No. 711,026. Patented Oct. 14, 1902

M. UPDIKE.

MEANS FOR INSULATING COKE OVENS, &c.

(Application filed Oct. 21, 1901.)

(No Model.)

FIG. 1.

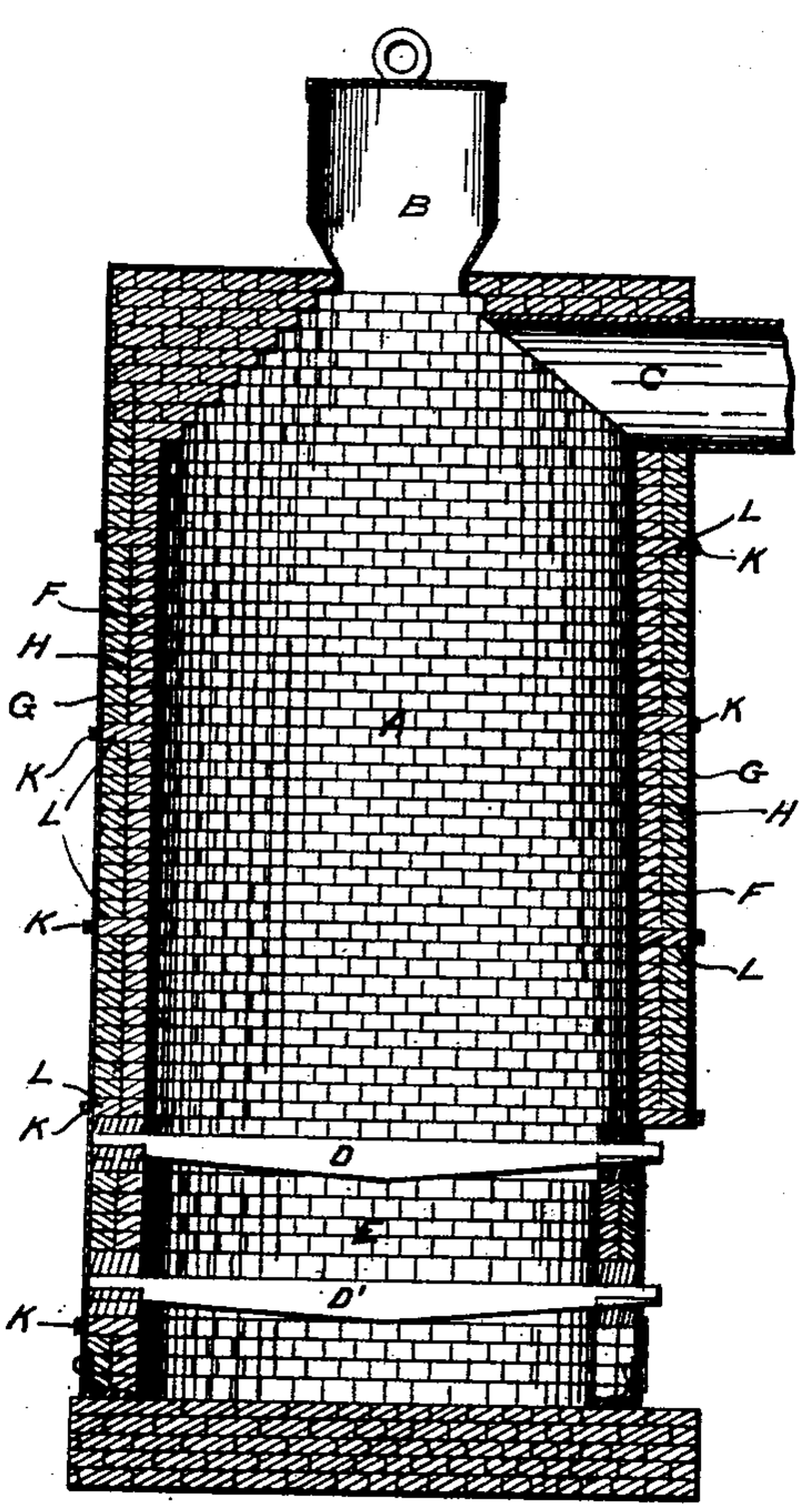


FIG. 2.

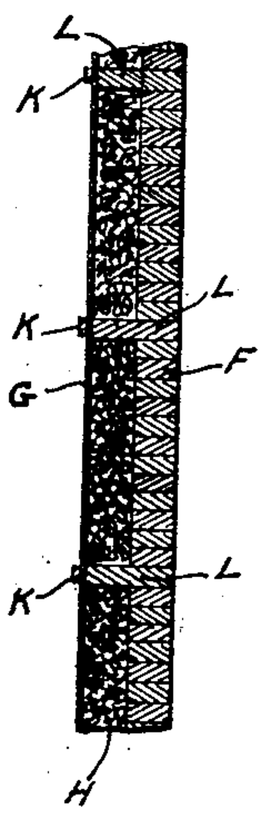
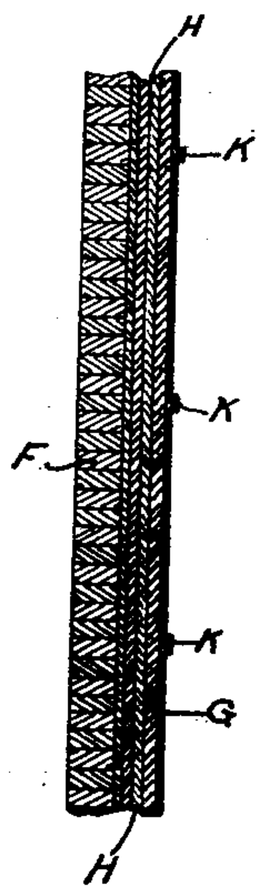


FIG. 3.



