PHARMACEUTICAL PRESSING CONTINUOUS TRADITIONAL CHINESE MEDICINE EXTRACTING DEVICE

Field of the Invention

The present invention relates to the field of medicine extraction and preparation technology, specifically a pharmaceutical pressing continuous traditional Chinese medicine extracting device.

Background to the Invention

The extraction of active ingredients in traditional Chinese medicine is an important unit operation in the production process of traditional Chinese medicine. The selection of process methods, process flow, and equipment configuration will directly affect the quality and clinical efficacy of traditional Chinese medicine. Traditional extraction methods for traditional Chinese medicine treatment include water decoction, immersion, percolation, improved gelatin, reflux, solvent extraction, steam distillation, and sublimation.

Drug extraction is an effective technique for separating and purifying drugs, often used in the pharmaceutical industry and scientific research. By extracting the active ingredients from drugs, it can maximize the purification of effective drugs, avoid waste of medicinal materials, and greatly improve the medicinal properties of drugs in medical use. However, drug extraction usually requires precise pressing.

However, the commonly used press type continuous traditional Chinese medicine extraction device inevitably clogs the filter after long-term use, even if the drug is crushed, which will affect the subsequent press extraction effect.

Statement of Invention

The purpose of the present invention is to provide a pharmaceutical pressing continuous traditional Chinese medicine extracting device to solve the problems raised in the background technology, in response to the existing problems in the prior art.

To achieve the above objectives, the present invention provides the following technical solution: a pharmaceutical pressing continuous traditional Chinese medicine extracting device, comprising a base, an adjustment box is fixedly connected to the left side of the base, an adjustment component is arranged in the inner cavity of the adjustment box, a pressing cylinder is arranged on the right side of the adjustment component, a groove is opened on the top of the base, and a convex block is fixedly connected to the bottom of the pressing cylinder to cooperate with the groove, the bottom of the inner cavity of the groove is provided with a sealing gasket, and the top of both sides of the inner cavity of the pressing cylinder is fixedly connected to a limit block, the top of the limit block is provided with a filter screen, and the right side of the pressing cylinder is connected to a feeding pipe, the inner cavity of the feeding pipe is provided with a crushing component, and the top of the inner cavity of the pressing cylinder is provided with an extrusion component.

By adopting the above technical solution and setting up a crushing component, the drugs added to the feeding pipe can be crushed and then slid into the pressing cylinder. Through the setting of the pressing component, the crushed drugs can be pressed, and the pressed drug juice will be filtered through a filter screen, by setting grooves, convex blocks, and sealing gaskets, the sealing performance inside the base and pressing cylinder can be increased, avoiding the leakage of pressed juice. By adjusting the component settings, the height of the pressing cylinder can be adjusted, making it easy to extract the drug residue after pressing and extraction. At the same time, it can also facilitate the disassembly and replacement of the filter screen, improving the subsequent extraction effect.

Preferably, the adjustment component comprises an adjustment motor fixedly installed at the bottom of the inner cavity of the adjustment box, the output shaft of the adjustment motor is fixedly connected to a threaded rod, the surface of the threaded rod is threaded with a threaded sleeve, and the right side of the threaded sleeve is fixedly connected to the pressing cylinder through a connecting piece.

By adopting the above technical solution, the height of the pressing cylinder can be adjusted, which facilitates the extraction of drug residues after pressing and extraction. At the same time, it can also facilitate the disassembly and replacement of the filter screen,

improving the subsequent extraction effect.

Preferably, the crushing component comprises a speed motor fixedly installed on the right side of the feeding pipe, and the output shaft of the speed motor penetrates the feeding pipe and is fixedly connected to a crushing roller.

By adopting the above technical solution, it is possible to crush the drugs added to the feeding pipe and then slide them into the pressing cylinder.

Preferably, the extrusion component comprises a extrusion plate, the top of the pressing cylinder is fixedly connected with an electric push rod, and the telescopic end of the electric push rod penetrates the pressing cylinder and is fixedly connected with the extrusion plate.

