



US009409727B2

(12) **United States Patent**
German et al.

(10) **Patent No.:** **US 9,409,727 B2**
(45) **Date of Patent:** **Aug. 9, 2016**

- (54) **CONVEYOR MERGE ASSEMBLY**
- (71) Applicant: **Dematic Corp.**, Grand Rapids, MI (US)
- (72) Inventors: **H. Thad German**, Belding, MI (US);
David M. Berghorn, Grand Rapids, MI (US);
Matthew T. Brayman, Ada, MI (US);
James P. Johnson, Rockford, MI (US);
Bruce E. Taylor, Morley, MI (US);
William P. Bray, Spring Lake, MI (US)
- (73) Assignee: **Dematic Corp.**, Grand Rapids, MI (US)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

USPC 198/601, 860.1, 370.02, 370.09,
198/370.01, 370.1, 583
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,815,549	A	7/1931	Dietz	
2,366,279	A	1/1945	Mitchell	
2,627,960	A *	2/1953	Eberle	193/35 TE
2,901,083	A	8/1959	McGrath	
3,643,781	A *	2/1972	Risley	B65G 21/2072 198/599
4,526,266	A	7/1985	Dietz	
6,811,018	B2	11/2004	Cotter et al.	

(Continued)

FOREIGN PATENT DOCUMENTS

GB 2123375 A 2/1984

OTHER PUBLICATIONS

International Search Report and Written Opinion of the International Searching Authority from corresponding Patent Cooperation Treaty (PCT) Application No. PCT/US2014/040249, mailed Dec. 4, 2014.

Primary Examiner — William R Harp

(74) Attorney, Agent, or Firm — Gardner, Linn, Burkhardt and Flory, LLP

(21) Appl. No.: **14/291,386**

(22) Filed: **May 30, 2014**

(65) **Prior Publication Data**

US 2014/0353122 A1 Dec. 4, 2014

Related U.S. Application Data

(60) Provisional application No. 61/829,765, filed on May 31, 2013.

(51) **Int. Cl.**

B65G 47/72	(2006.01)
B65G 47/68	(2006.01)
B65G 13/10	(2006.01)
B65G 13/11	(2006.01)

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

CPC **B65G 47/681** (2013.01); **B65G 13/10** (2013.01); **B65G 13/11** (2013.01)

(58) **Field of Classification Search**

CPC B65G 47/68; B65G 47/681; B65G 47/71; B65G 21/2063; B65G 21/2072; B65G 21/2081

(57) **ABSTRACT**

A conveyor assembly comprising a main conveyor having a first side frame and a second side frame, with the first and/or second side frames including a side portion and a support surface. One or more input conveyors having a discharge end are joined to the main conveyor with a bottom portion of the discharge end being positioned on the support surface whereby the input conveyors are accurately mounted in close proximity to the main conveyor to promote the conveyance of items from the input conveyors onto the main conveyor.

32 Claims, 13 Drawing Sheets

