

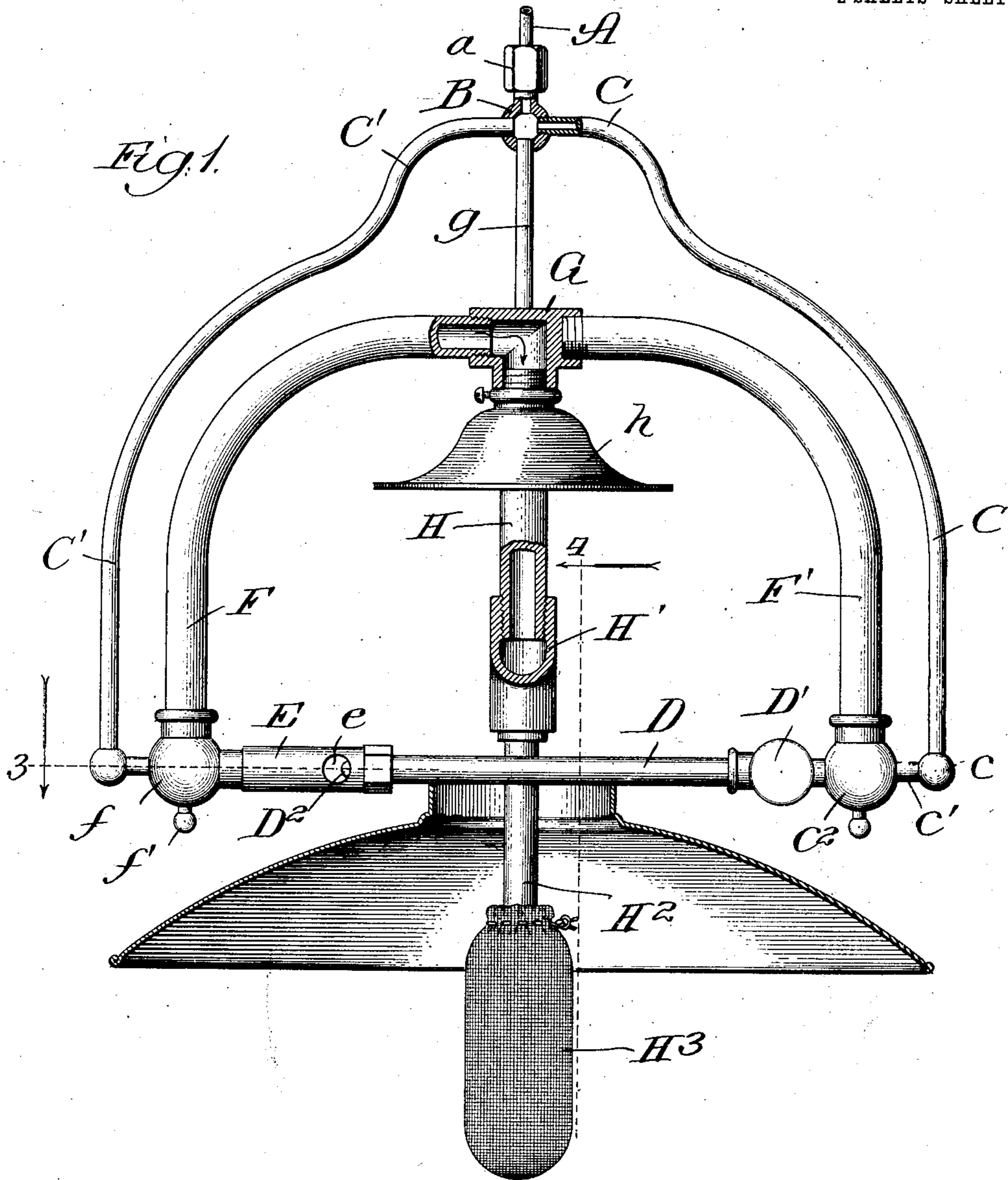
No. 896,425.

PATENTED AUG. 18, 1908.

J. J. WEYER.
GASOLENE LAMP.

APPLICATION FILED FEB. 16, 1907.

2 SHEETS—SHEET 1.



Witnesses:
C. O. Gaylord,
John Enders,

Inventor:
Joseph J. Weyer,
By Dyrenforth, Dyrenforth, Lee & McLean,
Attys.

