

(No Model.)

M. POSCHINGER & H. VOGT.
STAND PIPE FOR AMMONIA GAS GENERATORS.

No. 436,994.

Patented Sept. 23, 1890.

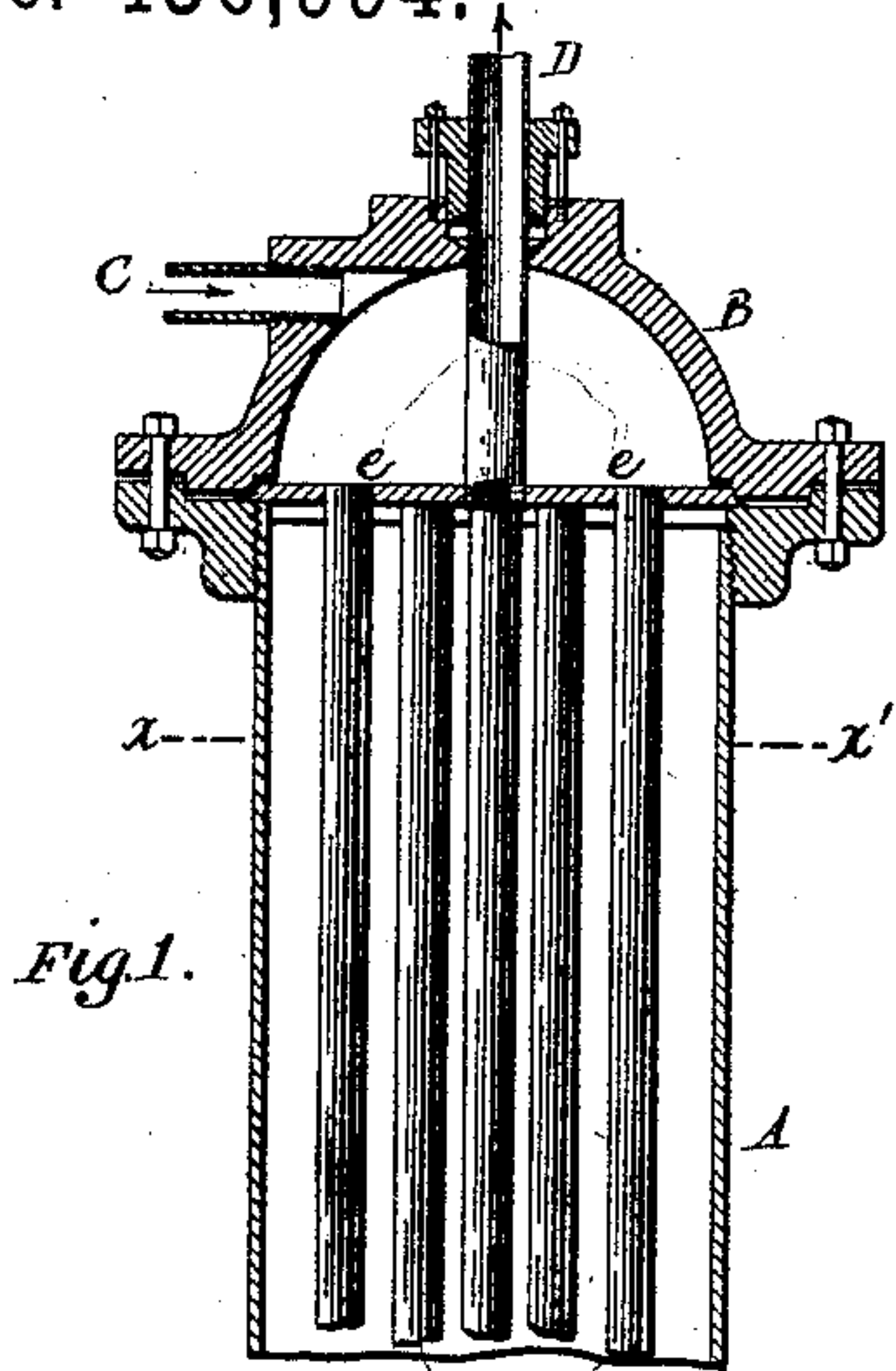


Fig. 1.

