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(54) **WRAPPER FOR SMOKING BASED ON THE LEAF OF THE BREADNUT TREE (BROSIMUM ALICASTRUM) AND THE MANUFACTURING METHOD THEREOF**

(57) The present invention discloses a smoking wrapper based on the leaf of ramon tree (*Brosimum* comprising at least one base layer formed by leaves of ramon tree. Likewise, it relates to a method of manufacturing a smoking wrapper based on the leaves of ramon tree (*Brosimum Alicastrum*), comprising the following steps: a) selecting leaves from the ramon tree; b) cutting the leaves from the ramon tree; c) washing and disinfecting the previously cut leaves; d) rolling the leaves; e) placing the rolled leaves in an oven; f) removing the rolled leaves from the oven; and g) obtaining a cylindrically shaped smoking wrapper. Finally, the present invention relates to a cigarette comprising a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*).



Fig. 1

EP 4 483 726 A1

Description**FIELD OF INVENTION**

5 [0001] The present invention relates to smoking wrappers, and more particularly to a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*), and method of manufacturing thereof.

BACKGROUND OF THE INVENTION

10 [0002] Currently, there are several smoking options available, such as pipes, cigars, vaporizers, hubble-bubble, better known as "hookah", water pipes, better known as "bongs", among others. The most common way of smoking is by means of cigarettes, blunts, or cigars which allow wrapping a normally dry leaf with paper. Cigarettes usually have filters that allow the toxic particles in the smoke to be reduced.

15 [0003] In recent years, the use of alternative cigarettes, i.e., cigarettes based on different ingredients, has become commonplace due to the harmful effects of traditional cigarettes, i.e., tobacco cigarettes, and the recently legalized Cannabis plant. Usually, alternative cigarettes use rolling papers, made from wood pulp, rice straw, flax, hemp, cotton fibers, among others. However, the smoking papers currently used tend to burn quickly, so cigarettes often have a short duration. In addition, the manufacturing methods for wood pulp or cotton-based smoking papers are often complicated due to the raw material and machinery used.

20 [0004] A particular example of proposed prior art solutions for smoking wrappers is disclosed in RU1836037C, which relates to a paper wrapper containing a fuel cell surrounded by an insulating layer, wherein the paper is treated with a flame retardant, said flame retardant being selected from calcium chloride, ammonium chloride, magnesium chloride, magnesium sulphate, ammonium sulphate, and sodium phosphate. The wrapper contains additives selected from hydrated silicon dioxide and a binder. However, the wrapper disclosed in said document contains products that are harmful to health and has a high production cost due to the reagents used.

25 [0005] Another specific example is US6138684A, which relates to a rolling paper for smoking containing calcium carbonate in particulate form (30 to 60 wt%), calcined clay (5 to 30 wt%), and pulp. In addition, it may contain an alkali metal salt as a chemical additive. The paper may also contain kaolin. However, the rolling paper disclosed herein comprises several chemical additives which may be harmful to the health of consumers.

30 [0006] Likewise, another example is disclosed in US7677256B2, which relates to a smoking wrapper comprising: a base sheet possessing a major surface; a primary underlayer printed continuously over the entire major surface of the base sheet; a plurality of bands applied over the major surface of the base sheet in the form of a pattern; each band possessing at least two layers; the at least two layers including a bottom layer applied to the major surface of the base sheet over the primary underlayer, and an upper layer applied to the bottom layer. In addition, at least one of the layers includes a film-forming material selected from polyvinyl alcohol, ethylcellulose, sodium alginate, ammonium alginate, pectin, nitrocellulose, hydroxyethylcellulose, hydroxypropylcellulose, carboxymethylcellulose, cellulose acetate propionate, ethylene vinyl acetate, guar gum, xanthan gum, starch, and polyvinyl acetate. However, the method of manufacturing the smoking wrapper material disclosed herein proves to be complicated and expensive because it comprises several layers. Moreover, reagents are used which, when burned, generate toxic residues for consumers and the environment.

40 [0007] Accordingly, we have sought to overcome the disadvantages of the currently used smoking wrappers by developing a completely natural smoking wrapper that does not contain additives or chemical reagents that are harmful to health, or glues. In addition, the smoking wrapper is required to contain natural fiber, proteins, vitamins A, B, C and E. Likewise, the smoking wrapper is required to be manufactured using a green method, by not using environmentally harmful reagents, be economical and not require expensive machinery, so that the cost of obtaining the smoking wrapper is low, making it a cost-effective product and easily accessible to consumers.