WITNESSES:

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MEANS FOR INSULATING COKE-OVENS, &c.

SPECIFICATION forming part of Letters Patent No. 711,026, dated October 14, 1902.

Application filed October 21, 1901. Serial No. 79,354. (No model.)

To all whom it may concern:

Be it known that I, MAHLON UPDIKE, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new, useful, and Improved Means for Insulating Coke-Ovens and the Like, of which the following is a description.

My invention relates to that class of structures or apparatus—such as coke-ovens, retorts or furnaces, gas-retorts, smelting-furnaces, and the like—in which there is great heat generated or confined in a chamber or retort, necessitating great care in providing for expansion and contraction in the parts, as well as to prevent the undue radiation and escape of the heat.

The object is to more effectively provide for those resultant effects, while at the same time greatly economizing the cost of construction, as well as the durability of the structure or apparatus.

To this end my invention consists in the novel construction, arrangement, and combination of the parts herein shown and described, and more particularly pointed out in the claims.

In the accompanying drawings, wherein like reference-letters indicate like or corresponding parts, Figure 1 is a vertical section of a gas-retort containing my invention, and Figs. 2 and 3 are sectional fragments showing modifications of the same.

In the drawings as shown in Fig. 1, A is a gas-retort of well-known form provided with a capped charging-orifice B, discharge-pipe C, and grates D D′, with a space between them for an ash-bed E. The walls, as shown, consist of an inner inclosing wall F, composed of fire-brick or equivalent material, and the outer retaining-shell G, preferably of metal, larger or of greater diameter than the retort A and inclosing the wall F, so arranged as to leave a space or chamber between the two which shall be proportional to the size and use of the structure. Within the space thus formed is firmly packed a suitable insulating material H—such, for example, as mineral wool, asbestos, or an equivalent material, preferably the former.

In order to suitably and firmly retain the whole in proper relation, buckstays K are provided and positioned as may be deemed necessary.

In the preferred form shown in Fig. 1 the insulating material consists of briquets composed of mineral wool or equivalent material. When thus composed, the insulating material adds to the rigidity, stability, and firmness of the wall as a whole, while at the same time serving effectively for insulating purposes and possessing sufficient elasticity to aid in counteracting excessive expansion and contraction.

In the form shown in Fig. 2 header or binder courses L are employed, dividing the space formed between the wall F and shell G into a plurality of chambers or compartments, within which the insulating material H is firmly packed, as shown. In a circular structure the chambers will preferably be continuous and annular in form, and the header courses form a firm foundation or base for the buckstays K.

In the form shown in Fig. 3 the insulating material H is composed of sheets, snugly filling the space, as shown, and against which the shell G is firmly bound by the buckstays, as shown.

The relative proportions of the several parts may be modified to suit the size of the structure and the use to which it is put. It will be observed that the use of the shell G, which is preferably of steel, tends to prevent the admission of air through any cracks or crevices should any appear; but, as before stated, my invention reduces the liability of such effect to a minimum.

It is obvious my improvement is adapted to be used to supplement a primary inclosing wall or walls of tiling or other material, and where in the claims I refer to an "inner inclosing wall" I wish to be so understood. I also wish by the term "briquets of insulating material" to be understood as meaning briquets of mineral wool or of other equivalent insulating material.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus of the kind described, the combination of an inner inclosing wall, an outer retaining-shell larger than and inclosing the wall and arranged to form a chamber

between the two, buckstays K retaining the shell in position, and insulating material positioned within chamber so formed, substantially as described.

2. In an apparatus of the kind described, the combination of an inner inclosing wall, an outer retaining-shell larger than and inclosing the wall and arranged to form a chamber between the two, buckstays K, retaining the shell in position, and briquets of insulating material positioned in said chamber, substantially as described.

3. In an apparatus of the kind described, the combination of an inner inclosing wall, an outer retaining-shell larger than and inclosing the wall, header or binder courses L, dividing the intervening space into a plurality of chambers, buckstays K arranged in line with the header courses L, and briquets of insulating material positioned in said chambers, substantially as described.

4. In an apparatus of the kind described, the combination of an inner inclosing wall, an outer retaining-shell larger than and inclosing the wall, header or binder courses L, dividing the intervening space into a plurality of chambers, briquets of insulating material positioned in said chamber, and buckstays K retaining the shell in position, substantially as described.

MAHLON UPDIKE.

Witnesses:
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