the cover once mounted and the wall of the swimming pool is within a predefined range.

[0018] The assembly of the invention further preferably comprises a plurality of accessories which are also standardized 30 according to the different lengths of the slats. These accessories can be mechanical components of the swimming-pool cover such as the cylinder axis for rolling up the cover or a beam of the front panel which separates the sunken area that contains the roller mechanism in the submerged models.

[0019] This way, the assembly for a swimming-pool cover of the invention permits changing from manufacturing each 35 swimming-pool cover in a made-to-measure way according to a very specific order, to producing the different components of the cover-slats, plugs, wings and the rest of mechanical components- in series and having the corresponding production on stock. The present invention changes from producing according to a specific order, to producing in series and ordering on stock. The delivery time is therefore significantly reduced.

[0020] So the present invention enables producing the different components of the pool cover beforehand and having 40 them on stock, which additionally enables offering them a having the product on stock, also simplifying the process of making an order for a swimming-pool cover according to the products on stock.

[0021] Further, since the slats are manufactured in series to predefined lengths, they can be directly cut to the specific 45 length, thereby producing less or no waste material. In the current processes the slats are first cut to the longest foreseeable length and then cut by groups to the specific length, the remains of the slats being spared. As a result, there is one cutting operation less in the manufacturing process of the present invention. Additionally, since the waste material is reduced, the present invention is also advantageous from an ecological point of view.

[0022] From a production point of view the present invention has the advantage that from producing slats having  $L_1$ ,  $L_2$ ,  $L_3$ ,  $L_4$ ,  $L_5$ ,  $L_6$ , etc. different lengths each day, with the present invention only slats having a predefined length  $L_1'$  are produced during one or several days, the following set of slats produced during the following manufacturing period 50 may have a predefined length of  $L_2'$  and so forth. This is clearly time-saving and the occurrence of errors is reduced: the production process can be improved and the overall quality is increased.

[0023] The length of the slats is preferably between 2% and 4% less of the width of the swimming-pool. In a preferred embodiment the length of the slats is preferably selected between approximately 3.40 m, 3.90 m, 4.40 m and 4.90 m. It is also possible to consider other standardized lengths which are suitable for smaller or bigger swimming-pools.

[0024] The length  $L_w$  of the wings in each group of wings is 1 cm, 2 cm, 3 cm, 4 cm or 5 cm greater than a minimum 55 pre-established length  $L_w$  of the wing.

[0025] The length of the wing is preferably selected between 2 cm, 3 cm, 4 cm and 5 cm.

[0026] In a preferred embodiment, the assembly of the invention further comprises a set of two casters, which can be coupled to both wings of the first one of the slats forming the swimming-pool cover. These two casters or guiding wheels are coupled at each wing and help guiding the cover when it is extended over the surface of the water, preventing the cover from hitting the pool walls.

[0027] A second aspect of the invention refers to a method of forming a swimming-pool cover with an assembly as defined above, the method comprising the steps of:

- selecting the length  $L_s$  of the slats;
- selecting the length  $L_w$  of the wings such that the length of the slat  $L_s$  plus twice the length of the wing  $L_w$  is less than the width  $w$  of the swimming pool where the cover is to be installed;
- fitting one plug in each slat end, and coupling one wing to each plug; and
- forming the swimming-pool cover by arranging the plurality of  $N$  slats parallel to each other in an articulated manner.

5 [0028] The length of the wing in one of the slat ends can be different to the length of the wing in the other slat end.

[0029] A further aspect of the invention relates to a method of offering standardized components for forming a swimming-pool cover which comprises:

- 10 - offering a plurality of groups of slats, all slats in the same group of slats having the same first length  $L_s$ , the length of each slat in a group of slats being different from the length of the slats in the rest of groups of slats;
- offering a plurality of group of wings, all wings in the same group of wings having the same second length  $L_w$ , the length of each wing in a group of wings being different from the length of the wings in the rest of groups of wings.

15 [0030] Preferably, the method further comprises offering a plurality of standardized accessories for the swimming-pool cover, each standardized accessory adapted to each first length  $L_s$  of the slats.

[0031] A further aspect of the invention refers to a method of placing an order for a swimming-pool cover which comprises:

- 20 - selecting a first length  $L_s$  of a slat among a plurality of groups of slats, all slats in the same group of slats having the same first length  $L_s$ , the length of each slat in a group of slats being different from the length of the slats in the rest of groups of slats;
- selecting a second length  $L_w$  of a wing among a plurality of group of wings, all wings in the same group of wings having the same second length  $L_w$ , the length of each wing in a group of wings being different from the length of the wings in the rest of groups of wings; wherein the second length of the wing is chosen such that the first length  $L_s$  of the slat chosen plus twice the second length  $L_w$  of the wing is less than the width of the swimming pool where the cover is to be installed.

