extracted.

However, there are problems in that the crush using the grater is achieved at a speed higher than an ordinary low speed of the juicer and also a user should press the material against the grater by a large force in order to prevent the rotation of the material due to the high speed of the grater.

Also, since the conventional juicer cuts the material and then mills the cut pieces of the material while they are pressed against a sieve in a juice extraction process, the sieve may be deformed in a moment by the pressed cut pieces.

Such deformation destroys a molding for holding a shape of the sieve or decreases the bond between the molding and the sieve to generate a gap between the molding and the sieve causing a leakage of residues and a decrease in juice extraction efficiency.

SUMMARY OF THE INVENTION

~~Therefore, an object~~Embodiments of the present invention ~~is~~ seek to provide a juice extraction module for a juicer, in which a structure of crushing a material in advance is provided in a lid and a screw to eliminate an inconvenient procedure of chopping or cutting a material in advance before inputting the material.

According to an aspect of the present invention, there is provided a juice extraction module for a juicer, which includes a container 100 formed with a juice discharge port 101, a sieve 200 positioned inside of the container 100, a screw 300 positioned inside of the sieve 200 to extract juice from a material, and a lid 400 coupled to a top end of the container 100 and formed with a input port 410 through which the material is input.

The juice extraction module includes a crushing portion 500 formed on a top end of the screw 300 to be narrowed upward, the crushing portion 500 having a crushing blade 510 formed thereon; and a crushing processing portion 600 connected to the input port 410 and formed in a bottom of the lid 400 to be concave for accommodating the crushing portion 500, wherein the crushing blade 510 crushes the material in advance within the

extraction module for a juicer, which includes a container 100 formed with a residue discharge port 102 and a juice discharge port 101; a sieve 200 positioned inside of the container 100; a screw 300 positioned inside of the sieve 200 to extract juice from a material, and a lid 400 coupled to a top end of the container 100 and formed with a input port 410 through which the material is input, wherein a crushing portion 500 is formed on a top end of the screw 300 to be narrowed upward, the crushing portion 500 having a crushing blade 510 formed thereon, wherein the lid 400 is formed with a crushing processing portion 600, the crushing processing portion 600 being connected to the input port 410 and accommodating the crushing portion 500, wherein the input port 410 is disposed to be offset outwards from a central axis of the screw 300 and has a width larger than the shortest distance from the central axis of the screw 300 to an inner circumferential surface of a top end of the sieve 200, wherein the crushing processing portion 600 is formed with a material guide surface for assisting guidance of the material from the input port 410 to the sieve 200.

The crushing blade 510 and the crushing processing portion 600 are formed so that a distance between the crushing blade 510 and an inner surface of the crushing processing portion 600 is gradually reduced by the rotation of the crushing blade 510

The crushing processing portion 600 comprises a crushing processing surface 610, the crushing processing surface 610 is formed with at least one milling blade 630.

~~On the other hand, the present invention provides~~There is also disclosed a juice extraction module for a juicer, which includes a container 100 formed with a juice discharge port 101, a sieve 200 positioned inside of the container 100, a screw 300 positioned inside of the sieve 200 to extract juice from a material, and a lid 400 coupled to a top end of the container 100 and formed with a input port 410 through which the material is input, the juice extraction module comprising: a crushing portion 500 formed on a top end of the screw 300 to be narrowed upward, the crushing portion 500 having a crushing blade 510 formed thereon; and a crushing processing portion 600 connected to the input port 410 and formed in a bottom of the lid 400 to be concave for accommodating the crushing portion 500, wherein an inner surface of the crushing processing portion 600 includes a crushing processing surface 610 formed to be gradually close to the crushing blade 510 in a direction in which

the crushing blade 510 runs from the input port 410, and the crushing blade 510 crushes the material in advance within the crushing processing portion 600.

~~In addition, the present invention provides~~There is also disclosed a juice extraction module for a juicer, which includes a container 100 formed with a juice discharge port 101, a sieve 200 positioned inside of the container 100, a screw 300 positioned inside of the sieve 200 to extract juice from a material, and a lid 400 coupled to a top end of the container 100 and formed with a input port 410 through which the material is input, the juice extraction module including: a crushing portion 500 formed on a top end of the screw 300 to be narrowed upward, the crushing portion 500 having a crushing blade 510 formed thereon; and a crushing processing portion 600 connected to the input port 410 and formed in a bottom of the lid 400 to be concave for accommodating the crushing portion 500, wherein an inner surface of the crushing processing portion 600 comprises a material guide surface 620 continuing from the input port 410 and formed to be inclined toward a central axis of the crushing portion 500, whereby the material guide surface 620 guides the material so that a lateral side of the material begins to be crushed by the crushing blade 510, and the crushing blade 510 crushes the material in advance within the crushing processing portion 600.

