

M. SCHNAIER.  
COURTYARD OR AREA DRAIN.  
APPLICATION FILED DEC. 9, 1905.

947,778.

Patented Jan. 25, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

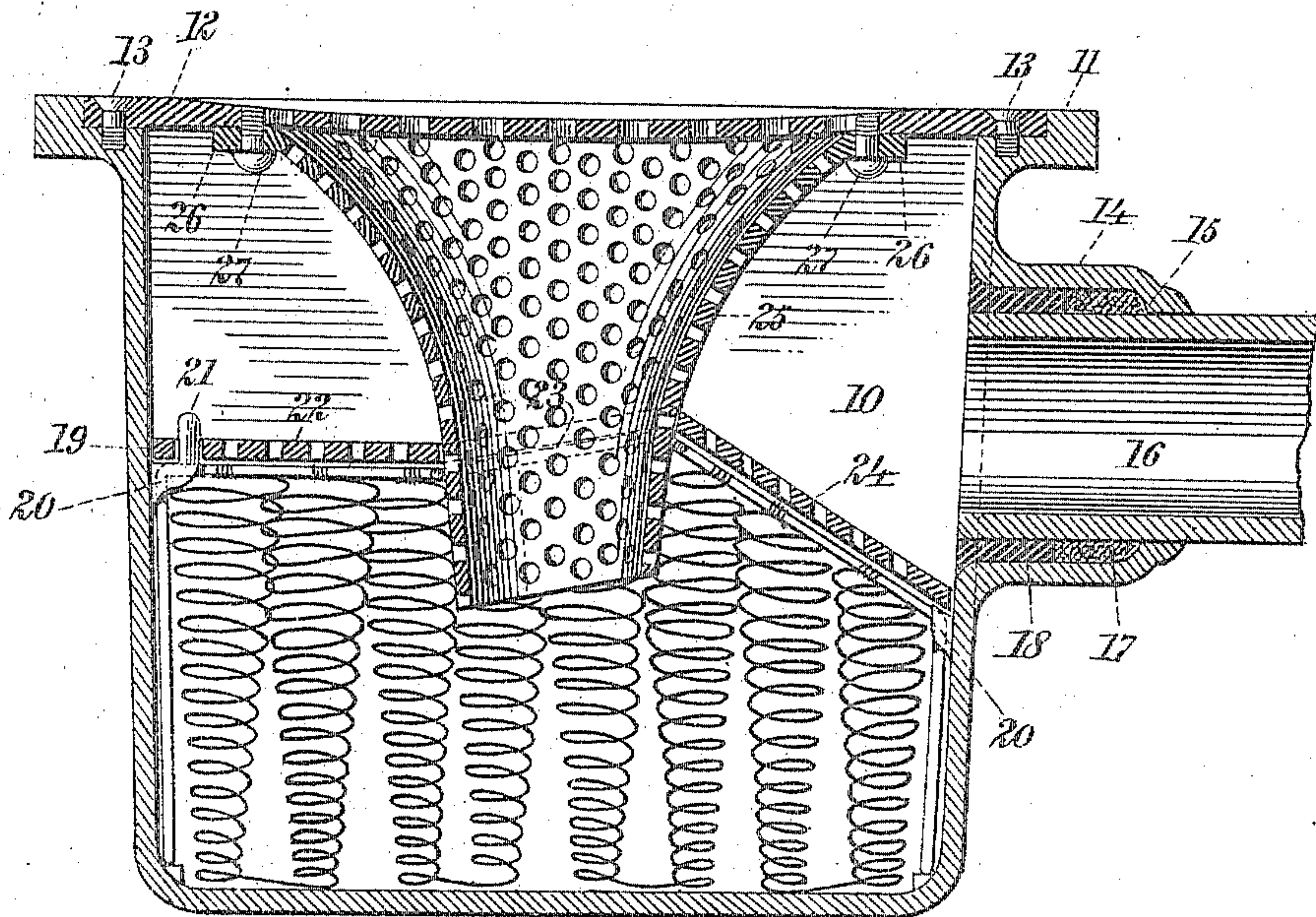
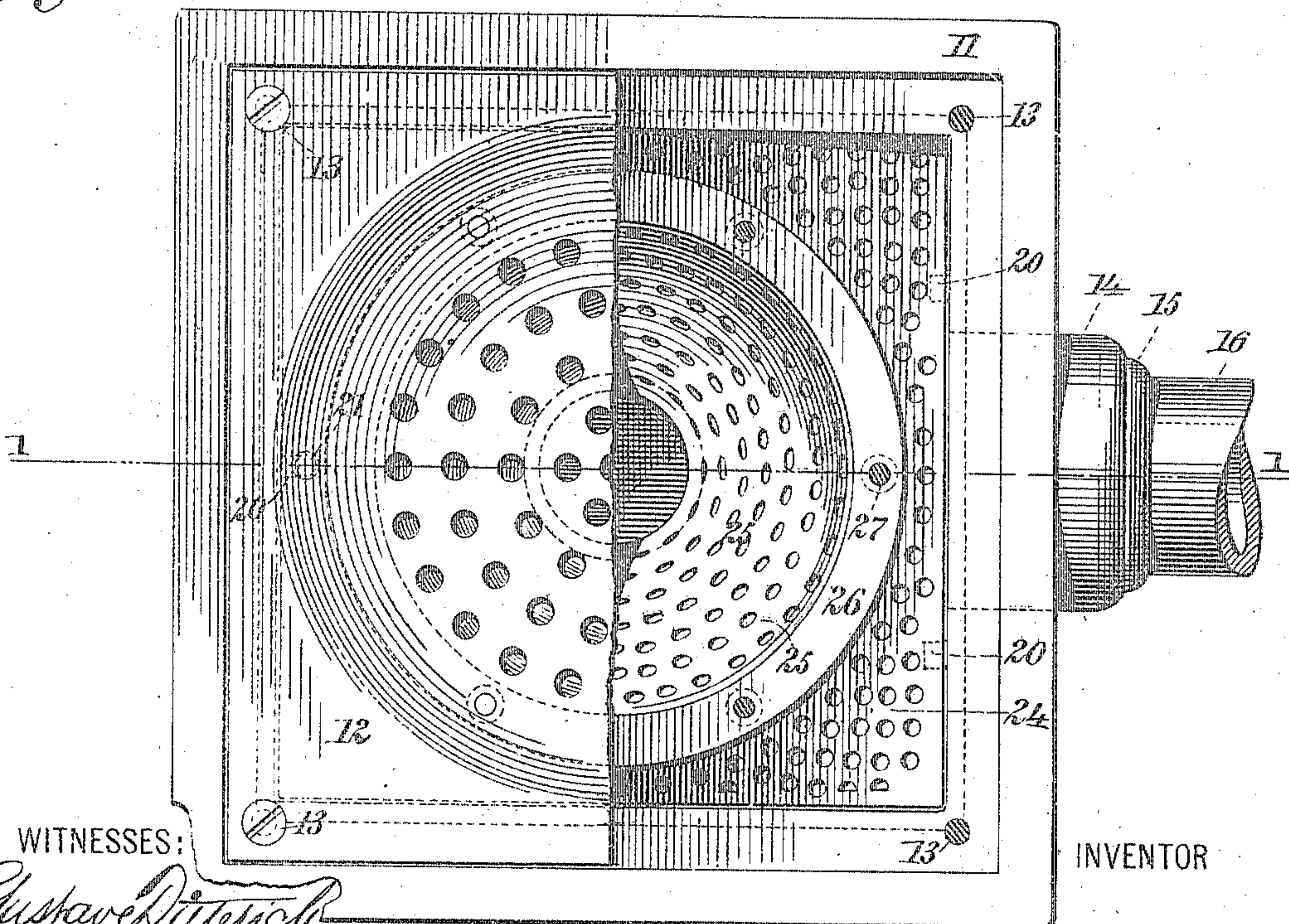


