

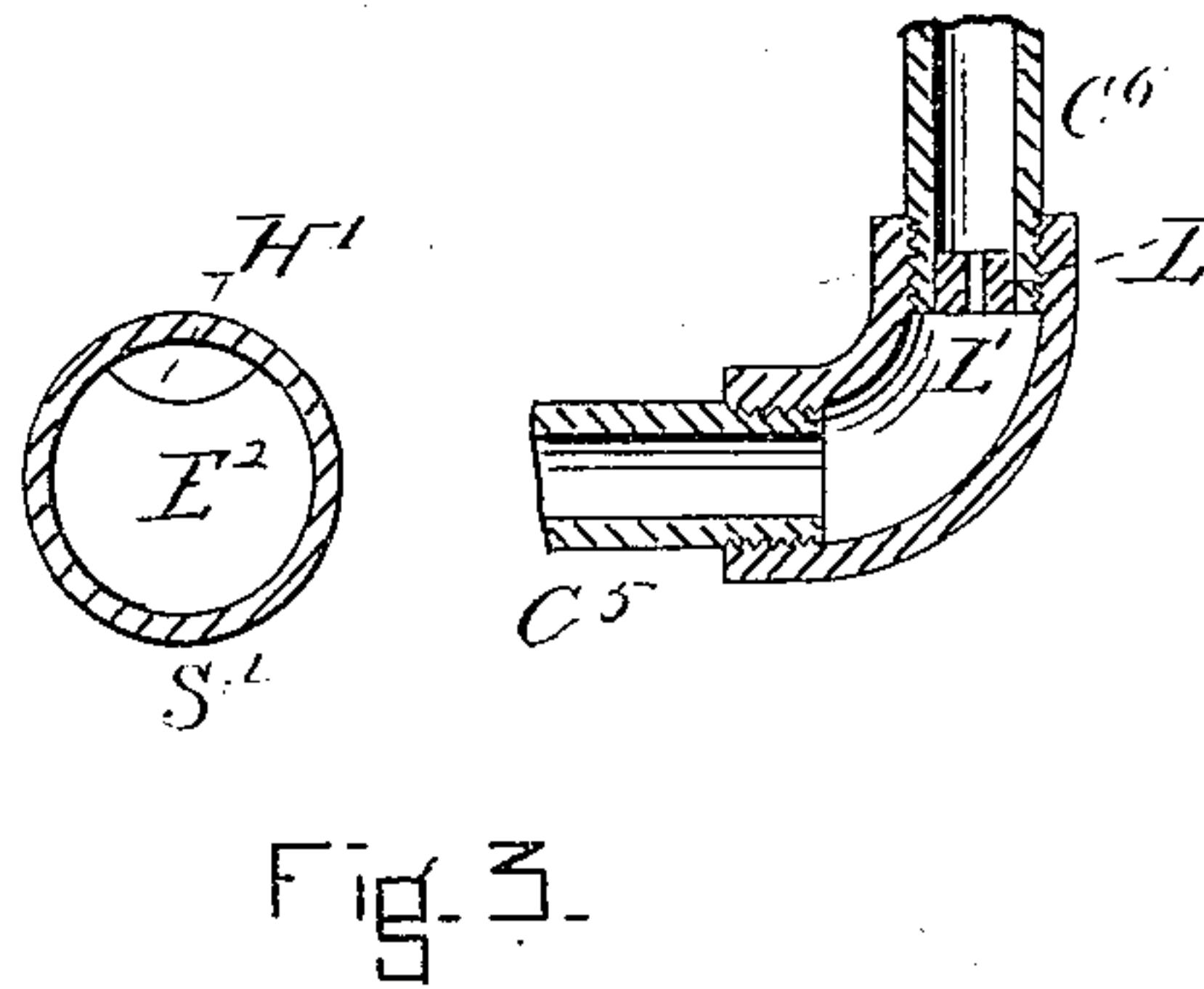
