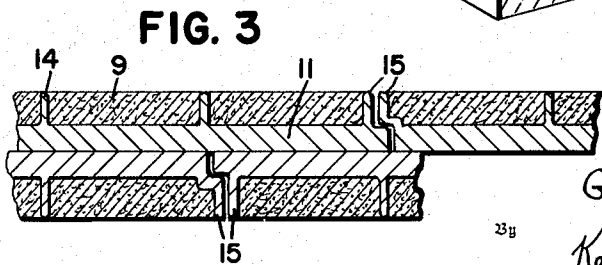
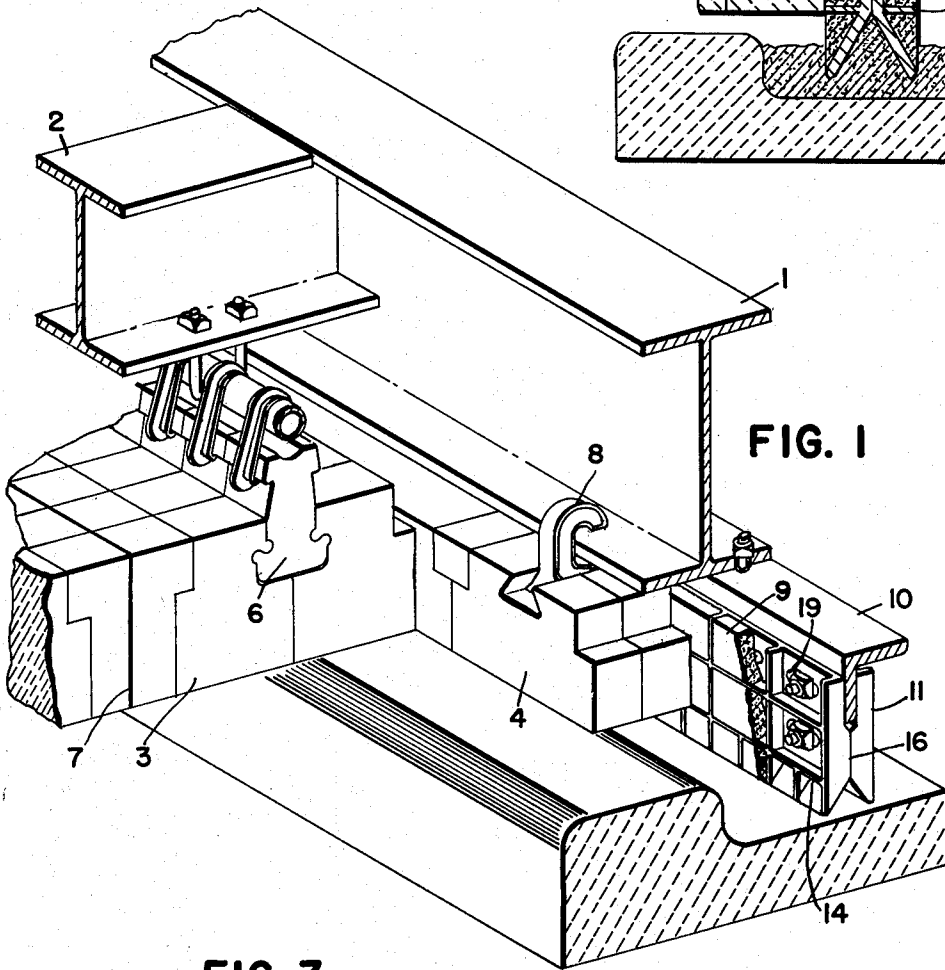
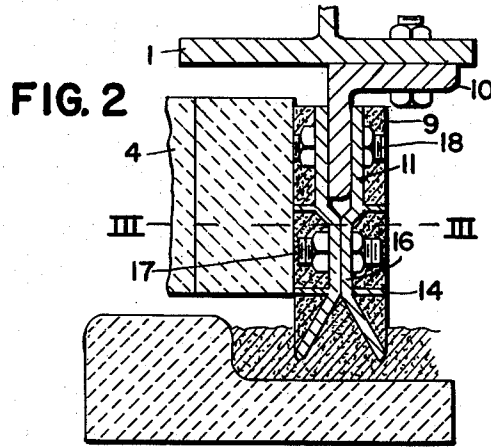


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SEALING SHOE FOR FURNACES

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**SEALING SHOE FOR FURNACES**

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2 Claims. (Cl. 110—173)

This invention relates to movable covers for furnaces and has for its general object to increase the service life of the marginal heat sealing member or sand shoe used with such covers. Considerable difficulty is now experienced in providing a marginal sealing member which will stand up under the temperatures involved and will repeatedly and effectively penetrate the sand or other suitable granular sealing material filling the recess in the coping of the furnace wall without leaving spaces or openings due to ridges or unevenness of the sealing material through which the heat of the furnace is more or less dissipated.

