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(72) Inventors:
• **Brandstätter, Andreas**
5300 Hallwang (AT)
• **Geislinger, Cornelius**
5300 Hallwang (AT)

(74) Representative: **Beck & Rössig**
European Patent Attorneys
Cuvilliesstraße 14
81679 München (DE)

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(71) Applicant: **Ellergon Antriebstechnik Gesellschaft m.b.H.**
5300 Hallwang (AT)

(54) **STARTING DEVICE FOR FOIL SURFING**

(57) A starting device (1) for foil surfing comprises a support (10) having a supporting surface (11) for supporting the underside of only a rear section of a board (5) of a foil board (4). The support (10) is provided with a longitudinal recess (12) within the supporting surface (11) for passage of a mast (6) of the foil board (4), which longitudinal recess (12) is open in the starting direction (S) of the foil board (4). The support (10) is elastically

supported on a stationary base (30) by a spring device (20) or is arranged on a floating raft (50) configured to cushion into a body of water when the foil board (4) is started. Furthermore, the starting device may include (1) a slide (60) having a sliding surface (61) which slopes down in starting direction (S) from the supporting surface (11) of the support (10), the slide (60) being adjoined to the support (10).

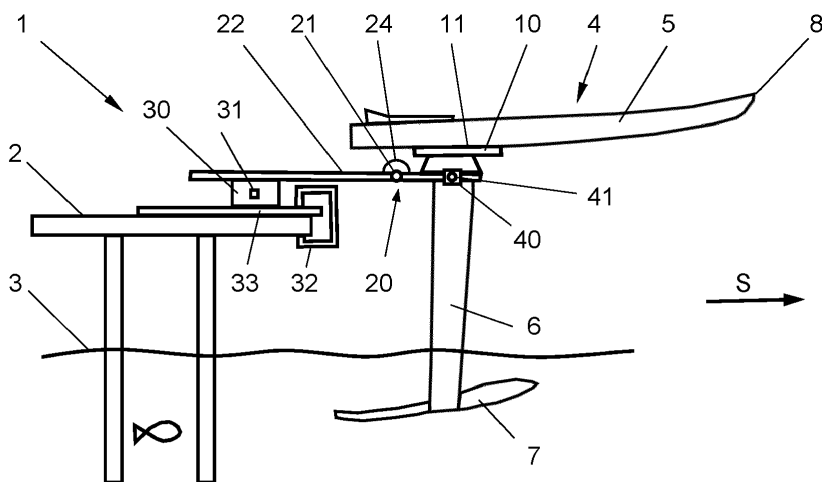


FIG. 1

Description

[0001] The invention relates to the field of foil surfing by using a foil board. A foil board usually comprises a board and a foil attached to the underside of the board. The foil includes a mast, which is connected with one end to the board and at its free end is provided with one or more wings, which make it possible to lift the board out of the water while driving. Only the end portion of the mast with the wing or wings remains immersed in the water.

[0002] Propulsion of the foil board required for driving can be achieved, for example, by means of a kite, a pulling device such as for example when jet skiing or by means of a drive attached to the foil board. It is also possible to generate propulsion by surfing a wave or by skillful movements of the user. However, starting the foil board without an external drive is difficult because the lift on the wing or wings required for lifting the board out of the water requires a certain minimum speed.

[0003] The object of the invention is to remedy this. In particular, the invention aims to facilitate starting a foil board when foil surfing.

[0004] This object is achieved by a special starting device for foil surfing according to claim 1. The starting device according to the invention comprises a support having a supporting surface for supporting the underside of only a rear section of a board of a foil board, wherein the support is provided with a longitudinal recess within the supporting surface for passage of a mast of the foil board, which longitudinal recess is open in the starting direction of the foil board, and wherein the support is elastically supported on a stationary base by a spring device or is arranged on a floating raft configured to cushion into a body of water when the foil board is started.

[0005] This creates an easy way for climbing on the foil board and starting foiling immediately. The foil board is suitably positioned and fixed by the starting device, so that the user may, for example, climb onto the board from a landing stage and start riding. The board of the foil board is already lifted out of the water and the foil board at best is immersed in the water only with the free end of the mast and the wings. Even a low starting speed of the user is sufficient to provide the required propulsion after leaving the starting device. Further propulsion may then be generated by skillful pumping movements of the user or, for example, by surfing a wave or in other ways as indicated above.