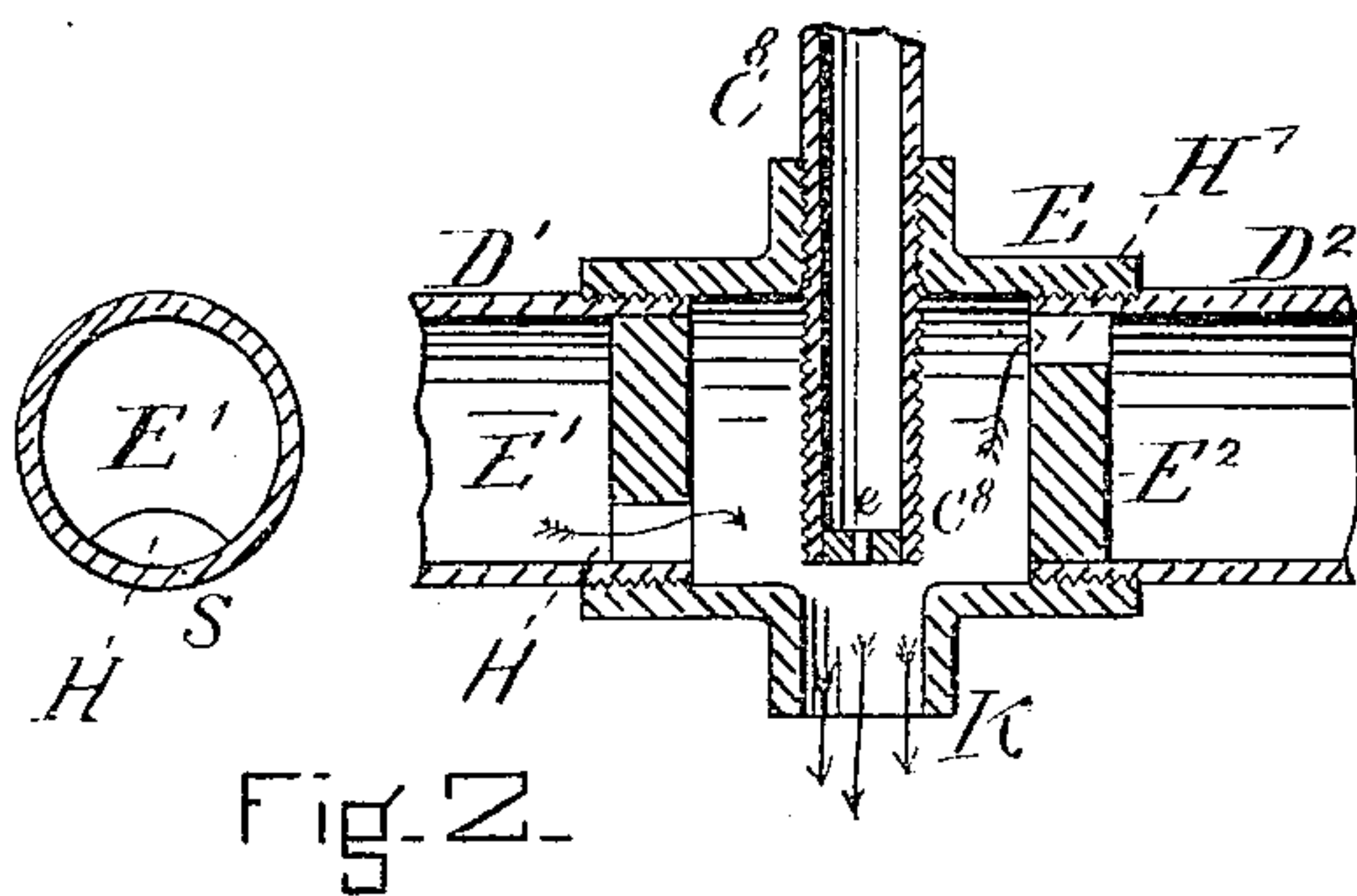
