(No Model.)

L. SCHUTTE.

EXHAUSTER.

No. 571,022. Patented Nov. 10, 1896.

Fig. 1.

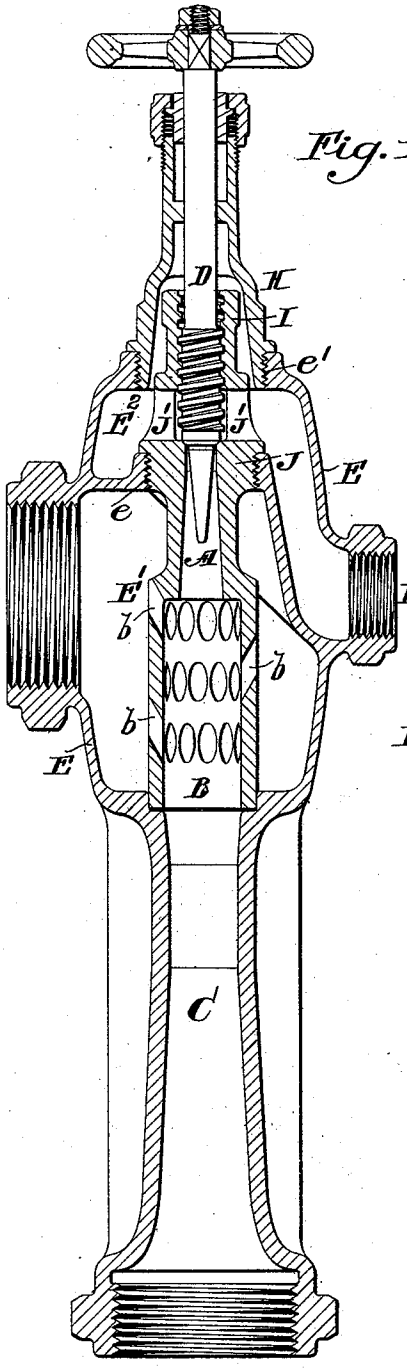


Fig. 3.

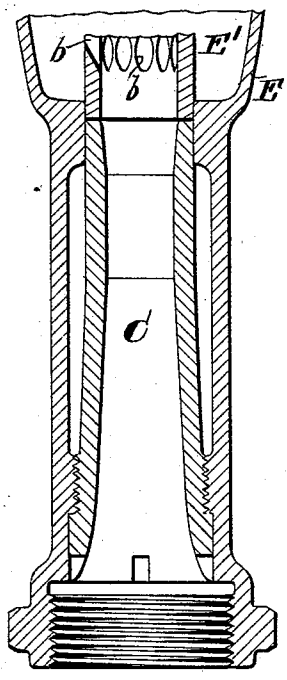
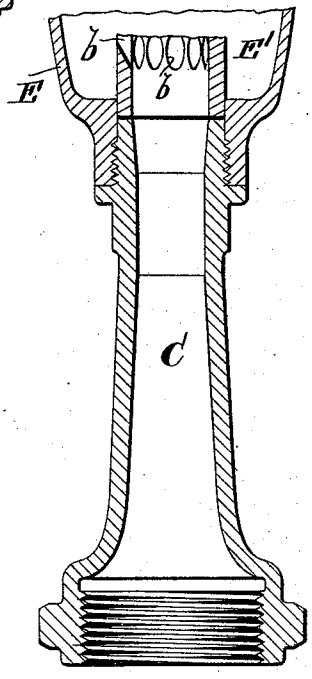


Fig. 2.



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UNITED STATES PATENT OFFICE.

LOUIS SCHUTTE, OF PHILADELPHIA, PENNSYLVANIA.

EXHAUSTER.

SPECIFICATION forming part of Letters Patent No. 571,022, dated November 10, 1896.

Application filed September 30, 1896. Serial No. 607,395. (No model.)

