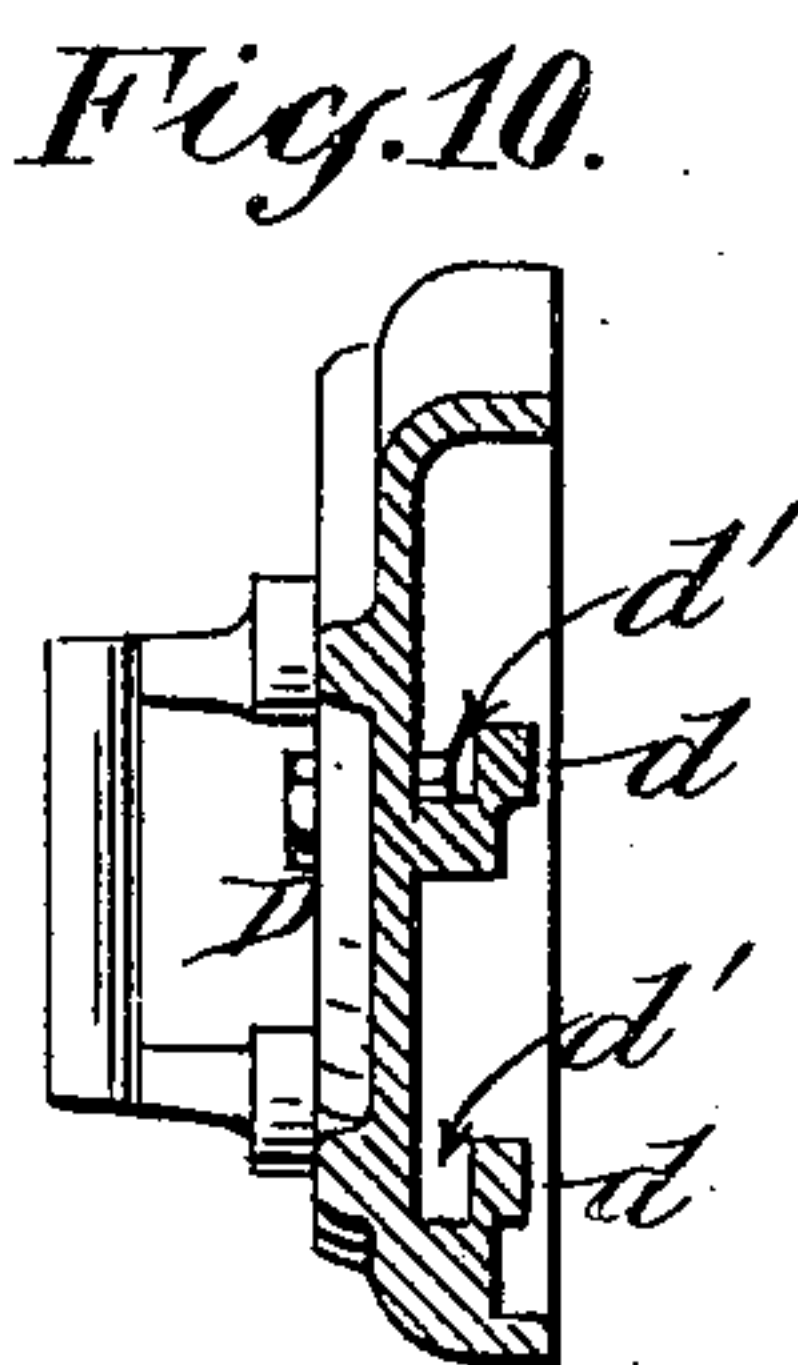
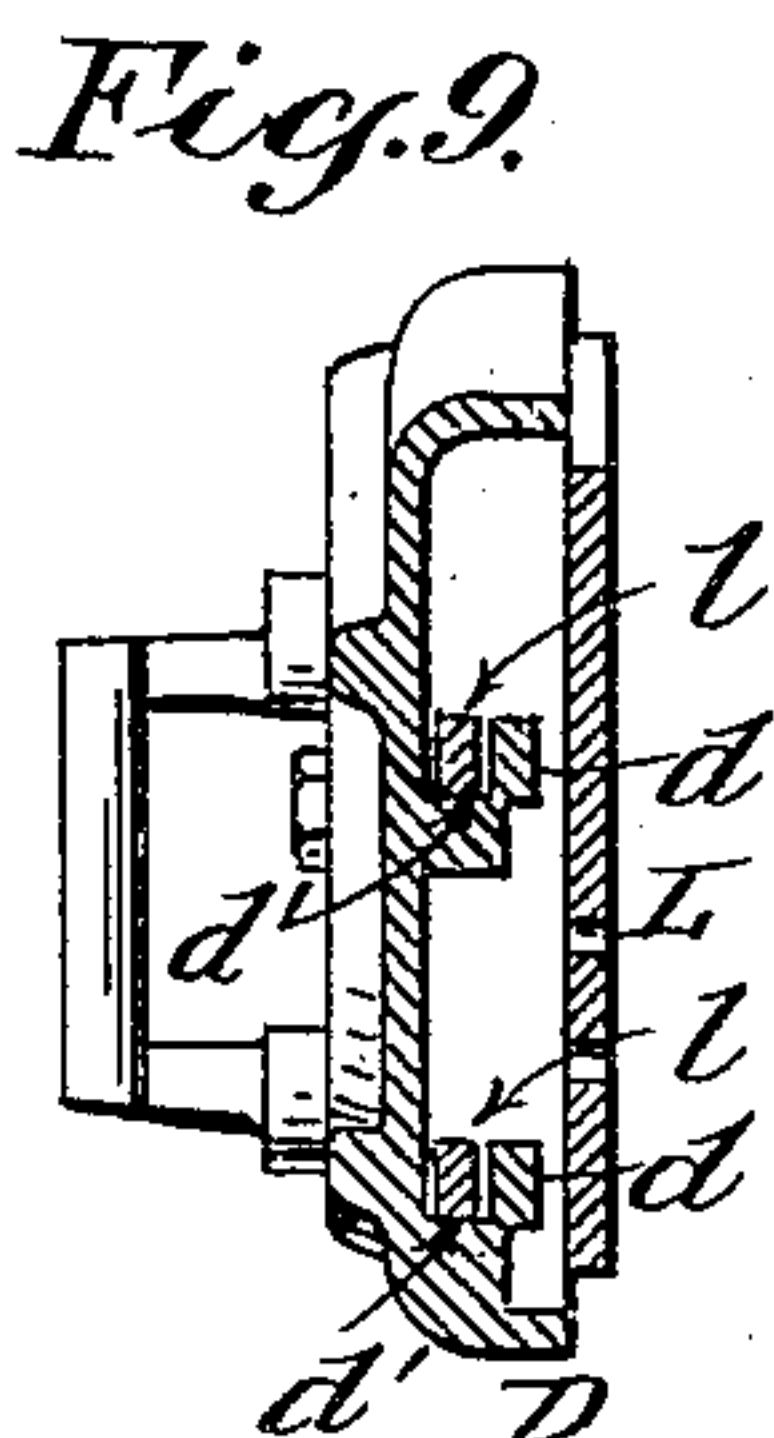
