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[Continued on next page]

(54) Title: DEMAND BASED WRAPPING

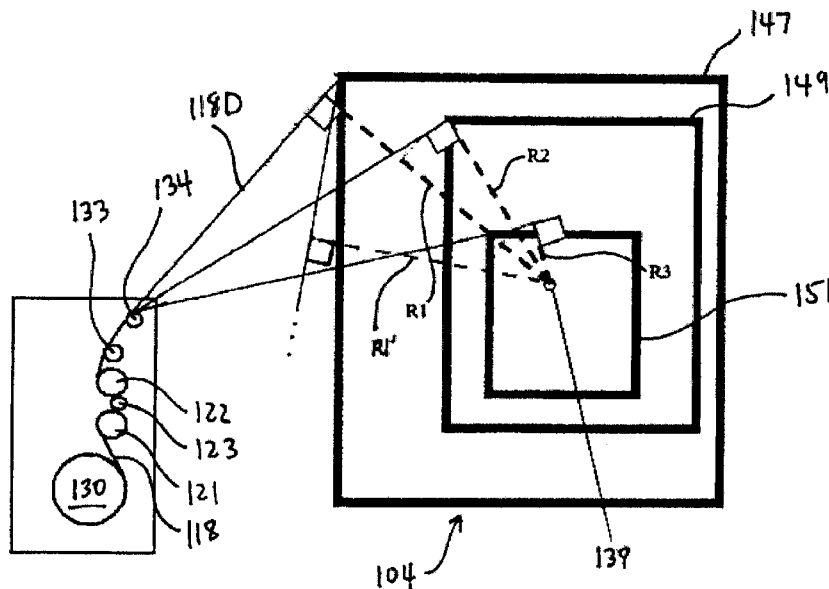


FIG. 5

(57) Abstract: A control system for a wrapping apparatus may include a packaging material dispenser configured to dispense packaging material for wrapping a load. The control system may also include at least one sensor assembly configured to generate a signal based on instantaneous demand for packaging material at the load. The control system may further include a controller configured to control operation of the packaging material dispenser based at least in part on the signal.

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30 June 2011

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2010/055754

A. CLASSIFICATION OF SUBJECT MATTER
INV. B65B11/02 B65B57/08
ADD.
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

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, PAJ, 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	US 6 748 718 B2 (LANCASTER PATRICK R [US] ET AL LANCASTER III PATRICK R [US] ET AL) 15 June 2004 (2004-06-15) the whole document	1,2,5,6, 17,18, 34,42-45
X	WO 2007/100596 A2 (LANTECH COM LLC [US]; LANCASTER PETER R III [US]; ELDRIDGE DAVID E [US] 7 September 2007 (2007-09-07) the whole document	1,18,34
A	US 4 953 336 A (LANCASTER III PATRICK R [US] ET AL) 4 September 1990 (1990-09-04) cited in the application the whole document	1,18,34
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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

"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

"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.

"&" document member of the same patent family

Date of the actual completion of the international search 21 February 2011	Date of mailing of the international search report 06/05/2011
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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, Fax: (+31-70) 340-3016	Authorized officer Ungureanu, Mirela
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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2010/055754

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 418 510 A (LANCASTER III PATRICK R [US] ET AL) 6 December 1983 (1983-12-06) cited in the application the whole document	1,18,34
A	----- US 4 514 955 A (MOUSER CURTIS A [US] ET AL) 7 May 1985 (1985-05-07) cited in the application the whole document	1,18,34
A	----- US 4 676 048 A (LANCASTER PATRICK R [US] ET AL) 30 June 1987 (1987-06-30) cited in the application the whole document	1,18,34
A	----- US 4 503 658 A (MOUSER CURTIS A [US] ET AL) 12 March 1985 (1985-03-12) cited in the application the whole document -----	1,18,34

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/055754

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.:
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:

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:

see additional sheet

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.:

1, 2, 5, 6, 17, 18, 34, 42-45

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1, 2, 5, 6, 17, 18, 34, 42-45

a control system for a wrapping apparatus comprising a packaging material dispenser, a sensor assembly to generate a signal based on instantaneous demand for the packaging material at the load, and a controller configured to control the packaging operation based on the named signal, an apparatus with such a control system and a method for wrapping, directed to the sensor assembly

2. claims: 3, 4, 7-16, 20-29

a control system for a wrapping apparatus comprising a packaging material dispenser, a sensor assembly to generate a signal based on instantaneous demand for the packaging material at the load, and a controller configured to control the packaging operation based on the named signal, directed to the sensed characteristic

3. claim: 19

an apparatus for wrapping comprising a packaging material dispenser, a sensor assembly to generate a signal based on instantaneous demand for the packaging material at the load, and a controller configured to control the packaging operation based on the named signal, directed to the material dispenser

4. claims: 30, 31

an apparatus for wrapping comprising a packaging material dispenser, a relative rotation assembly, a sensor assembly to generate a signal based on instantaneous demand for the packaging material at the load, and a controller configured to control the packaging operation based on the named demand, directed to a second sensor

5. claims: 32, 33

an apparatus for wrapping comprising a packaging material dispenser, a relative rotation assembly, a sensor assembly to generate a signal based on instantaneous demand for the packaging material at the load, and a controller configured to control the packaging operation based on the named demand, directed to the controller

6. claims: 35, 46

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

a method for wrapping comprising driving a material dispenser, providing relative rotation between material dispenser and load, sensing a characteristic of instantaneous demand for the packaging material at the load, and controlling the dispensing drive based on the named demand, directed to the controlling operation

7. claims: 36-41

a method for wrapping comprising driving a material dispenser, providing relative rotation between material dispenser and load, sensing a characteristic of instantaneous demand for the packaging material at the load, and controlling the dispensing drive based on the named demand, directed to the driving of the material dispenser

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2010/055754

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
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