

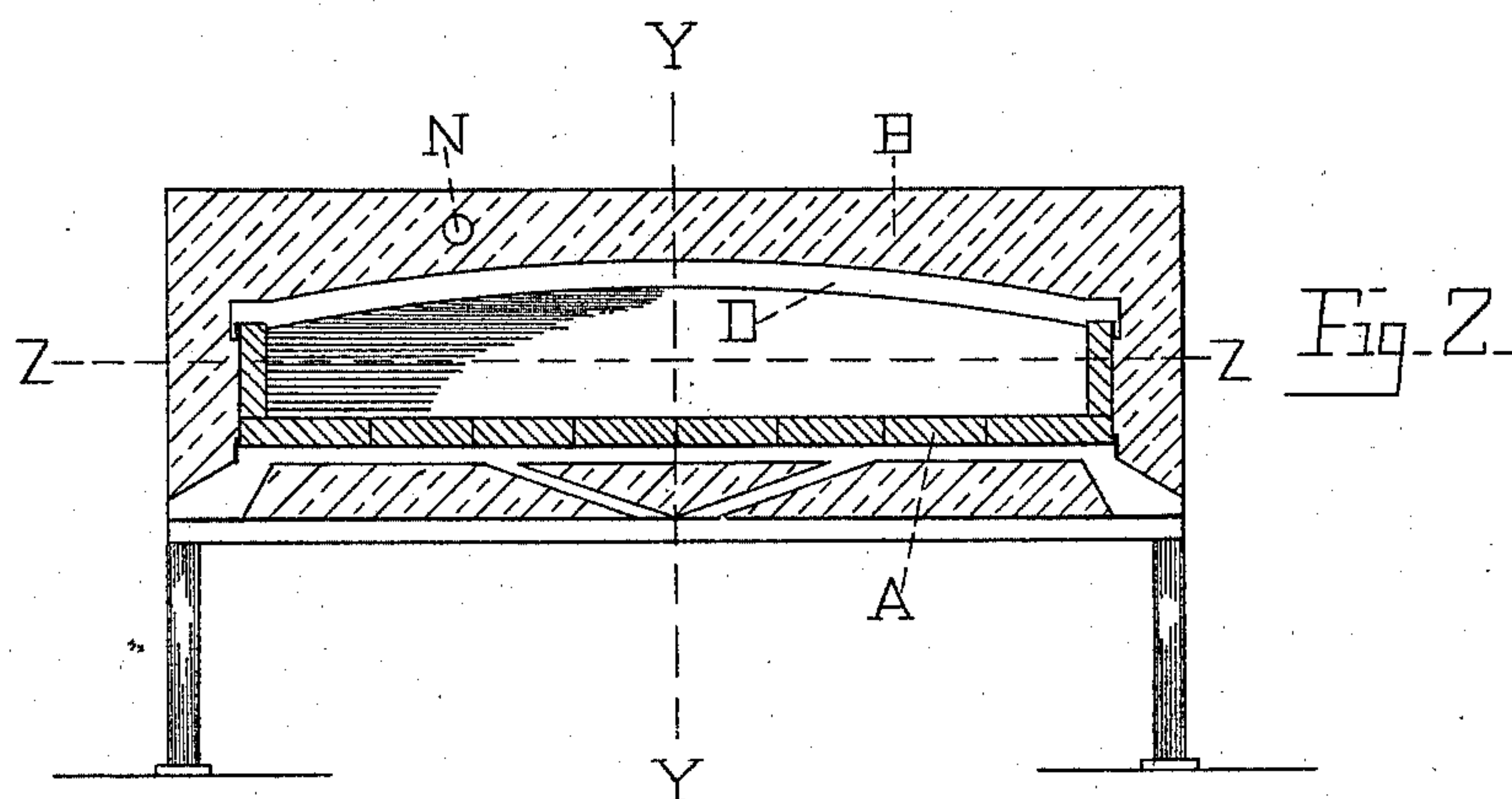
