large moonpool 14 such a drill well is formed in the hull 11 in order for installation of drilling equipments.

In the case where such a conventional drill ship is operated in a polar region, the drilling equipment and the workspace are exposed to a low-temperature outside air and thus it is difficult to perform the drilling operation. Therefore, it is necessary to enclose the drilling equipment and the workspace such that they are not exposed to outside air.

However, in the case of the drill ship, main drilling equipments are extensively disposed in a rig floor, a hurricane deck, and a moonpool zone, it is difficult to enclose the drilling work area through a hull structure of a conventional drill ship. It is uneconomical and there is an unavoidable problem in that structures causing interference dangers during operations are disposed, when considering drilling operation characteristics.

SUMMARY OF THE INVENTION

EmbodimentsAn aspect of the present invention areis directed to an arctic drill ship in which a weather tight structure as a concept of a single compartment is made from a side strake or a position near to the side strake to an upper portion of a hurricane deck, which may minimizethereby minimizing the influence of outside air on a drilling operation in polar regions and may minimizeminimizing a structure that disturbs a drilling work area.

According to an aspectembodiment of the present invention, there is provided an arctic drill ship wherein a derrick is fixed on an upper portion of a drill floor; each ofis characterized in that a left wall and a right wall of a weather tight structure isare coupled with a respective side strake to form the same plane around a drilling work area, and a front wall and a rear wall of the weather tight structure are coupled to a hurricane deck at the front and rear of the drilling work area, so as to protect thea drill floor and thea drilling work area from outside air, and a reinforcement part installed to reinforce a drilling load applied to the weather tight structure is coupled to the left wall, the right wall, the front wall, and the rear wall of the weather tight structure; the reinforcement part forms a lower structure of the drill floor; and both sides of the drill floor extend up to a position corresponding to a width of a hull, so that a load of the derrick is applied to the side strake.

The reinforcement part of the weather tight structure may have a grillage girder

system.

~~The reinforcement part may form a lower structure of the drill floor.~~

~~Both sides of the drill floor may extend up to a position corresponding to a width of a hull.~~

Bottoms of the left wall and the right wall may be coupled to form the same plane on the side strake.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a cross-sectional view illustrating a conventional arctic drill ship.

FIG. 2 is a cross-sectional view illustrating an arctic drill ship according to the present invention.

FIG. 3 is a longitudinal sectional view illustrating the arctic drill ship according to the present invention.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

Exemplary embodiments of the present invention will be described below in detail with reference to the accompanying drawings. The present invention may, however, be embodied in different forms and should not be construed as limited to the embodiments set forth herein.

FIG. 2 is a cross-sectional view illustrating an arctic drill ship according to the present invention, and FIG. 3 is a longitudinal sectional view illustrating the arctic drill ship according to the present invention.

As illustrated in FIGS. 2 and 3, the arctic drill ship 100 according to the present invention is a drill ship that can be operated in polar regions. A weather tight structure 130 protecting a drill floor 120 and a drilling work area 140 from outside air is coupled to a side strake 110 around the drilling work area 140.

The weather tight structure 130 is manufactured to surround the drill floor 120 and the drilling work area 140 in order for their protection from outside air. As illustrated

WHAT IS CLAIMED IS:

1. An arctic drill ship, wherein~~characterized in that~~,

a derrick is fixed on an upper portion of a drill floor;

each of a left wall and a right wall of a weather tight structure is coupled with a respective side strake to form the same plane around a drilling work area, and a front wall and a rear wall of the weather tight structure are coupled to a hurricane deck at the front and rear of the drilling work area, so as to protect the drill floor and the drilling work area from outside air;

a reinforcement part installed to reinforce a drilling load applied to the weather tight structure is coupled to the left wall, the right wall, the front wall, and the rear wall of the weather tight structure;

the reinforcement part forms a lower structure of the drill floor; and

both sides of the drill floor extend up to a position corresponding to a width of a hull, so that a load of the derrick is applied to the side strake.

2. The arctic drill ship according to claim 1, wherein the reinforcement part of the weather tight structure has a grillage girder system.