

No. 665,932.

Patented Jan. 15, 1901.

P. E. & E. J. QUINN.

PUMP TRAP.

(Application filed Oct. 8, 1900.)

(No Model.)

Fig. 1.

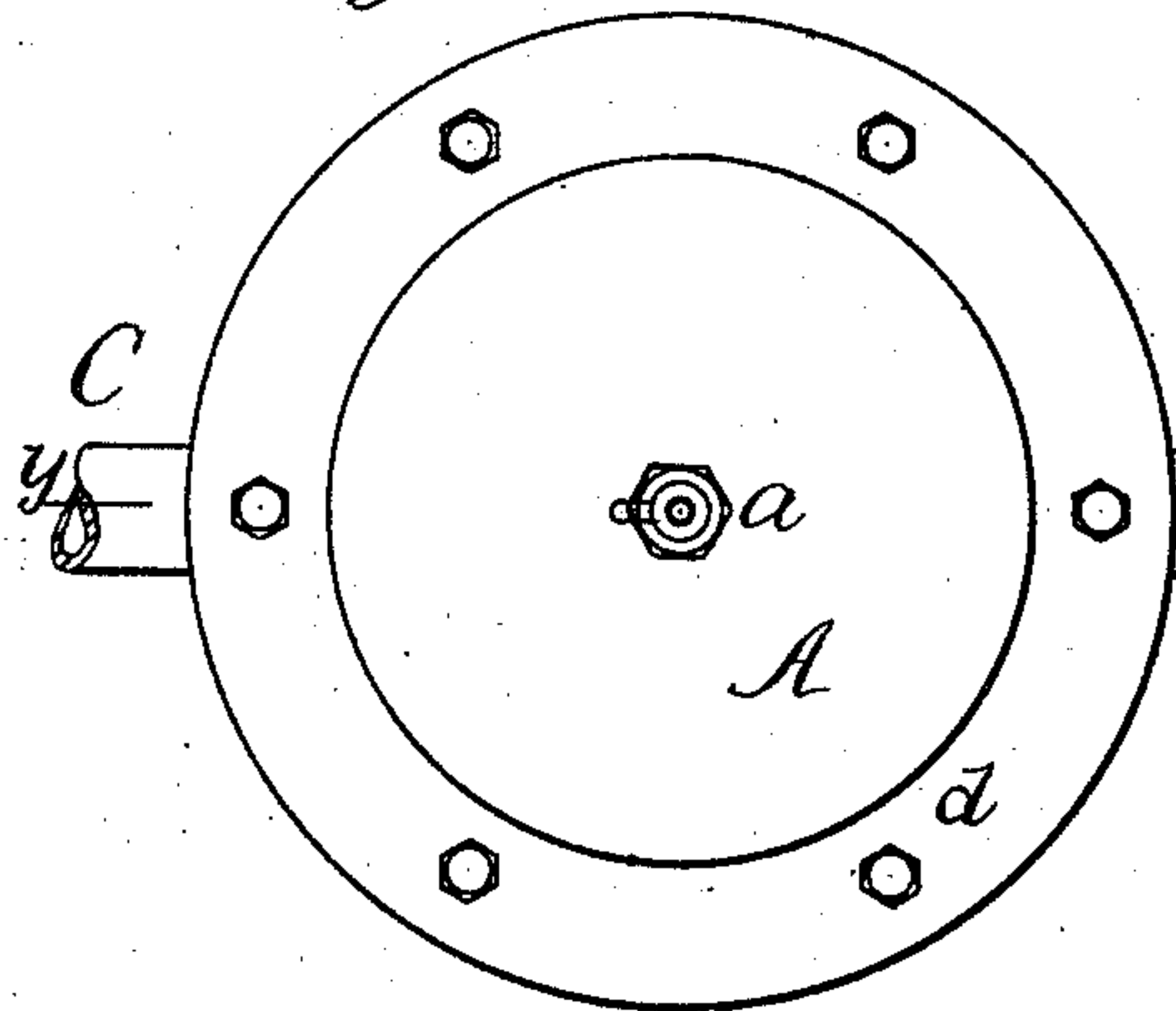


Fig. 2.

