

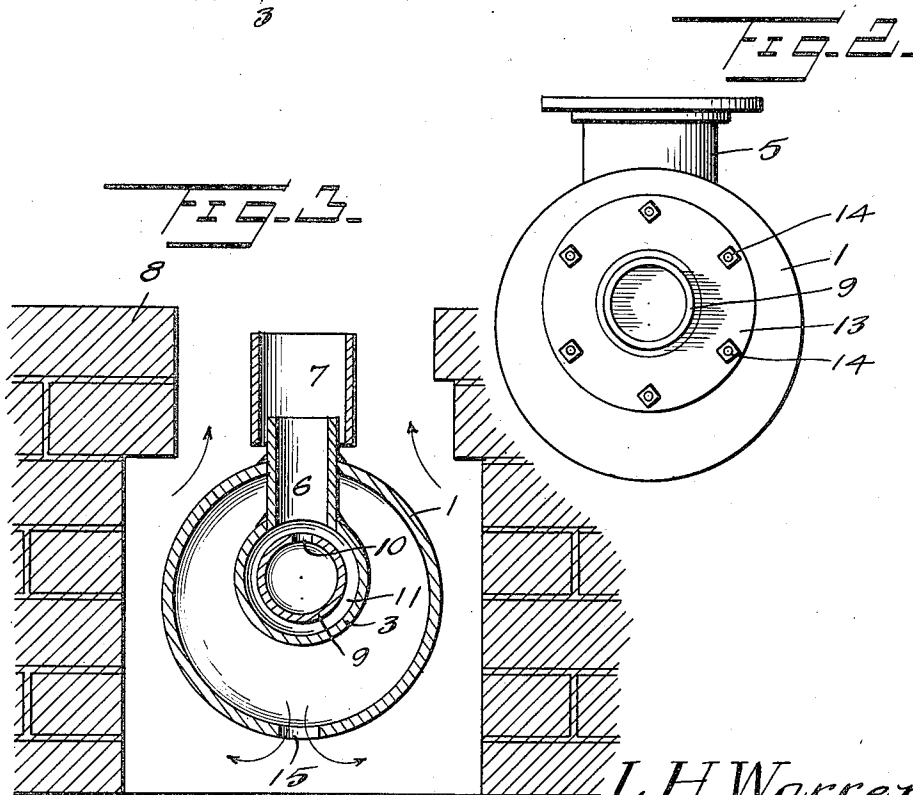
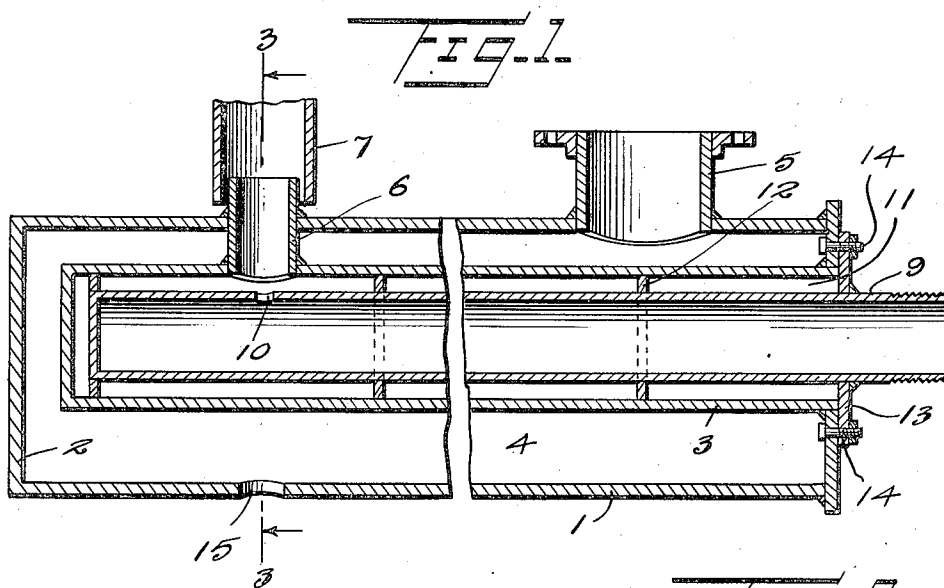
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REMOVABLE TUBE BURNER

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REMOVABLE TUBE BURNER

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2 Claims. (Cl. 158—99)

This invention relates to gas burners for annealing furnaces and has for the primary object the provision of a device of this character which may have the gas ports thereof easily and quickly cleaned of carbon and other foreign matter without dismantling the burner from the furnace or necessitating taking the furnace out of production for any appreciable length of time thereby materially reducing costs of burner cleaning heretofore expensive and requiring that the production of the furnace be stopped for long periods of time in order to cool before the cleaning operation could be undertaken.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawing, in which

Figure 1 is a vertical sectional view illustrating a gas burner of an annealing furnace constructed in accordance with my invention.

