

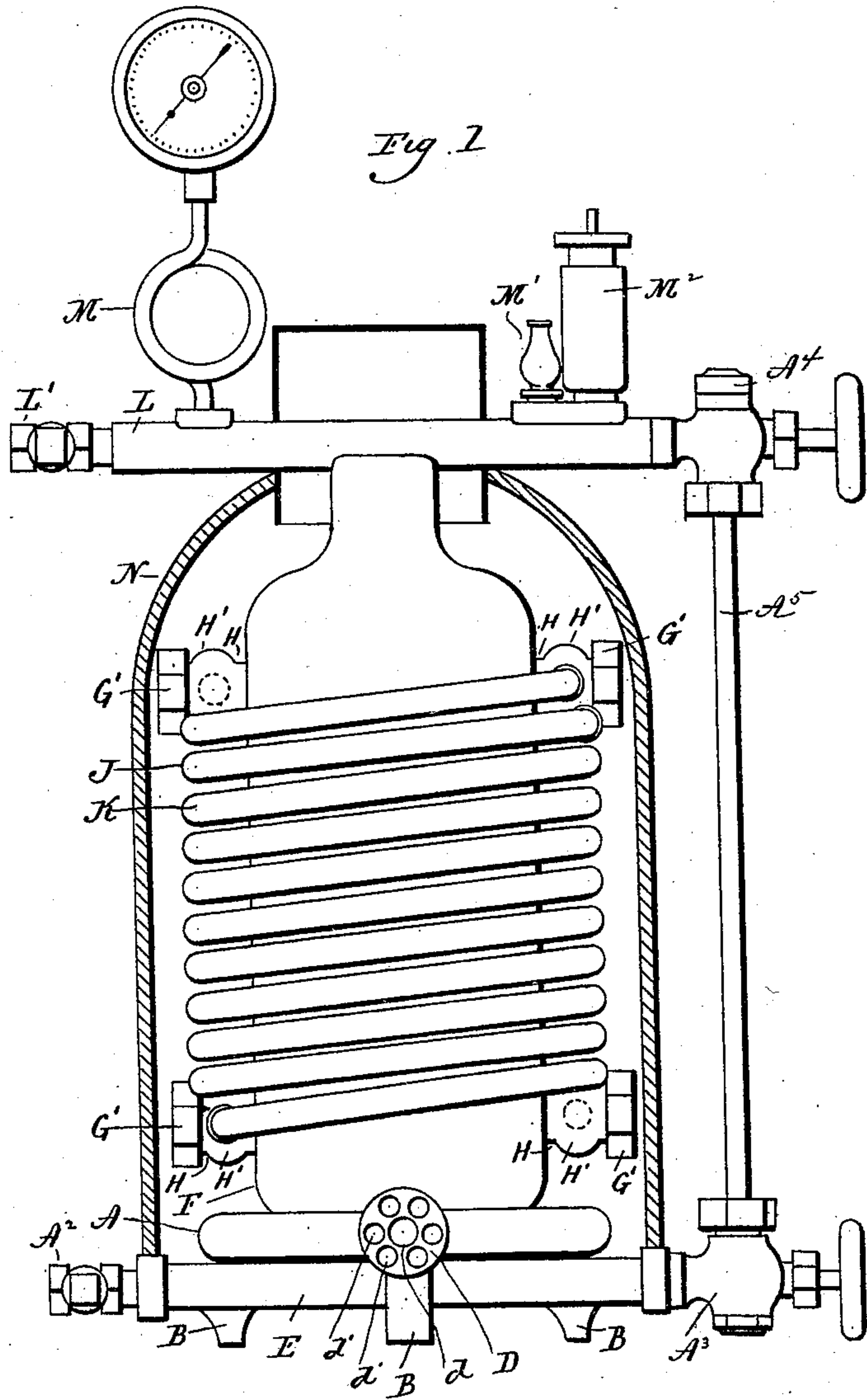
(No Model.)

4 Sheets—Sheet 1.

A. G. HOHENSTEIN.
STEAM GENERATOR.

No. 587,148.

Patented July 27, 1897.



