

Title (en)
AUTOMATIC BOILER FOR COAL, PARTICULARLY FAT COAL

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Application
EP 83401582 A 19830729

Priority
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Abstract (en)
[origin: EP0133633A1] 1. A boiler with automatic combustion, particularly for bituminous solid fuel, comprising a fire chamber unit (1) supplied by a fuel hopper (2), at least one exchanger unit (5A, 5B) and an intermediate fire chamber exchanger unit (4) situated between the fire chamber unit (1) and the exchanger unit (5A, 5B), the boiler being supplied in regulable manner and operating according to the calorific requirements of the heating system, the fire chamber unit (1) including an inclined hearth (8) with water circulation, provided with openings for the passage of primary air, having at its end opposite to an ash bin, receiving the fuel from the loading hopper (2) through a supply duct (3), a push-rod (14) operating with alternating rectilinear movements to bring the coal onto the hearth (8) while closing the supply opening to the fire chamber (4), the top and side faces of the fire chamber unit (1) being formed by a dome (11) of fire-proof material closely surrounding the combustion chamber, the boiler being characterised in the following manner : a) the fuel supply duct (3) is separate from the fire chamber unit (1) ; b) the inlet for the fuel pushed by the push-rod (14) is connected to the fire chamber by a space, which forms an antichamber (13) to the fire chamber unit (1), and in which combustion does not take place, the antichamber space (13) being surrounded by a water jacket ; c) the hearth (8) of the fire chamber unit (1) terminates downstream in a plate (10) which is articulated to the rest of the hearth (8) and whose inclination is adjustable to enable variation of the resistance offered to the progress of the combustion bed ; d) the dome (11) is in the shape of a curved arch ; e) the extractor (7) includes regulation means for controlling its operation at two speeds according to the stage of the combustion cycle ; f) the means (17, 18, 19) for driving the push-rod (14) are provided with overload protection means, the protection means of the push-rod (14) being constituted by the shaft of the push-rod, formed by a compressible assembly (36 to 39), with a spring, calibrated to a fixed force, and a reversing contact, which causes the direction of displacement of the push-rod to be reversed as soon as the driving means exert as force on the push-rod which exceeds the threshold of the compressible assembly ; g) automatic discharge of the ash, constituted by a bin (21) and a screw conveyor (22).

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Cited by
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