

LIS007654522B2

## (12) United States Patent

### Tonami

(10) Patent No.:

US 7,654,522 B2

(45) **Date of Patent:** 

Feb. 2, 2010

# (54) SHEET FEEDER WITH ULTRASONIC DOUBLE FEED DETECTOR

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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 294 days.

(21) Appl. No.: 11/783,076

(22) Filed: **Apr. 5, 2007** 

(65) **Prior Publication Data** 

US 2007/0235922 A1 Oct. 11, 2007

(30) Foreign Application Priority Data

Apr. 7, 2006 (JP) ...... 2006-106623

(51) **Int. Cl.** 

**B65H** 7/**12** (2006.01)

(52) **U.S. Cl.** ...... **271/262**; 271/265.04

(58) **Field of Classification Search** ....................... 271/258.01, 271/262, 265.04, 263

2717202, 203.04, 2

See application file for complete search history.

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(57) ABSTRACT

A sheet feeder includes: a feeding roller for feeding a sheet; a press member for pressing the sheet against the feeding roller; and a double feed detector for detecting double feed of the sheets when the sheets are fed in superimposition; wherein the feeding roller and the press member are opposed each other at a sheet holding portion for holding the sheet to be fed therebetween, and the double feed detector is placed to be able to detect double feed of the sheets in a region being adjacent to the sheet holding portion, an amplitude of the sheet being suppressed in the region.

#### 3 Claims, 8 Drawing Sheets