30 [0032] The method preferably further comprises selecting one or more components of the cover among a plurality of standardized components adapted to the chosen first length  $L_s$  of the slats.

[0033] The main components of the swimming-pool cover can be produced in advance and stocked, and then, according to the invention, offered in a standardized manner to the end users for them to decide the components they need.

[0034] Additionally, a method for making an order is also provided so that the end users can easily make the order deciding among the variety of standardized components.

[0035] According to still a further aspect of the invention, a computer-implemented platform comprising means for performing a method of offering standardized components for forming a swimming-pool cover or a method of placing an order for a swimming-pool cover as defined above.

[0036] The different aspects and embodiments of the invention defined in the foregoing can be combined with one another, as long as they are compatible with each other.

[0037] Additional advantages and features of the invention will become apparent from the detailed description that follows and will be particularly pointed out in the appended claims.

## BRIEF DESCRIPTION OF THE DRAWINGS

45 [0038] To complete the description and in order to provide for a better understanding of the invention, a set of drawings is provided. Said drawings form an integral part of the description and illustrate an embodiment of the invention, which should not be interpreted as restricting the scope of the invention, but just as an example of how the invention can be carried out. The drawings comprise the following figures:

50 Figure 1 schematically shows a perspective view a swimming-pool cover formed with an assembly according to the invention.

Figure 2 shows a top view of a portion of the swimming-pool cover of Figure 1.

Figure 3 shows a detailed view of one end of a slat, and a plug and a wing before they are mounted on the slat.

55 Figure 4 shows four wings, each having a different length.

## DESCRIPTION OF A PREFERRED EMBODIMENT

[0039] The following description is not to be taken in a limiting sense but is given solely for the purpose of describing the broad principles of the invention. Next embodiments of the invention will be described by way of example, with reference to the above-mentioned drawings showing elements and results according to the invention.

[0040] Figure 1 shows a swimming-pool cover 100 mounted and floating over the water surface of a swimming-pool 1, the cover 100 having been made with the assembly of the present invention. The swimming-pool 1 has a width w. The swimming-pool cover 100 is an automatic cover which can be rolled up over the cylinder axis 300 by means of a motor (not shown).

[0041] The swimming-pool cover is designed to cover the entire surface of the swimming-pool. As can be better appreciated in Figure 2, the swimming-pool cover 100 is made of a plurality of N hollow but rigid slats 10 (which can be available in several colours) which are articulated to each other.

[0042] The cover can be easily extended and retracted by means of rolling the slat over a cylinder (not shown) located at one of the ends of the swimming-pool, which is activated by a motor (not shown).

[0043] The number N of slats 10 that constitutes the cover depends on the length of the swimming-pool. The slats 10 are preferably impermeable hollow PVC extruded.

[0044] As shown in Figure 3, each slat 10 is closed at its end with a couple of water-tight plugs 20, each plug being water-tightly adjustable inside the end of the slat. The plugs 20 ensure that the cover floats on the swimming-pool surface.

[0045] Additionally, a wing 200 is couplable to each plug 20, the wing protruding from the slat end when mounted in the slat. The wing 200 and the plug 20 are coupled in a releasable manner.

[0046] According to the invention, wings of different lengths are provided. Figure 4 shows an example of three possible wings, 200a, 200b, 200c, each having a different length which, for a given length of slat, may fit different swimming pool widths.

[0047] Additionally, if different lengths for the slats are also provided to form the swimming-pool cover, the assembly of the invention is capable of covering many swimming-pools having different widths.

[0048] In order to form the swimming-pool cover 100, the invention provides an assembly which comprises multiple groups or sets of slats, which are provided with the corresponding pair of plugs, and also multiple groups or sets of wings. The slats, plugs and wings can be previously manufactured to standard and pre-established sizes.

[0049] The following Table 1 shows an example of different possible groups of slats and different groups of wings in a preferred embodiment of the assembly for an above ground swimming-pool cover, each group comprising slats (or wings) which have the same size.

[0050] The plugs are provided in a single size which fit in all slats and which are couplable to all wings.

