



US009874842B2

(12) **United States Patent**
Ishida

(10) **Patent No.:** **US 9,874,842 B2**
(45) **Date of Patent:** **Jan. 23, 2018**

(54) **SHEET DETERMINATION APPARATUS
USING ULTRASONIC WAVE
TRANSMITTING UNIT OR RECEPTION
UNIT**

(58) **Field of Classification Search**
CPC G03G 15/5029; G01N 29/11; G01N
2291/0237; G01N 2291/044;
(Continued)

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73/1.86

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 557 days.

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(21) Appl. No.: **14/449,833**

(22) Filed: **Aug. 1, 2014**

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(65) **Prior Publication Data**

US 2015/0037053 A1 Feb. 5, 2015

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(30) **Foreign Application Priority Data**

Aug. 5, 2013 (JP) 2013-162796
Jun. 27, 2014 (JP) 2014-133248
Jul. 31, 2014 (JP) 2014-155778

(51) **Int. Cl.**

G01N 29/24 (2006.01)

G03G 15/02 (2006.01)

G03G 15/00 (2006.01)

G01N 29/11 (2006.01)

(52) **U.S. Cl.**

CPC **G03G 15/5029** (2013.01); **G01N 29/11**
(2013.01); **G01N 29/2462** (2013.01);

(Continued)

(57)

ABSTRACT

A protection member is arranged such that the distance from an opening plane of a reception guide to the center of the protection member is half of the distance from the opening plane of the reception guide to the surface of a reception vibration member. In other words, the arrangement position of the protection member is in the center between the opening plane of the reception guide and the surface of the reception vibration member. Accordingly, even if a protection member is arranged, a transmission coefficient is obtained that is equal to a transmission coefficient in the case where no protection member is present.

24 Claims, 12 Drawing Sheets