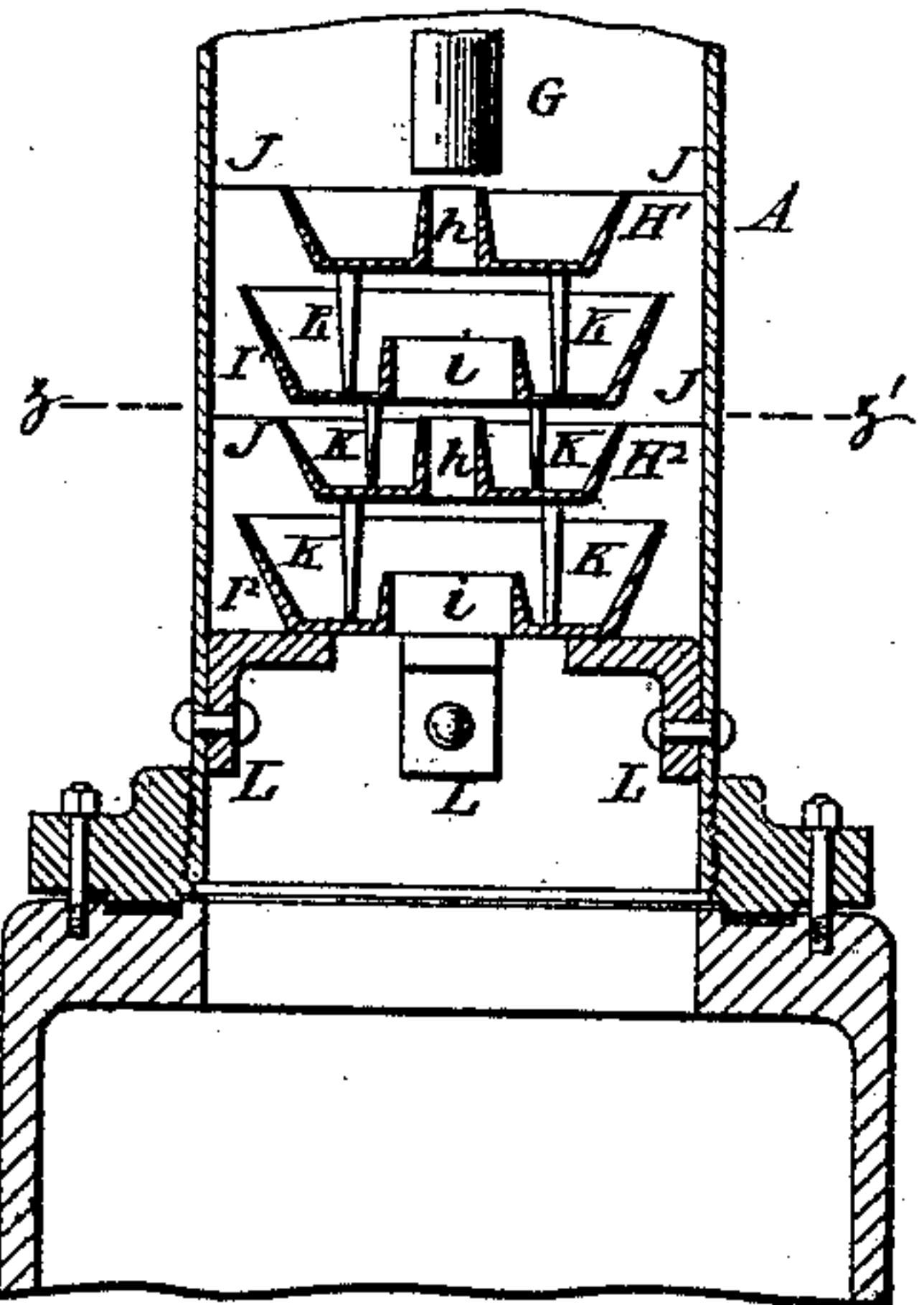