OBJECTS OF THE INVENTION

50 [0008] Considering the defects of the prior art, it is an object of the present invention to develop a smoking wrapper based on the leaf of ramon tree (*Brosimum alicastrum*), which is completely natural, based on the leaf of ramon tree (*Brosimum alicastrum*), does not contain additives, nor reagents harmful to health or glues.

[0009] Another object of the present invention is to provide a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) which is obtained through a green manufacturing method, i.e., which does not use environmentally harmful reagents.

55 [0010] It is still another object of the present invention to provide a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) which is easily accessible to consumers as it does not require expensive machinery, nor reagents that are difficult to access in its manufacture.

[0011] Another object of the present invention is to provide a smoking wrapper based on the leaf of ramon tree

(*Brosimum Alicastrum*) with burn times similar to those of conventional smoking wrappers.

[0012] Lastly, it is an object of the present invention to provide a method of manufacturing a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) which is easily scalable and where neither consumers nor producers are exposed to reagents harmful to their health.

[0013] These and other objects are achieved by a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) and method of manufacture according to the present invention.

BRIEF DESCRIPTION OF THE INVENTION

[0014] Accordingly, the present invention provides a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) comprising at least one base layer formed by leaves of ramon tree.

[0015] A second aspect of the invention relates to a method of manufacturing a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*), comprising the following steps: a) selecting leaves from the ramon tree; b) cutting the leaves from the ramon tree; c) washing and disinfecting the previously cut leaves; d) rolling the leaves; e) placing the rolled leaves in an oven; f) removing the rolled leaves from the oven; and g) obtaining a cylindrically shaped smoking wrapper.

[0016] A third aspect of the invention relates to a cigarette comprising a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*).

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] The novel aspects which are considered characteristic of the present invention, shall be specifically set forth in the appended claims. However, some embodiments, features and certain objects and advantages thereof, will be better understood in the detailed description, when read in connection with the appended drawings, in which:

Figure 1 depicts a cylindrical smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) rolled onto a plastic tube according to the present invention.

Figure 2 shows in item a) a first zigzag folded strip for making a filter based on the leaf of ramon tree (*Brosimum Alicastrum*) and in item b) the filter formed with a second strip wrapping the zigzag folded strip according to the present invention.

Figure 3 depicts a cylindrical smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) obtained by the method of manufacture according to the present invention.

Figure 4 depicts a smoking cigarette based on the leaf of ramon tree (*Brosimum Alicastrum*) according to the present invention.

Figure 5 depicts a smoking cigarette based on the leaf of ramon tree (*Brosimum Alicastrum*) being in its storage container, in its individual packaging format according to the present invention.

Figure 6 depicts a smoking cigarette based on the leaf of ramon tree (*Brosimum* being in its storage container, in its packaging format with several cigarettes and having a humidity control envelope according to the present invention.

Figure 7 depicts the cigarette based on the leaf of ramon tree containing *Cannabis sativa* therein according to the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0018] The present invention has certain advantages over the state of the art, among which, it contains no additives, no reagents harmful to health, and no glues. Additionally, the leaf of ramon tree naturally contains fiber, proteins, vitamins A, B, C and E. Likewise, the method of manufacturing the smoking wrapper based on the leaf of ramon tree (*Brosimum*) is a green method as no environmentally harmful reagents are used, and its manufacturing cost is low, making it a cost-effective product and easily accessible to consumers.

[0019] Thus, in one aspect of the present invention, a smoking wrapper based on the leaf of ramon tree (*Brosimum*) comprising at least one base layer formed by leaves of ramon tree is disclosed. Preferably, the smoking wrapper has a grammage of between 30 to 120 g/m². Preferably, the wrapper may contain a filter at one end. Preferably, the filter may be made of leaves of ramon tree (*Brosimum Alicastrum*). Preferably, the smoking wrapper based on the leaf of ramon tree may be filled with various smoking herbs.

