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(54) **WRAPPER FOR ENCLOSING SMOKABLE SUBSTANCES**

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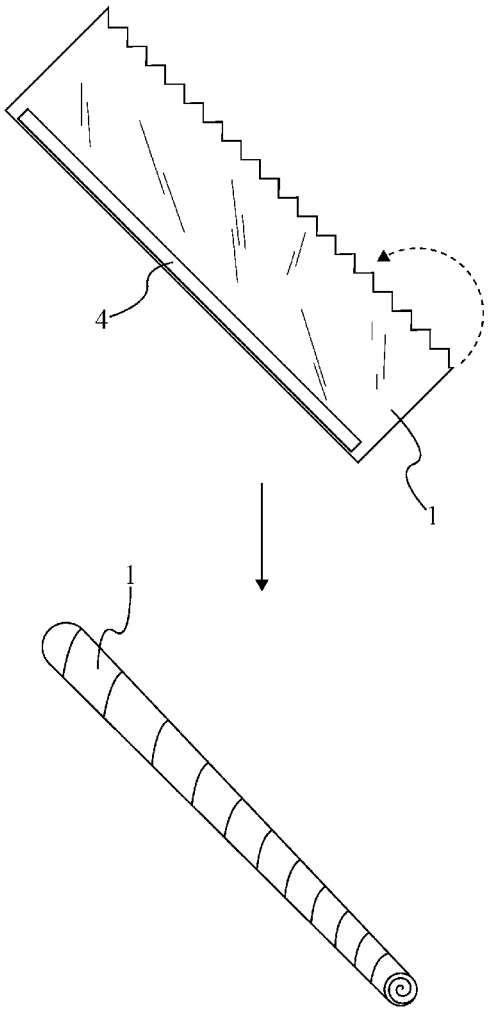
(57) **ABSTRACT**

A pliable sheet is manufactured for use with smokable substances. The pliable sheet is completely sourced from female plants of the *cannabis* genus. Source species include *cannabis sativa, cannabis indica,* or a blend thereof. A manufacture process entails processing and refining harvested plant material before it can be formed into the pliable sheet. After formation the pliable sheet is dried before it is ready for use. Flavoring and aromatic elements can be incorporated into the pliable sheet to enhance a smoking experience. Adhesives may also be integrated to facilitate rolling of the pliable sheet about smokable matter. Ideally, the adhesives are sticky oil extracts produced from plants of the *cannabis* genus. The pliable sheet can be manufactured in a variety of thicknesses and sizes.



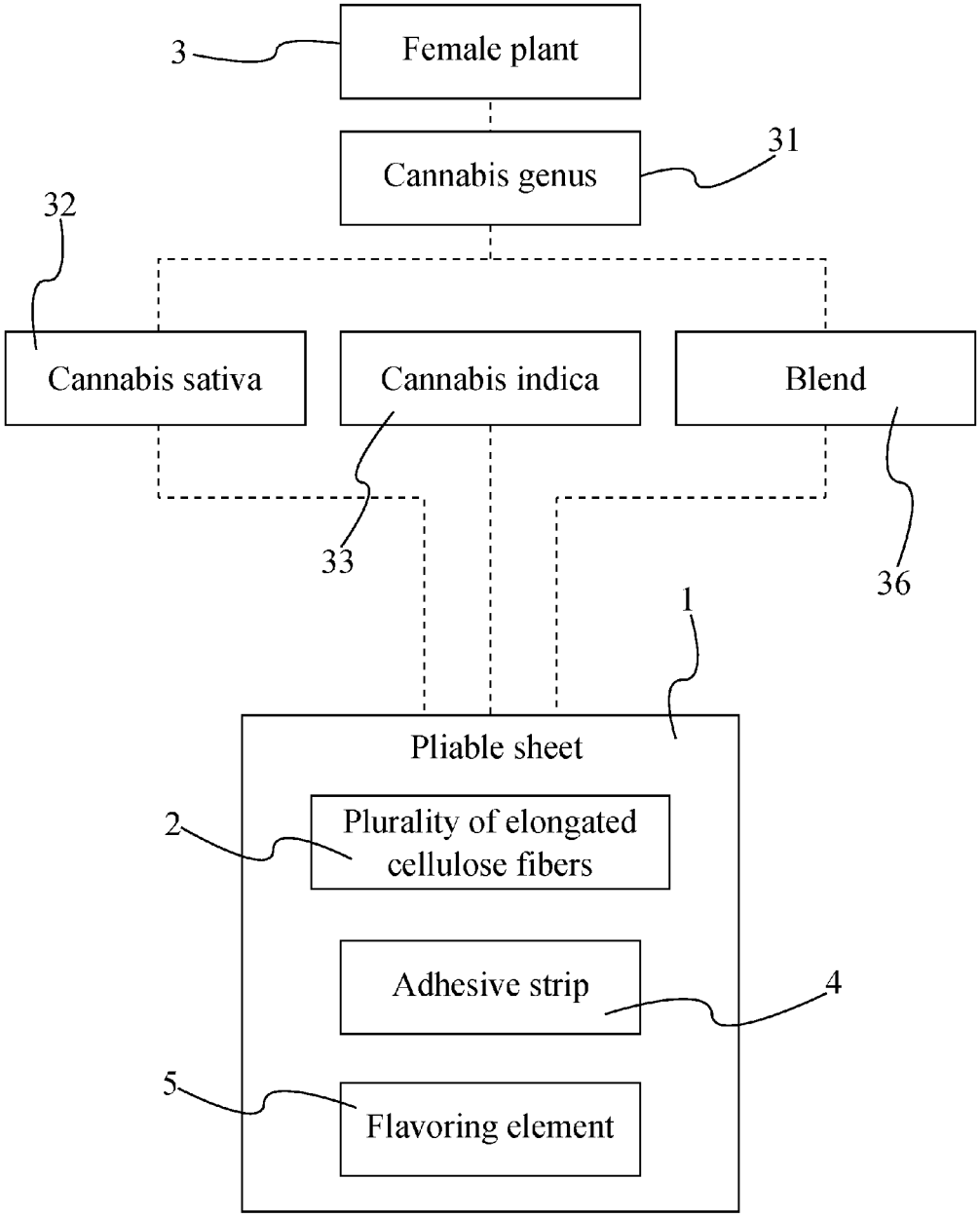

3
Female plant
31
Cannabis genus
32
Cannabis sativa
Cannabis indica
Blend
33
36
1
Pliable sheet
2
Plurality of elongated cellulose fibers
Adhesive strip
4
5
Flavoring element

