

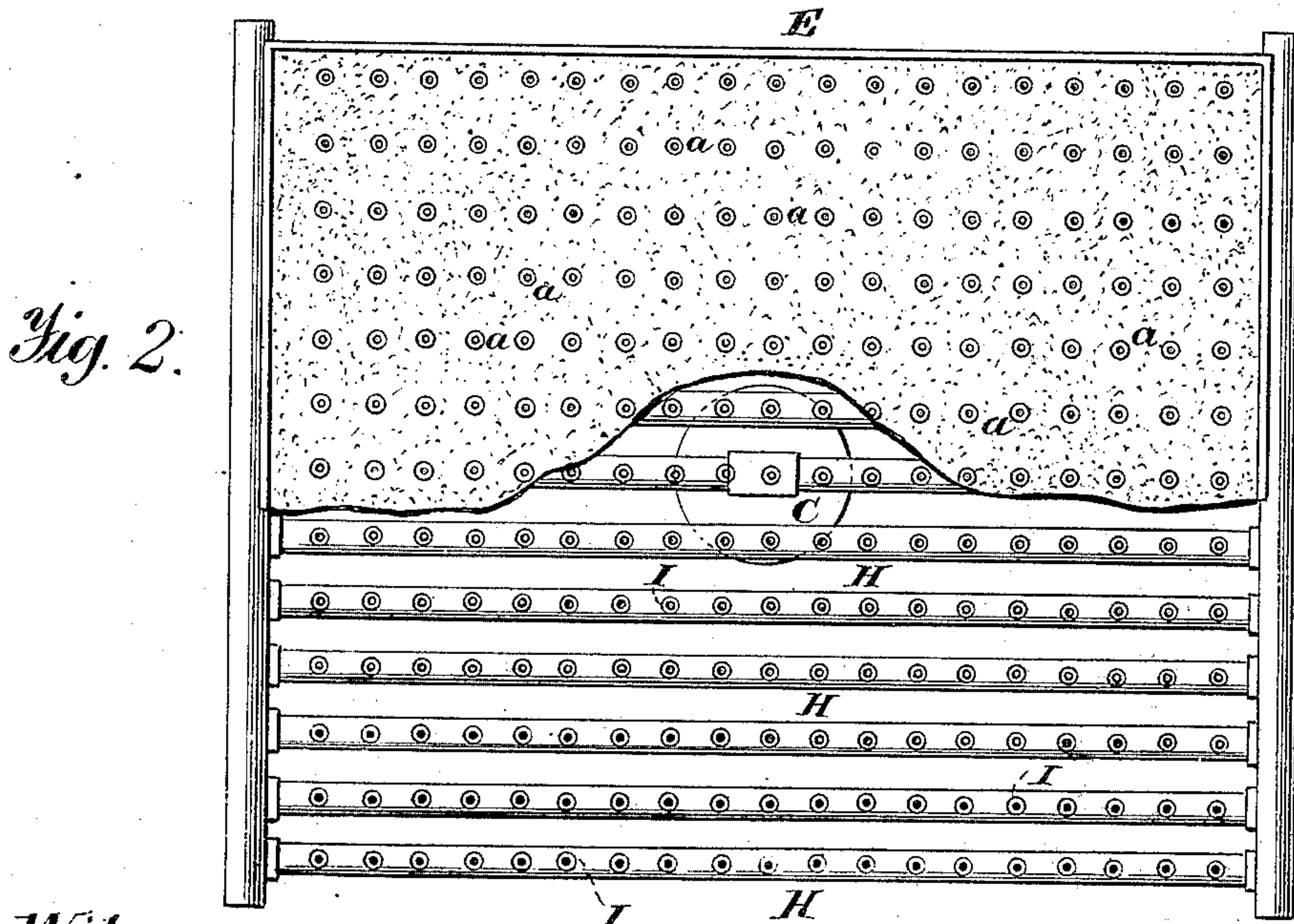