Fig. 2.



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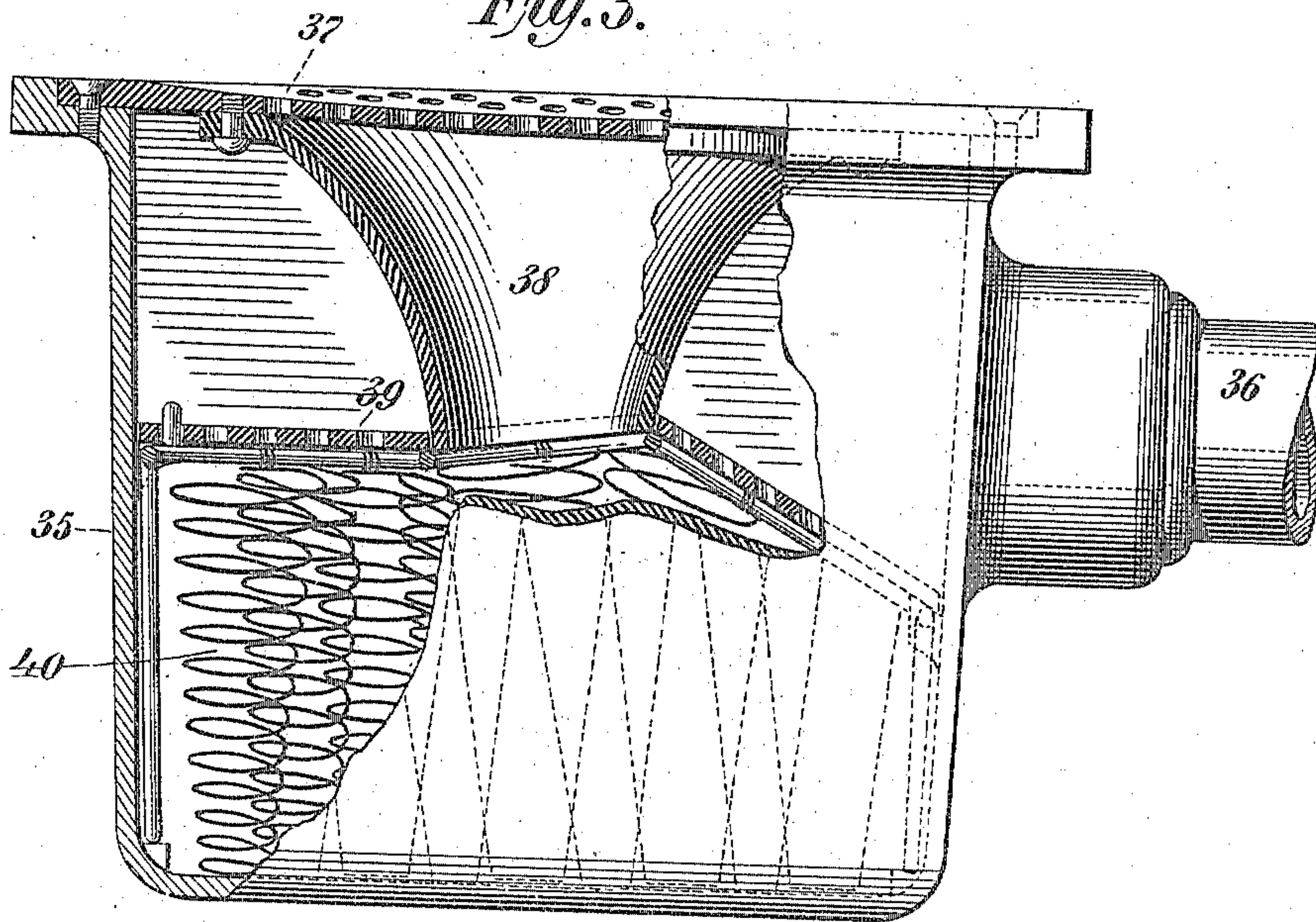
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