[0020] A second aspect of the invention relates to a method of manufacturing a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*), comprising the following steps: a) selecting leaves from the ramon tree; b) cutting the leaves from the ramon tree; c) washing and disinfecting the previously cut leaves; d) rolling the leaves; e) placing the rolled leaves in an oven; f) removing the rolled leaves from the oven; and g) obtaining a cylindrically shaped smoking wrapper.

[0021] In a preferred embodiment of the present invention, the leaves of ramon tree are selected fresh, green and with a good physical appearance. Preferably, the leaves of ramon tree are washed and disinfected with an organic disinfectant

containing a citrus fruit and organic acid-based disinfectant. Preferably, the leaves of ramon tree are rolled by using a firm cylindrical structure. Preferably, the firm cylindrical structure is selected from a wooden stick, a metal tube, or a glass tube. Preferably, the leaves of ramon tree are rolled onto a firm cylindrical structure with the aid of a thin sheet. More preferably, the thin sheet is selected from a bond paper sheet, an aluminum foil sheet, a waxed paper sheet, a cotton paper sheet, a craft paper sheet, or a mixture thereof. It should be noted that the thin sheet serves only to support the leaves of ramon tree while the cylindrical smoking wrapper is obtained. Optionally, the thin sheet is attached to the leaves of ramon tree with the aid of adhesive tape or an adhesive that has no direct contact with the leaves of ramon tree. Preferably, at least one strip is cut from a layer of unrolled ramon tree leaves to subsequently make a filter. Preferably, two strips are cut from a layer of unrolled ramon tree leaves to the same width as the circumference of the firm cylindrical structure. Preferably, one of the strips is zigzag folded and the other strip is used to wrap around the zigzag folded strip to form a filter. Preferably, the filter is also wrapped with a thin sheet. Optionally, the thin sheet is attached to the leaves of ramon tree with the aid of adhesive tape or an adhesive that has no direct contact with the leaves of ramon tree. Preferably, the leaves of ramon tree rolled onto the cylindrical structure and the filter are placed in an oven at a temperature of between 30 to 60 °C and for 140 to 540 minutes. Preferably, once the leaves of ramon tree rolled onto the cylindrical structure are removed from the oven, they are separated from the thin sheet and the cylindrical structure and care is taken to ensure that the hollow cylindrical structure of the rolled ramon tree leaves is preserved in order to obtain a cylindrically shaped smoking wrapper. Preferably, the filter is also separated from the thin sheet and care is taken to ensure that its cylindrical structure is preserved. The filter is preferably inserted into one end of the cylindrically shaped smoking wrapper for use as a filter.

[0022] A third aspect of the invention relates to a cigarette comprising a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*).

[0023] In a preferred embodiment of the present invention, the cigarette has a hollow cylindrical shape. More preferably, the cigarette contains a filter. Preferably, the filter is made of the leaf of ramon tree. More preferably, the filter is placed at one end of the hollow cylindrical-shaped smoking wrapper in a zigzag pattern. Preferably, several smoking herbs are put inside the cigarette. Preferably, the smoking herbs are selected from *Cannabis*, *Cannabis indica*, *Cannabis sativa*, hemp, tobacco, or a mixture thereof. Preferably, the burn time of the cigarette is 60 to 240 minutes, depending on the user.

[0024] Preferably, the cigarette is stored at room temperature in glass tubes with a cork or bamboo stopper. Optionally, a 62 to 72% humidity control envelope is placed near the cigarette.

[0025] The present invention shall be better understood from the following examples, which are presented solely for illustrative purposes in order to allow a thorough understanding of the preferred embodiments of the present invention, without implying that there are no other embodiments which can be put into practice based on the description set out above.

EXAMPLE 1

[0026] A trial was carried out to exemplify the method of manufacturing a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) according to the present invention.