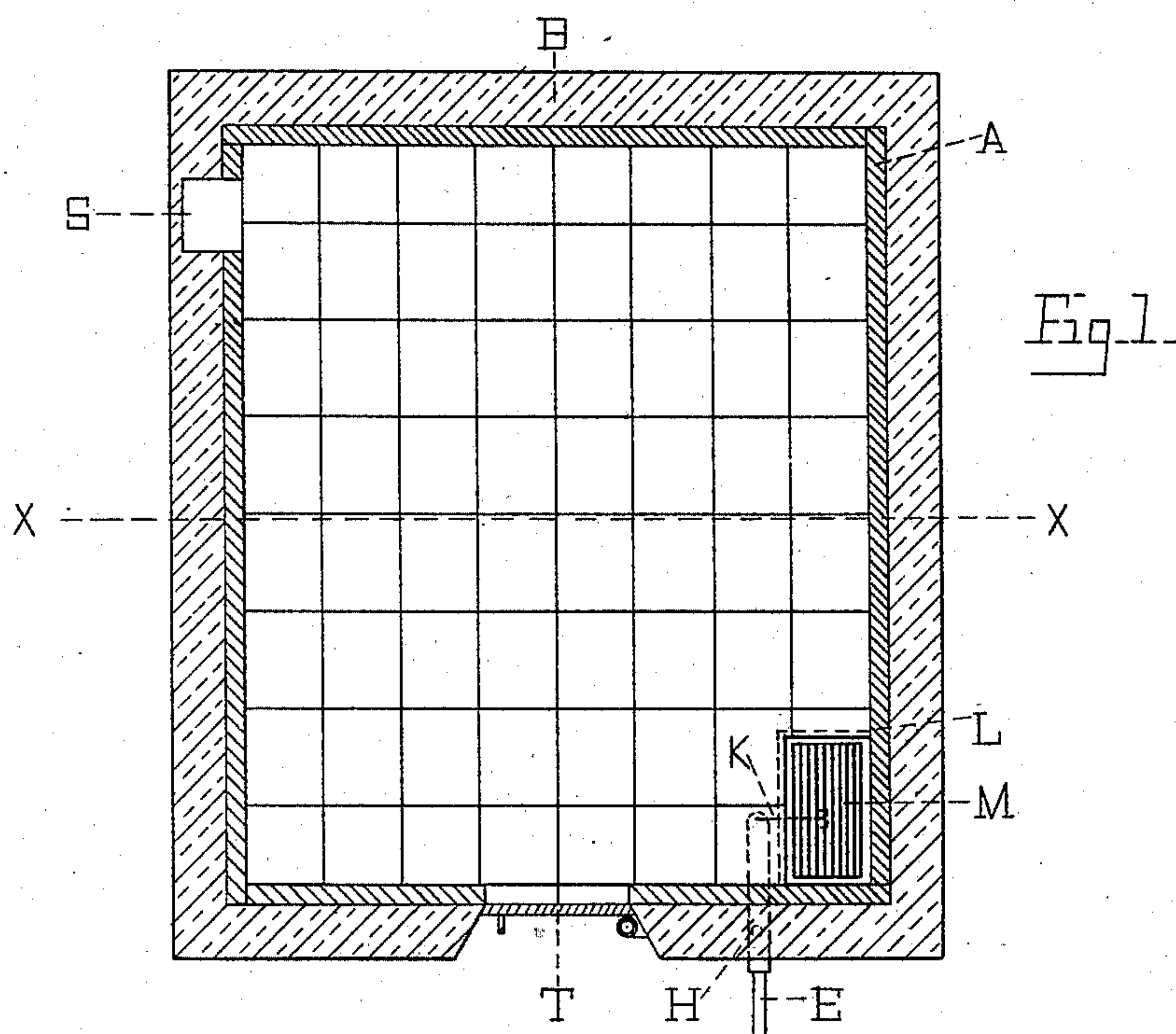
(No Model.)