[0006] The starting device according to the invention allows foil surfing to be learned quickly, since the requirements on the coordinative and physical abilities of the user when starting from the starting device are relatively low. No pushing aids or starting aids are required.

[0007] Due to the resilient mounting of the support, the starting process is enhanced, since the board can easily be released from the starting device. In addition, the risk of damage to the foil board is reduced, since high forces may sometimes occur when starting, e.g. if the user

jumps onto the board in order to obtain greater propulsion.

[0008] Special embodiments of the invention are the subject of further claims.

5 **[0009]** With regard to a particularly simple construction, the spring device may optionally be designed, for example, as a spring board, on the free end of which the support is attached or formed. The spring action of the spring board supports the starting process and prevents possible damage to the foil board.

10 **[0010]** In one embodiment, the spring device has two arms connected via a hinge joint, which are pivotable relative to one another against the spring force of at least one spring element. One of said arms is attached to the base, while the other of said arms is formed by the support. Alternatively, the support may also be attached to the other of said arms. This allows the starting device to be folded up, making it easy to transport.

15 **[0011]** According to a further advantageous embodiment of the invention, the starting device additionally includes a clamping device for clampingly holding the mast of the foil board. The foil board is held in a position in which the board of the foil board rests on the supporting surface. The clamping force of the clamping device is selected such that it can be overcome by the user when starting the foil board in order to use the foil board for foil surfing. In addition, the clamping device is preferably arranged underneath the supporting surface of the support. The clamping device prevents the foil board from slipping in the starting device or being torn out of the holder in light wind and / or waves before the user can climb on.

20 **[0012]** Furthermore, the clamping device optionally may have means for adjusting the clamping force, which enables adaptation to different foil board configurations, since foil boards differ in terms of their weight, the length of the board or mast or in terms of the buoyancy of the wings. In addition, the preferences of the users may differ with regard to the desired triggering behavior of the clamping device. These preferences can also be taken into account by adjusting the clamping force in order to optimally design the starting process for a user.

25 **[0013]** According to a further advantageous embodiment of the invention, the base may include a device for adjusting the height of the supporting surface above the base, so that the starting device can be easily adapted to foil boards of different mast lengths and to different locations of the starting device.

30 **[0014]** If the support is mounted on a raft, height adjustment may be achieved by adjusting the center of buoyancy of the raft relative to the water level of the body of water. The raft accordingly is provided with a device for adjusting its center of buoyancy.

35 **[0015]** According to a further advantageous embodiment of the invention, the supporting surface of the support is configured to rise in the starting direction of the foil board. This further enhances the starting process.

40 **[0016]** Furthermore, it is possible to connect a slide having a sliding surface to the support, the sliding surface

sloping downwards in the starting direction from the supporting surface of the support. The propulsion required for the start may be generated via the slide even if the user climbs onto the board without any swing. This can make starting much easier, especially for beginners, since a largely reproducible starting process is obtained. The transition from the supporting surface to the slide can be initiated by the user, for example, by a slight shift in weight.

[0017] Since in such a case the dynamic loads during starting will be low, the resilient mounting of the support with the holding surface may also be omitted. The result will be a starting device for foil surfing, comprising a support having a supporting surface for supporting the underside of only a rear section of a board of a foil board, wherein the support is provided with a longitudinal recess in the supporting surface for passage of a mast of the foil board, which longitudinal recess is open in the starting direction of the foil board, and a slide having a sliding surface which slopes down in starting direction from the supporting surface of the support, the slide being adjoined to the support.

[0018] Furthermore, the slide may optionally have a slide exit which is formed to rise in the starting direction. By this, a particularly advantageous initial driving behavior when leaving the starting device can be achieved.

[0019] According to a further embodiment variant, the slide may have a guide for the mast of the foil board, which continues the recess in the supporting surface of the support in the starting direction. This ensures that the foil board moves down the slide along a clearly defined path and does not twist, which can be particularly helpful for beginners.