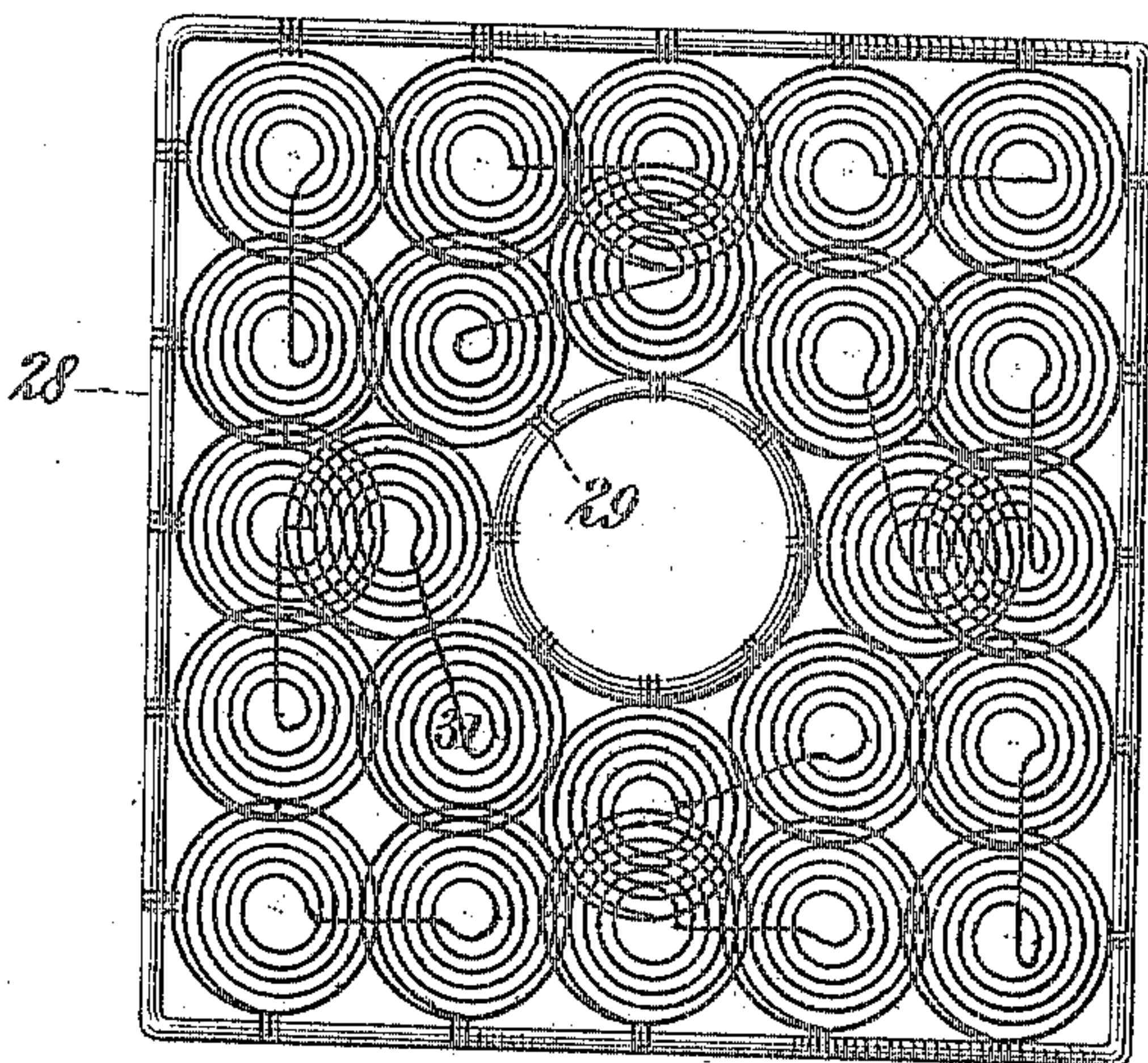
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2 SHEETS—SHEET 2.