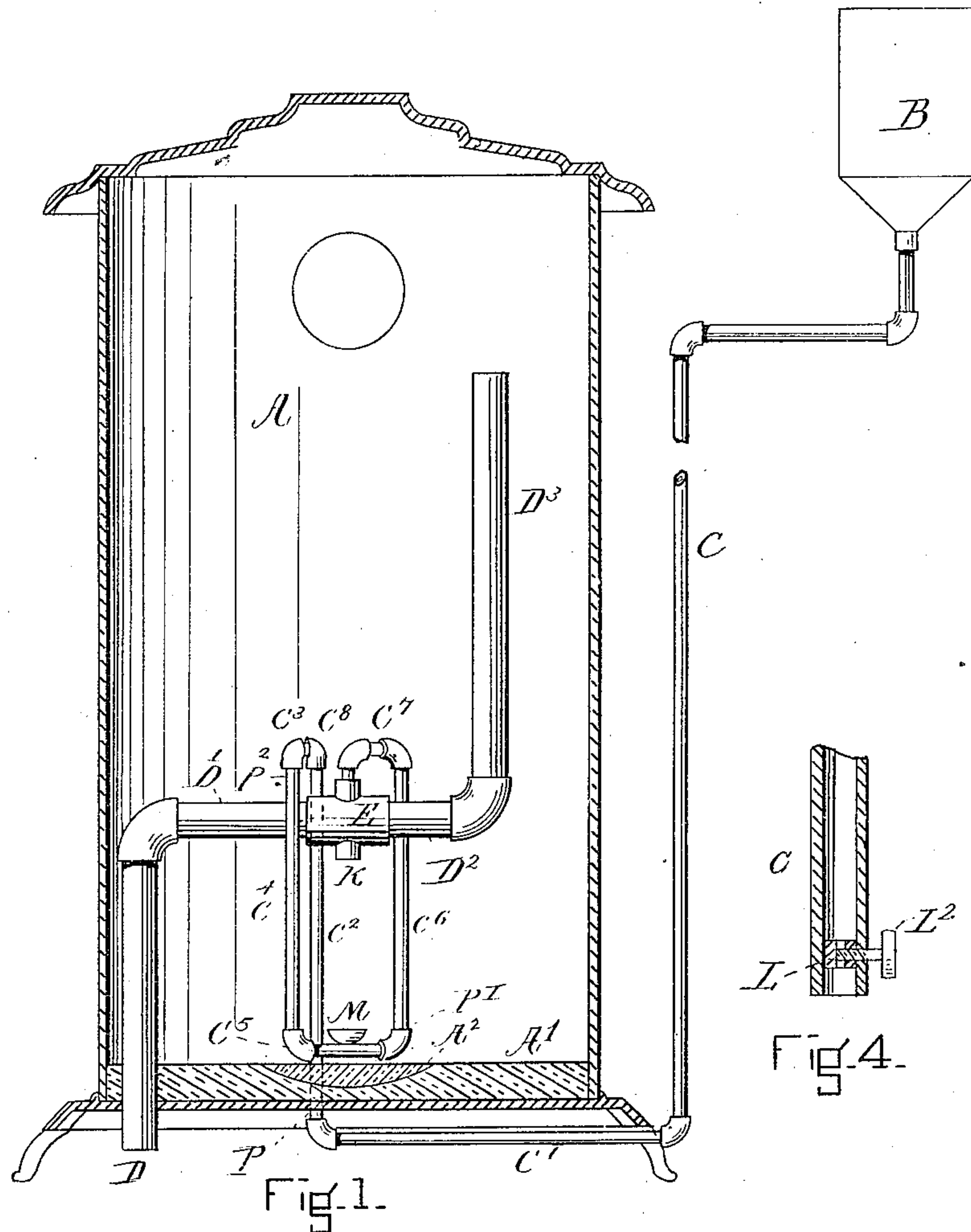
(No Model.)

