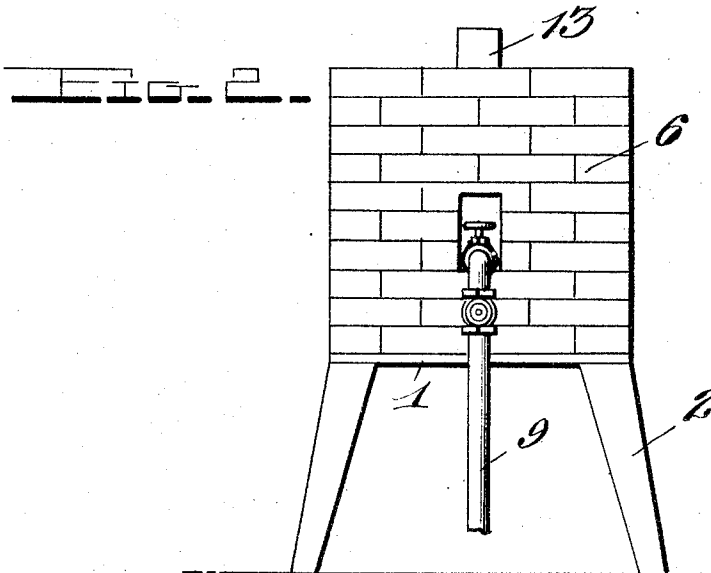
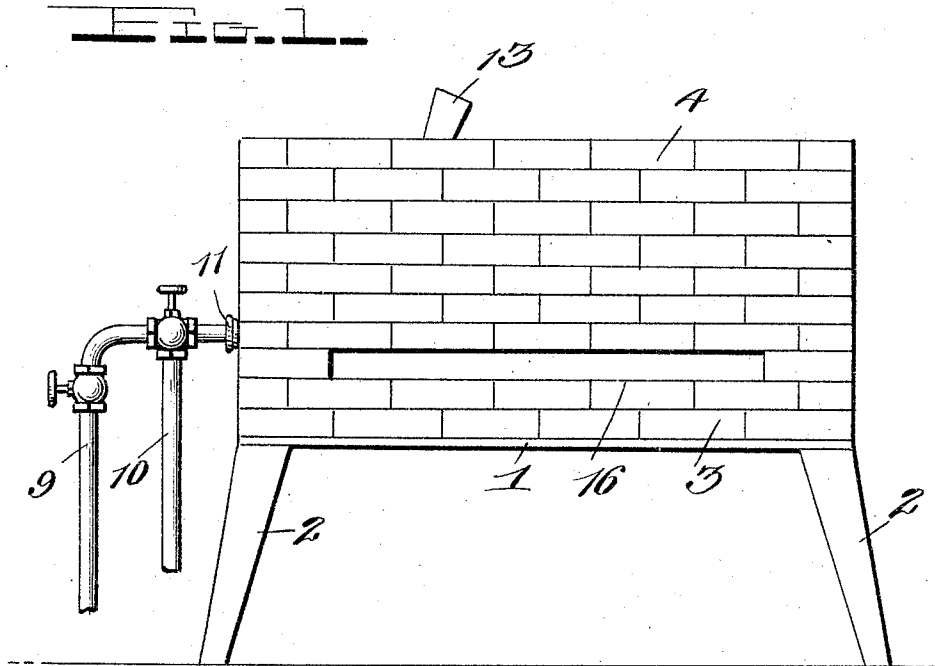


J. C. SCRIVNER.
HYDROCARBON FURNACE.
APPLICATION FILED APR. 29, 1911.

1,003,522.

Patented Sept. 19, 1911.

2 SHEETS—SHEET 1.



Inventor

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Witnesses

Chas. L. Gustafson.
L. G. Ellis.

