May 8, 1934. A. T. KENT 1,958,305

COKE OVEN DOOR

Filed March 5, 1931 2 Sheets-Sheet 1

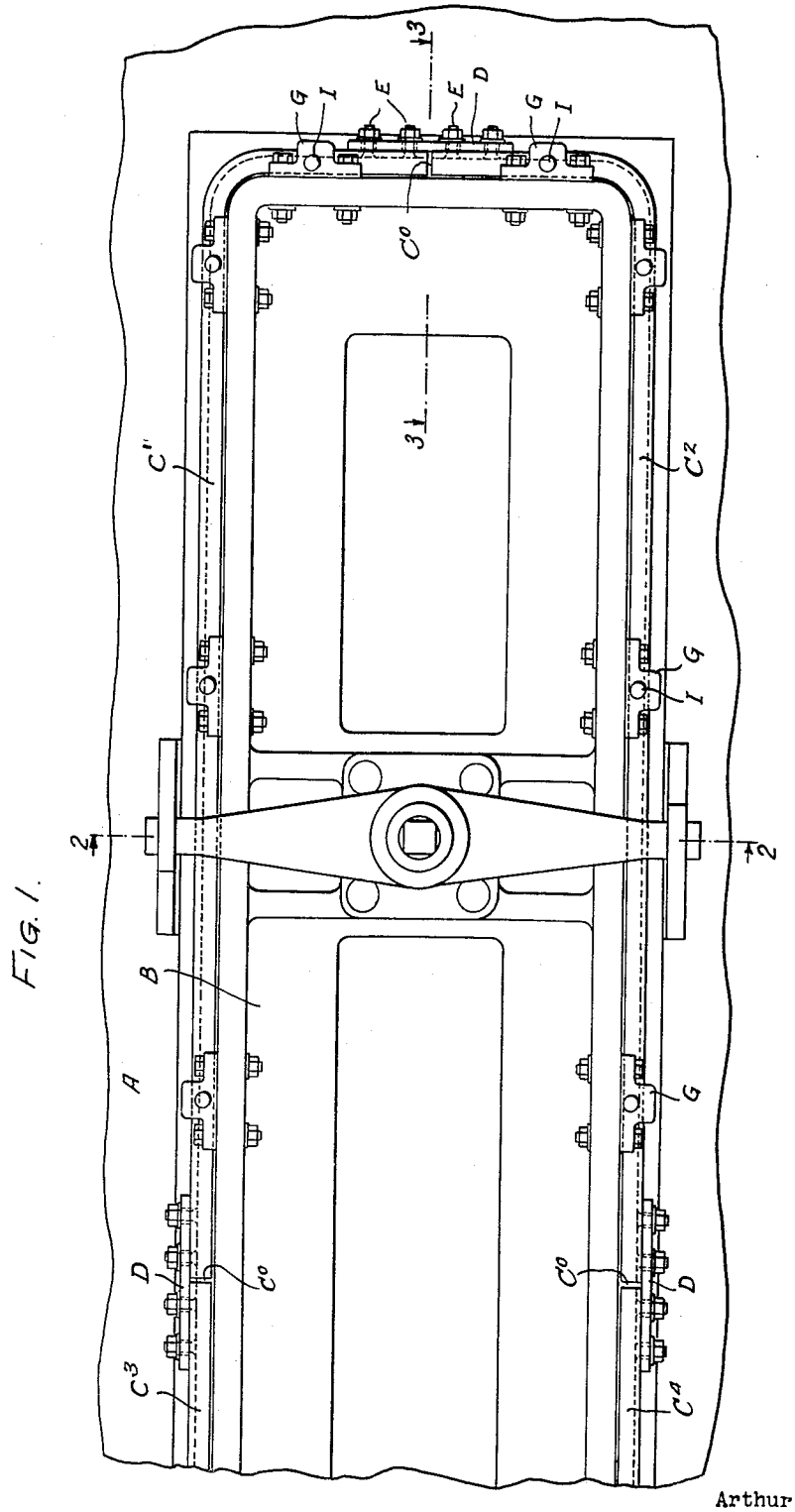


FIG. 1.

