

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 August 2004 (12.08.2004)

PCT

(10) International Publication Number
WO 2004/067316 A3

(51) International Patent Classification⁷: B62D 33/04

(21) International Application Number:
PCT/US2004/002283

(22) International Filing Date: 27 January 2004 (27.01.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/352,260 27 January 2003 (27.01.2003) US
10/391,820 18 March 2003 (18.03.2003) US

(71) Applicant (for all designated States except US): BENLEE, INC. [US/US]; 30383 Ecorse Road, Romulus, MI 48174 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): BUSH, Charles [US/US]; 300 Marquette, Rochester Hills, MI 48307 (US).

(74) Agents: POSA, John, G. et al.; Gifford, Krass, Groh, Sprinkle, Anderson & Citkowski, P.C., 280 N. Old Woodward Ave., Ste. 400, Birmingham, MI 48009 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

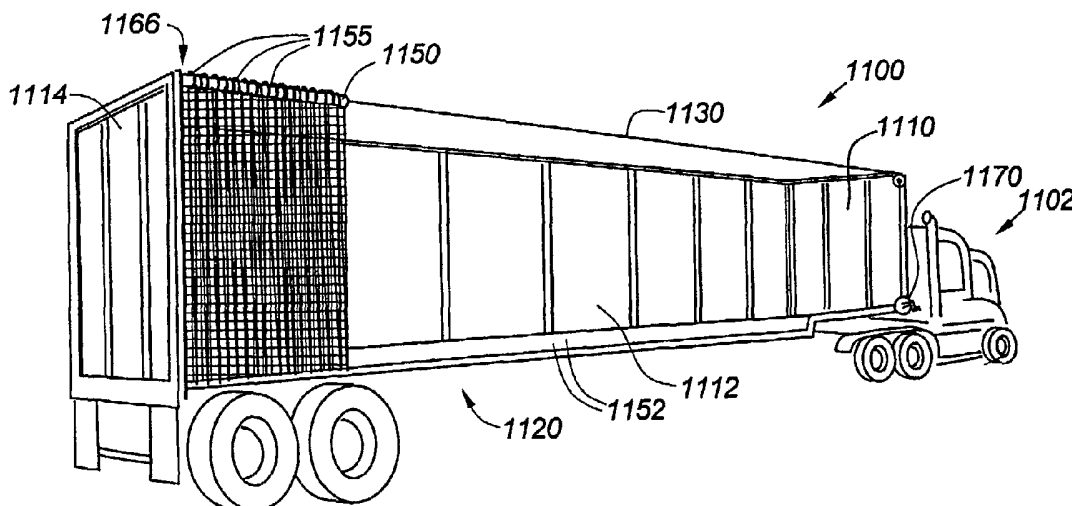
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
3 March 2005

[Continued on next page]

(54) Title: TRAILERS PARTICULARLY SUITED TO HAULING CRUSHED AND FLATTENED VEHICLES



(57) Abstract: A hauling trailer particularly suited to the transport of scrap such as crushed and flattened vehicles includes a floor with walls and at least one open side, and a structure for closing off the open side(s) during transport. The structure may be flexible, rigid, or partitioned. According to one preferred embodiment, one or more hydraulic cylinders are used for retracting a wall structure. A trailer according to a different embodiment of the invention broadly includes a floor with walls and one open side, and a hinged door structure that allows one of the long sides of the trailer to be opened and closed for loading and unloading. According to yet a further alternative embodiment, a trailer includes three solid or rigid sides with a fourth side that opens and closes with a drape, though again, two or more sides may also open and close, preferably utilizing the methods and apparatus disclosed herein.

WO 2004/067316 A3



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US04/02283

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : B62D 33/04 US CL : 296/182.1,186.2,186.4 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) U.S. : 296/182.1,186.2,186.4 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,987,942 A (Eriksson) 29 January 1991 (29.01.1991)	1-3,5,11,12,14,16,18,19
X	US 5,466,030 A (HARRIS et al) 14 November 1995 (14.11.1995)	1-3,5,10-12,14,16,18,19
X	US 4,489,975 A (FREDIN) 25 December 1984 (25.12.1984)	1,2,5,12,13
X	US 6,079,762 A (STRASSER) 27 June 2000 (27.06.2000)	1-5,11-14,16,21,23
X	US 4,856,843 A (ELLIOT) 15 August 1989 (15.08.1989)	1,21-23,25
---		-----
Y		24
Y	US 4,092,039 A (LUTKENHOUSE) 30 May 1978 (30.05.1978)	24
X	US 6,183,036 B1 (COULSON) 6 February 2001 (06.02.2001)	26,28,33
---		-----
Y		27
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents:		
"A" document defining the general state of the art which is not considered to be of particular relevance	"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	
"E" earlier application or patent published on or after the international filing date	"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	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"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	
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	
"P" document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search 23 November 2004 (23.11.2004)	Date of mailing of the international search report 14 JAN 2005	
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer Glenn Dayoan <i>[Signature]</i> Telephone No. 703-308-3102	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US04/02283

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,991,901 A (MEEKHOF, Sr. et al) 12 February 1991 (12.02.1991)	27