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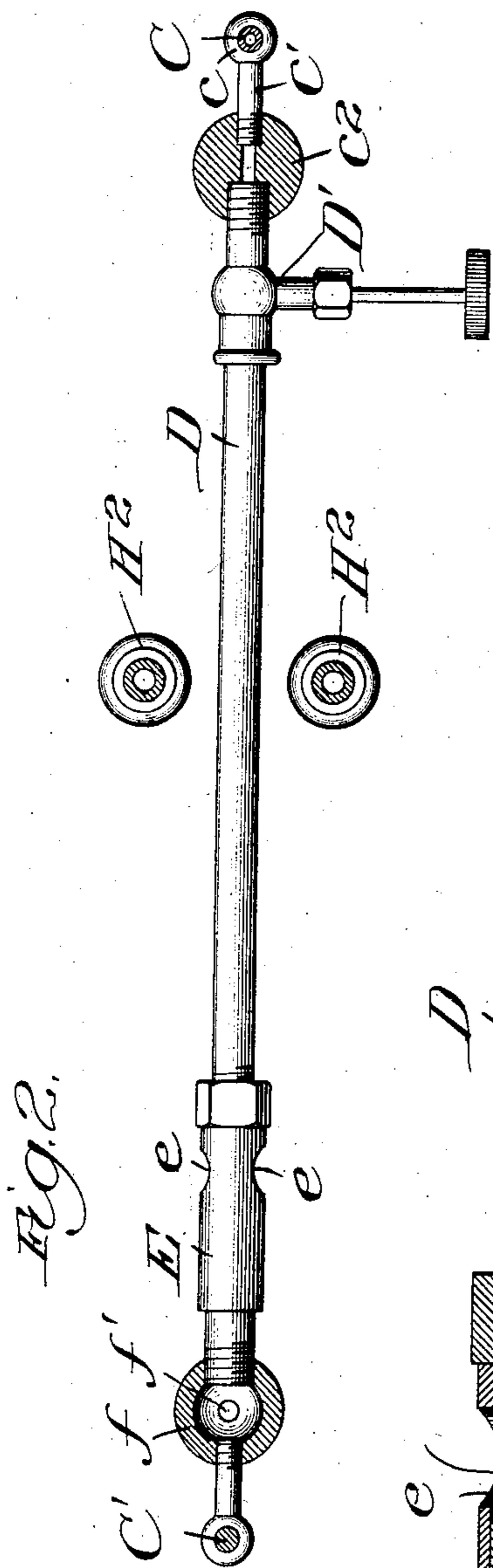