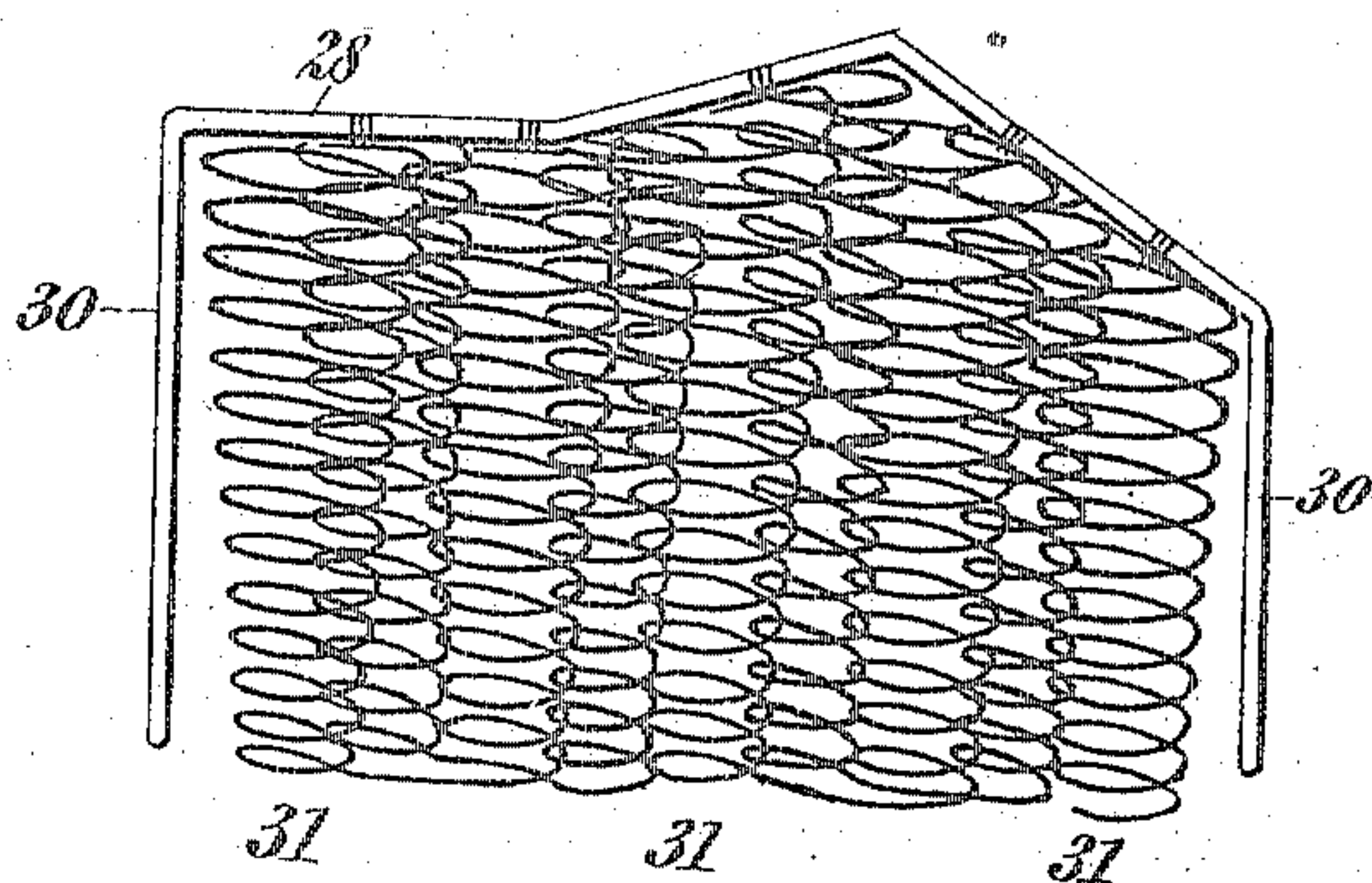
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

