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The Director

of the United States Patent and Trademark Office has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this United States

Patent

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Katherine Kelly Vidal

DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE



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(12) **United States Patent**
Sengul et al.

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(54) **TWO-POINT POLISHED ROD
LOAD-SENSING SYSTEM**

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- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 259 days.

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E21B 43/12 (2006.01)
- (52) **U.S. Cl.**
CPC *E21B 47/009* (2020.05); *G01L 1/225* (2013.01); *E21B 43/127* (2013.01)
- (58) **Field of Classification Search**
CPC *E21B 43/127*; *E21B 47/009*; *G01L 1/22*;
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See application file for complete search history.

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(57) **ABSTRACT**

An apparatus includes a first clamping mechanism configured to grip a tubular member at a first location along the tubular member. The apparatus also includes a second clamping mechanism configured to grip the tubular member at a second location along the tubular member that is axially-offset from the first location. The apparatus also includes a base positioned between the first and second clamping mechanisms. The apparatus also includes a strain gauge coupled to the base.

22 Claims, 7 Drawing Sheets

