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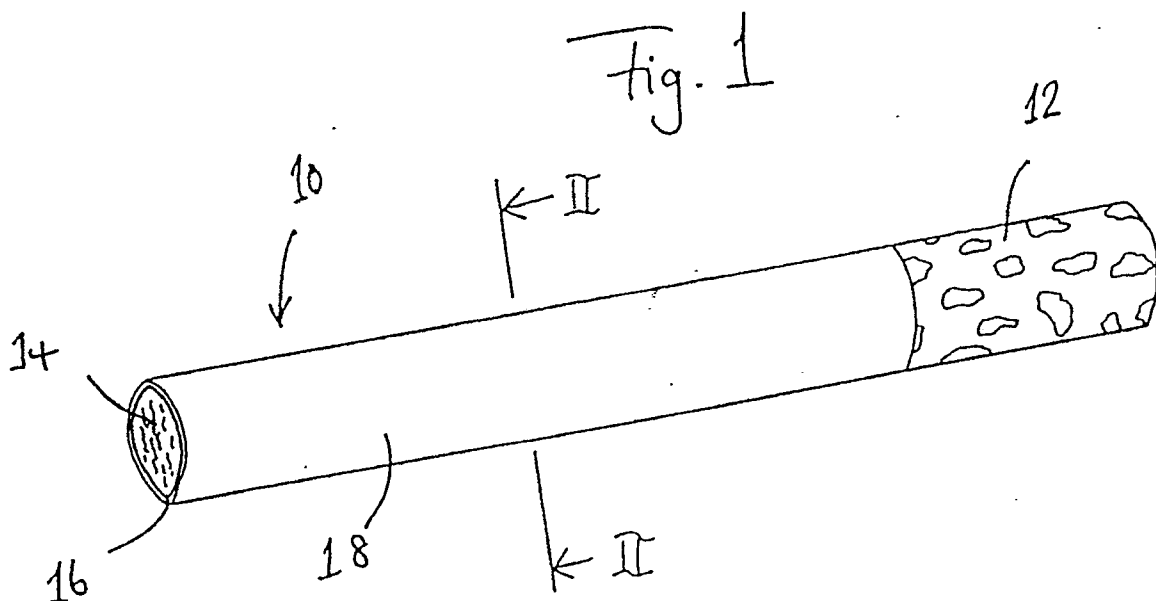
Applicant: **FABRIQUES DE TABAC REUNIES S.A.**
Quai Jeanrenaud 3 P.O. Box 11
CH-2003 Neuchâtel-Serrières(CH)

Inventor: **Bettinelli, Maurice Dominique**
Chemin des Landions, 12
CH-2016 Cortaillod(CH)
Inventor: **Chelma, Marc-Robert**
En Dusset
CH-2202 Chambrelieu(CH)

Representative: **Marlow, Nicholas Simon et al**
Reddie & Grose 16, Theobalds Road
London WC1X 8PL(GB)

Improved cigarette.

A cigarette exhibiting reduced levels of sidestream smoke emission comprises a tobacco rod 14 wrapped in an inner wrapper 16 of reconstituted tobacco rod and an outer wrapper 18 of paper containing from 0 to 2% Potassium citrate. Preferably the cigarette includes filter tip 12.



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IMPROVED CIGARETTE

The invention relates to an improved cigarette. Cigarettes of the invention show reduced sidestream smoke emission. Recently, considerable effort has gone into the development of cigarettes show low levels of sidestream smoke emission, but with limited success. It is desirable that a cigarette has a conventional appearance and taste to the smoker, as well as allowing the manufacturer flexibility in the matters of composition of the tobacco charge, type of filter, if any, used, ventilation level, puff count and dimensions of the cigarette.

One solution proposed to reduce sidestream smoke emission is to employ as the wrapper for the tobacco rod of the cigarette a paper impregnated with an agent which reduces sidestream smoke emission. Such a cigarette is disclosed, for example, in US 4 721 120. The use of a treated rod wrapper with an untreated paper overwrap is disclosed in US 4 505 282. The use of treated wrappers, however, may lead the smoker to perceive the smoke of the cigarette as having an unusual flavour, which may be unacceptable.

The present inventors have now surprisingly found that if an inner wrapper of reconstituted tobacco is employed between the tobacco rod and the outer paper wrapper, sidestream smoke emission is reduced.

According to the invention there is provided a cigarette comprising a rod of smoking material filler wrapped in an inner wrapper of reconstituted tobacco and an outer wrapper of paper, the outer wrapper including from 0 to 2% alkali metal salt such as Potassium citrate.

Cigarettes according to the invention may be plain or have a filter tip.

By reconstituted tobacco is meant a sheet material composed of tobacco material and a binder. No additives are normally included in reconstituted tobacco which may not also be used on conventional tobacco.

