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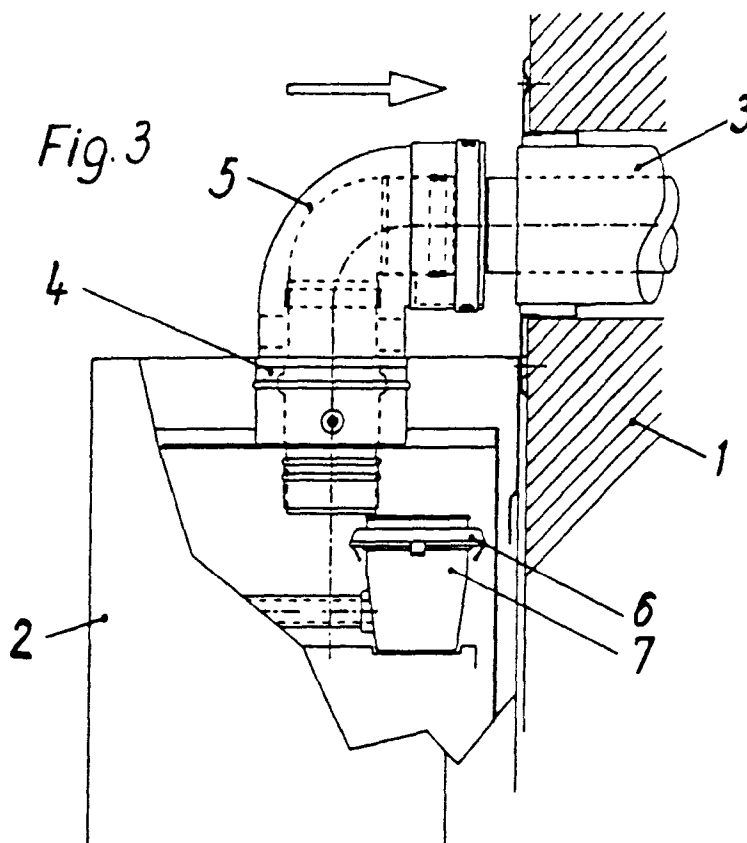
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### (54) Connection of a gas-fired heating device to a flue-gas outlet/air supply duct

(57) A combined flue-gas outlet/air supply coupling device for connecting a gas-fired heating device to a flue-gas outlet/air supply duct arranged in a wall comprises a substantially curved connection piece (5) which is guided slidably in the housing (2) of the heating device. An adaptor (4) can be coupled to that end of the

connection piece (5) which faces the heating device, on the one hand, and to the flue-gas outlet and the air supply of the heating device, on the other hand. That end of the connection piece (5) which is remote from the heating device can be pushed onto the flue-gas outlet/air supply duct (3) in the manner of a sleeve.



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## Description

The invention relates to a combined flue-gas outlet/air supply coupling device for connecting a gas-fired heating device to a flue-gas outlet/air supply duct arranged in a wall, comprising a substantially curved connection piece.

A combined coupling device of this kind having a connection piece performs a combination of two functions. The flue-gas outlet connection piece, which is usually disposed centrally therein, guides the flue gases from the heating device to the flue-gas outlet duct which leads to the outside. The air supply connection piece, which usually surrounds the flue-gas outlet connection piece, ensures a sufficient supply of air to the heating device. In this case, plug-in connections or connections by means of sealing rings at the end of the curved connection pieces are known, e.g. from DE-U-88 10 212.

During fitting, connecting the combined coupling device often leads to problems, since the connection ends of the connection piece are at an angle to one another, and the said ends have to be connected to fixedly disposed corresponding ends of the heating device and the flue-gas outlet/air supply duct. Since the parts have to be positioned exactly, problems may occur during the fitting operations.

The object of the invention is to provide a combined coupling device which is of simple design and can be fitted easily.

To this end, the flue-gas outlet/air supply coupling device according to the invention is characterized in that it is guided slidably in the housing of the heating device.

