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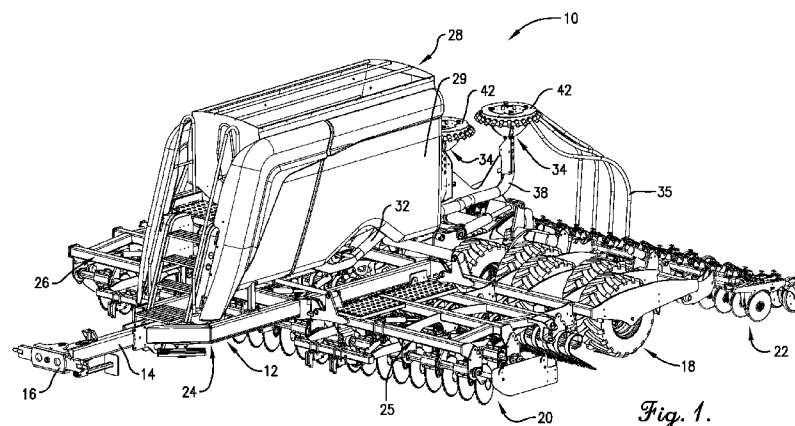
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(54) Title: SEED DISTRIBUTION TOWER FOR AN AIR SEEDER



(57) Abstract: The seed distribution tower of an air seeder splits a single, primary stream of conveying air and seeds into a plurality of secondary streams for delivery to openers that deposit the seeds into the ground as the seeder advances. As seeds enter the head of the tower in an upward vertical direction through an inlet at the bottom of the head, they are scattered 360° in a horizontal direction by an inverted, overhead distribution cone. The inlet through which the seeds enter the distribution head has an eased configuration to reduce turbulence and promote laminar flow within the head during the dramatic transition from vertical to horizontal movement. Sensitive components such as tram line valves, solenoid actuators, and blockage sensors are protectively housed within the interior of the distribution head to avoid exposure to hostile environmental elements. The outlets through which the secondary streams exit the head are constructed as modules that can be individually installed and replaced without disassembling the entire head. Shut-off valves and/or flow sensors may or may not be incorporated into certain or all of the modules to provide optimum user flexibility.



**A. CLASSIFICATION OF SUBJECT MATTER***A01C 7/04(2006.01)i, A01C 7/16(2006.01)i, A01C 17/00(2006.01)i, A01C 19/00(2006.01)i*

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

A01C 7/04; G08B 21/00; B65G 51/18; A01C 7/08; A01C 9/00; A01C 7/00; G01F 1/05

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) &amp; Keywords: seed distribution, air seeder, volve, manifold, flow sensor, actuator

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	US 7555990 B2 (BEAUJOT PATRICK M.) 07 July 2009 See abstract; column 8, line 40 - column 9, line 19; and figures 1-7.	1-2, 11-13 3-4, 7-8, 14, 16 , 18-19, 33-35 5-6, 9-10, 15, 17 , 20-32, 36-78
Y A	US 05831542 A (THOMAS; JOHN C. et al.) 03 November 1998 See abstract; column 4, line 43 - column 5, line 46; column 6, line 66 - column 7, line 28; and figures 1-7A.	3-4, 7-8, 14, 16 , 18-19 1-2, 5-6, 9-13, 15, 17 , 20-78
X Y A	US 6273648 B1 (PONCELET; ROBERT et al.) 14 August 2001 See abstract; column 5, line 9 - column 6, line 25; and figures 1-2, 5-12.	23-32 33-35 1-22, 36-78
A	US 2011-0035163 A1 (LANDPHAIR DONALD KEITH) 10 February 2011 See abstract; paragraphs [0022],[0024],[0031]; and figures 1-2, 5.	1-78

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

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International application No.

**PCT/US2012/041357**

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2005-004579 A1 (VAEDERSTAD-VERKEN AB et al.) 20 January 2005 See abstract; page 3, line 16 - page 4, line 8; and figure 2.	1-78

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

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