Witnesses
J. H. Shannon
Lillian D. Kellogg

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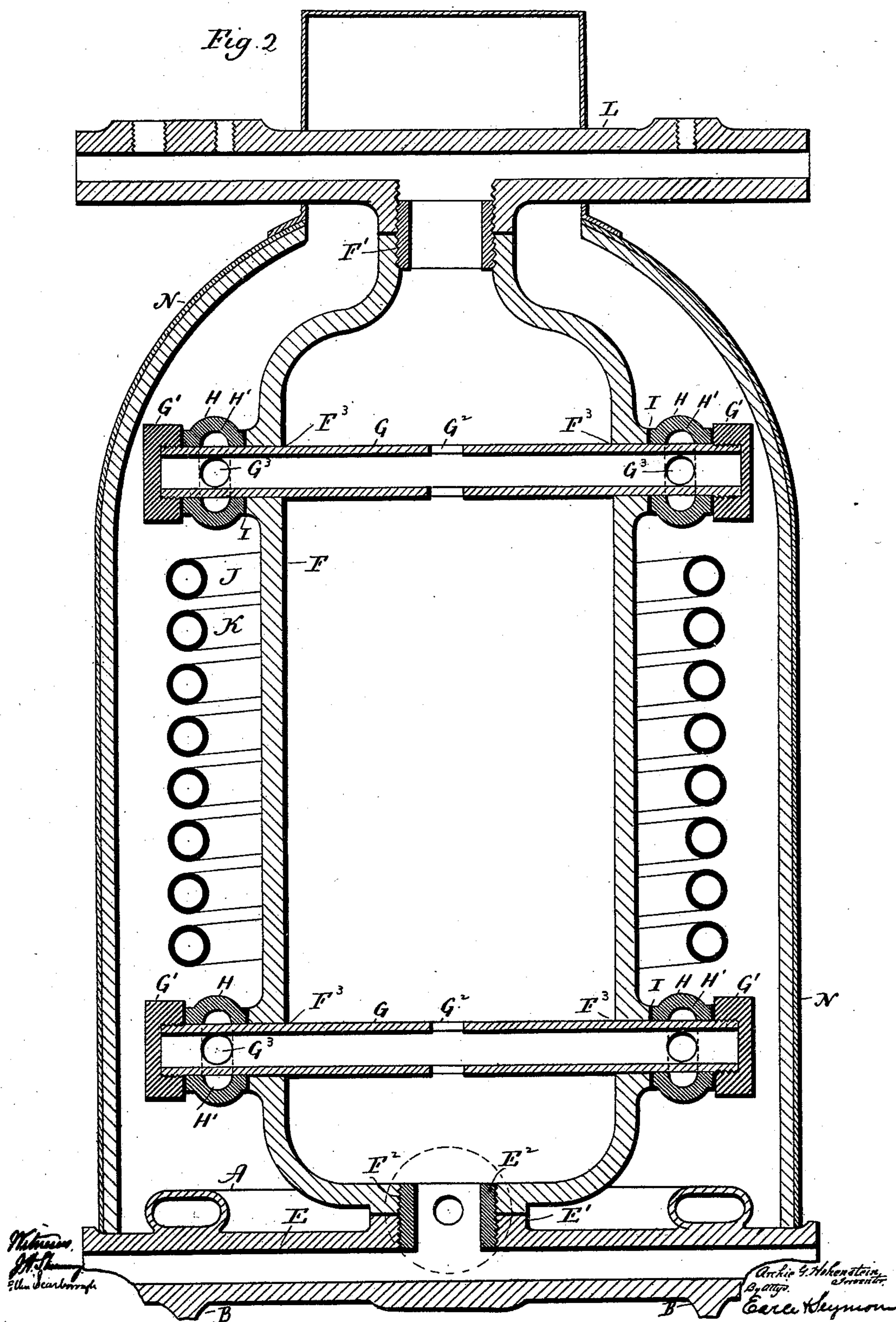
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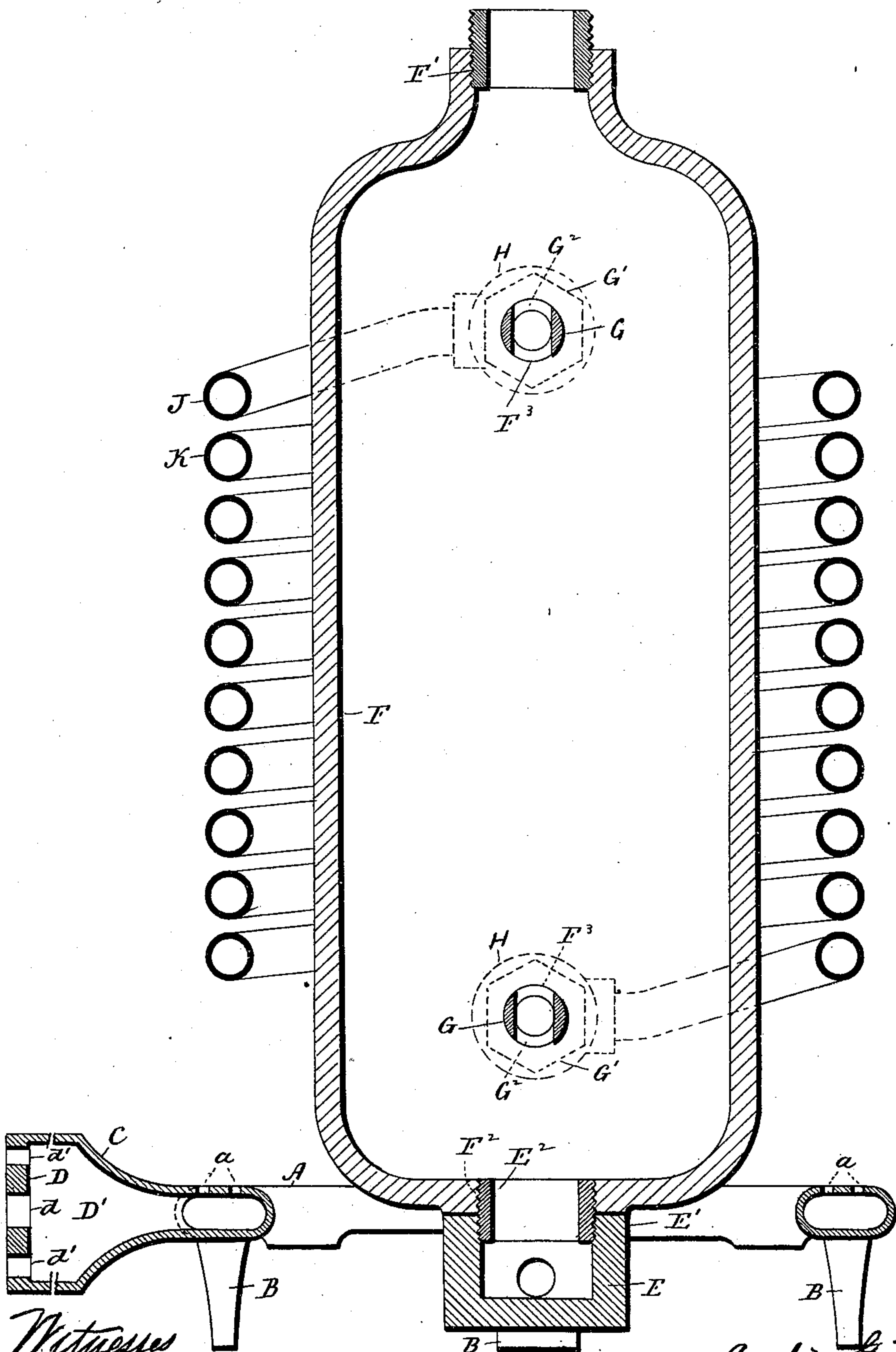
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Fig. 3



