

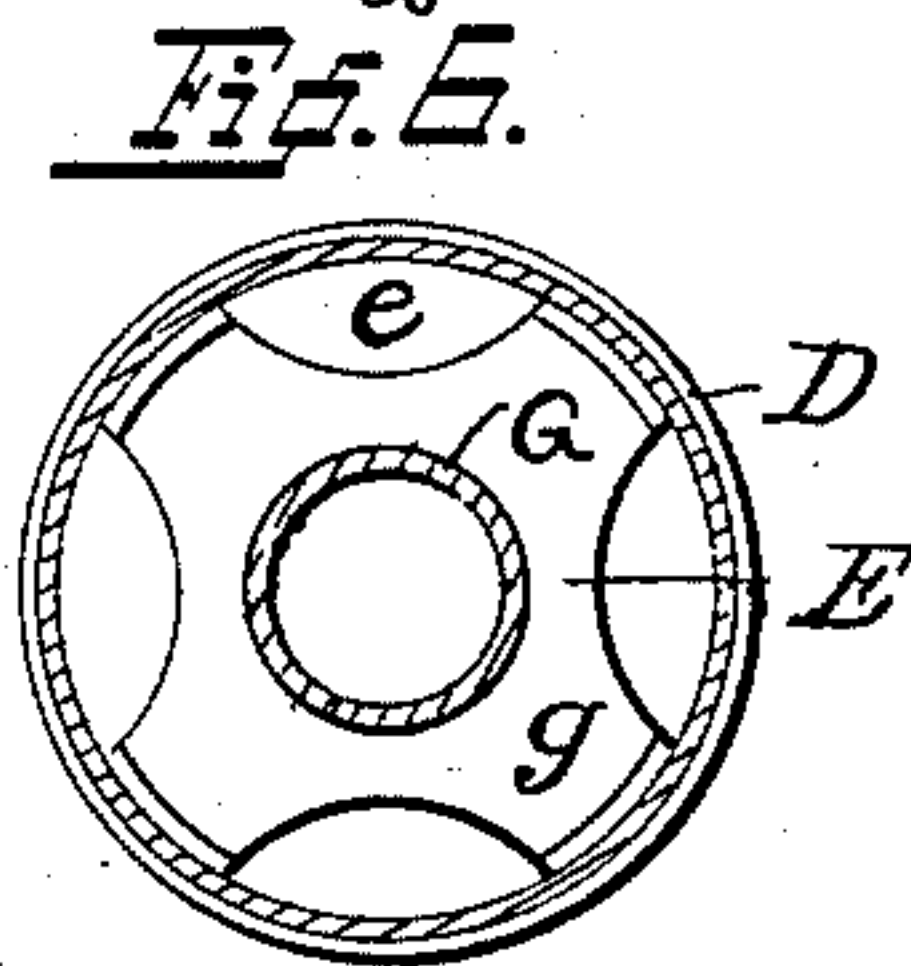
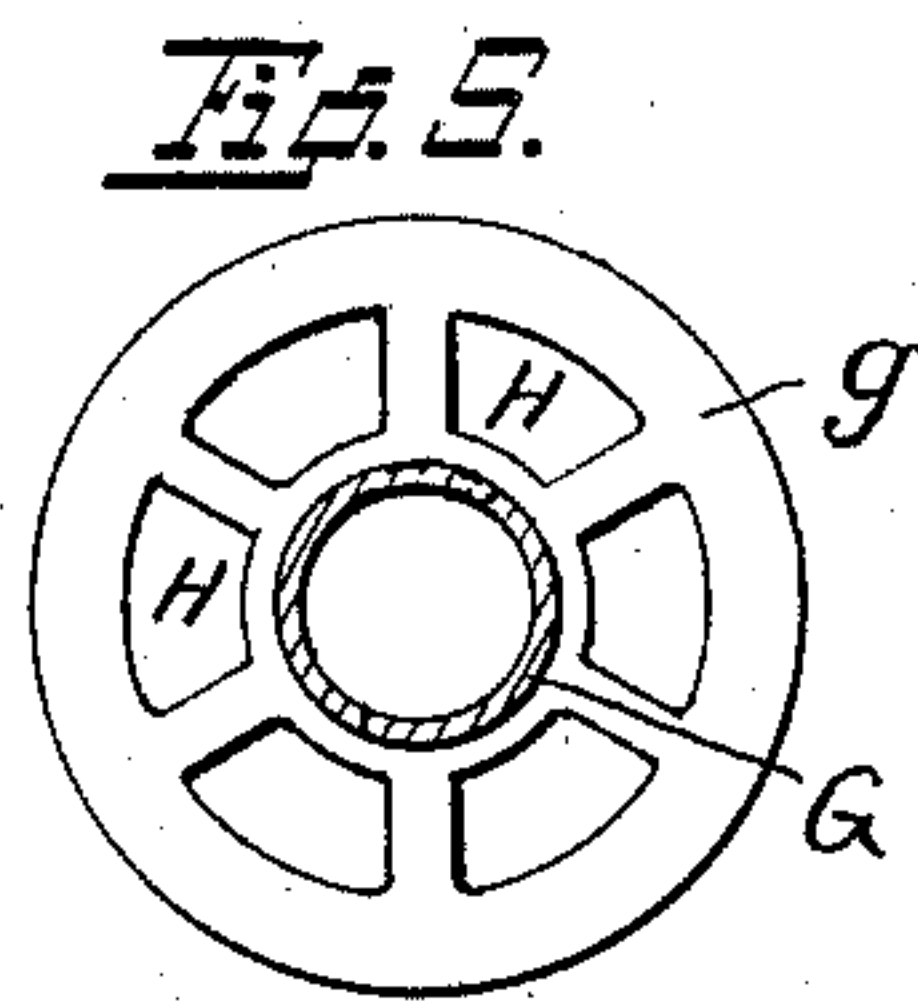