Table 1:

Swimming-pool width	Real width (w)	Length of the slats (Ls) in each group	Length of each wing* (Lw)	Play (30) in each side of swimming-pool
3,5 m	3,46 m	3,39 m	2 cm	1,5 cm
	3,47 m	3,39 m	2 cm	2,0 cm
	3,48 m	3,39 m	3 cm	1,5 cm
	3,49 m	3,39 m	3 cm	2,0 cm
	3,50 m	3,39 m	4 cm	1,5 cm
	3,51 m	3,39 m	4 cm	2,0 cm
	3,52 m	3,39 m	5 cm	1,5 cm
	3,53 m	3,39 m	5 cm	2,0 cm

(continued)

	Swimming-pool width	Real width (w)	Length of the slats (Ls) in each group	Length of each wing* (Lw)	Play (30) in each side of swimming-pool
5	4 m	3,96 m	3,89 m	2 cm	1,5 cm
		3,97 m	3,89 m	2 cm	2,0 cm
		3,98 m	3,89 m	3 cm	1,5 cm
		3,99 m	3,89 m	3 cm	2,0 cm
		4,00 m	3,89 m	4 cm	1,5 cm
		4,01 m	3,89 m	4 cm	2,0 cm
		4,02 m	3,89 m	5 cm	1,5 cm
		4,03 m	3,89 m	5 cm	2,0 cm
10	4.5 m	4,46 m	4,39 m	2 cm	1,5 cm
		4,47 m	4,39 m	2 cm	2,0 cm
		4,48 m	4,39 m	3 cm	1,5 cm
		4,49 m	4,39 m	3 cm	2,0 cm
		4,50 m	4,39 m	4 cm	1,5 cm
		4,51 m	4,39 m	4 cm	2,0 cm
		4,52 m	4,39 m	5 cm	1,5 cm
		4,53 m	4,39 m	5 cm	2,0 cm
15	5 m	4,96 m	4,89 m	2 cm	1,5 cm
		4,97 m	4,89 m	2 cm	2,0 cm
		4,98 m	4,89 m	3 cm	1,5 cm
		4,99 m	4,89 m	3 cm	2,0 cm
		5,00 m	4,89 m	4 cm	1,5 cm
		5,01 m	4,89 m	4 cm	2,0 cm
		5,02 m	4,89 m	5 cm	1,5 cm
		5,03 m	4,89 m	5 cm	2,0 cm
* The length of the wing in Table 1 includes the length of the plug, which usually is between 3-5 mm.					

[0051] By play it is understood the free space left between the cover and the wall of the swimming-pool, once the cover is installed on the swimming-pool.

[0052] In this preferred embodiment the assembly comprises four different groups or sets of slats, each group of slats having a different length Ls. As shown in the Table 1, the length of the slats Ls depends on the presumed width w of the swimming-pool where the swimming-pool cover has to be mounted. In this case, the slats in each of the four different groups of slats have the following lengths: 3.39 m, 3.89 m, 4.39 m and 4.89 m.

[0053] For instance, slats having a length of 4.89 m are suitable, and should therefore be selected, for a swimming-pool having a standardized width of 5 m. Since the fact is that the 5 meter-width swimming-pool will very probably have a real (measured) width which ranges within 4.96 m and 5.03 m, the assembly of the invention proposes four different groups of wings, the lengths of the wings (including the length of the plug) in each group being: 2 cm, 3 cm, 4 cm and 5 cm.

[0054] In this case, with four possible lengths for the slats and four possible lengths for the wings, the assembly of the invention is able to encompass:

- swimming-pool covers having  $4^2=16$  different lengths, if the wings used in either side of the slat are the same, which is the preferred case, since the resulting swimming-pool cover is then symmetrical; or

- swimming-pool covers having  $4^3=64$  different lengths, if the wings used in either side of the slat are not the same, which results in an asymmetrical cover.

5 [0055] Should it be considered necessary, additional groups of slats and/or wings could be included in the assembly of the invention.

[0056] Thus, the pool builder measures the real width of the swimming-pool and decides, among the possible sets of slats and wings, the length of the slats and the size (length) of the wings that he needs for forming the corresponding swimming-pool cover.

10 [0057] The above Table 1 also shows the resulting play 30 in each side of the swimming-pool, the play being the free space left between the slat (once mounted with the two plugs and the two wings) and the wall of the swimming-pool, at each side of the swimming pool. In any case the play 30 is within the acceptable limit established by the French regulations relating to swimming-pool covers, which defines a maximum of 7 cm between the end of the slat and the wall of the swimming pool when the other end of the slat of the swimming-pool cover is against the opposite wall of the swimming pool.