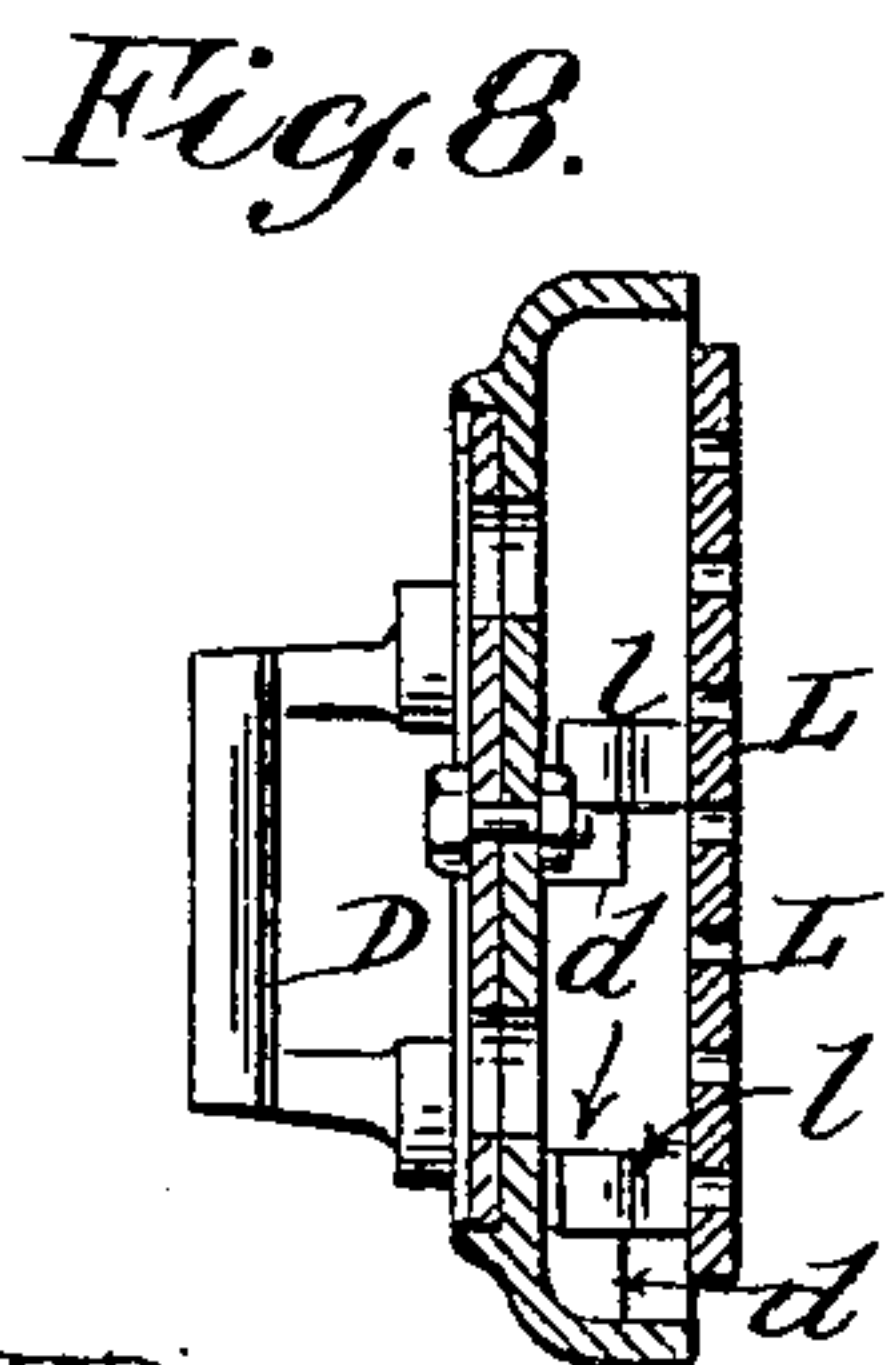
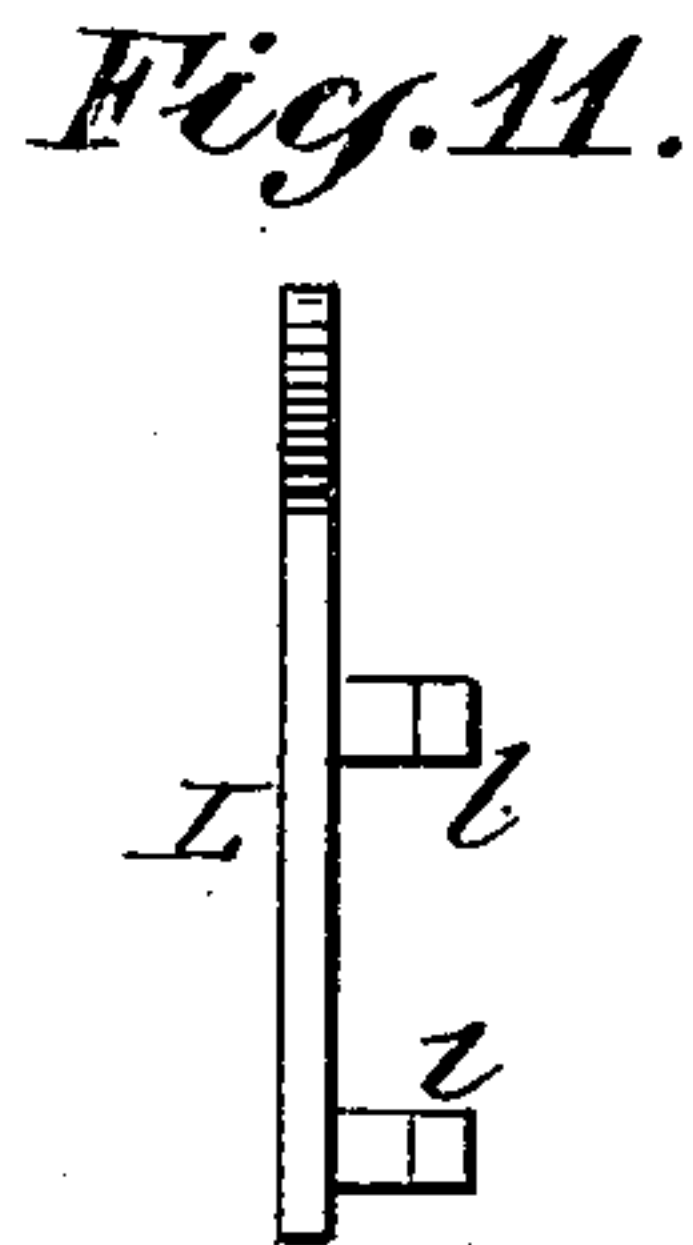
