

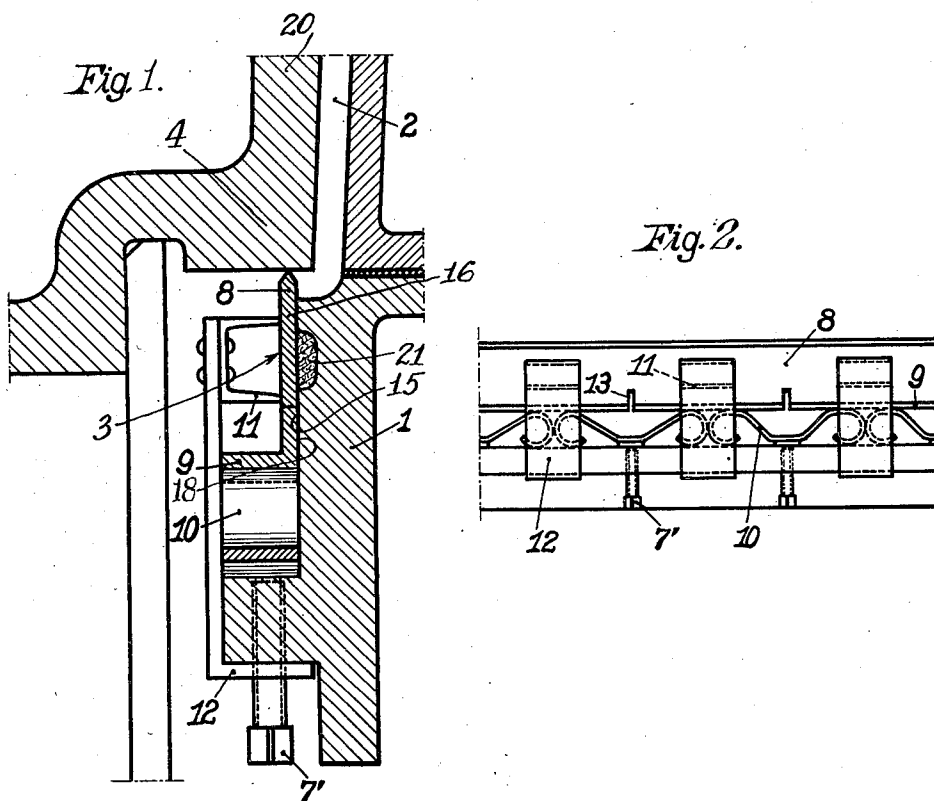
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COKE OVEN DOOR

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COKE OVEN DOOR

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It has been proposed in connection with coke oven doors to dispense with the asbestos packing commonly used for obtaining a tight joint, and to make a metal joint, with a type of knife-edge bearing against a metal surface. Somewhat complicated structures have been designed for this purpose, with resilient webs carrying the more or less sharpened metal member, and the web may suffer unduly from the heat, or become encrusted, and the "knife-edge" member may tilt.

According to my invention the packing frame having the sharpened edge is made of flanged bars, and is adjustable perpendicularly to the plane of the door by means of screws, which is not in itself a novel feature, but the frame is secured to the door body itself in such a way that its movement is limited to the perpendicular direction referred to, and that it cannot tilt, and is also disposed so that only a comparatively small portion is exposed to the door opening, that is to say to the interior of the oven.

Adjustment of the packing frame of a coke oven door by means of screws has heretofore been adopted in connection with frames having asbestos packings, in connection with which no special guidance to prevent tilting is required.

One embodiment of the invention is shown in the accompanying drawing in which Fig. 1 is a part horizontal sectional view of the door and opening of a coke oven, and Fig. 2 is a side view showing certain details of the sealing means of Fig. 1.

Referring first to Fig. 1, 1 represents the body of the door, and 2 the opening between the oven walls 20 which it closes, 3 being the iron "knife-edge" member which makes the joint. This member is of L-section, with the web somewhat sharpened.

In the construction shown in Figs. 1 and 2 the metal packing member is L-shaped in cross-section, with limbs 8 and 9, the longer limb 8 being sharpened, and the shorter limb abutting against springs 10. The latter are arched and abut against screws 71. The packing frame is, accordingly, elastically supported. It is guided by a bar 11 of U-section fixed to brackets 12, the latter serving also to hold the springs 10 on a ledge of the door. The part formed of limbs 8 and 9, is provided at intervals with notches or transverse slots 13, imparting a certain flexibility whereby it is able to accommodate itself to the door frame if the door frame becomes warped. In the example shown the slots extend across the limb 9 and some way into the limb 8. A packing member is suitably applied in the door 1 which

is adapted to contact with the L-shaped packing member 3 to prevent leakage.

As will be clearly seen in Fig. 1 of the drawing, the door 1 has a plane peripheral surface 15 at the side thereof and the vertical part 16 of the packing member 3 has a side surface 18 which contacts substantially throughout its entire length with the plane surface 15 of the door. If desired a packing material 21 can be provided in the plane surface 15 in order to prevent leakage between the body of the door 1 and the packing member 3. The packing frame is secured to the door so that movement of the frame is limited to movement perpendicular to the door, and the portion of the frame exposed to heat and gas is very small.

It will be understood that methods of attachment and cross-sectional shapes other than those illustrated may be adapted without departing from the principle of the invention.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. A closure particularly for a coke oven, comprising a door frame, a door body adapted to fit against the door frame with a slight clearance and having a plane peripheral surface extending around the side of the door, a metallic rigid packing member mounted against and in contact with the plane surface of the door body and having a base portion and a knife edge adapted to tightly contact against the door frame, said metallic packing member being L-shaped wherein a vertical part thereof has a knife edge and a side surface thereof contacts substantially throughout its length with the plane surface and the horizontal part is the base portion, means contacting against the side of the vertical part of the packing member to prevent lateral movement, and means in the door body for adjusting the member by means of the base portion from the door body against the frame in a direction parallel to the axis of the oven to expose the smallest possible surface between the door frame and body to the gases in the oven.

2. A closure particularly for a coke oven according to claim 1, in which the means contacting against the side of the vertical part of the packing member includes a plurality of brackets and bars bearing against the packing member.

3. A closure particularly for a coke oven according to claim 1, in which a plurality of springs are provided abutting against the bottom of the L-shaped member.