15 [0058] A further advantage of having standardized sets of slats and wings is that some of the accessories, such as the cylinder axis for rolling up the cover or the beam in the submerged model, can also be standardized.

[0059] This in turn facilitates the pool builder to make an order of the different elements of the cover. Upon measuring the width of the swimming-pool, he knows which length of slats  $L_s$  he has to order. Depending on whether the cover is an above ground model or a submerged model with or without liner, he selects from the following Table 2 the reference number of the components he needs:

Size of the pool	Above ground model	Submerged without liner	Submerged with liner	Slats model	Wings model
3.5 m	OG 3.5	S 3.5	SL 3.5	L 3.5	B 10
4.0 m	OG 4.0	S 4.0	SL 4.0	L 4.0	B 20
4.5 m	OG 4.5	S 4.5	SL 4.5	L 4.5	B 30
5.0 m	OG 5.0	S 5.0	SL 5.0	L 5.0	B 40

30 [0060] As it can be seen in Table 2 above, a single set of slats and a single set of wings is chosen independently of whether the cover is an above ground model or a submerged model.

[0061] With the above information the pool builder can make an order as follows:

- Type of automatic cover: reference=S 4.5; quantity=1.
- Type of slats: reference=L 4.5; quantity= 4 (packed in 2 m)
- Type of wings: reference=B 30; quantity= ---

[0062] The quantity of wings is automatically determined by the number of slats; the same applies to the quantity of plugs (there only being one model/type of plugs valid for all slats and wings).

40 [0063] As shown from the above example and as it has been indicated previously, the assembly for swimming-pool cover of the invention has several advantages:

45 The main components of the swimming-pool cover can be manufactured in series beforehand, with the corresponding productivity advantages, both time and cost-wise. Specifically, the slats can be manufactured in series to specific different lengths and different colours. These sets of slats can be easily stocked. The same applies to the different sets of wings, and to the plugs. And also to many mechanical components which are also standardized to the lengths of the slats, and which can also be produced and stocked.

50 [0064] Possible (human) errors in the cutting of the slats and in the manufacturing of the different components are prevented, also minimizing any possible misfits of the slats and therefore providing a higher quality level.

[0065] Since the main components of the swimming-pool cover can be manufactured beforehand and then stocked to be offered in a standardized manner to the end user. As a consequence the assembly of the invention also provides a very short lead time, the delivery time for the end user being clearly reduced.

55 [0066] Additionally and as also shown above, it is fairly simple for the end users or for a pool builder to place an order, since the end users have among a variety of components in a standardized manner, among which they are able to choose the ones that better fit their needs. It is also quite simple for the end user to calculate or provide a cost estimate of a swimming-pool cover.

[0067] Obviously, in other preferred embodiments of the assembly, other different values for the lengths of the slats

and of the wings can be provided, for example to fit other shapes of swimming-pools.

[0068] The present invention is also advantageous for exportation purposes: the different components of the cover can be manufactured in a standardized manner, introduced into a truck or container, and sent abroad, where the end user (or their pool builder) can directly install the cover.

5 [0069] In this text, the term "comprises" and its derivations (such as "comprising", etc.) should not be understood in an excluding sense, that is, these terms should not be interpreted as excluding the possibility that what is described and defined may include further elements, steps, etc.

10 [0070] In the context of the present invention, the term "approximately" and terms of its family (such as "approximate", etc.) should be understood as indicating values very near to those which accompany the aforementioned term. That is to say, a deviation within reasonable limits from an exact value should be accepted, because a skilled person in the art will understand that such a deviation from the values indicated is inevitable due to measurement inaccuracies, etc. The same applies to the terms "about" and "around" and "substantially".

15 **Claims**

1. Assembly for forming a swimming-pool cover (100), the swimming-pool cover (100) being formed by a number N of slats (10), the slats (10) being arranged and articulated parallel to each other, each slat (10) being closed by two plugs(20), each plug (20) being water-tightly adjustable inside one end of the slat, the swimming-pool cover further comprising two wings (200, 200a, 200b, 200c), each wing (200, 200a, 200b, 200c) being mountable on each plug and protruding from the slat end when mounted on the slat (10); wherein the assembly comprises:

20 - at least a group of slats (10) each slat with two plugs (20), all slats in the group having a same first length (Ls); and  
 25 - a plurality of groups of wings (200, 200a, 200b, 200c), all wings in each group of wings having a same second length (Lw), the length of the wings in a group of wings being different from the length of the wings in the rest of groups of wings; the different lengths (Lw) of the wings being such that the length (Ls) of the slat plus twice the length of the wing (200, 200a, 200b, 200c) is less than a width (w) of the swimming pool where the cover is to be installed.

