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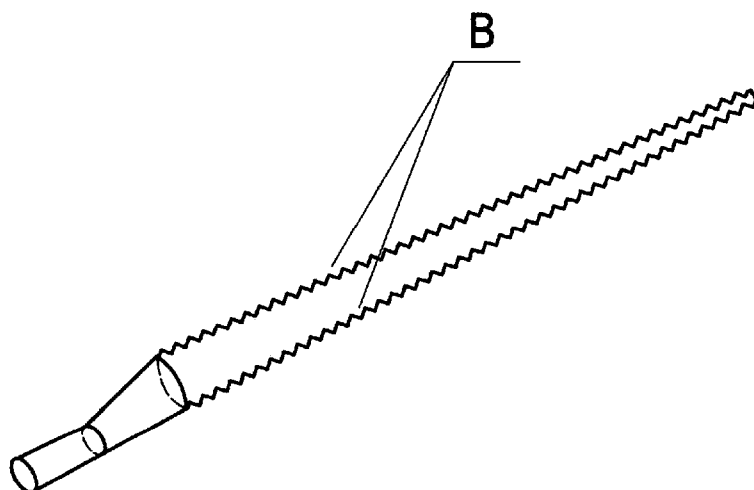


Fig.15

(57) Abstract: The invention relates to an apparatus for reducing turbulent drag, especially in aircraft and watercraft. The forms of surfaces are described, which delay or prevent boundary layer separation without creating an undesirable drag penalty. These forms can be used for turbulent drag reduction of surfaces in a flow of gas or liquid, for example, for inner surface of a tube. This invention relates to aerodynamic and hydrodynamic components having leading edge devices for the improvement of performance, for example, for construction of bulbous bows for bulk carriers. The term "aerodynamic and hydrodynamic component" is used herein to encompass structures having an airfoil or hydrofoil section and leading edge. This term is intended to include wings, fins, tailplanes, canards, engine components such as turbine and compressor blades, propeller blades, helicopter rotor blades, and similar items.



## INTERNATIONAL SEARCH REPORT

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PCT/RU 2013/001035

A. CLASSIFICATION OF SUBJECT MATTER												
<b>B64C 21/10 (2006.01)</b> <b>B63B 1/32 (2006.01)</b> <b>F15D 1/10 (2006.01)</b>												
According to International Patent Classification (IPC) or to both national classification and IPC												
B. FIELDS SEARCHED												
Minimum documentation searched (classification system followed by classification symbols)												
B64C 21/00, 21/10, B63B 1/32, 1/34, 1/40, F15D 1/00, 1/10, 1/12												
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched												
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)												
Espacenet, PatSearch (RUPTO internal), RUPTO												
C. DOCUMENTS CONSIDERED TO BE RELEVANT												
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.										
X	WO 1992/005341 A1 (MOSER JOSEF) 02.04.1992, fig. 5, abstract	1, 2										
A	DE 4208751 A1 (HAUSSER FRITZ KARL) 11.11.1993, fig. A1, abstract	1,2										
A	RU 2294300 C2 (INSTITUT TEORETICHESKOY I PRIKLADNOY MEKHANIKI SO RAN) 27.02.2007, abstract	1,2										
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.												
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