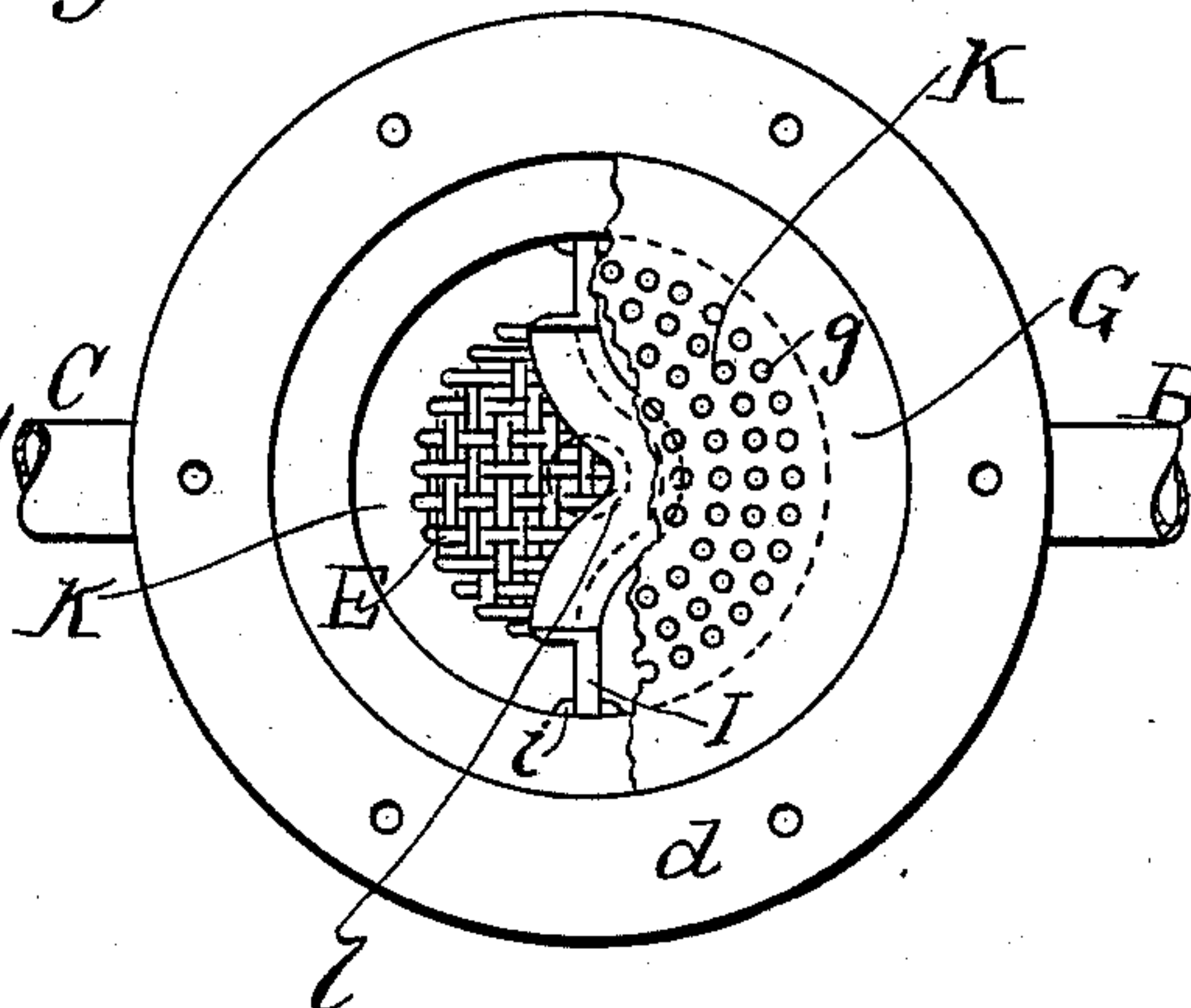


Fig. 3.