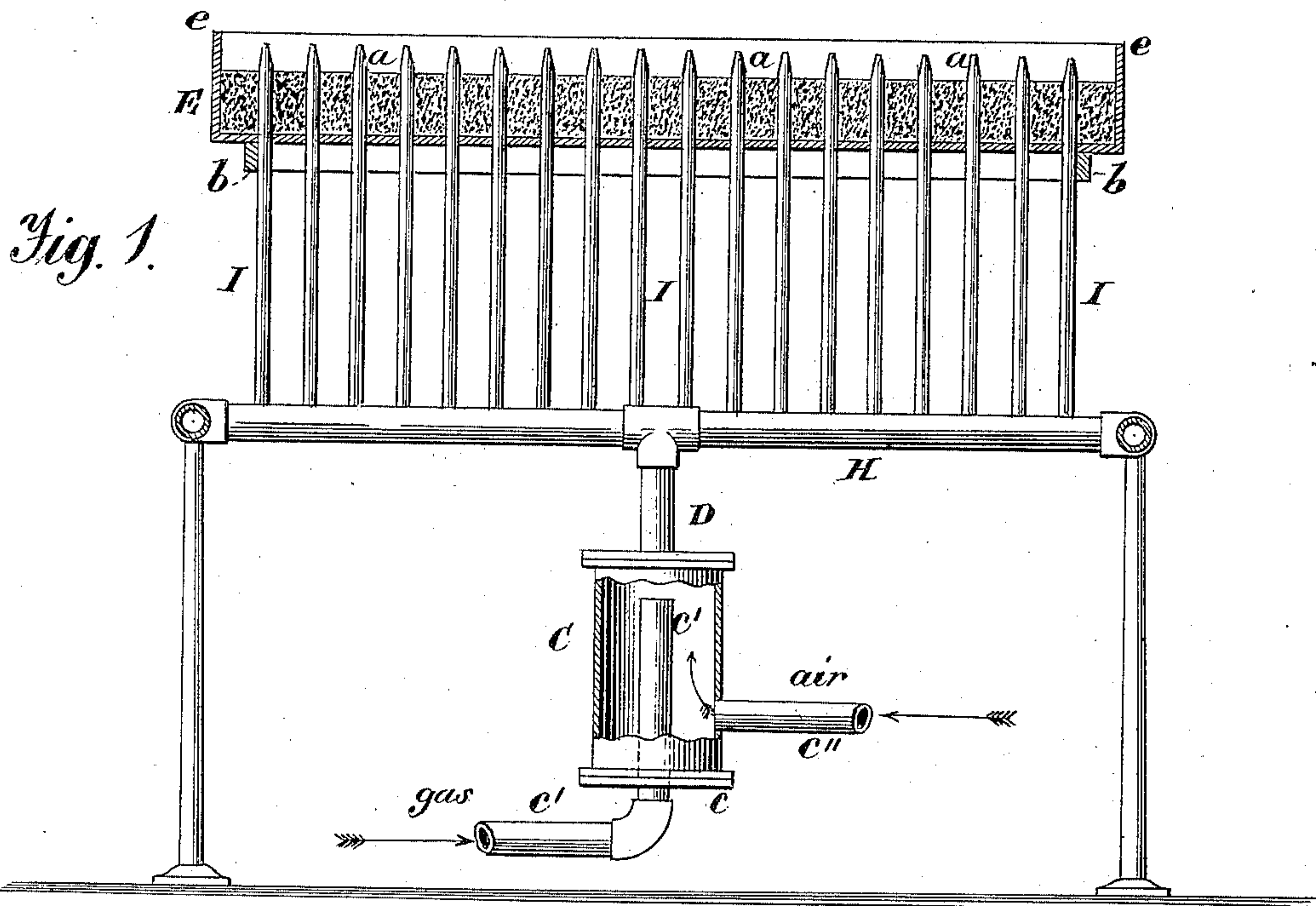
(No Model.)