2 Sheets—Sheet 1.

A. D. ORDWAY.  
BAKER'S OVEN.

No. 580,582.

Patented Apr. 13, 1897.



WITNESSES.

*Edw. M. Todd.*  
*James P. Walsh.*

INVENTOR.

*Arthur Dana Ordway.*  
*per Page and Stone.*  
*Attys.*

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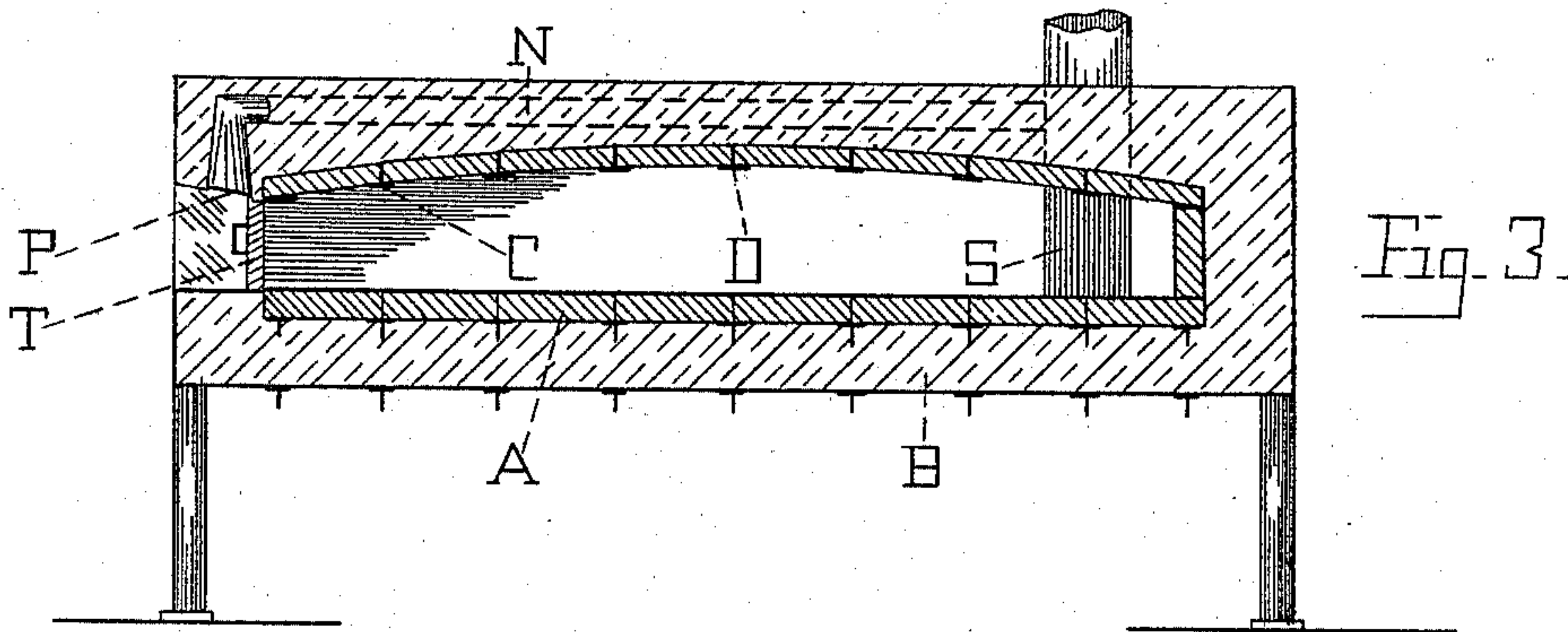


Fig. 3.

