



(51) International Patent Classification:

A24D 1/02 (2006.01) *D21H 23/00* (2006.01)
D21F 9/00 (2006.01) *D21H 17/67* (2006.01)

(21) International Application Number:

PCT/US2009/033188

(22) International Filing Date:

5 February 2009 (05.02.2009)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/030,740 22 February 2008 (22.02.2008) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, 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, ST, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, 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 (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))

[Continued on next page]

(54) Title: TREATED AREAS ON A WRAPPER FOR REDUCING THE IGNITION PROCLIVITY CHARACTERISTICS OF A SMOKING ARTICLE

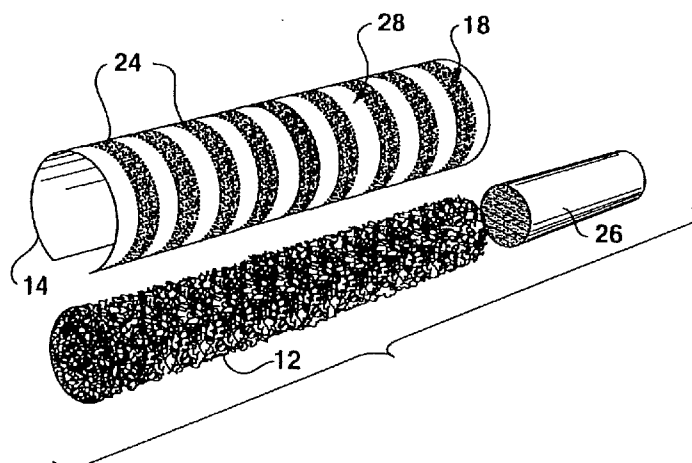


FIG. 2

(57) Abstract: Smoking articles (10) having reduced ignition proclivity characteristics are disclosed. The smoking articles include a paper wrapper (14) containing cellulosic fibers and filler particles. The paper wrappers are formed so that the filler particles form a concentration gradient throughout the thickness of the wrapper. More particularly, a greater concentration of filler particles are present at a first surface in comparison to the amount of filler particles present at the opposite surface. In accordance with the present disclosure, an ignition reducing composition is applied to the first surface. In this manner, treated areas having more uniform properties are formed.



(88) Date of publication of the international search report:
15 October 2009

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2009/033188

A. CLASSIFICATION OF SUBJECT MATTER

INV. A24D1/02 D21F9/00 D21H23/00 D21H17/67

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)

A24D D21F D21H

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.
Y	US 6 725 867 B2 (PETERSON RICHARD M [US] ET AL) 27 April 2004 (2004-04-27) cited in the application column 1, line 66 - column 10, line 33; figures 1-3	1,3,4, 7-9, 11-13
Y	ROUX, FEUGEAS, BACH, FAGON, BETTINGER, MOURAD & CORNET: "Determination of paper filler Z-distribution by low vacuum SEM and EDX" JOURNAL OF MICROSCOPY, [Online] vol. 229, no. 1, 17 December 2007 (2007-12-17), pages 44-45, XP002529470 Retrieved from the Internet: URL: http://www3.interscience.wiley.com/cgi-bin/fulltext/119393052/PDFSTART [retrieved on 2009-05-25] pages 44-45; figures 1,2 -/--	1,3,4, 7-9, 11-13