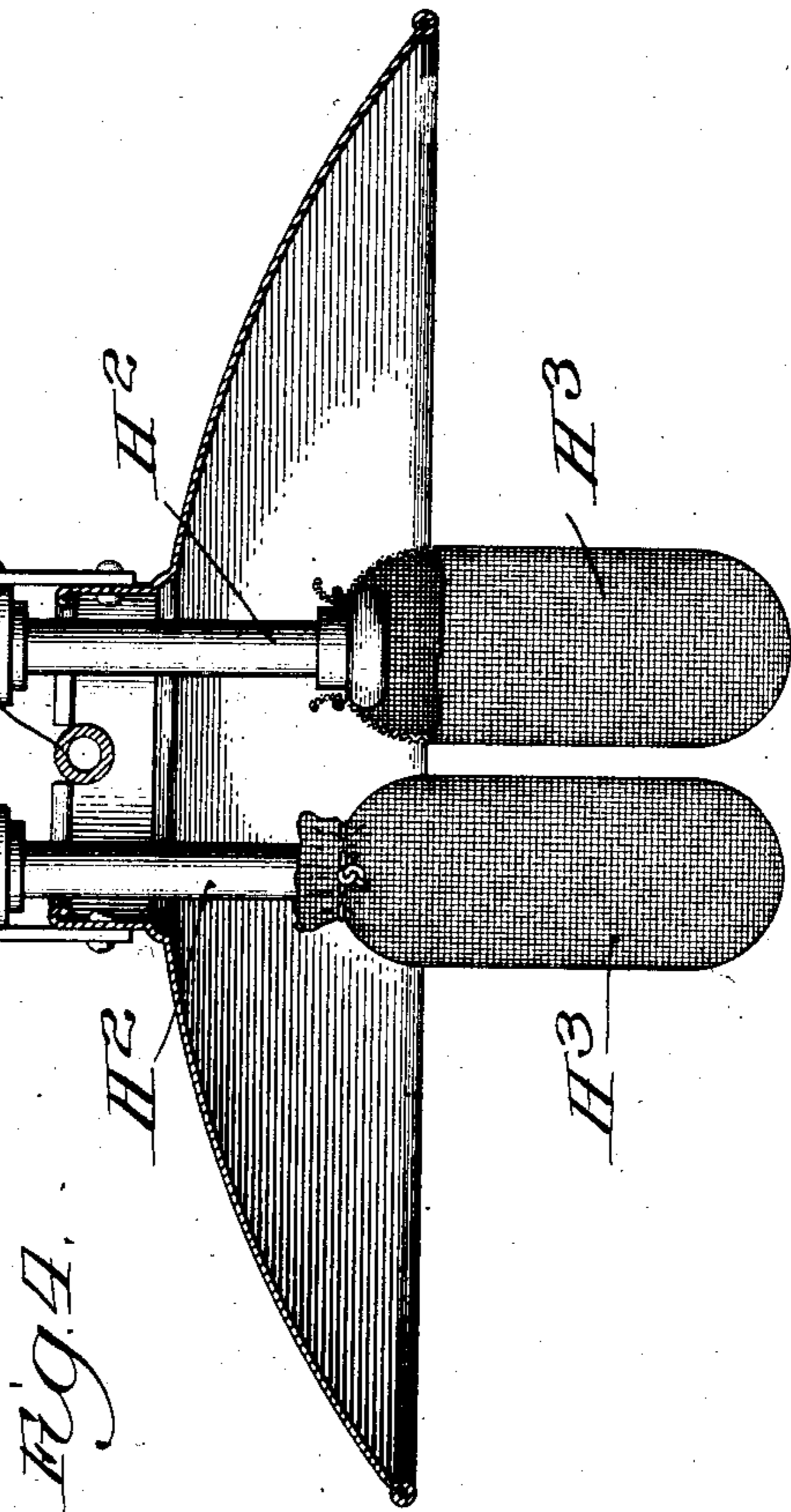
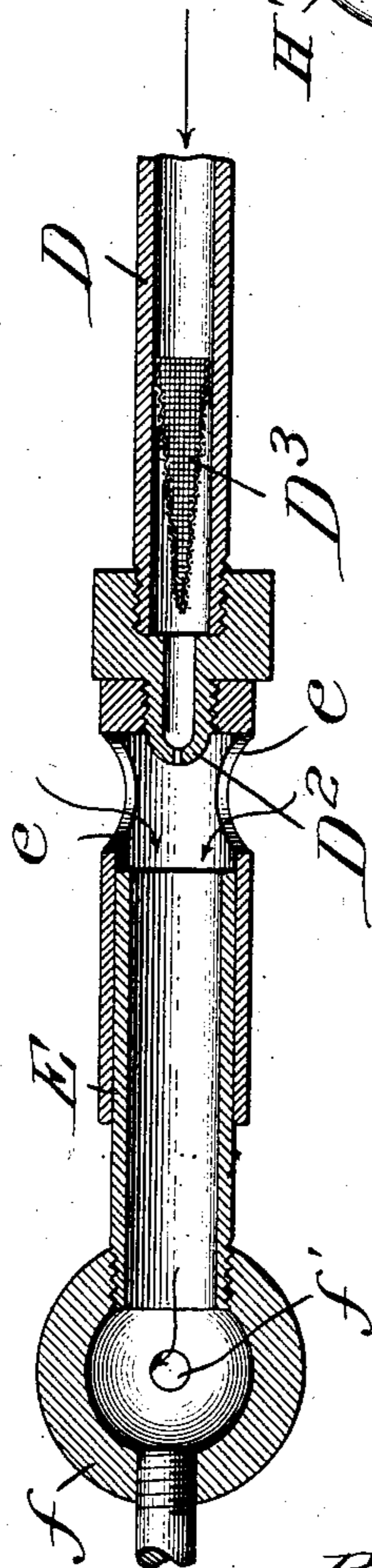


