April 20, 1943. J. K. WENIGER 2,317,007

SEALING MEANS FOR ASH HOPPER GATES

Filed June 27, 1939 2 Sheets-Sheet 1

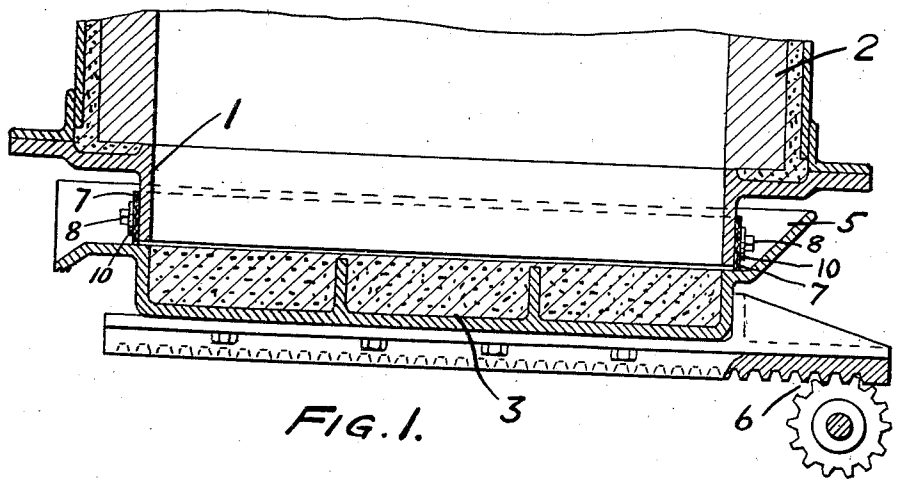

FIG. 1.

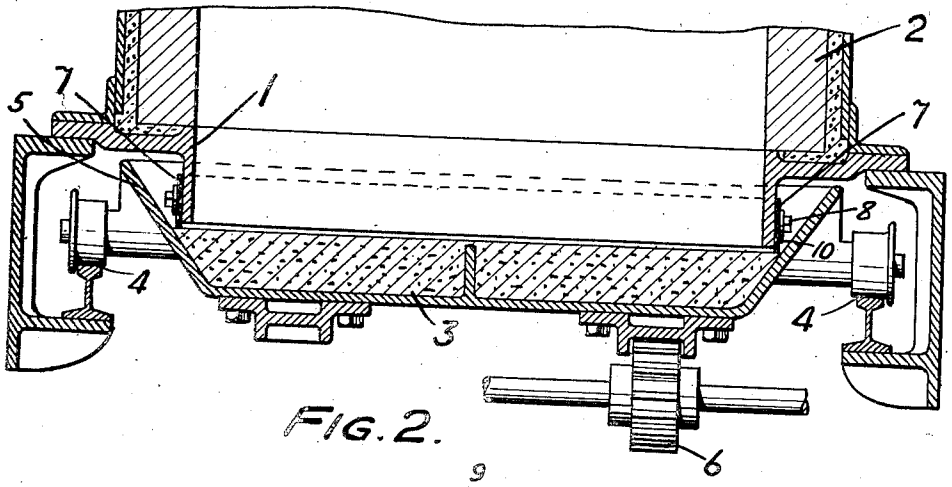

FIG. 2.

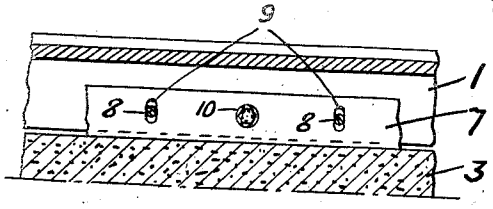

FIG. 3.

