

TREATMENT APPARATUS AND TREATMENT METHOD FOR RAW MATERIAL

ABSTRACT

5 The present invention relates to a technique for treating a raw material, such as
combustible waste, and more particularly to combustion, and pyrolysis and gasification
treatment techniques that does not emit carbon dioxide into the atmosphere. A treatment
apparatus includes a fluidized-bed furnace (1) having a pyrolysis chamber (6) and a
combustion chamber (7) therein, the pyrolysis chamber (6) and the combustion chamber
10 (7) are separated by a partition wall (10), an electrolysis device (2) configured to
electrolyze water to generate hydrogen and oxygen, a methanation reactor (3) configured
to produce methane from carbon dioxide discharged from the combustion chamber (7)
and the hydrogen, a first fluidizing-gas supply line (11) configured to supply a first
fluidizing gas to the pyrolysis chamber (6), and a second fluidizing-gas supply line (12)
15 configured to introduce a second fluidizing gas to the combustion chamber (7), the second
fluidizing gas including the oxygen and a part of the carbon dioxide.

Fig. 1