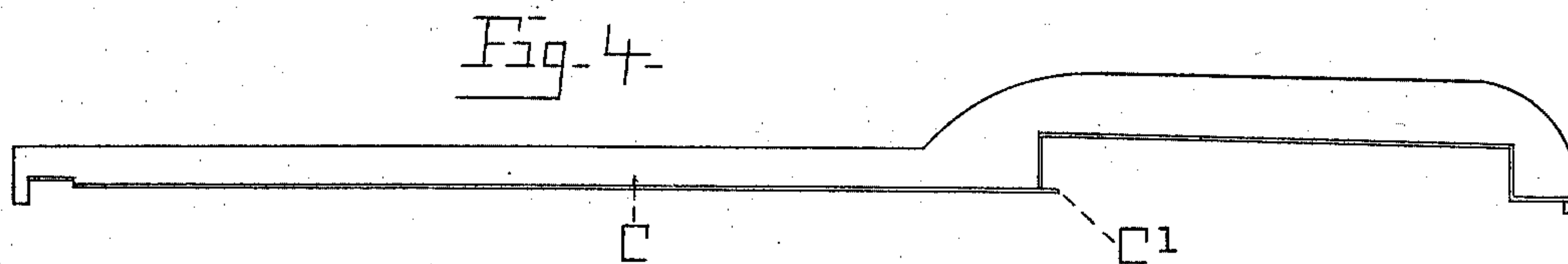


Fig. 4.

