

(No Model.)

E. DREYSPRING.  
PORTABLE METAL HEATING FURNACE.

No. 548,908.

Patented Oct. 29, 1895.

Fig. 1.

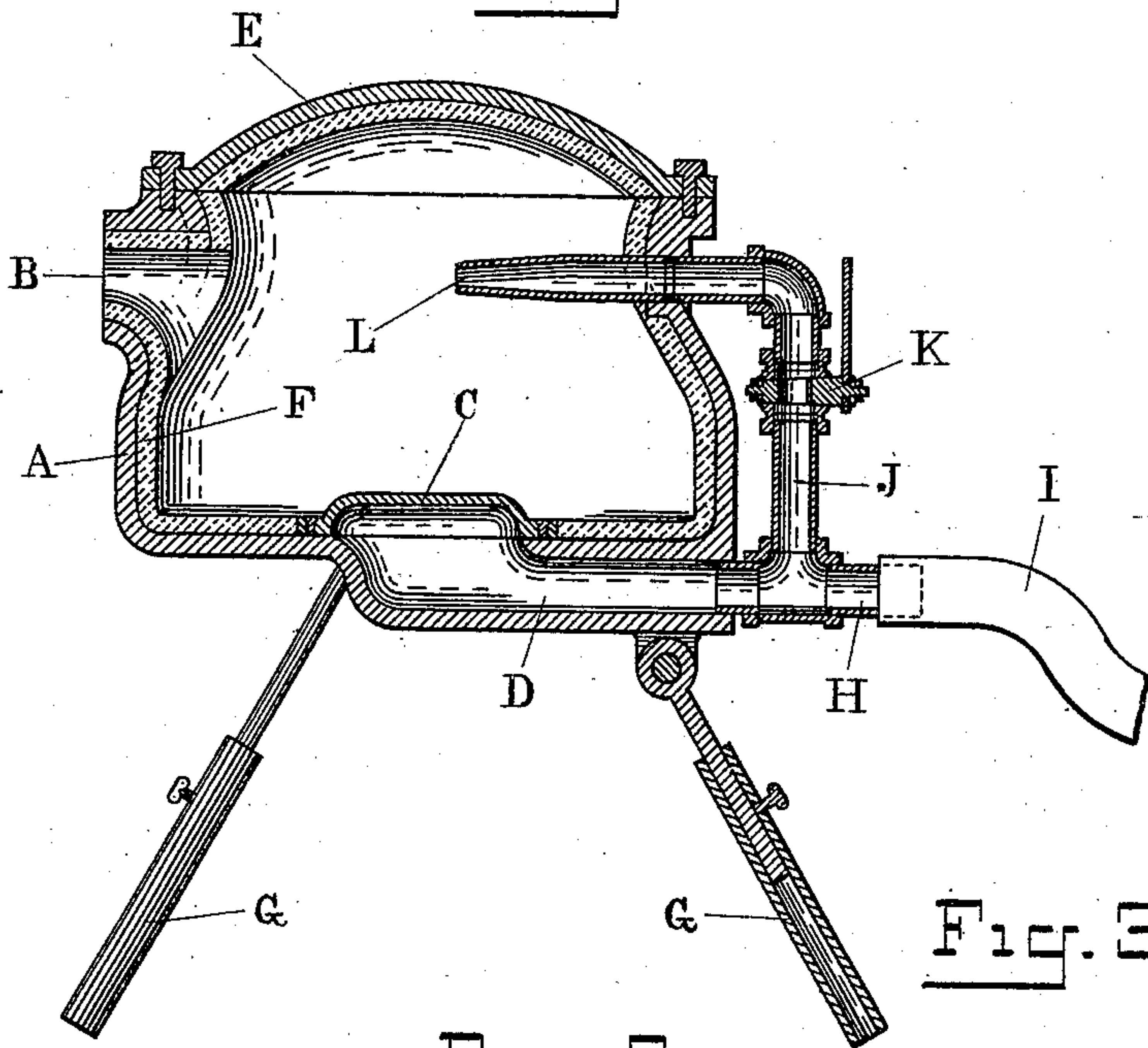
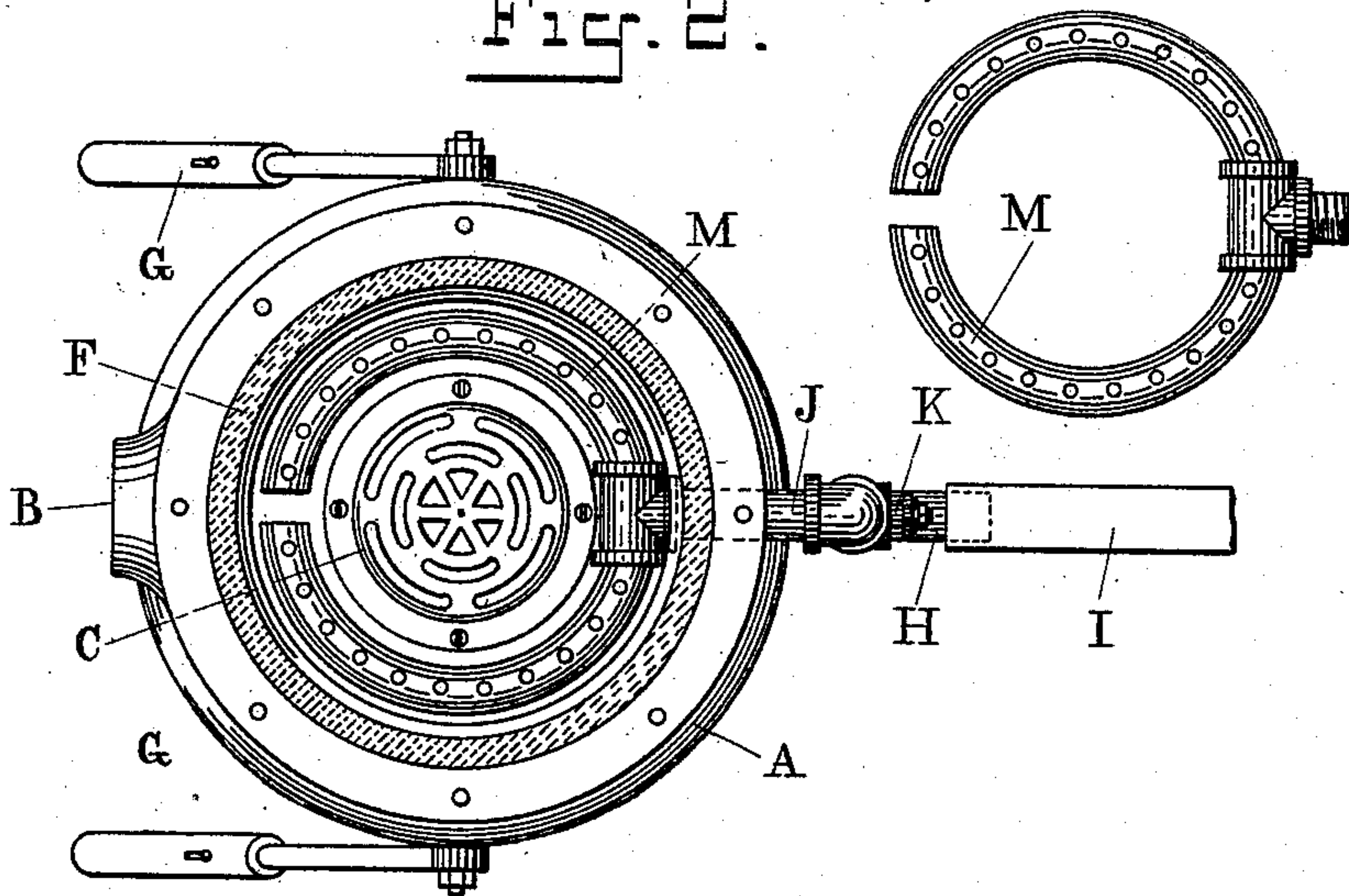