[0020] The invention is explained more in detail below on the basis of exemplary embodiments illustrated in the drawings. The drawings show in:

- FIG. 1 a schematic illustration of a first exemplary embodiment of a starting device for foil surfing according to the invention,
- FIG. 2 a schematic illustration of a second exemplary embodiment of a starting device for foil surfing according to the invention,
- FIG. 3 a view from above of the support of the starting device according to FIGS. 1 and 2,
- FIG. 4 a schematic illustration of a third exemplary embodiment of a floating starting device for foil surfing according to the invention,
- FIG. 5 a representation to illustrate one possibility for anchoring a floating starting device according to FIG. 4, and in
- FIG. 6 a schematic representation of a fourth embodiment of a starting device having slide for foil

surfing according to the invention.

[0021] The first exemplary embodiment in FIG. 1 shows a starting device 1 for foil surfing, which is mounted here by way of example on a landing stage 2 adjacent to a body of water 3. The starting device 1 may also be secured to other comparable structures, for example to a floating platform, to a boat or to a stationary structure at a water's edge or the like.

[0022] The starting device 1 allows a foil board 4 to be started easily in a ready-to-drive position, in which a board 5 of the foil board 4 is already lifted out of the water. A foil board 4 usually comprises the board 5 and a foil, which extends substantially perpendicularly from the underside of the board. The foil includes a mast 6 and at least one wing 7. One end portion of the mast is connected to the board 5 while the wing or wings 7 are positioned at the other free end portion of the mast. When the foil board 4 is placed on the starting device 1, 5 and upper portions of the mast 6 are above water level while the free end portion of the mast 6 including the wings 7 attached to it remains immersed in the water but may also be lifted out of the water if desired.

[0023] The minimum starting speed, required to keep the board 5 in its elevated position out of the water immediately after starting, can be achieved, for example, by pushing off through the user. Higher starting speeds are possible by jumping onto board 5.

[0024] In the exemplary embodiment shown in FIG. 1, the starting device 1 comprises a support 10 having a supporting surface 11 for supporting the underside of only a rear section of the board 5.

[0025] As shown in FIG. 3, a longitudinal recess 12 is formed in the supporting surface 11 of the support 10 for passage of the mast 6 of the foil board 4. The longitudinal recess 12 is open in the starting direction S of the foil board 4. The longitudinal recess 12 can be designed, for example, as a longitudinal slot, the width of which corresponds approximately to the thickness of the mast 6, in order to guide the foil board 4 in the starting direction S. A stop 13 for the mast 6 may be provided in the longitudinal recess 12 opposite to the starting direction S. The stop 13 defines the starting position for the foil board 4. Optionally, the stop 13 may be adjustable, e.g. in order to change the starting position in starting direction S for different foil boards 4.

[0026] The supporting surface 11 of the support 10 consists of a material which allows the bottom of the board 5 to slide easily. For example, the supporting surface 11 may be made of polyethylene, since this material has a high weather resistance and further is also inured to salt-water.

[0027] The support 10 is elastically supported, e.g. by a spring device 20, on a base 30 of the starting device 1 that can be set up in a stationary manner. Because of the spring device 20, the support 10 may deflect or compress slightly in vertical direction when a user climbs onto the board 5. This enhances the starting process, since

the board 5 will take off more easily from the support 10. On the other hand, this reduces the stresses on the board 5 which may arise as a result of the force exerted by the user when climbing or jumping on the board 5.

[0028] The starting process can be improved further supported by a ramp like shape of the supporting surface 11 that rises in the starting direction of the foil board 4. This will ensure that the board 5 starts with its nose 8 pointing upwards, which is advantageous for foil surfing.

[0029] In the first exemplary embodiment according to FIG. 1, the spring device 20 has two arms 22 and 23 which are connected via a hinge joint 21 and which can be pivoted relative to one another. At least one spring element 24 is provided between the two arms 22 and 23, which spring element 24 counteracts the pivoting so as to provide a restoring force.

[0030] In the present case, a first one of the arms 22 is fixed to the base 30 of the starting device 1. The support 10 is fastened to the second arm 23, which can be pivoted against the spring force of the at least one spring element 24. As an alternative to the embodiment shown in FIG. 1, the support 10 may form the second arm 23, which is pivotally coupled to the first arm 22.

[0031] To adapt to different foil boards 4, in particular foil boards 4 with different mast lengths, the base 30 can be made height-adjustable. For this purpose, the base may include a device 31 for adjusting the height of the supporting surface 11 above the base 30.

