

## (12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织  
国际局

(43) 国际公布日  
2012 年 8 月 30 日 (30.08.2012)



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**WO 2012/113357 A3**

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- (21) 国际申请号: PCT/CN2012/074419
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- (25) 申请语言: 中文
- (26) 公布语言: 中文
- (30) 优先权:  
201110393662.6 2011 年 12 月 2 日 (02.12.2011) CN
- (71) 申请人 (对除美国外的所有指定国): **牡丹江恒丰纸业股份有限公司 (MUDANJIANG HENGFENG PAPER CO., LTD)** [CN/CN]; 中国黑龙江省牡丹江市阳明区恒丰路 11 号, Heilongjiang 157013 (CN)。
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(81) 指定国 (除另有指明, 要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, 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, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW。

[见续页]

(54) Title: FIRE- RETARDANT, FIRE-RETARDANT BANDED CIGARETTE PAPER, AND MANUFACTURING METHOD FOR SAME

(54) 发明名称: 一种阻燃剂、具有阻燃带的卷烟纸及该卷烟纸的制备方法

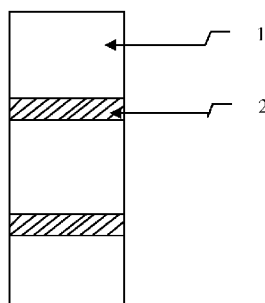


Fig.1

(57) Abstract: The present invention applies to a fire-retardant, a fire-retardant banded cigarette paper, and a manufacturing method for same, wherein the retardant contains 10 to 30% of film-forming material by weight, 10 to 30% of filler material by weight, and 40 to 80% of solvent by weight. At least one band of fire-retardant is applied on the front or back side of the cigarette paper by means of printing to form a fire-retardant band having a width of 2 to 8 mm. The present invention relates to the technical field of manufacturing fire-retardant banded cigarettes, and reduces the air permeability of the strip coating section whereon the fire-retardant band is applied, said section being printed onto the base paper of the cigarette paper and having a fixed spacing. When the cigarette naturally burns to the fire-retardant section, the fire-retardant band absorbs heat and reduces the amount of oxygen which can enter, thereby causing the cigarette to extinguish. If the cigarette is smoked after having reached the fire-retardant band, the cigarette is supplied with oxygen and continues to burn.

(57) 摘要:

[见续页]



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(84) **指定国** (除另有指明, 要求每一种可提供的地区保护): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), 欧亚 (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), 欧洲 (AL, 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, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)。

**本国际公布:**

- 包括国际检索报告(条约第 21 条(3))。
- 在修改权利要求的期限届满之前进行, 在收到该修改后将重新公布(细则 48.2(h))。
- 根据申请人的请求, 在条约第 21 条(2)(a)所规定的期限届满之前进行。

(88) **国际检索报告公布日期:** 2012 年 12 月 13 日

本发明涉及一种阻燃剂、具有阻燃带的卷烟纸及该卷烟纸的制备方法, 所述阻燃剂包括重量 10~30% 的成膜材料, 重量 10~30% 的填充材料以及重量 40~80% 的溶剂。在所述卷烟纸的正面和/或反面至少设有一条通过印刷阻燃剂而形成的阻燃带, 所述阻燃带的宽度为 2~8mm。本发明属于阻燃带卷烟纸生产技术, 通过在卷烟纸原纸上印刷具有一定间隔的带状涂层, 降低带状涂层区域的透气性。当香烟自然燃烧到该阻燃带区域时, 因阻燃带吸收热量并减少了氧气的进入而使香烟自熄灭; 如果燃烧到阻燃带区域时抽吸, 则香烟获得氧气可以继续燃烧。

# INTERNATIONAL SEARCH REPORT

International application No.