Fig. 3.



Witnesses:
Edw. Gaylord,
John Enders.

Inventor:
Joseph J. Weyer,
By Dyrenforth, Dyrenforth, Lee & Wiles,
Attys.

UNITED STATES PATENT OFFICE.

JOSEPH J. WEYER, OF CHICAGO, ILLINOIS, ASSIGNOR TO BOLTE & WEYER COMPANY,
OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

GASOLENE-LAMP.

No. 896,425.

Specification of Letters Patent.

Patented Aug. 18, 1908.

Application filed February 16, 1907. Serial No. 357,606.

To all whom it may concern:

Be it known that I, JOSEPH J. WEYER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Gasolene-Lamp, of which the following is a specification.

My invention relates to certain new and useful improvements in gasolene lamps and is fully described and explained in the following specification and shown in the accompanying drawing, in which:—

Figure 1 is an elevation of my improved lamp, certain parts being broken away to show the construction, and the shade being shown in section; Fig. 2 is a section taken on the plane indicated by the line 3 of Fig. 1, the generator tube and the cylindrical parts in line therewith being, however, shown in elevation; Fig. 3 is a section in the line 3 of Fig. 1; and Fig. 4 is an elevation of certain of the parts looking in the direction of the arrow 4 in Fig. 1.

My improved lamp is particularly designed to be used in connection with a hollow wire system of lighting, in which system a gasolene tank is provided at some convenient point and placed under air pressure or elevated to a sufficient height to produce a gasolene head at all elevations where lamps are situated. From the gasolene tank I extend a hollow wire to the points where lamps are to be placed and to this hollow wire I secure branches, one of which is indicated at A in Fig. 1. It will be readily understood that in laying out a system of this kind the position and arrangement of the gasolene tank is entirely immaterial, the only essential thing with reference to the construction of the lamps being that a hollow wire such as the branch, A, shall be provided, to which the lamp can be secured and some means be provided by which the gasolene under pressure can be supplied to said branch. It is often desirable, for instance, to supply a separate tank with each lamp, although the usual practice is to use a single tank for a large number of lamps. Owing to the great variation which can be made in the arrangement of the gasolene tank, and to the fact that this construction is old and well known in the art, I do not illustrate it in the drawings herewith submitted, but

state merely that the branch, A, is normally supplied with gasolene under pressure.

At the upper end of the lamp structure is a fitting, B, which, in the preferred form of construction, is made of a globular shape, which gives an ornamental appearance to the lamp. The upper portion of this fitting is connected to the branch, A, by means of a union, *a*, of ordinary form. Fluid entering the top of the fitting, B, from the branch, A, passes therefrom into a tube, C, of hollow wire, which extends laterally from the fitting, B, and downward in a general diagonal direction, the said tube, C, being given a curved form as illustrated largely for the sake of appearance. From the opposite side of the fitting, B, extends a rod, C¹, curved like the tube, C, and having symmetrical relation with respect thereto. This rod has no function except to assist in supporting the lamp and to produce a symmetrical appearance. The gasolene flows down the tube, C, passes through an angle fitting, *c*, a short tube, *c*¹, and a second fitting, *c*², into a generator tube, D, its passage through said generator tube being controlled by means of a valve, D¹.

The generator tube, D, is heated by means which will presently be described and while passing therethrough the gasolene is vaporized and emerges from the end of said generator tube in the form of gas, passing into a mixing tube, E, perforated at *e* for the entrance of air and its mixture therewith with the gasolene vapor. The generator tube, D, it will be seen, has at its end a nozzle, D², and just to the rear of this nozzle is a conical strainer, D³, of fine gauze, the point of said conical strainer being turned toward the nozzle of the generator tube.

After passing through the mixing tube, E, the mixed vapor of gasolene and air enters an angle fitting, *f*, similar to and symmetrically disposed with reference to the fitting, *c*², already referred to, and from said fitting passes up through a tube, F, to a central angle fitting, G, immediately below the fitting, B, and connected to said fitting and taking support therefrom by means of a rod, *g*. The fitting, *f*, is closed at its bottom by means of a removable plug, *f*¹, which is provided so that in case fuel is accidentally turned on before the generator tube becomes hot so that

the fitting, *f*, becomes flooded, the plug can be removed to permit the gasoline to flow off. In order to give the lamp a symmetrical appearance, a similar dummy plug is provided at the lower end of the fitting, *c*², and the solid rod, *C*¹, is connected with the fitting, *f*, by a construction similar to the corresponding construction on the opposite side of the lamp. In a similar way and for a like purpose, I connect the fitting, *G*, with the fitting, *c*², by means of a dummy pipe, *F*¹. Thus it will be seen that I have on one side of the lamp a gasoline tube of small diameter and on the other side of the lamp a mixed vapor tube of large diameter, the ends of said two tubes being connected by the generator and mixing tubes. The gasoline tube and the mixed vapor tube are duplicated in appearance and in supporting strength upon the opposite side of the lamp, but the parts thus used are wholly idle and their primary purpose is one of appearance.