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FIG. 3.

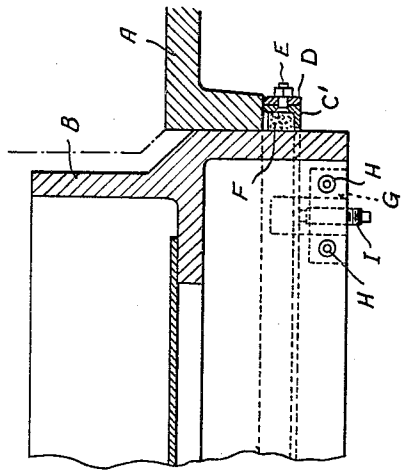


FIG. 5.

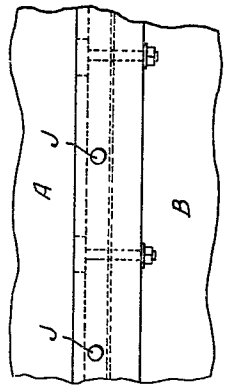


FIG. 4.

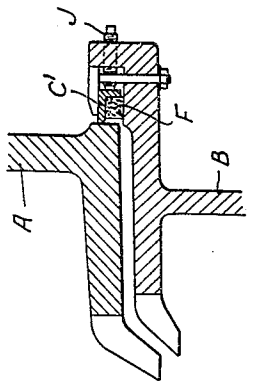
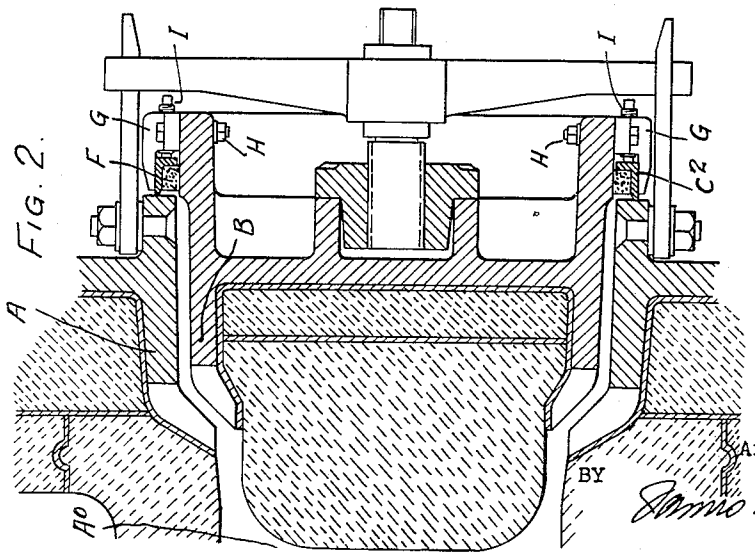


FIG. 2.



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UNITED STATES PATENT OFFICE

1,958,305

COKE OVEN DOOR

Arthur Thomas Kent, London, England, assignor to Woodall-Duckham (1920) Limited, London, England

Application March 5, 1931, Serial No. 520,449
In Great Britain April 24, 1930

2 Claims. (Cl. 202—248)

This invention relates to doors of coke ovens and other carbonizing chambers, and consists in providing improved means for ensuring a gas-tight joint between the door and the door frame.

According to the invention a jointing ring of metal, conforming in outline with the door frame and preferably of angle iron, is made in sections mounted to move with respect to each other and the door in a plane parallel with the door frame and is provided with means such as bolts or screws whereby an edge of the jointing ring can be forced towards the surface of the door frame and the several sections can be moved laterally or longitudinally so as to compress a gasket of asbestos or other suitable packing material between a ledge or flange of the door and the jointing ring.

The edge of the sectioned jointing ring may itself be pressed firmly against a flat or other suitably prepared surface on the door frame, while the asbestos gasket is compressed laterally, or the sealing of the door may be effected entirely by the asbestos gasket which in this case is pressed against the surface of the door frame as well as compressed laterally between the door and the jointing ring. In this case the depth of the jointing ring is reduced sufficiently to permit the asbestos or other gasket to be pressed against the surface of the door frame.