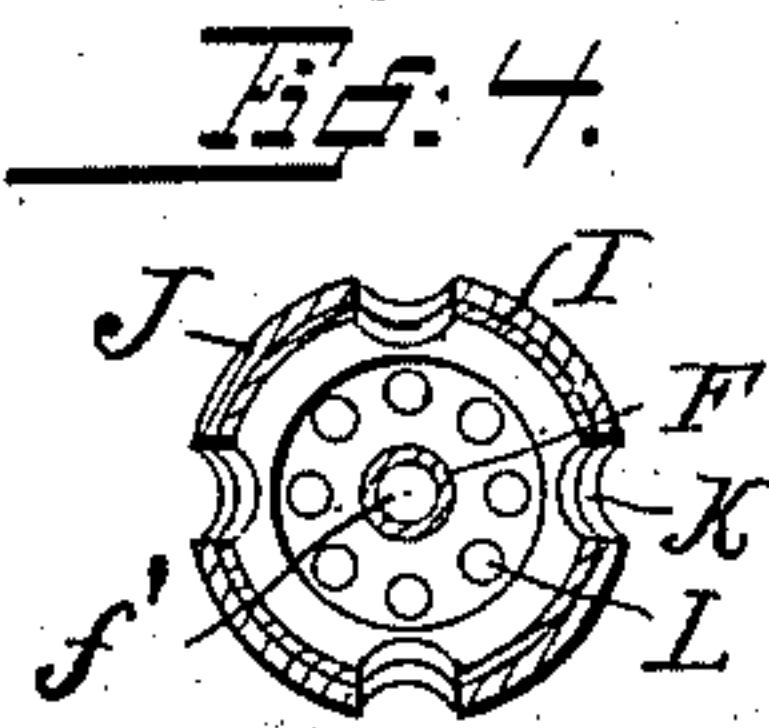
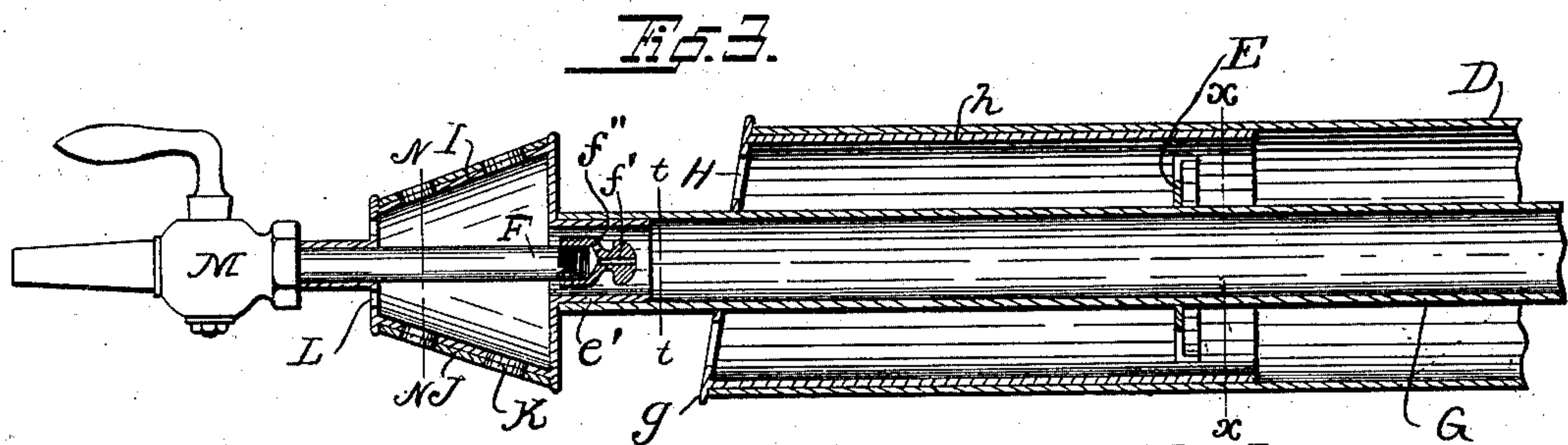