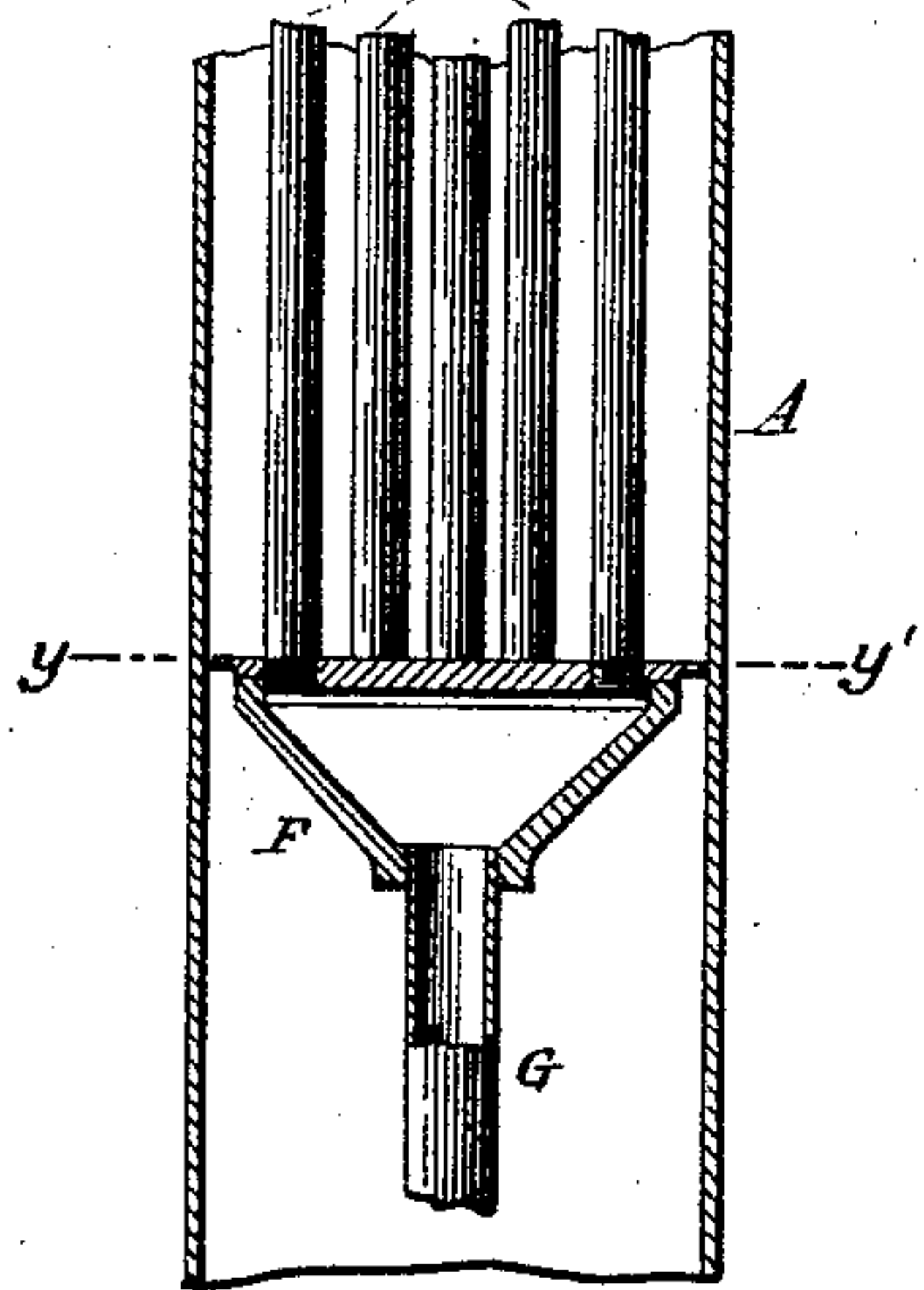


