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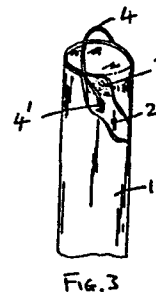
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54 Smoking rod with lighting device.

57 The lighting end of a cigarette having a wrapper (1) is lined with a lighting paper (2). Between the lighting paper (2) and wrapper (1) are provided a coating (3) of a sulphur composition and red phosphorus coated ends (4') of an igniting filament (4). When the filament is pulled from the end of the cigarette, the ends (4') are drawn frictionally over the coating (3) to ignite the lighting paper (2) and hence the tobacco filler.



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SMOKING ROD WITH LIGHTING DEVICE

The invention relates to a cigarette or other smoking rod, such as a cigarillo, provided at its end with a device for lighting the cigarette without use of a match or separate smokers' lighter.

5 Hitherto known integral cigarette lighting devices include some which comprise a portion coated with a sulphur composition and a frictional portion on the outside of a case on which the portion coated with the sulphur composition is struck, and others which comprise
10 a portion coated with a combustible material at the end of the cigarette with a frictional paper cap on the outside. However, these have the disadvantages, in the former case, of an unpleasant aroma and the ease with which the cigarette can be broken or bent when struck
15 against the case; and, in the latter case, of problems in the application of the cap and its susceptibility to lighting spontaneously when carried because the combustible material and frictional paper are in such close proximity.

20 In accordance with the present invention, a smoking rod has a tubular wrapper and is provided at an end with a lighting device comprising a patch lining the wrapper; a sulphur composition coating the facing surfaces of the wrapper and patch; and an igniting element having an
25 ignition end coated with a red phosphorus composition

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and inserted between the wrapper and patch, such that, when the element is pulled out from the end of the rod, the red phosphorus is drawn frictionally across and ignites the sulphur composition.

5 The lighting device is thus able to light the cigarette or other smoking rod without any deformation of the external shape thereof, upon pulling out the igniting element.

10 Preferably, the element is a filament both ends of which are coated with the red phosphorus composition and are positioned between the wrapper and patch, leaving a bight of the filament projecting from the end of the rod. The bight can then be readily gripped and pulled and the use of two ignition ends minimizes ignition
15 failure.

 If the or each ignition end is positioned between portions of the wrapper and patch which are uncoated with the sulphur composition, the phosphorus and sulphur compositions are kept apart prior to ignition
20 thereby avoiding accidental premature ignition.

 The frictional contact between the ignition end(s) and the sulphur composition coating is enhanced if the or each ignition end is flat and sinuous, e.g. S-shaped.

 One example of a cigarette constructed in
25 accordance with the present invention is illustrated in the accompanying drawings, in which:-

 Figure 1 is a diagram showing an unrolled portion of the cigarette at the lighting end;

30 Figure 2 is an enlarged axial section of the cigarette;

 Figure 3 is a cut-away view of the lighting device; and,

 Figure 4 is a sketch showing the lighting device in use.

35 The illustrated cigarette has a tubular paper

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wrapper 1 surrounding a filter tip 7 and tobacco filling 9. At the lighting end the wrapper is lined with an annular band 2 of lighting paper which is bonded to the wrapper with adhesive along a circumferential edge strip 5. Around a circumferential strip immediately adjacent to the end of the cigarette, the inner surface of the wrapper 1 and the outer surface of the lining band 2 are provided with an ignitable sulphur composition 3.

During assembly ends 4' of an incombustible igniting filament 4, which ends are coated with a red phosphorus composition 6 are trapped between the wrapper 1 and lining band 2 axially between the coating strip 3 and the adhesive strip 5. The ends 4' are flattened and of S-shape.

The red phosphorus composition may be composed of 85% red phosphorus, 10% glue, and 5% powdered glass; and the sulphur composition may be composed of 0.6% sulphur, 70% potassium hydrochlorate, 0.4% zinc oxide, 0.4% pine tree resin, 10% glue, 10% powdered bone, 0.6% talc, and 8% powdered glass.

In order to light the cigarette, the bight of the filament 4 is grasped and pulled so that the end 4' are pulled from between the wrapper and band 2. As the red phosphorus coating 6 is drawn frictionally between the sulphur coatings 3, the sulphur coatings and hence the lighting paper 2 and adjacent tobacco are ignited. The flat S-shape of the ignition ends 4' maximises the area of frictional contact with the coating 3. The substantially longitudinal separation of the filament 4 from the cigarette ensures that the cigarette is unlikely to be broken or damaged.

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CLAIMS

1. A smoking rod having a tubular wrapper (1) and provided at an end with a lighting device comprising a patch (2) lining the wrapper; a sulphur composition (3) coating the facing surfaces of the wrapper and patch;
5 and an igniting element (4) having an ignition end (4') coated with a red phosphorus composition (6) and inserted between the wrapper and patch, such that, when the element is pulled out from the end of the rod, the red phosphorus is drawn frictionally across and ignites
10 the sulphur composition.
2. A smoking rod according to claim 1, wherein the element is a filament both ends of which are coated with the red phosphorus composition and are positioned between the wrapper and patch, leaving a bight of the
15 filament projecting from the end of the rod.
3. A smoking rod according to claim 1 or claim 2, wherein the or each ignition end is positioned between portions of the wrapper and patch which are uncoated with the sulphur composition.
- 20 4. A smoking rod according to claim 3, wherein the patch is an annular band; the sulphur composition coating is provided in a circumferential strip along the edge of the band nearer to the rod end; an adhesive strip (5) bonding the band to the wrapper is provided in a
25 circumferential strip along the opposite edge of the

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band; and the or each ignition end is positioned axially between the two strips.