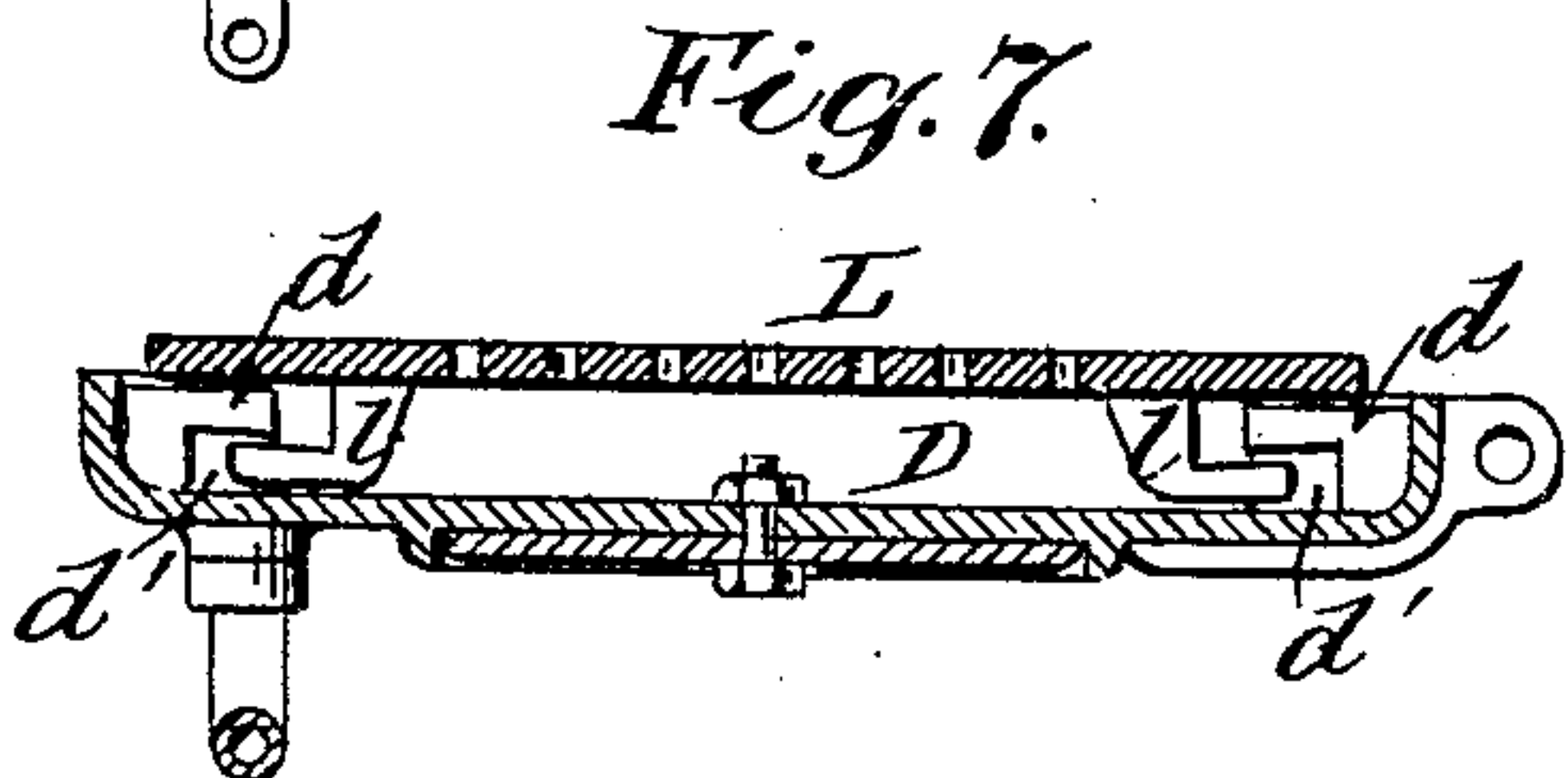
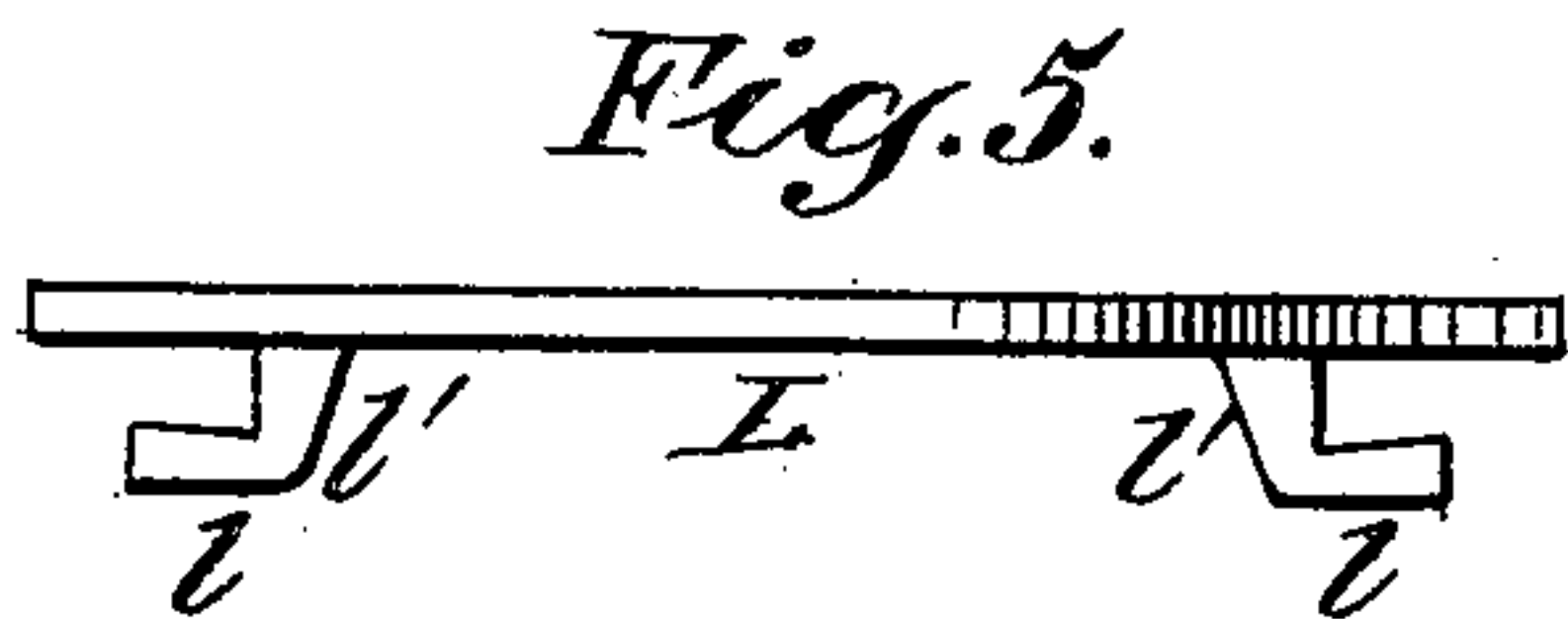
