

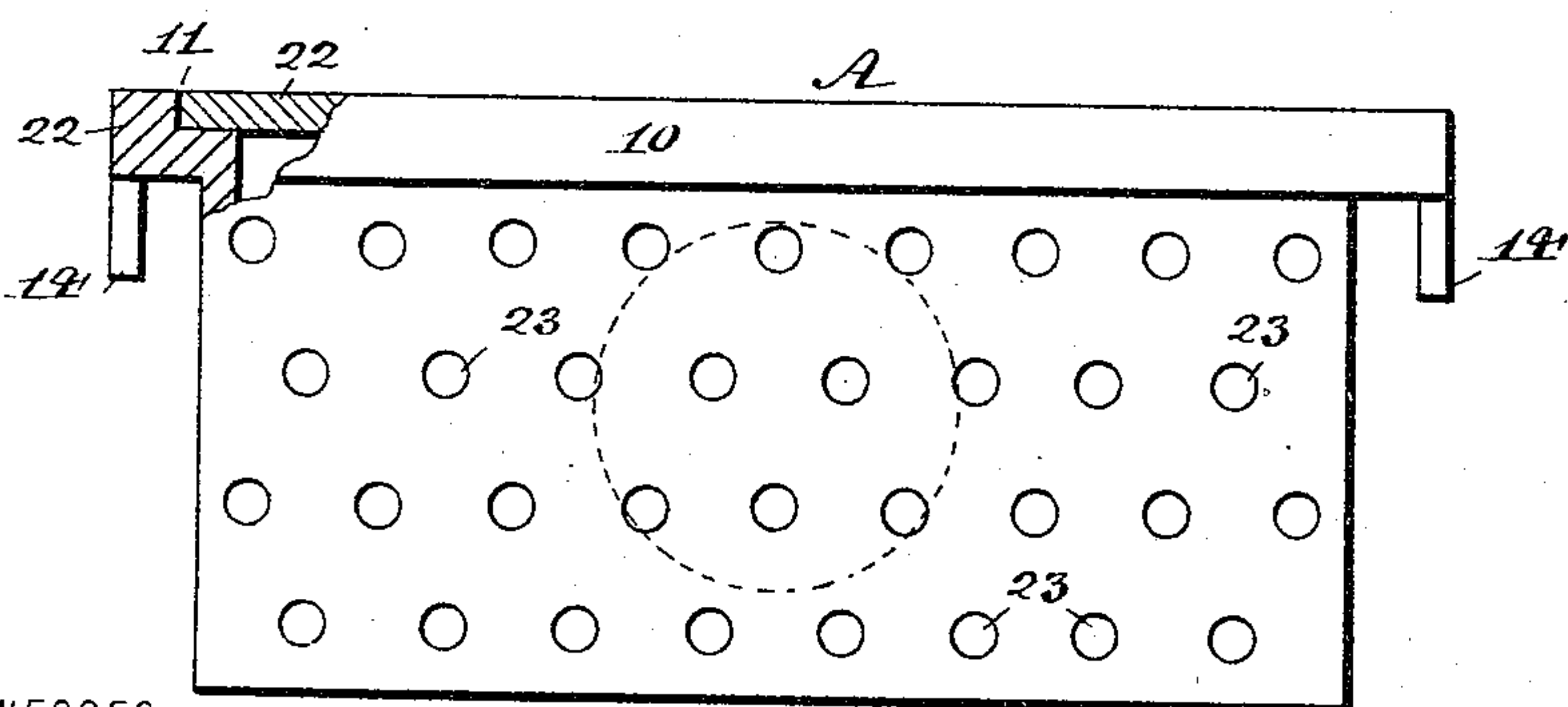
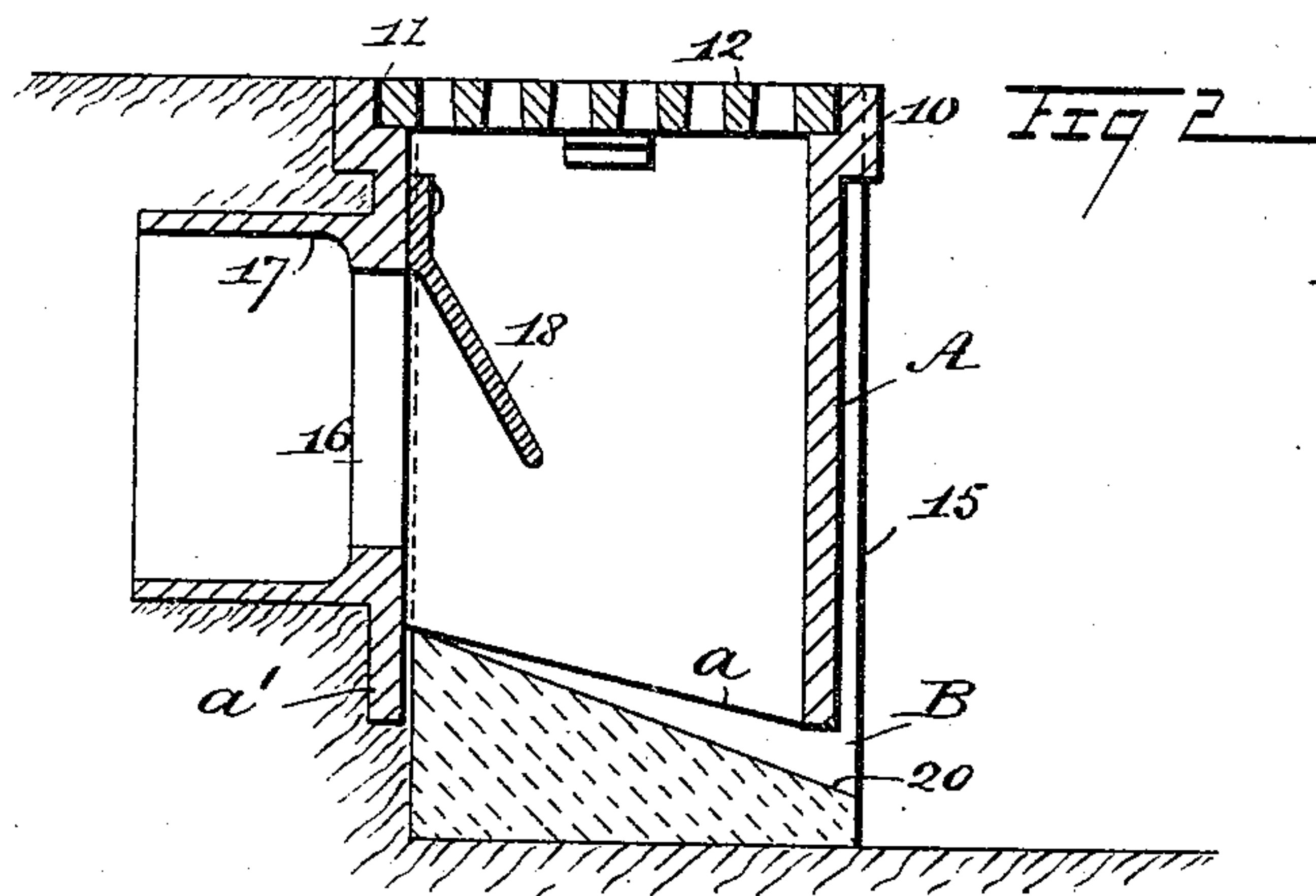