**PCT/CN2012/074419**

## A. CLASSIFICATION OF SUBJECT MATTER

See the extra sheet

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)

IPC: 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 practicable, search terms used)

CNPAT, CNKI: inflaming retarding, cigarette

WPI, EPODOC: flame 1w retardant, cigarette

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                               | Relevant to claim No. |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X         | CN 1795770 A (CHANGSHA CIGARETTE FACTORY), 05 July 2006 (05.07.2006), description, page 5, lines 2-10, and figure 6                              | 1-3, 5, 9-10          |
| Y         |                                                                                                                                                  | 4                     |
| X         | CN 102094364 A (YUNNAN RESEARCH INSTITUTE OF TOBACCO SCIENCE), 15 June 2011 (15.06.2011), description, paragraphs [0015]-[0016], and figures 1-2 | 6-8                   |
| Y         |                                                                                                                                                  | 4                     |

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

|                                                                                                                                                                         |                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| * Special categories of cited documents:                                                                                                                                | “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                                              |
| “A” document defining the general state of the art which is not considered to be of particular relevance                                                                | “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                                                                     |
| “E” earlier application or patent but published on or after the international filing date                                                                               | “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 |
| “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) | “&” document member of the same patent family                                                                                                                                                                                                    |
| “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                                                                  |                                                                                                                                                                                                                                                  |

Date of the actual completion of the international search  
02 August 2012 (02.08.2012)

Date of mailing of the international search report  
**18 October 2012 (18.10.2012)**

Name and mailing address of the ISA/CN:  
State Intellectual Property Office of the P. R. China  
No. 6, Xitucheng Road, Jimenqiao  
Haidian District, Beijing 100088, China  
Facsimile No.: (86-10) 62019451

Authorized officer

**SHI, Hao**

Telephone No.: (86-10) **82246866**

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2012/074419

### 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:

Invention 1: claims 1-5 relate to the protection for a flame retardant for cigarette paper; invention 2: claims 6-8 relate to the protection for cigarette paper with flame-retardant stripes; invention 3: claims 9-10 relate to the protection for a method for preparing cigarette paper with flame-retardant stripes.

The reasons are as follows: the same or corresponding technical feature involved in the above 3 inventions is: "cigarette paper comprises flame retardant", however, the above feature is common knowledge in the art, therefore the above 3 inventions do not share a special technical feature that makes a contribution over the prior art, are not linked technically, and do not belong to a single general inventive concept, and do not meet the requirement of PCT Rule 13.1.

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 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/CN2012/074419**

| Patent Documents referred<br>in the Report | Publication Date | Patent Family | Publication Date |
|--------------------------------------------|------------------|---------------|------------------|
| CN 1795770 A                               | 05.07.2006       | None          |                  |
| CN 102094364 A                             | 15.06.2011       | None          |                  |

# INTERNATIONAL SEARCH REPORT

International application No.

**PCT/CN2012/074419**

## CONTINUATION: "A. CLASSIFICATION OF SUBJECT MATTER":

D21H 27/22 (2006.01) i

D21H 19/44 (2006.01) i

# 国际检索报告

国际申请号

**PCT/CN2012/074419**

## A. 主题的分类

见附加页

按照国际专利分类(IPC)或者同时按照国家分类和 IPC 两种分类

## B. 检索领域

检索的最低限度文献(标明分类系统和分类号)

IPC: D21H

包含在检索领域中的除最低限度文献以外的检索文献

在国际检索时查阅的电子数据库(数据库的名称, 和使用的检索词(如使用))

CNPAT,CNKI: 阻燃, 卷烟; WPI,EPODOC: flame 1w retardant, cigarette

## C. 相关文件

| 类 型* | 引用文件, 必要时, 指明相关段落                                 | 相关的权利要求      |
|------|---------------------------------------------------|--------------|
| X    | CN1795770A (长沙卷烟厂) 05.7 月 2006 (05.07.2006)       |              |
| Y    | 说明书第 5 页第 2-10 行, 附图 6                            | 1-3, 5, 9-10 |
|      |                                                   | 4            |
| X    | CN102094364A (云南烟草科学研究院) 15.6 月 2011 (15.06.2011) |              |
| Y    | 说明书第[0015]--[0016]段, 附图 1-2                       | 6-8          |
|      |                                                   | 4            |