A combined coupling device of this kind can be made as a single unit, but in a preferred embodiment an adaptor is provided, which can be coupled to that end of the connection piece which faces the heating device, on the one hand, and to the flue-gas outlet and the air supply of the heating device, on the other hand.

Hitherto, it was often very difficult to arrange the connection piece at the fixed positions on the heating device and the flue-gas outlet/air supply duct. This operation is considerably simplified by means of the displaceable coupling device to be arranged on the heating device, optionally with a separate adaptor. As a result, in particular, it is possible firstly to make the connection at this location and only then, by displacing the connection horizontally, to make the connection to the flue-gas outlet/air supply duct. In a preferred embodiment, that end of the connection piece which is remote from the heating device can be pushed onto the flue-gas outlet/air supply duct in the manner of a sleeve. The adaptor is only connected in a gastight manner to the flue-gas collection duct of the heating device after fitting. A sealing ring which can be placed around the said adaptor is suitable for this purpose. The gastight connection is implemented in a particularly simple manner by means of a sealing ring which is arranged on the flue-gas collection duct and engages around that end of the adaptor

which faces the heating device.

The invention is explained in more detail below with reference to a drawing of an exemplary embodiment, in which:

- Fig. 1 shows a side view of the heating device prior to fitting of the connection piece according to the invention;
- Fig. 2 shows the view in accordance with Fig. 1, with an added flue-gas outlet/air supply connection piece;
- Fig. 3 shows the view in accordance with Fig. 1 and 2 in a semi-fitted position; and
- Fig. 4 shows the view in accordance with Figs. 1 - 3 in the fitted position of the connection piece.

The heating device 2, which is fitted to the wall 1, in accordance with Fig. 1 is to be connected to a flue-gas outlet/air supply duct 3 in the wall 1. The heating device 2 has an adaptor 4 which is slidable in the housing of said heating device in a slotted hole with a cover plate which can be screwed down. In accordance with Fig. 1, the said adaptor is first moved away from the wall 1. Then, in accordance with Fig. 2, a curved flue-gas outlet/air supply connection piece 5 is placed in the adaptor 4 and the unit formed, consisting of adaptor 4 and flue-gas outlet/air supply connection piece 5, is subsequently pushed onto the flue-gas outlet/air supply duct 3, in accordance with Fig. 3, in the manner of a sleeve. In accordance with Fig. 4, a sealing ring 6 on the flue-gas collection duct 7 of the heating device 2 is then folded upwards. This sealing ring ensures a gastight connection of that end of the adaptor 4 which faces the heating device 2 with the flue-gas collection duct 7.

Although the drawing shows a coupling device comprising an adaptor 4 and a connection piece 5, it is, of course, also possible to design the coupling device such that the components 4 and 5 form a single unit which can be slid in the heating device 2.

## Claims

1. Combined flue-gas outlet/air supply coupling device for connecting a gas-fired heating device to a flue-gas outlet/air supply duct arranged in a wall, comprising a substantially curved connection piece, characterized in that the flue-gas outlet/air supply coupling device is guided slidably in the housing of the heating device (2).
2. Coupling device according to claim 1, characterized in that an adaptor (4) is provided, which can be coupled to that end of the connection piece (5) which faces the heating device (2), on the one hand, and to the flue-gas outlet and the air supply of the heating device (2), on the other hand.

3. Coupling device according to claim 2, characterized in that the slidable adaptor (4) is guided in the housing of the heating device (2).
4. Coupling device according to claim 2 or 3, characterized in that, when fitting has been completed, that side of the adaptor (4) which is to face the heating device (2) can be connected in a gastight manner to the flue-gas outlet (7) of the heating device (2). 5  
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5. Coupling device according to claim 4, characterized in that the gastight connection between that side of the adaptor (4) which is to face the heating device (2) and the flue-gas outlet (7) of the heating device (2) is realized by means of a sealing ring (6) arranged on the flue-gas outlet (7). 15
6. Coupling device according to any of claims 1-5, characterized in that that end of the connection piece which is remote from the heating device (2) can be pushed onto the flue-gas outlet/air supply duct (3) in the manner of a sleeve. 20

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