[0032] The connection of the base 30 to a landing stage 2 or other structure can in principle be made in any manner. In the present case, a tensioning device 32 is shown in FIG. 1 merely by way of example, via which a foot 33 of the base 30 can be braced against the landing stage 2. In particular, the connection may be made in a detachable manner, so that the starting device 1 can be assembled and disassembled quickly.

[0033] The starting device 1 may be configured as a mobile, transportable device so that a user may install it at any place desired within very short time. Due to its two arms 22 and 23, the spring device shown in FIG. 1 may be folded up compactly and thus be easily transported.

[0034] Furthermore, a clamping device 40 may optionally be provided on the starting device 1, which allows the mast 6 of the foil board 4 to be clamped in the desired starting position. In this starting position the board 5 rests on the supporting surface 11 of the support 10. Clamping of the mast 6 prevents the foil board 4 from slipping away before the start, for example because of wind or waves. The mast 6 is clamped in place with a defined clamping force, which is set such that the user can easily overcome it when starting the foil board 4 in order to use the foil board 4 for foil surfing as intended.

[0035] The clamping device 40 is preferably arranged underneath the supporting surface 11 of the support 10. It may, for example, be fastened to the support 10, in the embodiment variant according to FIG. 1 optionally also to the second arm 23. In particular, it is possible to accommodate the clamping device 40 in the region of the

support 10, for example within the longitudinal recess 12 of the support 10.

[0036] With regard to the use of different foil boards 4 and to adapt to the preferences of a user, the clamping device 40 may optionally include means 41 for adjusting the clamping force.

[0037] Numerous modifications are possible from the first exemplary embodiment explained above.

[0038] FIG. 2 shows an example of a second exemplary embodiment, in which, in contrast to the first exemplary embodiment, the spring device 20 is formed by a spring board 25, on the free end 26 of which the support 10 having the supporting surface 11 is attached. In a modification of FIG. 2, it is also possible to design the free end 26 of the spring board 25 directly as a support 10 by providing the supporting surface 11 and the longitudinal recess 12 on the spring board 25.

[0039] It is also possible to arrange a support 10, as shown in FIG. 3, on a floating raft 50, as shown in FIG. 4 in the context of a third exemplary embodiment. The raft 50 is configured to cushion into the water 3 during starting of the foil board 4 when the user climbs onto the board 5.

[0040] The raft 50 comprises at least one floating body 51 which, as shown by way of example in FIG. 4, may be moored at the bottom of the body of water 3, for example. However, it is also possible to fix such a raft 50 to a landing stage 2 via rigid support struts 52 and/or ropes, as indicated in FIG. 5. When starting, a user climbs or jumps from the landing stage 2 onto the board 5 of the foil board 4. The at least one floating body 51 is arranged in such a way that it does not interfere with the mast 6 and the wings 7 of the foil board 4.

[0041] The raft 50 has the function of the spring device 20 in the third embodiment, so that such a device may optionally be omitted in the third embodiment. Accordingly, the support 10 may be attached directly to the at least one floating body 51. However, it is also possible to additionally provide a spring device 20 according to FIG. 1 or 2.

[0042] In addition, a device for adjusting the height of the supporting surface 11 above the floating body may be provided 51 between the support 10 and the at least one floating body 51 in order to enable adaptation to different mast lengths. Such adaptation may, however, also be implemented by adjusting the center of buoyancy of the at least one floating body 51 relative to the water level of the body of water 3. For this purpose, a device 53 for adjusting its center of buoyancy can be provided on the raft 50. For example, by means of an increased flooding of a hollow floating body 51, the center of buoyancy can be lowered and, by draining water from the hollow floating body 51, the center of buoyancy can be lifted for height adjustment.

[0043] Finally, FIG. 6 shows a fourth exemplary embodiment in which the starting device 1 for foil surfing 1 includes, in addition to a support 10 having the supporting surface 11 for supporting the underside of the board, a

slide 60 connected to the support 10. The supporting surface 11 and the associated recess 12 can in particular be matched to a foil board 4 in such a way that the foil board 4 is supported only in a rear section thereof by the supporting surface 11. The supporting surface 11 may in turn be designed to rise slightly in starting direction. After leaving the supporting surface 11, for example by slightly shifting the weight of the user in the starting direction S, the foil board 4 reaches the area of the slide 60 and slides down the slide 60 to thereby take up speed. The slide 60 is preferably configured such that, after sliding down, a minimum starting speed sufficient for foil surfing is achieved. Accordingly, a user can practically move from a static starting position, i.e. start without pushing him or herself off or jumping on the board 5.

