[0010] In order to achieve the above-mentioned objective, the present application provides a dual-purpose grinder, which includes a material container assembly. The material container assembly includes a grinding head fixedly connected to a material container body, and a grinding sleeve rotatably connected to the grinding head. The grinding head is fitted into the grinding sleeve, and the grinding head and the grinding sleeve define therebetween a material compartment for accommodating a material. A connecting structure capable of being connected to an external power assembly is arranged at an upper end of the material container body. When manual grinding is required, the material container body is rotated, and drives the grinding head to rotate, the grinding sleeve moves relative to the grinding head, such that the material between the grinding head and the grinding sleeve is ground into powder. When automatic grinding is required, the material container body is connected to the external power assembly through the connecting structure, and is driven to rotate by the external power assembly, so that the grinding head is driven to rotate, the grinding sleeve moves relative to the grinding head, so that the material between the grinding head and the grinding sleeve is ground into powder.

[0011] Further, the connecting structure includes a connecting column, which includes a protruding pillar. A tapered platform is provided on a top end of the protruding pillar, and a diameter of a bottom surface of the tapered platform is larger than a diameter of a cross-section of the protruding pillar.

[0012] Further, the connecting structure is further provided with a first recess, and the connecting column is located in the first recess.

[0013] Further, a transmission frame is disposed in the material container body, a connecting rod connected to the grinding head is provided on the transmission frame.

[0014] Further, the grinding head includes a truncated cone body and a plurality of grinding plates, the plurality of grinding plates are arranged at intervals around a lower end surface of the truncated cone body. The truncated cone body is provided therein with a slot for inserting therein the connecting rod. The lower end surface of the truncated cone body is recessed inward to form an adjusting recess, and the adjusting spring is fitted in the adjusting recess.

another automatic grinder. Conversion to the external power assembly requires only one step which is simple and efficient, and the grinder that is not connected with the external power assembly may be used as a manual grinder.

[0053] Additionally, referring to Figs. 1 and 8, the connecting structure further includes a first recess 101, and the connecting column is located in the first recess 101. A strut may be provided on the external power assembly to be inserted into the first recess 101, in order to form a stable connecting structure with connections both in the center and the periphery and guide the external power assembly.

[0054] Referring to Fig. 6, a transmission frame 11 is disposed in the material container body 10, a connecting rod 111 connected to the grinding head 12 is provided on the transmission frame 11. The transmission frame 11 is driven to rotate by the rotation of the material container body 10. Since the grinding head 12 is connected to the connecting rod 111, the grinding head 12 is rotated along with the rotation of the transmission frame 11.

[0055] Preferably, a protruded ring 112 is provided on an outer periphery of the transmission frame 11, a snapping groove is provided on the above-mentioned material container body 10, and the protruded ring 112 is inserted into the snapping groove so that the transmission frame 11 is connected with the material container body 10, so as to drive the transmission frame 11 to rotate by rotation of the material container body 10.

[0056] Preferably, the lower end of the above-mentioned connecting rod 111 is in threaded connection with an adjusting structure for adjusting the size of the gap between the grinding head 12 and the grinding sleeve 15. The adjusting structure includes an adjusting rod 14 and an adjusting spring 141 sleeved on the adjusting rod 14, and the adjusting spring 141 is fitted into the grinding head.

[0057] When the adjusting rod 14 is rotated to move upwards, the adjusting spring 141 is compressed by the adjusting rod 14 and the grinding head is forced to move upwards, thus the gap between the grinding head and the grinding sleeve becomes smaller, and the ground powder is finer. When the adjusting rod 14 is rotated to move downwards, the compressing force exerted on the adjusting spring 141 by the adjusting rod 14 is reduced, the grinding head

moves downwards, and the gap between the grinding head and the grinding sleeve becomes larger, thus the ground powder is coarser.

[0058] In addition, as shown in Fig. 4, the grinding head 12 includes a truncated cone body 121 and a plurality of grinding plates 122, the plurality of grinding plates 122 are arranged at intervals around a lower end surface of the truncated cone body 121. The truncated cone body 121 is provided therein with a slot 123 for inserting therein the connecting rod 111. The lower end surface of the truncated cone body 121 is recessed inward to form an adjusting recess 124, and the adjusting spring 141 is fitted in the adjusting recess 124. The material is ground and pressed into powder through the cooperation of the grinding plates 122 and the grinding sleeve 15.

[0059] In the present embodiment, the above-mentioned connecting rod 111 has a cuboid shape. In other embodiments, the above-mentioned connecting rod 111 may also have other shapes, such as a pentagonal shape. The shape of the slot 123 matches with the shape of the connecting rod 111 for ease of installation.

[0060] Furthermore, as shown in Figs. 5 and 7, the above-mentioned material container assembly further includes a fixing frame 13, positioning columns 131 are provided on the fixing frame 13, and positioning grooves 151 into which the positioning columns 131 are inserted are provided on the grinding sleeve 15. The fixing frame 13 is connected with the control structure.

[0061] A sealed space is formed between the grinding sleeve 15, the fixing frame 13 and the transmission frame 11 when feeding the material, thereby preventing the introduction of other particles, so that the taste of the material is ensured.

[0062] Referring to Figs. 9 to 17, in another embodiment of the dual-purpose grinder, as shown in Fig. 17, the connecting structure includes a lock switch 31, which includes two inverted buckle sections for clamping the external power assembly. The external power assembly may have a connecting column which is to be clamped by the inverted buckle sections. The structure of the connecting column is consistent with the structure of the connecting column in the previous embodiment.