[0027] The trial was carried out by selecting the freshest and best appearance leaves from the ramon tree, the leaves were cut from the ramon tree, then the previously cut leaves were washed and disinfected with an organic disinfectant based on citrus fruits and organic acids. Then, the previously washed and disinfected leaves were rolled onto a wooden stick and attached with the aid of a paper sheet and a small piece of adhesive tape to bind the paper sheet. Next, two strips were cut from a layer of unrolled ramon tree leaves to the same width as the circumference of the firm cylindrical structure, specifically for this example, the strips were cut 1.9 cm wide x 11 cm long. Then, one of the strips was zigzag folded and the other strip was used to wrap around the zigzag folded strip to form a filter which was also wrapped with a paper sheet and adhesive tape to bind the paper sheet together. Subsequently, the ramon tree leaves previously rolled and attached to the wooden stick and the filter were put into an oven at a temperature of 40 °C for 540 minutes. Once the time had elapsed, the leaves rolled onto the wooden stick were removed from the oven and separated from the paper sheet and the wooden stick, care was taken to ensure that the hollow cylindrical structure was preserved. Then, the filter was also removed and separated from the paper sheet and care was taken to ensure that the cylindrical structure was preserved, and the filter was inserted into one end of the cylindrically shaped smoking wrapper.

[0028] Figure 1 depicts a cylindrical smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) rolled onto a plastic tube.

[0029] Figure 2 shows in item a) a first zigzag folded strip for making a filter based on the leaf of ramon tree (*Brosimum Alicastrum*) and in item b) the filter formed with a second strip wrapping the zigzag folded strip.

[0030] Figure 3 depicts a cylindrical smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) obtained by the method of manufacture.

[0031] Figure 4 depicts a smoking cigarette based on the leaf of ramon tree (*Brosimum Alicastrum*).

[0032] Figure 5 depicts a smoking cigarette based on the leaf of ramon tree (*Brosimum* being in its storage container, in its individual packaging format.

[0033] Figure 6 depicts a smoking cigarette based on the leaf of ramon tree (*Brosimum* being in its storage container, in its packaging format with several cigarettes and having a humidity control envelope.

[0034] Figure 7 depicts the cigarette based on the leaf of ramon tree containing *Cannabis sativa* therein.

EXAMPLE 2

[0035] A trial was carried out to exemplify the use of the smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) as a cigarette containing *Cannabis sativa* according to the present invention.

[0036] The trial was carried out by using the smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) previously obtained by the manufacturing method of Example 1.

[0037] Figure 7 depicts the cigarette based on the leaf of ramon tree containing *Cannabis sativa* therein.

[0038] In this trial, 7 grams of *Cannabis sativa* were placed inside the cigarette based on the leaf of ramon tree. Subsequently, the burn time was measured, and a burn time of 2 hours was obtained. Therefore, the smoking wrapper based on the leaf of ramon tree is considered to have very good burn times, so its duration is similar to that of conventional wrappers.

EXAMPLE 3

[0039] A trial was carried out to exemplify the use of the smoking wrapper based on the leaf of ramon tree (*Brosimum* as a cigarette containing hemp according to the present invention.

[0040] The trial was carried out by using the smoking wrapper based on the leaf of ramon tree (*Brosimum* previously obtained by the manufacturing method of Example 1.

[0041] In this trial, 6 grams of hemp were placed inside the cigarette based on the leaf of ramon tree. Subsequently, the burn time was measured, and a burn time of 60 minutes was obtained. Therefore, the smoking wrapper based on the leaf of ramon tree is considered to have very good burn times, so its duration is similar to that of conventional wrappers.

EXAMPLE 4

[0042] A trial was carried out to exemplify the use of the smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) as a cigarette containing *Cannabis indica* according to the present invention.

[0043] In this trial, two people were provided with a *Cannabis indica* cigarette, the first with a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) according to the invention and another *Cannabis indica* cigarette with a cotton fiber wrapper, the cigarettes being given indistinctly to the participants.

[0044] Below is a table with the main characteristics that the two persons experienced from both cigars:

TABLE 1

Cigarette with ramon tree leaf wrapper	Characteristic	Person 1	Person 2
	Flavour	Improved flavour	Improved flavour
	Burn time	The cigarette lasted longer	The cigarette lasted longer
	Smoke odor	Pleasant odor	Pleasant odor
Cigarette with cotton fiber wrapper	Flavour	Less pleasant flavour	Less pleasant flavour
	Burn time	The cigarette lasted less time	The cigarette lasted less time
	Smoke odor	Less pleasant aroma	Less pleasant aroma

[0045] According to Table 1, it can be seen that in the trial it was observed that the participants had a better experience with the *Cannabis indica* cigarette made from a smoking wrapper based on the leaf of ramon tree, even when the cigarettes were indistinctly given to the participants, they reported a better flavour, smoke odor, and burn time in the cigarette made from a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*).

