

Title (en)  
WINGSAIL STRUCTURE FOR WIND-ASSISTED PROPULSION OF A MARINE VESSEL

Title (de)  
FLÜGELSTRUKTUR FÜR WINDUNTERSTÜTZTEN ANTRIEB EINES WASSERFAHRZEUGS

Title (fr)  
STRUCTURE D'AILE POUR LA PROPULSION ASSISTÉE PAR LE VENT D'UN NAVIRE

Publication  
**EP 4382410 A1 20240612 (EN)**

Application  
**EP 22211633 A 20221206**

Priority  
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Abstract (en)  
The present invention relates to a wingsail structure (100) for wind-assisted propulsion of a marine vessel (1), comprising a wingsail frame (101) and a foundation (20). The wingsail frame (101) is rotatably connected via a first longitudinal axis of rotation (111) to the foundation (20) and comprises a main wingsail (110) and an aft flap (120), each having an airfoil shape and comprising rigid or semi-rigid sidewalls and comprising a main wingsail supporting frame (310) and a flap supporting frame (320), each of them extending longitudinally along the respective main wingsail (110) and aft flap (120). At least one coupling member connects the main wingsail and the flap. The flap is arranged rotatable around a second longitudinal axis of rotation (112) to bring the flap (120) to an inclined position in respect of the main wingsail. The second axis of rotation (112) is located in a cross-sectional view within an area defined by the sidewalls (221, 222) of the flap (120) and outside the periphery of the supporting frame (320) of the flap.

IPC 8 full level  
**B63H 9/061** (2020.01)

CPC (source: EP)  
**B63H 9/061** (2020.02); **B63H 9/0635** (2020.02)

Citation (applicant)  
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Citation (search report)  
• [X] WO 2017003512 A1 20170105 - OCEAN AERO INC [US]  
• [A] JP S57194187 A 19821129 - NIPPON KOKAN KK  
• [A] WO 2014001824 A1 20140103 - WINDSHIP TECHNOLOGY LTD [GB]  
• [A] GB 2088308 A 19820609 - WAINWRIGHT BARRY

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