Fig. 2.

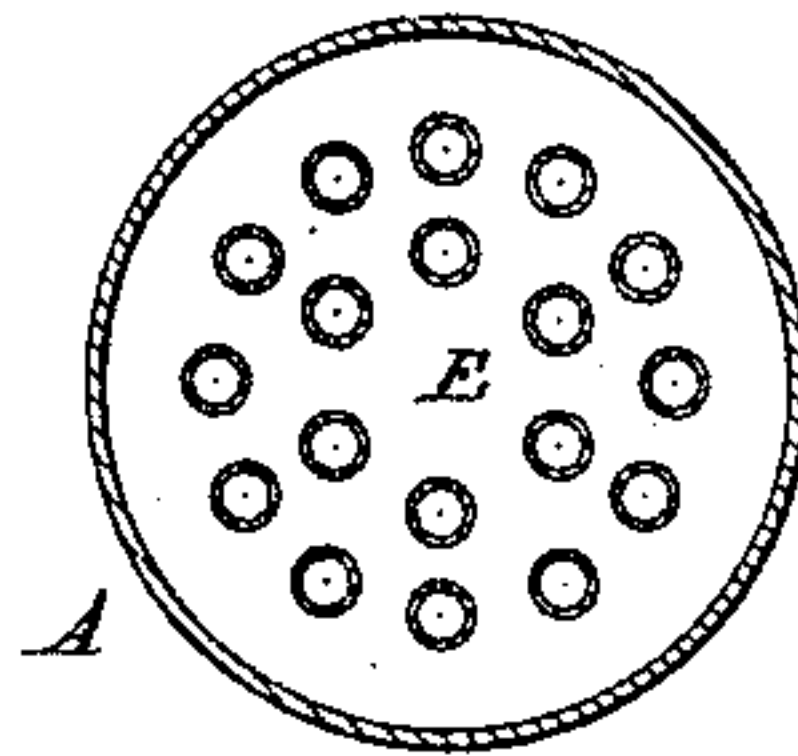


Fig. 3.

