

Title (en)
METHOD AND APPARATUS FOR REGULATING HEATER CYCLES TO IMPROVE FUEL EFFICIENCY

Title (de)
VERFAHREN UND VORRICHTUNG ZUR REGELUNG DES HEIZUNGSKREISLAUFES ZUR VERBESSERUNG DER
BRENNSTOFFWIRTSCHAFTLICHKEIT

Title (fr)
PROCEDE ET APPAREIL DE REGULATION DE CYCLES D'APPAREILS DE CHAUFFAGE PERMETTANT D'ACCROITRE LE RENDEMENT
ENERGETIQUE

Publication
EP 1077821 A1 20010228 (EN)

Application
EP 98913036 A 19980320

Priority
US 9805625 W 19980320

Abstract (en)
[origin: WO9948713A1] A method and apparatus for improving heating system efficiency. An electronic circuit senses a firing signal from a boiler energy value sensor (26) such as a thermostat or pressuretrol. The circuit prevents the boiler energy value sensor from firing the burner, while the circuit senses an energy value of the outflow line (20) at the boiler (6). The circuit monitors the outflow energy value and records the outflow energy value at a first time of the firing signal. The circuit then continually monitors the outflow energy until it detects an energy drop from the initial outflow energy value. The circuit responds to the energy drop by firing the burner (10). The invention self-adaptively responds to present thermal load, reduces the number of on-off cycles, increases each burner run time while reducing total run time, improves fuel consumption, and reduces air pollution.

IPC 1-7
B60H 1/02; G05D 23/00

IPC 8 full level
F23N 1/08 (2006.01); **F24D 19/10** (2006.01)

CPC (source: EP US)
F23N 1/082 (2013.01 - EP); **F24D 19/1009** (2013.01 - EP US); **F24H 15/144** (2022.01 - EP US); **F24H 15/156** (2022.01 - EP US); **F24H 15/212** (2022.01 - EP US); **F24H 15/219** (2022.01 - EP US); **F24H 15/242** (2022.01 - EP US); **F24H 15/36** (2022.01 - EP US); **F24H 15/414** (2022.01 - EP US); **F23N 2225/19** (2020.01 - EP); **F23N 2225/22** (2020.01 - EP); **F23N 2227/10** (2020.01 - EP)

Designated contracting state (EPC)
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
WO 9948713 A1 19990930; AT E540267 T1 20120115; AU 6768498 A 19991018; AU 742376 B2 20020103; CA 2324462 A1 19990930; CA 2324462 C 20070612; CN 1104590 C 20030402; CN 1294556 A 20010509; EP 1077821 A1 20010228; EP 1077821 A4 20090624; EP 1077821 B1 20120104; HK 1037160 A1 20020201; NZ 507617 A 20030328

DOCDB simple family (application)
US 9805625 W 19980320; AT 98913036 T 19980320; AU 6768498 A 19980320; CA 2324462 A 19980320; CN 98813982 A 19980320; EP 98913036 A 19980320; HK 01106093 A 20010828; NZ 50761798 A 19980320