



US009586659C1

(12) **EX PARTE REEXAMINATION CERTIFICATE** (12663rd)
United States Patent
Langelaan

(10) **Number:** **US 9,586,659 C1**(45) **Certificate Issued:** **Aug. 6, 2024**(54) **POWERED HYDROFOIL BOARD**(71) Applicant: **Jacob Willem Langelaan**, State
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College, PA (US)(73) Assignee: **MHL CUSTOM, INC.**, Isabela, PR
(US)**B63H 5/14** (2006.01)**B63H 21/17** (2006.01)**B63H 21/21** (2006.01)(52) **U.S. Cl.**CPC **B63H 11/04** (2013.01); **B63H 1/16**
(2013.01); **B63H 5/14** (2013.01); **B63H 21/17**
(2013.01); **B63H 21/21** (2013.01)(58) **Field of Classification Search**

None

See application file for complete search history.

Reexamination Request:

No. 90/015,269, Aug. 9, 2023

Reexamination Certificate for:Patent No.: **9,586,659**Issued: **Mar. 7, 2017**Appl. No.: **15/064,521**Filed: **Mar. 8, 2016**

(56)

References Cited

To view the complete listing of prior art documents cited during the proceeding for Reexamination Control Number 90/015,269, please refer to the USPTO's Patent Electronic System.

Primary Examiner — Sarah B McPartlin

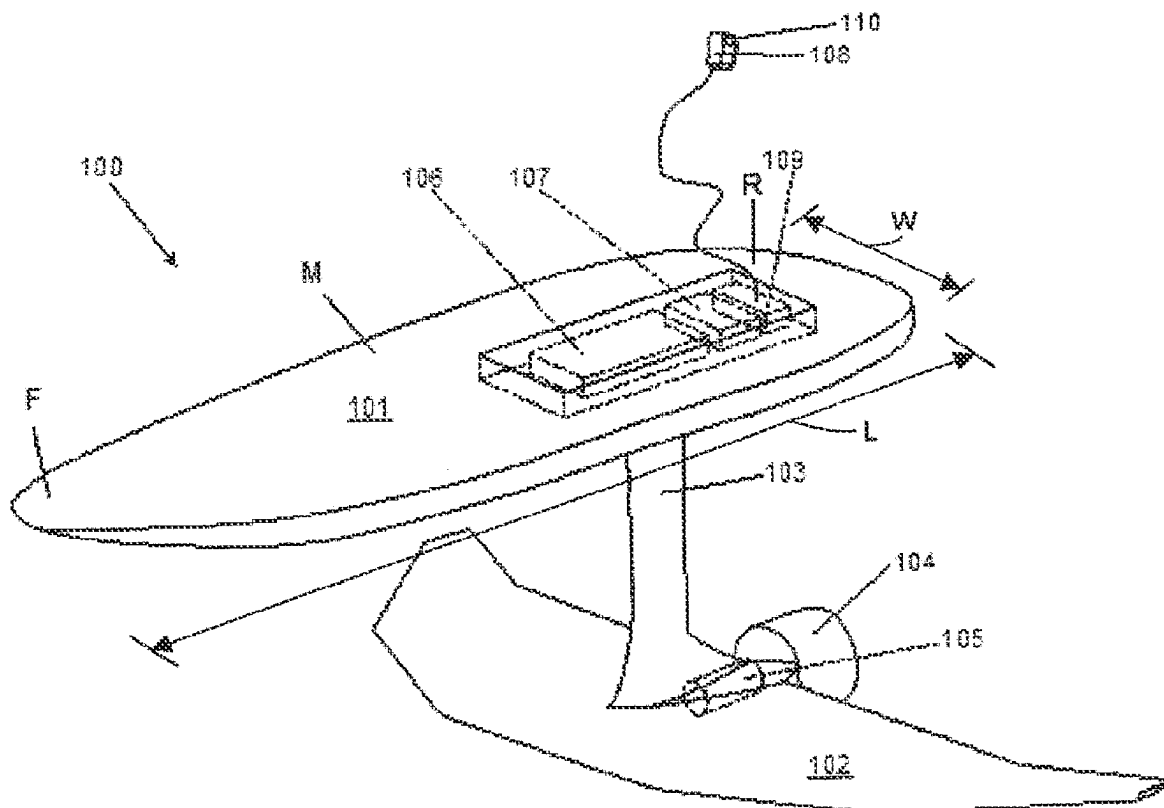
Certificate of Correction issued May 1, 2018