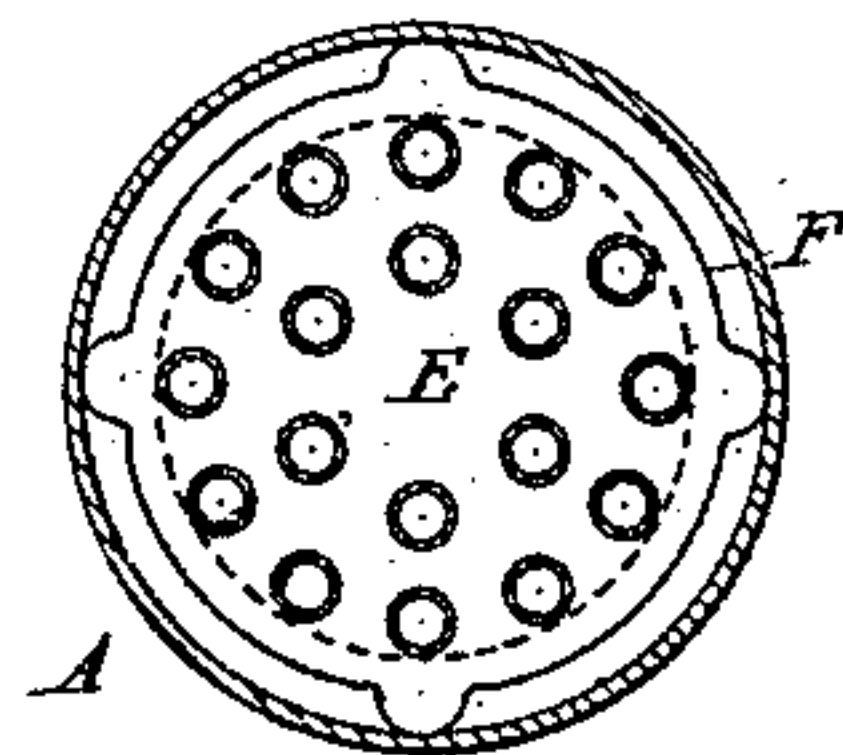
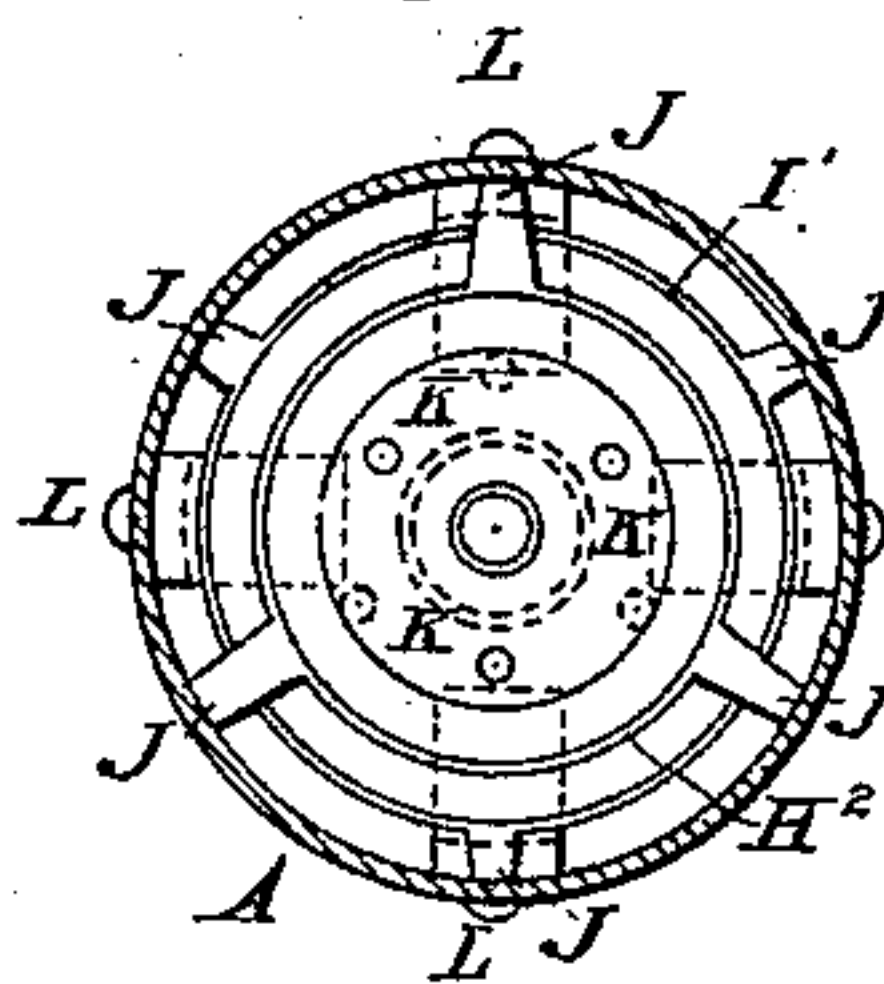


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

MATHIAS POSCHINGER AND HENRY VOGT, OF LOUISVILLE, KENTUCKY.

STAND-PIPE FOR AMMONIA-GAS GENERATORS.

SPECIFICATION forming part of Letters Patent No. 436,994, dated September 23, 1890.

Application filed November 23, 1889. Serial No. 331,310. (No model.)

