

AUTOMATIC SLICING MACHINE FOR PREPARING TRADITIONAL CHINESE
MEDICINE HERB PIECES

Field of the Invention

5 The present invention relates to the field of slicing technology for traditional Chinese medicine herb pieces, specifically an automatic slicing machine for preparing traditional Chinese medicine herb pieces.

Background to the Invention

10 Traditional Chinese medicine herb pieces are processed according to traditional Chinese medicine theory and processing methods, and can be directly used in clinical Chinese medicine. As an important component of traditional Chinese medicine, the processing of traditional Chinese medicine herb pieces is crucial for maintaining the medicinal properties and efficacy of the herbs. In the traditional processing of traditional Chinese medicine herb
15 pieces, slicing is an important link, which not only affects the storage and transportation of herbs, but also directly affects the efficacy of herbs in subsequent use. When slicing, traditional slicing methods are all manually performed, which is inefficient, labor-intensive, and difficult to ensure the uniformity of slice thickness.

The existing automatic slicing machines for preparing traditional Chinese medicine herb
20 pieces still leave the cut pieces on the herb piece placement plate and require manual removal, which is slow and not conducive to improving the efficiency of the slicing machine.

Statement of Invention

The purpose of the present invention is to provide an automatic slicing machine for preparing traditional Chinese medicine herb pieces, in response to the problems existing in the prior art, to solve the problems raised in the background technology.

5 To achieve the above objectives, the present invention provides the following technical solution: an automatic slicing machine for preparing traditional Chinese medicine herb pieces comprises a base, the rear end of the top of the base is fixedly connected to a support plate, the top of the support plate is fixedly connected to a preparation box, the top of the inner cavity of the preparation box is provided with a slicing component, the inner
10 cavity of the preparation box is provided with a scraping component, and the surface of the preparation box is provided with a box door.

By adopting the above technical solution and setting the slicing component, it is possible to prepare slices of traditional Chinese medicine herb pieces, improve the slicing effect, and enhance the slicing efficiency of traditional Chinese medicine herb pieces. By setting the
15 scraping component, the sliced traditional Chinese medicine herb pieces can be scraped off, making it easier to scrape them off the placement plate. This enables rapid material processing, improves slicing efficiency, and enhances the slicing convenience of the slicing machine.

Preferably, the slicing component comprises a first electric push rod fixedly installed at the
20 top of the inner cavity of the preparation box, the telescopic end of the first electric push rod is fixedly connected to a lifting plate, and the bottom of the lifting plate is fixedly connected to a cutting blade.

By adopting the above technical solution, it is possible to prepare slices of traditional Chinese medicine herb pieces, improve the slicing effect, and enhance the slicing

efficiency of traditional Chinese medicine herb pieces.

Preferably, the scraping component comprises a motor fixed on the left side of the preparation box, and the output shaft of the motor is fixedly connected to a threaded rod, the surface of the threaded rod is threaded with a threaded sleeve, and the surface of the threaded sleeve is fixedly connected to a scraping plate.

By adopting the above technical solution, sliced traditional Chinese medicine herb pieces can be scraped off, making it easier to scrape them off the placement plate. This enables rapid material processing, improves slicing efficiency, and enhances the convenience of slicing machines.

Preferably, the back of the inner cavity of the preparation box is provided with a sliding groove, and the inner cavity of the sliding groove is slidably connected to a sliding block, one end of the sliding block away from the sliding groove is fixedly connected to a threaded sleeve.

By adopting the above technical solution, the threaded sleeve can be guided to move in a limited position, increasing the stability of the threaded rod driving the threaded sleeve to move left and right, and improving the stability of scraping.

Preferably, the back of the inner cavity of the preparation box is provided with a placement component, which includes a fixed plate fixedly installed on the back of the inner cavity of the preparation box, both sides of the top of the inner cavity of the fixed plate are slidably connected to the placement plates, the back of the preparation box is fixedly connected to a second electric push rod, and the telescopic end of the second electric push rod is fixedly connected to the placement plate.

By adopting the above technical solution, it can facilitate the feeding of traditional Chinese medicine herb pieces by staff and improve the convenience of feeding.

Preferably, both sides of the top of the fixed plate are provided with sliding grooves, and the inner cavity of the sliding groove is slidably connected to a sliding block, the top of the sliding block is fixedly connected to the placement plate.