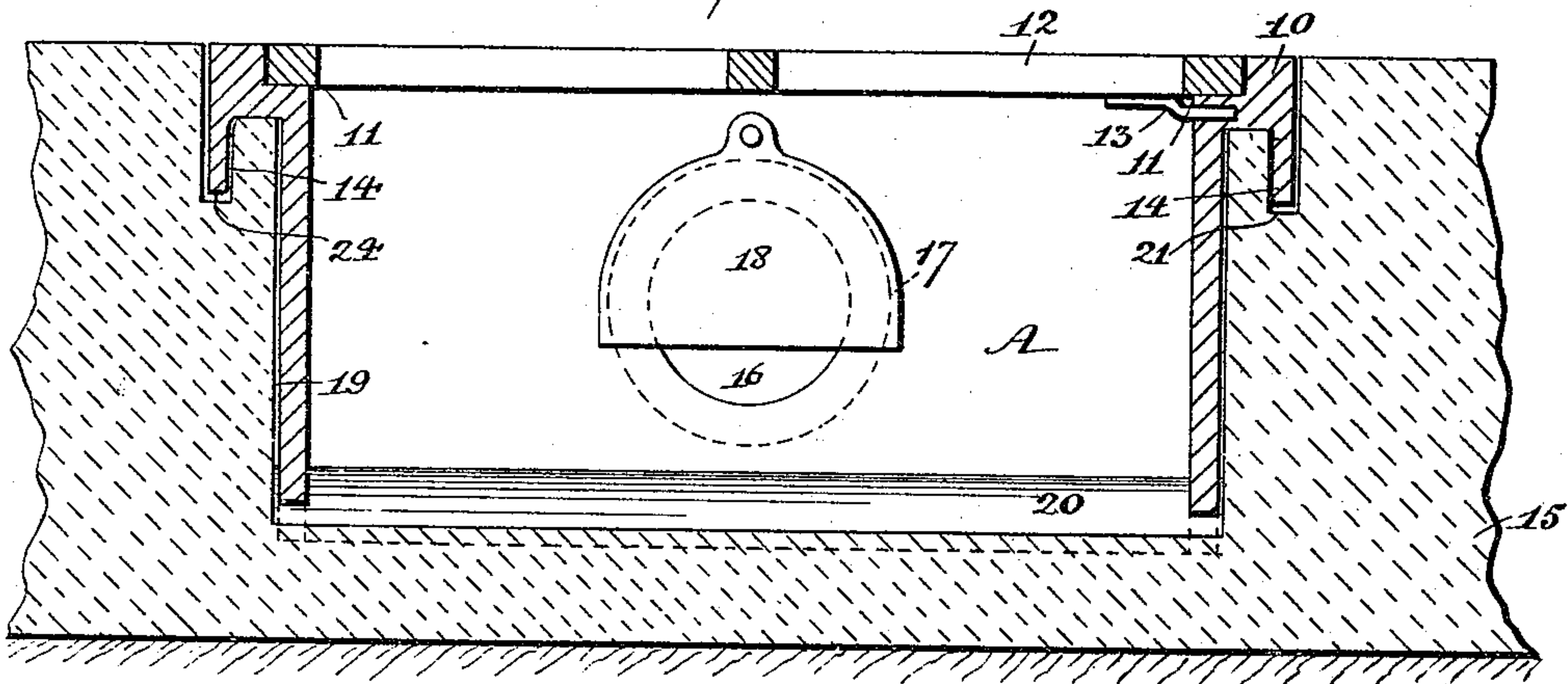
(No Model.)

