

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
24 January 2008 (24.01.2008)

PCT

(10) International Publication Number  
**WO 2008/011325 A3**

(51) International Patent Classification:  
*D21C 5/02* (2006.01) *D21H 11/14* (2006.01)

(21) International Application Number:  
PCT/US2007/073343

(22) International Filing Date: 12 July 2007 (12.07.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
11/459,079 21 July 2006 (21.07.2006) US

(71) Applicant (*for all designated States except US*):  
**SONOCO DEVELOPMENT, INC.** [US/US]; 1 North  
Second Street, Hartsville, SC 29550 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **BACON, Harris, J.**  
[US/US]; 9548 Alfaree Road, Richmond, VA 23237 (US).  
**MEISTER, Matthew** [US/US]; 713 Kickapoo Place, De-  
pere, WI 54115 (US).

(74) Agents: **BALTICH, Dane** et al.; Alston & Bird LLP, Bank  
Of America Plaza, 101 South Tryon Street, Suite 4000,  
Charlotte, NC 28280-4000 (US).

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

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

(84) Designated States (*unless otherwise indicated, for every  
kind of regional protection available*): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, 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, IS, IT, LT, LU, LV, MC, MT, NL, PL,  
PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**

— *as to applicant's entitlement to apply for and be granted a  
patent (Rule 4.17(ii))*

**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 July 2008

(54) Title: INFRARED-ABSORBING TICKET STOCK AND METHOD OF MAKING SAME

(57) Abstract: A ticket stock and manufacturing process wherein a pulp is formulated from a blend of recycled printed papers, with added starch for enhancing sheet stiffness and reducing linting and dusting on cut edges of the stock. A preferred pulp comprises a blend of printed solid bleached sulfate plate stock, printed white groundwood-free paper, and printed groundwood paper such as printed newsprint or the like. In one embodiment, the blend comprises about 25-50 wt.% printed solid bleached sulfate plate stock, about 15-40 wt.% printed white groundwood-free paper, and about 15-40 wt.% printed groundwood paper. The printed papers are repulped with minimal mechanical refining, treated with steam injection for hydrating and softening the fibers and breaking up inks into fine particles, and formed into a web that is pressed, dried, and soft calendered. The caliper of the resulting stock is about 7 to 9 points.



WO 2008/011325 A3

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2007/073343

## A. CLASSIFICATION OF SUBJECT MATTER

INV. D21C5/02 D21H11/14

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)

D21C D21H B41M

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

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                         | Relevant to claim No. |
|-----------|--|-----------------------|
| A         | EP 0 500 363 A (GREEN BAY PACKAGING INC [US]) 26 August 1992 (1992-08-26)<br>the whole document            | 1-23                  |
| A         | US 2006/102299 A1 (ELGARHY YASSIN [CA] ET AL) 18 May 2006 (2006-05-18)<br>the whole document               | 1-23                  |
| A         | US 2003/178162 A1 (RAGHUKUMAR CHANDRALATA [IN] ET AL) 25 September 2003 (2003-09-25)<br>the whole document | 1-23                  |
| A         | DE 199 10 064 A1 (SCHWEDT PAPIER & KARTON GMBH [DE]) 24 August 2000 (2000-08-24)<br>the whole document     | 1-23                  |
|           | -/--   |                       |

☒ 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

28 April 2008

Date of mailing of the international search report

08/05/2008

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

Karlsson, Lennart

# INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/073343

## 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 2004/253676 A1 (BISGARD-FRANTZEN HENRIK [DK] ET AL BISGARD FRANTZEN HENRIK [DK] ET AL) 16 December 2004 (2004-12-16)<br>the whole document | 1-23                  |
| A         | US 2002/137644 A1 (NGUYEN DUY T [US] ET AL) 26 September 2002 (2002-09-26)<br>the whole document  | 1-23                  |
| A         | WO 2006/060784 A (SUN CHEMICAL CORP [US]; APOSTOL SABINO [US]; CATENA ROBERT [US]; CHUDO) 8 June 2006 (2006-06-08)<br>the whole document      | 1-23                  |
| A         | US 5 880 077 A (ISHIBASHI YOICHI [JP] ET AL) 9 March 1999 (1999-03-09)<br>the whole document  | 1-23                  |
| A         | US 6 373 965 B1 (LIANG LOUIS H [US])<br>16 April 2002 (2002-04-16)<br>the whole document  | 1-23                  |

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/073343

| Patent document<br>cited in search report |    | Publication<br>date | Patent family<br>member(s)                         | Publication<br>date                    |
|---|----|---------------------|--|--|
| EP 0500363                                | A  | 26-08-1992          | AU 1108292 A<br>CA 2061338 A1<br>JP 4316699 A      | 27-08-1992<br>22-08-1992<br>09-11-1992 |
| US 2006102299                             | A1 | 18-05-2006          | CA 2523736 A1                                      | 17-05-2006                             |
| US 2003178162                             | A1 | 25-09-2003          | US 2006260772 A1                                   | 23-11-2006                             |
| DE 19910064                               | A1 | 24-08-2000          | NONE   |  |
| US 2004253676                             | A1 | 16-12-2004          | US 2005059131 A1                                   | 17-03-2005                             |
| US 2002137644                             | A1 | 26-09-2002          | US 2002187905 A1                                   | 12-12-2002                             |
| WO 2006060784                             | A  | 08-06-2006          | CA 2589652 A1<br>EP 1819788 A2<br>US 2007289486 A1 | 08-06-2006<br>22-08-2007<br>20-12-2007 |
| US 5880077                                | A  | 09-03-1999          | JP 3086439 B2<br>JP 11131380 A                     | 11-09-2000<br>18-05-1999               |
| US 6373965                                | B1 | 16-04-2002          | NONE   |  |