5 By adopting the above technical solution, the placement plate can be guided to move in a limited position, increasing the stability when the second electric push rod pushes the placement plate to move.

Preferably, both sides of the inner cavity of the preparation box are fixedly connected with guide slopes, and the bottom of the inner cavity of the preparation box is connected with a discharge pipe.

10 By adopting the above technical solution, it is possible to facilitate the cutting and export of sliced traditional Chinese medicine herb pieces.

Preferably, the top of the base is equipped with a receiving frame.

By adopting the above technical solution, it is possible to facilitate the reception of sliced traditional Chinese medicine herb pieces.

15 Compared with the existing technology, the beneficial effects of the present invention are as follows:

The present invention can prepare slices of traditional Chinese medicine herb pieces by setting a slicing component, improve the slicing effect, and enhance the slicing efficiency of traditional Chinese medicine herb pieces. By setting a scraping component, the sliced
20 traditional Chinese medicine herb pieces can be scraped off, making it easier to scrape the sliced traditional Chinese medicine herb pieces from the placement plate. This can quickly achieve the cutting process, improve the slicing effect, and enhance the slicing convenience of the slicing machine.

Brief Description of the Drawings

FIG. 1 is a schematic diagram of the structure of the present invention;

FIG. 2 is a sectional view of the structure of the present invention;

FIG. 3 is an enlarged partial view of point A in FIG. 2 of the structure of the present invention;

FIG. 4 is a top sectional view of the scraping component in the structure of the present invention.

In the figure: 1. Base; 2. Support plate; 3. Preparation box; 4. Slicing component; 401. First electric push rod; 402. Lifting plate; 403. Cutting blade; 5. Scraping component; 501. Motor; 502. Threaded rod; 503. Threaded sleeve; 504. Scraping plate; 6. Box door; 7. Sliding groove; 8. Sliding block; 9. Placement component; 901. Fixed plate; 902. Placement plate; 903. Second electric push rod; 10. Sliding groove; 11. Sliding block; 12. Guide slope; 13. Discharge pipe; 14. Receiving frame.

Detailed Description

Below, the technical solutions in the embodiments of the present invention will be clearly and completely described in conjunction with the accompanying drawings. Obviously, the described embodiments are only a part of the embodiments of the present invention, not all of them. Based on the embodiments of the present invention, all other embodiments obtained by ordinary skilled persons in the art without creative labor are within the scope of protection of the present invention.

Embodiment 1:

Referring to Figures 1-4, an automatic slicing machine for preparing traditional Chinese

medicine herb pieces comprises a base 1, the rear end of the top of the base 1 is fixedly connected to a support plate 2, the top of the support plate 2 is fixedly connected to a preparation box 3, the top of the inner cavity of the preparation box 3 is provided with a slicing component 4. The slicing component 4 comprises a first electric push rod 401 fixedly installed at the top of the inner cavity of the preparation box 3, the telescopic end of the first electric push rod 401 is fixedly connected to a lifting plate 402, and the bottom of the lifting plate 402 is fixedly connected to a cutting blade 403. The inner cavity of the preparation box 3 is provided with a scraping component 5. the scraping component 5 comprises a motor 501 fixed on the left side of the preparation box 3, and the output shaft of the motor 501 is fixedly connected to a threaded rod 502, the surface of the threaded rod 502 is threaded with a threaded sleeve 503, and the surface of the threaded sleeve 503 is fixedly connected to a scraping plate 504. The surface of the preparation box 3 is provided with a box door 6. By setting the slicing component 4, traditional Chinese medicine herb pieces can be prepared, improving the slicing effect and efficiency. By setting the scraping component 5, the sliced traditional Chinese medicine herb pieces can be scraped off, making it easier to scrape them off the placement plate 902. This enables quick material processing, enhances slicing efficiency, and improves the slicing convenience of the slicing machine.