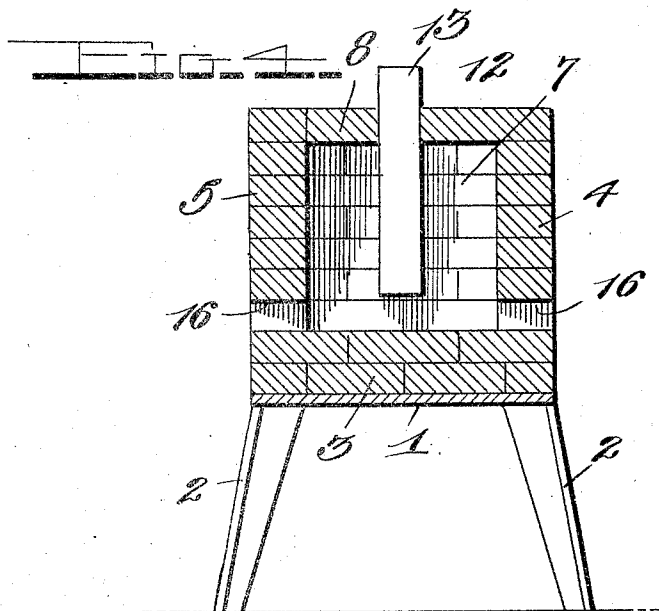
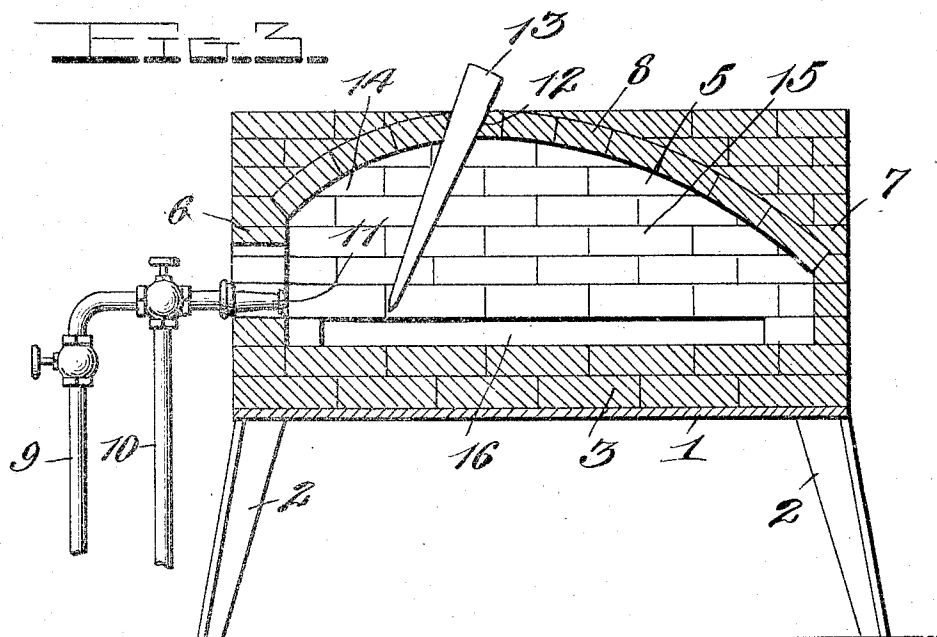
By Watson E. Coleman.
Attorney

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2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

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HYDROCARBON-FURNACE.

1,003,522.

Specification of Letters Patent. Patented Sept. 19, 1911.

Application filed April 29, 1911. Serial No. 624,045.

To all whom it may concern:

Be it known that I, JOHN C. SCRIVNER, a citizen of the United States, residing at Madison, in the county of Madison and State of Illinois, have invented certain new and useful Improvements in Hydrocarbon-Furnaces, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to new and useful improvements in furnaces and more particularly to a hydro-carbon furnace for metallurgical uses and my object is to provide a device of this character in which there is provided a removable blast or bridge wall.

A further object of the invention resides in providing a furnace having an arched top, which top is provided with a slot for the insertion and removal of the bridge wall, and a further object of the invention resides in providing an elongated opening in the side of the heating chamber of the furnace through which the materials to be heated are inserted.

With these and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings forming a part of this application, Figure 1 is a side elevation of my improved furnace. Fig. 2 is a front elevation thereof. Fig. 3 is a longitudinal section therethrough, and, Fig. 4 is a transverse section of the same.

In carrying out my invention, I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views and in which 1 indicates a base or frame of metal mounted on the supporting legs 2, upon which base or frame is mounted my improved furnace which comprises a bottom 3, the vertical side walls 4 and 5, the short end walls 6 and 7 and the arched top 8, all of which are formed of the usual or any preferred form of fire brick.

