CLAIMS

What is claimed is:

1. A combustion supporting device, to be used with a combustion furnace, the combustion supporting device comprising:

a cone body;

a tubular member, ~~A~~an upper end of the tubular member connected to the cone body, the tubular member defining a plurality of gas holes around an upper portion thereof;

a cone-shaped member, defining an insertion opening thereon, the diameter of the insertion opening corresponding to the outer diameter of the tubular member, a lower portion of the tubular member passing through the insertion opening and received in the cone-shaped member, wherein the outer surface of the lower portion of the tubular member and an inner wall of the cone-shaped member define a filling space therein;

a base plate, defining a hole corresponding to the tubular member, the base plate is connected to a bottom of the cone-shaped member, wherein the hole communicates with a lower opening of the tubular member; ~~and~~

a supporting portion, connected to the base plate; and

a heat-resistant material, placed in the filling space.

2. The combustion supporting device according to claim 1, wherein the combustion supporting device is made of heat-resistant steel or ceramic composite material.

3. The combustion supporting device according to claim 1 or 2, wherein the range of the outer diameter of the tubular member is defined from 1 cm to 30 cm.

4. The combustion supporting device according to any one of claims 1 to 3, wherein the range of the diameter of each of the gas holes is defined from 0.3 cm to 5 cm.

5. The combustion supporting device according to any one of claims 1 to 4, wherein the supporting portion is a plurality of supporting rods connected to the base plate.

6. The combustion supporting device according to claim 5, wherein the base plate comprises a plurality of positioning holes, the number of the positioning holes corresponds to the number of the supporting rods, wherein each of the supporting rods comprises:

a connecting member; and

a stand, one of two ends of the stand passing through the corresponding positioning hole and connected to the connecting member, and the other end of the stand is exposed from a bottom plane of the base plate.

~~7.The combustion supporting device according to claim 1, wherein the outer surface of the lower portion of the tubular member and an inner wall of the cone-shaped member define a filling space therein.~~

~~8.The combustion supporting device according to claim 7, further comprising a heat-resistant material placed in the filling space.~~

~~9.~~7. The combustion supporting device according to claim ~~8~~1, wherein the heat-resistant material is a ceramic material.

8. The combustion supporting device according to claim ~~8~~1 or claim ~~9~~7, wherein the heat-resistant material is powdered.

CLAIMS

What is claimed is:

1. A combustion supporting device, to be used with a combustion furnace, the combustion supporting device comprising:

a cone body;

a tubular member, an upper end of the tubular member connected to the cone body, the tubular member defining a plurality of gas holes around an upper portion thereof;

a cone-shaped member, defining an insertion opening thereon, the diameter of the insertion opening corresponding to the outer diameter of the tubular member, a lower portion of the tubular member passing through the insertion opening and received in the cone-shaped member, wherein the outer surface of the lower portion of the tubular member and an inner wall of the cone-shaped member define a filling space therein;

a base plate, defining a hole corresponding to the tubular member, the base plate is connected to a bottom of the cone-shaped member, wherein the hole communicates with a lower opening of the tubular member;

a supporting portion, connected to the base plate; and

a heat-resistant material, placed in the filling space.

2. The combustion supporting device according to claim 1, wherein the combustion supporting device is made of heat-resistant steel or ceramic composite material.

3. The combustion supporting device according to claim 1 or 2, wherein the range of the outer diameter of the tubular member is defined from 1 cm to 30 cm.

4. The combustion supporting device according to any one of claims 1 to 3, wherein the range of the diameter of each of the gas holes is defined from 0.3 cm to 5 cm.

5. The combustion supporting device according to any one of claims 1 to 4, wherein the supporting portion is a plurality of supporting rods connected to the base plate.

6. The combustion supporting device according to claim 5, wherein the base plate comprises a plurality of positioning holes, the number of the positioning holes corresponds to the number of the supporting rods, wherein each of the supporting rods comprises:

a connecting member; and

a stand, one of two ends of the stand passing through the corresponding positioning hole and connected to the connecting member, and the other end of the stand is exposed from a bottom plane of the base plate.

7. The combustion supporting device according to claim 1, wherein the heat-resistant material is a ceramic material.

8. The combustion supporting device according to claim 1 or claim 7, wherein the heat-resistant material is powdered.