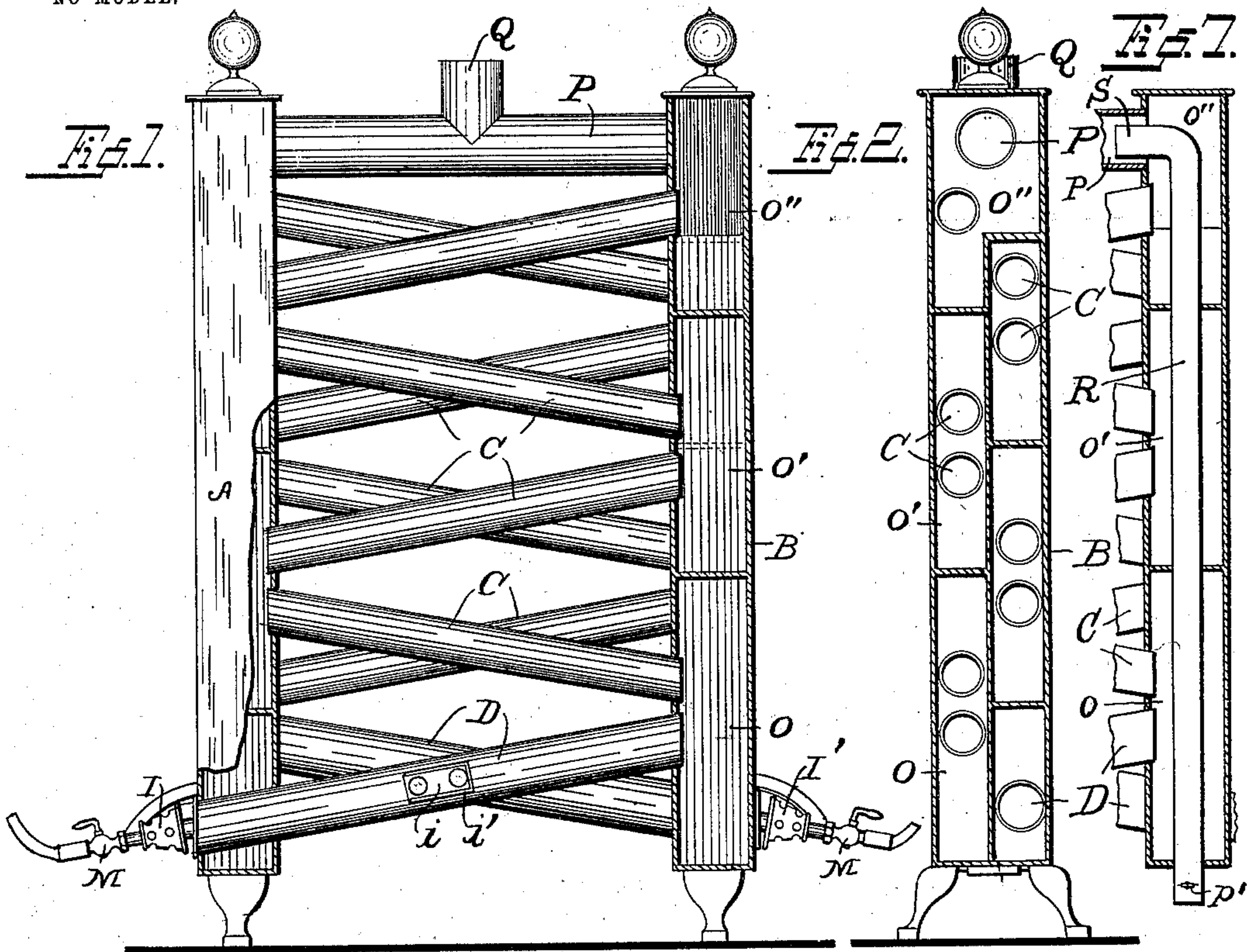
No. 752,805.