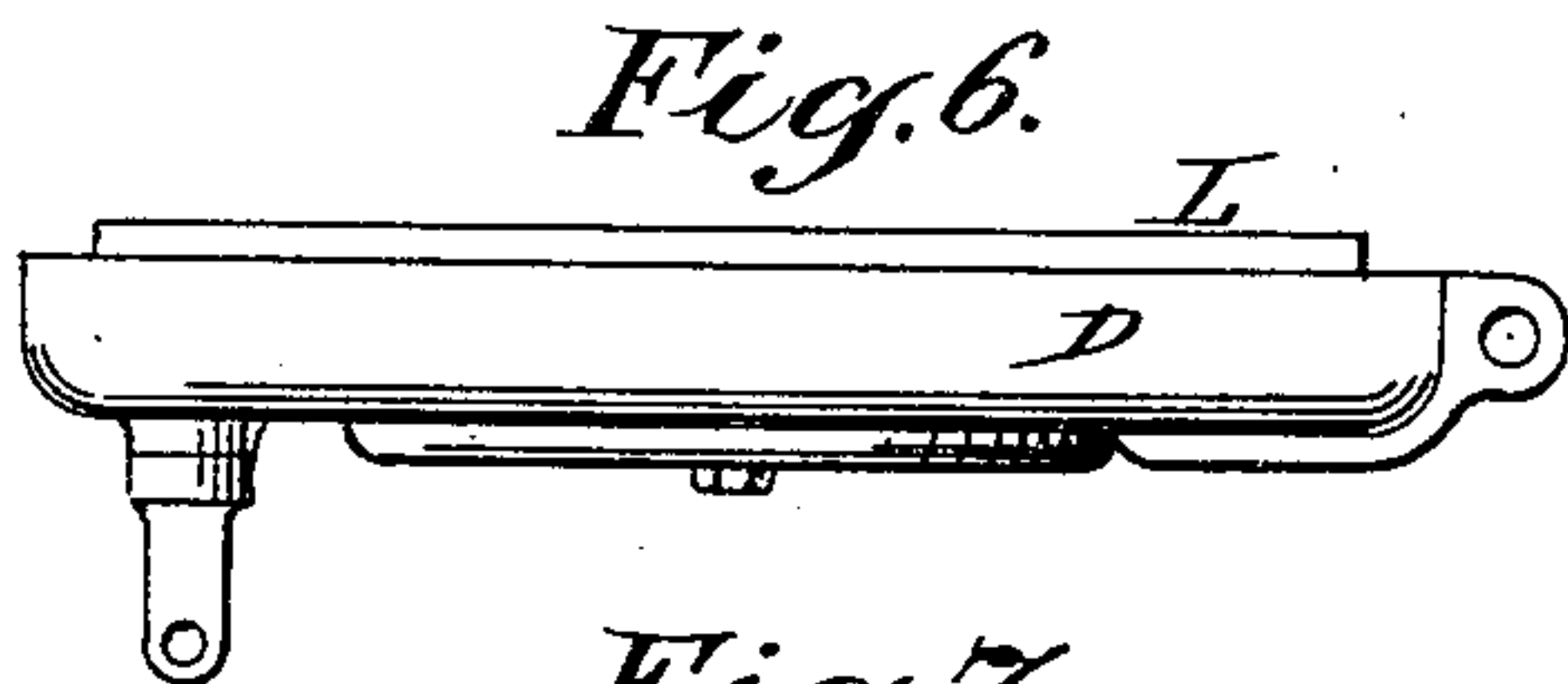