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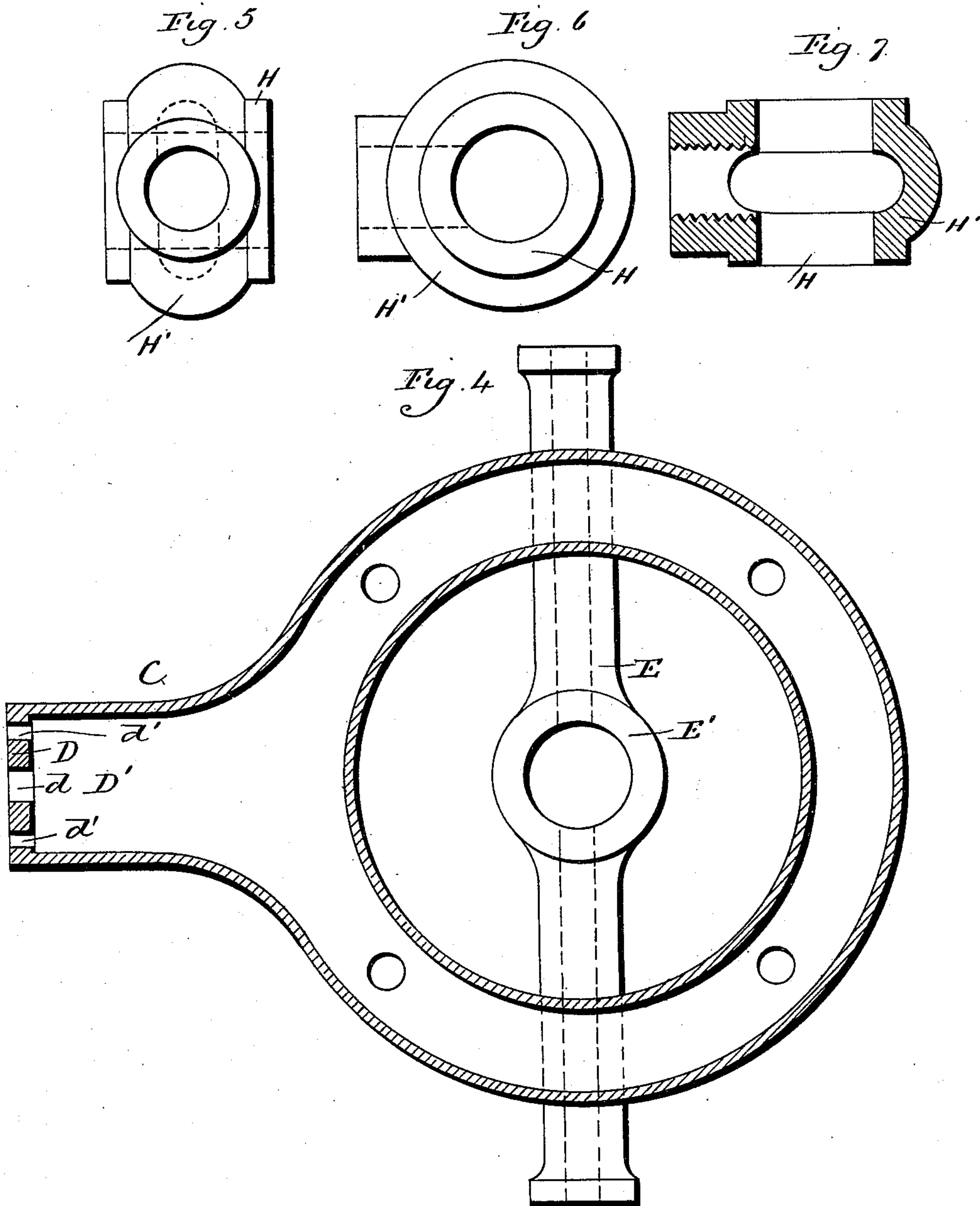
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A. G. HOHENSTEIN.
STEAM GENERATOR.