From the fitting, *G*, a regenerating tube, *H*, extends downward, said regenerating tube supporting at its lower end a bifurcated fitting, *H*¹, from each of the furcations of which a burner tube, *H*², extends downward, mantles, *H*³, of the inverted type, being secured to the lower ends of said burner tubes. A shield, *h*, is mounted upon the upper portion of the regenerator tube, *H*, and said shield serves to concentrate the heat rising from the mantles about the regenerator tube.

My device operates substantially as follows: The gasoline passes down the tube, *C*, in the ordinary way and into the generator tube, where it is transformed into vapor, issuing from said generator tube through the nozzle and passing into the mixing tube, where it is mixed with air to form a combustible mixture. The mixed vapor passes up through the tube, *F*, and through the fitting, *G*, into the regenerating tube, *H*, where its course becomes a downward one. It is then divided into two parts and passes down the two burner tubes, below the lower ends of which it is burned within the mantles so as to produce light in the ordinary way. The heat rising from the combustion of the mixed vapor within the mantles heats the generator tube and passing therefrom upward, surrounds the regenerating tube, *H*, with a complete envelop of extremely hot gas, so that the vapor passing downward through said tube is heated to a considerable extent, with the result that more perfect combustion and a great economy of fuel is obtained.

What I claim as new and desire to secure by Letters Patent is:—

1. The combination with a horizontal generator tube and a valve for controlling the flow of fuel thereto, a nozzle on the end of the generator tube, a fuel pipe leading upward from the intake end of the generator tube and having connection with a source of

fuel supply at a point vertically above the line of the generator tube, of a mixing tube in line with the generator tube and in position to receive the discharge from the nozzle thereof, a mixed vapor tube running upward from the mixing tube and laterally to a point beneath the upper end of the fuel pipe, a rod connecting the upper end of the fuel pipe with the upper end of the mixed vapor tube, a superheater tube running downward from the upper end of the mixed vapor tube and in line with said rod, and a burner in inverted position below the generator tube and supported by the superheater tube.

2. The combination with a generator tube and a valve for controlling the flow of fuel thereto, of a nozzle on the end of the generator tube, a fuel-pipe leading from a source of fuel supply to the intake end of the generator tube, a mixing tube in position to receive the discharge from the nozzle, a mixed vapor tube running upward from the mixing tube to a point above the line of the generator tube, a hollow globular fitting connecting said mixing and mixed vapor tubes, a removable plug at the bottom of said globular fitting whereby the parts can be drained of liquid fuel, and a tube supporting a burner running downward from the upper end of the mixed vapor tube and supporting a burner beneath the generator tube.

3. The combination with a generator tube, a valve for controlling the access of fuel thereto and a nozzle upon one end thereof, of a fuel pipe leading from a source of fuel supply to the opposite end of said generator tube, a mixing tube in position to receive the discharge from the nozzle, a mixed vapor tube running upward from the mixing tube and laterally to a point above the line of the generator, a superheater tube running downward from the upper end of the mixed vapor tube, a bifurcated fitting at the lower end of the superheater tube and lying in a plane at right angles to the line of the generator tube, a burner tube running down from each branch of said bifurcated fitting, one of said burner tubes lying on each side of said generator tube, and a burner in inverted position at the lower end of each of said burner tubes.

4. The combination with a generator tube and a valve for controlling the flow of fuel to the same, said generator tube lying in a horizontal position, of a nozzle on the end of said generator tube, a fuel-pipe leading upward from the intake end of the generator tube and extending laterally to a centrally-disposed point above the generator tube, a mixing tube in position to receive the discharge from the nozzle, a mixed vapor tube running upward from the mixing tube and extending laterally to a point in line with the upper end of the fuel pipe, a rod connecting the upper ends of said fuel-pipe and the mixed vapor tube, a superheater running downward from

the upper end of said mixed vapor tube and in line with said rod, a bifurcated fitting on the lower end of said superheater and in a plane at right angles to the generator tube, a
5 burner tube running down from each branch of said bifurcated fitting, one of said burner tubes lying on each side of said generator tube, and a burner in inverted position at the end of each of said burner tubes.

JOSEPH J. WEYER.

In presence of—

R. A. SCHAEFER,

K. M. CORNWALL.