WHAT IS CLAIMED IS:

1. A cable splice box, comprising:

an end surface for a cable passing therethrough, the cable having two cable segments respectively for passing in and out of the cable splice box;

a first waterproof structure, including:

a pillar including:

a pillar body having at least two longitudinal grooves, each of which has a bore diameter X configured to accommodate one of the two cable segments;

a longitudinal surface having at least two longitudinal slits, each of which has an operating slit width Y larger than or equal to X, corresponds to one of the at least two longitudinal grooves, and forms an opening thereon; and

at least two longitudinal elastic pieces, each of which forms on one edge of one of the at least two longitudinal slits; and

a hollow cylindrical tube disposed on the end surface, having an outer surface and providing a mid-span branch connection; and

a second waterproof structure including an elastic contracting sleeve arranged for disposal on the outer surface and for enveloping the first waterproof structure, and arranged for the second waterproof structure to exert a radial contracting force on the first waterproof structure to continuously maintain tightness between the pillar and the two cable segments included in the first waterproof structure, and the cable splice box is configured for the at least two longitudinal elastic pieces to be in place both before and after formation of the first and second waterproof structures.

2. The cable splice box according to Claim 1, wherein outer surfaces of the at least two longitudinal elastic pieces jointly and partly define the longitudinal surface.

3. The cable splice box according to Claim 1, wherein the pillar is an elastic body.

4. The cable splice box according to Claim 1, wherein the bore diameter X is one of the minimum and maximum bore diameters of each of the at least two longitudinal grooves.

5. The cable splice box according to Claim 1, wherein:

each of the at least two longitudinal elastic pieces has two extensions defining two edges of each of the at least two longitudinal slits, each of which has an original slit width being one selected from the group consisting of an original slit width W_1 less than X and greater than zero, an original slit width W_2 equal to zero, and an original slit width W_3 which is unmeasurable as a result of the two overlapping extensions.

6. The cable splice box according to Claim 1, further comprising a waterproof glue having adhesiveness and plasticity and being for disposal between one of the at least two longitudinal grooves and one of the two cable segments passing therethrough.

7. The cable splice box according to Claim 1, wherein the first waterproof structure has a cross-section being one of a circle-like and ellipse-like shape.

8. A cable splice box, comprising:

an end surface configured for a cable to pass therethrough, the cable having two cable segments respectively for passing in and out of the cable splice box;

a first waterproof structure, including:

a pillar, including:

a pillar body having two longitudinal grooves, each of which has a first bore diameter X configured to accommodate one of the two cable segments;

a longitudinal surface having at least two longitudinal slits, each of which has an operating slit width Y larger than or equal to X, corresponds to one of the two longitudinal grooves, and forms an opening thereon; and

at least two elastic pieces, each of which is disposed on one of the at least two longitudinal slits; and

a hollow cylindrical tube disposed on the end surface, having an outer surface and providing a mid-span branch connection; and

a second waterproof structure including an elastic contracting sleeve arranged for disposal on the outer surface and for enveloping the first waterproof structure,

characterized in that the second waterproof structure is arranged to exert a radial contracting force on the first waterproof structure to continuously maintain tightness between the pillar and the two cable segments included in the first waterproof structure, and the cable splice box is arranged for the at least two elastic pieces are to be in place both before and after formation of the first and second waterproof structures.

9. The cable splice box according to Claim 8, wherein outer surfaces of the at least two longitudinal elastic pieces jointly and partly define the longitudinal surface, the pillar is an elastic body, and the first waterproof structure has a cross-section being one of a circle-like and ellipse-like shape.

10. The cable splice box according to Claim 8, characterized in that the bore diameter X is one of the minimum and maximum bore diameters of each of the at least two longitudinal grooves.

11. The cable splice box according to Claim 8, wherein:

each of the at least two longitudinal elastic pieces has two extensions defining two edges of each of the at least two longitudinal slits, each of which has an original slit width being one selected from the group consisting of an original slit width W_1 less than X and greater than zero, W_2 equal to zero, and W_3 which is unmeasurable as a result of the two overlapping extensions.

12. The cable splice box according to Claim 8, further comprising a waterproof glue having adhesiveness and plasticity and being for disposal between one of the at least two longitudinal grooves and one of the two cable segments passing therethrough.

13. A pillar arranged for use in a cable splice box to form therein a waterproof structure, comprising:

a pillar body having at least two longitudinal grooves, each of which has a bore diameter X configured to accommodate a cable segment;

a longitudinal surface having at least two longitudinal slits, each of which has an operating slit width Y not less than X, corresponds to one of the at least two longitudinal

grooves, and forms an opening thereon; and

at least two longitudinal elastic pieces, each of which is disposed on one of the at least two longitudinal slits to keep the cable segment in the respective longitudinal groove therein, on a condition that a radial contracting force is exerted on the waterproof structure, the two longitudinal elastic pieces continuously maintain tightness between the pillar body and the at least two cable segments.

14. The pillar according to Claim 13, wherein outer surfaces of the at least two longitudinal elastic pieces jointly and partly define the longitudinal surface, and the pillar is an elastic body.

15. The pillar according to Claim 13, arranged for the radial contracting force to be exerted by an elastic contracting sleeve enveloping the waterproof structure to form an external waterproof structure, and arranged for the longitudinal elastic pieces to be in place both before and after formation of the waterproof structure and the external waterproof structure.

16. The pillar according to Claim 13, wherein the bore diameter X is one of the minimum and maximum bore diameters of each of the at least two longitudinal grooves.

17. The pillar according to Claim 13, wherein:

each of the at least two longitudinal elastic pieces has two extensions defining two edges of each of the at least two longitudinal slits, each of which has an original slit width being one selected from the group consisting of W_1 less than X and greater than zero, W_2 equal to zero, and W_3 which is unmeasurable as a result of the two overlapping extensions.

18. The pillar according to Claim 13, arranged for the pillar to coordinate with an elastic contracting sleeve to form a waterproof splice box unit.

19. The pillar according to Claim 13, further comprising a waterproof glue having adhesiveness and plasticity and being for disposal between one of the at least two longitudinal grooves and the cable segment passing therethrough.

20. The pillar according to Claim 13, wherein the waterproof structure has a cross-section being one of a circle-like and ellipse-like shape.