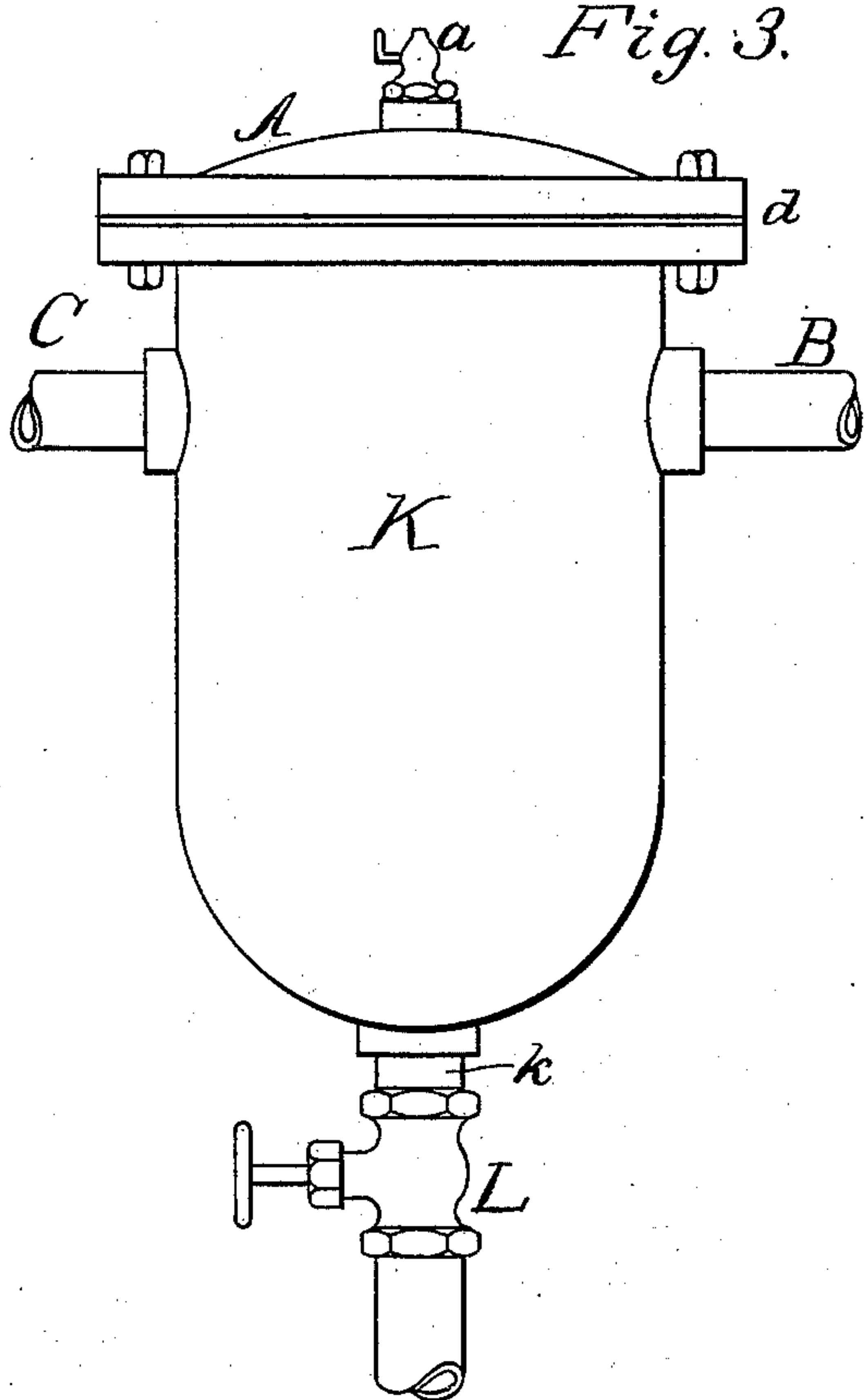
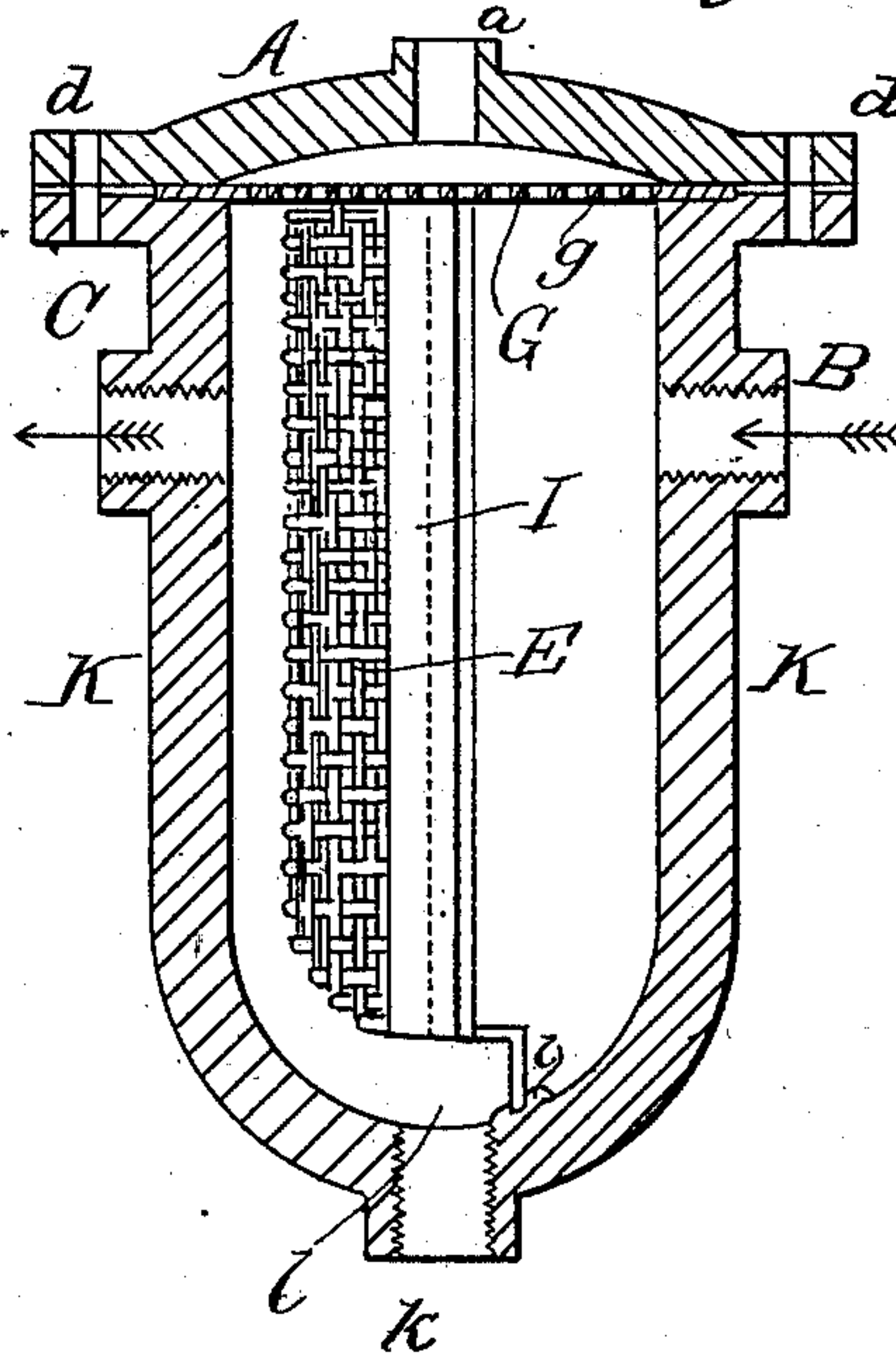


