(No Model.)

P. J. GURNEE.

DRYING ATTACHMENT FOR BRICK KILNS.

No. 402,321. Patented Apr. 30, 1889.

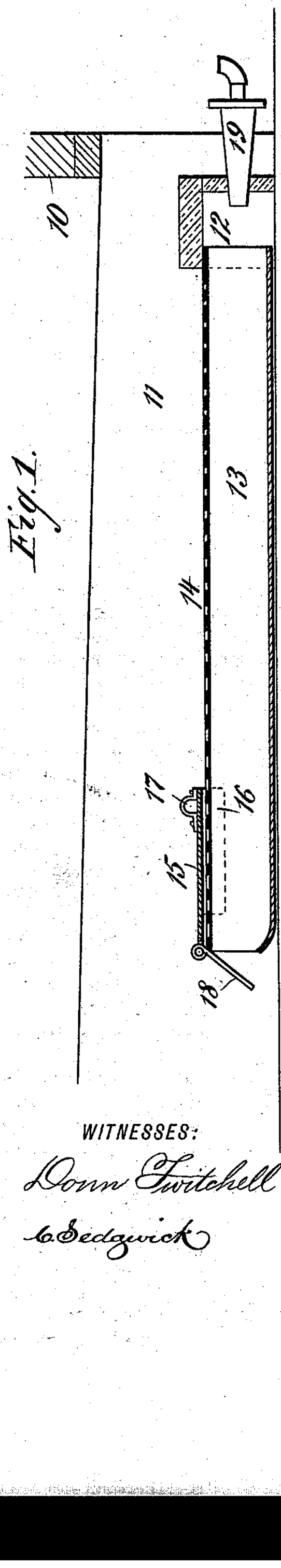

Fig. 1.

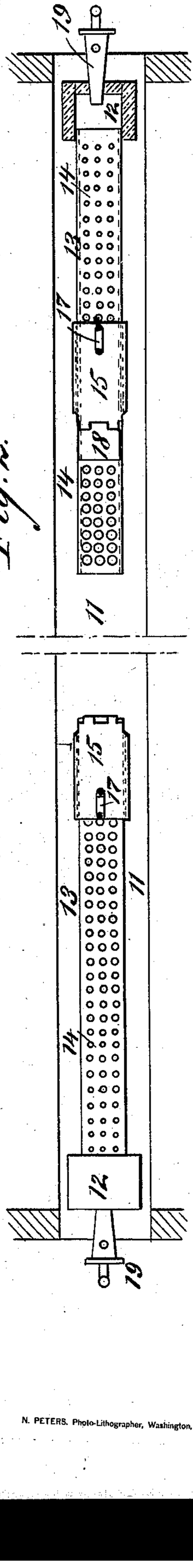

Fig. 2.

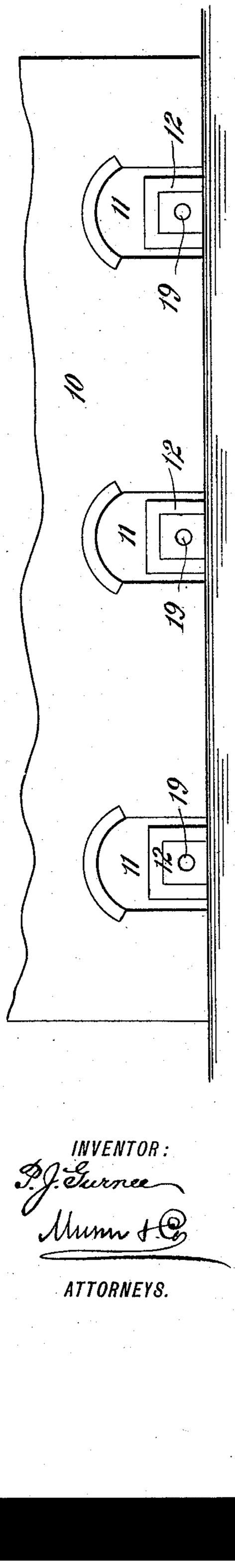

Fig. 3.

WITNESSES:

Donn Twitchell

C. Sedgwick

INVENTOR:

P. J. Gurnee

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

PALMER J. GURNEE, OF RONDOUT, NEW YORK.

