[CLAIMS]

[Claim 1]

A grate bar (1, 1B, 1C, 1D, 1E, 1F, 1G) comprising:

an upper wall portion (2) which extends in a first direction (D);

a front wall portion (3) which extends downward from a distal end of the upper wall portion (2);

a channel (S) which is formed on a back side of the upper wall portion (2); and

a partition wall (8) which vertically divides the channel (S) and includes a partition wall main body (9D) of which a main surface faces the upper wall portion (2) and a plurality of cooling holes (10) which are formed in the partition wall main body (9D) and which are configured to eject a cooling medium (C) toward a back surface of the upper wall portion (2) to cool the upper wall portion (2) by impingement-cooling,

characterized in that the grate bar comprises a pair of side wall portions (4) which extends downward from a side edge (2a) of the upper wall portion (2); and

a rear wall portion (5) which has a plate shape protruding downward from the upper wall portion (2) and formed so that a main surface of the rear wall portion (5) faces the first direction (D), wherein the upper wall portion (2), the front wall portion (3), the pair of side wall portions (4), and the rear wall portion (5) are formed integrally,

wherein the partition wall main body (9D) is connected to the front wall portion (3), the pair of side wall portions (4), and the rear wall portion (5),

wherein the partition wall main body (9D) divides the channel (S) into an upper channel (S1) between the upper wall portion (2) and the partition wall main body (9D) and a lower channel (S2) below the partition wall main body (9D),

wherein the partition wall main body (9D) includes

a main portion (14) which is parallel to the upper wall portion (2), and

a distal end portion (15) which is connected to a distal end side of the main portion (14), and

wherein at least one of the plurality of cooling holes (10) formed in the distal end portion (15) is directed so that the cooling medium (C) ejected from at least one of the plurality of cooling holes (10) is configured to hit the front wall portion (3) in the upper channel (S1).

[Claim 2]

The grate bar (1, 1B, 1C, 1D, 1E, 1F, 1G) according to claim 1,

wherein when a distance between the partition wall (8) and the upper wall portion (2) is “L” and an inner diameter of the plurality of cooling holes (10) are “Di”,

$2 < \text{“L/Di”} < 35$ is satisfied.

[Claim 3]

The grate bar (1, 1B, 1C, 1D, 1E, 1F, 1G) according to claim 1 or 2, further comprising:

a slit (12B) which is formed to extend in the first direction (D) on the distal end side from a center portion of the upper wall portion (2) in the first direction (D) and through which the cooling medium (C) in the channel (S) between the partition wall (8) and the upper wall portion (2) is discharged,

wherein the slit (12B) and the plurality of cooling holes (10) are formed so that the slit (12B) and the plurality of cooling holes (10) do not overlap each other when viewed from a normal direction of a main surface of the upper wall portion (2).

[Claim 4]

The grate bar (1, 1B, 1C, 1D, 1E, 1F, 1G) according to any one of claims 1 to 3, further comprising:

a plate-shaped fin (16) which is provided integrally with the upper wall portion (2) on the back surface of the upper wall portion (2) and is formed to protrude downward from the upper wall portion (2).

[Claim 5]

The grate bar (1, 1B, 1C, 1D, 1E, 1F, 1G) according to any one of claims 1 to 3, wherein the plurality of cooling holes (10F) have a circular shape, and inner peripheral surfaces (10a) of the plurality of cooling holes (10F) have a conical shape of which a diameter decreases upward.