Title (en)

Residual heat exchanger for mounting in the boiler casing

Title (de)

Nachschaltwärmetauscher für den Einbau in Heizkesselgehäuse

Title (fr)

Récupérateur de chaleur pour montage dans l'enveloppe d'une chaudière

Publication

EP 0576963 B1 19960403 (DE)

Application

EP 93109913 A 19930622

Priority

DE 4221528 A 19920701

Abstract (en)

[origin: EP0576963A1] The invention relates to a residual heat exchanger for mounting in the boiler casing, consisting of a water-conducting and a gas-conducting inner space, which spaces are separated from one another by walls extending parallel to one another and wound spirally round a packing and are closed with respect to one another by edges bent at right angles. To construct such a residual heat exchanger in a special configuration such that the components involved can be dimensioned as thin as possible, taking into account the winding process, the whole nevertheless being sufficiently pressure-resistant in the finished state, that separate spacers not actually belonging to the heat exchanger can be dispensed with, and that, lastly, during the winding process to a spiral the edges to be connected by welding are unable, or virtually unable, to be distorted in undulating fashion and also the wall faces are unable to be deformed, the residual heat exchanger according to the invention is constructed in such a way that the inner wall (1), in relation to the winding axis (WA), has edges (4) which are bent outwards at right angles at the top and bottom and correspond maximally to the width (B) of the water-conducting inner space (3), and the outer wall (2) has edges (6) bent inwards at right angles and of maximally half the width (B), which edges (6) cover over the edges (4) of the inner wall (1) or are aligned therewith and are connected thereto in a fluid-tight manner. Undulating embossed portions (7) of both walls (1, 2), facing into the gas-conducting inner space (3') which is open to the inflow and outflow side, are arranged, in mutually supporting fashion, at a distance (D) from the edges (4, 6) in the walls (1, 2) substantially parallel to the winding axis (WA). The water-conducting inner space (3) at both ends of the spiral is closed, except for the forward and return connection openings. <IMAGE>

IPC 1-7

F24H 1/28; F28D 9/04; F28D 9/00

IPC 8 full level

F24H 1/28 (2006.01); **F28D 9/00** (2006.01); **F28D 9/04** (2006.01)

CPC (source: EP US)

F24H 1/282 (2013.01 - EP US); **F28D 9/0031** (2013.01 - EP US); **F28D 9/04** (2013.01 - EP US)

Cited by

AT402667B; CN110832257A

Designated contracting state (EPC)

AT BE CH DE DK ES FR GB IT LI NL SE

DOCDB simple family (publication)

EP 0576963 A1 19940105; **EP 0576963 B1 19960403**; AT E136357 T1 19960415; CA 2099095 A1 19940102; DE 4221528 A1 19940105; DE 59302092 D1 19960509; DK 0576963 T3 19960506; ES 2086829 T3 19960701; US 5505255 A 19960409

DOCDB simple family (application)

EP 93109913 A 19930622; AT 93109913 T 19930622; CA 2099095 A 19930623; DE 4221528 A 19920701; DE 59302092 T 19930622; DK 93109913 T 19930622; ES 93109913 T 19930622; US 8541693 A 19930630