MILTON SCHNAIER, OF NEW YORK, N. Y.

COURTYARD OR AREA DRAIN.

947,778.

Specification of Letters Patent.

Patented Jan. 25, 1910.

Application filed December 9, 1905. Serial No. 291,015.

*To all whom it may concern:*

Be it known that I, MILTON SCHNAIER, a citizen of the United States, residing at the city of New York, borough of Manhattan, in the county and State of New York, have invented certain new and useful Improvements in Courtyard or Area Drains, of which the following is a full, clear, and exact specification.

My invention relates to improvements in plumbing and the same has for its object more particularly to provide a court-yard or area drain which may be readily and easily connected to the waste or drain pipe, and which is so constructed as to afford free passage to all fluid matter passing into the same, but which will prevent and arrest the passage of all solid matter carried by the fluid into the drain, and thus prevent said solid matter passing into the waste or drain pipe, and obstructing the drain pipe.

Further said invention has for its object to provide a drain which may be easily opened to permit of access to the interior thereof, and the removal of its parts for cleaning or repairing.

To the attainment of these objects and ends my invention consists in the novel details of construction, and in the combination, connection and arrangement of parts hereinafter more fully described, and then pointed out in the claims.

In the accompanying drawings forming part of this specification wherein like numerals of reference indicate like parts, Figure 1 is a central section taken essentially on the line 1—1 of Fig. 2, illustrating a court-yard drain made according to and embodying my invention; Fig. 2 is a top view thereof, partly broken out to show the interior construction; Fig. 3, is a side view partly broken out illustrating a modified construction; Fig. 4 is a top view of the obstacle-retainer removed from the receptacle, and Fig. 5 is a side view thereof.

In said drawings 10 designates a rectangular, box-like receptacle preferably made of cast metal, and provided at its top, which is open, with a laterally projecting recessed flange 11, adapted to receive a rectangular perforated cover-plate 12, which is secured in position upon the top of the receptacle 10 by screws 13, 13. At one side of the receptacle 10 near its upper edge is provided a laterally projecting sleeve 14 which is preferably made integral with the receptacle 10,

and provided at its outer end with an inwardly projecting rim 15 producing an aperture of smaller diameter than the interior diameter of the sleeve 14.

16 denotes the waste or drain pipe which has its end extending into the sleeve 14 and its extreme inner edge arranged flush with the inner wall of the receptacle 10. The space intermediate the inner surface of the sleeve 14, and the outer surface of the drain pipe 16 therein is packed with oakum or analogous packing material 17, and then calked with lead 18, to effect a perfectly water-tight connection or joint.

Within the receptacle 10 about midway of its height is a perforated plate or grid 19 which is supported at its edges at suitable intervals upon lugs 20, some of which are provided with pins 21 which are adapted to extend through apertures provided in said plate or grid 19. The plate or grid 19 may be made flat and supported in either a horizontal or inclined position. By preference I make the same with a flat portion 22, which extends from one of its edges to a point near its center, whence it continues in an upwardly inclined portion 23, and thence in a downwardly inclined portion 24 to its opposite edge. In the center of said grid or plate 19 is provided a large aperture adapted to receive the lower open end of a tapered sleeve 25 which is provided at its upper edge with a lateral flange 26 by means of which said sleeve is secured to the underside of the top or cover plate 12 by screws 27.

Within the receptacle and below the plate or grid 19 is disposed an obstructing and retaining device consisting of a skeleton frame 28 having a ring 29 at its center and depending stems or legs 30 at its corners whereby to duly support said frame 28, and 31 denotes spirals made of heavy iron or other wire having their upper portions intermeshing and secured together and to the skeleton frame 28 and ring 29. Said spirals completely fill the interior of the receptacle below the plate or grid 19 except the portion directly below the sleeve 25 and are tapered toward their lower ends as shown.

In the modification illustrated at Fig. 3 the structure as a whole is substantially like that above described. Said modification in its embodiment comprises a receptacle 35 having a drain pipe 36 connected thereto. 37 denotes a perforated cover plate secured to said receptacle having secured to its un-



derside an imperforate tapered sleeve 38. 39 denotes a grid or perforated plate supported within the receptacle 35 near its middle and provided at its center with an aperture adapted to receive the lower end of the tapered sleeve 38, and within the receptacle below said grid or plate 39 is disposed an obstructing and retaining device 40.

In the operation of the drain the liquid matter enters the receptacle 10 through the perforated top or cover plate 12 and thence passes through the tapered sleeve 25 by means of which the liquid matter is concentrated at the center of the receptacle 10 in the open space formed in the center of the spiral obstructing and retaining device. As soon as the liquid has filled the receptacle to the level of the drain pipe 16 any additional liquid will pass through the plate or grid 19 and into the drain pipe 16. It will thus be readily obvious that any solid matter which may pass into the receptacle 10 through the perforated cover plate will be caught and retained by spirals of the obstructing device or retainer and that any solid matter which may escape the same will be arrested by the grid or plate 19, and thus only permit the fluid matter to pass into the drain 16. Should the portion of the receptacle below the plate or grid 19 become filled with solid matter the liquid may still reach the drain through the perforations in the tapered sleeve 25, and only when this is completely filled will the drain fail to work. When this occurs the top plate 12 must be removed and the plate or grid 19, and the obstacle retainer taken out, and the latter cleaned, which may be most easily accomplished by burning the same out.

