Claims

1. A juice extractor body, comprising:

a rotating shaft;

a flexible blade that is arranged around the rotating shaft, a longitudinal direction thereof being coincident with an axial direction of the rotating shaft; and

a blade guide that is provided at an intermediate position in the longitudinal direction of the flexible blade,

wherein one end in the longitudinal direction of the flexible blade configured to be slidable in the axial direction of the rotating shaft,

wherein the other end in the longitudinal direction of the flexible blade is attached to an axis member that extends from the blade guide to the other end side of the flexible blade or to the rotating shaft, and

wherein the flexible blade changes from a form in which the flexible blade is linearly extended to a form in which the flexible blade is bent and outwardly expanded or vice versa, between the other end of the flexible blade and the blade guide, in association with the sliding of the one end of the flexible blade.

2. The juice extractor body according to claim 1, wherein

the length between the blade guide and the one end of the flexible blade is set in accordance with the size of a target to be juice-extracted.

3. The juice extractor body according to claim 1 or 2, further comprising

a coupling mechanism that connects the other end of the flexible blade to the axis member or to the rotating shaft,

wherein the coupling mechanism guides the other end side of the flexible blade to a closed form in which the other end is parallel to the axial direction of the rotating shaft and to an opened form in which the other end is opened outwardly in a radial direction of the rotating shaft, respectively.

4. The juice extractor body according to any one of claims 1-3, further comprising

a blade slider that moves the one end of the flexible blade in the axial direction of the rotating shaft.

5. The juice extractor body according to any one of claims 1-4, wherein

the blade guide includes a guide hole through which the flexible blade is passed, and

the guide hole has a part outwardly widened in the radial direction of the rotating shaft on the other end side of the flexible blade.

6. The juice extractor body according to any one of claims 1-5, wherein

the flexible blade is formed of a metal material which has flexibility, a plastic material, a carbon material or a composite material thereof.

7. A juice extractor, comprising:

a rotating shaft;

a driving force transmission mechanism that has a shaft holder that removably holds

the rotating shaft and transmits a driving force for rotating the rotating shaft;

a flexible blade that is arranged around the rotating shaft, a longitudinal direction thereof being coincident with an axial direction of the rotating shaft;

a blade guide provided at an intermediate position in the longitudinal direction of the flexible blade; and

a sliding mechanism for sliding one end in the longitudinal direction of the flexible blade in the axial direction of the rotating shaft,

wherein one end in the longitudinal direction of the flexible blade configured to be slidable in the axial direction of the rotating shaft,

wherein the other end in the longitudinal direction of the flexible blade is attached to an axis member that extends from the blade guide to the other end side of the flexible blade or to the rotating shaft, and

wherein the flexible blade changes from a form in which the flexible blade is linearly extended to a form in which the flexible blade is bent and outwardly expanded or vice versa, between the other end of the flexible blade and the blade guide, in association with the sliding of the one end of the flexible blade.

8. The juice extractor according to claim 7, further comprising

a coupling mechanism that connects the other end of the flexible blade to the axis member or to the rotating shaft,

wherein the coupling mechanism guides the other end side of the flexible blade to a closed form in which the other end is parallel to the axial direction of the rotating shaft and to an opened form in which the other end is opened outwardly in a radial direction of the rotating

shaft, respectively.

9. The juice extractor according to any one of claim 7 or 8, further comprising

a blade slider that moves the one end of the flexible blade in the axial direction of the rotating shaft.

Claims

1. A juice extractor body, comprising:

a rotating shaft;

a flexible blade that is arranged around the rotating shaft, a longitudinal direction thereof being coincident with an axial direction of the rotating shaft; and

a blade guide that is provided at an intermediate position in the longitudinal direction of the flexible blade,

wherein one end in the longitudinal direction of the flexible blade is configured to be slidable in the axial direction of the rotating shaft,

wherein the other end in the longitudinal direction of the flexible blade is attached to an axis member that extends from the blade guide to the other end side of the flexible blade or to the rotating shaft, and

wherein the flexible blade changes from a form in which the flexible blade is linearly extended to a form in which the flexible blade is bent and outwardly expanded or vice versa, between the other end of the flexible blade and the blade guide, in association with the sliding of the one end of the flexible blade.

2. The juice extractor body according to claim 1, wherein

the length between the blade guide and the one end of the flexible blade is set in accordance with the size of a target to be juice-extracted.

3. The juice extractor body according to claim 1 or 2, further comprising a coupling mechanism that connects the other end of the flexible blade to the axis member or to the rotating shaft,

wherein the coupling mechanism guides the other end side of the flexible blade

to a closed form in which the other end is parallel to the axial direction of the rotating shaft and to an opened form in which the other end is opened outwardly in a radial direction of the rotating shaft, respectively.

4. The juice extractor body according to any one of claims 1-3, further comprising a blade slider that moves the one end of the flexible blade in the axial direction of the rotating shaft.

5. The juice extractor body according to any one of claims 1-4, wherein

the blade guide includes a guide hole through which the flexible blade is passed, and

the guide hole has a part outwardly widened in the radial direction of the rotating shaft on the other end side of the flexible blade.

6. The juice extractor body according to any one of claims 1-5, wherein

the flexible blade is configured with a material selected from a metal material which has flexibility, a plastic material, a carbon material and a composite material thereof.

7. A juice extractor, comprising:

a rotating shaft;

a driving force transmission mechanism that has a shaft holder that removably holds the rotating shaft and transmits a driving force for rotating the rotating shaft;

a flexible blade that is arranged around the rotating shaft, a longitudinal direction thereof being coincident with an axial direction of the rotating shaft;

a blade guide provided at an intermediate position in the longitudinal direction of the flexible blade; and

a sliding mechanism for sliding one end in the longitudinal direction of the flexible blade in the axial direction of the rotating shaft,

wherein one end in the longitudinal direction of the flexible blade is configured to be slidable in the axial direction of the rotating shaft,

wherein the other end in the longitudinal direction of the flexible blade is attached to an axis member that extends from the blade guide to the other end side of the flexible blade or to the rotating shaft, and

wherein the flexible blade changes from a form in which the flexible blade is linearly extended to a form in which the flexible blade is bent and outwardly expanded or vice versa, between the other end of the flexible blade and the blade guide, in association with the sliding of the one end of the flexible blade.

8. The juice extractor according to claim 7, further comprising a coupling mechanism that connects the other end of the flexible blade to the axis member or to the rotating shaft,

wherein the coupling mechanism guides the other end side of the flexible blade to a closed form in which the other end is parallel to the axial direction of the rotating shaft and to an opened form in which the other end is opened outwardly in a radial direction of the rotating shaft, respectively.

9. The juice extractor according to any one of claim 7 or 8, further comprising a blade slider that moves the one end of the flexible blade in the axial direction of the rotating shaft.

10. A flexible blade for a juice extractor, formed of a titanium alloy with a tensile elastic limit strength, which is defined as a stress when a permanent strain in a tensile test reaches 0.2 %, of 700 MPa or higher and with an average Young's modulus, which is

determined as a slope of a tangent at a stress position corresponding to 1/2 of the tensile elastic limit strength in a stress-strain diagram obtained from the tensile test, of 100 GPa or lower.

