30, 2009)

[0008] It is to be understood that this background of the technology section is intended to provide useful background for understanding the technology and as such disclosed herein, the technology background section may include ideas, concepts or recognitions that were not part of what was known or appreciated by those skilled in the pertinent art prior to a corresponding effective filing date of subject matter disclosed herein.

SUMMARY

[0009] Embodiments of the present invention may be directed to a storage tank structure that defines a groove at a support portion of the storage tank and secures an angle plate so as to substantially prevent leakage of cryogenic liquefied natural gas that may occur along a side surface of the support portion of the storage tank.

[0010] According to an embodiment, a storage tank structure includes: a support portion provided at a bottom surface of a hull to support a storage tank; a heat insulating member provided at opposite side surfaces of the support portion; a groove portion provided at a predetermined height of the support portion and defined perpendicular to a height direction of the support portion; and a plate portion extending to a predetermined length in a longitudinal direction of the groove portion. Inside of the groove is filled with an adhesive portion.

[0011] The plate portion may have an "ㄴ"-like cross-sectional shape, and an end portion of the plate portion may be secured at an inner surface of the groove portion.

[0012] An insulating member, which can be a porous material, may be provided between a side surface of the support portion and the heat insulating member. An end portion of the insulating member may contact the plate portion, and the other end portion of the insulating member can extend from an upper portion of the support portion toward another neighboring support portion. A drain hole can be provided to be connected to at least one side of the insulating member.

[0013] The insulating member may extend from an upper portion of the support portion to a portion between the support portion and another neighboring support portion, and collect a

WHAT IS CLAIMED IS:

1. A storage tank structure, comprising:

a support portion provided at a bottom surface of a hull to support a storage tank;

a heat insulating member provided at opposite side surfaces of the support portion;

a groove portion provided at a predetermined height of the support portion and defined perpendicular to a height direction of the support portion;

a plate portion extending to a predetermined length in a longitudinal direction of the groove portion; and

an insulating member provided between a side surface of the support portion and the heat insulating member, wherein the insulating member is a porous material;

wherein inside of the groove is filled with an adhesive portion,

wherein one end portion of the insulating member contacts the plate portion, and the other end portion of the insulating member extends from an upper portion of the support portion toward another neighboring support portion,

and wherein a drain hole is provided to be connected to at least one side of the insulating member.

2. The storage tank structure of claim 1, wherein the plate portion has an "ㄴ"-like cross-sectional shape, and

an end portion of the plate portion is secured at an inner surface of the groove portion.

3. The storage tank structure of claim 1, further comprising a collecting unit collecting a liquefied natural gas leaked through the drain hole.

4. The storage tank structure of claim 1, wherein an auxiliary plate is provided under the heat insulating member.

5. The storage tank structure of claim 1, wherein the groove portion has a predetermined length and a predetermined height so that an "ㄴ"-like shaped jig for transporting the support portion is inserted and secured thereto.