The slight gaps between the sections of the jointing ring are bridged by cover plates secured in such manner as to permit of the requisite adjustments, as by screws passing through elongated slots and screwing into the jointing ring.

The tightening studs or screws for effecting the joint may be applied directly to the sections of the jointing ring, or indirectly through springs such as leaf springs, the ends of the studs being preferably seated in saddles or straps which embrace the springs and hold them in position.

One embodiment of the invention is illustrated in the accompanying drawings, wherein Fig. 1 is an elevation of a portion of a door of a coke oven chamber; Fig. 2 is a transverse section on line 2—2 of Fig. 1; Fig. 3 is a section on line 3—3 of Fig. 1; and Figs. 4 and 5 are fragmentary views showing a modification of the invention, Fig. 4 being a transverse section and Fig. 5 an elevation.

In these drawings A represents a door frame in the wall of a coking chamber A° and B the door therefor which is clamped in position by any suitable means. The jointing ring, which forms the main feature of the invention, is of angle iron and is made in say four sections C', C^2, C^3, C^4. As shown, there is one division or junction in each of the end parts of the rectangular jointing ring and there may be one or more divisions in each of the longitudinal parts of the jointing ring. The slight gaps C° between the sections of the jointing ring are bridged by cover plates D which are secured to the ring by studs E passing through elongated slots or holes in the cover plates with sufficient clearance to permit, when the studs are slackened, the sections of the jointing ring at opposite sides or ends of the frame to be moved inwardly towards each other, so as to compress a gasket F of asbestos or other suitable jointing material between a ledge or flange of the door B and the jointing ring.

The sections C', C^2, C^3, C^4 of the jointing ring may, after the studs E have been slackened, be forced inwardly towards each other to compress the gasket F by means of clamps G bearing upon the outer surfaces of the sections of the jointing ring against which they are forced by means of bolts H passing through the flange of the door B.

The edge of the sectioned jointing ring may itself be pressed firmly against a flat or suitably prepared surface on the door frame, as by means of studs I screwing into the body of the clamp G and pressing against the flange of the jointing ring, as shown in Fig. 2, or by means of studs J screwing into a flange of the door B and abutting against the flange of the jointing ring, as shown in Fig. 4.

Instead of effecting the sealing of the door partly by forcing the edge of the jointing ring against the door frame and partly by compressing the gasket between the jointing ring and the door flange, the sealing may be effected entirely by the gasket which, in this case, is pressed against the surface of the door frame as well as pressed laterally between the door and the jointing ring. In this case the depth of the gasket F, when in the compressed condition, would be greater than the depth of the jointing ring.

After the adjustments have been made to the sectioned jointing ring to effect the sealing of the door, the cover plates D are secured by the studs E in the position shown in Fig. 3 to close the slight gaps between the sections of the jointing ring.

Having thus described the nature of the said invention and the best means I know of carrying the same into practical effect, I claim:—

1. In a coke oven, a door frame in the wall of the coking chamber, a door for closing said

frame, a jointing ring mounted upon the said door, said jointing ring conforming in outline with the door frame and formed in separate sections arranged end to end and movable endwise, a gasket between said jointing ring and door, means for forcing the ends of the separate sections of the said jointing ring towards each other to compress the gasket between said jointing ring and the door, and means for forcing the said jointing ring inwardly towards the door frame relatively to the door to compress said gasket toward said door frame.

2. In a coke oven, a door frame, a door therefor, a gasket between said door frame and door, a jointing ring mounted upon the said door and engaging said gasket, said jointing ring conforming in outline with the door frame and formed in sections, said sections being mounted for endwise movement with respect to each other and the door in a plane parallel with the door frame, means for forcing said sections endwise towards each other, and means for forcing the sections of said jointing ring inwardly towards the door frame relatively to the door.

ARTHUR THOMAS KENT.