Related U.S. Application Data(63) Continuation of application No. 14/509,289, filed on
Oct. 8, 2014, now Pat. No. 9,359,044.(60) Provisional application No. 61/889,071, filed on Oct.
10, 2013.(51) **Int. Cl.****B63H 11/04** (2006.01)**B63H 1/16** (2006.01)

(57)

ABSTRACT

A passively stable personal hydrofoil watercraft that has a flotation device, wherein a user can ride in a prone, kneeling, or standing position. The watercraft includes a strut having an upper end interconnected with the flotation device and lower end connected with a hydrofoil. The hydrofoil greatly reduces the power required to travel at higher speed. The watercraft also includes a propulsion system connected to the hydrofoil. Both longitudinal and directional control of the watercraft is via weight shift, eliminating the need of any movable surfaces. The flotation device, strut, and hydrofoil may be permanently interconnected or may be detachable.



IPR2024-00085

MHL 2045

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EX PARTE REEXAMINATION CERTIFICATE

THE PATENT IS HEREBY AMENDED AS
INDICATED BELOW.

Matter enclosed in heavy brackets [] appeared in the patent, but has been deleted and is no longer a part of the patent; matter printed in italics indicates additions made to the patent.

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

The patentability of claims 1-15 is confirmed.

Claim 16 is determined to be patentable as amended.

Claims 17-20, dependent on an amended claim, are determined to be patentable.

New claims 21-28 are added and determined to be patentable.

16. A *passively stable, weight-shift controlled* personal hydrofoil watercraft, comprising:

- a surfboard-shaped flotation device that has a fore-aft length greater than a lateral width, the flotation device having a top surface and a bottom surface, wherein the top surface has a substantially horizontal supporting surface configured to support a user in a prone, kneeling, or standing position, the flotation device having a forward section, a middle section, and a rear section;
- a hydrofoil interconnected with the surfboard-shaped flotation device, the hydrofoil having a strut and a first hydrofoil wing, an upper end of the strut being fixedly interconnected with the surfboard-shaped flotation device, *the hydrofoil having no movable surface*;
- a propulsion system attached to the surfboard-shaped flotation device for propelling the watercraft in a body of water, the propulsion system comprising a battery, an electric motor, a motor speed controller, and a propul-

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sor, wherein the propulsor is selected from a propeller, a ducted propeller, or a pump-jet, and the battery and motor speed controller are contained in a watertight compartment integrated into the flotation device;

the watercraft having no movable steering system;

a handheld controller having a throttle; and

a throttle interface, wherein the throttle is adapted to send electronic signals to the throttle interface that cause an output of the propulsion system to change.

19. A watercraft in accordance with claim 16, wherein the strut has an internal passage and electrical wires extend from the electric motor to the watertight compartment inside the strut through the internal passage for controlling *the electric motor*.

21. A watercraft in accordance with claim 1, wherein the upper end of the strut is fixedly interconnected with the flotation device via a detachable fitting.

22. A watercraft in accordance with claim 21, wherein the detachable fitting is configured to fit into a complementary opening in the flotation device.

23. A watercraft in accordance with claim 22, wherein the fitting is configured to be secured within the complementary opening by at least one of a bolt, a pin, and a latch.

24. A watercraft in accordance with claim 1, wherein the propulsion system includes a battery positioned in the strut.

25. A watercraft in accordance with claim 24, further comprising a wired connection between the battery and a motor of the propulsion system.

26. A watercraft in accordance with claim 1, further comprising a safety device for monitoring the presence of a user on the flotation board.

27. A watercraft in accordance with claim 1, wherein the strut is the only strut connected with the flotation device.

28. A watercraft in accordance with claim 1, wherein the propulsion system includes a motor speed controller contained in a watertight compartment integrated into the flotation device.

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