FIG. 1

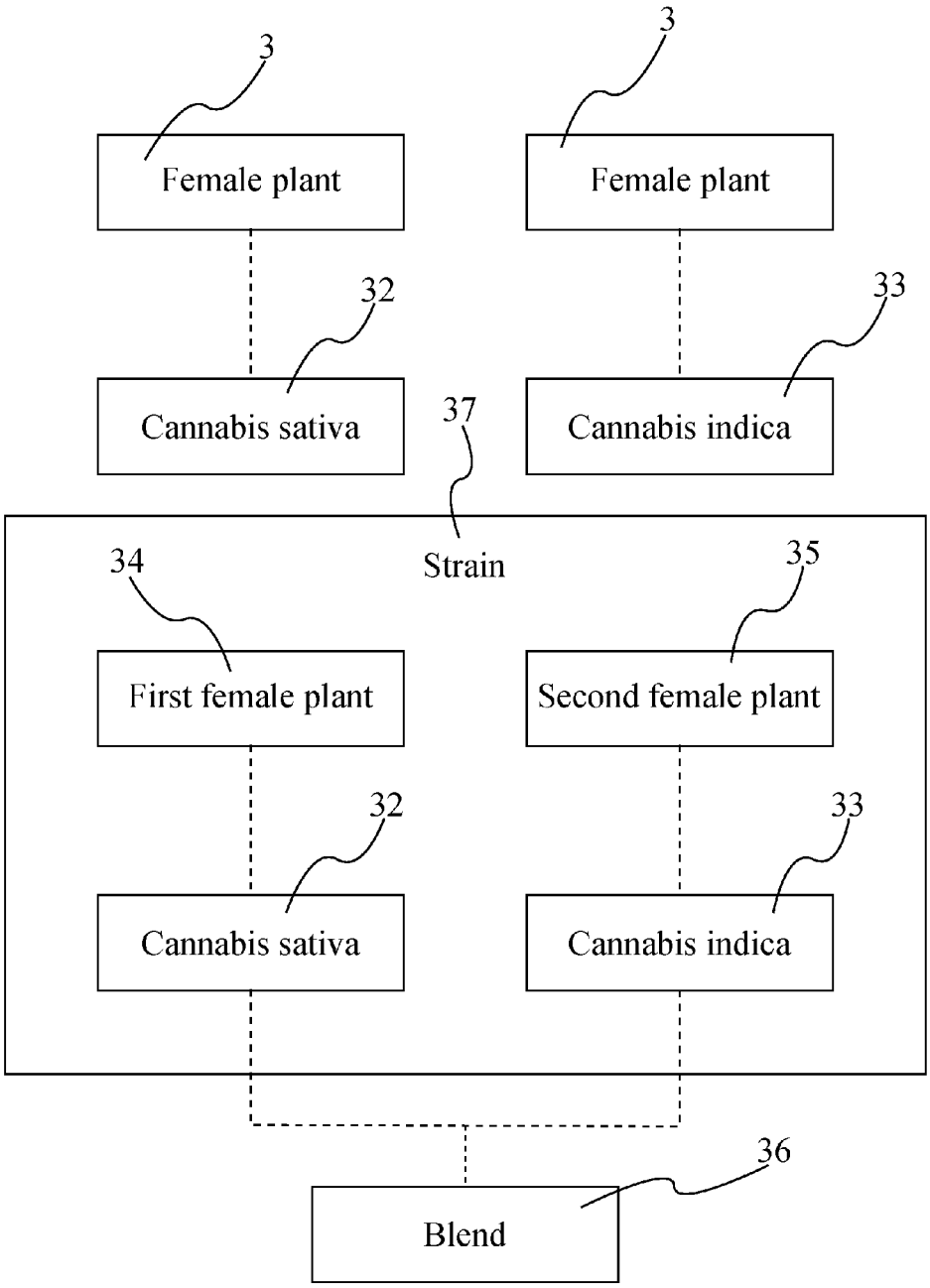

3
3
Female plant
Female plant
32
33
Cannabis sativa
37
Cannabis indica
Strain
34
35
First female plant
Second female plant
32
33
Cannabis sativa
Cannabis indica
36
Blend