Figure 2 is an end elevation illustrating the same.

Figure 3 is a transverse sectional view taken on the line 3—3 of Figure 1 showing the relation of the burner with the walls of an annealing furnace.

Referring in detail to the drawing, the numeral 1 indicates an outer drum or casing of cylindrical formation having one end closed by an integrall wall 2 and its opposite end provided with an opening to receive a burner sleeve 3. Said sleeve is inserted in the casing 1 by way of the opening in the end wall of the latter and is arranged substantially centrally of the casing forming an air chamber 4 fed with air by way of a neck 5 secured to the casing by welding or some other means. The sleeve 3 has connected thereto any number of gas discharge necks 6 which extend through the casing 1 and enter tile burner sleeves 7 forming a part of an annealing furnace of which the walls are indicated at 8. While the drawing illustrates one of the gas discharge necks it is to be understood that any number may be employed. The neck 6 is welded or otherwise secured to the casing 1 and the burner sleeve 3 having communication with the interior of the latter. A gas supply pipe 9 extends into the sleeve 3 by way of the open end thereof and is provided with a gas port 10 to align with the gas discharge neck 6. However, when a plurality of necks are employed a cor-

responding number of gas ports are used. A gas chamber 11 is formed by the gas pipe 9 and the sleeve 3 and secured to the gas pipe are baffles 12 which contact the inner wall of the sleeve 3 and aid in supporting the gas pipe in the sleeve 3. A closure plate 13 is secured to the gas pipe and abuts the end of the casing having the opening and is detachably secured thereto by bolts 14. The closure plate 13 closes the end of the sleeve 3 preventing escape of gas from the gas chamber except through the discharge neck 6. The gas pipe 9 may be connected with a gas main in any well known manner.

The air from the air chamber 4 escapes by an air port 15 preferably at the lower side of the casing and passes upwardly about said casing and commingles with the gas escaping from the discharge neck for the purpose of supporting proper combustion of the gas. If more than one neck is employed, additional air ports also will be used.

The gas port 10 of the gas pipe frequently becomes clogged with foreign matter, consequently decreasing the flow of gas to the discharge neck and thereby bringing about a deficiency in the heating of the furnace. To clean the port it is only necessary to disconnect the gas pipe 9 from the gas main and detach the closure plate 13 from the casing and withdraw the gas pipe 9 from the sleeve 3 whereby the gas port 10 can be easily cleaned. During the removal of the gas pipe 9 from the sleeve 3 the baffles 12 slide against the inner walls of the sleeve 3 and remove therefrom any foreign matter which may have accumulated on said walls. After the cleaning of the port 10, the gas pipe is replaced in the sleeve 3 and connected to the gas main and the closure plate is secured to the end wall of the casing rendering the furnace ready for use. The ease with which the burner may be cleaned of foreign matter obviates the necessity of taking the furnace out of production for long periods of time in order that the furnace may become cool to permit cleaning of the burners as heretofore required in present day burner construction. With my type of burner the cleaning operation can be accomplished in a comparatively short time while the furnace is in a highly heated condition.

What is claimed is:

1. A burner for annealing furnaces comprising a casing having an air inlet and an air outlet, a sleeve having one end open arranged in said casing with the open end extending through one end of the casing, a gas discharge neck se-

cured to said sleeve directly above the air outlet and extending to the exterior of the casing, a gas pipe having a gas port arranged in said sleeve, and a closure plate removably secured to said gas pipe and to an end of the casing for closing said sleeve.

2. A burner for annealing furnaces comprising a casing having an air inlet and an air outlet, a sleeve having one end open arranged in said

casing with the open end extending through one end of the casing, a gas discharge neck secured to said sleeve and extending to the exterior of the casing, a gas pipe having a gas port arranged in said sleeve, a closure plate secured to said gas pipe and to an end of the casing for closing said sleeve, and baffle plates secured to the gas pipe and contacting the inner wall of the sleeve.

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