To all whom it may concern:

Be it known that we, MATHIAS POSCHINGER and HENRY VOGT, citizens of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Stand-Pipes for Ammonia-Gas Generators; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to stand-pipes for ammonia-gas generators; and it consists in a certain new and novel combination of devices, all of which will be hereinafter fully set forth.

This invention is intended for use in connection with a gas-generator for producing artificial cold, and particularly for use with the ammonia-gas generator for which Letters Patent No. 376,905 were granted to Mathias Poschinger, of Louisville, Kentucky, assignor to Sulzer & Vogt, of same place, January 24, 1888.

Figure 1 is a longitudinal sectional view of our improved stand-pipe. Fig. 2 is a horizontal section of the same through the line $x x'$. Figs. 3 and 4 are like views through the lines $y y'$ and $z z'$, respectively.

In the different figures like letters indicate like parts.

A is the stand-pipe. B is its cap or dome, into which passes the ammonia-inlet pipe C, and the gas-exit pipe D, which extends clear through the dome, as shown.

E indicates a series of pipes attached to the partition e , and through which the ammonia passes from the dome B to the basin F, and thence through the pipe G into the series of dripping-pans $H' H^2$ and $I' I^2$, each of which has the central portion of the bottom formed into a tube h and i , extending upward and open at both ends. In each of the dripping-pans $H' H^2$ the tube h is of small diameter and rises somewhat higher than its rim, while in the pans $I' I^2$ the tubes i are of larger diameter and have their upper edges slightly lower than the rims. The series of pans is arranged, as shown in the drawings, and each of them is held in position by the three arms J, projecting against the inner surface of the stand-pipe

A, and by the three legs K, resting upon the pan directly beneath, except the lowest pan of the series, which is supported by the three brackets L, bolted to the lower part of the stand-pipe A.

The dome B, the gas-exit pipe D, the coils of pipe E, the basin F, with the conducting-pipe G, compose the rectifier proper. The parts below that are the series of dripping-pans.

The ammonia passes from the pipe G into the upper dripping-pan and runs over the rims of the pans $H' H^2$ and the edges of the tubes i of the pans $I' I^2$, until it has flowed through the entire series, and from the lowest pan it drops into the generator, on which the stand-pipe A is fixed, where it is converted into gas by coming in contact with coils of pipe heated by steam. The hot gas rises from the generator, passes into the stand-pipe A, and mingling with the ammonia flowing through the series of dripping-pans converts it partially into gas, and the process of rectification is commenced by its contact with the cooler ammonia. The gas then passes upward between and comes in contact with the pipes E and the exit-pipe D, which are kept at a sufficiently-low temperature to purify the gas by driving out the water which is unavoidably present in the form of steam by condensing it and allowing it to fall back into the generator. The gas then passes from the stand-pipe A through the pipe D to the condenser.

The advantages of our invention are, first, the heated gas from the generator mingling with the ammonia in the series of dripping-pans partially converts it into gas, and also imparts heat to the ammonia, thus facilitating its conversion into gas in the generator and so economizing steam and fuel, and, second, the purifying of the gas before condensation in its passage through the series of dripping-pans and the rectifier by driving out the water present in the form of steam, thus producing dry gas almost free from impurities, forming nearly one hundred per cent. of pure anhydrous ammonia after condensation.

Having fully described our improved stand-pipe, what we claim as new and of our invention, and desire to secure by Letters Patent, is—

The combination of the stand-pipe A with the rectifier constituted of the dome B, located above said stand-pipe, and having the inlet C and pipe D passing through the same, partition *e*, the series of pipes E within the stand-pipe and below said dome, the basin F beneath said pipes E, the pipe G, extending below said basin, and the series of dripping-pans H' H² I' I², having the respective central

openings *h i h i*, all substantially as and for the purpose described.

In testimony whereof we affix our signatures in presence of two witnesses.

MATHIAS POSCHINGER.
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Witnesses:

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