It will of course be apparent that the obstructing or retaining device consists essentially of a sinuous mass of wire which may be made in many different shapes and operate just as effectually as that herein shown and described to prevent the passage of solid matter carried by the liquid.

Without limiting myself to the precise details of construction, which may be varied within the scope of the invention, what I claim and desire to secure by Letters Patent is:

1. A drain comprising a receptacle having an inlet and outlet therein, a perforated cover for said receptacle, a perforated partition arranged below the same, and a perforated sleeve arranged in said receptacle having one end secured to said perforated cover, and its other end engaged by said perforated partition, substantially as specified.

2. A drain comprising a receptacle having an inlet and outlet therein, a perforated cover for said receptacle, a perforated partition arranged in said receptacle below said perforated cover, and a tapered perforated

sleeve secured to said cover and extending through said perforated partition, substantially as specified.

3. A drain comprising a receptacle having an inlet and outlet therein, a perforated cover for said receptacle, a perforated horizontal partition arranged in said receptacle below said cover having a central opening therein, and a tapered perforated sleeve having its upper end secured to said perforated cover and its lower end extending through the center opening in said perforated partition, substantially as specified.

4. A drain comprising a receptacle having an inlet therein at its top and an outlet at its side, a perforated partition arranged within said receptacle below said outlet, means arranged below said perforated partition adapted to obstruct and retain solid matter carried by the fluid into said receptacle, and means for conducting the fluid from said inlet to said obstructing and retaining means, substantially as specified.

5. A drain comprising a receptacle having an inlet at its top and an outlet at its side, a perforated partition arranged within said receptacle below said outlet, a sinuous mass of wire disposed in said receptacle below said perforated partition, and means for conducting the fluid from said inlet through the perforated partition to said sinuous mass of wire, substantially as specified.

6. A drain comprising a receptacle having an inlet at its top, a perforated cover therefor, an outlet at the side of said receptacle, a perforated, horizontal partition arranged in said receptacle below said inlet, a sinuous mass of wire disposed in said receptacle below said perforated partition, and a sleeve extending from the underside of the perforated cover into the perforated partition aforesaid, substantially as specified.

7. A drain comprising a receptacle having an opening at its top, a perforated cover fitted to said opening, an outlet at the side of said receptacle, a perforated partition having an opening at its center, and arranged in said receptacle below said outlet, a sinuous mass of wire disposed in said receptacle below the perforated partition, and a sleeve secured to the underside of the perforated cover having its lower end extending through the opening in said perforated partition, substantially as specified.

8. A drain comprising a receptacle having an opening at its top, a perforated cover fitted to said opening, an outlet at the side of said receptacle, a perforated partition having an opening at its center and arranged in said receptacle below said outlet, a sinuous mass of wire disposed in said receptacle below said perforated partition, and a perforated sleeve secured to the underside of said cover having its lower end extending



into the opening in said perforated partition, substantially as specified.

9. A drain comprising a receptacle having an opening at its top, a perforated cover  
5 fitted to said opening, an outlet at the side of said receptacle, a perforated partition having an opening at its center and supported horizontally in said receptacle below the outlet, an obstructing and retaining device  
10 vice consisting of wire spirals secured together and disposed in said receptacle below said perforated partition, and a sleeve secured to the underside of said perforated cover having its lower end extending into  
15 the opening at the center of said perforated partition, substantially as specified.

10. A drain comprising a receptacle, having an opening at its top, a perforated cover fitted to said opening an outlet at the side  
20 of said receptacle, a perforated partition

having an opening at its center and supported horizontally in said receptacle below said outlet, an obstructing and retaining device consisting of a rectangular frame having a  
ring at its center and legs at its corners, and 25 wire spirals secured together at their upper ends and to said frame and ring, and their lower ends diminished and free, and a tapered sleeve secured to the underside of said perforated cover having its lower end ex- 30 tending into the opening at the center of said partition, substantially as specified.

Signed at the city of New York, in the county and State of New York, this sixth day of December, nineteen hundred and 35 five.

MILTON SCHNAIER.

Witnesses:

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D. W. STEELE, Jr.