FIG. 2

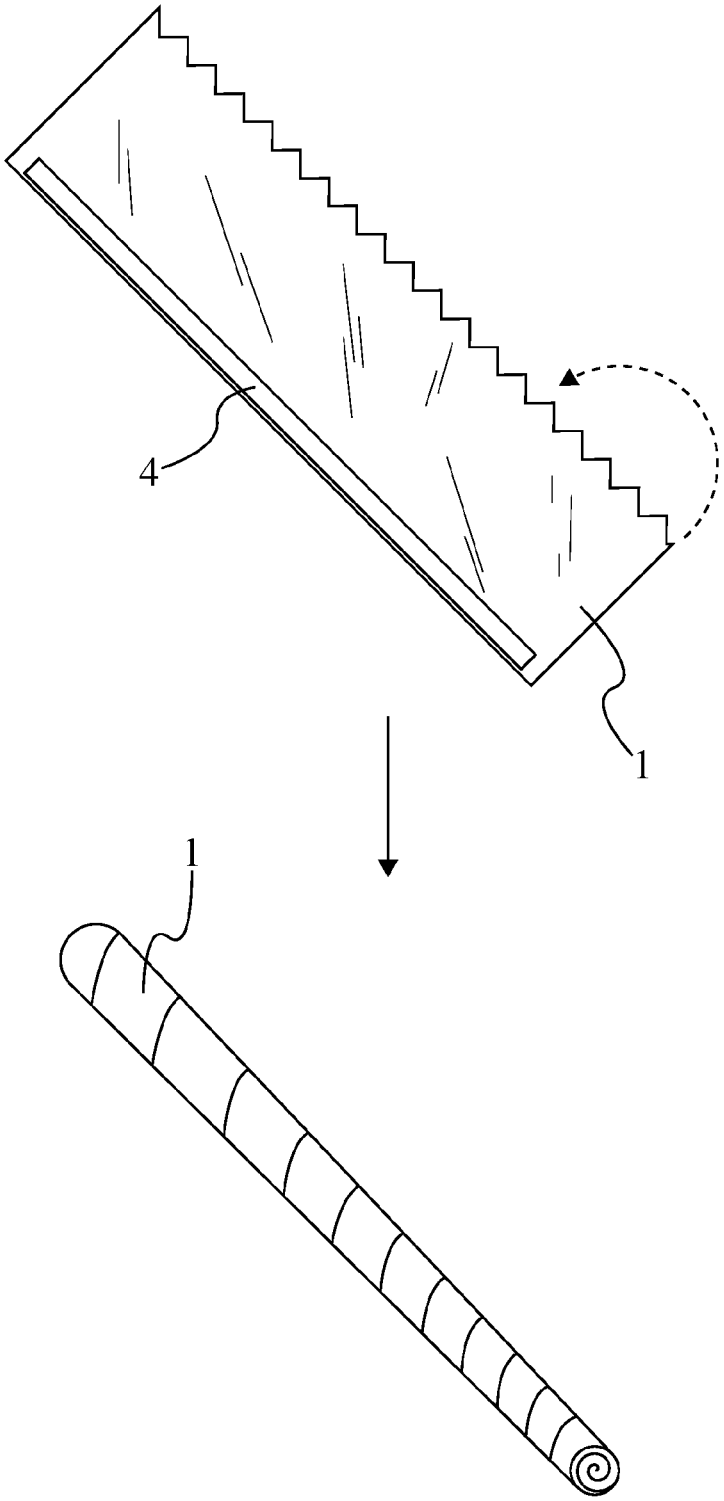


FIG. 3

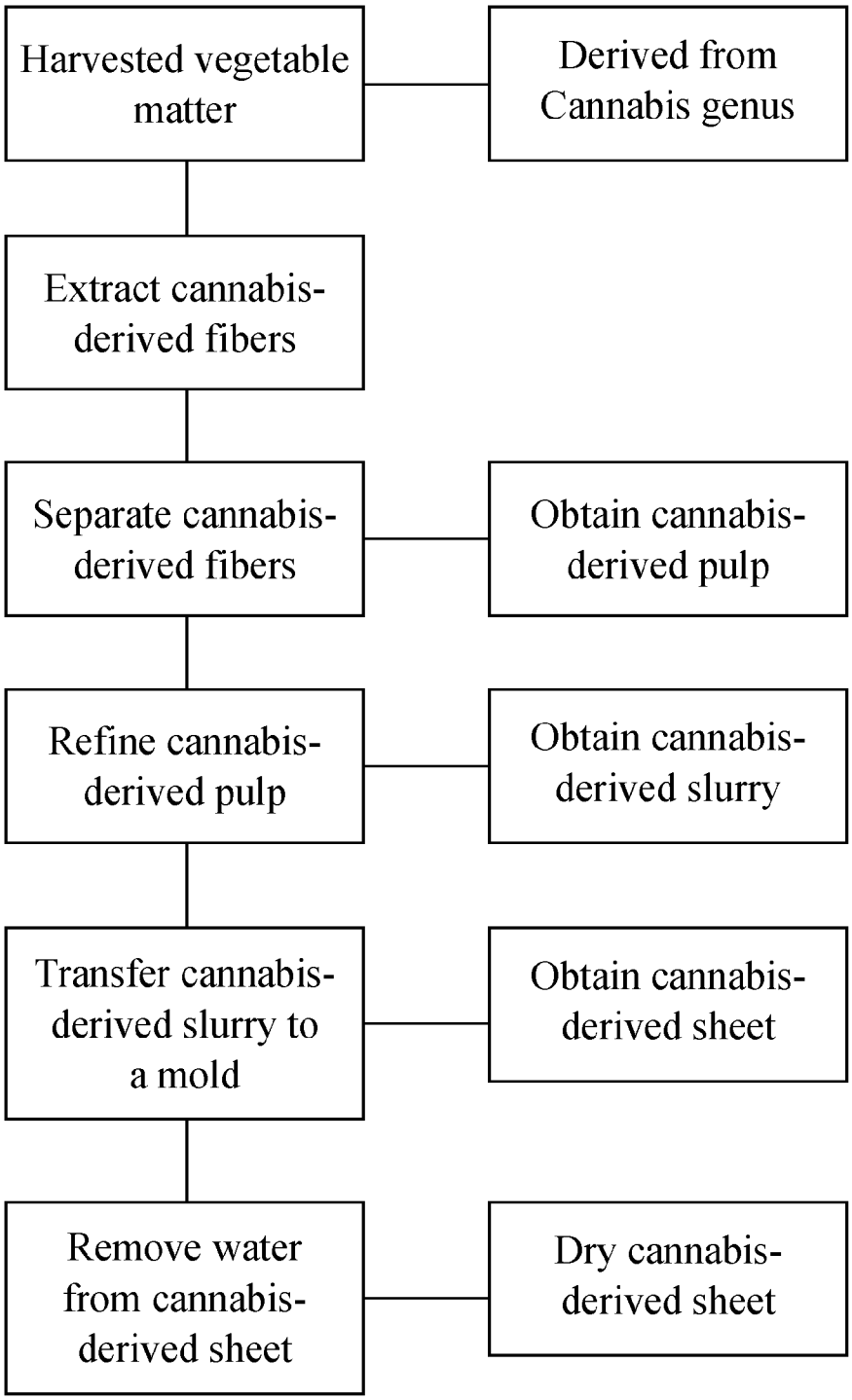

Harvested vegetable matter
Derived from Cannabis genus
Extract cannabis-derived fibers
Separate cannabis-derived fibers
Obtain cannabis-derived pulp
Refine cannabis-derived pulp
Obtain cannabis-derived slurry
Transfer cannabis-derived slurry to a mold
Obtain cannabis-derived sheet
Remove water from cannabis-derived sheet
Dry cannabis-derived sheet

