

No. 621,577.

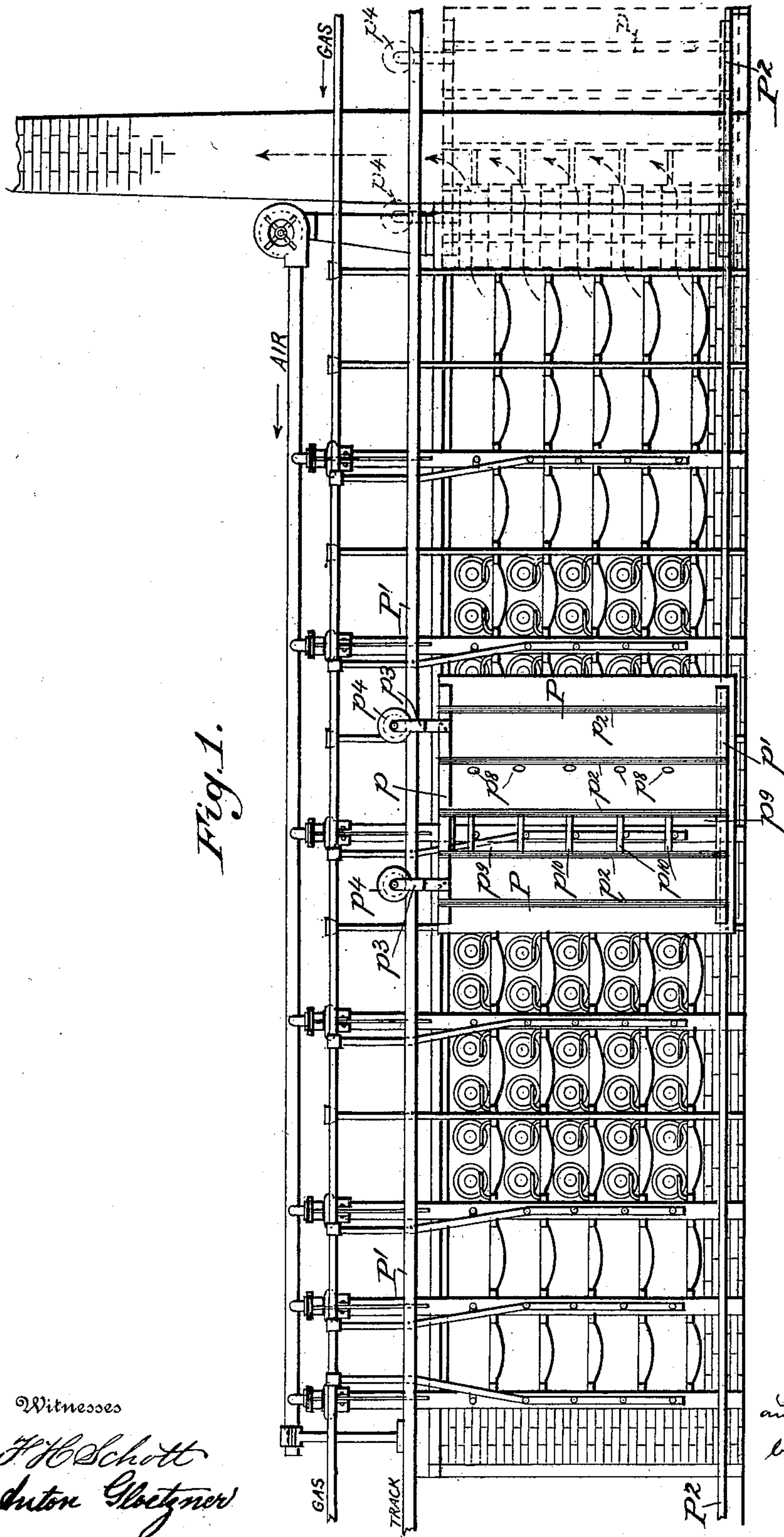
Patented Mar. 21, 1899.

W. & J. LANYON.
FURNACE SHIELD.

(Application filed Sept. 28, 1898.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig. 2.