As is well known, conventional tobacco blends for cigarettes may contain reconstituted tobacco, cut to about the same size as conventional tobacco. Proportions of reconstituted tobacco of 15% to 25% are usual.

In cigarettes of the invention, some or all of the reconstituted tobacco normally used in the blend may be omitted from the blend, and instead used to provide the inner wrapper. In this way a cigarette of entirely conventional overall tobacco composition is provided, which will smoke in the same way and with the same taste to the smoker as the conventional cigarette, but which exhibits reduced sidestream smoke emission.

The invention will be further described, by way of example, with reference to the drawings, in which:

Figure 1 shows an embodiment of a filter cigarette according to the invention; and

Figure 2 is a cross-section on line II-II of Figure 1.

The cigarette of Figures 1 and 2 comprises a wrapped tobacco rod 10 having a filter mouthpiece. The filter mouthpiece is wrapped and conventionally affixed to the wrapped tobacco rod 10, by tipping 12.

The wrapped tobacco rod 10 comprises a rod 14 of tobacco, filler wrapped by an inner wrapper 16 of reconstituted tobacco. The reconstituted tobacco wrapper 16 is itself overwrapped with an outer wrapper 18 of ordinary cigarette paper, containing from 0 to 2% potassium citrate. The outer paper wrapper 18 is glued along its longitudinal seam (not shown), whilst the seam of the wrapper 16 of reconstituted tobacco is not glued.

Preferably, the tobacco filler is of a conventional blend, and has a cut width of less than 1mm, most preferably between 0.7mm and 0.9mm.

Preferably the packing density of the filler is between 200mg/ml and 300 mg/ml, particularly preferably about 240 mg/ml.

Reconstituted tobacco preferably provides up to 25% of the total tobacco content. The wrapper 16 of the reconstituted tobacco may provide about half the reconstituted tobacco content of the cigarette.

The puff count of the cigarette may be adjusted by choice of outer, paper, wrapper 18. It is preferably less than 13 and, in commercial cigarettes, preferably between 7 and 10, most preferably about 8 or 9.

The following table shows a comparison between the mainstream and sidestream smoke compositions of three cigarettes (C1, C2, C3) according to the invention and one conventional cigarette (C4).

All four cigarettes contain the same amount of the same total amount of tobacco wrapped in the same outer wrapper, and use the same filter, but C1, C2 and C3 include an inner wrapper of reconstituted tobacco. This wrapper replaces some of the reconstituted tobacco in the filler to give the same overall tobacco content in each cigarette. The packing density of the filler is about 240 mg/ml, and the cut width of the filler is 0.85mm. The reconstituted tobacco used varies between the three cigarettes.

	C1	C2	C3	C4
<u>Mainstream Smoke</u>				
5 Puff count	11.5	12.5	10.8	9.4
Tar (mg/cigarette)	14.5	16.5	13.7	9.6
10 Smoke nicotine (mg/cigarette)	1.11	1.21	0.98	0.80
TPM (mg/cigarette)	17.0	19.3	16.3	11.4
<u>Sidestream Smoke</u>				
15 Tar (mg/cigarette)	7.3	5.4	5.2	28.1
Smoke nicotine (mg/cigarette)	1.6	1.5	1.1	4.4
20 TPM (mg/cigarette)	11.6	7.8	7.4	33.4

It can be seen from the table that the cigarettes C1, C2, C3 of the invention have similar or slightly higher delivery levels in the mainstream smoke than the conventional cigarette C4, they have far lower delivery levels in the sidestream smoke.

Thus, the present invention provides a cigarette which exhibits much lower delivery levels in the sidestream smoke than is expected based on mainstream smoke delivery levels.

30 Claims

1. A cigarette comprising a rod (14) of smoking material filler wrapped in an inner wrapper (16) of reconstituted tobacco and an outer wrapper (18) of paper, the outer wrapper including from 0 to 2% alkali metal salt, preferably potassium citrate.
- 35 2. A cigarette according to claim 1 which the filler is tobacco.
3. A cigarette according to claim 1 or 2 in which reconstituted tobacco provides up to 25% of the total smoking material the cigarette.
- 40 4. A cigarette according to any preceding claim which the inner wrapper (16) provides about half the reconstituted tobacco content of the cigarette.
5. A cigarette according to any preceding claim which the thickness of the inner wrapper (16) is about twice that of the outer wrapper.
- 45 6. A cigarette according to any preceding claim which the filler has a packing density of between 200 and 300 mg/ml, preferably 240 mg/ml.
- 50 7. A cigarette according to any preceding claim: having a puff count of less than 13, preferably of between 7 and 10 and most preferably of between 8 and 9.
8. A cigarette according to any preceding claim in which the smoking material is a conventional cigarette tobacco blend.
- 55 9. A cigarette according to any preceding claim in which the cut width of the filler is less than 1mm, preferably between 0.7mm and 0.9mm.

