

COMBUSTION DEVICE, AND COMBUSTION METHOD

ABSTRACT

A circulating fluidized bed boiler, which is a combustion device, includes a furnace (11) that causes combustion, a hydrogen storing material supply unit (14) that supplies a granular hydrogen storing material such as a hydrogen occluding alloy, which is capable of releasing stored hydrogen during heating, to the furnace (11), a fluid material circulation section (3) that collects the granular hydrogen storing material that has come out of the furnace (11) and that returns the granular hydrogen storing material into the furnace (11), a collection unit (17) that collects the hydrogen storing material from a bottom portion of the furnace (11), and a fuel supply unit (15) that supplies a fuel different from the hydrogen storing material to the furnace (11). The hydrogen storing material is a hydrogen occluding alloy. The hydrogen storing material is granular. A crushing unit that crushes the hydrogen storing material before being supplied to a combustion chamber into a granular form is further included.

Fig.1