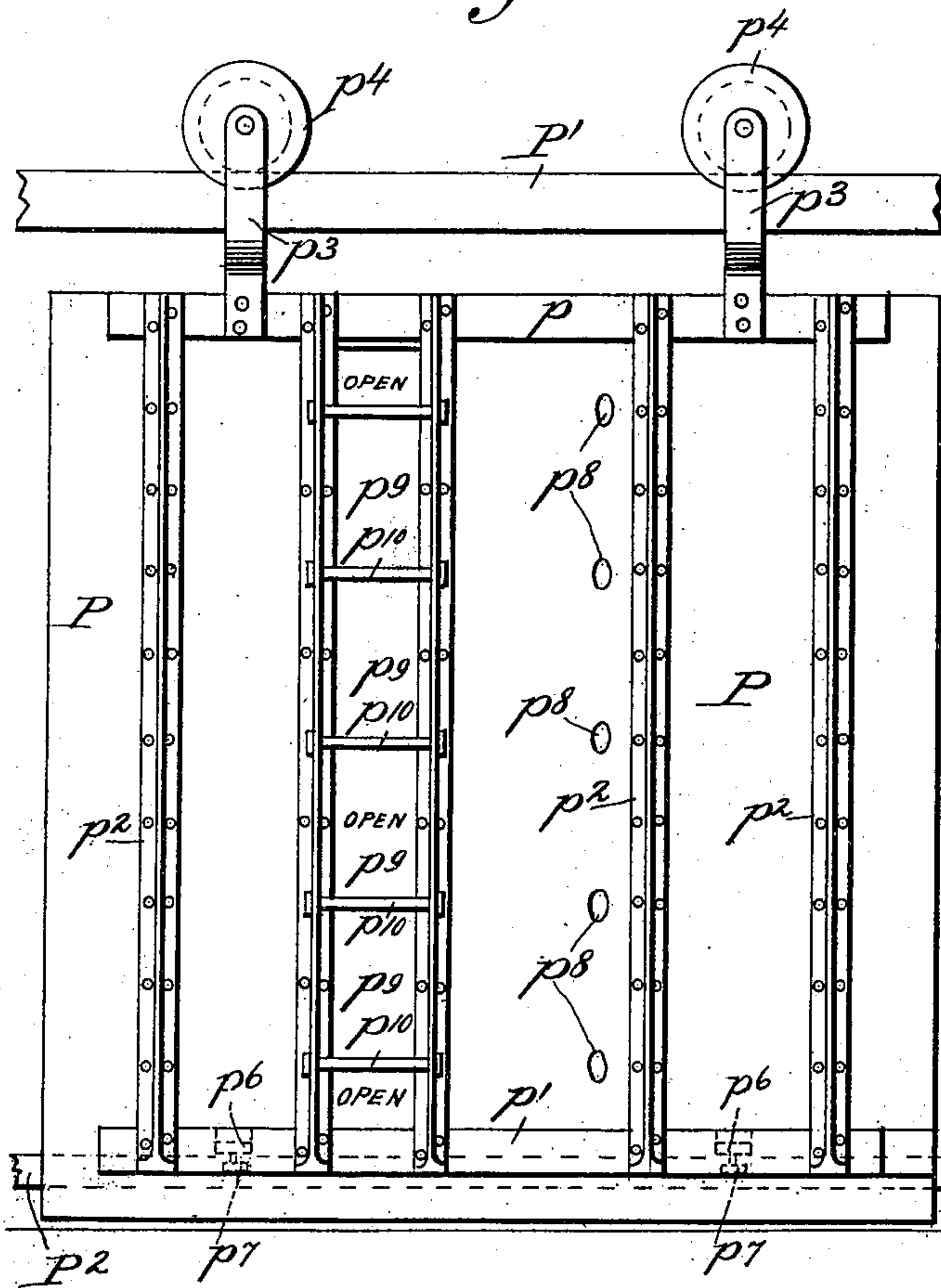


Fig. 3.

