Claims

1. A care robot comprising:

a base;

a pair of underarm holding sections provided on the base and configured to each hold under both arms of a care receiver; and

a torso pad having a support surface that faces and supports a torso of the care receiver,

wherein

the care robot is configured to assist the care receiver to stand up or sit down, and

the pair of underarm holding sections are each configured to be swingable in different directions around a fulcrum, the fulcrum being an axis that is substantially perpendicular with respect to the support surface of the torso pad, the fulcrum being provided further away from the care receiver than at least a portion that holds the underarm of the care receiver such that the distance between the pair of underarm holding sections changes and the portions that hold the underarm of the care receiver can each be aligned with a respective position under the arms of the care receiver.

2. The care robot according to claim 1, wherein

the portion that holds the underarm includes an underarm support section configured to support the underarm of the care receiver from below, and an upright section that raises up from the underarm support section, and

the pair of underarm holding sections swings such that a pair of the

upright sections is expandable to a position further to the outside than a shoulder width of the care receiver.

3. The care robot according to claim 1 or 2, wherein

a pair of grips configured to be held by both hands of the care receiver so as to insert the pair of underarm holding sections under both arms are each provided on the base further away from the care receiver than the pair of underarm holding sections,

such that,

when the pair of underarm holding sections are swung around the fulcrum in an opening direction that increases the distance between the pair of underarm holding sections, an arm-passing region is maintained between the care receiver and the pair of grips.

4. The care robot according to any one of the claims 1 to 3, wherein

an elastic member configured to bias each of the pair of underarm holding sections in a closing direction that decreases the distance between the pair of underarm holding sections is provided on the pair of underarm holding sections.

5. The care robot according to claim 4, wherein

an engaging stopping member configured to temporarily stop the pair of underarm holding sections against the biasing force of the elastic member when the underarm holding sections are swung in an opening direction is provided on the pair of underarm holding sections.

6. The care robot according to any one of the claims 1 to 3, wherein an elastic member configured to bias each of the pair of underarm holding sections in an opening direction that increases the distance between the pair of underarm holding sections is provided on the pair of underarm holding sections.

7. The care robot according to any one of the claims 1 to 6, wherein a swing pin acting as the fulcrum, and an elongated hole configured to guide the swinging of a guide pin that is inserted into the elongated hole are provided on the underarm holding sections.

8. A care robot comprising:

a base; and

a pair of underarm holding sections provided on the base and configured to each hold under both arms of a care receiver;

wherein

the care robot is configured to assist the care receiver to stand up or sit down, and

the pair of underarm holding sections are each configured to be swingable in different directions around a fulcrum provided further away from the care receiver than at least a portion that holds the underarm of the care receiver such that the distance between the pair of underarm holding sections changes,

wherein the portion that holds the underarm includes an underarm support section configured to support the underarm of the care receiver from below, and an upright section that raises up from the underarm holding section, and

the pair of underarm holding sections swings such that a pair of the upright sections is expandable to a position further to the outside than a shoulder width of the care receiver.

9. The care robot according to claim 8, wherein

a pair of grips configured to be held by both hands of the care receiver so as to insert the pair of underarm holding sections under both arms are each provided on the base further away from the care receiver than the pair of underarm holding sections,

such that,

when the pair of underarm holding sections are swung around the fulcrum in an opening direction that increases the distance between the pair of underarm holding sections, an arm-passing region is maintained between the care receiver and the pair of grips.

10. The care robot according to any one of the claims 8 to 9, wherein

an elastic member configured to bias each of the pair of underarm holding sections in a closing direction that decreases the distance between the pair of underarm holding sections is provided on the pair of underarm holding sections.

11. The care robot according to claim 10, wherein

an engaging stopping member configured to temporarily stop the pair of underarm holding sections against the biasing force of the elastic member when the underarm holding sections are swung in an opening direction is provided on the pair of underarm holding sections.

12. The care robot according to any one of the claims 8 to 9, wherein an elastic member configured to bias each of the pair of underarm holding sections in an opening direction that increases the distance between the pair of underarm holding sections is provided on the pair of underarm holding sections.

13. The care robot according to any one of the claims 8 to 12, wherein a swing pin acting as the fulcrum, and an elongated hole configured to guide the swinging of a guide pin that is inserted into the elongated hole are provided on the underarm holding sections.

14. A care robot comprising:

a base;

a torso pad provided on the base, the torso pad having a torso support surface; and

a pair of underarm holding sections swingable between an open state and a closed state, wherein each underarm holding section is swingable around a fulcrum, the fulcrum being an axis that is substantially perpendicular with respect to the torso support surface of the torso pad.

15. The care robot according to claim 14, wherein the torso pad further comprises a first side edge and a second side edge, and wherein the pair of underarm holding sections are swingable toward the open state to displace each of the underarm holding sections away from a respective one of the first side edge and the second side edge.

16. The care robot according to claim 15, wherein the pair of the underarm holding sections are swingable toward the closed state to align each of the underarm holding sections with a respective one of the first side edge and the second side edge of the torso pad.

17. The care robot according to any one of the claims 14 to 16, further comprising an elastic member configured to bias the pair of underarm holding sections towards the closed state.

18. The care robot according to claim 17, further comprising an engaging stopping member configured to counter a biasing force of the elastic member.

19. The care robot according to any one of claims 15 to 18, wherein:

the torso pad further comprises an upper edge and a lower edge, the torso support surface extends from the upper edge to the lower edge; and

each of the fulcrums is provided adjacent to the upper edge of the torso pad, and each of the fulcrums is provided adjacent to a respective one of the first side edge and the second side edge of the torso pad.

20. The care robot according to any one of claims 15 to 19 further comprises a pair of hand grips provided on the base, and wherein:

one of the fulcrums is provided in between one of the pair of hand grips and first side edge of the torso pad; and

the other one of the fulcrums is provided in between another one of the pair of the hand grips and the second side edge of the torso pad.