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

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PUMP-TRAP.

SPECIFICATION forming part of Letters Patent No. 665,932, dated January 15, 1901.

Application filed October 8, 1900. Serial No. 32,347. (No model.)

To all whom it may concern:

Be it known that we, PATRICK EDWARD QUINN and EUGENE JOSEPH QUINN, citizens of the United States, and residents of New York, (Brooklyn,) county of Kings, and State of New York, have invented certain new and useful Improvements in Pump-Traps, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts in all the figures.

This invention relates to improvements in pump-traps.

Heretofore it has been found by engineers and others engaged in running power-pumps which discharged water or other fluids into tubes comparatively smaller than the entry and exit pipes of the pump that fragments of the valve-bushings and divers other pieces of the mechanism were constantly breaking off and, being carried into the narrower passages by the motion of the fluid passing through the pump, either hindered the flow of the fluid or so choked the smaller tube as to practically close it up. This has, no doubt, caused many explosions in tubular boilers. In every case where it does occur it causes great loss of time and very great annoyance to find and remove the obstruction from the tubing. It is in order to obviate this difficulty that our present invention has been devised.

The nature and object of the invention will be more fully understood from the following general description and the accompanying drawings and will be subsequently pointed out in the claims.

Figure 1 is a top view of our newly-invented pump-trap. Fig. 2 is a top view of the same with the cover A removed and a part of the perforated plate G broken away. Fig. 3 is a side view of the same. Fig. 4 is a vertical sectional view of the same, taken on the line *yy* of Fig. 1.