W. E. WARNER.  
VENT BOX.

No. 442,789.

Patented Dec. 16. 1890.

Fig 1



WITNESSES:

H. Walker  
C. M. Clark

Fig 3

INVENTOR:

W. E. Warner  
BY Munn & Co  
ATTORNEYS



# UNITED STATES PATENT OFFICE.

WALTER EDWARDS WARNER, OF BROOKLYN, NEW YORK.

## VENT-BOX.

SPECIFICATION forming part of Letters Patent No. 442,789, dated December 16, 1890.

Application filed July 23, 1890. Serial No. 359,639. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER EDWARDS WARNER, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Vent-Boxes, of which the following is a full, clear, and exact description.

My invention relates to an improvement in vent-boxes adapted for use in connection with the plumbing system of buildings, and has for its object to so construct the boxes that they will discharge any foreign matter entering therein, and thus provide at all times for a perfect circulation of air.

A further object of the invention is to provide a box of simple and durable construction, which may be effectually used to replace the ordinary vaults now in common use.

Another object of the invention is to so construct the vent-box that it may be located upon the curb of the sidewalk.

The invention consists in the novel 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 and letters of reference indicate corresponding parts in all the views.

Figure 1 is a central vertical section through the box and the curb to which the box is attached. Fig. 2 is a transverse central section through the box and the attached curb; and Fig. 3 is a front elevation, partly in section, of a modified form of the box.

In communities where the plumbing construction is controlled by law a trap is required to be placed near the front wall of the house to prevent the gas from the main sewer entering the house-drains; and in order that the air in the house-drains should not become stagnant a vent-pipe is carried from the house side of the trap through the front wall of the building, and is usually connected with a small brick vault provided with a grating and located outside of the building-line. The pipe thus run is known as the "fresh-air" or "induction" pipe. The soil-pipe or house-drain is run up above the roof, and as the warm air in the drains rises up this pipe to-

ward the roof a current is induced through the fresh-air or induction pipe.

As the grating of the brick vaults ordinarily employed is located flush with the sidewalk, it is evident that they soon become choked with the sweepings or other accumulated dirt of the street, thereby rendering the vault practically useless for the purpose intended. Again, many of the brick vaults are placed in soil which is not flagged over, and as the vaults are rarely made strong they soon cave in and fill up. During rain-storms water gathers in these small vaults and becomes stagnant and frequently washes the dirt, &c., into the induction-pipe, thereby stopping it up. To obviate these defects and to provide a vent-box as a substitute for the vault and capable of discharging any foreign matter entering it is the prime object of the present invention.

The vent-box A may be one casting or may be constructed of a number of sections. The box is preferably rectangular in general contour, and is provided with a flange at its upper edge, in the upper inner surface of which flange a rabbet 11 is ordinarily produced, adapted to receive a grating 12, which grating when placed in position is flush with the upper outer edges of the flange. The grating covering the body of the box is ordinarily provided with a latch 13 upon its under face at one end, adapted to enter a suitable recess in one end of the box, as illustrated in Fig. 1, the object of the latch being to hold the grating in place, yet render it capable of being removed when occasion may demand.

