Claims:

1. A method for producing a dry-process reconstituted tobacco leaf, characterized by comprising steps of:

   pulverizing and defibering, under an anhydrous condition, plant fibers to generate a base sheet by a dry air forming manner, which comprises performing a destaticization process on monofilament fibers;

   mixing tobacco powder with water, adhesive, smoke agent, tobacco essence flavor and humectant to provide coating liquid; and

   loading the coating liquid onto the base sheet and performing a drying process, to generate the dry-process reconstituted tobacco leaf,

   wherein the reconstituted tobacco leaf has a loose and porous physical structure.

2. The method for producing a dry-process reconstituted tobacco leaf according to claim 1, characterized in that the plant fibers comprise one or more selected from the group consisting of hemp pulp, bamboo pulp and wood pulp.

3. The method for producing a dry-process reconstituted tobacco leaf according to claim 1, characterized in that the tobacco powder is obtained by pulverizing tobacco raw materials under an anhydrous condition.

4. The method for producing a dry-process reconstituted tobacco leaf according to claim 1, characterized in that the smoke agent comprises glycerol, propylene glycol and sorbitol, and the tobacco essence flavor comprises burley tobacco absolute oil, cocoa extractive, tobacco leaf extractive and aromatic tobacco concrete.

5. The method for producing a dry-process reconstituted tobacco leaf according to claim 1, characterized in that the step of loading the coating liquid onto the base sheet comprises spraying, in a non-physical contact manner, the coating liquid onto the base sheet.

6. The method for producing a dry-process reconstituted tobacco leaf according to claim 1, characterized in that the method for producing a dry-process reconstituted tobacco leaf further comprises rewinding, calendering and cutting the dry-process reconstituted tobacco leaf, so as to use it as a core material for a cigarette filter or a heat-not-burn cigarette.

7. The method for producing a dry-process reconstituted tobacco leaf according to claim 1, characterized in that the step of performing a drying process comprises placing, into heated air, for drying, the base sheet on which the coating liquid is loaded.

8. The method for producing a dry-process reconstituted tobacco leaf according to claim 1, characterized in that the step of loading the coating liquid onto the base sheet and performing a drying process comprises:

spraying the coating liquid onto a front face of the base sheet and then performing a drying process, if a back face of the base sheet is under a negative pressure;

spraying the coating liquid onto a back face of the base sheet and performing a drying process, if a front face of the base sheet is under a negative pressure.

9. A device for producing a dry-process reconstituted tobacco leaf according to the method of claim 1 for producing the dry-process reconstituted tobacco leaf, characterized by comprising:

a fiber defibering means configured to pulverize and defiber plant fibers under an anhydrous condition;

a base sheet forming means configured to make the pulverized and defibered plant fibers formed into a base sheet by a dry air forming manner;

a spraying means configured to spray coating liquid onto the base sheet; and

a drying means configured to dry the base sheet on which the coating liquid is loaded, so as to obtain the dry-process reconstituted tobacco leaf, wherein the reconstituted tobacco leaf has a loose and porous physical structure.

10. The device for producing a dry-process reconstituted tobacco leaf according to claim 9, characterized in that the fiber defibering means comprises a fiber frame as well as a rough pulverizer and a fine pulverizer , with the rough pulverizer and the fine pulverizer connected in sequence, wherein the fiber frame is configured to support the plant fibers, and the rough pulverizer and the fine pulverizer are configured to pulverize and defiber the plant fibers.

11. The device for producing a dry-process reconstituted tobacco leaf according to claim 10, characterized in that the fiber defibering means further comprises a fiber metering means, wherein the rough pulverizer, the fine pulverizer and the fiber metering means are connected in sequence, and the fiber metering means is configured to precisely control output quantity of the fibers.

12. The device for producing a dry-process reconstituted tobacco leaf according to claim 11, characterized in that the fiber defibering means further comprises a humidifying means, the humidifying means is

configured to humidify air within the rough pulverizer, the fine pulverizer and the fiber metering means.

13. The device for producing a dry-process reconstituted tobacco leaf according to claim 9, characterized in that the base sheet forming means comprises a plurality of fiber delivering tubes, a screening drum, a mesh belt, a plurality of guide rollers and a first negative pressure tank, each of the plurality of fiber delivering tubes is communicated with the screening drum, the mesh belt is located below the screening drum and configured to gather fibers output from the screening drum so that the base sheet is formed, the mesh belt is supported and driven by the plurality of guide rollers, so as to operate in cycles, and the first negative pressure tank is provided within an area enclosed by the mesh belt and configured to draw the fibers to be gathered on the mesh belt.

14. The device for producing a dry-process reconstituted tobacco leaf according to claim 13, characterized in that a break-apart roller is provided within the screening drum.

15. The device for producing a dry-process reconstituted tobacco leaf according to claim 13, characterized in that the base sheet forming means comprises a humidity controller and a destaticizing mesh, the humidity controller is configured to control ambient humidity during a formation process of the base sheet, and the destaticizing mesh is provided in the screening drum and configured to reduce statics during the formation process of the base sheet.

16. The device for producing a dry-process reconstituted tobacco leaf according to claim 9, characterized in that the spraying means comprises a storage tank, a buffer and a nozzle communicated in sequence, the storage tank is configured to store the coating liquid, and the buffer is configured to adjust flow velocity and pressure of the coating liquid.

17. The device for producing a dry-process reconstituted tobacco leaf according to claim 16, characterized in that the storage tank is provided with a constant pressurizer and the nozzle is provided with a compressed air inlet.

18. The device for producing a dry-process reconstituted tobacco leaf according to claim 9, characterized in that the drying means comprises an air circulating means and a drying tank, wherein the air circulating means comprises an air circulating passage, a heating means and a negative pressure fan, the heating means is configured to heat air within the air circulating passage, and the negative pressure fan is configured to drive the heated air within the air circulating passage to circulate, an inlet and an outlet of the air circulating passage are both communicated with the drying tank, the drying tank is configured to store the base sheet to be

dried, a guide plate and a second negative pressure tank are provided within the drying tank, the guide plate is configured to guide a flow direction of air in the drying tank, and the second negative tank works with the negative pressure fan to ensure circulation of the air.

19. A dry-process reconstituted tobacco leaf, characterized in that the dry-process reconstituted tobacco leaf is produced by the method for producing a dry-process reconstituted tobacco leaf according to any one of claims 1-8 or the device for producing a dry-process reconstituted tobacco leaf according to any one of claims 9-18, wherein the reconstituted tobacco leaf has a loose and porous physical structure.