30 2. Assembly for forming a swimming-pool cover (100) according to claim 1, which further comprises a plurality of groups of slats (10), all slats in each group having the same predefined first length (Ls), the length of each slat in a group of slats being different from the length of the slats in the rest of groups of slats.

35 3. Assembly for forming a swimming-pool cover (100) according to any of claims 1-2, wherein the length (Ls) of the slat (10) plus twice the length (Lw) of the wings (200, 200a, 200b, 200c) differs from the width (w) of the swimming-pool by less than a pre-established value.

40 4. Assembly for forming a swimming-pool cover (100) according to claim 3, wherein the pre-established value is 7 cm or less.

5. Assembly for forming a swimming-pool cover (100) according to any of claims 1-4, wherein the length (Ls) of the slats (10) is between 2% and 4% less of the width (w) of the swimming-pool.

45 6. Assembly for forming a swimming-pool cover (100) according to any of claims 1-5, wherein the length (Ls) of the slats (10) is selected between approximately 3.40 m, 3.90 m, 4.40 m and 4.90 m.

7. Assembly for forming a swimming-pool cover (100) according to any of claims 1-6, wherein the length (Lw) of the wings (202) in each group of wings (202) is 1 cm, 2 cm, 3 cm, 4 cm or 5 cm greater than a minimum pre-established length (Lw) of the wing (202).

50 8. Assembly for forming a swimming-pool cover (100) according to any of claims 1-7, which further comprises a plurality of accessories standardized to the length of the slats.

9. Method of forming a swimming-pool cover with an assembly according to any of claims 1-8, comprising the steps of:

55 - selecting a first length (Ls) for the slats (10);  
 - selecting the length (Lw) of the wing (200, 200a, 200b, 200c) such that the length (Ls) of the slat (10) plus twice the length (Lw) of the wing (200, 200a, 200b, 200c) is less than the width (w) of the swimming pool where

the cover is to be installed;

- fitting one plug (20) in each slat end and coupling one wing (200, 200a, 200b, 200c) to each plug (20); and
- forming the swimming-pool cover (100) by arranging the plurality of N slats parallel to each other in an articulated manner.

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**10.** Method according to claim 9, wherein the length of the wing (200, 200a, 200b, 200c) in one of the slat ends is different to the length of the wing (200, 200a, 200b, 200c) in the other slat end.

**11.** Method of offering standardized components for forming a swimming-pool cover (100) which comprises:

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- offering a plurality of groups of slats (10), all slats in the same group of slats having the same first length (Ls), the length of each slat in a group of slats being different from the length of the slats in the rest of groups of slats;
- offering a plurality of group of wings (200, 200a, 200b, 200c), all wings in the same group of wings having the same second length (Lw), the length of each wing in a group of wings being different from the length of the wings in the rest of groups of wings.

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**12.** Method according to claim 11, which further comprises offering a plurality of standardized accessories for the swimming-pool cover (100), each standardized accessory adapted to each first length (Ls) of the slats.

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**13.** Method of placing an order for a swimming pool cover (100) which comprises:

- selecting a first length (Ls) of a slat (10) among a plurality of groups of slats (10), all slats in the same group of slats having the same first length (Ls), the length of each slat in a group of slats being different from the length of the slats in the rest of groups of slats;

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- selecting a second length (Lw) of a wing (200, 200a, 200b, 200c) among a plurality of group of wings (200, 200a, 200b, 200c), all wings in the same group of wings having the same second length (Lw), the length of each wing in a group of wings being different from the length of the wings in the rest of groups of wings;

wherein the second length (Lw) of the wing (200, 200a, 200b, 200c) is chosen such that the length of the slat (Ls) chosen plus twice the length (Lw) of the wing (200, 200a, 200b, 200c) is less than the width (w) of the swimming pool where the cover (100) is to be installed.

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**14.** Method according to claim 13, which further comprises selecting one or more components of the cover (100) among a plurality of standardized components (100) adapted to the chosen first length (Ls) of the slats.

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**15.** A computer-implemented platform comprising means for performing a method according to any of claims 9-14.