[0044] The slide 60 adjoining the support 10 may have a sliding surface 61 which is inclined in the starting direction S and sloping down from the supporting surface 11 of the support 10.

[0045] Furthermore, the slide 60 may have a slide exit 62 which adjoins the sloping inclined sliding surface 61 and which is designed to rise again slightly in the starting direction S, so that the foil board 4 automatically assumes a favorable driving position with the nose 8 raised when leaving the starting device 1.

[0046] Furthermore, the slide 60 may be provided with a guide 63 for the mast 6 of the foil board 4, which continues the recess 12 of the supporting surface 11 of the support 10 in the starting direction S.

[0047] The support 10 and the slide 60 may be mounted on a landing stage 2 or the like in such a manner that the mast 6 of the foil board 4 is not hindered.

[0048] The starting devices 1 explained above by way of example each may be designed as a transportable mobile unit which can be quickly assembled and disassembled by one person at the place of use. The starting device 1 can therefore be transported as a piece of luggage to the respective location. However, a permanent installation is also possible.

[0049] The invention has been explained above with reference to exemplary embodiments and further modifications in order to show possible ways of carrying out the invention. Individual technical features, which are explained above in the context of further individual features, can also be implemented independently of these and in combination with further individual features, even if this is not expressly described as long as this is technically possible. The invention is therefore expressly not limited to the specifically described exemplary embodiments and modifications, but rather encompasses all the configurations defined by the claims.

Claims

1. Starting device (1) for foil surfing, comprising a support (10) having a supporting surface (11) for supporting the underside of only a rear section of a

board (5) of a foil board (4), wherein the support (10) is provided with a longitudinal recess (12) within the supporting surface (11) for passage of a mast (6) of the foil board (4), which longitudinal recess (12) is open in a starting direction (S) of the foil board (4), and

wherein the support (10) is elastically supported on a stationary base (30) by a spring device (20) or is arranged on a floating raft (50) configured to cushion into a body of water when the foil board (4) is started.

2. Starting device (1) for foil surfing according to claim 1, **characterized in that** the spring device (20) is formed by a spring board (25), wherein the support (10) is attached to or formed at the free end (26) of spring board (25).
3. Starting device (1) for foil surfing according to claim 1, **characterized in that** the spring device (20) has two arms (22, 23) connected via a hinge joint (21) which are pivotable relative to one another against the spring force of at least one spring element (24), wherein one of said arms (22) is fixed to the base (30) and the support (10) is attached to the other of said arms (23) or the support (10) forms the other of said arms (23).
4. Starting device (1) for foil surfing according to one of claims 1 to 3, **characterized by** a clamping device (40) for clampingly holding the mast (6) of the foil board (4) with a defined clamping force when the board (5) of the foil board (4) rests on the holding surface (11), said clamping force being selected to be overcome by the user when starting the foil board (4) in order to use the foil board (4) for foil surfing, and wherein the clamping device (40) is arranged underneath the supporting surface (11) of the support (10).
5. Starting device (1) for foil surfing according to claim 4, **characterized in that** the clamping device (40) includes means for adjusting the clamping force (41).
6. Starting device (1) for foil surfing according to one of claims 1 to 5, **characterized in that** the base (30) includes a device (31) for adjusting the height of the supporting surface (11) above the base (30).
7. Starting device (1) for foil surfing according to one of claims 1 to 5, **characterized in that** the raft (50) includes a device (52) for adjusting its center of buoyancy relative to the water level of the body of water.
8. Starting device (1) for foil surfing according to one of claims 1 to 7, **characterized in that** the holding surface (11) is configured to rise in the starting direction (S) of the foil board (4).

