

Title (en)  
Yarn winding machine

Title (de)  
Garnwicklungsmaschine

Title (fr)  
Machine de renvideur de fil

Publication  
**EP 2354069 A2 20110810 (EN)**

Application  
**EP 11152948 A 20110201**

Priority  
JP 2010021259 A 20100202

Abstract (en)  
A spinning machine (1) includes a winding device (12) and a slack eliminating device (8). The slack eliminating device (8) includes a slack eliminating roller (30) and a yarn detecting sensor (34). The yarn detecting sensor (34) is a reflective photo sensor having a light emitting element (41) and a light receiving element (42). An opening provided for the light emitting element (41) has a prescribed width such that a width of an irradiated range on the slack eliminating roller (30) is substantially equal to a thickness of the yarn (16).

IPC 8 full level  
**B65H 51/22** (2006.01); **B65H 54/26** (2006.01); **B65H 63/06** (2006.01); **D01H 13/10** (2006.01)

CPC (source: EP)  
**B65H 51/22** (2013.01); **B65H 54/26** (2013.01); **B65H 63/06** (2013.01); **D01H 13/10** (2013.01); **B65H 2701/31** (2013.01)

Citation (applicant)  
JP 2009242041 A 20091022 - MURATA MACHINERY LTD

Cited by  
CN114148817A; EP2573225A3; EP2927173A1; CN104944211A; EP2889249A1; US9884739B2; EP2361867B1

Designated contracting state (EPC)  
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

Designated extension state (EPC)  
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DOCDB simple family (publication)  
**EP 2354069 A2 20110810**; **EP 2354069 A3 20120801**; **EP 2354069 B1 20140917**; CN 102139820 A 20110803; CN 102139820 B 20141126; CN 104590944 A 20150506; CN 104590944 B 20170711; JP 2011157196 A 20110818

DOCDB simple family (application)  
**EP 11152948 A 20110201**; CN 201110007786 A 20110114; CN 201410710885 A 20110114; JP 2010021259 A 20100202