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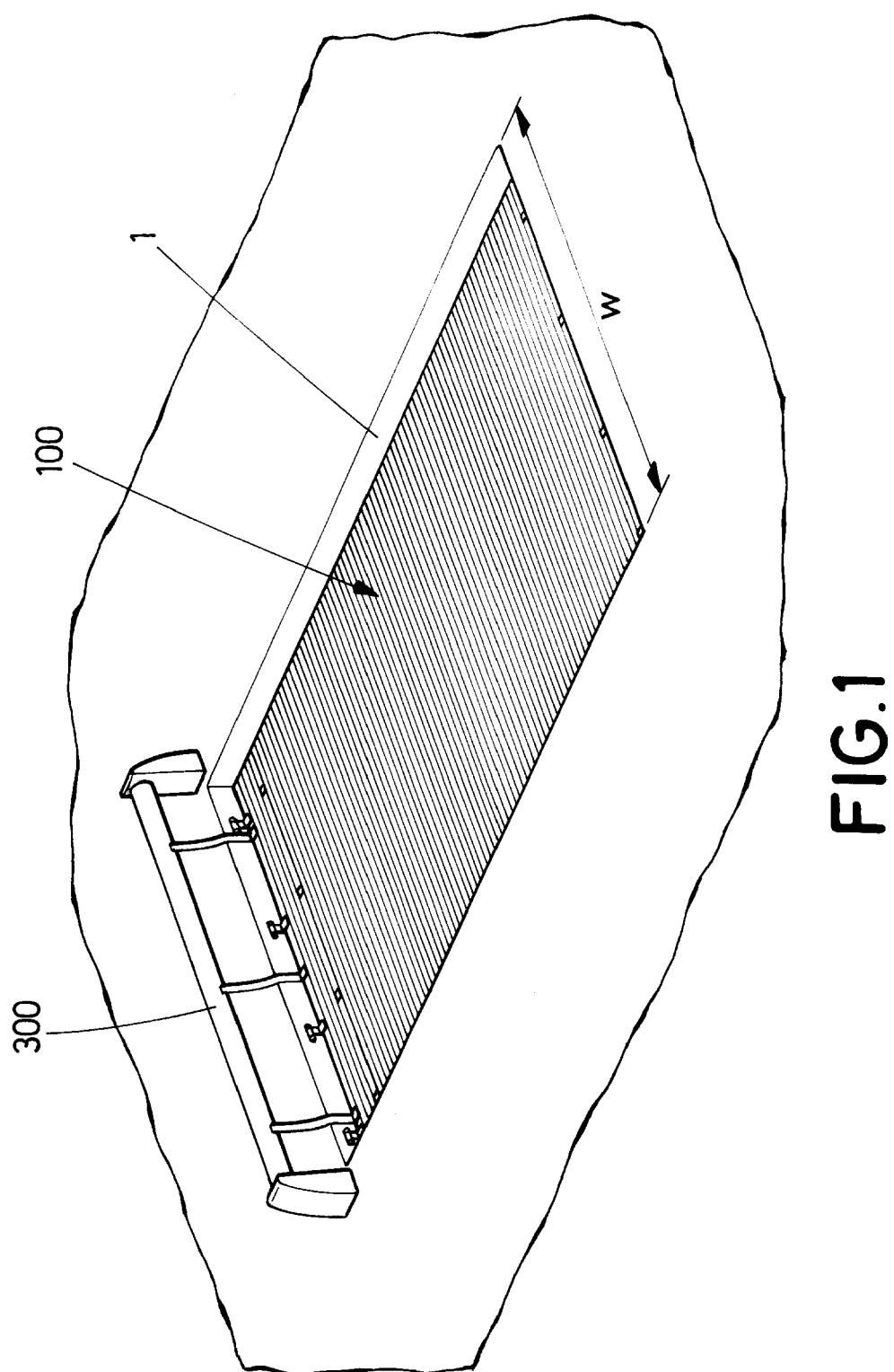