[0063] In an embodiment, referring to Figs. 11 and 12, a connecting frame is disposed in the material container body 20, and the connecting frame is connected to the grinding head 27 through a grinding head rotating shaft 23. A second recess 213 is provided in the connecting frame. The external power assembly drives the connecting structure to rotate, and the connecting structure drives the connecting frame to rotate, and the grinding head 27 is driven to rotate by the connecting frame through the grinding head rotating shaft 23, thereby carrying out automatic grinding.

[0064] In an embodiment, referring to Figs. 10 and 12, a second through groove 212 is provided in the connecting frame, and the lock switch 31 is disposed in the second through groove 212.

[0065] The control structure and the material container assembly are connected using the lock switch 31, so that the control structure drives the material container assembly to carry out grinding.

[0066] Specifically, referring to Fig. 12, the above-mentioned connecting frame includes a first connecting frame 21 and a second connecting frame 22. The material container body 20 is provided with a mounting hole with a snapping ring 201 provided therein, and an upper end of the first connecting frame 21 is provided with a snapping edge, which is connected with the snapping ring 201. The above-mentioned second recess 213 is provided on the first connecting frame 21, the second through groove 212 penetrates the first connecting frame 21, and the first connecting frame 21 is connected to the second connecting frame 22. An extending column 223 extends downward from a lower end of the second connecting frame 22, and a rotating shaft slot is provided in the extending column 223, the grinding head rotating shaft 23 is fitted in the rotating shaft slot. Therefore, the rotation of the first connecting frame 21 drives the second connecting frame 22 to rotate, and the rotation of the second connecting frame 22 drives the grinding head rotating shaft 23 to rotate, which in turn drives the grinding head 27 to rotate, thereby carrying out automatic grinding. A compact structure and stable transmission process may be achieved.

exerted on the adjusting spring by the adjuster 28 is reduced, the grinding head 27 moves downwards, and the gap between the grinding head 27 and the grinding sleeve 26 becomes larger, thus the ground powder is coarser.

[0073] In an embodiment, referring to Figs. 15 and 16, a lower end of the material container body 20 is connected with a connecting base 25 provided with a first through-hole 253. The grinding head 27 is placed in the first through-hole 253, and an upper end of the grinding sleeve 26 is fitted in the first through-hole 253. A lower end of the connecting base 25 is connected with a fixing base 29 having a first through groove, and first fixing blocks 291are provided on two sides of the first through groove. An outer periphery of the grinding sleeve 26 is provided with notches 261 into which the first fixing blocks 291 are fitted.

[0074] In addition, the grinding sleeve 26 is provided with a grinding groove, and the grinding head 27 is placed in the grinding groove of the grinding sleeve 26.

[0075] Specifically, an inner side wall of the material container body 20 is provided with second fixing blocks, and the connecting base 25 is provided with connecting grooves 251. The second fixing blocks are engaged into the connecting grooves 251 to connect the material container body 20 with the connecting base 25. The grinding sleeve 26, the grinding head 27 and the material container body 20 are formed into an independent structure through the connecting base 25.

[0076] In addition, for ease of assembly of the material container body 20 and the connecting base 25, the material container body 20 is provided with limiting bars, and the connecting base 25 is provided with limiting slots 254 into which the limiting bars are fitted for positioning.

[0077] In an embodiment, referring to Fig. 15, an annular groove 252 is provided on an outer periphery of the connecting base 25, and protrusions 292 are provided inside the fixing base 29, and the protrusions 292 are engaged into the annular groove 252, thereby connecting the connecting base 25 with the fixing base 29. With the cooperation between the notches 261 and the first fixing blocks 291, the grinding sleeve 26 may stay stationary while the grinding head 27 is rotated clockwise, so that material can be ground into powder having the same size as the

cone body is provided therein with a slot for inserting therein the connecting rod, the lower end surface of the truncated cone body is recessed inward to form an adjusting recess, and an adjusting spring is fitted in the adjusting recess.

6. The dual-purpose grinder of claim 5, characterized in that the material container assembly further comprises a fixing frame with positioning columns provided thereon, positioning grooves into which the positioning columns are inserted are provided on the grinding sleeve, and the positioning columns are fitted into the positioning grooves.

7. The dual-purpose grinder of claim 1, characterized in that the connecting structure comprises a lock switch, which includes two inverted buckle sections for clamping the external power assembly.

8. The dual-purpose grinder of claim 7, characterized in that a connecting frame is disposed in the material container body, and the connecting frame is connected to the grinding head through a grinding head rotating shaft, a second through groove is provided in the connecting frame, and the lock switch is disposed in the second through groove.

9. The dual-purpose grinder of claim 8, characterized in that a lower end of the grinding head rotating shaft is connected to an adjusting structure for adjusting a size of a gap between the grinding head and the grinding sleeve, and the adjusting structure includes an adjusting spring sleeved on the grinding head rotating shaft and an adjuster connected to the grinding head rotating shaft, the adjusting spring is located between the grinding head and the connecting frame, and the adjuster is located below the grinding head.

10. An operating method of a dual-purpose grinder, characterized in that the operating method comprises:

rotating a material container body when manual grinding is required, thus a grinding head is driven to rotate, and a grinding sleeve and the grinding head move relative to each other so that a material is ground and pressed into powder between the grinding head and the grinding sleeve;