[0046] In accordance with what has been previously described, it can be seen that the smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) and its manufacturing method have been designed to be an all-natural wrapper, without chemical reagents that are harmful to health, or glues. In addition, the leaf of ramon tree (*Brosimum Alicastrum*) naturally contains fiber, proteins, vitamins A, B, C and E. Likewise, the method of manufacturing a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) is a green method as no environmentally harmful reagents are used and its manufacturing cost is low, making it a cost-effective product that is easily accessible to consumers. It will therefore be

evident to any person skilled in the art that the embodiments of the smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) and its method of manufacture as described above and illustrated in the accompanying figures, are only illustrative but not limiting of the present invention, since numerous considerable changes in its details are possible without departing from the scope of the invention.

[0047] Thus, the present invention should not be considered as restricted except as limited by the prior art and by the scope of the attached claims.

Claims

1. A smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*), **characterized in that** it comprises at least one base layer formed by leaves of ramon tree.
2. The wrapper according to claim 1, wherein it has a thickness of between 30 and 120 g/m².
3. The wrapper according to claim 1, wherein the wrapper can contain a filter at one end.
4. The wrapper according to claim 3, wherein the filter can be made of leaves of ramon tree (*Brosimum Alicastrum*).
5. The wrapper according to claim 1, wherein it can be filled with several smoking herbs.
6. A method of manufacturing a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*), comprising the following steps: a) selecting leaves from the ramon tree; b) cutting the leaves from the ramon tree; c) washing and disinfecting the previously cut leaves; d) rolling the leaves; e) placing the rolled leaves in an oven; f) removing the rolled leaves from the oven; and g) obtaining a cylindrically shaped smoking wrapper.
7. The manufacturing method according to claim 6, wherein the leaves of ramon tree are selected fresh, green and with a good physical appearance.
8. The manufacturing method according to claim 6, wherein the leaves of ramon tree are washed and disinfectant with an organic disinfectant containing a citrus fruit and organic acid-based disinfectant.
9. The manufacturing method according to claim 6, wherein the leaves of ramon are rolled using a firm cylindrical structure.
10. The manufacturing method according to claim 9, wherein the firm cylindrical structure is selected from a wooden stick, a metal tube, or a glass tube.
11. The manufacturing method according to claim 9, wherein the leaves of ramon tree are rolled onto the firm cylindrical structure with the aid of a thin sheet.
12. The manufacturing method according to claim 11, wherein the thin sheet is selected from a bond paper sheet, an aluminum foil sheet, a waxed paper sheet, a cotton paper sheet, a craft paper sheet, or a mixture thereof.
13. The manufacturing method according to claim 6, wherein at least one strip is cut from a layer of unrolled ramon tree leaves to subsequently make a filter.
14. The manufacturing method according to claim 13, wherein two strips are cut from a layer of unrolled ramon tree leaves to the same width as the circumference of the firm cylindrical structure.
15. The manufacturing method according to claim 14, wherein one of the strips is zigzag folded and the other strip is used to wrap around the zigzag folded strip to form a filter.
16. The manufacturing method according to claim 15, wherein the filter is also wrapped with a thin sheet.
17. The manufacturing method according to claim 6, wherein the leaves of ramon tree rolled onto the cylindrical structure and the filter are placed in an oven at a temperature of between 30 to 60 °C and for 140 to 540 minutes.

18. The manufacturing method according to claim 6, wherein once the leaves of ramon tree rolled onto the cylindrical structure are removed from the oven, they are separated from the thin sheet and the cylindrical structure to obtain a cylindrically shaped smoking wrapper.

19. The manufacturing method according to claim 6, wherein the filter is also separated from the thin sheet and inserted into one end of the cylindrically shaped smoking wrapper to be used as a filter.

