

(No Model.)

G. MAAG.
FURNACE.

No. 530,489.

Patented Dec. 4, 1894.

Fig 1

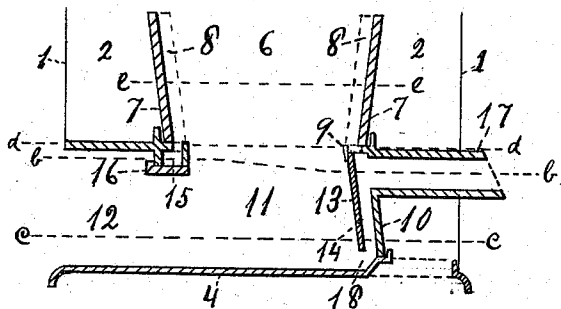


Fig. 4

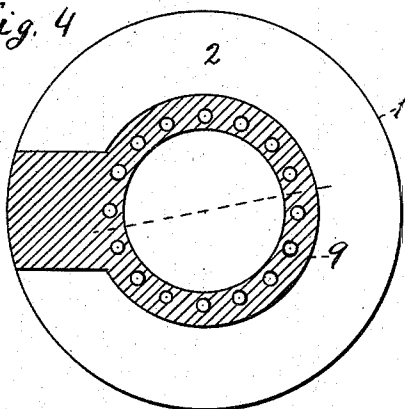


Fig 2

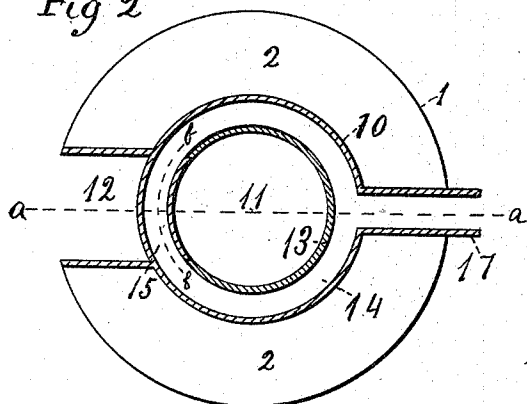


Fig. 5

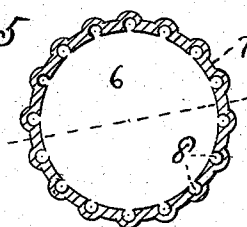


Fig. 3

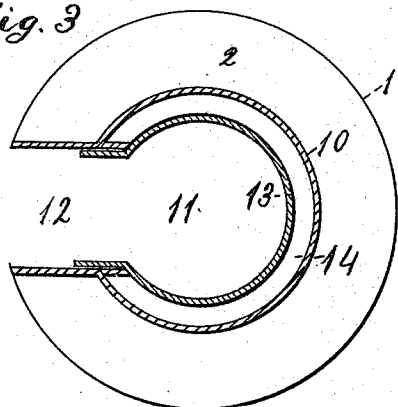


Fig. 6

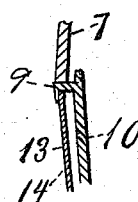
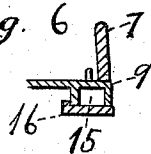
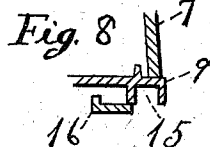
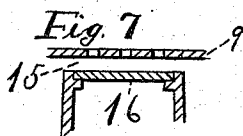


Fig. 7



Witnesses

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SPECIFICATION forming part of Letters Patent No. 530,489, dated December 4, 1894.

Application filed April 2, 1894. Serial No. 506,102. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MAAG, a citizen of the United States, residing at Akron, in the county of Summit, State of Ohio, have invented a new and useful Improvement in Furnaces, of which the following is a description, the accompanying drawings being referred to for illustration.

The invention is for furnaces or similar objects in which a lining or fire pot similar to that here shown is used.

Like characters in the various drawings represent the same part.

Figure 1 is a vertical section from front to rear, on a line *aa* Fig. 2. Fig. 2 is a horizontal section on a line *bb* Fig. 1. Fig. 3 is a horizontal section on a line *cc* Fig. 1. Fig. 4 is a horizontal section on a line *dd* Fig. 1. Fig. 5 is a horizontal section through fire pot on a line *ee* Fig. 1. Fig. 6 is a part of a vertical section, same as Fig. 1, except that Fig. 1 is taken on a line through cells in fire pot and air tube in rear, while Fig. 6 is taken on a line between cells, and at the side of air tube in rear, as shown by broken lines through Figs. 4 and 5. Fig. 7 is a vertical section on a line *ff* Fig. 2. Fig. 8 is a vertical section through a small chamber across the top of ash-pit entrance, same as is shown in Fig. 1, except that Fig. 1 shows the bottom of chamber closed, while Fig. 8 shows it open.