FIG.1

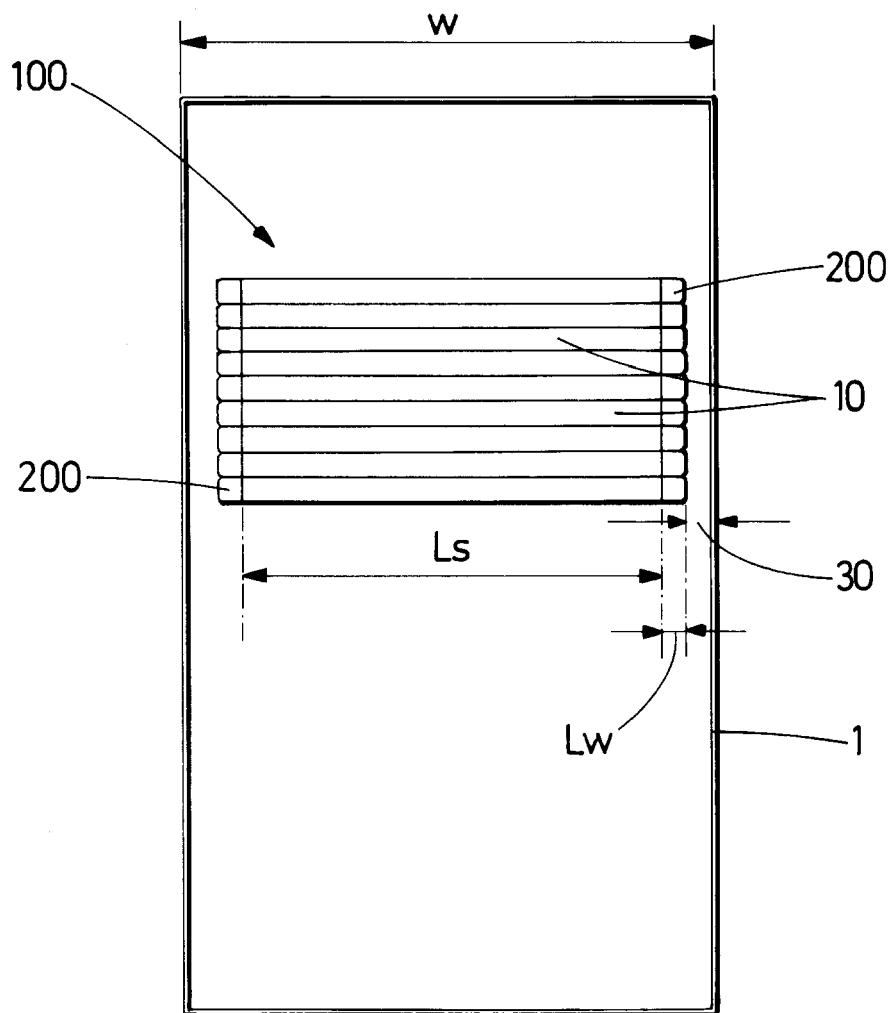
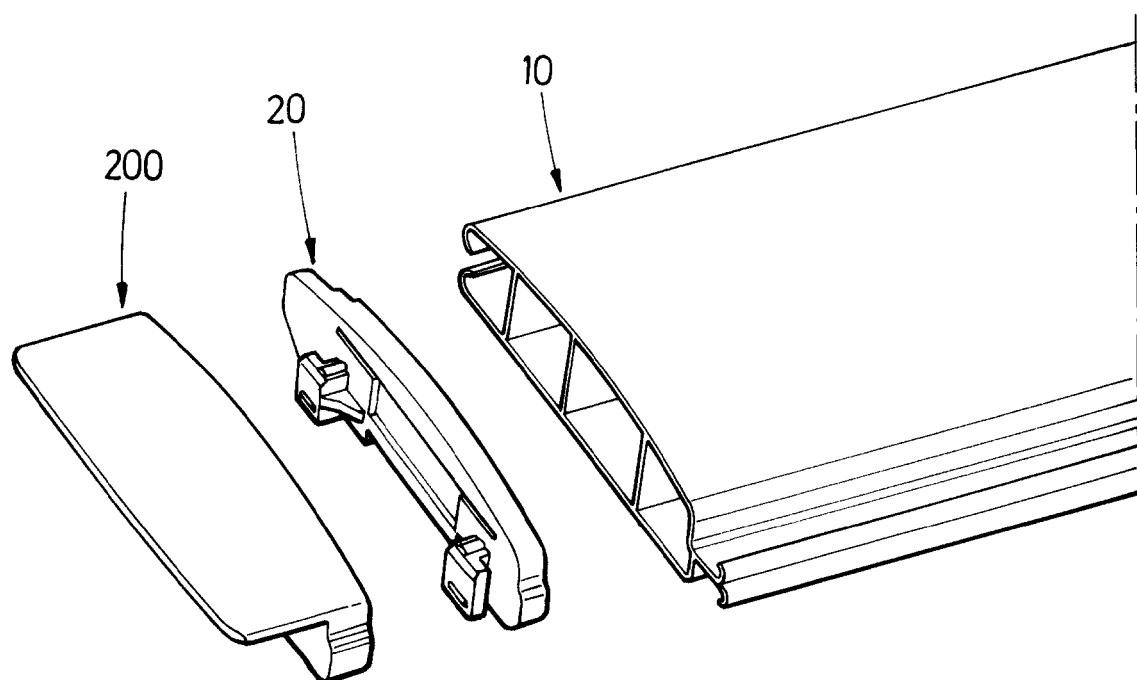
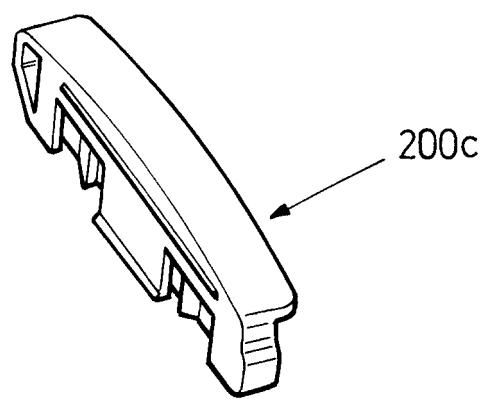
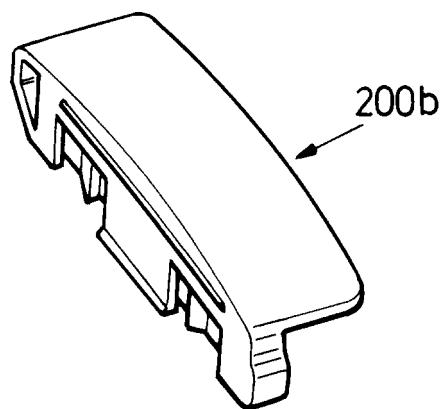
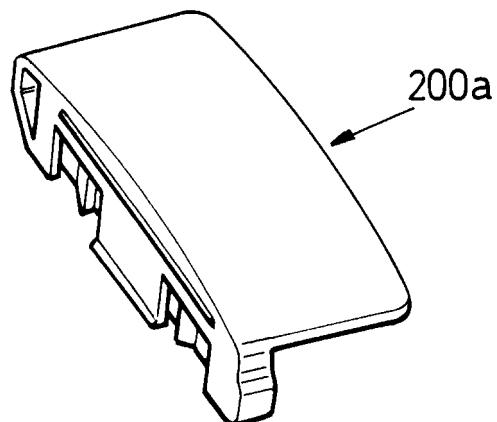