A lug 14 is preferably projected downward from the upper flange at each end of the box body, which lugs may be integral with the flange or attached thereto, as in practice may be found most desirable. When the box is to be secured to the curbstone 15 or equivalent support, the bottom of the box is opened and the ends of the box at the bottom are inclined from its outer face upward in the direction of the back, as is best illustrated at *a* in Fig. 2; but the back preferably extends downward as far as the front, and sometimes farther, as shown at *a'* in Fig. 2.

In the back of the body of the box an open-



ing 16 is produced, which is surrounded by a collar 17, a hub, offset, or equivalent device, adapted to be connected with the induction-pipe. The collar or offset may be in the shape  
 5 of a T, a Y, an L, or other fitting, as may be required to make a proper connection with the induction-pipe, which pipe is located beneath the surface of the ground or flagging or pavement covering the same.

10 If in practice it is found desirable, the opening 16 may be protected upon the inner side of the box by means of a diagonal shield 18, the said shield serving to prevent the dust or water entering through the grating 12 from  
 15 being driven directly into the opening; but the shield may be dispensed with, if desired.

The curb 15 at the point where the vent-box is to be attached is provided with a vertical recess 19 in its upper face, the base or  
 20 bottom wall of which recess is preferably inclined downward, as illustrated at 20 in Fig. 2, the recess being made to extend from front to back of the curb, and a rabbet is formed in the upper walls of the recess to receive the  
 25 extending end surfaces of the upper box-flange, and in the rabbets of the curb cavities 21 are formed for the reception of the lugs 14 of the box, which lugs may be leaded or otherwise secured to place. When the box is  
 30 placed in the recess, the front of the box faces the gutter, and a space B is made to intervene the outer edge of the inclined bottom of the recess and the opposed surface of the front of the box, and the extension of the back  
 35 of the box, which in the construction shown partakes somewhat of the character of a longitudinal lip, bears against the inner face of the curb. The weight of the soil at the back of the curb, together with the attachment of  
 40 the box to the induction-pipe, serves to firmly hold the box in the recess, even though but slightly attached to the upper face of the curb.

In Fig. 3 I have illustrated a slight modification in which the cover 22 of the box is not  
 45 grated or apertured, but the openings are produced in the outer or front side of the box, as shown at 23; but if in practice it is found desirable, in addition to having the grating-cover, apertures may also be produced in the  
 50 outer face of the box.

It will be observed that should any dirt or foreign matter enter the vent-box it will find a ready and quick exit through the opening B between the bottom of the box and the base-  
 55 wall of the curb-recess, and that the said box will be effectually cleaned of any matter that may cling to it in the event of a rain-storm, which matter might otherwise fill up the opening and render offensive the air from the vault.  
 60 It is further evident that various modifications of the devices for attaching the box to

the curb may be made, and that by placing a bottom in the box it may be inserted in the soil and substituted for a common vault, and when so substituted will remain intact, even  
 65 though the surrounding soil should not be very firm.

The main object of the invention, as heretofore stated, is to provide a means whereby the vent-box will remain unchoked under all  
 70 circumstances.

It will be understood that the height of the box may be varied according to the height of the curb in which it is to be inserted, and that in the event that it is deemed objectionable  
 75 to cut a curb the box may be set at the rear of the curb and communication be established between the bottom of the box and the gutter in any approved manner.

I desire it to be understood that the bottom  
 80 of the curb-recess may be made practically straight, or that if inclined the degree of inclination may be varied; also, instead of the box having an extension at its rear bottom edge to bear against the curb the extension  
 85 may be located at the ends, and other details of construction may be substituted by equivalents, if in practice it is found desirable.

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

1. A vent-box provided with ventilating-surfaces, a bottom outlet, an aperture in one side of the body, a coupling surrounding said  
 95 aperture, and means, substantially as described, for attaching the body to a support, as and for the purpose specified.

2. The combination, with a curb or equivalent support provided with a recess, of a vent-box fitted to the said recess, provided with an  
 100 outlet at the bottom, ventilating-surfaces, an aperture in the side, and a coupling surrounding the aperture, as and for the purpose specified.

3. The combination, with a curb or equivalent support provided with a recess having an  
 105 inclined bottom wall, of a vent-box fitted to the said recess, provided with ventilating-surfaces, a bottom outlet, and a coupling for engagement with the air-induction pipe, substantially as shown and described.  
 110

4. The combination, with a curb or equivalent support provided with a recess, of a vent-box fitted to the said recess, having ventilat-  
 115 ing-surfaces, a bottom outlet and body-opening, a coupling surrounding the said opening, and means, substantially as specified, for attaching the box to the curb.

WALTER EDWARDS WARNER.

Witnesses:

J. F. ACKER,  
 E. M. CLARK.