CLAIMS

1. A floating arrangement for supporting a solar panel, comprising

at least one support-floatation-unit for supporting a solar panel, the support-floatation-unit comprising a main body having a flat base and at least one connection portion protruding sideways from a chamfered corner wall between two side walls of the main body in a direction parallel with the flat base; and

at least one connecting-floatation-unit comprising a main body having a flat base and at least one connection portion protruding sideways from a chamfered corner wall between two side walls of the main body in a direction parallel with the flat base,

wherein the at least one connection portion of the at least one support-floatation-unit is coupled to the at least one connection portion of the at least one connecting-floatation-unit to form a connection joint which connects the at least one support-floatation-unit and the at least one connecting-floatation-unit in a side-by-side arrangement, whereby one of the two side walls of the main body of the at least one support-floatation-unit abuts one of the two side walls of the main body of the at least one connecting-floatation-unit,

wherein a height from the flat base of the at least one support-floatation-unit to a center of the connection joint is larger than a height from the flat base of the at least one connecting-floatation-unit to the center of the connection joint in a manner such that the flat base of the at least one support-floatation-unit extends downwards from a base level of the flat base of the at least one connecting-floatation-unit by a depth which defines an additional displacement volume of the at least one-support-floatation-unit configured to provide additional buoyancy to support the solar panel,

wherein the main body of the at least one connecting-floatation unit is of an elongate shape,

wherein the main body of the at least one connecting-floatation-unit comprises an overhanging protrusion extending longitudinally outwards from an upper half of a first longitudinal end of the main body of the at least one connecting-floatation-unit and an underside socket extending inwards at a lower half of the first longitudinal end of the main body of the at least one connecting-floatation-unit,

wherein the main body of the at least one connecting-floatation-unit further comprises an upper-side socket extending inwards at an upper half of a second longitudinal end of the main body of the at least one-connecting-floatation-unit and a foot protrusion extending longitudinally from a lower half of the second longitudinal end of the main body of the at least one-connecting-floatation-unit.

2. The arrangement as claimed in claim 1, wherein respective main body of the at least one support-floatation-unit and the at least one connecting-floatation-unit comprises at least one straight channel formation extending vertically upwards with respect to respective flat bases, the at least one straight channel formation being formed by an inward bend in respective one of the two side walls located adjacent to the respective chamfered corner wall having respective connection portion.

3. The arrangement as claimed in claim 2, wherein the at least one straight channel formation extends between the respective flat bases and respective roofs of the respective main body of the at least one support-floatation-unit and the at least one connecting-floatation-unit.

4. The arrangement as claimed in claim 3, wherein the at least one straight channel formation defines one continuous groove extending along an entire length of the straight channel formation without interruption.

5. The arrangement as claimed in claim 1, wherein respective main body of the at least one support-floatation-unit and the at least one connecting-floatation-unit comprises at least one straight ridge formation extending vertically upwards with respect to respective flat bases, the at least one straight ridge formation being formed by an outward bend in respective one of the two side walls located adjacent to the respective chamfered corner wall having respective connection portion.

6. The arrangement as claimed in any one of claims 1 to 5,

wherein the main body of the at least one connecting-floatation unit has four connection portions protruding from four chamfered corner walls of the main body of the at least one connecting-floatation unit, each connection portion being at a respective chamfered corner wall,

wherein the main body of the at least one support-floatation-unit is of a H-shape and has four connection portions protruding from four legs of the main body of the at least one support-floatation-unit, each connection portion being at a chamfered corner wall between two side walls of an end portion of a respective leg,

wherein two connection portions of two adjacent legs of the at least one support-floatation-unit are connected to two connection portions of two adjacent chamfered corner walls of the at least one connecting-floatation-unit along a longitudinal side wall of the at the at least one connecting-floatation-unit.

7. The arrangement as claimed in any one of claims 1 to 6, wherein the main body of the at least one support-floatation-unit has at least one concave formation recessed into at least one side wall of the main body of the support-floatation-unit.

8. The arrangement as claimed in claim 7, wherein the main body of the at least one support-floatation-unit has at least four concave formation each recessed into at least one side wall of the main body of the support-floatation-unit.

9. The arrangement as claimed in any one of claims 6 to 8 in combination with any one of claims 2 to 4, wherein the main body of the at least one connecting-floatation-unit comprises at least two straight channel formations, each straight channel formation being formed in respective longitudinal side walls of the main body of the at least one connecting-floatation-unit.