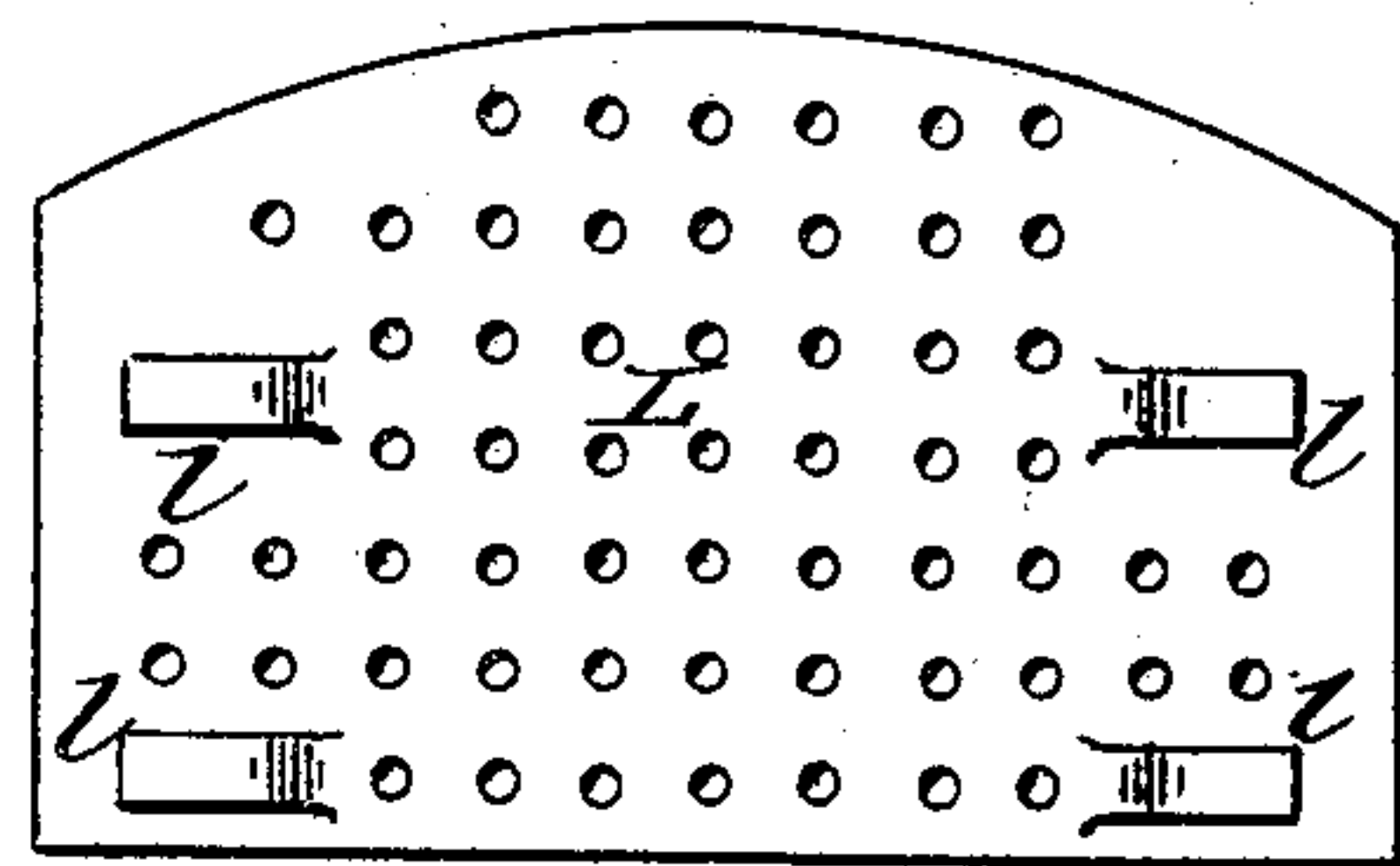
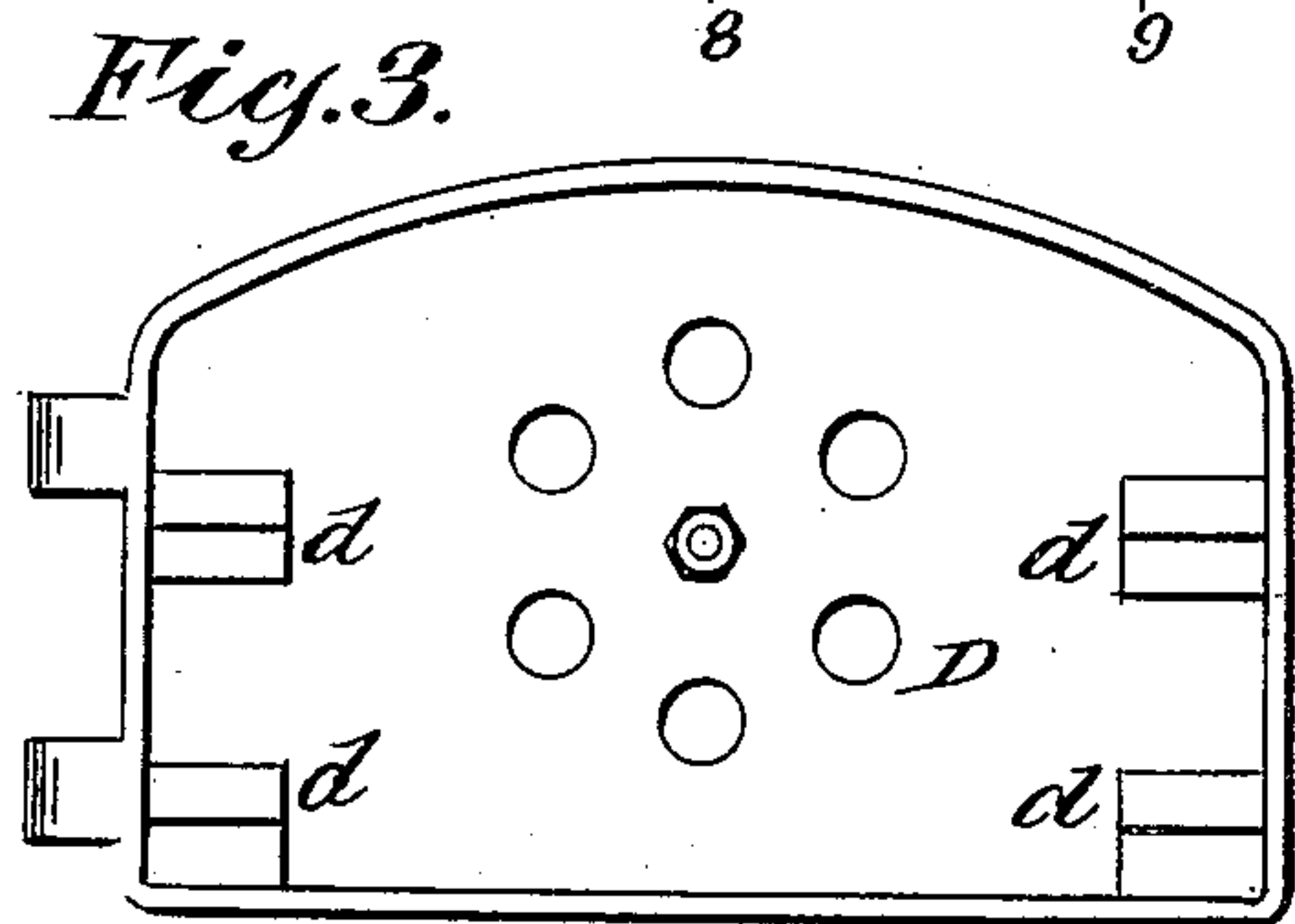