1 represents the casing within which is the air heating chamber 2 of an ordinary hot air furnace. 6 represents the fire chamber, and 7 the fire pot, upon which is placed, what is generally called the combustion chamber, or feed section. The grate is not shown, but is always placed on about the same level as bottom of fire pot.

8 represents vertical cells through the wall of fire pot, which communicate with fire chamber 6 through perforations or slots. (See Fig. 5.)

9 represents a flange on top of ash pit wall 10, and upon which the fire pot rests. This flange is provided with holes so located that they will register with cells in fire pot. (See Fig. 4.)

11 is the ash pit, and can be entered through ash pit entrance 12 which is always provided with a door.

13 is a shield extending from the inner bot-

tom edge of fire pot, or the flange on which it rests, to within a short distance of ashpit bottom 4, (see Fig. 1,) and form one ashpit entrance wall, around ashpit to the other. (See Fig. 3.)

14 is a chamber between the shield, 13, and the ashpit wall, 10, extending around ashpit, to ashpit entrance, (see Fig. 3) and there communicating with the small chamber, 15, directly over ashpit entrance, the two combined making a continuous chamber, around and underneath the firepot. (See Fig. 2.)

16 is a movable bottom plate to chamber, 15, which rests on projections on the inner side of ashpit entrance walls. (See Fig. 7.)

Fig. 8 represents the movable bottom plate to chamber, 15, drawn out for the purpose of removing ashes from chamber.

17 represents an air tube the outer end of which is to be provided with a regulating door, and through which air is admitted to chambers 14 and 15. (See Fig. 2.)

18 is an opening between bottom of shield 13, and ashpit bottom 4, and extending from one ashpit entrance wall around ashpit to the other, and connecting chamber 14 with ashpit proper.

In operation air will be admitted to chambers 14 and 15 by means of a regulating door at the outer end of air tube 17, and pass through holes in ashpit flange to cells in wall of firepot, and through slots or perforations to fire chambers 6 and upward through combustion chamber and radiator to smoke pipe, and ashes which will get into cells will drop to bottom of chambers 14 and 15. That which drops into chamber 15 will be removed by drawing out bottom plate 16, and that collecting in chamber 14 will be removed by taking ashes from ashpit.

The object of the invention, therefore, is twofold, first, to supply the fire in fire chamber 6 with air through cells in wall of firepot, exclusively, instead of supplying it through both grate and cells, as would be the case if the shield were removed; second, to provide means whereby ashes can be easily removed from chamber 15, and to effectually prevent the accumulation of ashes in chamber 14, as the ashes which get into chamber 14 from cells in firepot, will pass through opening 18 when ashes are removed from ashpit. The

first of these objects would be equally well attained, if the shield were extended to bottom of ashpit, and if the bottom plate to chamber over ashpit entrance were not movable, or in other words, if the chambers 14 and 15 was in no way connected with the ashpit; but the second object which is absolutely necessary to successful operation would be lost, as the ashes which fell into chambers 14 and 15, would soon fill it and render it entirely useless.

I am aware that Letters Patent have been granted for a firepot or firepot linings such as my invention is applicable to, and also that an air chamber has been patented, which extends around and underneath the firepot, for the purpose of supplying the fire with air, but which was not designed, and could not be used in connection with a firepot, such as my invention is intended for, for the reason that it would fill with ashes. I therefore make no claim to features such as are described above as being already patented; but

I do claim as my invention and desire to secure by Letters Patent—

1. In a furnace or similar object the com-

bination, with a fire-pot having cells 8, and an ash-pit underneath, the wall of which is provided on its upper edge with a flange 9, having openings which register with cells, 30 and which is further provided with a tube 17: of a shield 13 extending from the inner edge of flange 9 to within a short distance of ash-pit bottom, and from one ash-pit entrance wall around ashpit to the other, forming a 35 chamber 14 which is in communication with the outer air, with the cells 8, with the ash-pit, and with the chamber 15, for the purpose herein set forth.

2. In a furnace or similar object, the combination, with a fire-pot having cells 8, and an ashpit underneath within which is a chamber 14: of a chamber 15 across the top of ashpit entrance, which is in communication with cells 8, and chamber 14, and is provided with a movable bottom plate 16, for the purpose herein set forth. 45

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Witnesses:

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