CHARLES A. A. TRENCHEVENT De St. AUBIN.

CARBURETERS.

No. 184,220. Patented Nov. 7, 1876.

FIG. 1.

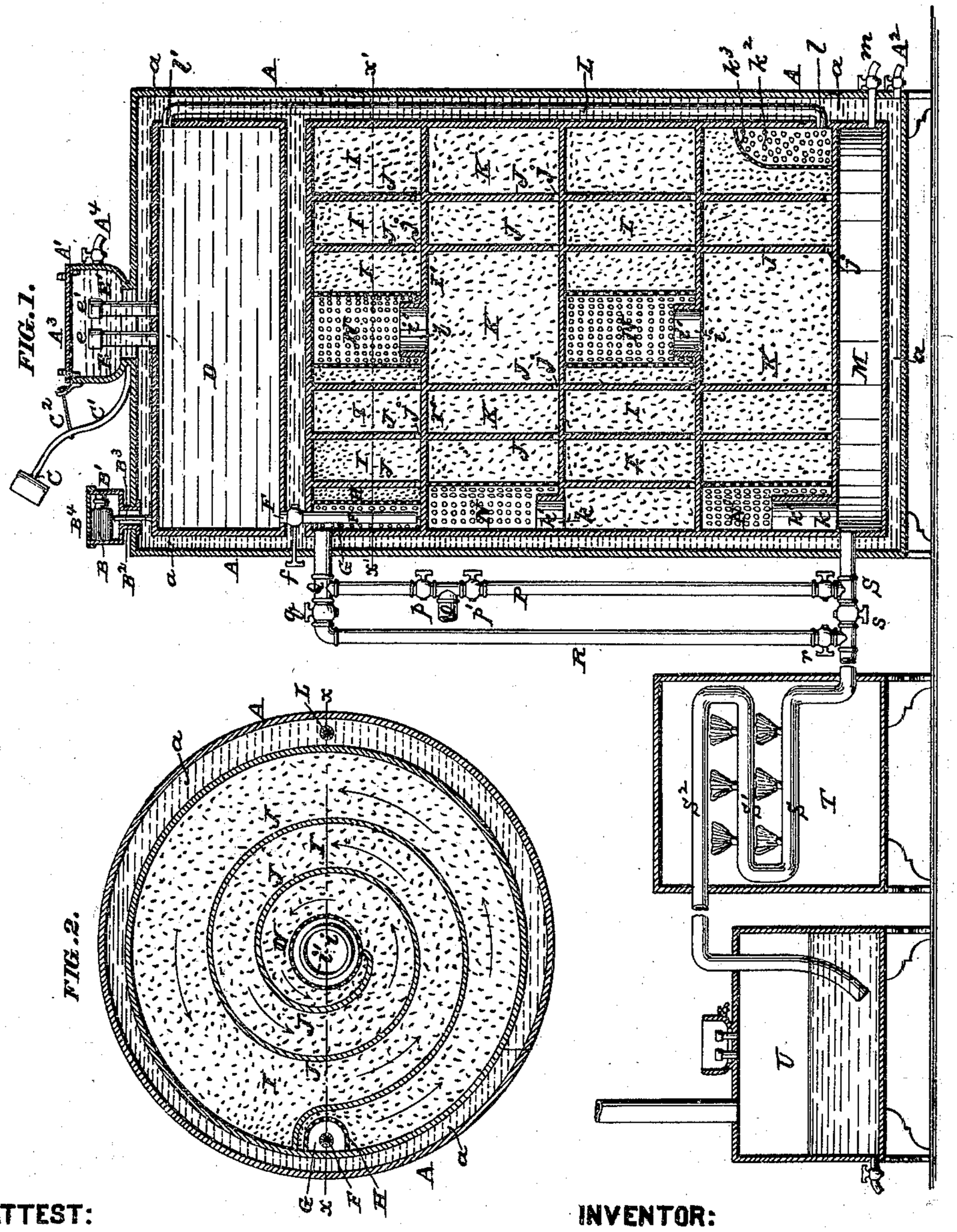

FIG. 2.

ATTEST:

Robert Burns.

LeBlond Burdett

INVENTOR:

C. A. A. Trenchevent de St. Aubin

By Knight Bros his Attorneys

UNITED STATES PATENT OFFICE.

CHARLES A. A. TRENCHEVENT DE ST. AUBIN, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-FOURTH HIS RIGHT TO WESTERN BASCOME, OF SAME PLACE.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **184,220**, dated November 7, 1876; application filed May 4, 1876.

To all whom it may concern:

Be it known that I, CHARLES A. A. TRENCHEVENT DE ST. AUBIN, of the city and county of St. Louis, and State of Missouri, have invented certain new and useful Improvements in Carbureters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, making part of this specification.

My invention consists in combining a fire-extinguishing apparatus with a carbureting-chamber having a surrounding water-case.

Figure 1 is a vertical axial section at line marked *x x*, Fig. 2. Fig. 2 is a horizontal section at *x'' x''*, Fig. 1.

A is an outer case, made to hold liquid, and surrounding the carbureter proper on all sides, so as to prevent any leakage through the walls of the latter entering the outer air. The case A has at top a funnel, A^1, through which it is filled, and a cock, A^2, through which its contents may be drawn off. B is a bottle containing acid, preferably in a liquid form. The bottle B is contained in a close case, B^1, having a neck, B^2, capable of moving vertically in the top of the case A. Beneath the bottle is a metallic point, B^3, to break the bottle when the case B^1 is forced downward by the blow of the spring-hammer C, in which case the acid will flow down through the neck B^2 into the space *a* within the case A, and when the space *a* is filled with an alkaline solution, carbonic-acid gas will be generated, as is common in fire-extinguishers of that class.