DRYING ATTACHMENT FOR BRICK-KILNS.

SPECIFICATION forming part of Letters Patent No. 402,321, dated April 30, 1889.

Application filed September 18, 1888. Serial No. 285,675. (No model.)

To all whom it may concern:

Be it known that I, PALMER J. GURNEE, of Rondout, in the county of Ulster and State of New York, have invented a new and Improved Drying Attachment for Brick-Kilns, of which the following is a full, clear, and exact description.

My invention relates to a drying attachment for brick-kilns, and has for its object to provide a means for distributing heat from an oil or gas burner through the arches of a green brick-kiln in such a manner that the bottom bricks will not "pop" before being heated to a red or white heat; and the further object of the invention is to provide a means whereby the heat may be expeditiously and conveniently shut off from any given tier of bricks should the "popping" commence therein.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a central longitudinal section through the device, illustrating the same in position in the arch. Fig. 2 is a plan view of the device, illustrating the full length of the arch; and Fig. 3 is a partial side elevation of the exterior of a kiln.

In carrying out the invention the kiln 10 is constructed in the usual manner and provided with any desired number of arches, 11, extending through from side to side. Immediately within the arches at each end a chamber, 12, is provided, usually rectangular in contour, constructed preferably of fire-brick or other equivalent material capable of enduring intense heat without scaling or breaking. The said chamber 12 may be of any length found desirable in practice. A metal fire-box or heater, 13, is located in each end of the arch, the outer ends of which are inserted in the chamber 12, as illustrated in Figs. 1 and 2, a space being made to intervene the approaching inner ends.

The heaters may be of any desired contour, but are preferably made rectangular and provided upon the upper surface with a series of graduated apertures or perforations, 14, the smallest apertures being at the outer end of the heaters and the largest at the inner end. The perforations may be of the same size without departing from the spirit of the invention, and may be produced in the sides also; but the construction illustrated is preferred.

A horizontal damper, 15, is made to slide upon the upper perforated surface of the heaters, provided with side or guide flanges, 16, as shown in dotted lines in Fig. 1. Upon the upper face of the dampers, usually near their outer end, an eye or staple, 17, is attached, and a gate, 18, is hinged to the inner end of the damper, as best shown in Figs. 1 and 2.

The ends of the heaters are open, and the bottom at the inner end is preferably curved upward to facilitate its introduction into the arches after the kiln is built.

The flame used in heating the kiln is obtained from gas or oil, and to that end a burner, 19, of any approved pattern, is employed, which burner is introduced at the mouth of the arches and inserted into the chambers 12. The perforations are made smaller in the heaters near the mouth of the arch than those located at the inner ends of said heaters, to equalize the radiation of the heat, the said heat being more intense upon entering the heaters, decreasing toward the end, as the volume of flame is greater.

In operation, should the green bricks, when the heat is turned on, commence to pop above the heaters at any point in their length, the surface of the heater immediately under the popping tier is covered by the damper and the heat checked at that point. This is expeditiously and conveniently effected by inserting a bar having a hooked end into the arch and engaging therewith the eye or staple 17. By this means the damper may be readily slid the length of the heaters. Should the popping take place between the approaching ends of the heaters, the dampers are slid inward until the gate falls down over the inner extremities of one or both of the heaters, as shown in Fig. 1 and to the left in Fig. 2, until the said extremity is entirely or partially covered, as desired. The device also effectually prevents the back-draft from extinguishing or interfering with the flame, as whatever back-

draft there may be passes out between the heaters and the top of the arch, and over the chamber 12.

When the brick are sufficiently dried for full firing, the heaters are removed.

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

1. The combination, with the arch of a brick-kiln and a burner introduced therein, of a heater located in said arch, having open ends and provided with a perforated top, and a damper capable of sliding over said top provided with a hinged gate, substantially as shown and described.

2. A portable heater for brick-kilns, consisting of a box having a perforated top and provided with an imperforate slide or damper fitted to slide upon its upper perforated surface, substantially as described.

3. The combination, with a heater provided with a series of graduated perforations and open at its ends, of a damper held to slide over the perforations and a gate hinged to said damper, substantially as shown and described.

PALMER J. GURNEE.

Witnesses:
W. N. GILL,
WILBUR L. HALE.