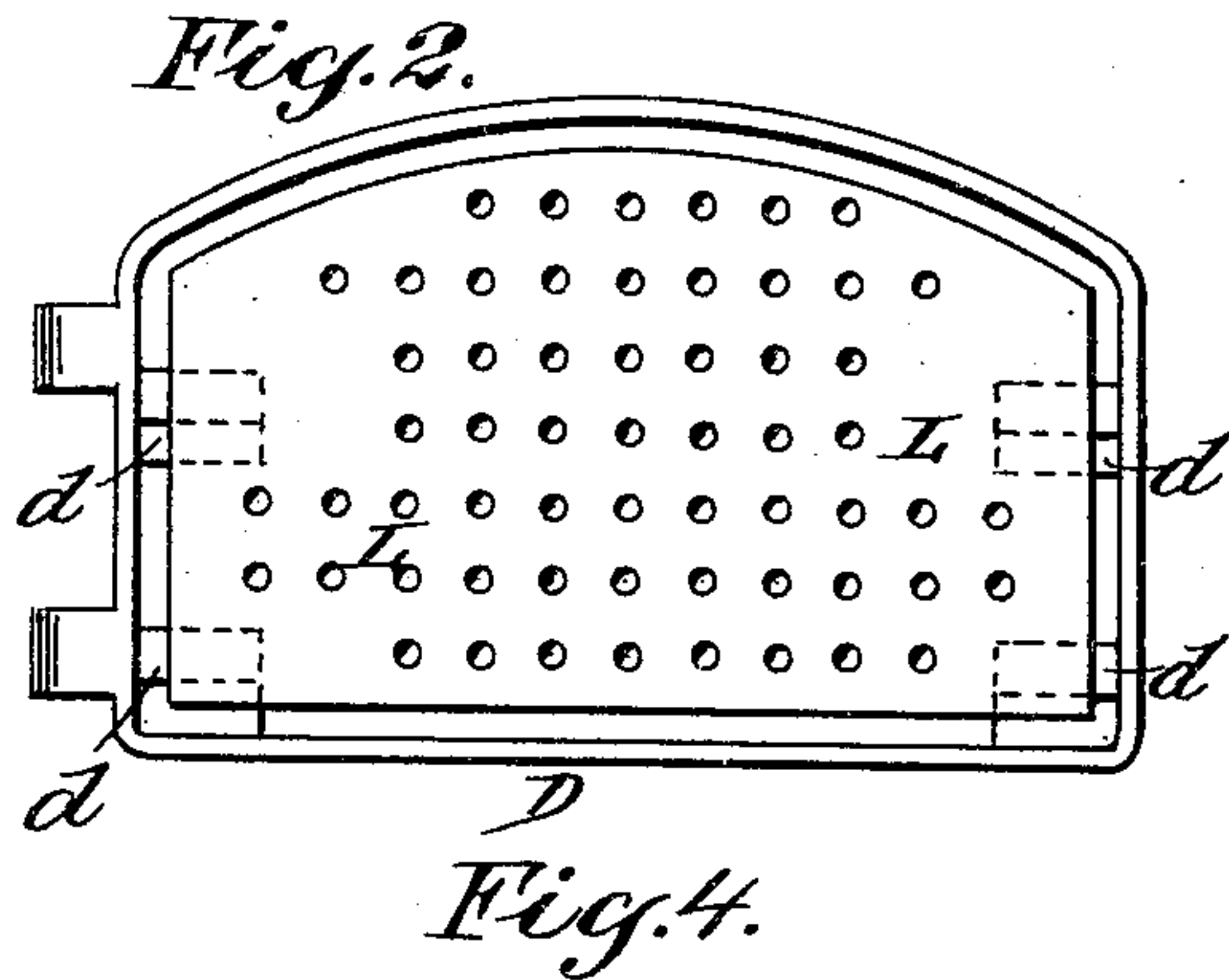
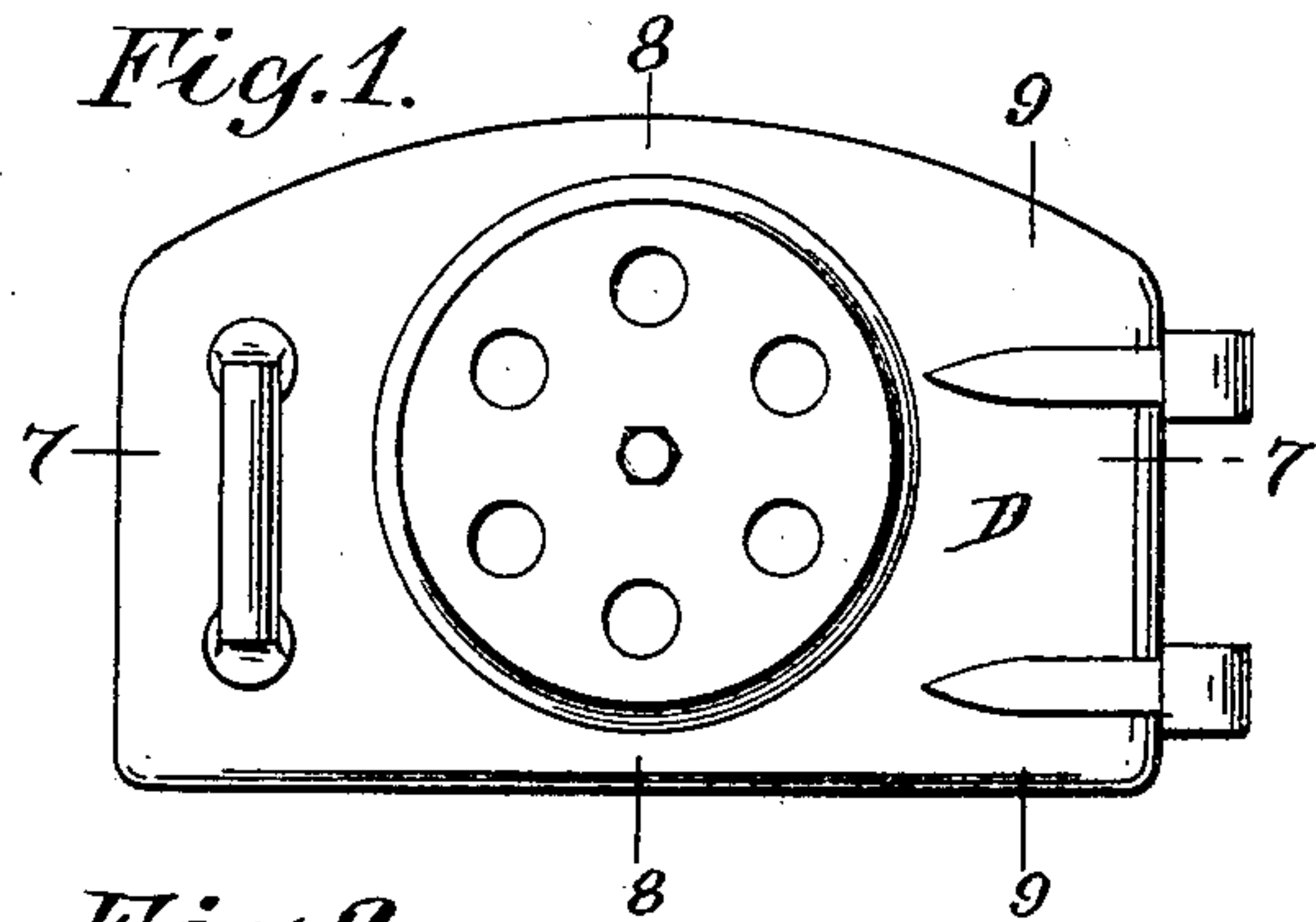