FIG. 4

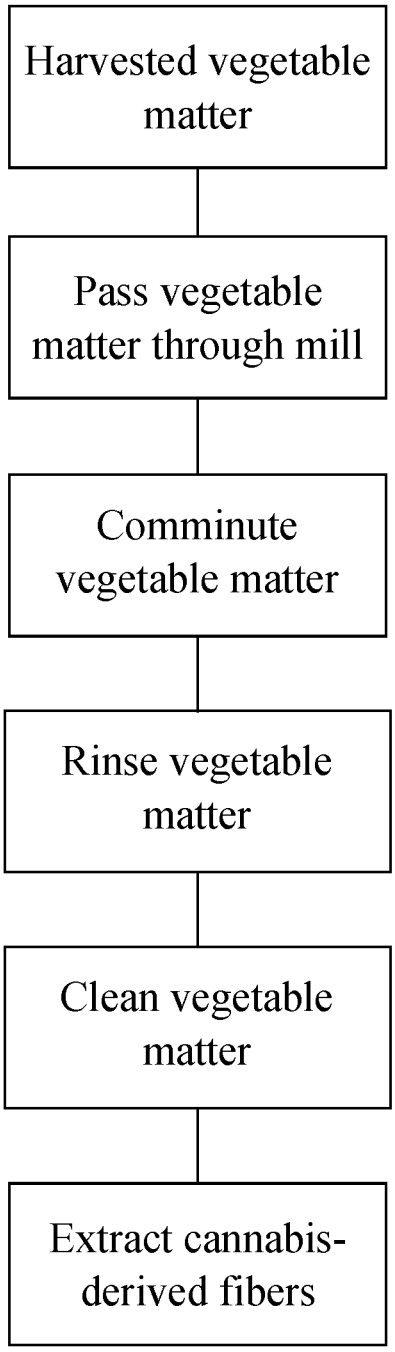

Harvested vegetable matter
Pass vegetable matter through mill
Comminute vegetable matter
Rinse vegetable matter
Clean vegetable matter
Extract cannabis-derived fibers

FIG. 5

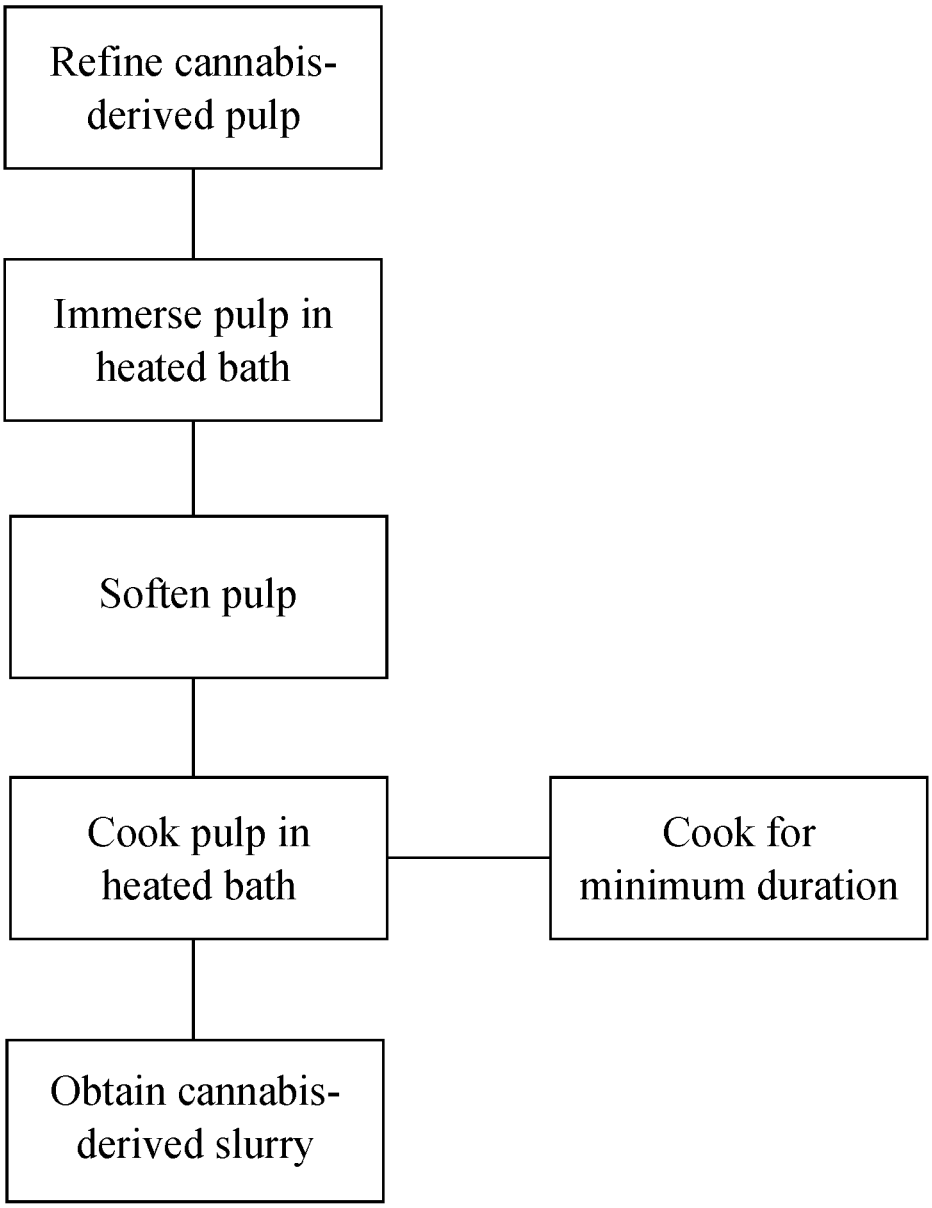

Refine cannabis-derived pulp
Immerse pulp in heated bath
Soften pulp
Cook pulp in heated bath
Cook for minimum duration
Obtain cannabis-derived slurry