☒ 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

15 June 2009

Date of mailing of the international search report

28/08/2009

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2009/033188

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	-& ROUX, FEUGEAS, BACH, FAGON, BETTINGER, MOURAD & CORNET: "Determination of paper filler Z-distribution by low vacuum SEM and EDX"[Online] vol. 229, no. 1, 17 December 2007 (2007-12-17), XP002529471 Retrieved from the Internet: URL:http://www3.interscience.wiley.com/journal/119393052/abstract> [retrieved on 2009-05-25] abstract	
Y	LEHMANN, HEINZ UND RICHTER, LOTHAR: "Werkstoffe der Papierverarbeitung" 1979, DEUTSCHER FACHVERLAG GMBH , FRANKFURT (MAIN) , XP002529473 pages 110-115	1
Y	US 6 779 530 B2 (KRAKER THOMAS A [US]) 24 August 2004 (2004-08-24) cited in the application column 1, line 55 - column 8, line 70; figures 1-3	3,4,8,9, 11-13
Y	US 2007/251658 A1 (GEDEVANISHVILI SHALVA [US] ET AL) 1 November 2007 (2007-11-01) paragraph [0060] - paragraph [0065]; figure 1	7
A	US 5 125 421 A (MITCHELL MELVIN G [US]) 30 June 1992 (1992-06-30) column 1, line 6 - column 2, line 53; figure 1	1
A	STEIGER, KÜFFER, STOCK: "Rauigkeit als vernachlässigte Einflussgrösse der Druckqualität" UGRA MITTEILUNGEN, [Online] 2004, XP002529472 Retrieved from the Internet: URL:http://www.ugra.ch/files/Rauigkeit.pdf > [retrieved on 2009-05-25] page 34	1

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 5, 6, 10, 14, 15-18, 24

Claims 5, 6, 10, 14, 15-18 and 24 pertain to results to be achieved in terms of certain parameters. The description, however, does not provide detailed information enabling a skilled person to achieve these results. Therefore the subject-matter of said claims is so insufficiently disclosed that no meaningful search can be carried out.

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/US2009/033188

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.: 5, 6, 10, 14, 15-18, 24
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:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable 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, 3-4, 7-9, 11-13 when dependent on claim 1

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, 3-4, 7-9, 11-13 when dependent on claim 1

A smoking article comprising:
a column comprising a smokable tobacco;
a paper wrapper surrounding the column of the smokable tobacco, the paper wrapper comprising cellulose fibers and filler particles, the paper wrapper including a first surface and a second and opposite surface, the paper wrapper being positioned so that the second surface faces the column of the smokable tobacco, the filler particles forming a concentration gradient over a thickness of the paper wrapper such that a greater concentration of filler particles is present at the first surface in comparison to the concentration of filler particles at the second surface, the first surface being smoother than the second surface; and
at least one treated area located on the first surface of the paper wrapper, the treated area comprising an ignition reducing composition, the ignition reducing composition containing a film forming material, the treated area reducing the ignition proclivity characteristics of the smoking article.

2. claims: 2, 3-4, 7-9, 11-13 when dependent on claim 2

A smoking article comprising:
a column comprising a smokable tobacco;
a paper wrapper surrounding the column of the smokable tobacco, the paper wrapper comprising cellulose fibers and filler particles, the paper wrapper including a first surface and a second and opposite surface, the paper wrapper being positioned so that the second surface faces the column of the smokable tobacco, the first surface having a Sheffield smoothness of less than about 500; and
at least one treated area located on the first surface of the paper wrapper, the treated area comprising an ignition reducing composition, the ignition reducing composition containing a film forming material, the treated area reducing the ignition proclivity characteristics of the smoking article and having a Burn Mode Index of less than about 5 cm-1.

3. claims: 19-23, 25

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

A process for forming a paper wrapper for a smoking article comprising:
forming a paper web from an aqueous suspension of cellulosic fibers and filler particles, the aqueous suspension being deposited onto a foraminous surface and drained in a manner so that the filler particles form a concentration gradient over a thickness of the paper web, the paper web including a first surface and a second surface, the second surface facing the foraminous surface, and wherein a greater concentration of filler particles is present at the first surface in comparison to the concentration of filler particles at the second surface;
drying the paper web, the first surface of the paper web being smoother than the second surface of the paper web after drying; and
applying an ignition reducing composition to the first surface of the paper web so as to form at least one treated area on the first surface, the treated area reducing the ignition proclivity characteristics of a smoking article incorporating the paper wrapper.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2009/033188

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6725867	B2	27-04-2004	US 2002139381 A1	03-10-2002
			US 2004182407 A1	23-09-2004
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