The body of our pump-trap consists of a casing or chamber, (designated by K.) This may be of any convenient and adaptable form; but we consider it best to make it as illustrated in the drawings. Referring to the drawings, on the top of this body is a cover A, which is held in place by bolts passing through the

flanges *d*. These bolts are secured by proper nuts, and gaskets interposed close the joints. The top A is provided with an air-cock, (designated by *a*.) The body is also provided with entry-pipe B and exit-pipe C. At the bottom is an outlet *k*, which is closed by the valve L. This body should be made strong enough to sustain great internal pressure, so that it can communicate freely with a boiler or other steam-generator. In the top of the chamber, within the body K, is placed the sheet-metal plate G. This plate extends across the entire breadth of the chamber, is held between the flanges *d*, and is perforated with a plurality of holes *g*. Extending across one-half of the said chamber and from the plate G above to a point near the bottom is placed the wire-net screen E. This screen is held in position by the angle-iron I, which, conforming to the shape of the inside of the chamber, rests in the groove *i*. This groove extends up both sides and across the bottom of said chamber. The edges of the screen and the angle-iron may be fastened together by bolts, rivets, or in any other convenient and adaptable way, all the various parts of this form of our invention to be substantially as described and illustrated herein.

To use our invention, it is to be placed between a power-pump and the receptacle into which the fluid passing through the pump is to be discharged. It is to be so arranged that the body of fluid from the pump will flow freely in through the entry-pipes and as freely out through the exit-pipes to the said receptacle—as, for example, a steam-boiler. It will then be found that all pieces of debris, such as has been hereinbefore described and which would be large enough to choke the pipes, will be caught by the screens and, being detained in the trap, will fall downward and settle at the bottom over the outlet. As often as may be necessary the pressure of the pump and of the steam may be shut off by suitable valves provided for that purpose on each side of the trap and the air-cock and the outlet opened. When the pressure in the trap is exhausted, the top A is taken off and such obstructions as may be caught in the trap removed. Any waste fluid that may be standing in the chamber below the entry-pipe

B and the outlet-pipe C, together with any sediment which may be fine enough to pass through the screen E, may be let out by the pipe K at the bottom of the chamber. The
 5 cock L may be used for this purpose. Thus as the fluid flows into the chamber through the entry-pipe B, through the screen E, and out of the chamber through the exit-pipe C all the said obstructions are effectually pre-
 10 vented from clogging and choking the pipes and easily found and removed, after which the trap may be again prepared for use by putting on the top A and again turning the valves, so as to secure communication be-
 15 tween the pump and the boiler through the trap. While this invention is especially applicable to tubular steam-boilers, it is also evident that it may be applied to divers other apparatus too numerous to be here
 20 mentioned.

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

1. In a pump-trap the combination with a
 25 casing a chamber within said casing, entry and exit pipes communicating with said chamber and an air-cock, and outlet, communicating with said chamber, of a perforated plate held across said chamber by clamping
 30 the same between the edges thereof, a wire screen held by an angle-iron in said chamber and together with said perforated plate adapted to arrest and detain in said trap any solid substance, carried by a fluid passing through
 35 said trap, all substantially as and for the purpose set forth.

2. In a pump-trap, the combination with a casing, a chamber within said casing, entry and exit pipes communicating with said
 40 chamber and an air-cock, and an outlet com-

municating with said chamber, of a sheet-metal plate reaching across said chamber and held in position as specified, a plurality of holes perforating said plate, a groove in the wall of said chamber an angle-iron resting in
 45 said groove, a wire screen held by said angle-iron in said chamber, and said perforated plate and said screen, together, arranged and adapted to arrest and detain in said trap, solid substances carried by a fluid flowing
 50 through said trap, all substantially as and for the purpose set forth.

3. In a pump-trap, the combination with a casing comprising a separate body and a cover fastened together as specified, a chamber
 55 within said casing, entry and exit pipes communicating with said chamber, and an air cock and outlet communicating with said chamber, of a sheet-metal plate reaching across said chamber, and held in position as
 60 specified, a plurality of holes perforating said plate, a groove in the inner walls of said chamber, an angle-iron resting in said groove, a wire screen held by said angle-iron in said
 65 chamber, and said perforated plate and said screen, together, arranged and adapted to arrest and detain in said chamber, solid substances carried by a fluid flowing through the said trap, all substantially as and for the
 70 purpose set forth.

In testimony that we claim the foregoing as our invention we have signed our names, in the presence of two witnesses, this 21st day of September, 1900.

PATRICK EDWARD QUINN.
 EUGENE JOSEPH QUINN.

Witnesses:

C. E. McDONALD,
 S. HARNISCH.