10. The arrangement as claimed in claim 9, wherein a same number of straight channel formations is formed in each longitudinal side wall of the main body of the at least one connecting-floatation-unit.

11. The arrangement as claimed in claim 9 or 10, wherein each straight channel formation formed in each longitudinal side wall is directly opposite another straight channel formation formed in an opposite longitudinal side wall.

12. The arrangement as claimed in any one of claims 6 to 11 in combination with any one of claims 2 to 4, wherein the main body of the at least one support-floatation-unit comprises at least four straight channel formations, each straight channel formation being formed in respective one of the two side walls at respective end portion of respective leg of the main body of the at least one support-floatation-unit.

13. The arrangement as claimed in any one of claims 1 to 12,

wherein the underside socket at the first longitudinal end is shaped to correspond with a shape of the foot protrusion at the second longitudinal end, and

wherein the upper-side socket at the second longitudinal end is shaped to correspond with a shape of the overhanging protrusion at the first longitudinal end.

14. The arrangement as claimed in any one of claims 1 to 13,

wherein, at the first longitudinal end of the main body of the at least one connecting-floatation-unit, a downward facing surface of the overhanging protrusion transit upwards to a

downward facing surface of the underside socket so as to define a step profile along said transition,

wherein, at the second longitudinal end of the main body of the at least one connecting-floatation-unit, an upward facing surface of the foot protrusion transit downwards to an upward facing surface of the upper-side socket so as to define a step profile along said transition.

15. The arrangement as claimed in any one of claims 1 to 14,

wherein the main body of the at least one connecting-floatation-unit further comprises a laterally-directed-overhanging-protrusion extending laterally outwards from an upper half of a first longitudinal side wall of the main body of the at least one connecting-floatation-unit and a laterally-aligned-underside-socket extending inwards at a lower half of the first longitudinal side wall of the main body of the at least one connecting-floatation-unit.

16. The arrangement as claimed in claim 15,

wherein, at the first longitudinal side wall of the main body of the at least one connecting-floatation-unit, a downward facing surface of the laterally-directed-overhanging-protrusion transits upwards to a downward facing surface of the laterally-aligned-underside-socket so as to define a step profile along said transition.

17. The arrangement as claimed in any one of claims 1 to 16,

wherein the main body of the at least one connecting-floatation-unit further comprises a laterally-aligned-upper-side-socket extending inwards at an upper half of a second longitudinal side wall of the main body of the at least one connecting-floatation-unit and a laterally-directed-foot-protrusion extending laterally from a lower half of the second longitudinal side wall of the main body of the at least one connecting-floatation-unit.

18. The arrangement of claim 17,

wherein, at the second longitudinal side wall of the main body of the at least one connecting-floatation-unit, an upward facing surface of the laterally-directed-foot-protrusion transits downwards to an upward facing surface of the laterally-aligned-upper-side-socket so as to define a step profile along said transition.

19. The arrangement as claimed in claim 17 or 18, when combined with claim 15,

wherein the laterally-aligned-underside-socket at the first longitudinal side wall is shaped to correspond with a shape of the laterally-directed-foot-protrusion at the second longitudinal side wall, and

wherein the laterally-aligned-upper-side-socket at the second longitudinal side wall is shaped to correspond with a shape of the laterally-directed-overhanging-protrusion at the first longitudinal side wall.

20. The arrangement as claimed in any one of claims 1 to 19, wherein the main body of the at least one connecting-floatation-unit further comprises at least one cove formation recessed into a longitudinal side of the main body of the at least one connecting-floatation-unit.

21. The arrangement as claimed in claim 20, wherein the main body of the at least one connecting-floatation-unit further comprises at least two cove formations, each recessed into respective longitudinal sides of the main body of the at least one connecting-floatation-unit.

22. The arrangement as claimed in claim 20 or 21, wherein the main body of the at least one connecting-floatation-unit further comprises at least one laterally-directed-connection-portion protruding away from each cove formation.

23. The arrangement as claimed in any one of claims 1 to 22, wherein the main body of the at least one connecting-floatation-unit comprises one or more hollow tube formations extending perpendicularly from a roof of the main body to the flat base of the main body in a manner so as to form a through-hole from the roof of the main body to the flat base of the main body.

24. The arrangement as claimed in any one of claims 1 to 23, wherein each main body of the at least one support-floatation-unit and the at least one connecting-floatation-unit comprises a hollow watertight container.

25. The arrangement as claimed in any one of claims 1 to 24, wherein each connection portion of the at least one support-floatation-unit and the at least one connecting-floatation-unit comprises a connection lug with respective eyehole axis being perpendicular to respective flat base.

