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(54) Title: APPARATUS FOR RECOVERING TOBACCO MATERIAL AND RELATED METHOD

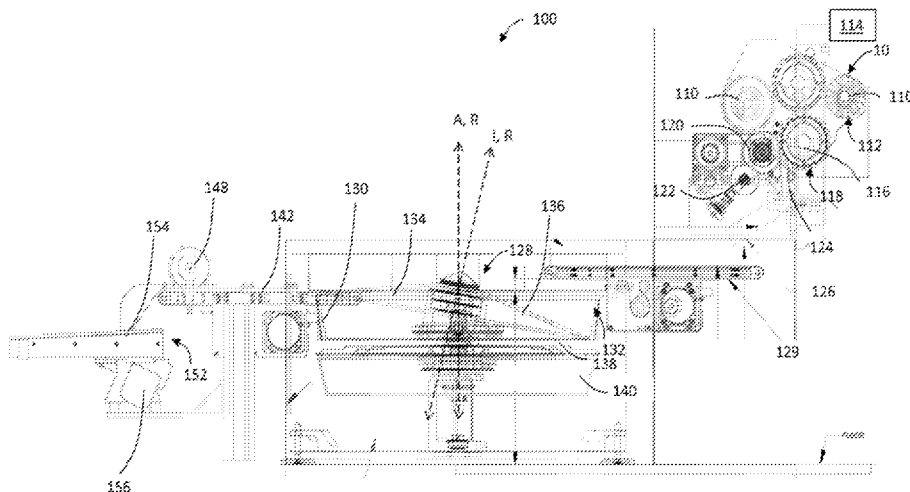


FIG. 2

(57) Abstract: An apparatus and method for recovering tobacco material from tobacco rod sections is provided, each tobacco rod section including a wrapping paper wrapped about the tobacco material. The apparatus includes a centrifugal object-orienting device including a disc disposed at an incline within a cylindrical container, the cylindrical container and the disc being rotatable about a rotation axis such that the rotating cylindrical container and disc impart centrifugal force to the tobacco rod sections, the tobacco rod sections being responsive to the centrifugal force to orient lengthwise. A first conveyor device is configured to receive and convey in a conveyor direction the tobacco rod sections, with the tobacco rod sections being oriented lengthwise relative to the conveyor direction. A slitting device is operably engaged with the first conveyor device and configured to lengthwise slit the wrapping paper wrapped about the tobacco material of each of the tobacco rod sections.



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,
KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*

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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER

INV. A24C5/345 A24C5/36 A24C5/32
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)

A24C

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)

EP0-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	CN 203 801 718 U (YANGZHOU TIANBAO AUTOMATION ENGINEERING CO LTD ET AL.) 3 September 2014 (2014-09-03)	1,2,9, 11,12,19
Y	paragraphs [0023] - [0024]	4-8, 14-18
A	figures 1-3	3,10,13, 20
A	----- GB 612 294 A (OSCAR LEGG) 10 November 1948 (1948-11-10) page 3, line 59 - page 5, line 73 figures 1-4 ----- -/--	1-3, 9-13,19, 20



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 application or patent 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

31 March 2020

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09/04/2020

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2019/056299

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 43 19 957 C1 (RHODIA AG RHONE POULENC [DE]) 17 November 1994 (1994-11-17) abstract figures 1-2	1-3, 9-13,19, 20
A	----- EP 3 266 319 A1 (DECOUFLÉ S À R L [FR]) 10 January 2018 (2018-01-10) abstract figures 1-7	1-3, 9-13,19, 20
Y	----- WO 2013/064352 A1 (BRITISH AMERICAN TOBACCO CO [GB]; PARK KIE SEON [GB] ET AL.) 10 May 2013 (2013-05-10) abstract page 4, lines 5-21 page 4, line 35 - page 5, line 5 page 5, lines 18-29 figures 1-3	4,5,14, 15
A	----- US 2016/120213 A1 (ADEME BALAGER [US] ET AL) 5 May 2016 (2016-05-05) cited in the application abstract figure 5	4,5,14, 15
A	----- CN 2 205 111 Y (TAN JIARONG [CN]) 16 August 1995 (1995-08-16) abstract figures 7,8	4,5,14, 15
Y	----- WO 2014/072175 A1 (HAUNI MASCHINENBAU AG [DE]) 15 May 2014 (2014-05-15) abstract page 14, line 5 - page 15, line 15 page 20, line 23 - page 21, line 18 figures 1-4	6-8, 16-18
A	----- GB 2 039 714 A (TOBACCO RES & DEV) 20 August 1980 (1980-08-20) abstract figures 1-2	6-8, 16-18
A	----- US 4 191 199 A (SULLIVAN JAMES W [US]) 4 March 1980 (1980-03-04) cited in the application abstract column 4, lines 58-68 figures 1-3 -----	6-8, 16-18

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2019/056299

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.:

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, 9-13, 19, 20

Diverter

2. claims: 4, 5, 14, 15

Severing Device

3. claims: 6-8, 16-18

Tobacco Recovery Device

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2019/056299

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