

Title (en)

METHOD AND DEVICE FOR THE HEAT TREATMENT OF WORKPIECES

Title (de)

VERFAHREN UND VORRICHTUNG ZUM WÄRMEBEHANDELN VON WERKSTÜCKEN

Title (fr)

PROCEDE ET DISPOSITIF DE TRAITEMENT THERMIQUE DE PIECES

Publication

**EP 0703994 A1 19960403 (DE)**

Application

**EP 94917627 A 19940513**

Priority

- DE 4318400 A 19930603
- EP 9401542 W 19940513

Abstract (en)

[origin: US5830284A] PCT No. PCT/EP94/01542 Sec. 371 Date Apr. 15, 1996 Sec. 102(e) Date Apr. 15, 1996 PCT Filed May 13, 1994 PCT Pub. No. WO94/29491 PCT Pub. Date Dec. 22, 1994The present invention involves a method and a device for the heat treatment of workpieces, which are heated with radiant heat generated through the combustion of gaseous fuel. Some of the workpieces are subjected to a carburisation atmosphere formed by a heated mixture of hydrocarbon containing gas and carbon dioxide, where the carbon dioxide has been separated from the exhaust gas of the gaseous fuel combustion. Other workpieces may be subjected to a nitrocarburisation atmosphere formed by a mixture of ammonia and the exhaust gas remaining after the carbon dioxide has been separated. By recycling some of the products of the combustion process, the present invention improves the efficiency of the carburisation process while reducing pollutant emissions.

IPC 1-7

**C23C 8/20**

IPC 8 full level

**C23C 8/20** (2006.01); **C23C 8/30** (2006.01)

CPC (source: EP US)

**C23C 8/20** (2013.01 - EP US); **C23C 8/30** (2013.01 - EP US)

Citation (search report)

See references of WO 9429491A1

Designated contracting state (EPC)

AT DE SE

DOCDB simple family (publication)

**US 5830284 A 19981103**; AT E165399 T1 19980515; DE 4318400 C1 19940623; DE 59405801 D1 19980528; EP 0703994 A1 19960403; EP 0703994 B1 19980422; JP H08511063 A 19961119; WO 9429491 A1 19941222

DOCDB simple family (application)

**US 55371096 A 19960415**; AT 94917627 T 19940513; DE 4318400 A 19930603; DE 59405801 T 19940513; EP 9401542 W 19940513; EP 94917627 A 19940513; JP 50123295 A 19940513