

No. 646,464.

L. SCHUTTE.  
STRAINER.

Patented Apr. 3, 1900.

(Application filed Jan. 31, 1900.)

(No Model.)

Fig. 1.

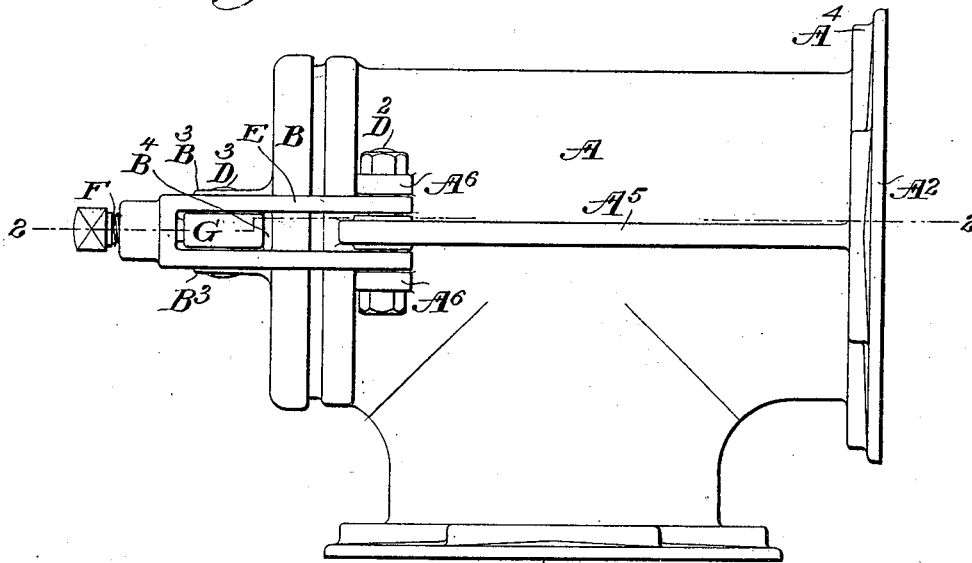
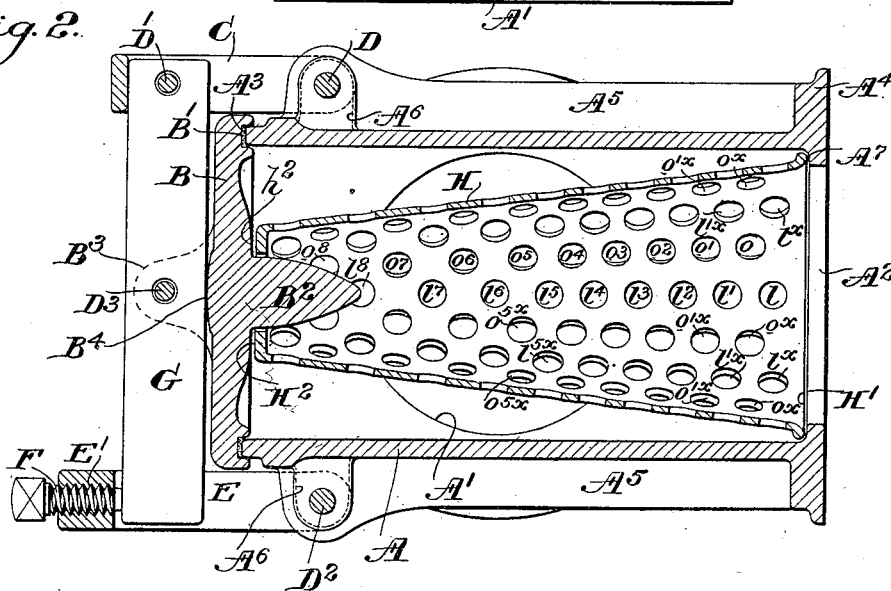


Fig. 2.



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# UNITED STATES PATENT OFFICE.

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## STRAINER.

SPECIFICATION forming part of Letters Patent No. 646,464, dated April 3, 1900.

Application filed January 31, 1900. Serial No. 3,410. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS SCHUTTE, a citizen of the United States of America, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful Improvement in Strainers, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to the construction of strainers, having for its object to provide a strainer of great simplicity and strength of construction, to provide for the ready removal of the strainer proper from the casing, and to provide for a large aggregate area of strainer-perforations in a small and compact structure.

The nature of my improvements will be best understood as described in connection with the drawings in which they are illustrated, and in which—

Figure 1 is a side view of my strainer, and Fig. 2 a longitudinal section taken on the line 2 2 of Fig. 1.

A indicates the strainer-casing, which is most conveniently of cylindrical shape, but which in no case should contract toward the end opening, which is closed by a lid.

A' indicates the lateral opening through the wall of the strainer-casing, which is coupled with a conduit. A<sup>2</sup> indicates an end opening, also to be coupled with a conduit and which is provided with a circumferential seat A<sup>7</sup> between it and the walls of the cylindrical or substantially-cylindrical casing. A<sup>3</sup> indicates the other end opening of the strainer, which is flush with the walls of the casing and is in use covered by a lid.