5. A smoking rod according to any one of the preceding claims, wherein the or each ignition end (4') is flat
5 and sinuous.

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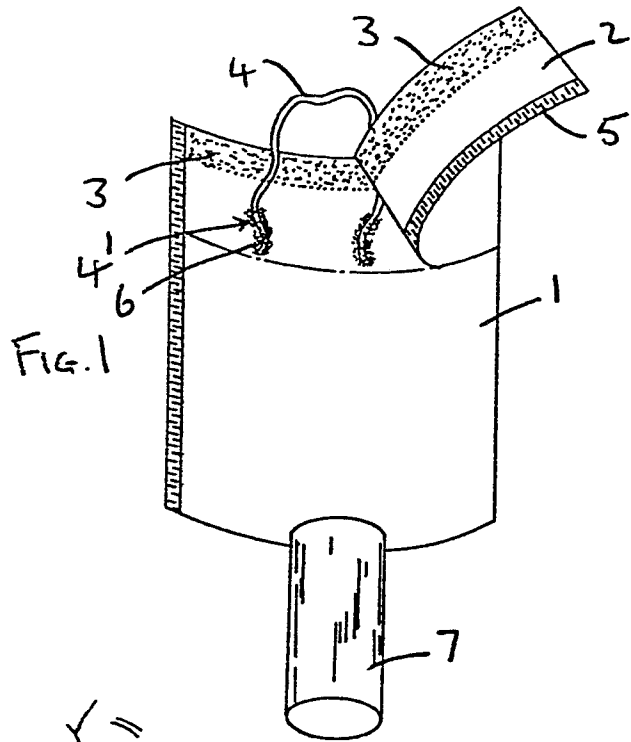


FIG. 1

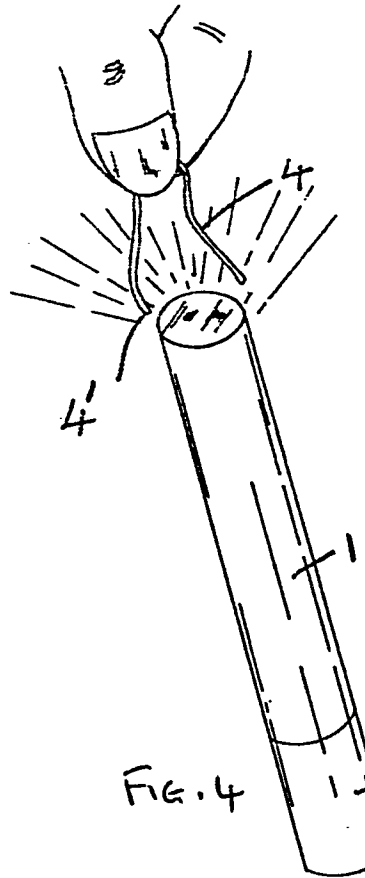


FIG. 4

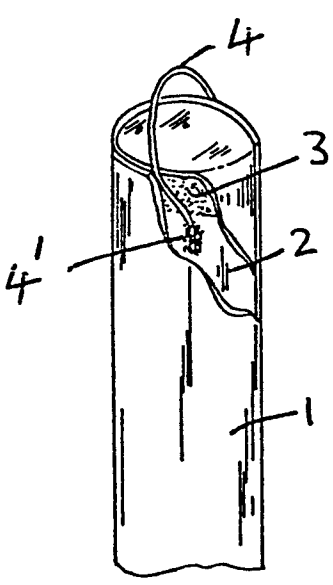


FIG. 3

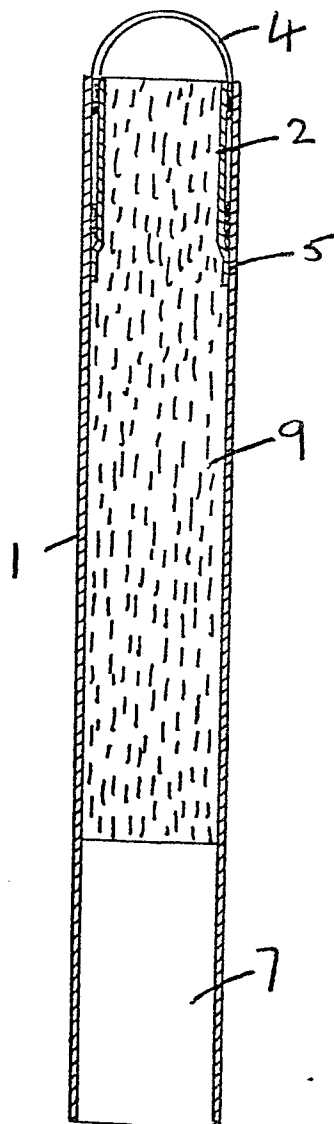


FIG. 2



European Patent
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EUROPEAN SEARCH REPORT

0066021

Application number

EP 81 30 2784

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. 3)
A	FR-A- 947 678 (BABAIAN) * figures 3-6; page 2, line 61 to page 3, line 59 *	1	A 24 D 1/08
A	DE-C- 128 645 (HAINANN) * the whole document *	1	
A	US-A-1 883 962 (KOTTHOFF) * the whole document *	1	
A	US-A-1 836 312 (FOX) * the whole document *	1	
A	GB-A- 426 746 (KAILASH NARAYAN)		
A	BE-A- 437 873 (STRA)		TECHNICAL FIELDS SEARCHED (Int. Cl. 3)
			A 24 D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 24-08-1982	Examiner RIEGEL R.E.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			