CLAIMS

1. Wearable support structure (201) for at least partly relieving a human body during leaning or bending over, said structure (201) comprising a frame having:

- a chest support (202) for bearing upon a chest of said human body;
- pivoting arrangements (207) for pivoting the support structure in correspondence with the leaning or bending or the human body;
- an elongated stay (203a, 203b) connected to said chest support (202), provided to extend substantially alongside said human body and connected to said pivoting arrangements (207),

wherein said stay (203a, 203b) is arranged such that said stay is in a first state corresponding with an upright position of said human body when being unloaded, and arranged to be biased back to said first state when being into a second state corresponding with a leaning or bending position of said human body,

- a lumbar support (204), connected to said pivoting arrangements (207), and arranged for bearing upon a lumbar area of said human body, and
- a thigh support (214), connected to said pivoting arrangements (207), and arranged for bearing upon a front side of a thigh area of said human body, characterized in that said wearable support (201) comprises a connecting device (1, 101) detachably connecting at least one of:
- said thigh support (214) to said pivoting arrangements (207);
- said elongated stay (203a, 203b) to said chest support (202); and
- said elongated stay (203a, 203b) to said pivoting arrangements (207); wherein said connecting device (1, 101) comprises a first connecting element (3, 103) and a second connecting element (5, 105),
- wherein said first connecting element (3, 103) is rigidly connected to a first part of said wearable support structure (201) that is at least one of said pivoting arrangements (207) and said chest support (202),
- wherein said second connecting element (5, 105) is rigidly connected to a second part of said wearable support structure (201) that is at least one of said thigh support (214) and said stay (203a, 203b), and
- wherein said first connecting element (3, 103) comprises a receiving wall (9, 109) that is at least partly surrounding a receiving space (11, 111) for partly receiving said second connecting element (5, 105).

2. Wearable support structure (201) according to claim 1, wherein said connecting device (1 , 101) comprises a blocking unit (7, 107), wherein said blocking unit (7, 107) in a first state thereof blocks detachment of said first connecting element (3, 103) from said second connecting element (5, 105) and wherein in a second state of said blocking unit (7, 107) said first connecting element (3, 103) is detachable from said second connecting element (5, 105).

3. Wearable support structure (201) according to claim 1 or 2, wherein said first connecting element (3, 103) and said second connecting element (5, 105), while connected, extend in a longitudinal direction (A), wherein said connecting device (1, 101) comprises a rotation organ (13, 113) for allowing said first connecting element (3, 103), while connected to said second connecting element (5, 105), to rotate about a predetermined angle relative to said second connecting element (5, 105) about a common rotation axis extending in said longitudinal direction (A).

4. Wearable support structure (201) according to claim 3, wherein said predetermined angle is in the range of 60 - 120 degrees, preferably in the range of 80 - 100 degrees.

5. Wearable support structure (201) according to claim 3 or 4 when directly or indirectly dependent on claim 2, wherein said rotation organ (13, 113) comprises a recess (13, 113) provided in one of said first connecting element (3, 103) and said second connecting element (5, 105), wherein said blocking unit (7, 107) in said first state of said blocking unit (7, 107) is at least partly received in said recess (13, 113) for said blocking, wherein said blocking unit (7, 107) is arranged to be moveable in said recess (13, 113) for allowing said rotation about said common rotation axis about said predetermined angle.

6. Wearable support structure (201) according to any one of the preceding claims, wherein said connecting device (1, 101) comprises a distance organ (17, 1 17) for connecting said first part of said wearable support structure (201) at a predetermined distance from said second part of said wearable support structure (201).

7. Wearable support structure (201) according to claim 6 when directly dependent on claim 5, wherein said distance organ (17, 117) comprises said recess (13, 113) for connecting said first part of said wearable support structure (201) at said predetermined distance from said second part of said wearable support structure (201).

8. Wearable support structure (201) according to claim 6 or 7, wherein said distance organ (17, 117) is arranged for connecting said first part of said wearable support structure (201) at a further predetermined distance from said second part of said wearable support structure (201).

9. Wearable support structure (201) according to claim 8 when indirectly dependent on claim 2, wherein said distance organ (17, 117) is provided with a further recess (19, 21, 119, 121), wherein said further recess (19, 21, 119, 121) is provided in one of said first connecting element (3, 103) and said second connecting element (5, 105), wherein said blocking unit (7, 107) in said first state of said blocking unit (7, 107) is at least partly received in said further recess (19, 21, 119, 121) for connecting said first part of said wearable support structure (201) at said further predetermined distance from said second part of said wearable support structure (201).

10. Wearable support structure (201) according to claim 9, wherein said blocking unit (7, 107) is arranged to be moveable in said further recess (19, 21, 119, 121) for allowing said rotation about said common rotation axis about said predetermined angle.

11. Wearable support structure (201) according to claim 2, wherein said connecting device (1, 101) comprises an actuation element (23, 123) that is movable to a first position wherein said blocking unit (7, 107) is in said second state upon actuation of said actuation element (23, 123).

12. Wearable support structure (201) according to claim 2, wherein said receiving wall (9, 109) is provided with a receiving wall opening (31 , 131), wherein said blocking unit (7, 107) comprises a blocking element (33, 133) that is movably arranged in said receiving wall opening (31 , 131), wherein in a first position of said blocking element (33, 133) said blocking unit (7, 107) is in said first state and wherein in a second position of said blocking element (33, 133) said blocking unit (7, 107) is in said second state.

13. Wearable support structure (201) according to any one of the preceding claims, wherein said wearable support structure (201) further comprises at least one of:

- an arm support arranged for supporting an arm of said human body, wherein said arm support is detachably connected, by said connecting device (1, 101), to said frame;

- a leg support, preferably comprising a knee joint, for supporting a leg of said human body, wherein said leg support is detachably connected, by said connecting device (1, 101), to said frame;
- a head support arranged for supporting a head of said human body, wherein said head support is detachably connected, by said connecting device (1, 101), to said frame;
- a tool support arranged for supporting a tool, wherein said tool support is detachably connected, by said connecting device (1, 101), to said frame.

14. Wearable support structure (201) according to any one of the preceding claims, wherein said frame comprises:

- a further elongated stay (203b) connected to said chest support (202), wherein said elongated stay (203a) and said further elongated stay (203b) are provided to extend substantially alongside opposite sides of said human body and connected to said pivoting arrangements (207),
- wherein said elongated stay (203a) and said further elongated stay (203b) are resilient stays arranged such that they are in said first state corresponding with an upright position of said human body when being unloaded, and arranged to be biased back to said first state when being bent into said second state corresponding with a leaning or bending position of said human body, wherein said elongated stay (203a) and said further elongated stay (203b) in said first state are in a stretched state and in in said second state are in a bent state.

15. Wearable support structure (201) according to claim 14, wherein said chest support (202) comprises two spatially separated pivoting means (209a, 209b), wherein said elongated stay (203a) and said further elongated stay (203b) are each detachably connected, by said connecting device (1 , 101), to said chest support (202) via a different one of said pivoting means (209a, 209b), wherein each of said pivoting means (209a, 209b) is arranged to pivot said chest support (202) with respect to a stay (203a, 203b) connected thereto, in a plane substantially parallel to said chest of said human body.

16. Wearable support structure (201) according to claim 14 or 15, wherein said two elongated stays (203a, 203b) are rotatably connected to said pivoting arrangements (207) such that the connecting ends of each of said elongated stays (203a, 203b) is rotatable around its elongated axis.