Fig. 3.

Fig. 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

ERNEST DREYSPRING, OF BIRMINGHAM, ALABAMA.

## PORTABLE METAL-HEATING FURNACE.

SPECIFICATION forming part of Letters Patent No. 548,908, dated October 29, 1895.

Application filed June 3, 1895. Serial No. 551,432. (No model.)

*To all whom it may concern:*

Be it known that I, ERNEST DREYSPRING, a citizen of the United States, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Portable Metal-Heating Furnaces; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in a flange and structural iron work heating-furnace; and the objects of my improvement are, first, to construct a cheap portable heating-furnace, the shell made of suitable metallic material lined with non-combustible lining on the inside, which can be placed in any convenient position to the work and connected to any suitable blast-pipe by a hose connection; second, to provide a heating-furnace having a perforated grate at the bottom, a blast-pipe connecting with the grate, the blast-pipe having a branch pipe entering an aperture through the side of the furnace, a taper nozzle connected to the inside of the aperture, and an aperture formed opposite the nozzle to allow the gases to escape through the side to heat material on the outside of the furnace; third, to make a heating-furnace having a removable cover, the furnace provided with a blast-pipe leading to a perforated grate in the bottom, the blast-pipe having a branch pipe connected to an aperture formed in the side of the furnace, a perforated circular nozzle attached to the inside of the aperture to blow the gases through the open top to heat material on the outside of the furnace when desired. I attain these objects by the construction of the furnace and connections shown in the accompanying drawings, in which—

Figure 1 is a vertical sectional view of my improved furnace through the center, the furnace having the cover secured to place and the taper nozzle attached to the branch blast-pipe. Fig. 2 is a top view of the furnace with the cover removed and the perforated circular nozzle attached to the branch blast-pipe. Fig. 3 is a detail plan view of the perforated circular nozzle for the branch blast-pipe.

Similar letters refer to similar parts throughout the several views.

The body of the furnace-shell A is made of cast iron or other suitable metallic material if desired. The furnace is preferably made of a circular form, having a flange formed on its upper edge. An aperture B is formed through the side of the furnace, the aperture having a projecting lip formed on the outside. A perforated grate C is fitted in the bottom of the furnace, a passage D for a blast-pipe connection being provided leading to the under side of the grate.

A metallic removable cover E is provided. The cover is attached, when desired, to the flange of the furnace body by cap-screws or other suitable means. The cover can be readily removed when desired to use the furnace open at the top.

The furnace, including the cover, is lined on the inside with fire-clay F, or a lining made of any other suitable non-combustible material. The extension-legs G can be made of pipe with metallic rods operating inside, the rods and pipe clamped at the desired position by suitable clamping-screws. The adjustment of the legs allows the furnace to be set in a level position on any kind of uneven surface.

The blast-pipe H is connected to the air-passage D by screw-threads or other desired means. The blast-pipe is connected with a hose I or by any other suitable means to any desired blower-pipe to furnish the blast. A branch blast-pipe J is connected to the pipe H. The branch pipe extends upward and is bent at a right angle to make a connection with screw-threads or other suitable means to an aperture formed in the furnace side. The branch pipe is fitted near the center with any desired form of valve K or air-gate to regulate the blast.

A taper nozzle L is attached by screw-threads or other suitable means to the branch pipe aperture inside of the furnace when it is desired to blow the gases through the aperture B to make a heat on material placed outside of the furnace. The perforated circular nozzle M is attached in the same manner in the place of the taper nozzle when it is desired to heat material placed over the furnace, the fur-



nace-cover being first removed for that purpose.

To operate the furnace and procure a heat on a bent angle-plate or other desired part of a structure on the outside of the furnace, the furnace, having the cover attached, is placed as near the part to be heated as it is convenient to get it, and the blast to the bottom of the chamber turned on in the usual manner, which generates and fills the furnace above the fuel with gases. A sufficient amount of air is admitted through the taper nozzle of the branch pipe to get a perfect combustion of the gases, and the flame so formed is forced by the blast from the nozzle through the aperture B in the side of the chamber and striking the structure on the outside of the furnace heats the same. To make a heat on a larger surface, as on the under side of a boiler, without removal from its setting, the furnace-cover is removed and the perforated circular nozzle M is attached to the branch pipe, the

furnace is placed under the object to be heated and the blast applied, as above described, which blows the ignited gases through the open top to heat a structure on the outside of the furnace.

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

In a portable heating furnace, the combination of a fuel chamber A mounted on a series of adjustable legs G, the chamber having an aperture B in the side, and a detachable cover E on the top, a blast pipe J entering the chamber near the top, the pipe adapted to attach a nozzle thereto on the inside of the chamber, substantially as described.

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

ERNEST DREYSPRING.

Witnesses:

JAS. J. CURTIS,  
ASA B. FULLER.