By adopting the above technical solution, the crushed drug can be pressed, and the pressed drug juice will be filtered through a filter screen.

Preferably, a sliding rail is fixedly connected to the left side of the inner cavity of the adjustment box, a sliding block is slidably connected to the surface of the sliding rail, and the right side of the sliding block is fixedly connected to a threaded sleeve.

By adopting the above technical solution, the threaded sleeve can be limited and guided to move, increasing the stability when the threaded rod drives the threaded sleeve to move up and down.

Preferably, a diversion slope is provided at the bottom of the inner cavity of the base.

By adopting the above technical solution, it is possible to facilitate the diversion of juice after extrusion extraction.

Preferably, a liquid outlet pipe is connected to the right side of the base, and a liquid outlet switch is provided at the top of the liquid outlet pipe.

By adopting the above technical solution, it is convenient for users to access the pressed and extracted juice.

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

The present invention can crush the drugs added to the feeding pipe by setting a crushing component, and then slide them into the pressing cylinder. Through the setting of the pressing component, the crushed drugs can be pressed, and the pressed drug juice will be filtered through a filter screen; By setting grooves, convex blocks, and sealing gaskets, the sealing performance inside the base and pressing cylinder can be increased, avoiding the leakage of pressed juice. By adjusting the component settings, the height of the pressing cylinder can be adjusted, making it easy to extract the drug residue after pressing and extraction. At the same time, it can also facilitate the disassembly and replacement of the filter screen, improving the subsequent extraction effect.

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 Figure 2 of the structure of the present invention;

FIG. 4 is an enlarged partial view of the structure at point B in Figure 2 of the present invention.

In the drawing: 1. Base; 2. Adjustment box; 3. Adjustment component; 301. Adjustment motor; 302. Threaded rod; 303. Threaded sleeve; 4. Pressing cylinder; 5. Groove; 6. Convex block; 7. Sealing gasket; 8. Limit block; 9. Filter screen; 10. Feeding pipe; 11. Crushing component; 1101. Speed motor; 1102. Crushing roller; 12. Extrusion component; 1201, Extrusion plate; 1202, Electric push rod; 13. Sliding rail; 14. Sliding block; 15. Diversion slope; 16. Liquid outlet pipe.

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, a pharmaceutical pressing continuous traditional Chinese medicine extracting device, comprising a base 1, an adjustment box 2 is fixedly connected to the left side of the base 1, an adjustment component 3 is arranged in the inner cavity of the adjustment box 2, a pressing cylinder 4 is arranged on the right side of the adjustment component 3, a groove 5 is opened on the top of the base 1, and a convex block 6 is fixedly connected to the bottom of the pressing cylinder 4 to cooperate with the groove 5, the bottom of the inner cavity of the groove 5 is provided with a sealing gasket 7, and the top of both sides of the inner cavity of the pressing cylinder 4 is fixedly connected to a limit block 8, the top of the limit block 8 is provided with a filter screen 9, and the right side of the pressing cylinder 4 is connected to a feeding pipe 10, the inner cavity of the feeding pipe 10 is provided with a crushing component 11, and the top of the inner cavity of the pressing cylinder 4 is provided with an extrusion component 12. The adjustment component 3 comprises an adjustment motor 301 fixedly installed at the bottom of the inner cavity of the adjustment box 2, the output shaft of the adjustment motor 301 is fixedly connected to a threaded rod 302, the surface of the threaded rod 302 is threaded with a threaded sleeve 303, and the right side of the threaded sleeve 303 is fixedly connected to the pressing cylinder 4 through a connecting piece. The crushing component 11 comprises a speed motor 1101 fixedly installed on the right side of the feeding pipe 10, and the output shaft of the speed motor 1101 penetrates the feeding pipe 10 and is fixedly connected to a crushing roller 1102. The extrusion component 12 comprises a extrusion plate 1201, the top of the pressing cylinder 4 is fixedly connected with an electric push rod 1202, and the telescopic end of the electric push rod 1202 penetrates the pressing cylinder 4 and is fixedly connected with the extrusion plate 1201. By adopting the above technical solution and setting up a crushing component, the drugs added to the feeding pipe can be crushed and then slid into the pressing cylinder. Through the setting of the pressing component, the crushed drugs can be pressed, and the pressed drug juice will be filtered through a filter