I. VAN HAGEN.

HEATER FOR THE CRYSTALLIZATION OF STOVE PLATFORMS.

No. 312,934.

Patented Feb. 24, 1885.



Witnesses:
A. Ruppert.
C. Bruise

Inventor:
Isaac Van Hagen,
by *G. H. M. Howard*
att'y.

UNITED STATES PATENT OFFICE.

ISAAC VAN HAGEN, OF CHICAGO, ILLINOIS.

HEATER FOR THE CRYSTALLIZATION OF STOVE-PLATFORMS.

SPECIFICATION forming part of Letters Patent No. 312,934, dated February 24, 1885.

Application filed January 9, 1884. (No model.)

To all whom it may concern:

Be it known that I, ISAAC VAN HAGEN, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in the Manufacture of Stove Boards or Platforms, of which the following is a specification.

My invention has reference to the production of crystallized sheet metal; and it consists of an apparatus for effecting the process technically known as "burning" the sheet preparatory to the treatment of the sheet with water and other agents employed in the final steps for the production of the article.

In the accompanying drawings, forming part of this specification, Figure 1 is a sectional elevation of an apparatus constructed in accordance with my invention. Fig. 2 is a plan view.

The present invention in its general nature and character relates to an improvement upon the apparatus embodied in Patents Nos. 288,892 and 288,893, granted to me November 20, 1883, to which patents reference may be had for a more particular understanding of such general construction.

In the present invention C represents the regulating cylinder, through the bottom *c* of which passes the gas-supply pipe *c'*, said pipe projecting vertically upward a short distance within the said cylinder. The air-pipe *c''* communicates with the interior of the cylinder C at one side thereof, below the end of the gas-pipe *c'*. This arrangement permits the entrance of gas and air, respectively, into the cylinder without one counteracting the flow of the other, and insures their proper mixture for combustion. The regulating-cylinder communicates by a pipe, D, with a series of horizontal pipes, H, from the upper sides of which project vertical pipes I, surmounted by suitable burners, *a*. These pipes have secured to them and support a suitable frame, *b*. A tray or pan, E, has its bottom perforated for the passage of the vertical pipes I, and is supported in the position illustrated in Fig. 1 by resting on the frame *b*. This tray or pan E is of such depth as to cause the sides *e* thereof to extend up to or above the plane occupied by the burners, and is filled with asbestos or other

heat-refracting substance, which completely surrounds the vertical pipes above the pan-bottom and leaves only the burners *a* projecting.

It will be evident that when the burners are ignited and the sheet of metal is placed in position upon the edges of the tray E or over the burners *a*, the flames can act on said sheet with regularity, as the tray E will prevent any air currents or drafts that would result in the agitating of the flames. Moreover, the upper surface of the heat-refracting contents of the tray E insures the concentration of all the heat upon the metal surface being heated.

I am aware that heretofore a series of burner-pipes has been placed in close proximity to a sheet of metal supported above the pipes, and also that bodies of poor heat-conducting qualities have been employed in lamps, &c., near the burners. Therefore I do not claim such devices, broadly; but

I claim—

1. In an apparatus for the manufacture of crystallized sheet metal, an air and gas mixing cylinder, a series of burner-pipes communicating therewith, a guard or plate formed of a material having poor heat-conducting qualities, and through which the burners project, combined with a support adapted to hold the sheet of metal to be treated above said guard or plate, substantially as set forth.

2. In an apparatus for the manufacture of crystallized sheet metal, an air and gas mixing cylinder, a series of burner-pipes communicating therewith, a guard or plate formed of a material having poor heat-conducting qualities, and through which the burners project, combined with a support extending above the burners, and having closed sides, whereby when the sheet is placed upon said support the flames will burn under the sheet unaffected by external air currents or drafts, substantially as set forth.

In testimony whereof I have hereunto set my hand this 28th day of December, 1883.

ISAAC VAN HAGEN.

Witnesses:

E. C. FIELD,
F. E. COBB.