☐ 其余文件在 C 栏的续页中列出。

☒ 见同族专利附件。

\* 引用文件的具体类型:

“A” 认为不特别相关的表示了现有技术一般状态的文件

“E” 在国际申请日的当天或之后公布的在先申请或专利

“L” 可能对优先权要求构成怀疑的文件, 或为确定另一篇引用文件的公布日而引用的或者因其他特殊理由而引用的文件(如具体说明的)

“O” 涉及口头公开、使用、展览或其他方式公开的文件

“P” 公布日先于国际申请日但迟于所要求的优先权日的文件

“T” 在申请日或优先权日之后公布, 与申请不相抵触, 但为了理解发明之理论或原理的在后文件

“X” 特别相关的文件, 单独考虑该文件, 认定要求保护的发明不是新颖的或不具有创造性

“Y” 特别相关的文件, 当该文件与另一篇或者多篇该类文件结合并且这种结合对于本领域技术人员为显而易见时, 要求保护的发明不具有创造性

“&” 同族专利的文件

国际检索实际完成的日期  
02.8 月 2012 (02.08.2012)

国际检索报告邮寄日期  
**18.10 月 2012 (18.10.2012)**

ISA/CN 的名称和邮寄地址:  
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石浩  
电话号码: (86-10) **82246866**

**第II栏 某些权利要求被认为是不能检索的意见(续第1页第2项)**

根据条约第17条(2)(a)，对某些权利要求未做国际检索报告的理由如下：

1. ☐ 权利要求：  
因为它们涉及不要求本单位进行检索的主题，即：
2. ☐ 权利要求：  
因为它们涉及国际申请中不符合规定的要求的部分，以致不能进行任何有意义的国际检索，  
具体地说：
3. ☐ 权利要求：  
因为它们是从属权利要求，并且没有按照细则6.4(a)第2句和第3句的要求撰写。

**第III栏 缺乏发明单一性的意见(续第1页第3项)**

本国际检索单位在该国际申请中发现多项发明，即：

发明1：权利要求1-5涉及保护一种用于卷烟纸的阻燃剂；发明2：权利要求6-8涉及保护一种具有阻燃带的卷烟纸；发明3：权利要求9-10涉及保护一种具有阻燃带的卷烟纸的制备方法。

理由如下：上述3项发明的相同或者相应的技术特征为“卷烟纸包含阻燃剂”，然而上述特征为本领域公知，因此上述3项发明不具有对现有技术做出贡献的特定技术特征，不存在技术关联，不属于一个总的发明构思，不符合PCT细则13.1的规定。

1. ☐ 由于申请人按时缴纳了被要求缴纳的全部附加检索费，本国际检索报告涉及全部可作检索的权利要求。
2. ☒ 由于无需付出有理由要求附加费的劳动即能对全部可检索的权利要求进行检索，本单位未通知缴纳任何附加费。
3. ☐ 由于申请人仅按时缴纳了部分被要求缴纳的附加检索费，本国际检索报告仅涉及已缴费的那些权利要求。  
具体地说，是权利要求：
4. ☐ 申请人未按时缴纳被要求缴纳的附加检索费。因此，本国际检索报告仅涉及权利要求书中首先提及的发明；包含该发明的权利要求是：

关于异议的说明：☐ 申请人缴纳了附加检索费，同时提交了异议书，适用时，缴纳了异议费。  
☐ 申请人缴纳了附加检索费，同时提交了异议书，但未在通知书规定的时间期限内缴纳异议费。  
☐ 缴纳附加检索费时未提交异议书。



### 关于同族专利的信息

**PCT/CN2012/074419**

PCT/ISA/210 表(同族专利附件) (2009 年 7 月)

续：“A.主题的分类”：

D21H 27/22 (2006.01) i

D21H 19/44 (2006.01) i