FIG. 6

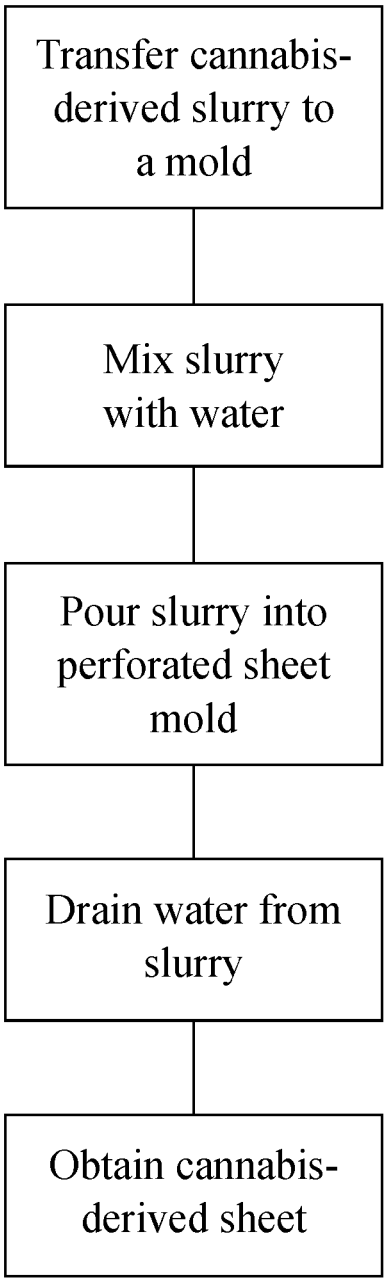

Transfer cannabis-derived slurry to a mold
Mix slurry with water
Pour slurry into perforated sheet mold
Drain water from slurry
Obtain cannabis-derived sheet

FIG. 7

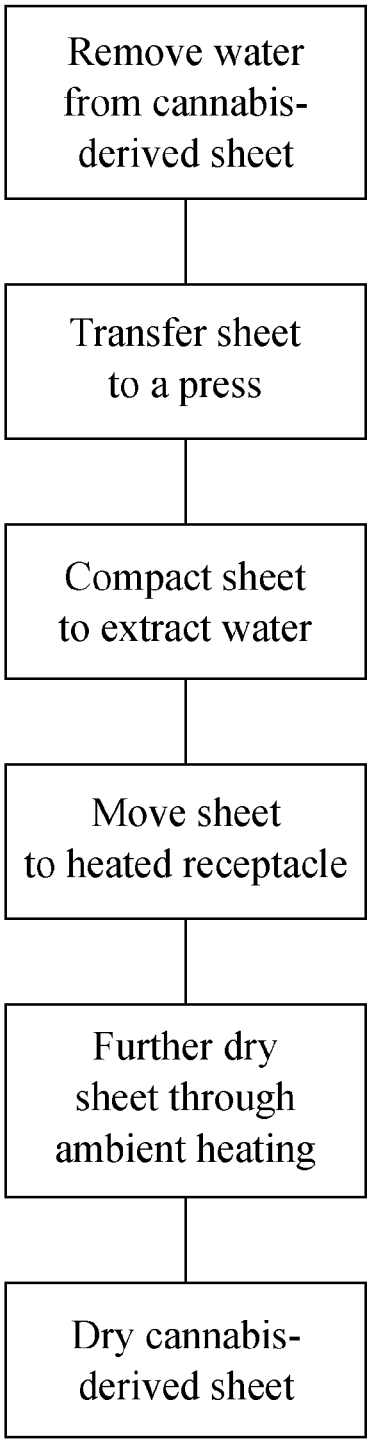

Remove water from cannabis-derived sheet
Transfer sheet to a press
Compact sheet to extract water
Move sheet to heated receptacle
Further dry sheet through ambient heating
Dry cannabis-derived sheet

FIG. 8

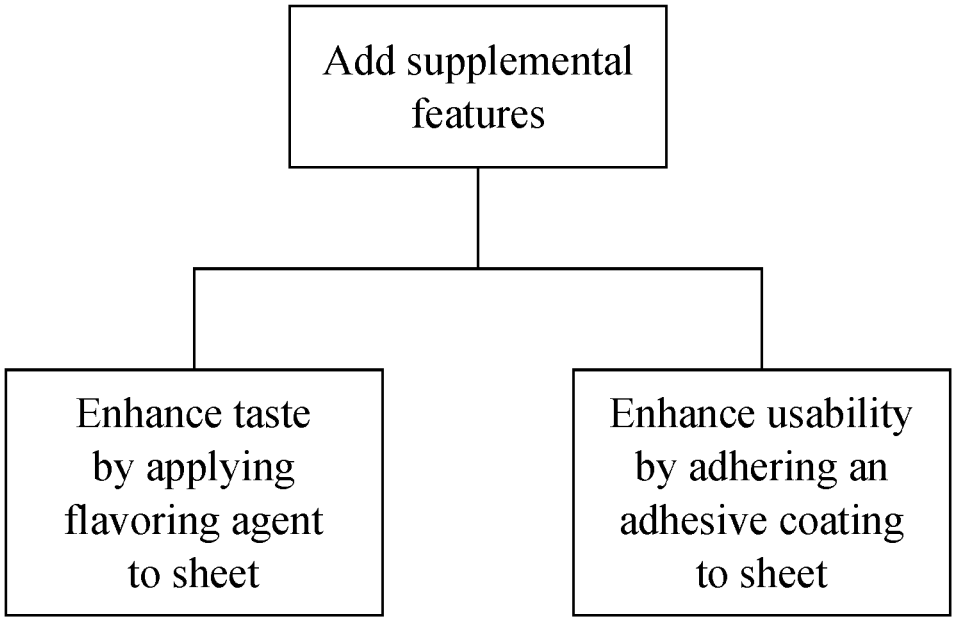

Add supplemental features
Enhance taste by applying flavoring agent to sheet
Enhance usability by adhering an adhesive coating to sheet

FIG. 9

WRAPPER FOR ENCLOSING SMOKABLE SUBSTANCES

[0001] The current application claims a priority to the U.S. Provisional Patent application Ser. No. 62/245,153 filed on Oct. 22, 2015.

FIELD OF THE INVENTION

[0002] The present invention relates generally to a pliable sheet for rolling and wrapping smokable products, the pliable sheet being manufactured from a plant of the *cannabis* genus.