Embodiment 2:

Referring to Figures 1, 2, and 4, the back of the inner cavity of the preparation box 3 is provided with a sliding groove 7, and the inner cavity of the sliding groove 7 is slidably connected to a sliding block 8, one end of the sliding block 8 away from the sliding groove 7 is fixedly connected to a threaded sleeve 503, which can guide and limit the movement of the threaded sleeve 503, and improve the stability of scraping when the threaded rod 502 drives the threaded sleeve 503 to move left and right. The back of the inner cavity of the

preparation box 3 is provided with a placement component 9, which includes a fixed plate 901 fixedly installed on the back of the inner cavity of the preparation box 3, both sides of the top of the inner cavity of the fixed plate 901 are slidably connected to the placement plates 902, the back of the preparation box 3 is fixedly connected to a second electric push rod 903, and the telescopic end of the second electric push rod 903 is fixedly connected to the placement plate 902, which can facilitate the loading of traditional Chinese medicine herb pieces by workers and improve the convenience of loading. Both sides of the top of the fixed plate 901 are provided with sliding grooves 10, and the inner cavity of the sliding groove 10 is slidably connected to a sliding block 11, the top of the sliding block 11 is fixedly connected to the placement plate 902, which can guide the placement plate 902 to move in a limited position and increase the stability when the second electric push rod 903 pushes the placement plate 902 to move. Both sides of the inner cavity of preparation box 3 are fixedly connected with guide slopes 12, and the bottom of the inner cavity of preparation box 3 is connected with a discharge tube 13, which can facilitate the feeding and export of sliced traditional Chinese medicine herb pieces. A receiving frame 14 is placed on the top of the base 1, which can facilitate the reception of sliced traditional Chinese medicine herb pieces.

The working principle is as follows:

When the device is used, the box door 6 is opened, the second electric push rod 903 is started to push the placement plate 902 to move from the top of the fixed plate 901, so that the device can be moved out of the preparation box 3, a worker can conveniently place raw materials of traditional Chinese medicine herb pieces, the second electric push rod 903 is started to drive the placement plate 902 to move into the preparation box 3, the first electric push rod 401 is started to push the lifting plate 402 to move downwards, the lifting plate 402 can drive slices to slice the traditional Chinese medicine herb pieces, the slicing effect

is improved, the slicing efficiency of the traditional Chinese medicine herb pieces is improved, after the slices are cut, the motor 501 is started to drive the threaded rod 502 to rotate, the threaded rod 502 drives the threaded sleeve 503 to move rightwards, the threaded sleeve 503 can drive the scraping plate 504 to move rightwards, the sliced traditional Chinese medicine herb pieces can be scraped by the scraping plate 504, so that the sliced traditional Chinese medicine herb pieces can be conveniently scraped from the placement plate 902, thereby can be quick realize the unloading and handle, improve the section effect to can improve the section convenience of slicing machine.

In summary, this automatic slicing machine for preparing traditional Chinese medicine herb pieces, by setting the slicing component 4, traditional Chinese medicine herb pieces can be prepared, improving the slicing effect and efficiency. By setting the scraping component 5, the sliced traditional Chinese medicine herb pieces can be scraped off, making it easier to scrape them off the placement plate 902. This enables quick material processing, enhances slicing efficiency, and improves the slicing convenience of the slicing machine.

The standard parts used in this application document can be purchased from the market, and can be customized according to the instructions and drawings. The specific connection methods of each part use mature conventional methods such as bolts, rivets, welding, etc. in the existing technology. Machinery, parts, and equipment all use conventional models in the existing technology. The control method is automatically controlled by a controller, and the control circuit of the controller can be easily programmed by technical personnel in this field, which is common knowledge in this field. Moreover, this application is mainly used to protect mechanical devices, so the control method and circuit connection will not be explained in detail in this application.

In the description of the present invention, it should be noted that the terms "up", "down",

"inside", "outside", "top/bottom", etc. indicate orientation or position relationships based on the orientation or position relationships shown in the accompanying drawings, only for the convenience of describing the present invention and simplifying the description, and do not indicate or imply that the device or element referred to must have a specific orientation, be
5 constructed and operated in a specific orientation, and therefore cannot be understood as limiting the present invention. In addition, the terms "first" and "second" are only used for descriptive purposes and cannot be understood as indicating or implying relative importance.

10 Although the embodiments of the present invention have been shown and described, it will be understood by those skilled in the art that various changes, modifications, substitutions, and variations can be made to these embodiments without departing from the principles and spirit of the present invention. The scope of the present invention is limited by the appended claims and their equivalents.