26. The arrangement as claimed in claim 25, wherein the connection lug of the at least one support-floatation-unit and the connection lug of the at least one connecting-floatation-unit are coupled together with a nut and bolt to form the connection joint.

27. A floating solar panel system comprising:
the floating arrangement according to any one of claims 1 to 26; and

at least one solar panel mounted to the at least one support-floatation-unit.

28. A connecting-floatation-unit comprising:

a main body having a flat base and at least one connection portion protruding sideways from a chamfered corner wall between two side walls of the main body in a direction parallel with the flat base,

wherein the main body of the connecting-floatation unit is of an elongate shape,

wherein the main body of the connecting-floatation-unit comprises an overhanging protrusion extending longitudinally outwards from an upper half of a first longitudinal end of the main body of the connecting-floatation-unit and an underside socket extending inwards at a lower half of the first longitudinal end of the main body of the connecting-floatation-unit,

wherein the main body of the connecting-floatation-unit further comprises an upper-side socket extending inwards at an upper half of a second longitudinal end of the main body of the at least one-connecting-floatation-unit and a foot protrusion extending longitudinally from a lower half of the second longitudinal end of the main body of the at least one-connecting-floatation-unit.

29. The connecting-floatation-unit of claim 28,

wherein main body of the connecting-floatation-unit comprises at least one straight channel formation extending vertically upwards with respect to the flat base, the at least one straight channel formation being formed by an inward bend in one of the two side walls located adjacent to the chamfered corner wall having the at least one connection portion.

30. The connecting-floatation-unit of claim 29,

wherein the at least one straight channel formation extends between the flat base and a roof of the main body of the connecting-floatation-unit.

31. The connecting-floatation-unit of claim 30,

wherein the at least one straight channel formation defines one continuous groove extending along an entire length of the straight channel formation without interruption.

32. The connecting-floatation-unit of claim 28,

wherein the main body of the connecting-floatation-unit comprises at least one straight ridge formation extending vertically upwards with respect to the flat base, the at least one straight ridge formation being formed by an outward bend in one of the two side walls located adjacent to the chamfered corner wall having the at least one connection portion.

33. The connecting-floatation-unit of any one of claims 28 to 32,

wherein the main body of the connecting-floatation unit has four connection portions protruding from four chamfered corner walls of the main body of the connecting-floatation unit, each connection portion being at a respective chamfered corner wall.

34. The connecting-floatation-unit of any one of claims 28 to 33,

wherein the main body of the connecting-floatation-unit comprises at least two straight channel formations, each straight channel formation being formed in respective longitudinal side walls of the main body of the connecting-floatation-unit.

35. The connecting-floatation-unit of claim 34,

wherein a same number of straight channel formations is formed in each longitudinal side wall of the main body of the connecting-floatation-unit.

36. The connecting-floatation-unit of claim 34 or 35,

wherein each straight channel formation formed in each longitudinal side wall is directly opposite another straight channel formation formed in an opposite longitudinal side wall.

37. The connecting-floatation-unit of any one of claims 28 to 36,

wherein the underside socket at the first longitudinal end is shaped to correspond with a shape of the foot protrusion at the second longitudinal end, and

wherein the upper-side socket at the second longitudinal end is shaped to correspond with a shape of the overhanging protrusion at the first longitudinal end.

38. The connecting-floatation-unit of any one of claims 28 to 37,

wherein, at the first longitudinal end of the main body of the connecting-floatation-unit, a downward facing surface of the overhanging protrusion transit upwards to a downward facing surface of the underside socket so as to define a step profile along said transition,

wherein, at the second longitudinal end of the main body of the connecting-floatation-unit, an upward facing surface of the foot protrusion transit downwards to an upward facing surface of the upper-side socket so as to define a step profile along said transition.

39. The connecting-floatation-unit of any one of claims 28 to 38,

wherein the main body of the connecting-floatation-unit further comprises a laterally-directed-overhanging-protrusion extending laterally outwards from an upper half of a first

longitudinal side wall of the main body of the connecting-floatation-unit and a laterally-aligned-underside-socket extending inwards at a lower half of the first longitudinal side wall of the main body of the connecting-floatation-unit.

40. The connecting-floatation-unit of claim 39,

wherein, at the first longitudinal side wall of the main body of the connecting-floatation-unit, a downward facing surface of the laterally-directed-overhanging-protrusion transits upwards to a downward facing surface of the laterally-aligned-underside-socket so as to define a step profile along said transition.