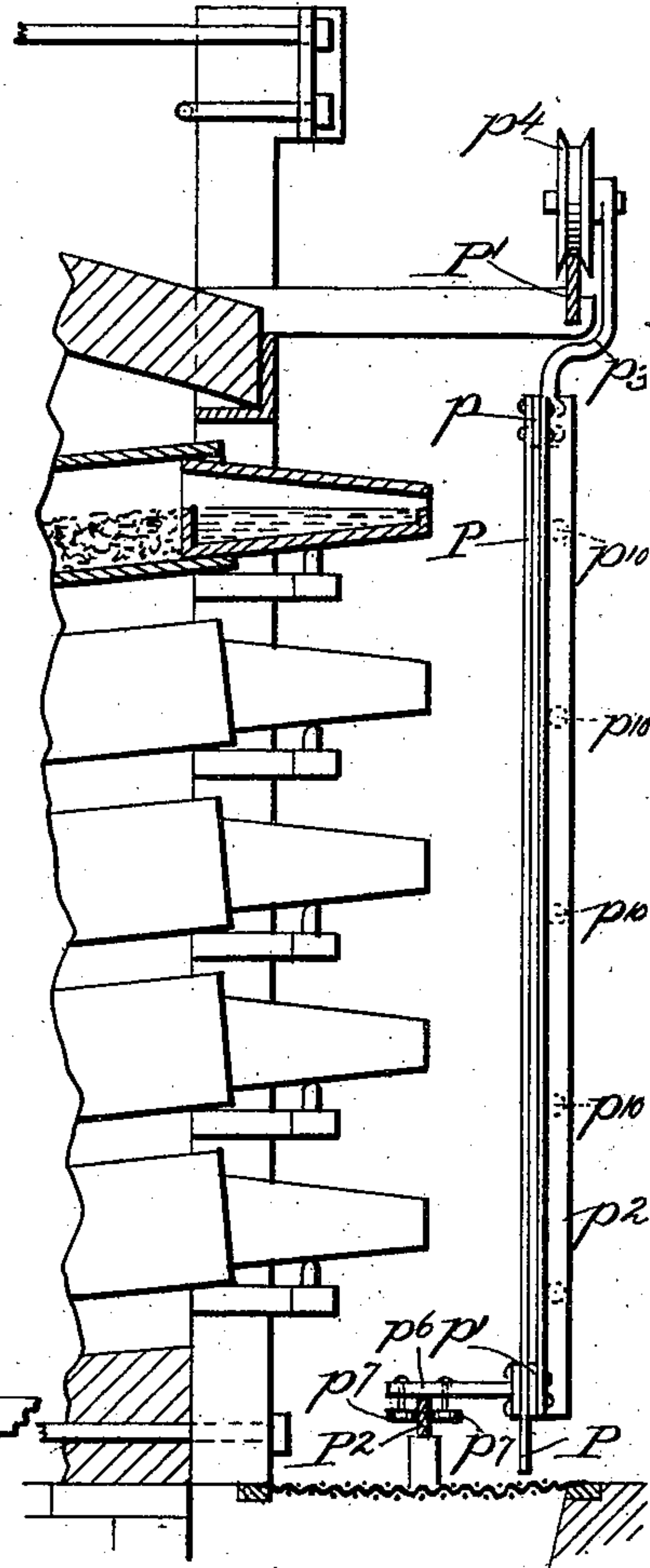
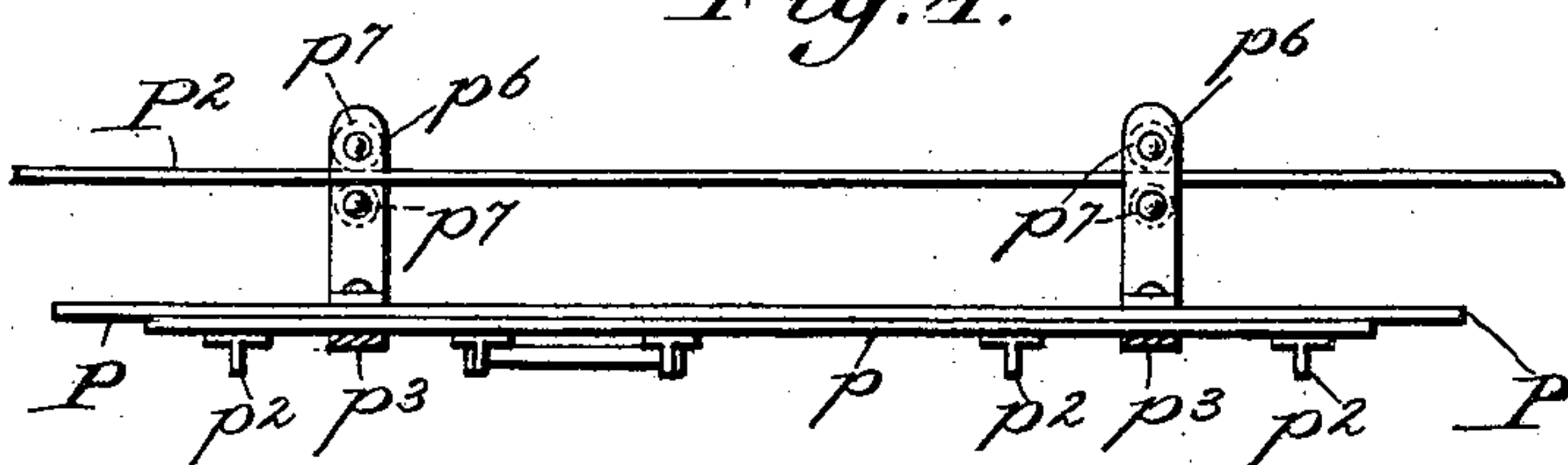


Fig. 4.



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WILLIAM LANYON AND JOSIAH LANYON, OF PITTSBURG, KANSAS.

FURNACE-SHIELD.

