

(19)



(11)

**EP 3 450 988 B1**

(12)

**EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:  
**05.10.2022 Bulletin 2022/40**

(51) International Patent Classification (IPC):  
**G01P 3/49 (2006.01) G01B 7/14 (2006.01)**  
**G01P 3/50 (2006.01)**

(21) Application number: **18187682.2**

(52) Cooperative Patent Classification (CPC):  
**G01P 3/49; G01P 3/505; G01B 7/14**

(22) Date of filing: **07.08.2018**

**(54) SPEED DETECTING DEVICE AND METHOD**

GESCHWINDIGKEITSDETEKTIONSVORRICHTUNG UND -VERFAHREN

DISPOSITIF ET PROCÉDÉ DE DÉTECTION DE VITESSE

(84) Designated Contracting States:  
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR**

(56) References cited:  
**DE-A1- 19 538 575 JP-A- H08 211 084**  
**JP-A- H08 211 085 JP-A- 2007 078 558**  
**JP-A- 2008 256 718 JP-B2- 3 307 170**  
**US-A- 3 786 354 US-A- 5 939 879**  
**US-A1- 2015 028 859**

(30) Priority: **07.08.2017 JP 2017152723**

(43) Date of publication of application:  
**06.03.2019 Bulletin 2019/10**

(73) Proprietor: **Nabtesco Corporation**  
**Tokyo 102-0093 (JP)**

- (72) Inventors:
- **FLANKL, Michael**  
**8092 Zürich (CH)**
  - **TUEYSUEZ, Arda**  
**8092 Zürich (CH)**
  - **KOLAR, Johann W.**  
**8092 Zürich (CH)**
  - **TSUKADA, Yusuke**  
**Kobe-shi, Hyogo 651-2271 (JP)**
  - **NAKAMURA, Kazuhito**  
**Chiyoda-ku, Tokyo 102-0093 (JP)**

- **TUYSUZ ARDA ET AL: "Eddy-current-based contactless speed sensing of conductive surfaces", 2016 IEEE 2ND ANNUAL SOUTHERN POWER ELECTRONICS CONFERENCE (SPEC), IEEE, 5 December 2016 (2016-12-05), pages 1-6, XP033059684, DOI: 10.1109/SPEC.2016.7846171 [retrieved on 2017-02-07]**
- **HORST RUDOLF LOOS: "Function and computation of transducers for the contact free measurement of distance on the basis of the eddy current effect", TECHNISCHES MESSEN ATM,, vol. 43, no. 7/8, 1 January 1976 (1976-01-01), pages 229-235, XP001420258,**
- **TIM HITZ ET AL: "True Position Measurement with Eddy Current Technology", INTERNET CITATION, November 1997 (1997-11), pages 1-11, XP002512238, Retrieved from the Internet: URL:<http://www.sensorsmag.com/sensors/Tech nology+Tutorials%2FSensors%2FPosition%2F r esence%2FProximity/True-Position-Measureme nt-with-Eddy-Current-Techno/ArticleStandar d/Article/detail/323185> [retrieved on 2009-01-27]**

(74) Representative: **Grünecker Patent- und Rechtsanwälte**  
**PartG mbB**  
**Leopoldstraße 4**  
**80802 München (DE)**

**EP 3 450 988 B1**

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).