Another object of the invention is to provide a marginal sealing member with a series of ribs to provide compartments filled with heat resistant material, such as chrome ore. The castings are used in duplicate, and the inner one, subject to the greatest heat, may be of special heat resistant alloy. The outer casting may be of cheaper or less heat resistant material than the inner casting.

A further object of the invention is to provide a sand seal having a multiple lower edge to penetrate, displace and concentrate the granular material filling the coping of the furnace wall. One convenient method is to provide the sealing edge with an inverted V-shape as will hereinafter appear.

With the general objects named in view and others as will hereinafter appear, the invention consists in certain new and useful features of construction and organizations of parts as hereinafter described and claimed; and in order that it may be fully understood, reference is to be had to the accompanying drawings, in which:

Figure 1 shows the cover assembly, marginal framework and recessed coping embodying a seal involving the invention.

Figure 2 is a vertical section through the seal as shown in Figure 1.

Figure 3 is a section on the line III—III of Figure 2 with the roof and coping omitted.

Referring now to the drawings, in detail, 1 is an I-beam forming the marginal framework of a furnace cover comprising cross beams 2 and a suspended roof which may comprise refractory 3 and 4. The tile 4 is shown as suspended from a balance C-hanger 2 rockingly supported by the flange of the I-beam in line with the center of gravity of the hanger and refractory. Space exists between the upper face of the tile and the bottom of the beam to accommodate vertical movement of said tile.

One method of suspending the heat seal is to provide a member 10 which may be an angle plate, depending from the I-beam, or the vertical side slab of a pit cover. Secured to said member or slab, preferably in duplicate as shown, are casting 11, each of said casting having one

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face formed with a series of ribs 14, which are preferably arranged in angular relation to provide a series of pockets or compartments to receive heat resistant material 9, such as chrome ore. All of said castings are formed at their opposite ends with ship-lap flanges 15 as shown in Figure 3. The castings 11 are bolted to the opposite sides of the members 10 by through bolts 18 carried by the members 10, said bolts passing through slots 19 in the castings 11 so that irregularity in the spacing of bolts 18 can be accommodated. The castings 11 extend below the members 10 and are preferably offset as at 16 to reinforce and strengthen the shoe and are held together by bolts 17. By preference, when the outer and inner casting 11 are installed, the joints between adjacent castings of each row are offset in relation to the corresponding joints between the castings in the other row, as shown in Figure 3, the lower ends of the castings taper inwardly to form an inverted V-groove for entering the granular sealing material in the recess in the coping. It will be evident that as these spaced edges penetrate the granular material they will displace the same and compact it upwardly into the groove to provide a perfect seal against heat loss.

From the above description and drawings it will be apparent that I have produced a construction embodying all of the features of advantage set forth as desirable and it is to be understood that I reserve the right to all changes within the spirit of the invention.

I claim:

1. A soaking pit cover including a plurality of bolts spaced around its periphery, a seal portion projecting downwardly along the periphery of said cover, said seal portion having two parallel rows of identical seal units, each unit having through slots receiving the cover bolts and detachably secured to the cover by said bolts, the units of each row being in longitudinal alinement in ship-lap relation with adjacent units, and the lower edges of the rows of units being spaced apart to form an inverted V sand-penetrating shoe to gather sand in a pit coping on each placement of the cover.

2. A soaking pit cover including a plurality of bolts spaced around its periphery, a seal portion projecting downwardly along the periphery of said cover, said seal portion having two parallel rows of identical seal units, each unit having through slots receiving the cover bolts and being deachably secured to the cover, the units of each row being in longitudinal alinement in ship-lap relation with adjacent units with the ship-lap joints of each row off-set in relation to the corresponding joints in the other row, and the lower edges of the rows of units being spaced apart to form an inverted V sand-penetrating shoe to gather sand in a pit coping after each placement of the cover.

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