SPECIFICATION forming part of Letters Patent No. 621,577, dated March 21, 1899.

Original application filed May 25, 1898, Serial No. 681,718. Divided and this application filed September 28, 1898. Serial No. 692,130. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM LANYON and JOSIAH LANYON, citizens of the United States, residing at Pittsburg, in the county of Crawford and State of Kansas, have invented certain new and useful Improvements in Furnace-Shields; and we 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.

Our invention relates to improvements in furnace-shields.

The object of our invention is to provide a furnace-shield intended for the protection of operatives in working metallurgical furnaces or the like.

Our invention is particularly adapted for use in connection with furnaces having a plurality of retorts—such, for example, as smelting-furnaces—and it has been particularly described in such relation in our application, Serial No. 681,718, filed May 25, 1898, of which this application is a division.

Our invention consists in the features, details of construction, and combination of parts, which will first be described in connection with the accompanying drawings and then particularly pointed out in the claims.

In the drawings, Figure 1 is a front elevation of a shield embodying our invention shown in connection with one form of furnace, to which it is specially applicable; Fig. 2, an enlarged view, in elevation, of said shield and one portion of its tracks; Fig. 3, an end elevation, and Fig. 4 a top plan view, of the same.

Referring to the drawings, it will be seen that the furnace-shield consists of an iron plate P, strengthened or stiffened in any suitable manner, as by an upper and lower horizontal bar $p p'$ and a series of vertically-arranged channel-irons p^2 , extending the full length of the shield.

This shield is carried by means of hangers p^3 from grooved rollers p^4 , arranged to run on a track P', secured overhead in some suitable manner.

In order to prevent the shield from swinging laterally, it is provided on its rear face, at the

lower end, with one or more inward-extending arms p^6 , carrying rollers p^7 , arranged in pairs, which run on opposite sides of a lower track P², fixed in any suitable manner to the furnace, preferably about the level of the furnace-floor.

This shield is further provided with a series of openings p^8 , preferably arranged in a vertical row, each hole being in the same plane with the centers of the outer ends of the corresponding retorts of the furnace with which it is to be used.

The shield is also provided with a vertical opening p^9 , extending from top to bottom between two of the vertical stiffening-bars p^2 , across which extend a series of rests p^{10} , formed, preferably, as transverse bars passing from one stiffening-bar to the other. The purpose of these rests will be pointed out hereinafter.

As has been hereinbefore stated, this invention is especially advantageous in connection with a smelting-furnace such as is used for smelting zinc or the like; but it is to be understood that it may also be used in connection with any form of metallurgical or other furnace. In Fig. 1 it is shown in its proper relation to such a zinc-smelting furnace. In these furnaces after a row of retorts has been exhausted by the distillation of all the zinc contained in them it becomes necessary to remove the residue from the retorts, for which purpose the condensers must be first removed. Then the furnace-shield is brought into operation as follows: The openings p^8 in the furnace-shield being brought opposite the open retorts, the usual steam-nozzle, of well-known construction and operation, is inserted through the desired opening p^8 and the refuse or the major portion thereof blown out from the retort. Any matter not removed by the steam-nozzle is scraped or pulled out by the use of the usual tools inserted through the opening at p^9 , which is brought opposite the open retorts for that purpose, the said tools or irons resting on the corresponding cross-brace p^{10} , which forms a convenient fulcrum in using said tool or iron. During this operation the shield protects the workman from

the intense heat of the retorts and residue and also prevents the latter from falling onto the workman and burning him or his clothes.

When one vertical row of retorts has been
5 cleaned, the shield is moved along its tracks to bring it opposite another vertical row, and so on until all are cleaned.

Having thus fully described our invention, what we claim as new, and desire to secure by
10 Letters Patent, is—

1. The combination, with a furnace, and an upper and a lower track arranged adjacent thereto, of a furnace-shield provided with rollers running upon the upper track and with
15 inward-extending arms having rollers running upon the lower track.

2. The combination with a plurality of retorts arranged in vertical and horizontal rows, and a track substantially parallel with the
20 horizontal rows of retorts and adjacent to said retorts, of a furnace-shield mounted to move

along said track, said furnace-shield having a series of steam-nozzle openings arranged in a vertical row.

3. The combination, with a plurality of re- 25
torts, and a track adjacent thereto, of a furnace-shield arranged to run on said track transversely past the ends of the retorts, said furnace-shield having a series of steam-nozzle openings arranged in a vertical row so as to
30 come opposite the respective retorts, a vertical opening, and cross-bars extending across said vertical opening and each located so as to come opposite the lower edge of its respective
35 retort.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM LANYON.
JOSIAH LANYON.

Witnesses:

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A. O. MELLETT.