No. 587,148.

Patented July 27, 1897.



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UNITED STATES PATENT OFFICE.

ARCHIE G. HOHENSTEIN, OF NEW HAVEN, CONNECTICUT, ASSIGNOR OF TWO-THIRDS TO THE BUCKINGHAM ROUTH & COMPANY, OF SAME PLACE.

STEAM-GENERATOR.

SPECIFICATION forming part of Letters Patent No. 587,148, dated July 27, 1897.

Application filed April 3, 1897. Serial No. 630,608. (No model.)

To all whom it may concern:

Be it known that I, ARCHIE G. HOHENSTEIN, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Steam-Generators; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view with the outer shell in section; Fig. 2, a sectional side view of the principal parts of the invention enlarged; Fig. 3, a sectional view at right angle to that shown in Fig. 2; Fig. 4, a horizontal section through the burner; Figs. 5, 6, and 7, detailed views of the T.

This invention relates to an improvement in steam-generators, the principal object being to produce a generator simple in construction and effective in operation which is particularly adapted for clearing and cleaning conduit-pipes of beer and ale pumps—that is, the pipes which lead from the barrels or kegs in the cellar to the faucets from which the contents of the barrel are drawn; and the invention consists in the details of construction and combination of parts, as will be hereinafter described, and particularly recited in the claims.

One feature of the invention resides in the fact that the base is formed complete in a single casting and not only provides for certain conduits, as will be hereinafter mentioned, but also supports the entire device; and it consists of a ring A, supported by four or more legs B, said ring provided at one point with a flaring mouth C, the end of which is closed by a plate D, forming a chamber D'. The center of the plate is provided with an opening *d*, which is adapted to be coupled with a gas-supply pipe. (Not shown.) Around the opening *d* are air-inlets *d'*. In the surface of the ring A are various burning-apertures *a* in the manner of ordinary gas-stoves. Transversely across the base of the ring and at right angles to the mouth C is a water-pipe

E, formed integral with the base and projecting beyond the same at opposite sides and provided at its center with an upwardly-turned boss E', which is internally threaded. One end of this pipe is provided with a valve A² for engagement with the source of water-supply and at the opposite end with a water-gage valve A³ of usual construction.