10. A filter cigarette according to any preceding claim.

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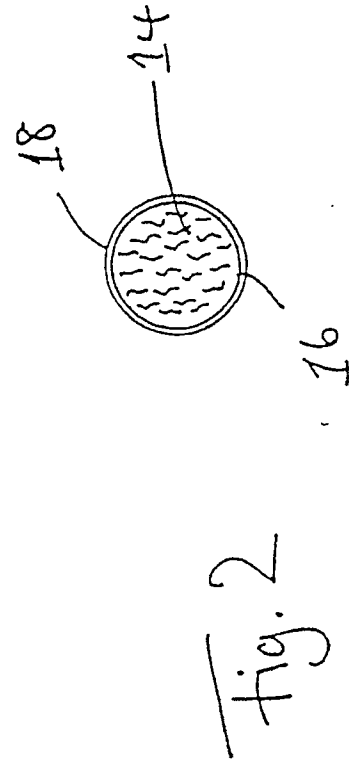
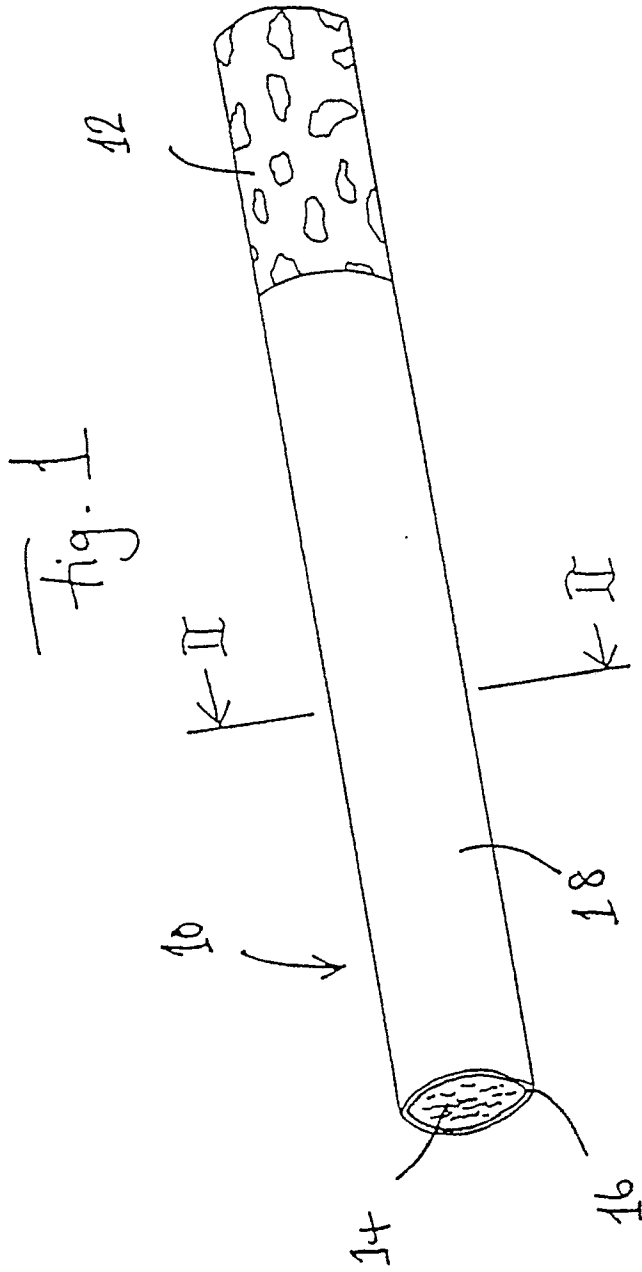
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EUROPEAN SEARCH REPORT

Application Number

EP 90 31 2761

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Y	GB-A-2 069 310 (MOLINS LIMITED) * the whole document * - - -	1,2,4,5	A 24 D 1/02
Y	US-A-4 231 377 (OLIN CORPORATION) * abstract * - - -	1,2,4,5	
A	FR-A-2 163 008 (OLIN CORPORATION) * page 2, line 30 - page 3, line 19 * - - -	1,2	
A	EP-A-0 085 494 (R.J. REYNOLDS TOBACCO COMPANY) * claims 1, 4 * - - -	1,2	
A	EP-A-0 290 911 (R.J. REYNOLDS TOBACCO COMPANY) * column 6, line 36 - column 7, line 20 * - - -	6,7,9	
A	EP-A-0 133 575 (KIMBERLY-CLARK CORPORATION) * claims 2, 4 * - - -	1,2	
A	US-A-4 225 636 (OLIN CORPORATION) - - -		
A	US-A-2 733 720 (SCHUR) - - - - -		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A 24 D D 21 H
Place of search		Date of completion of search	Examiner
The Hague		19 March 91	RIEDEL R.E.
CATEGORY OF CITED DOCUMENTS			
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