To all whom it may concern:

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

My invention relates to the construction of exhausters or jet apparatus in which a jet of fluid under pressure is used to create a suction in a communicating vessel.

The object of my invention is to provide a device of this kind of a generally improved character.

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 longitudinal section through the improved exhauster, and Figs. 2 and 3 partial sectional views indicating modifications in the construction, shown in Fig. 1.

A is the actuating-nozzle; B, the combining-tube; C, the discharge-tube; D, a spindle controlling the opening and area of the actuating-tube A; E, a casting in which is formed a chamber E′, which may be called the "delivery-chamber," as it is to be placed in communication with the chamber or pipe in which the suction is to be exercised, and E^2 is the chamber in which the fluid under pressure is thrown and from which it issues into the nozzle A.

G indicates the opening into the chamber E′, and F the opening into the chamber E^2.

As shown in Fig. 1, the discharge-tube C is formed integral with the casing E.

In Fig. 2 the discharge-tube is shown screwing into the bottom of the casing E, while in Fig. 3 the discharge-tube is shown as inserted into a prolongation of the casing E.

I prefer the construction shown in Fig. 1, though either the construction of Fig. 2 or that of Fig. 3 may be used with advantage.

e indicates a threaded opening between the chambers E′ and E^2, and *e′* indicates a threaded opening at the top of the chamber E^2 concentric with and somewhat larger than the opening *e*.

H indicates a cap-piece which screws into the opening *e′*, as shown.

The nozzle A and combining-tube B are preferably made of an integral casting, and the combining-tube provided with a series of openings *b*, by which it communicates with the chamber E′, and the obliquity of which is in the direction of the delivery-tube C. Preferably I form the casting of which the nozzle A and tube B is made with an entension I of such length as to extend beyond the threaded opening *e′* when the combining-tube is in place and the top of which should preferably be made of some angular form, so as to provide a good hold for a wrench. In this construction it is preferable to thread the extension I, so that the thread on the spindle D may engage with it, the spindle being advanced and receded by a turning action, as is commonly the case.

It will be understood that the chief merit and novelty of my construction lies in the few parts and great simplicity of construction.

While, as I have stated, I preferably form nozzle A and combining-tube B of an integral casting, many of the advantages of my construction can be gained by securing tube B to the nozzle in any other way which will insure a firm union and permit the insertion and removal of the tube with the nozzle.

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

1. An exhauster having in combination with a chamber E′ and a discharge-tube C, an actuating-nozzle A screwing into the walls of chamber E′ opposite tube C and a combining-tube B secured to and removable with nozzle A said combining-tube being formed with a series of openings *b* leading obliquely into it from chamber E′.

2. An exhauster having in combination with a chamber E′ and a discharge-tube C an actuating-nozzle A and a combining-tube B cast in one piece and the combining-tube formed with a series of openings *b* leading obliquely into it from chamber E′.

3. An exhauster having a chamber E′ and chamber E^2 formed of a single casting and having a threaded opening *e* between them and threaded opening *e′* leading into chamber E^2 above opening *e* in combination with

a combining-tube B and actuating-nozzle A also formed of a single casting and adapted to screw into opening *e* and a cap H adapted to screw into and close opening *e'*.

4. An exhauster having a chamber E' and chamber E^2 together with a discharge-tube C formed of a single casting and having a threaded opening *e* between them and a threaded opening *e'* leading into chamber E^2 above opening *e* in combination with a combining-tube B and actuating-nozzle A also formed of a single casting and adapted to screw into opening *e* and a cap H adapted to screw into and close opening *e'*.

5. An exhauster having a chamber E' and chamber E^2 formed of a single casting and having a threaded opening *e* between them and a threaded opening *e'* leading into the chamber E^2 above opening *e* in combination with a combining-tube B and actuating-nozzle A also formed of a single casting and adapted to screw into opening *e* said casting having a threaded extension I adapted to extend above opening *e'* when in position and to receive a spindle, and a cap H adapted to screw into and close opening *e'*.

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