G. DINKEL.
FURNACE DOOR.
APPLICATION FILED NOV. 25, 1904.

2 SHEETS—SHEET 1.



Witnesses:
O. W. Gardner.
J. Beal

Inventor:
George Dinkel
By his Attorney
Geo. W. Smith

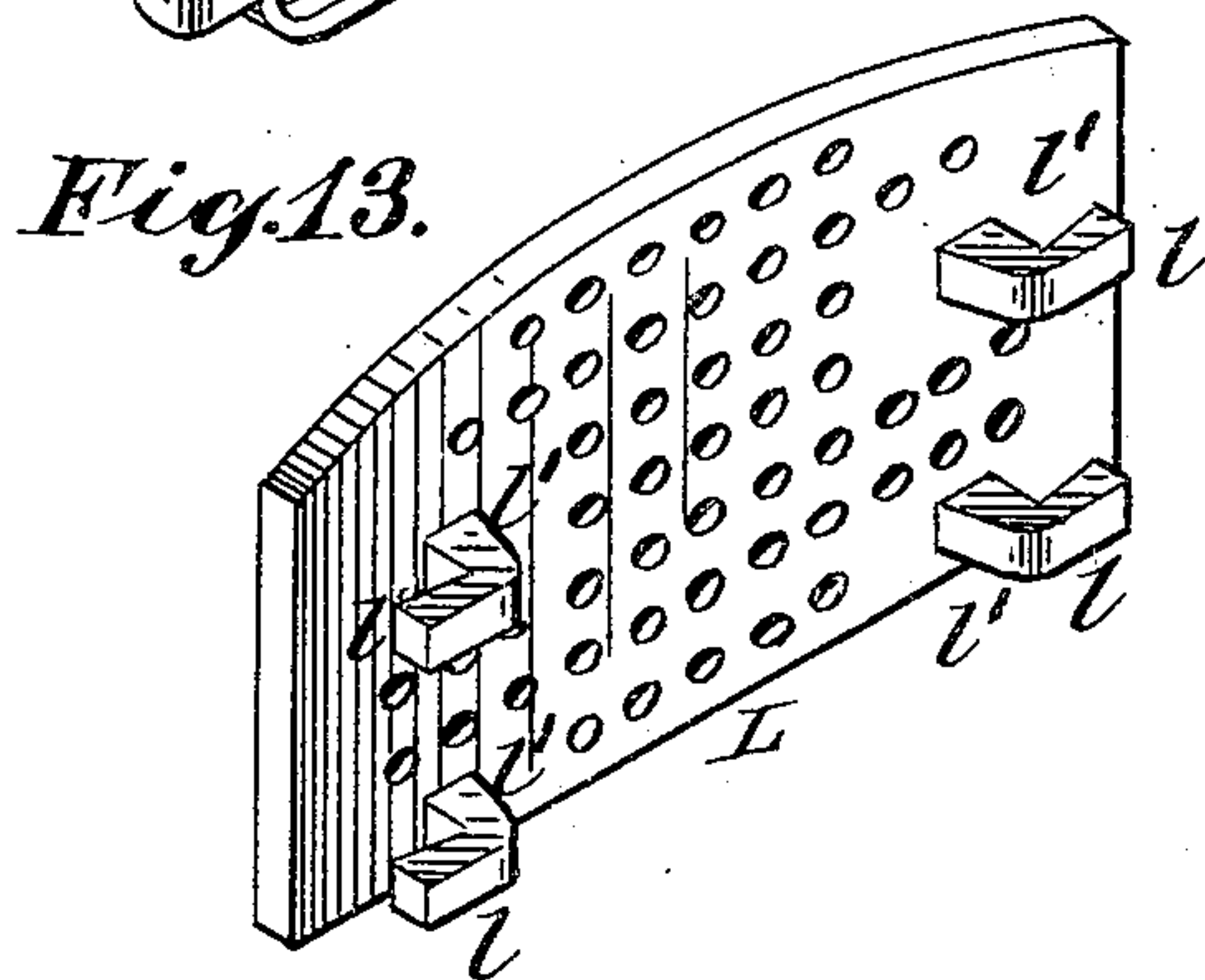
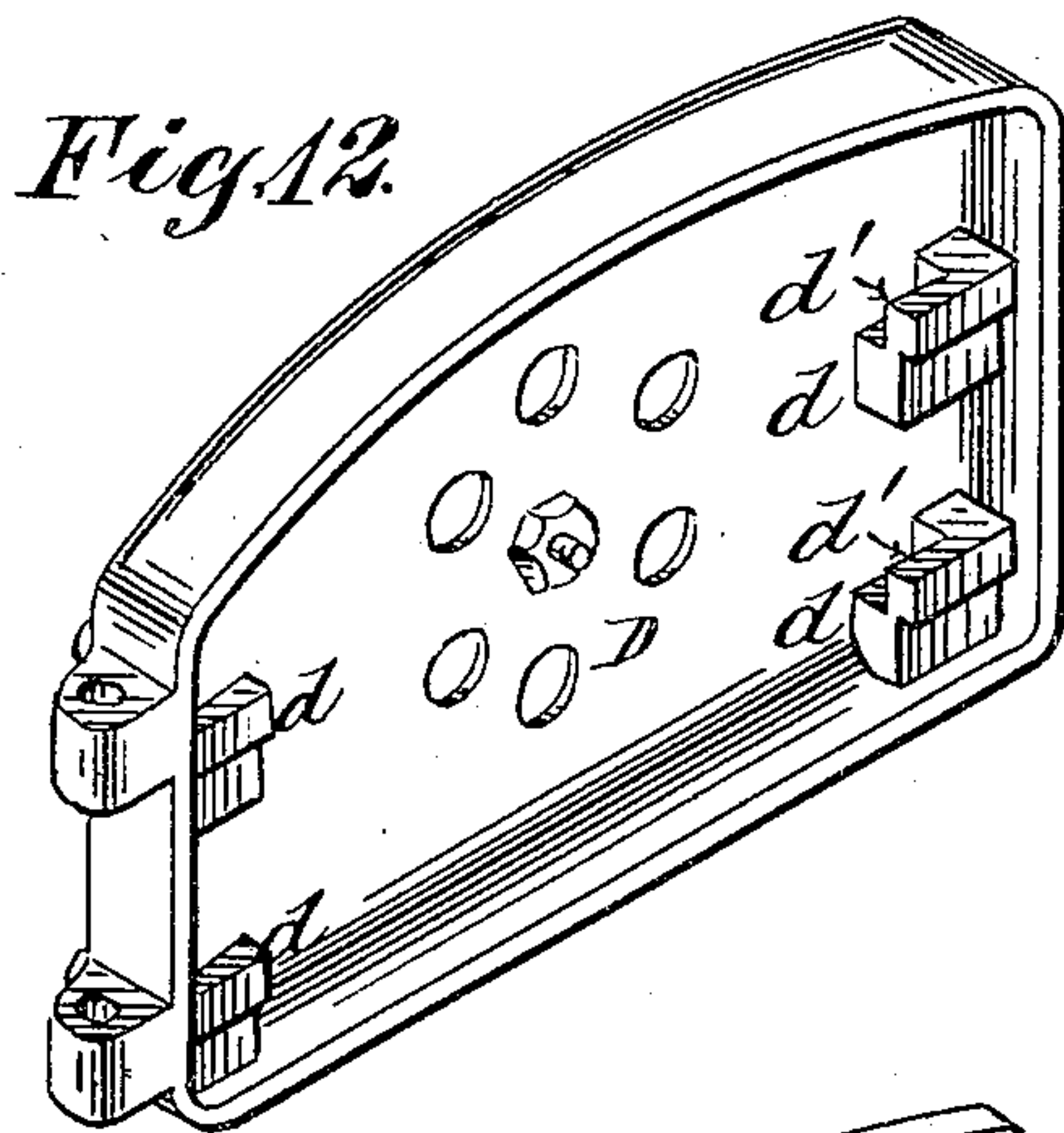
No. 792,321.