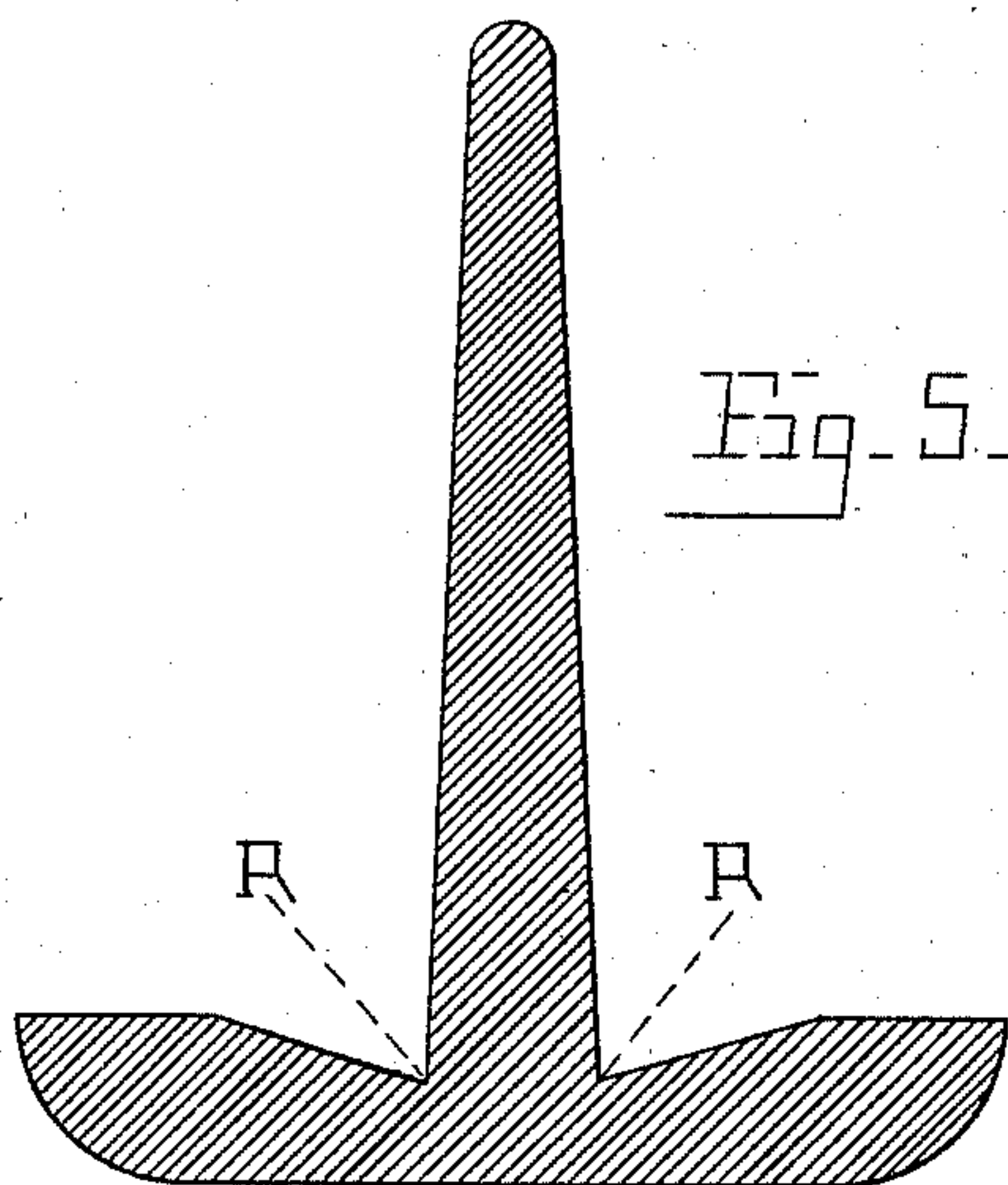


Fig. 5.

