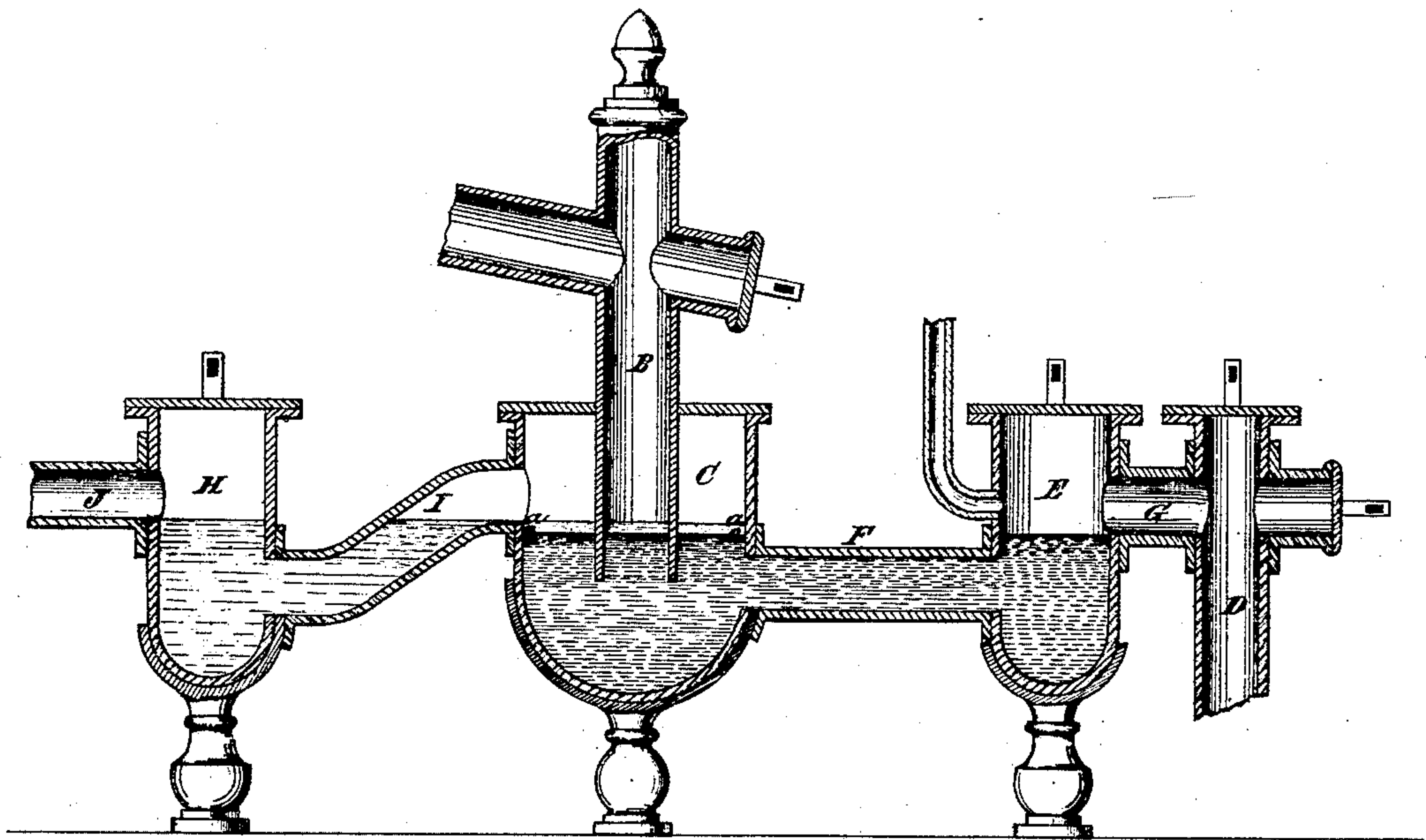


*E. D. McCracken,*

*Gas Dip Pipe.*

*No. 108,499.*

*Patented Oct. 13. 1870.*



*Witnesses;*  
*Fred. Haynes*  
*Arthur Kinner*

*Inventor;*  
*E. D. McCracken*

# United States Patent Office.

EDWIN D. McCracken, OF NEW YORK, N. Y.

Letters Patent No. 108,499, dated October 18, 1870.

## IMPROVEMENT IN APPARATUS FOR SEPARATING GAS-TAR AND AMMONIACAL LIQUORS.

The Schedule referred to in these Letters Patent and making part of the same

*To all whom it may concern:*

Be it known that I, EDWIN D. McCracken, of the city, county, and State of New York, have invented a new and useful Improvement in Apparatus for the Manufacture of Gas; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing.

This invention relates to the separation of the ammoniacal liquor from the tar, and to the taking of them away separately from the hydraulic main of a gas-retort or bench of gas-retorts. It is more especially intended to be used in connection with the improvements which are the subject of my Letters Patent, dated July 12, 1870, or with other means of returning the tar from the hydraulic main to the retort, its object in such case being to prevent the ammoniacal liquor from being thus returned along the tar.

The invention consists in the connection with the hydraulic main of a trap so arranged relatively to the pipe or orifice through which the tar escapes, that the ammoniacal liquor floating upon the tar in the hydraulic main may overflow separately through the said trap.

The drawing illustrates, by a vertical sectional view, the application of the invention in connection with the improvements which constitute the subject of my Letters Patent hereinbefore referred to.

B is the stand-pipe;

C is the hydraulic main;

D is the pipe through which the tar returns to the retort;

E is the chamber arranged between the said pipe and the retort, to provide for the introduction of superheated steam along with the tar; and

F and G are the pipes connecting the said chamber

with the hydraulic main and with the pipe D, respectively, the said chamber serving also as a trap to prevent the escape of gas from the retort. These devices are all arranged as described in my before-mentioned Letters Patent.

The ammoniacal liquor-trap, which constitutes the invention, is shown on the left-hand side of the hydraulic main.

It consists of a vessel, H, connected with the hydraulic main by a pipe, I, and having an overflow-pipe, J.

The pipe I communicates with the hydraulic main at a level above that indicated by the heavy line *c c*, at which the tar is maintained by the tar-trap F E G, and it descends from the hydraulic main to the vessel H.

The bottom of the orifice of communication of the pipe J with the vessel H is at such level, a little above the tar-line *c c*, as indicated by the line *a a*, as it is desired that the ammoniacal liquor shall overflow. The vessel H and pipes I and J form in effect an inverted siphon, such as is commonly used for traps in hydraulic apparatus, and permits the overflow of the ammoniacal liquor without the escape of gas, and the escape of tar through it is prevented by its arrangement at a higher level than the trap F E G. The pipe J leads to any suitable receptacle provided for the ammoniacal liquor.

What I claim, as my invention, is—

In combination with a gas-main, a double trap, substantially as herein described, so as to separate the tar and ammoniacal liquor, as set forth.

E. D. McCracken.

Witnesses:

FRED. HAYNES,

ARTHUR KINNIER.