screen, by setting grooves, convex blocks, and sealing gaskets, the sealing performance inside the base and pressing cylinder can be increased, avoiding the leakage of pressed juice. By adjusting the component settings, the height of the pressing cylinder can be adjusted, making it easy to extract the drug residue after pressing and extraction. At the same time, it can also facilitate the disassembly and replacement of the filter screen, improving the subsequent extraction effect. By adopting the above technical solution, the height of the pressing cylinder can be adjusted, which facilitates the extraction of drug residues after pressing and extraction. At the same time, it can also facilitate the disassembly and replacement of the filter screen, improving the subsequent extraction effect. By adopting the above technical solution, it is possible to crush the drugs added to the feeding pipe and then slide them into the pressing cylinder. By adopting the above technical solution, the crushed drug can be pressed, and the pressed drug juice will be filtered through a filter screen.

Embodiment 2

Referring to Figures 1, 2, and 3, a sliding rail 13 is fixedly connected to the left side of the inner cavity of the adjustment box 2, and a sliding block 14 is slidably connected to the surface of the sliding rail 13. The right side of the sliding block 14 is fixedly connected to a threaded sleeve 303, which can guide the threaded sleeve 303 to move up and down in a limited position, increasing the stability when the threaded rod 302 drives the threaded sleeve 303 to move up and down. The bottom of the inner cavity of the base 1 is equipped with a guide slope 15, which can facilitate the flow of the squeezed and extracted juice. The right side of the base 1 is connected to a liquid outlet pipe 16, and the top of the liquid outlet pipe 16 is equipped with a liquid outlet switch, which is convenient for users to access the squeezed and extracted juice.

The working principle is:

When in use, the speed regulating motor 1101 is started to drive the crushing roller 1102 to rotate, which can crush the drugs added to the feeding pipe 10. The gear of the speed motor 1101 can be controlled according to the requirements of the particle size of the crushed medicinal materials, so as to achieve different crushing requirements. Then, the

crushed drugs will slide into the pressing cylinder 4. At this time, the electric push rod 1202 is started to push the pressing plate 1201 downwards, which can squeeze the crushed drugs. At this time, the pressed drug juice will be filtered through the filter screen 9. At the same time, the setting of the groove 5, the convex block 6, and the sealing gasket 7 can increase the sealing of the base 1 and the pressing cylinder 4, avoiding the leakage of pressed juice; After the extrusion extraction is completed, start the adjustment component 3 to drive the threaded rod 302 to rotate. The threaded rod 302 drives the threaded sleeve 303 to move upward. The threaded sleeve 303 can drive the pressing cylinder 4 to adjust the height through the connecting piece, which can facilitate the extraction of the drug residue after extrusion extraction. At the same time, it can also facilitate the disassembly and replacement of the filter screen 9, improving the subsequent extraction effect.

In summary, this pharmaceutical pressing continuous traditional Chinese medicine extracting device can crush the drugs added to the feeding pipe 10 by setting the crushing component 11, and then slide them into the pressing cylinder 4. By setting the pressing component 12, the crushed drugs can be squeezed, and the pressed drug juice will be filtered through the filter screen 9, by setting the groove 5, convex block 6, and sealing gasket 7, the sealing performance inside the base 1 and the pressing cylinder 4 can be increased, avoiding the leakage of squeezed juice. By setting the adjustment component 3, the height of the pressing cylinder 4 can be adjusted, which can facilitate the extraction of drug residue after pressing and extraction. At the same time, it can also facilitate the disassembly and replacement of the filter screen 9, improving the subsequent extraction effect.

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 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.

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.