A conventional juicer has inconvenience and difficulty in that an increase in length of a screw blade increases an entire outer diameter of a screw, and thus, a sieve, a container and a lid should be manufactured large so as to be fitted to the screw. However, according to embodiments of the present invention, a material having a diameter larger than a length of a screw blade can be used, and the material can be crushed into a size suitable for extracting juice without increasing an outer diameter of a screw by a crushing processing portion formed to be concave in a bottom of a lid and a crushing portion accommodated in the crushing processing portion and cooperating with the crushing processing portion.

Thus, embodiments of the present invention can ~~eliminates~~ eliminate the inconvenience and cumbersomeness that a user should chop a material before the material is input.

In addition, a space between the crushing blade and the crushing processing portion is gradually narrowed and the material ~~is~~ can be caught and simultaneously dragged into between the crushing blade and the crushing processing portion, so that the material ~~is~~ can be

which the material is input,

wherein a crushing portion is formed on a top end of the screw to be narrowed upward, the crushing portion having a crushing blade formed thereon,

wherein the lid is formed with a crushing processing portion, the crushing processing portion being connected to the input port and accommodating the crushing portion,

wherein the input port is disposed to be offset outwards from a central axis of the screw and has a width larger than the shortest distance from the central axis of the screw to an inner circumferential surface of a top end of the sieve,

wherein the crushing processing portion is formed with a material guide surface for assisting guidance of the material from the input port to the sieve.

11. The juice extraction module according to claim 10, wherein the crushing blade and the crushing processing portion are formed so that a distance between the crushing blade and an inner surface of the crushing processing portion is gradually reduced by the rotation of the crushing blade.

12. The juice extraction module according to claim 10, wherein the crushing processing portion comprises a crushing processing surface, the crushing processing surface is formed with at least one milling blade.

~~13. A juice extraction module for a juicer, which includes a container formed with a juice discharge port, a sieve positioned inside of the container, a screw positioned inside of the sieve to extract juice from a material, and a lid coupled to a top end of the container and formed with a input port through which the material is input, the juice extraction module comprising:~~

~~a crushing portion formed on a top end of the screw to be narrowed upward, the crushing portion having a crushing blade formed thereon; and~~

~~a crushing processing portion connected to the input port and formed in a bottom of the lid to be concave for accommodating the crushing portion,~~

~~wherein an inner surface of the crushing processing portion comprises a crushing processing surface formed to be gradually close to the crushing blade in a direction in which the crushing blade runs from the input port, and the crushing blade crushes the material in advance within the crushing processing portion.~~

~~14. The juice extraction module according to claim 13, wherein the inner surface of the crushing processing portion comprises a material guide surface continuing from the input port and formed to be inclined toward a central axis of the crushing portion, whereby the material guide surface guides the material so that a lateral side of the material begins to be crushed by the crushing blade.~~

~~15. The juice extraction module according to claim 14, wherein a bottom end of the material guide surface conforms to an inner surface of the sieve positioned inside of the container.~~

~~16. The juice extraction module according to claim 13, wherein the crushing blade is formed so that the material input through the input port is crushed while a lateral side of the material is pushed outwards, and the crushing processing portion is provided with an inner surface to hold the material pushed outwards by the crushing blade, whereby the material is crushed between the crushing blade and the inner surface of the crushing processing portion.~~

~~17. A juice extraction module for a juicer, which includes a container formed with a juice discharge port, a sieve positioned inside of the container, a screw positioned inside of the sieve to extract juice from a material, and a lid coupled to a top end of the container and formed with a input port through which the material is input, the juice extraction module comprising:~~

~~a crushing portion formed on a top end of the screw to be narrowed upward, the crushing portion having a crushing blade formed thereon; and~~

~~a crushing processing portion connected to the input port and formed in a bottom~~

~~of the lid to be concave for accommodating the crushing portion,~~

~~wherein an inner surface of the crushing processing portion comprises a material guide surface continuing from the input port and formed to be inclined toward a central axis of the crushing portion, whereby the material guide surface guides the material so that a lateral side of the material begins to be crushed by the crushing blade, and the crushing blade crushes the material in advance within the crushing processing portion.~~

~~18. The juice extraction module according to claim 17, wherein a bottom end of the material guide surface conforms to an inner surface of the sieve.~~

~~19. The juice extraction module according to claim 17, wherein the crushing blade is formed so that the material input through the input port is crushed while a lateral side of the material is pushed outwards, and the crushing processing portion is provided with an inner surface to hold the material pushed outwards by the crushing blade, whereby the material is crushed between the crushing blade and the inner surface of the crushing processing portion.~~