MINIATURE OPTO-MECHANICAL ANEMOMETER

An opto-mechanical anemometer (10) is particularly adapted to measure fluctuations in the flow (20) of a turbulent fluid such as can be applied in the measurement of wind turbulence for meteorological purposes, the turbulent flow of fluid through a pipe or conduit, or the flow of air through a tube from the breath of a patient for medical diagnostics. An optical fiber (40) is positioned in the flow path of the fluid and fixed motionless at one end (46). The free end (44) is caused to bend in response to fluctuations in the flow. A beam of light is projected out the free end of the optical fiber toward a stationary optical detector (70) placed in the path of the beam, which is sensitive to the point of maximum intensity of the beam of light. Deflection of the optical fiber translates into movement of the light beam over the detector, allowing measurement of the speed and direction of the fluid flow in two orthogonal planes.
(88) Date of publication of the international search report:
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**INTERNATIONAL SEARCH REPORT**

**INTERNATIONAL APPLICATION**

**Application No.**
PCT/US2007/021252

**Classification of Subject Matter**

IPC(8) - G01J 1/34 (2008.04)

**USPC - 250/227.21**

According to International Patent Classification (IPC) or to both national classification and IPC

**Fields Searched**

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - G01J 1/34 (2008.04)

USPC - 250/227 21

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 practical, search terms used)

MicroPatent, Google Patent

**Documents Considered to be Relevant**

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No</th>
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<tbody>
<tr>
<td>A</td>
<td>US 5,638,174 A (HENDERSON) 10 June 1997 (10 06 1997) entire document</td>
<td>1-20</td>
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  "A" document defining the general state of the art which is not considered to be of particular relevance
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Date of the actual completion of the international search: 09 September 2008

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Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
PO Box 1450, Alexandria, Virginia 22313-1450

Facsimile No 571-273-3201

Authorized officer: Blaine R. Copenheaver

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