WITNESS:

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SEALING MEANS FOR ASH HOPPER GATES

Filed June 27, 1939 2 Sheets-Sheet 2

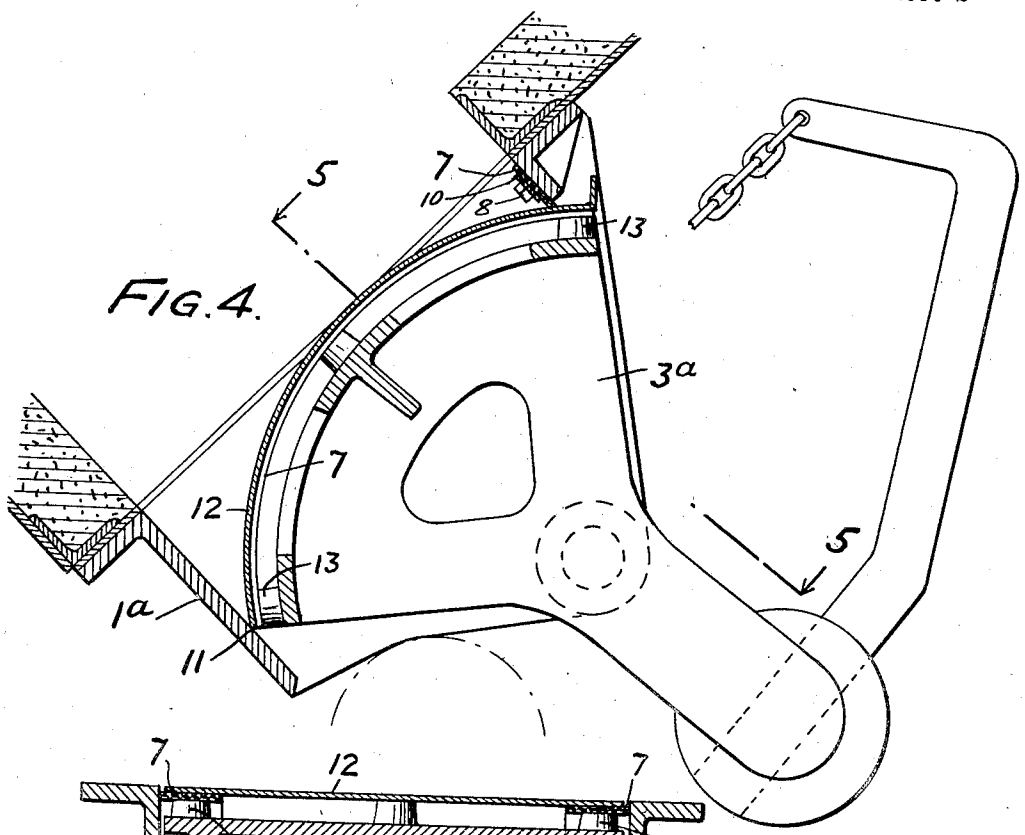

FIG. 4.

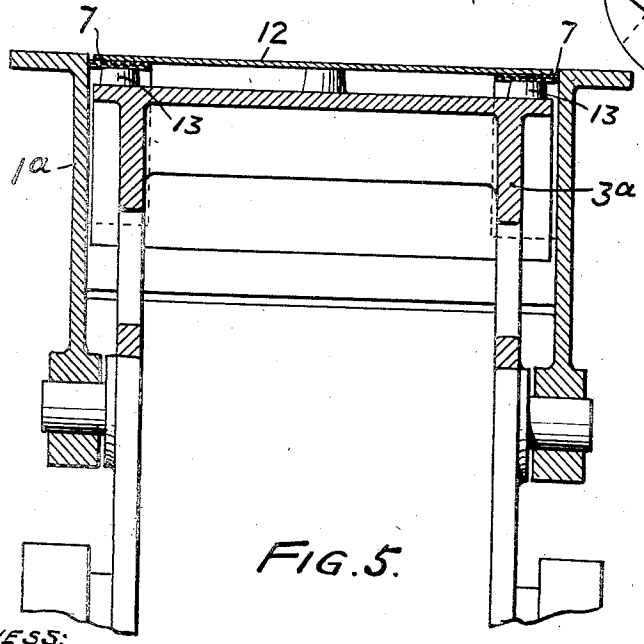

FIG. 5.

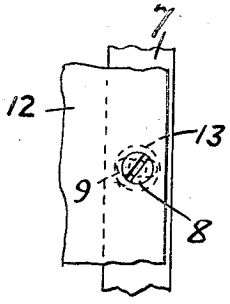

FIG. 6.

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UNITED STATES PATENT OFFICE

2,317,007

SEALING MEANS FOR ASH HOPPER GATES

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Application June 27, 1939, Serial No. 281,353

2 Claims. (Cl. 221—144)

The principal object of the present invention is to provide for effectively sealing the space between a movable ash hopper gate and its relatively fixed frame against air pressure. Another object of the present invention is to provide simple, reliable, comparatively inexpensive and efficient means for accomplishing the result stated.