The end or front wall 6 of the furnace is provided with an opening, the lower wall of which is but a short distance above the bottom 3 of the furnace and extending within said opening, are the pipes 9 and 10, the former being a blast or air pipe, while the latter is an oil or hydro-carbon conduit, and the oil pipe has mounted on the end

thereof extended within said furnace a short distance, the burner 11. As stated, the opening in the end wall of the furnace through which the burner 11 extends, is positioned adjacent the bottom or floor of said furnace, and in this manner, it will be seen that any oil or other hydro-carbon which may leak from said burner may be readily ignited before the same leaks from the bottom of the furnace to the floor or ground of the structure upon which said furnace is mounted.

The arched top 8 is provided adjacent the front or end wall 6 with a slot or opening 12 which is disposed at an angle oblique to the vertical end walls 6 and 7, the side walls thereof being beveled inwardly toward their lower ends and adapted to extend through the slot 12 is a metallic bridge or blast wall 13. This bridge wall is tapered thinner toward its lower end to coincide with the tapering side walls of the opening 12, and when properly positioned in said opening, has the lower end thereof disposed a short distance above the bottom of the furnace and in close proximity to the burner 11. This bridge wall, therefore, divides the interior of the furnace into substantially two communicating chambers 14 and 15, the former representing the combustion chamber, in view of the fact that the burner is contained therein, while the latter may be termed a heating chamber, as will be hereinafter and more particularly described.

As stated, the lower end of the bridge wall 13 is disposed in close proximity to the burner 11, and thus when the hydro-carbon flowing therefrom is ignited, the wall will be heated thoroughly, thereby heating the chamber 15, and in order to provide for the heating of metals or other materials within said last referred to chamber, the side walls 4 and 5 are provided with elongated openings 16 adjacent the bottom of the furnace, whereby such metals may be entered therein.

My furnace is particularly adapted for the heating of rivets and the like for use in connection with boilers and other cylindrical metallic devices, and it will be seen that a number of the same may be placed in the heating chamber through these openings 16 and in view of the bridge wall 13, a more even heat will be thoroughly spread throughout said heating chamber. Should, for any reason whatsoever, the bridge wall become broken or otherwise damaged, the same may be readily removed, as the upper

end thereof projects beyond the top of the furnace.

From the foregoing, it will be seen that I have provided an improved hydro-carbon furnace in which there is provided a removable metallic wall between the combustion and heating chambers, and thus, should it be necessary to remove said bridge wall, the same may be accomplished and replaced by another while the furnace is in operation.

It will further be seen that by providing an opening in the top of the furnace which is disposed at an angle, the bridge wall extending therethrough will likewise be disposed at an angle and thereby distribute the heat more evenly throughout the heating chamber, which is extremely essential in the effective operation of a furnace of this character.

It will still further be seen that I have provided a furnace which is of such simple construction as to be readily and cheaply manufactured and one which is extremely effective in operation.

What I claim is:—

1. In a hydro-carbon furnace, the combination with a body portion of fire brick, and a burner extending therewithin; of a removable bridge wall extending within said body portion from the top thereof, said wall being disposed downwardly and forwardly toward the burner.

2. In a furnace of the class described, the combination with a body portion of fire brick, and a burner extending therewithin a short distance above the bottom of said

body portion; of a removable bridge wall extending within said body portion from the top thereof, said bridge wall being disposed downwardly and forwardly toward the burner to position the lower end thereof in close proximity to said burner and the bottom of said body portion.

3. A furnace of the class described, comprising a body portion of fire brick, the top and side walls of which are provided with slots, a burner extending within said body portion, the slot in the top of said body portion being disposed downwardly and forwardly toward said burner, and a bridge wall removably mounted in the slot of said top.

4. In a furnace of the class described, the combination with a body portion of fire brick, the top and side walls of which are provided with slots, and the slot in the top having the side walls thereof tapered toward their lower ends, and a burner extended within said body portion; of a bridge wall extending through the slot in the top of said body portion, said bridge wall being tapered coincident to the tapering of the side walls of said slot and having the lower end thereof disposed a short distance above the bottom of the body portion and in close proximity to the burner.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JOHN C. SCRIVNER.

Witnesses:

W. J. CANDY,
CHAS. E. SYKES.