9. Starting device (1) for foil surfing according to one of claims 1 to 8, **characterized by** a slide (60) having a sliding surface (61) which slopes down in starting direction (S) from the supporting surface (11) of the support (10), the slide (60) being adjoined to the support (10). 5
10. Starting device (1) for foil surfing, comprising a support (10) having a holding surface (11) for supporting the underside of only a rear section of a board (5) of a foil board (4), wherein the support (10) is provided with a longitudinal recess (12) within the supporting surface (11) for passage of a mast (6) of the foil board (4), and 10
a slide (60) having a sliding surface (61) which slopes down in starting direction (S) from the supporting surface (11) of the support (10), the slide (60) being adjoined to the support (10). 15
11. Starting device (1) for foil surfing according to claim 9 or 10, **characterized in that** the slide (60) has slide exit (62) which is formed to rise in the starting direction (S). 20
12. Starting device (1) for foil surfing according to one of claims 9 to 11, **characterized in that** the slide (60) includes a guide (63) for the mast (6) of the foil board (4), which continues the recess (12) in the supporting surface (11) of the support (10) in the starting direction (S). 25
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13. Starting device (1) for foil surfing according to one of claims 1 to 11, **characterized in that** it is configured as a portable mobile unit which can be assembled and disassembled by a person at the place of use. 35

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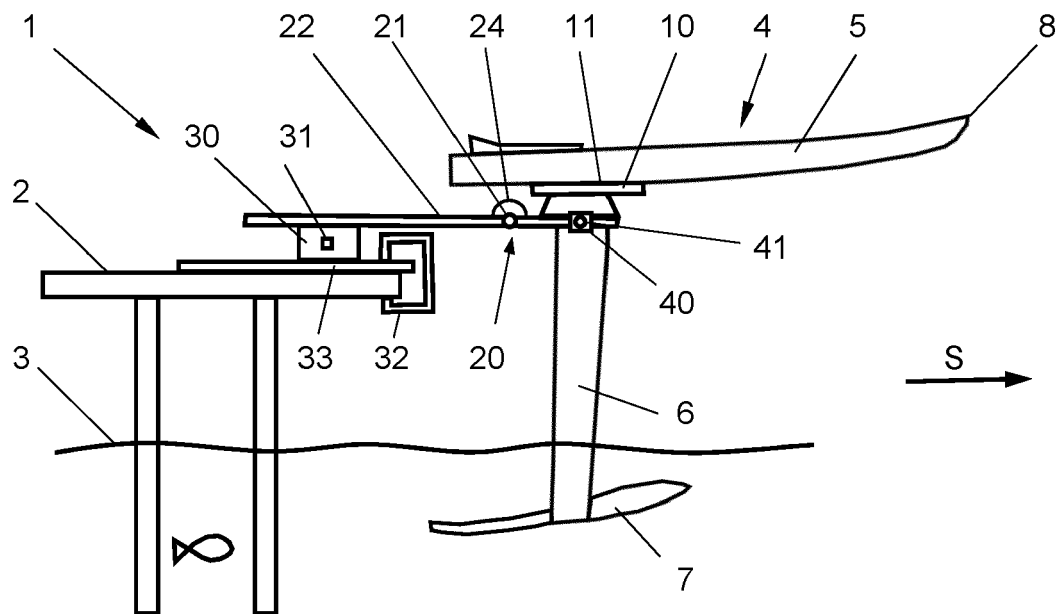


