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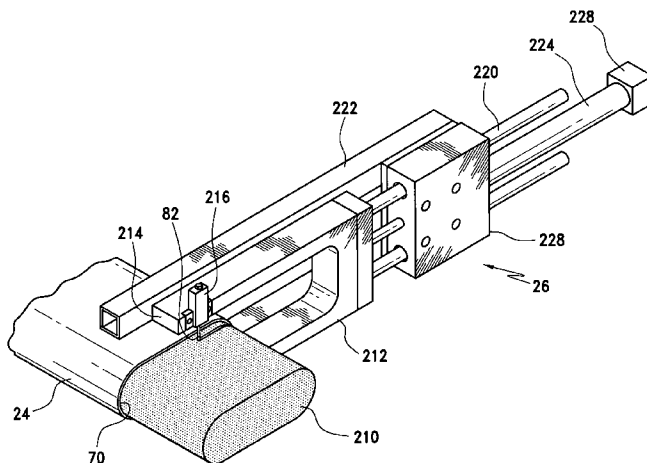
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Published:  
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[Continued on next page]

(54) Title: VISCIOUS MATERIAL METERING SYSTEM AND METHOD



(57) Abstract: A viscous material metering system (10) comprises a cutting apparatus (2S) comprising a tensioning fork (212) having a main body diverging into extending tines (214); a cutting wire (82) tensioned between the tines of the fork; and a driving mechanism (228) operatively connected to the tensioning fork (212) to drive the fork and tensioned cutting wire (82); and a controller (30) controllably connected to the driving mechanism (228) and having a set of instructions to control the driving mechanism to drive the fork to cut a continuous viscous materia into portions of a predetermined size or weight for metering to a viscous material compounding system. A viscous material metering method comprises determining a sequential portion of viscous material to be metered from a container (42) to a viscous material compounding system (14); metering portions of the continuous viscous material to the compounding system (14) by cutting the material substantially perpendicular to a longitudinal axis of an elongated continuous viscous material feed (24) expressed from the container (42); and controlling the cutting to meter the determined sequential portion.

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# INTERNATIONAL SEARCH REPORT

International application No  
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**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. B29B7/74 B26D1/48 B26D1/547 B05C11/10  
 ADD. B01F15/04

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)  
 B65B B01F B05C B26D B28B B29B

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 practical, search terms used)  
 EPO-Internal, WPI Data

**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 Y	US 4 442 741 A (WHITTINGHAM THOMAS D [US] ET AL) 17 April 1984 (1984-04-17) column 1, line 14 - line 20  column 1, line 62 - column 2, line 22 column 3, line 4 - line 57 figures 2,3,5  ----- DE 103 09 396 A1 (DAIMLER CHRYSLER AG [DE]) 23 September 2004 (2004-09-23) paragraph [0004] - paragraph [0006] paragraph [0016] - paragraph [0020] paragraph [0026] - paragraph [0027] figures  ----- -/--	1,5-8,22  2,18, 24-36 18  2

Further documents are listed in the continuation of Box C.  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 *E* earlier document but published on or after the international filing date *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) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed	*I* 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 *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. *G* document member of the same patent family
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Date of the actual completion of the international search  <b>4 April 2008</b>	Date of mailing of the international search report  <b>14/04/2008</b>
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer  <b>Fageot, Philippe</b>
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## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/020116

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 5 198 171 A (KASAHARA YUTAKA [US] ET AL) 30 March 1993 (1993-03-30) cited in the application column 1, line 12 - line 42 column 5, line 63 - column 6, line 25 column 9, line 16 - line 50; example 1 figure	18, 24-36
A	DE 29 50 006 A1 (BARANYA TOLNA MEGYEI TEGLA ES) 3 July 1980 (1980-07-03) page 6, paragraph 3 - paragraph 4 page 8, paragraph 4 page 10 - page 14 figures 1-3, 9-15	1-4

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 37-60

The present application contains 60 claims, of which 17 are independent. There is no clear distinction between the independent claims because of overlapping scope. There are so many claims, and they are drafted in such a way that the claims as a whole are not in compliance with the provisions of clarity and conciseness of Article 6 PCT, as it is particularly burdensome for a skilled person to establish the subject-matter for which protection is sought. The non-compliance with the substantive provisions is to such an extent, that the search was performed taking into consideration the non-compliance in determining the extent of the search (PCT Guidelines 9.19 and 9.25).

The search was based on the subject-matter that, as far as can be understood, could reasonably be expected to be claimed later in the procedure, and the corresponding claims, namely claims 1 - 36.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.2), should the problems which led to the Article 17(2)PCT declaration be overcome.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2007/020116

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: 37-60  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2007/020116
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4442741	A	NONE	
DE 10309396	A1	NONE	
US 5198171	A	NONE	
DE 2950006	A1	CS 214678 B2 IT 1124494 B SU 1044224 A3 YU 302079 A1	28-05-1982 07-05-1986 23-09-1983 31-08-1982