BACKGROUND OF THE INVENTION

[0003] A variety of plant matter is harvested for consumption, with one common method of consumption being the burning of the plant matter and inhalation of the resulting smoke, colloquially referred to as smoking. Generally, to facilitate smoking of such herbs, a thin sheet is used to wrap the herbs into a generally cylindrical sheet. This process is known as "rolling"; while many vendors provide the option to buy pre-rolled products, there is a population of consumers that rolls their own product for a variety of reasons, e.g. reduced cost or improved choice in rolling paper.

[0004] A variety of rolling papers are provided for different purposes. Rolling papers can be sourced from a wide range of material; for example, wrapping papers can be manufactured from rice and hemp. Additionally, rolling paper can be provided in a variety of sizes, from the efficiently compact to the comically large (the latter being lambasted in the theatrical film "Up In Smoke". Likewise, the specific type of plant matter being burned is variable, also referenced in the aforementioned film.

[0005] The wide variety of rolling papers allows for a number of nuances to come into play; wrapping papers derived from different plants affect burn time, flavoring, and ease of wrapping. Additionally, many rolling papers are enhanced with one or more flavoring elements. Resultantly, smokers can sample and enjoy a variety of rolling papers with unique characteristics in combination with their favorite cigarettes, cigars, and so on.

[0006] Cigars are commonly wrapped in a tobacco leaf that imparts a specific flavor and experience, especially in combination with the actual blend of tobacco placed within the leaf. Other smokable substances could be enhanced in a similar manner. More specifically, given the legalization of marijuana for medicinal and now even recreational purposes, it is desirable to provide a rolling paper made of marijuana. Though there are rolling papers which are sourced from hemp, it is an object of the present invention to provide a rolling paper that is completely sourced from the marijuana plant. In short, the present invention introduces a marijuana-based sheet which can be utilized for rolling papers and wraps.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. **1** is a diagram showing the general composition and components of a wrapper of the present invention.

[0008] FIG. **2** is a diagram showing different potential combinations of plant species for the wrapper of the present invention.

[0009] FIG. **3** is an example illustration showing the wrapper in an unrolled state and a rolled state.

[0010] FIG. **4** is a diagram illustrating the general process of the present invention.

[0011] FIG. **5** is a diagram further detailing a first stage of the process of the present invention.

[0012] FIG. **6** is a diagram further detailing a second stage of the process of the present invention.

[0013] FIG. **7** is a diagram further detailing a third stage of the process of the present invention.

[0014] FIG. **8** is a diagram further detailing a fourth stage of the process of the present invention.

[0015] FIG. **9** is a diagram showing optional steps of the process of the present invention.

DETAIL DESCRIPTIONS OF THE INVENTION

[0016] All illustrations of the drawings are for the purpose of describing selected versions of the present invention and are not intended to limit the scope of the present invention.

[0017] The present invention details a wrapper for enclosing smokable substances as well as a method of manufacture therefor. The present invention utilizes material sourced from the *cannabis* genus (i.e. "marijuana plants" to create a sheet which can be used as a rolling paper or wrapper for smokable substances. The present invention is subsequently described in more detail.

[0018] The wrapper created by the present invention comprises a pliable sheet **1**, the pliable sheet **1** formed from a plurality of elongated cellulose fibers **2**. The plurality of elongated cellulose fibers **2** forms the structure of the pliable sheet **1**, with adjacent strands of fiber being effectively glued to each other by glucose bonds. In line with the stated goals of the present invention, the plurality of elongated cellulose fibers **2** is derived from a plant of the *cannabis* genus **31**. More specifically, the plurality of elongated cellulose fibers **2** is derived from a female plant **3** of the *cannabis* genus **31**. The female plant **3** of the *cannabis* genus **31** is colloquially referred to as a marijuana plant. The female plant **3** is desirable as source material due to the elevated levels of tetrahydrocannabinol (THC) compared to the levels of THC found in the male *cannabis* plant **31**. More specifically, the female plant **3** produces buds, which contain higher levels of THC compared to the stem and leaves. The present invention could potentially be produced from the stem, leaves, or other parts of the *cannabis* plant **31**, but optimally the buds are used in order to maximize THC levels in the wrapper. Overall, the pliable sheet **1** can serve as a marijuana-based rolling paper or wrapper which can be used for rolling marijuana or other herbal blends. The pliable sheet **1** is illustrated via FIG. **1**-FIG. **3**.

[0019] In different embodiments of the present inventions, different specifies from the *cannabis* genus **31** may be used for the pliable sheet **1**. For example, in one embodiment, the plurality of elongated cellulose fibers **2** is derived from a female plant **3** of the *sativa* species **32** of the *cannabis* genus **31**. In another embodiment, the plurality of elongated cellulose fibers **2** is derived from a female plant **3** of the indica species **33** of the *cannabis* genus **31**. In a third embodiment of the present invention, the plurality of elongated cellulose fibers **2** is derived from a first female plant **34** of a *sativa* species **32** of the *cannabis* genus **31** and from a second female plant **35** of an indica species **33** of the *cannabis* genus **31**. In this third embodiment, the pliable sheet **1** is effectively created from a blend **36** of the *sativa* species **32** and the indica species **33**, compared to the first two embodiments which are sourced from only a single species of the

cannabis genus **31**. The term "blend" is used to refer to a strain **37** of the *cannabis* genus **31** that is bred from the *sativa* species **32** and the indica species **33**. This does not preclude the use of combining plant matter from two different species in order to create the pliable sheet **1**. Using a hybrid strain **37** (i.e. bred from *sativa* and indica) is simply preferable.

[0020] The different embodiments described above allow for different profiles to be provided for the wrapper. For example, a pliable sheet **1** sourced exclusively from *cannabis sativa* **32** will be experienced differently than a pliable sheet **1** sourced from *cannabis* indica **33**. A blend **36** of the two *cannabis* species will provide yet another profile, which can be further adjusted by varying the ratio of *cannabis sativa* **32** to *cannabis* indica **33** in the blend **36**.