F is a drum, of cast or wrought iron, formed with a threaded outlet-opening F' at its upper end and with a threaded inlet-opening F² at the lower end, the opening F² being adapted to be coupled to the boss E' by a ring E², whereby the drum is coupled to the base, so as to be supported thereby. In opposite sides of the drum and near the upper and lower ends are openings F³, and extending through these openings are pipes G, the ends of which projecting beyond the drum are threaded to receive nuts G'. In the center of these pipes G are openings or holes G², and near each end are similar holes G³. Over each end of the pipes G is placed a T H, the horizontal opening of which corresponds substantially to the size of the pipes G, so as to fit closely thereon, while the chamber or central portion H' of the T is enlarged. These T's are held upon the pipes and forced against the sides of the drum by the nuts G', before mentioned, it being understood that washers or gaskets I are inserted at the ends of the T to pack the joints.

The upper and lower T of each side are connected by independent coils J K, which are so intertwined as to present the appearance of a single coil, but which coil extends from the upper T on one side of the drum to the lower T on the opposite side of the drum and so provide a circulating-passage outside the drum.

To the outlet-opening F' is coupled an outlet-pipe L, which is provided at one end with a valve L' for connection with the pipes to be cleaned and at the opposite end with water-gage valve A⁴, between which and the valve A³ is a glass indicator-tube A⁵. Also arranged in the pipe L is an indicator M, air-vent M', and safety-valve M², all of usual construction. The drum and coils are inclosed by a shell

N, which surrounds the central portion of the pipe L and rests at the lower end upon the base.

The operation of the device is as follows:

5 After the drum is filled with water, gas, naphtha, or other hydrocarbon is admitted through the openings *d* and air through the openings *d'*, and it may here be mentioned that to improve the combustion and to secure a sufficient amount of air the openings *d'*, or one of them, may be connected with the air-pump usually found in places where generators of this character are employed. The air and gas mingle in the chamber *D'* and pass into 15 the ring *A*, where it escapes through the openings *a* and is there ignited. The heated water naturally rising passes through the openings *G*² in the upper transverse pipe *G* and flows in opposite directions and into the coils *J K*, 20 thence downward and through the lower pipe *G*, and again enters the drum, and thus keeps a constant circulation. The steam generated passes upward through the outlet *F'* and pipe *L* and is delivered through the valve *L'* to the 25 pipe which is coupled to the valve for the purpose of being cleaned. The transverse pipes *G* not only act as means of circulation, but also brace the drum. The pipe *L* being coupled to the drum and the drum to the 30 base forms an integral construction and the pipe *L* a convenient handle for lifting the device for transportation.

It is apparent that in carrying out my invention various changes in the construction and arrangement of some of the details may be made. I therefore do not wish to be understood as limiting my invention to the exact form shown; but,

40 Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a generator, the combination with the drum, of a base for supporting said drum and comprising a burner-ring, an inlet therefor, 45 and a transverse passage for the inlet of wa-

ter, which passage opens into the drum and projects on opposite sides of the base, substantially as described.

2. In a generator, the combination with the drum and coils thereof, of a base for supporting said drum comprising a burner-ring, inlet therefor, said inlet enlarged and formed with air-openings around the gas-inlet, and a transverse passage integral with the base for the inlet of water, which passage opens into the 55 drum and projects on opposite sides of the base, substantially as described.

3. In a generator, the combination with the drum thereof, of transverse pipes extending through the drum near the upper and lower 60 ends thereof, said pipes formed with central holes and with transverse holes outside the said drum, *T*'s applied to the outer ends of said pipes and clamped thereon by nuts which close the ends of said pipes, the upper *T*'s on 65 the opposite sides of the drum connected with the lower *T*'s by independent coils, whereby a double circulation is provided between the ends of the drum, substantially as described.

4. In a generator, the combination with the 70 drum thereof, of transverse pipes extending through the drum near the upper and lower ends thereof, said pipes formed with central holes and with transverse holes outside the said drum, *T*'s applied to the outer ends of 75 said pipes and clamped thereon by nuts which close the ends of said pipes, and formed with chambers into which the holes near the ends of the pipe open, the upper *T*'s on the opposite sides of the drum connected with the 80 lower *T*'s by independent coils, whereby a double circulation is provided between the ends of the drum, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses. 85

ARCHIE G. HOHENSTEIN.

Witnesses:

ARTHUR R. THORPE,
FRED C. EARLE.