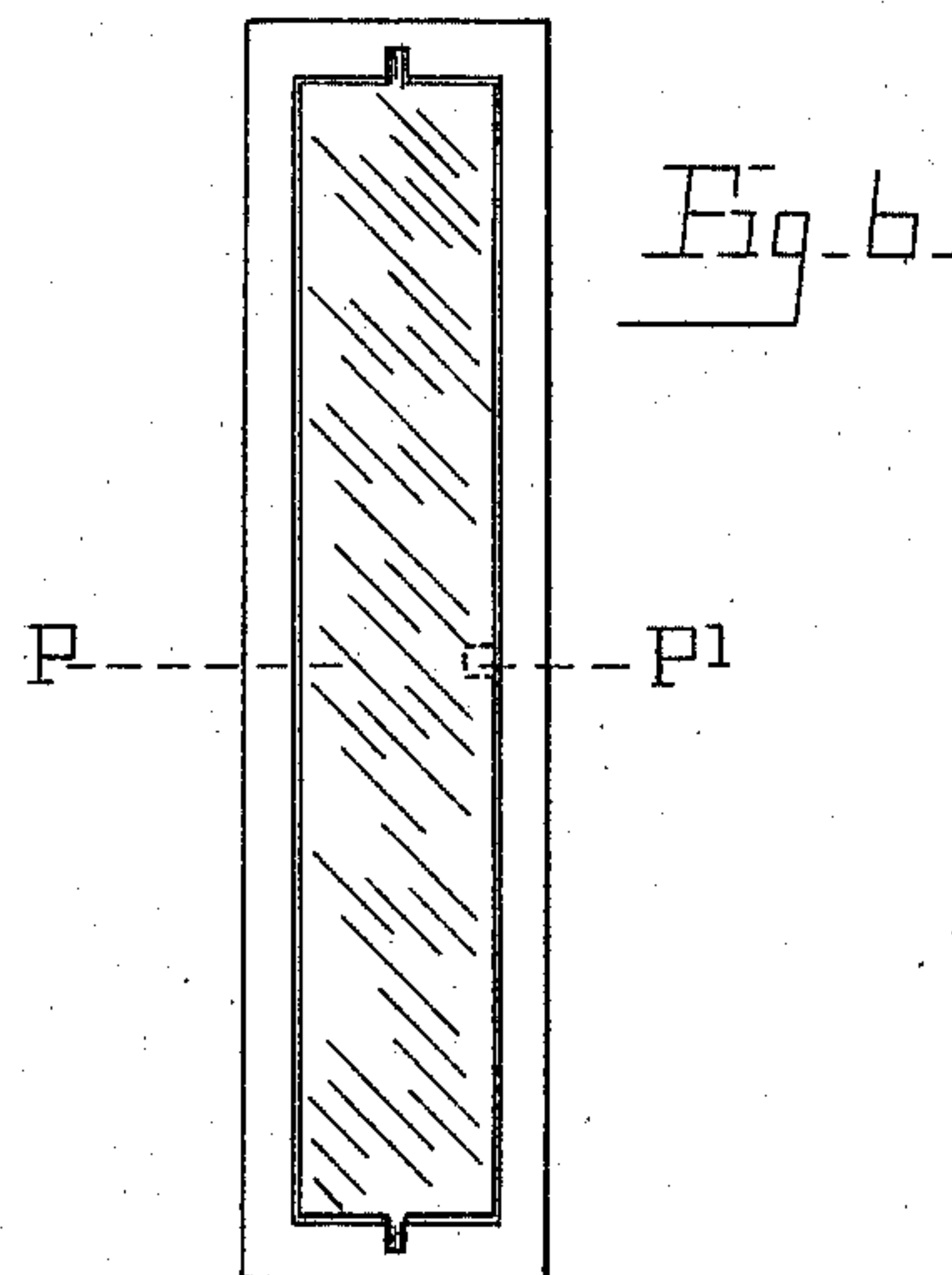


Fig. 6.

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# UNITED STATES PATENT OFFICE.

ARTHUR DANA ORDWAY, OF NEWBURYPORT, MASSACHUSETTS.

## BAKER'S OVEN.

SPECIFICATION forming part of Letters Patent No. 580,582, dated April 13, 1897.

Application filed March 4, 1896. Serial No. 581,841. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR DANA ORDWAY, of Newburyport, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Bakers' Ovens, of which the following, taken in connection with the accompanying drawings, is a specification.

Figure 1 is a horizontal sectional view of my improved oven, taken on the line Z Z in Fig. 2. Fig. 2 is a vertical sectional view taken on the line X X in Fig. 1. Fig. 3 is a vertical sectional view taken on the line Y Y in Fig. 2. Fig. 4 is an enlarged side elevation of the beam C in Fig. 3. Fig. 5 is a cross-section of any or all of the crown-supporting beams, taken on the line Y Y in Fig. 2. Fig. 6 is an enlarged top view of the gas-damper, the location of which is shown at P in Fig. 3. Similar letters refer to similar parts throughout the several views.

The object of my invention is to construct an oven with an arched crown, and by the peculiar construction of my beams I am enabled to use ordinary flat tiles.

Heretofore in the construction of ovens with arched crowns the arch has been formed by using specially-shaped tiles, and in case of the cracking or breaking of one or more of the tiles, which often will occur by reason of the expansion or contraction to which they are subjected, it has been a difficult matter to replace the broken tile without weakening or injuring the arched crown, whereas in my invention the tiles are separately supported by the iron or steel T-beams, and any tile can be removed and replaced without weakening the arch.

I further remark that by the construction of the beam C, which is located over the fire, I am enabled to have the full thickness of the tile between the fire and the portion of the beam over the fire, thereby obviating all danger of burning off the beam.

Heretofore in portable ovens, owing to the difficulty of construction, the tops have been flat, and the results are not as good as when arched or crowned.

My further improvement relates to the location of the gas-damper P and its flue N entirely within the heat-retaining packing, as shown in Figs. 2 and 3.

Heretofore the gas-damper has been located in a hood in front of the oven-door, and the flue has been carried from said hood at some distance above the outer casing of the oven back to the oven-flue. This construction allowed the flue to become cooled off or "chilled," whereas in my device the flue and damper, being located in the heat-retaining packing, are constantly kept hot, and when the oven-door is opened the gas-damper opens also, and the flue being heated is in a proper condition to immediately fulfil its functions. This I find in practice a great advantage, because the gas formed in the oven is immediately carried off through the heated flue N the instant the oven-door is opened.

