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(54) Title: A VEHICLE-MOUNTED ARTICULATED ARM FOR DISCHARGING BINS

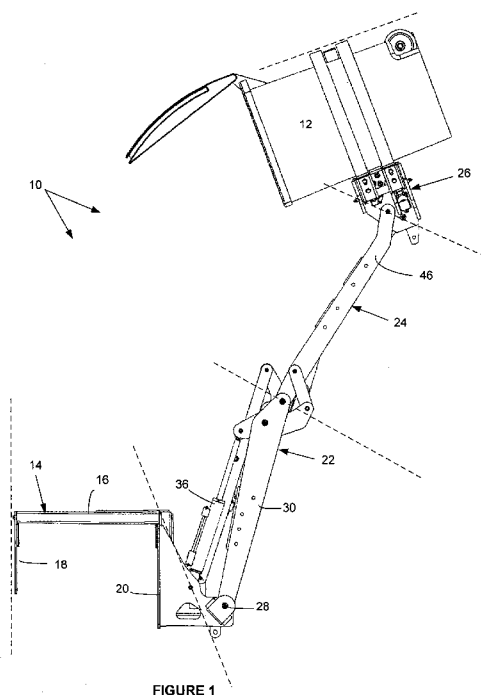


FIGURE 1

(57) Abstract: The present document describes a collection container or vehicle-mounted articulated arm for discharging bins in a collection container. The arm comprises an attachment section which allows for mounting the arm on a collection container or a chassis of a vehicle carrying a collection container without effecting any alterations to the existing mechanism/structure of the collection container and/or the truck on which the collection container is provided. The arm also comprises an articulation mechanism which allows the arm to extend for grabbing the bin, lift the bin upward to discharge its content in the collection container, lower the bin to place it back on the ground, and retracts back toward the collection container for storage and/or transportation. An arm according to the present embodiments may be made from light materials such as aluminum without affecting its lifting capacity. In an embodiment, the weight of the bin applies a pressure on the arm, which pressure causes the arm to retract after grabbing the bin.



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A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: **B65F 3/04** (2006.01) , **B66F 3/25** (2006.01) , **B66F 9/00** (2006.01)

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

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

Databases: Total Patent, Epodoc (Epoque)

Terms: Articulate, Arm, Pivot

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO97/07040 A1 (McNEILUS, G. ET AL.) 27 February 1997 (27-02-1997) ~ Abstract, Figures 1 - 16 ~	1 - 17
A	WO2009/031131 A2 (SOUTHALL, V. ET AL.) 12 March 2009 (12-03-2009) ~ Whole Document ~	1 - 17
A	CA2503314 A1 (KELLER, M. ET AL.) 13 April 2002 (13-04-2002) ~ Whole Document ~	1 - 17
A	US5044863 A (LaBASS, D. ET AL.) 03 September 1991 (03-09-1991) ~ Whole Document ~	1 - 17

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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Information on patent family members

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Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
WO9707040A1	27-02-1997	AU696854B2	17-09-1998
		AU6685996A	12-03-1997
		CA2226895A1	27-02-1997
		CA2226895C	27-08-2002
		DE69618789D1	14-03-2002
		DE69618789T2	14-08-2002
		EP0844973A1	03-06-1998
		EP0844973B1	23-01-2002
		ES2171700T3	16-09-2002
		NZ315205A	25-02-1999
		US5720589A	24-02-1998
		US5833429A	10-11-1998
		US6350098B1	26-02-2002
WO2009031131A2	12-03-2009	EP2197779A2	23-06-2010
		IE20070639A2	16-02-2011
		WO2009031131A3	25-06-2009
CA2503314A1	13-04-2002	CA2358737A1	13-04-2002
		US2002071749A1	13-06-2002
		US6761523B2	13-07-2004
		US2005019140A1	27-01-2005
		US7037061B2	02-05-2006
US5044863A	03-09-1991	None	