

CLAIMS

1. An exercise apparatus adapted to allow a treatment target region to perform an exercise by pressing a treatment member against the treatment target region, wherein

a rotation treatment element freely rotatable along a movement direction of the treatment member is provided on a side facing to the treatment target region of the treatment member, thereby allowing the treatment target region to perform the exercise by pressing the rotation treatment element against the treatment target region.

2. The exercise apparatus according to claim 1, wherein a cylindrical shaped roller member formed as the rotation treatment element is provided on the side facing to the treatment target region of the treatment member, and wherein

the treatment target region is allowed to perform the exercise by pressing the roller member against the treatment target region.

3. The exercise apparatus according to claim 2 comprising:

a pair of the treatment members which are provided

so as to face each other; and

a drive mechanism adapted to swingably drive the paired treatment members, wherein

the roller member is provided at a distal end of the treatment member so that a shaft center thereof is oriented to a direction intersecting a swinging direction of the treatment member, and the roller member is freely rotatable about the shaft center.

4. The exercise apparatus according to claim 3, wherein a plurality of the roller members are provided on the treatment member.

5. The exercise apparatus according to claim 3, wherein the drive mechanism comprises: a drive motor; a rotating shaft rotated by the drive motor; and a conversion part adapted to convert a rotation drive power transmitted by the rotating shaft to a swinging of the treatment member, wherein

the conversion part includes: a rotation boss part which is fixed to an axial intermediate portion of the rotating shaft and provided with an edgeless type cam surface inclined to the rotating shaft and the cam surface being formed over a circumference thereof; an annular fitting part formed at a proximal side of the treatment

member and slidably fitting into the circumference of the rotating boss part; and a regulation part adapted to regulate a co-rotation of the annular fitting part with respect to the rotation boss part.

6. The exercise apparatus according to claim 5, wherein the regulation part includes a connecting rod connecting a proximal side of the treatment member and an installation fixing side, and wherein

one end portion of the connecting rod is connected to the installation fixing side via a first universal joint and the other end portion of the connecting rod is connected to the proximal end of the treatment member via a second universal joint.

7. The exercise apparatus according to claim 6, wherein each of the first and second universal joints is composed of a ball joint.

8. The exercise apparatus according to any one of claims 3 to 7, wherein a half-turn clutch is provided on the rotating shaft, and this half-turn clutch enables a switching between a close departure swinging movement of the treatment member and a parallel swinging movement of the treatment member.

CLAIMS

1. An exercise apparatus adapted to allow a treatment target region to perform an exercise by pressing a treatment member against the treatment target region, wherein

a rotation treatment element freely rotatable along a movement direction of the treatment member is provided on a surface facing to the treatment target region of the treatment member, thereby allowing the treatment target region to perform the exercise by pressing the rotation treatment element against the treatment target region,

a column-shaped roller member formed as the rotation treatment element is provided on the surface facing to the treatment target region of the treatment member,

the treatment target region is allowed to perform the exercise by pressing the roller member against the treatment target region,

a pair of the treatment members are provided so as to face each other.

a drive mechanism drives the paired treatment members by swinging in a lateral direction,

the roller member is provided at a distal end of the treatment member so that a shaft center thereof is oriented in a vertical direction, and the roller member is freely rotatable about the shaft center.

2. The exercise apparatus according to claim 1, wherein a plurality of the roller members are provided on the treatment member.

3. The exercise apparatus according to claim 1 or 2, wherein the drive mechanism comprises: a drive motor; a rotating shaft rotated by the drive motor; and a conversion part adapted to convert a rotation drive power transmitted by the rotating shaft to a swinging of the treatment member, wherein

the conversion part includes: a rotation boss part which is fixed to an axial intermediate portion of the rotating shaft and provided with an edgeless type cam surface inclined to the rotating shaft and the cam surface being formed over a circumference thereof; an annular fitting part formed at a proximal side of the treatment

member and slidably fitting into the circumference of the rotating boss part; and a regulation part adapted to regulate a co-rotation of the annular fitting part with respect to the rotation boss part.

4. The exercise apparatus according to claim 3, wherein the regulation part includes a connecting rod connecting a proximal side of the treatment member and an installation fixing side, and wherein

one end portion of the connecting rod is connected to the installation fixing side via a first universal joint and the other end portion of the connecting rod is connected to the proximal end of the treatment member via a second universal joint.

5. The exercise apparatus according to claim 4, wherein each of the first and second universal joints is composed of a ball joint.

6. The exercise apparatus according to any one of claims 1 to 5, wherein a half-turn clutch is provided on the rotating shaft, and this half-turn clutch enables

a switching between a close departure swinging movement of the treatment member and a parallel swinging movement of the treatment member.