FIG.2



**FIG.3**



**FIG.4**



## PARTIAL EUROPEAN SEARCH REPORT

Application Number

EP 14 30 6601

under Rule 62a and/or 63 of the European Patent Convention.  
This report shall be considered, for the purposes of  
subsequent proceedings, as the European search report

DOCUMENTS CONSIDERED TO BE RELEVANT			
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15 A	FR 2 899 927 A1 (DE CARVALHO EMMANUEL [FR]) 19 October 2007 (2007-10-19) * figure 3 * -----	1-10	
20 A	EP 1 233 125 A1 (DISTRIB D EQUIPEMENTS SOFADIE [FR]) 21 August 2002 (2002-08-21) * figure 1 * -----	1-10	
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30			TECHNICAL FIELDS SEARCHED (IPC)
35			E04H
INCOMPLETE SEARCH			
40	The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC so that only a partial search (R.62a, 63) has been carried out.		
45	Claims searched completely :  Claims searched incompletely :  Claims not searched :  Reason for the limitation of the search: see sheet C		
50	1	Place of search Munich	Date of completion of the search 13 January 2016
55	Examiner Brucksch, Carola	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

**INCOMPLETE SEARCH  
SHEET C**Application Number  
EP 14 30 6601

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Claim(s) completely searchable:  
1-10

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Claim(s) not searched:  
11-15

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## Reason for the limitation of the search:

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Claims 1 und 15 (product) as well as 9, 11 and 13 (method) have been drafted as separate independent claims. Under Article 84 in combination with Rule 43(2) EPC, an application may contain more than one independent claim in a particular category only if the subject-matter claimed falls within one or more of the exceptional situations set out in paragraph (a), (b) or (c) of Rule 43(2) EPC. This is not the case in the present application.

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 14 30 6601

5 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 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

13-01-2016

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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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