The means for forcing down the case B and fracturing the bottle are the point B^3 and the hammer C, whose spring C^1 is held in tension by a cord, C^2, of some inflammable material, so that on the occurrence of a fire the cord would be burned off and the hammer fall upon the top B^4 of the case, and thus the bottle containing the acid be broken by impingement against the metallic point B^2. The point B^2 extends upward from the top of the gasoline-reservoir D, which reservoir is filled with gasoline or other hydrocarbon. The reservoir is made air-tight. The reservoir is filled with liquid through a pipe, E, stopped with a screw-cap, *e;* and the air escapes from the reservoir, when it is being filled, through a pipe, E', beside E, and is furnished with a screw-cap, *e'*. The pipes E E' extend upward into the funnel A^1, but do not extend to the top of the same, so that when the funnel is filled with water the latter covers the tops of the pipes, so as to prevent the escape of gas into the air in case the caps should not be gas-tight. The funnel has a cover, A^3, and a discharge-cock, A^4.

The gasoline flows out of the reservoir D through a vertical pipe, F, into the upper chamber of the carbureter proper, said pipe extending nearly to the bottom of said chamber. The pipe F descends into a small chamber, G, separated from the main chamber I by a perforate plate or gauze, H, so that the sawdust, or other capillary material with which the main chamber is filled, shall not enter the chamber G. The pipe F has a stop-cock, *f*, which is closed when filling the reservoir. The chamber I contains a volute division-plate, J, extending from bottom to top, which causes the air or gas passing through said chamber to travel a long course, as indicated by the arrows in Fig. 2, which represent the course of the air through said chamber. The liquid flows through orifices *j* at the bottom of plate J. In the center of the bottom I' of the chamber I is an opening, *i*, through which the liquid passes to the chamber K beneath, and through which the air or gas (to be carbureted) also passes. This opening has an upwardly-extending marginal flange, *i'*, forming an overflow from the chamber I. The liquid flows from the chamber K, over an overflow-flange, k^1, at the side of the aperture *k*, and into a chamber, I, beneath, from which it has central discharge into another chamber, K, beneath. The bottom chamber K has a small chamber, k^2, separated from the main chamber by a perforate plate or gauze shield, k^3, to keep back the sawdust. Into the chamber k^2 opens the mouth *l* of a vertical pipe, L, whose other end, *l'*, opens into the upper part of the tank D. The lower end *l* of the pipe L is below the level of the overflow k^1, so that when the chamber is full to the overflow level the mouth *l* is covered by the liquid, and the air is prevented

from entering said mouth; but when the surface of the liquid descends below the level of the pipe-mouth *l*, the air enters the pipe and passes upward through the pipe L to the reservoir D, so as to permit the escape of liquid therefrom.

Under the lower carbureting-chamber K is the waste-chamber M, receiving any liquid that may overflow from said chamber K. The contents of the waste-chamber M may be discharged through a cock, *m*.

The overflows *i i'* are protected from the sawdust, or other capillary material with which the chambers I are filled, by a screen, N, of perforated plate or gauze, surrounding the overflow, and extending from top to bottom of the chamber. The overflows $k\,k^1$ have protection from the sawdust in chambers K by a screen, N', substantially similar to those N.

O is the pipe through which the air or gas to be carbureted enters the machine. The pipe O discharges into the pipe P. *p p'* are cocks in the pipe P, located on opposite sides of the pipe O. The pipe P discharges at the upper end into a horizontal pipe, Q, leading into the chamber G, and said pipe P discharges at the lower end into a horizontal pipe, S, leading into the chamber M. The pipe Q has a stop-cock, *q*, and pipe S a stop-cock, *s*. The pipe S is the exit-pipe of the carbureter, and extends into a case or chamber, T, where it is bent into a number of vertical return-bends, $S\ S^1\ S^2$, and supplied with gas-burners S^3, which heat the upper parts $s^1\ s^2$ of the pipe S, so as to change the gas into a fixed condition by heat. From the heating-chamber the pipe S may pass into a wash box or chamber, U. A washing chamber or box may be also interposed between the carbureter and the fixing-chamber T, to prevent a retrograde current in the gas.

When air is used, it is preferably passed downward through the carbureter, and the cocks *p* and *s* are opened, and cocks *q* and *p'* closed. When city gas is passed through, it is preferably made to ascend through the chambers I K, and then the cocks *q r p'* are open, and those *p s* closed, when the entering gas passes downward through pipe P, inward through pipe S to chamber M, out through pipe Q, and down pipe R to that S outside the cock *s*. Heated air should be passed through in the same direction as gas.

I claim—

1. The combination of a fire-extinguishing apparatus, B C, with a carbureting-chamber having a surrounding water-case, substantially as set forth.

2. The combination, with a carbureter having a water-case, of the case B^1, containing a receptacle, B, for fire-extinguishing acid, the hammer C, and fracturing-point B^3, as and for the purpose set forth.

CHAS. A. A. TRENCHEVENT DE ST. AUBIN.

Witnesses:

SAML. KNIGHT,

ROBT. BURNS.