FIG. 1

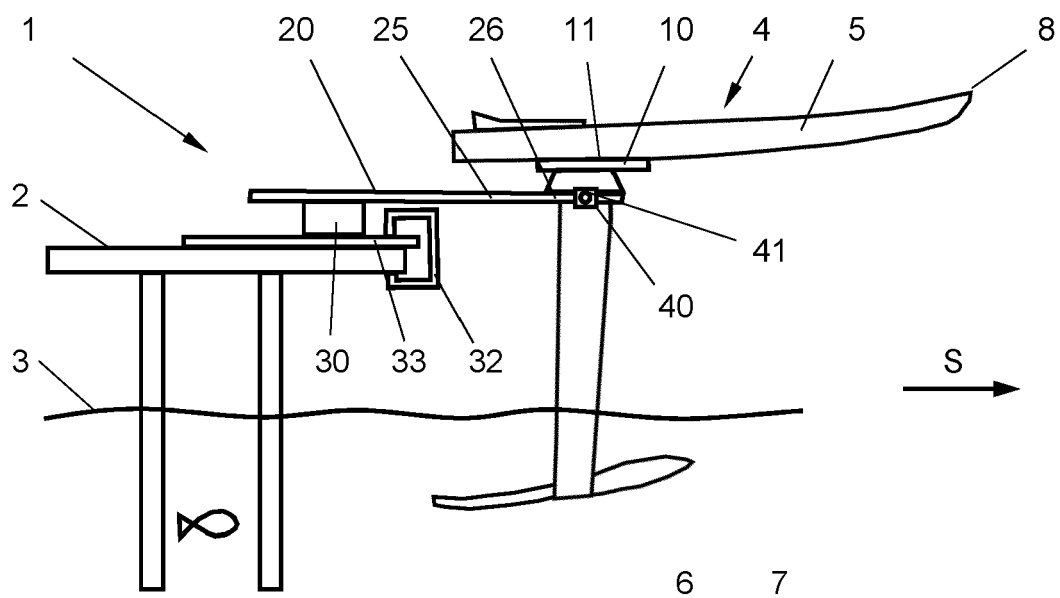


FIG. 2

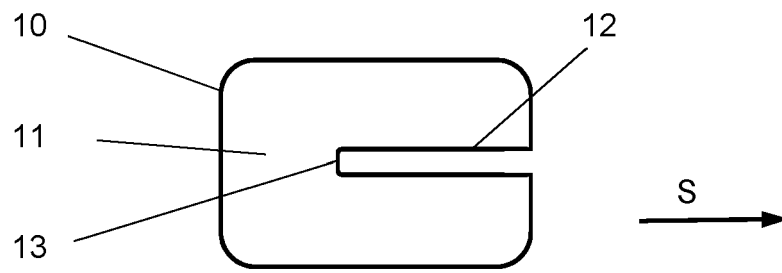


FIG. 3

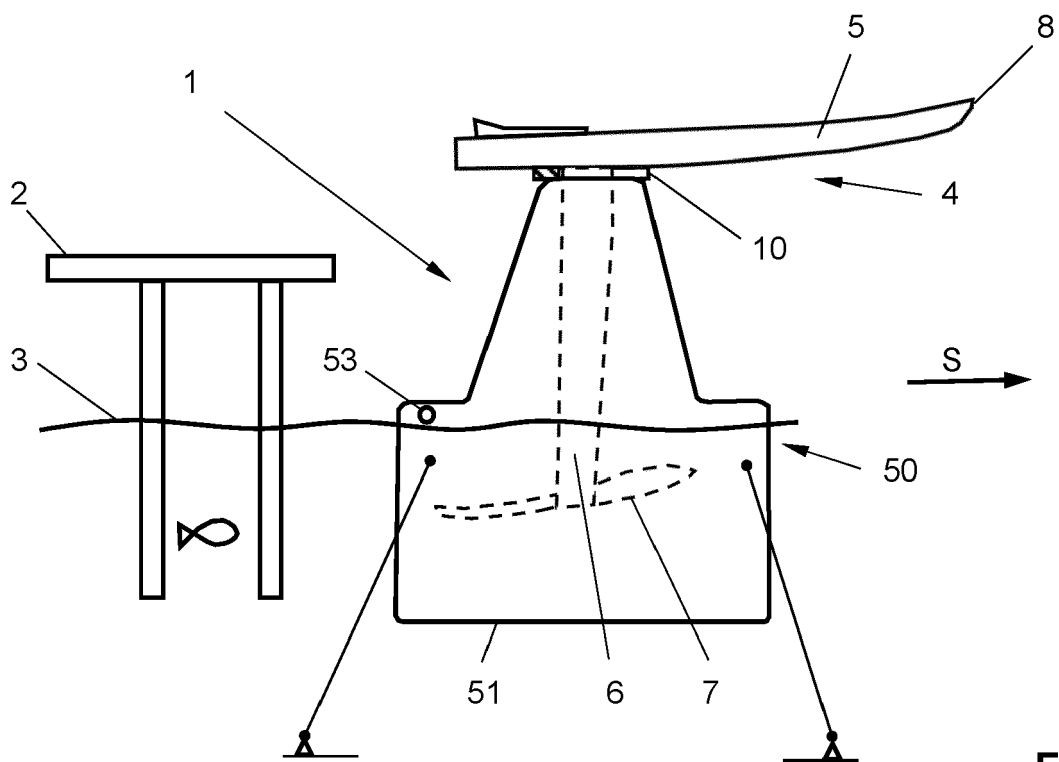


FIG. 4

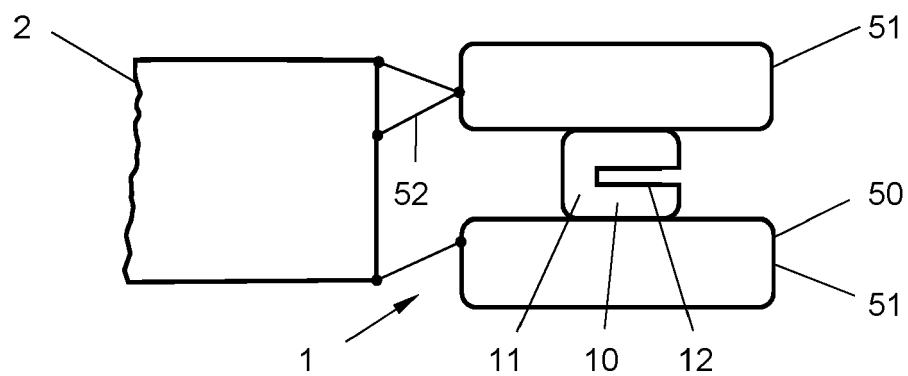


FIG. 5

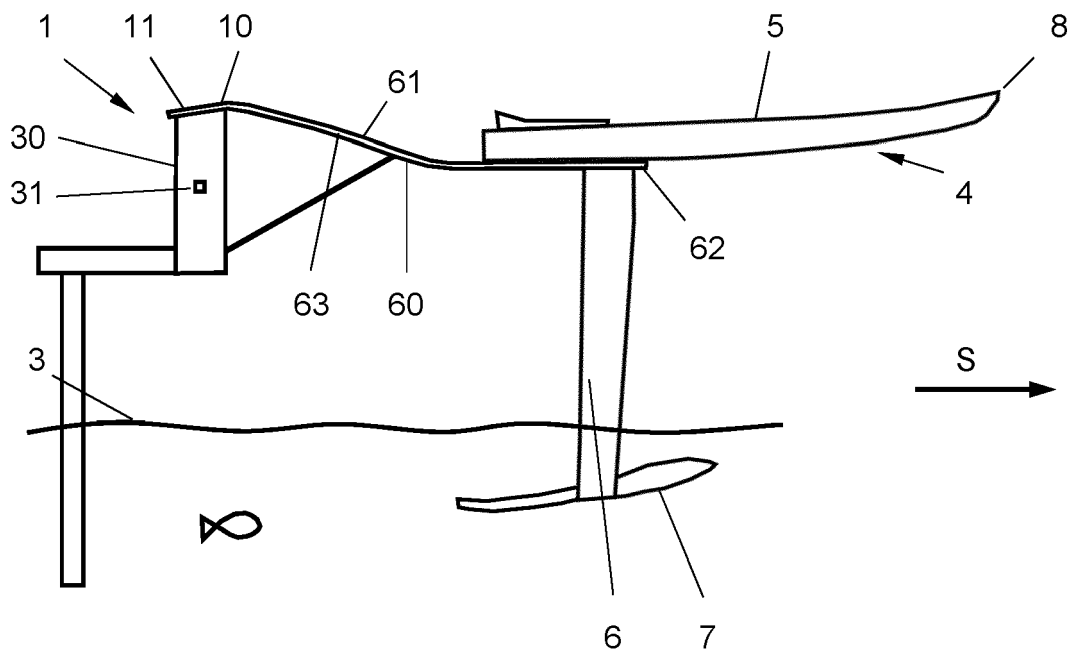


FIG. 6



EUROPEAN SEARCH REPORT

 Application Number
 EP 20 16 6356

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 8 696 396 B1 (CHURCHILL ROBERT LEE [US] ET AL) 15 April 2014 (2014-04-15)	1	INV. B63B1/24
A	* column 6, line 25 - line 26; figure 6 *	2-13	
A	US 6 178 905 B1 (DYNES RICHARD [US] ET AL) 30 January 2001 (2001-01-30)	1	
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			B63B B63J
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		14 December 2020	Balzer, Ralf
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 20 16 6356

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14-12-2020

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