PATENTED FEB. 23, 1904.

H. A. SCHMIDT.
GAS HEATER.

APPLICATION FILED AUG. 10, 1903.

NO MODEL.



WITNESSES:

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HENRY A. SCHMIDT, OF MILWAUKEE, WISCONSIN.

GAS-HEATER.

SPECIFICATION forming part of Letters Patent No. 752,805, dated February 23, 1904.

Application filed August 10, 1903. Serial No. 169,055. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. SCHMIDT, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Gas-Heaters; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to provide a gas-burner that is arranged for the purpose of mixing and blending gas with common air, providing for a large heating-surface, and so constructed as not to allow gas to escape into the room should the flame be accidentally extinguished and the gas not turned off.

Reference being had to the accompanying drawings, Figure 1 is a front elevation of my improved heater, showing a portion of the casing broken away. Fig. 2 is a cross-section through one of the posts. Fig. 3 is a longitudinal section through the burner and one of the pipes and with parts broken away. Fig. 4 is a cross-section on line *nn* of Fig. 3. Fig. 5 is a cross-section on line *tt* of Fig. 3. Fig. 6 is a cross-section on line *xx* of Fig. 3. Fig. 7 is a longitudinal section of one post.

In the drawings, A and B are perpendicular posts, being hollow in construction and having chambers O, O', and O'', respectively, each post being partitioned, as shown in Fig. 2.

D, C, and P are conduits forming two vertical sets of zigzag pipes, making inlets and outlets to the respective chambers, and forming one continuous passage-way for heat from the bottom to the top of the heater, and all being of similar construction, excepting that pipes D and P are larger in diameter than pipes C for reasons which will be hereinafter explained.

Q is a pipe through which the air is conducted to the outside.

In Fig. 7, R is a cold-air pipe extending the entire length of posts A and B, respectively, and forming part of the partition between the inlet and outlet pipes on either side of said post and designed for the purpose of sucking up the cold air from the floor and discharging it into the pipe P at the opening in the

elbows. Secured in the lower end of pipe R is a damper *p'*.

In Fig. 3 a detailed illustration of my improved burner is shown. Secured to the valve M is a pipe terminating in a conical-shaped air-chamber I, the latter having a perforated bottom with holes L and an opening in its center *e'* for the insertion of a gas-pipe F, said chamber having flanged extensions for engagement with pipe G and perforated sides with openings K and having a closed top with an opening for insertion of gas-pipe F. Secured around said air-chamber is an outer casing J, capable of being revolved around the former and having openings corresponding to openings K, by which the quantity of air in said chamber may be regulated. Secured to gas-pipe F is a gas-tip, having an opening in its center *f'* and openings in its neck *f''*, the latter openings being on an angle, so that the gas forced from the same will strike the surface of the pipe on an angle, and thereby be deflected. Pipe G is permanently secured in a tube *h* by means of partition E and end *g*, the latter having openings H, as shown in Fig. 5, partition E having openings *e*. The tube *h* is arranged to be inserted into pipe D, so as to be withdrawn at pleasure.

The operation of my invention is such that when the gas is lighted in the burner air will be drawn into the air-chamber through openings L and K, thence into pipe G through the space between gas-pipe F and flanges *e'*. The openings L not being adjustable are always open and will permit of a draft that will carry escaping gas through the pipes D C, posts A and B, pipe P, and pipe Q to the outside. The openings H in end *g* of pipe *h* and the opening *e* in partition E are provided to admit air into pipe D, thus forming a mixing-chamber and aiding in a more perfect combustion, these openings also forming a draft that will assist in carrying away escaping gas up through the conduits before described to the outside. The object of having pipes D large and C smaller is that the air will expand in the former and be condensed in the latter, causing the heat to radiate. This same

effect is produced as the heat travels upward by reason of the pipes all being smaller than the chambers in the posts.

In order to ignite the gas in my burner, I
5 have provided an opening in pipes D, fitted with a slide *i*, adapted to be reciprocated in grooved cleats *i'*.

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

1. On a gas-heater having two perpendicular hollow posts connected together by zigzag pipes, partitions in said posts, and a cold-air
15 pipe forming a part of the former, a suitable gas inlet and outlet substantially as set forth.

2. In a gas-heater, the combination of two posts arranged opposite to each other, vertical and lateral partitions in said posts forming
20 chambers, a cold-air pipe forming a part of said partition, two series of conduit-pipes ar-

ranged in vertical zigzag form and forming inlet and outlet ports for said chambers, a suitable gas-inlet, means for mixing air with the gas and means for preventing the escape
of gas, substantially as set forth. 25

3. On a gas-heater having two opposite perpendicular posts, zigzag pipes and partitions arranged to form a continuous passage-way for hot air, and a cold-air pipe forming a part
of said partition; means for mixing air with
the gas and means for preventing the escape
of gas substantially as set forth. 30

In testimony that I claim the foregoing I
have hereunto set my hand, at Milwaukee, in
the county of Milwaukee and State of Wis- 35
consin, in the presence of two witnesses.

HENRY A. SCHMIDT.

Witnesses:

RUBY GRIFFIN,
JESSE L. EDGREN.