[0021] In one possible embodiment of the present invention comprises an adhesive strip **4**. The adhesive strip **4** is connected along an edge of the pliable sheet **1** in order to facilitate rolling and securing of the pliable sheet **1** into a cylindrical shape prior to smoking. Preferably, the adhesive strip **4**, as with the pliable sheet **1**, is derived from a female plant **3** belonging to the *cannabis* genus **31**, whether of the *sativa* species **32**, indica species **33**, or a blend **36** thereof. An oil extract from a plant of the *cannabis* genus **31** is sticky and thus suitable for creating the adhesive strip **4**. Using such a plant-derived oil is preferable as it maintains the *cannabis*-sourced focus of the present invention; in such an embodiment the present invention is 100% derived from a plant of the *cannabis* genus **31**. An additional benefit of using an oil extract is that the extract is completely natural, being produced from vegetable matter rather than utilizing laboratory created chemical compounds. Though using a *cannabis* oil for the adhesive strip is preferable, potentially he adhesive strip can be produced from any food safe adhesive. Some examples include, but are not limited to, gum and sugar-derived glues.

[0022] In order to maintain the adhesive properties of the adhesive strip **4** prior to use, one embodiment a release liner is provided for the adhesive strip **4**. The release liner is a non-stick membrane that is placed over the adhesive strip **4**. The release liner prevents the adhesive strip **4** from accidently sticking to another object. The release liner also protects the adhesive strip **4**, helping to maintain the latter's adhesive properties. The release liner has non-stick properties, allowing it to easily be peeled away from the adhesive strip **4**. Overall, the release liner protects the adhesive strip **4** during storage (i.e. before being used to secure two ends of a rolling paper).

[0023] Potentially, further variety is enabled by infusing the pliable sheet **1** with a flavoring element **5**. The flavoring element **5** provides a more sophisticated profile; for example, a cherry-flavored pliable sheet **1** or a rosemary-flavored pliable sheet **1** can be created to enhance the smoking experience with pleasant tastes, smells, or both. The addition of such flavoring elements **5** is an enhancement to the core concept of the present invention, i.e. a fully marijuana derived pliable sheet **1** for wrapping smokable substances. The flavoring elements **5** could be omitted while remaining within the scope of the present invention.

[0024] The pliable sheet **1**, as earlier stated, can be formed as a rolling paper or wrapper in a variety of sizes. For example, rolling papers can be sized to be single-wide, double-wide, and king-sized. Other sizes, denoted only by dimensions (e.g. a 1¼" or 1½") are also possible. The thickness of the pliable sheet **1** is also unrestricted by the present invention. Thinner sheets burn slower and impart less taste to the smoking experience. Thicker sheets, conversely, are easier to roll and have superior durability. Both are compatible with the present invention.

[0025] Ultimately, a number of alternative embodiments for the pliable sheet **1** remain possible within the scope of the present invention.

[0026] A method of manufacture for the wrapper is also provided. The method of manufacture is used to convert a source of provided vegetable matter, specifically of the *cannabis* genus **31**, into a *cannabis*-derived sheet. As earlier referenced, the harvested vegetable matter is preferably the buds of a female plant **3** of the *cannabis* genus **31** (whether of the *sativa* species **32**, indica species **33**, or blend **36** thereof). The general procedure entails first processing the harvested vegetable matter to extract a supply of *cannabis*-derived fibers. The *cannabis*-derived fibers are then separated from each other, resulting in a *cannabis*-derived pulp. In order to make the *cannabis*-derived pulp more suited for wrapper formation, it is refined into a *cannabis*-derived slurry. The *cannabis*-derived slurry is then transferred to a mold to form a *cannabis*-derived sheet. Finally, water is extracted from the *cannabis*-derived sheet, which is then suitable for use as rolling paper or a wrap for smokable substances. Each step of this procedure is described in more detail below, as well as illustrated via FIG. **4**-FIG. **9**.

[0027] The first step, i.e. processing the harvested vegetable matter in order to produce a *cannabis*-derived pulp, comminutes the vegetable harvested vegetable matter. That is, the vegetable matter is broken up into individual strands, the group of which is referred to as the *cannabis*-derived pulp. In order to achieve this, the harvested vegetable matter is passed through a mill in order to grind the harvested vegetable matter into the individual strands. A number of specific machines have been created to facilitate the comminution process, and the present invention does not concern itself with the specific type of machine used; the focus is instead the processing of the harvested vegetable matter to obtain the *cannabis*-derived pulp. After processing, the comminuted vegetable matter is cleaned via rinsing with an aqueous solution, after which it is ready for refining.

[0028] Once the *cannabis*-derived pulp is created and rinsed, it is refined to be softer. Softening of the *cannabis*-derived fibers is traditionally accomplished through mechanical process or water-based processes. The present invention focuses primarily on application of a water-based process, as subsequently described, though this does not preclude the application of mechanical refining or a combination of mechanical and water-based refining.

[0029] To refine the *cannabis*-derived pulp, a heated bath is prepared. The *cannabis*-derived pulp is then immersed in this heated bath in order to cook and soften the individual strands into a more workable refined pulp. In order to be effective, this cooking stage requires a minimum specified duration. Exact minimum durations vary according to the specifics (e.g. composition) of the bath, but are generally measured in a magnitude of hours.

[0030] In the preferred embodiment, the heated bath is a solution of sodium carbonate in water. Sodium carbonate is colloquially referred to as soda ash, and it helps to separate cellulose (i.e. the *cannabis*-derived fibers) from other plant polymers such as lignin. As earlier referenced, mechanical refining can be utilized alongside chemical refining. For

example, machine beaters can be provided to help separate the cellulose from the lignin. Too, the present invention is not restricted to the use of a heated bath utilizing sodium carbonate; other solutions can be provided to separate the polymers of the *cannabis*-derived pulp.

[0031] Potentially, a finer level of refinement can be provided by hand; strands can be pulled apart by hand to further separate individual fiber strands from one another. It is possible to continue the refining process beyond this to obtain a desirable size and separation of fiber strands; this extent of refining is ultimately up to the manufacturer and customer demands.

[0032] Once the refined *cannabis*-derived pulp is refined, a *cannabis*-derived slurry is obtained. This slurry is a mixture of *cannabis* cellulose in an aqueous solution, such as from the heated bath. This solution is diluted and rinsed by mixing with water, after which it may be placed into a perforated sheet mold. The perforated sheet mold itself is a lattice-style base framed by a wall. The wall outlines the shape of the eventual paper, while the lattice-style base allows for water to be drained from the diluted *cannabis*-derived slurry. This first entails allowing the cellulose strands to settle at the bottom of the slurry, where glucose bonding begins to form the unitary sheet. After the strands have settled, the perforated sheet mold may be tilted to expedite draining and complete formation of the *cannabis*-derived sheet.