41. The connecting-floatation-unit of any one of claims 28 to 40,

wherein the main body of the connecting-floatation-unit further comprises a laterally-aligned-upper-side-socket extending inwards at an upper half of a second longitudinal side wall of the main body of the connecting-floatation-unit and a laterally-directed-foot-protrusion extending laterally from a lower half of the second longitudinal side wall of the main body of the connecting-floatation-unit.

42. The connecting-floatation-unit of claim 41,

wherein, at the second longitudinal side wall of the main body of the connecting-floatation-unit, an upward facing surface of the laterally-directed-foot-protrusion transits downwards to an upward facing surface of the laterally-aligned-upper-side-socket so as to define a step profile along said transition.

43. The connecting-floatation-unit of claim 41 or 42, when combined with claim 39,

wherein the laterally-aligned-underside-socket at the first longitudinal side wall is shaped to correspond with a shape of the laterally-directed-foot-protrusion at the second longitudinal side wall, and

wherein the laterally-aligned-upper-side-socket at the second longitudinal side wall is shaped to correspond with a shape of the laterally-directed-overhanging-protrusion at the first longitudinal side wall.

44. The connecting-floatation-unit of any one of claims 28 to 43,

wherein the main body of the connecting-floatation-unit further comprises at least one cove formation recessed into a longitudinal side of the main body of the connecting-floatation-unit.

45. The connecting-floatation-unit of claim 44,

wherein the main body of the connecting-floatation-unit further comprises at least two cove formations, each recessed into respective longitudinal sides of the main body of the connecting-floatation-unit.

46. The connecting-floatation-unit of claim 44 or 45,

wherein the main body of the connecting-floatation-unit further comprises at least one laterally-directed-connection-portion protruding away from each cove formation.

47. The connecting-floatation-unit of any one of claims 28 to 46,

wherein the main body of the connecting-floatation-unit comprises one or more hollow tube formations extending perpendicularly from a roof of the main body to the flat base of the main body in a manner so as to form a through-hole from the roof of the main body to the flat base of the main body.

48. The connecting-floatation-unit of any one of claims 28 to 47,

wherein the main body of the connecting-floatation-unit comprises a hollow watertight container.

49. The connecting-floatation-unit of any one of claims 28 to 48,

wherein each connection portion of the connecting-floatation-unit comprises a connection lug with respective eyehole axis being perpendicular to the flat base.

50. A support-floatation-unit for supporting a solar panel, comprising

a main body having a flat base and at least one connection portion protruding sideways from a chamfered corner wall between two side walls of the main body in a direction parallel with the flat base,

wherein the main body of the support-floatation-unit is of a H-shape.

51. The support-floatation-unit of claim 50, wherein the main body of the support-floatation-unit has at least one concave formation recessed into at least one side wall of the main body of the support-floatation-unit.

52. The support-floatation-unit of claim 51, wherein the main body of the support-floatation-unit has at least four concave formation each recessed into at least one side wall of the main body of the support-floatation-unit.

53. The support-floatation-unit of any one of claims 50 to 52,

wherein respective main body of the support-floatation-unit comprises at least one straight channel formation extending vertically upwards with respect to the flat base, the at least one straight channel formation being formed by an inward bend in one of the two side walls located adjacent to the chamfered corner wall having the at least one connection portion.

54. The support-floatation-unit of claim 53,

wherein the at least one straight channel formation extends between the flat base and a roof of the main body of the support-floatation-unit.

55. The support-floatation-unit of claim 50,

wherein respective main body of the support-floatation-unit comprises at least one straight ridge formation extending vertically upwards with respect to the flat base, the at least one straight ridge formation being formed by an outward bend in one of the two side walls located adjacent to the chamfered corner wall having the at least one connection portion.

56. The support-floatation-unit of any one of claims 50 to 55,

wherein the main body of the support-floatation-unit has four connection portions protruding from four legs of the main body of the support-floatation-unit, each connection portion being at a chamfered corner wall between two side walls of an end portion of a respective leg.

57. The support-floatation-unit of any one of claims 50 to 56,

wherein the main body of the support-floatation-unit comprises at least four straight channel formations, each straight channel formation being formed in respective one of the two side walls at respective end portion of respective leg of the main body of the support-floatation-unit.

58. The support-floatation-unit of any one of claims 50 to 57, wherein the main body of the support-floatation-unit comprises a hollow watertight container.

59. The support-floatation-unit of any one of claims 50 to 58, wherein each connection portion of the support-floatation-unit comprises a connection lug with respective eyehole axis being perpendicular to the flat base.