T. E. DUDLEY.

OIL GAS STOVE.

No. 258,726

Patented May 30, 1882.



WITNESSES

Helen M. Ferguson
Frank H. Parker

INVENTOR

Thomas E. Dudley

UNITED STATES PATENT OFFICE.

THOMAS E. DUDLEY, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO JOTT GRANT, OF SAME PLACE.

OIL-GAS STOVE.

SPECIFICATION forming part of Letters Patent No. 258,726, dated May 30, 1882.

Application filed December 31, 1881. (No model.)

To all whom it may concern:

Be it known that I, THOMAS E. DUDLEY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and
5 useful Improvements in Oil-Gas Stoves, of which the following is a specification.

My invention relates to that class of stoves in which the oil used is converted into gas and then burned as gas, the object being to get
10 perfect combustion, regulation, and a safe and continuous supply. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of a stove with
15 my apparatus applied. Fig. 2 is a detail in section, showing the device by which air is mingled with the gas at the place of combustion. Figs. 3 and 4 are details for showing the method of regulating the supply of oil.

20 In the drawings, Fig. 1 shows a section of a stove, which may be of any suitable size and style. I prefer to cover the bottom of the stove with ashes, asbestos, or some non-combustible material, and also to provide a shallow dish at
25 A², for convenience in kindling.

B is an oil-tank, located in some convenient place, and connected to the generating device of the pipe C C'.

The generator or retort consists of the pipes
30 C² C³ C⁴ C⁵ C⁶ C⁷, Fig. 1. These pipes terminate with the pipe C⁸, Figs. 1 and 2. At the lower end of the pipe C⁸, I make but a small opening, e, so that the gas will be forced out in a concentrated rapidly-flowing jet. At convenient points P P' P² in the pipes I fix diaphragms L. (See Figs. 3 and 4.) The object of these diaphragms is to provide a check on the flow of the oil, so as to prevent the accumulation of the same in the pipes.

40 If desirable, each of the diaphragms L may be provided with a screw-valve, L², Fig. 4, so the orifice in the center can be contracted or enlarged at will.

My method of supplying air is embodied in
45 the device shown at D D' D² D³ of Fig. 1, and part in detail enlarged at Fig. 2. This device consists of the leading-pipes D D', Fig. 1, the injector-chamber E, and the draft-pipes D² D³. The injector-chamber E (see Fig. 2) has
50 at its inlet end a diaphragm, E', (shown in section at S,) which has at its lower side an opening, H. The chamber also has a diaphragm, E², at the outlet end, (shown in section at S',)

with its opening H' at the top. By this arrangement the air will flow in through the
55 opening H, past the lower end of the pipe C⁸, (see Fig. 2,) and thence out through the opening H'—that is, a supply of air is constantly furnished to be drawn down by the “injector action” of the jet of gas that flows from the
60 opening e.

M, Fig. 1, is a flat disk, located immediately under both the orifice K of the chamber E and the outlet e of the gas-jet. The object of this disk M is to distribute any oil that may drop
65 from the opening e, which sometimes occurs when the flame is first started.

The operation of my device is as follows: A small quantity of oil is allowed to flow from the tank B into the pipes that constitute the
70 generator or retort, after which a kindling-fire is made in the pan A². This fire heats the oil in the generator and converts it into gas, which is forced out through the opening e, and thence through the pipe K, Figs. 1 and 2. In the
75 passage of the jet of gas from e through K it takes along with it a current of air from the chamber E. As soon as this action is fully established the gas ignites and the kindling-flame in the dish A² is allowed to burn out, it
80 being no longer required, as the flame from the gas generated will keep up an ample supply, and a perfect combustion is maintained so long as the oil is allowed to flow. When once started, the amount of gas generated may be regu-
85 lated by regulating the amount of oil that is allowed to flow into the generator. The diaphragms L serve to prevent any excess of oil getting into the generator.

The apparatus part regulating the flow of
90 the oil consists of a diaphragm, L, as shown at Fig. 4, and a screw, L², which serves to contract the single opening made in the diaphragm L. The general flow from the reservoir is also controlled by an ordinary hand-
95 valve.

Having thus described my invention, what I desire to secure by Letters Patent is—

The combination of the generator C² C³ C⁴ C⁵ C⁶ C⁷ C⁸ with the air-chamber E E' E² and orifice e, arranged to operate substantially as described, and for the purpose set forth.

THOMAS E. DUDLEY.

Witnesses:

HELEN M. FEEGAN,
WILLIAM EDSON.