[0033] Once the *cannabis*-derived sheet has been formed, it is desirable to remove as much water as possible. This is end stage is accomplished through two steps; first, the *cannabis*-derived sheet is removed from the perforated sheet mold and placed in a press. The *cannabis*-derived sheet mold is surrounded by absorbent sheets (for example blotting paper or felt pads) on either side. These absorbent sheets serve to collect the water that is pressed out of the *cannabis*-derived sheet during compacting. This compaction removes a large amount of water from the sheets, but some moisture remains.

[0034] The final treatment, provided to minimize the remaining moisture in the *cannabis*-derived sheet, utilizes a dryer. The dryer is simply a fully or partially enclosed heated region into which the *cannabis*-derived sheet is placed. This heat helps to practically eliminate water from the *cannabis*-derived sheet, resulting in a pliable sheet which can be used as a wrap for enclosing smokable substances, as originally introduced in this application.

[0035] While the above described a core process for manufacture, several optional steps or substitution steps remain possible within the scope of the present invention. For example, flavoring or aromatic elements can be infused into the *cannabis*-derived sheet, such as by applying a desired element to the *cannabis*-derived sheet or even immersing the *cannabis*-derived sheet in such an element.

[0036] Likewise, an adhesive coating can be applied along an edge of the *cannabis*-derived sheet. Such an adhesive coating assists with rolling or wrapping of the sheet about a smokable substance, as the adhesive maintains a cylindrical shape and prevents the rolled sheet from unfurling.

[0037] These are just a few examples of additional steps that can be incorporated into the process of manufacture. Ultimately, any variation is suitable as long as it adheres to use of vegetable matter from the *cannabis* genus for manufacture of a wrapper for enclosing smokable substances.

[0038] Although the invention has been explained in relation to its preferred embodiment, it is to be understood that many other possible modifications and variations can be made without departing from the spirit and scope of the invention as hereinafter claimed.

What is claimed is:

1. A wrapper for enclosing smokable substance comprises:
- a pliable sheet;
- the pliable sheet being formed from a plurality of elongated cellulose fibers, wherein the plurality of elongated cellulose fibers is derived from an at least one female plant of a *cannabis* genus.

2. The wrapper for enclosing a smokable substance as claimed in claim **1** further comprises:
- the at least one female plant being of a *sativa* species of the *cannabis* genus.

3. The wrapper for enclosing a smokable substance as claimed in claim **1** further comprises:
- the at least one female plant being of an indica species of the *cannabis* genus.

4. The wrapper for enclosing a smokable substance as claimed in claim **1** further comprises:
- the at least one female plant being a strain of a first female plant and a second female plant;
- the first female plant being of a *sativa* species of the *cannabis* genus; and
- the second female plant being of an indica species.

5. The wrapper for enclosing a smokable substance as claimed in claim **4**, wherein the pliable sheet is a blend of the *sativa* species and the indica species of the *cannabis* genus.

6. The wrapper for enclosing a smokable substance as claimed in claim **1** further comprises:
- an adhesive strip;
- the adhesive strip being connected along the pliable sheet; and
- the adhesive strip being positioned adjacent to an edge of the pliable sheet.

7. The wrapper for enclosing a smokable substance as claimed in claim **6**, wherein the adhesive strip is an oil extract of the female plant of the *cannabis* genus.

8. The wrapper for enclosing a smokable substance as claimed in claim **1** further comprises:
- the pliable sheet being infused with a flavoring element.

9. A method of manufacture for a wrapper for enclosing smokable substances comprises the steps of:
- providing a harvested vegetable matter from a female plant of the *cannabis* genus;
- processing the harvested vegetable matter in order to extract a supply of *cannabis*-derived fibers from the harvested vegetable matter;
- separating the *cannabis*-derived fibers in order to produce a *cannabis*-derived pulp;
- refining the *cannabis*-derived pulp in order to produce a *cannabis*-derived slurry;
- transferring the *cannabis*-slurry to a mold in order to produce a *cannabis*-derived sheet; and
- reducing a moisture content of the *cannabis*-derived sheet in order to dry the *cannabis*-derived sheet.

10. The method of manufacture for a wrapper for enclosing smokable substances as claimed in claim **9** further comprises the steps of:
- passing the harvested vegetable matter through a mill in order to comminute the harvested vegetable matter; and

rinsing the harvested vegetable matter in an aqueous solution in order to clean the harvested vegetable matter.

11. The method of manufacture for a wrapper for enclosing smokable substances as claimed in claim **9** further comprises the steps of:

refining the *cannabis*-derived pulp by immersing the *cannabis*-derived pulp in a heated bath; and

softening the *cannabis*-derived pulp by cooking the *cannabis*-derived pulp in the heated bath for a specified duration.

12. The method of manufacture for a wrapper for enclosing smokable substances as claimed in claim **11**, wherein the heated bath is a solution of sodium carbonate in water.

13. The method of manufacture for a wrapper for enclosing smokable substances as claimed in claim **9** further comprises the steps of:

diluting the *cannabis*-derived slurry by mixing the *cannabis*-derived slurry with water;

transferring the diluted *cannabis*-derived slurry into a perforated sheet mold; and

draining the *cannabis*-derived slurry through the perforated sheet mold in order to form the *cannabis*-derived sheet.

14. The method of manufacture for a wrapper for enclosing smokable substances as claimed in claim **9** further comprises the steps of:

reducing the moisture content by transferring the *cannabis*-derived sheet to a press in order to exude the *cannabis*-derived sheet; and

reducing the moisture content by transferring the *cannabis*-derived sheet to a heated receptacle in order to dry the *cannabis*-derived sheet mold.

15. The method of manufacture for a wrapper for enclosing smokable substances as claimed in claim **9** further comprises the step of;

flavoring the *cannabis*-derived sheet by infusing the *cannabis*-derived sheet with a flavoring agent.

16. The method of manufacture for a wrapper for enclosing smokable substances as claimed in claim **9** further comprises the step of:

adhering an adhesive coating along an edge of the *cannabis*-derived sheet.

* * * * *