A<sup>4</sup> indicates a flange extending out from the end of the casing in which the opening A<sup>2</sup> is formed, and A<sup>5</sup> A<sup>6</sup> are longitudinal flanges formed integral with the casing, on opposite sides thereof, A<sup>6</sup> A<sup>6</sup>, &c., indicating perforated lugs, which on each side of the casing extend out from its walls on opposite sides of the upper portion of the flanges A<sup>5</sup>, said flanges being perforated in line with the perforations of the lugs A<sup>6</sup>.

B is the lid of the casing, most conveniently formed with an annular packing-holding groove B', which fits upon the upper end

of the casing, as shown. The lid is also provided with an inwardly-extending finger B<sup>2</sup>, the function of which is to engage and hold the strainer, as shown, and it is also formed with two upwardly-extending lugs B<sup>3</sup> B<sup>3</sup> and a central rounded boss, as indicated at B<sup>4</sup>.

C is a U-shaped stirrup pivoted at its lower ends to a pin D, which passes through the flange A<sup>5</sup> and the two adjacent lugs A<sup>6</sup> and is secured in place by a nut, as indicated. To the upper end of this stirrup a clamping-bar G is secured, as by means of a pin D', which would have sufficient play to permit the end of the clamping-bar to rest against the top of the stirrup, as indicated in Fig. 2. The lid B is fastened to the clamping-bar by means of a pivot-pin D<sup>3</sup>, which passes through the clamping-bar and perforated lugs B<sup>3</sup>, fitting, however, with sufficient looseness to permit the clamping-bar when in use to rest and press upon the boss B<sup>4</sup>.

E is a U-shaped stirrup of generally similar character to the stirrup C, pivoted at its lower end on the pin D<sup>2</sup>, which, like the pin D, is secured to the opposite flange A<sup>5</sup> and lugs A<sup>6</sup>. The upper end of the stirrup E has a thread perforation E' formed in it, into which screws the clamping-screw F, the lower end of which when the stirrup is thrown up, as shown in Figs. 1 and 2, rests against and is screwed down upon the free end of the clamping-bar G.

H is the strainer proper, which is of frusto-conical form, its lower and broader end H' resting against the annular seat or flange A<sup>7</sup>, and its upper end H<sup>2</sup> having a central perforation h<sup>2</sup>, into which passes the finger B<sup>2</sup> of the lid, so that the conical strainer is held in place between the seat A<sup>7</sup> and the lid, as shown.

ll' ll' o' o', &c., indicate perforations formed in the conical strainer, which perforations, in longitudinal lines, are arranged at gradually-increasing distances from each other as they approach the smaller end of the cone, and as is shown, for instance, in the line of strainers indicated at ll' ll', &c. In circumferential lines, however, the perforations are arranged at gradually-decreasing distances from each other as said lines are taken at distances more nearly approaching the smaller end of the cone, and by arranging the perfo-

rations in the staggered manner indicated I am enabled in this manner to provide for the maximum number of perforations in the strainer with the least impairment of the strength of the structure and the greatest convenience for manufacturing purposes.

The construction of the casing, which avoids any contraction toward its lidded end prevents the strainer from becoming wedged in the casing, and the provision of lugs and flanges as described and shown enables the lid to be secured with great firmness to the casing and without danger of cracking or breaking the casing.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A strainer-casing A having substantially-cylindrical walls with longitudinal outwardly-extending flanges  $A^5$   $A^5$  and lugs  $A^6$   $A^6$  extending out on each side of said flanges in combination with U-shaped stirrup-clamps C and E pivotally secured to the flanges  $A^5$  and lugs  $A^6$   $A^6$ , a clamping-bar G adapted to be engaged with the stirrups C and E, a lid adapted to be held to its seat by the clamping-bar G and a strainer secured in the casing and removable therefrom when the lid is opened.

2. A substantially-cylindrical strainer-casing having one end opening  $A^2$  formed with an annular flange  $A^7$  between it and the sides of the strainer, its other end opening  $A^3$  flush with its side walls and a lateral opening  $A'$  in combination with a lid for closing the end opening  $A^3$ , means for securing said lid in place and a strainer arranged to be held in the casing between the flange  $A^7$  and the lid aforesaid.

3. A substantially-cylindrical strainer-casing having one end opening  $A^2$  formed with an annular flange  $A^7$  between it and the sides of the strainer its other end opening  $A^3$  flush with its side walls and a lateral opening  $A'$ , said casing having also longitudinal flanges  $A^5$   $A^5$  formed integral with the casing and extending out therefrom on opposite sides, in combination with a lid for closing the end opening  $A^3$ , means for securing said lid in place and a strainer arranged to be held in the casing between the flange  $A^7$  and the lid aforesaid.

4. A substantially-cylindrical strainer-casing having one end opening  $A^2$  formed with an annular flange  $A^7$  between it and the sides of the strainer its other end opening  $A^3$  flush with its side walls and a lateral opening  $A'$  in combination with a lid for closing the end opening  $A^3$ , clamping mechanism for holding the lid in place secured to the upper ends of the flanges  $A^5$   $A^5$  and a strainer arranged in the strainer-casing between the flange  $A^7$  and the lid aforesaid.

5. A strainer II of frusto-conical form having perforations which in longitudinal lines are arranged at gradually-increasing distances from each other as they approach the smaller end of the cone and which in circumferential lines are arranged at gradually-increasing distances as said lines approach the smaller end of the cone, all substantially as described, and so as to provide for a large aggregate area of perforations.

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Witnesses:

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