Other objects of the invention will appear from the following description at the end of which the invention will be claimed.

Generally stated, the invention comprises a strip of heat resisting resilient material interposed edgewise in stressed condition between the edges of the frame and gate to provide a wiping joint between them, said strip disposed endwise at the sides of the gate in the direction of relative motion between the gate and frame and crosswise at the gate end, a reinforcement at the root of the strip and fastening devices and slots provided in the strip and cooperating with the fastenings.

The invention also comprises the improvements to be presently described and finally claimed.

In the following description reference will be made to the accompanying drawings forming part hereof and in which,

Figure 1 is a sectional view taken in the direction of motion of the gate in respect to the frame and embodying features of the invention.

Figure 2 is a sectional view taken at right angles to Figure 1.

Figure 3 is a view drawn to an enlarged scale and illustrating features of the invention.

Figure 4 is a view similar to Figure 1 and illustrating a rotary gate embodying features of the invention.

Figure 5 is a view taken on the line 5—5 of Figure 4; and

Figure 6 is a detail view drawn to an enlarged scale and showing features of the invention.

Referring to the drawings, and more particularly to Figs. 1 to 3, 1 indicates the frame of an ash hopper 2. 3 indicates the gate for the ash hopper. As shown the gate is movable from under the frame and back again in order to permit the contents of the hopper to be dumped. As shown the gate 3 is movable on rails and rollers 4 and the gate is shown as provided with a drainage trough 5, although that is no part of the invention. Gearing 6 is shown for moving the gate. 7 indicates a strip of heat resisting resilient material which may be composed of an asbestos product. The strip 7 is interposed edgewise in stressed condition between the edges of the frame and gate and it provides a wiping joint between them. The strip is disposed endwise at the sides of the gate, Figure 2, and crosswise at the gate ends, Figure 1. The strip is secured to the outer face of the frame 1 by means of fastenings 8 and slots 9 so that its edge can be stressed against the gate. 10 indicates a reenforcement for the strip.

The strip effectively seals the space between the movable ash hopper gate 3 and its relatively fixed frame 1 against air pressure, steam, smoke and the like.

The construction and mode of operation of the modification shown in Figs. 4 to 6 are as above described except as follows:

The gate 3^a is movable by a motion of rotation in respect to the frame 1^a. Inasmuch as a tight joint is provided at one end 11 of the gate when closed a strip is unnecessary at that end. At the other end the strip 7 is secured to the frame 1^a in the manner described. At the sides of the gate and referring to Figure 5 the strip is secured between a liner plate 12 and studs 13 projecting from the gate and usually cast integral with it. The strip is secured to the edges of the liner plate 12 in a manner described and as indicated in Figure 6.

It will be obvious to those skilled in the art to which the invention relates that modifications may be made in details of construction and arrangement without departing from the spirit of the invention which is not limited to such matters or to matters of mere form or otherwise than as the prior art and the appended claims may require.

I claim:

1. Means for effectively sealing the space between a movable ash hopper gate part and its relatively fixed frame part against air pressure which consists of the combination of said gate and frame parts, of a strip of heat resisting resilient material interposed edgewise and in stressed condition between the edges of the frame and gate parts to provide a wiping contact closure between them and connected to one of said parts, said strip disposed endwise at the sides of the gate in the direction of its relative movement in respect to the frame and crosswise at the gate ends, a reenforcement in contact with the strip at the root of the strip, fastening devices holding said strip in sealing position, and slots provided in the strip and cooperating with the fastening devices.

2. Sealing means for ash hoppers comprising, a stationary frame member defining an opening generally rectangular in outline and a movable

gate member of substantially the same outline mounted so as to cover and uncover the opening in said frame member, a strip of heat-resisting resilient material interposed edgewise in stressed condition between the edges of said frame and said gate members and providing a wiping joint and a seal against air pressure between them, said strip extending around at least a major portion of the perimeter of the opening in said frame member, said strip having elongated slots therein, the major axis of each of said slots extending perpendicularly to that face of the strip which provides the wiping joint, fastenings passing through said slots and holding said strip in sealing position and supporting said strip from one of said members, and reinforcements between said fastenings and said strip.

JOSEPH K. WENIGER.