A further improvement consists in my device for dumping an ordinary "tongue grate" with the ash-pit doors closed. Heretofore when tongue grates were used it has been necessary to open the ash-pit door and insert a poker or other suitable implement into the tongue of the grate, and in dumping the grate, the ash-pit doors being open, more or less ashes and live coals came out into the room and onto the floor.

My improvements can be applied to stationary or portable ovens.

The accompanying drawings show the improvements as applied to portable ovens.

In the drawings, A designates the tiles, with which the sides, hearth, and crown of the oven are lined. B designates the heat-retaining packing, which may be of ashes, sand, or other suitable material. This packing is held in place by sheet-iron suitably braced. M designates the grate, and S designates the oven-flue. The oven-door is designated by T.

The T-beams for supporting the crown of the oven gradually increase in spring or arch from the front of the oven to the center and decrease in spring from the center to the back of the oven. In practice I prefer to have the first beam with a rise or spring of one inch, the second beam with a rise of two inches, the third beam with a rise of three inches, and the central beam with a rise of four inches, but I do not, of course, confine myself to these exact measurements.

Fig. 4 represents the only beam which is located over the fire, and is so constructed that the ledge C' holds the tile on one side and



the front and side walls of the oven support the tile on the other two sides.

All of the remaining beams are shaped like the one shown in Fig. 2, which is marked D, except that they vary in the amount of the spring or arch, as heretofore stated.

Fig. 5 is a cross-section of the beams, showing the angular grooves R R on the top side of the flange on each side of the stem. These grooves are to receive the cement and thereby hold the tiles securely in place, and for this purpose I prefer to use asbestos retort-cement, as I find it stronger than the tiles.

The beams which support the hearth-tiles are stayed to the beams that support the sheet-iron and packing under the hearth of the furnace, as shown in Fig. 2. This prevents irregular warping and the formation of air-spaces between the hearth of the furnace and the heat-retaining packing.

I prefer to use flat tiles tongued and grooved, but the ordinary flat square-edged tiles may be used in the construction of my oven.

Referring to Fig. 1, E represents the lever, which is pivoted at H and connected by the rod K to the tongue of the grate M. This rod passes through a small hole in the side of the ash-pit, the location of said ash-pit being designated by the dotted lines L. By means of this lever E the grate can be dumped or turned. I prefer to make this lever E jointed, so that when not in use it will hang flush with the front of the oven, but an ordinary straight lever can be used.

The gas-damper P, which is shown in Fig. 6, is located so as to be operated by the oven-door, so that when the door is opened the damper will open automatically, and the closing of the door will also close the damper. This can be done in any approved manner, but I prefer to have a small lug on the under side of the damper, which comes in contact with a small lug on the upper side of the door,

so that when the door is opened the damper will swing open by its own weight, being pivoted in its frame at both ends, and the lug being indicated at P'; and when the door is closed the lugs coming in contact, the damper will be closed. The flue N of this damper is carried diagonally across the oven to the flue of the oven S, as shown by the dotted lines in Fig. 3.

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

1. In a baker's oven the combination of the T-beams, increasing in spring from the front of the oven, to the center of the oven, and decreasing in spring from the center of the oven to the back of the oven, said beams having the angular grooves R R on the top side of the flange, for the reception of the cement, together with the flat tiles whereby the crown of the oven is arched, substantially in the manner described.

2. In a baker's oven the combination of the T-beams increasing in spring or arch from the front to the center of the oven, and decreasing in spring or arch from the center to the back of the oven, the portion of the beam C located over the fire, recessed in its under side, and provided with the lug C', for holding the tile between said beam and the fire; all the beams having the angular grooves R R in the top side of the flange, adjacent to the stem, together with the flat tiles cemented to said beams whereby the crown of the oven is arched, substantially in the manner specified.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 29th day of February, A. D. 1896.

ARTHUR DANA ORDWAY.

Witnesses:

PERCY L. DAME,  
EDGAR F. NOYES.