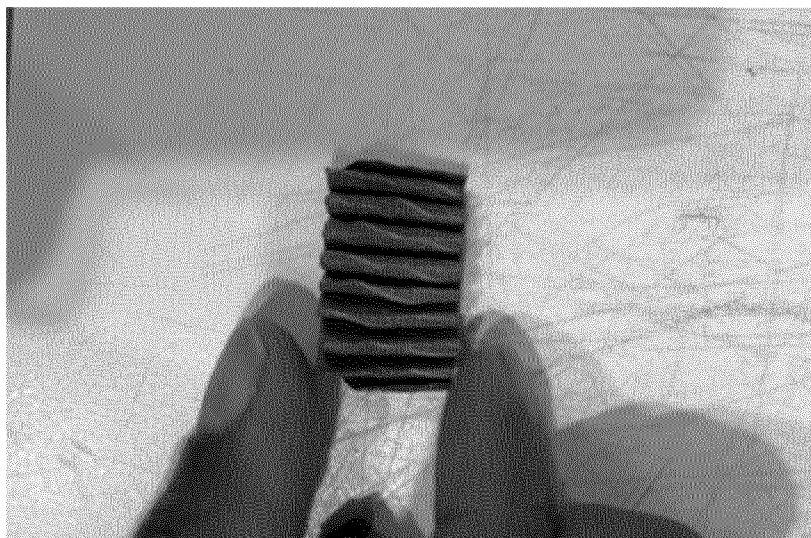
20. A cigarette, **characterized in that** it comprises a smoking wrapper based on the leaf of ramon tree (*Brosimum Alicastrum*) and a filler of smoking herbs.

21. The cigarette according to claim 20, wherein it has a hollow cylindrical shape and contains a filter made of the leaf of ramon tree.

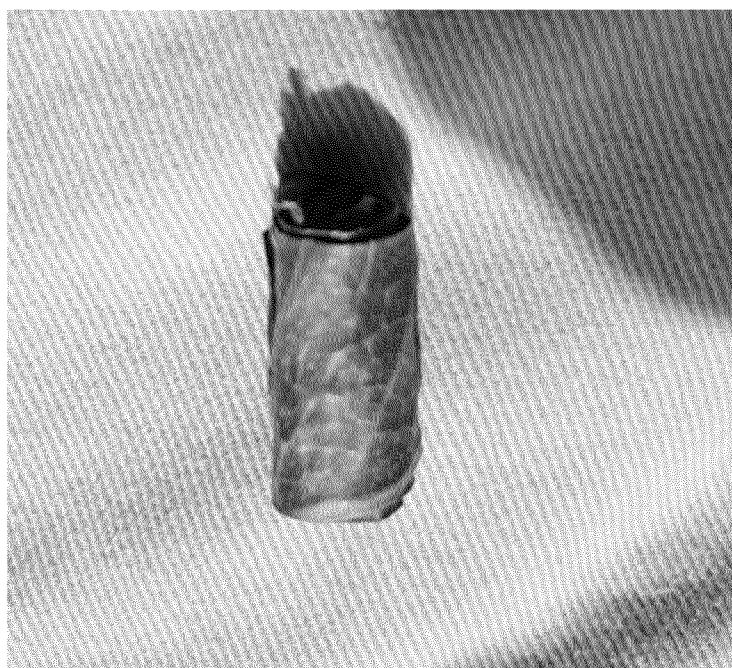
22. The cigarette according to claim 20, wherein the filler can contain several smoking herbs selected from *Cannabis*, *Cannabis indica*, *Cannabis sativa*, hemp, tobacco, or a mixture thereof.



Fig. 1



a)



b)

Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB2023/051476

A. CLASSIFICATION OF SUBJECT MATTER

(CIP) A24D1/02, A24D1/18, A24B3/14, A24C5/40 (2023.01)

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)

(CIP) A24D1/02, A24B3/14, A24C5/40 (CPC) A24D1/02, A24B3/14, A24C5/40

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)

Derwent, STNext, Esp@cenet, Patenscope, Google Patent, Google Scholar, INAPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO2020/163501 A1 (COOPER JEFFREY) 13/08/2020 See the whole document	1-5, 20-22
X	US2022039457A1 (BODE SHARON MOORE) 10/02/2022 See the whole document	1-5, 20-22
X	US2020/0337365 A1 (MENDOZA JIM, ALVARADO MARIA) 29/10/2020 See the whole document	1-22

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

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12/06/2023

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SCHMIDT ACHARAN, Paula

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB2023/051476

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

10

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Form PCT/ISA/210 (continuation of second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/IB2023/051476

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REFERENCES CITED IN THE DESCRIPTION

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