PATENTED JUNE 13, 1905.

G. DINKEL.
FURNACE DOOR.

APPLICATION FILED NOV. 25, 1904.

2 SHEETS—SHEET 2.



Witnesses:
D. W. Gardner.
J. Beal.

Inventor:
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By his Attorney
Geo. W. Mott

UNITED STATES PATENT OFFICE.

GEORGE DINKEL, OF JERSEY CITY, NEW JERSEY.

FURNACE-DOOR.

SPECIFICATION forming part of Letters Patent No. 792,321, dated June 13, 1905.

Application filed November 25, 1904. Serial No. 234,133.

To all whom it may concern:

Be it known that I, GEORGE DINKEL, a citizen of the United States, residing in Jersey City, Hudson county, and State of New Jersey, have invented certain new and useful Improvements in Furnace-Doors, of which the following is a specification, sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

My invention relates to means for supporting linings on the inside of furnace-doors; and it consists in the construction and arrangement of parts hereinafter described and claimed specifically, the distinguishing feature being the supporting or shelving of the lining loosely upon the door by means of laterally-projecting horizontal bearings or arms upon the lining, which rest upon horizontal shelves on the door, said horizontal shelves or rests being provided for the support of the lower as well as the upper portion of the lining and being formed with vertical flanges, which retain the bearing-arms of the lining in position upon the said supporting-shelves, as hereinafter set forth, in contradistinction to the method of suspending or hanging the lining upon the door from the upper portion of the latter.

In the drawings, Figure 1 is a front elevation of a furnace-door embodying my invention; Fig. 2, a rear view of the same; Fig. 3, a rear view of the same without the lining; Fig. 4, an elevation of the back side of the lining; Fig. 5, a top view of the lining; Fig. 6, a top view of the door and lining; Fig. 7, a horizontal section upon plane of line 7 7, Fig. 1; Fig. 8, a vertical section upon plane of line 8 8, Fig. 1; Fig. 9, a vertical section upon plane of line 9 9, Fig. 1; Fig. 10, a section upon plane of line 9 9, Fig. 1, the lining being omitted. Fig. 11 is an end view of the lining. Fig. 12 is an isometrical perspective of the door without the lining. Fig. 13 is an isometrical view of the rear side of the lining.

D represents a furnace-door, of any ordinary or well-known form, provided with a perforated screen or lining L. Upon the inner side of the door D, I form a series of horizontal supporting-shelves d' d' , two pref-

erably at or above and two below the central portion of the door, and provide each shelf with a vertical retaining-flange d' , projecting above its bearing-surface, as will be seen clearly by reference to Figs. 8, 9, and 10. Upon the opposed side of the lining L, I form a corresponding series of horizontal bearings or arms l , which extend laterally from lugs l' , projecting from the body of the lining L. These horizontal arms or bearings l are adapted to rest loosely upon the horizontal shelves d' d' , being retained thereon by the flanges d' d' against lateral displacement, so that the lining is held in position by its own weight, although easily removed or replaced by lifting sufficiently to clear said retaining-flanges d' d' . It will be noted that the arms l on opposite sides of the lining project in opposite directions toward the adjoining vertical edges of the lining, so that the lugs l' , being situated between the shelves d' , practically lock the lining in position against accidental displacement horizontally. The lining is thus not only supported vertically but also laterally, the play or degree of looseness between the parts being sufficient to allow the lining to expand or contract longitudinally or in any other direction without any resistance other than that afforded by the slight frictional contact of the parts, which is insufficient to interfere with the freedom of the lining in adapting itself to different temperatures. The form and integrity of the lining is thus not only preserved and maintained for a long period of use, but an old lining may be readily removed and a new one substituted without difficulty or delay, since it is only necessary to raise the lining in either case sufficiently to admit of its bearing-shoulders l clearing the retaining-shoulders d' on the door.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a furnace-door formed on its inner side with a plurality of horizontal shelves each formed with a vertical retaining-flange projecting above its supporting-surface, and a shield or lining formed with a plurality of lugs having laterally-extending horizontal bearing-arms arranged to

engage with the bearing-surfaces on the said flanged shelves upon the door for the purpose set forth.

2. The combination of a furnace-door
5 formed on its inner side with two sets of horizontal shelves one above the other, each shelf formed with a vertical retaining-flange projecting above its supporting-surface, and a
10 shield or lining formed with two corresponding series of lugs having laterally-extending horizontal bearing-arms for engagement with the bearing-surfaces of the said flanged shelves upon the door for the purpose set forth.

3. The combination of a furnace-door
15 formed on its inner side with a plurality of horizontal shelves on opposite sides of its center, each shelf formed with a vertical retaining-flange projecting above its supporting-surface, and a shield or lining formed with
20 a plurality of lugs arranged to fit in between the said shelves on opposite sides of the center of the door and having laterally-extending

horizontal bearing-arms for engagement with the supporting-surfaces on the said flanged shelves upon the door for the purpose de- 25 scribed.

4. A furnace-door formed on its inner side with two sets of horizontal shelves one above the other, members of each set being on opposite sides of the center of the door, and
30 each shelf being formed with a vertical retaining-flange projecting above its supporting-surface, in combination with a shield or lining formed with a plurality of lugs arranged to fit in between the shelves on opposite sides of the center of the door, said lugs
35 being formed with laterally-extending horizontal bearing-arms for engagement with the supporting-surfaces on the said flanged shelves on the door for the purpose set forth.

GEORGE DINKEL.

Witnesses:

D. W. GARDNER,

GEO. WM. MEATT.