T. MINER.
Carbureter.

No. 207,886. Patented Sept. 10, 1878.

Fig. 1

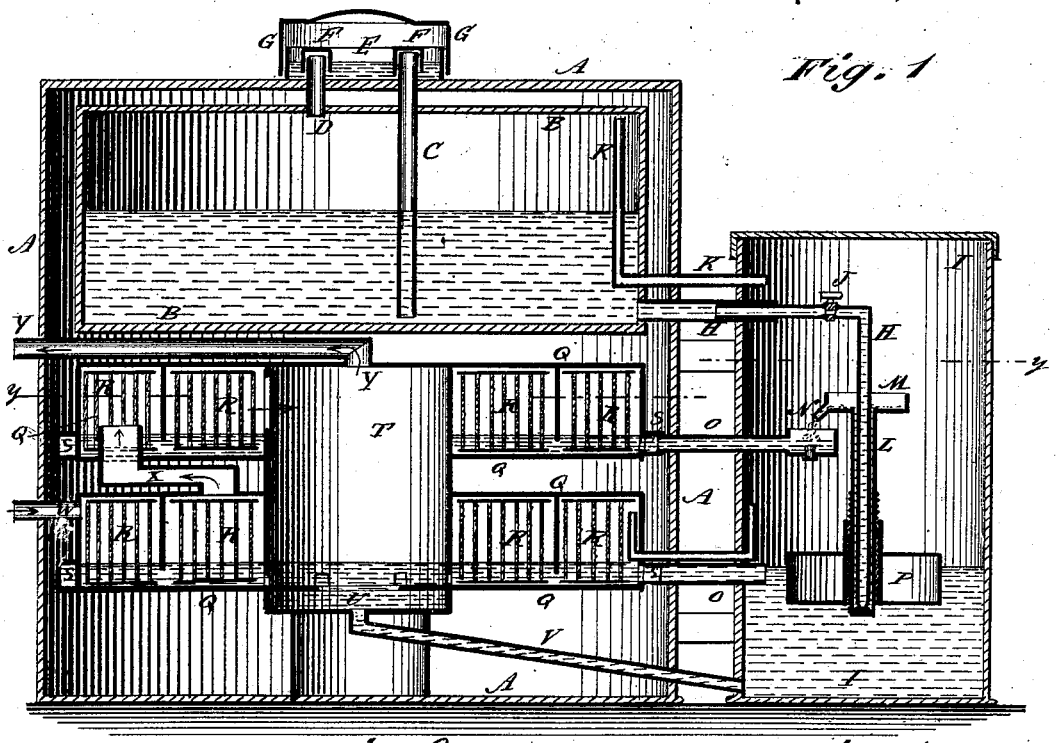


Fig. 2

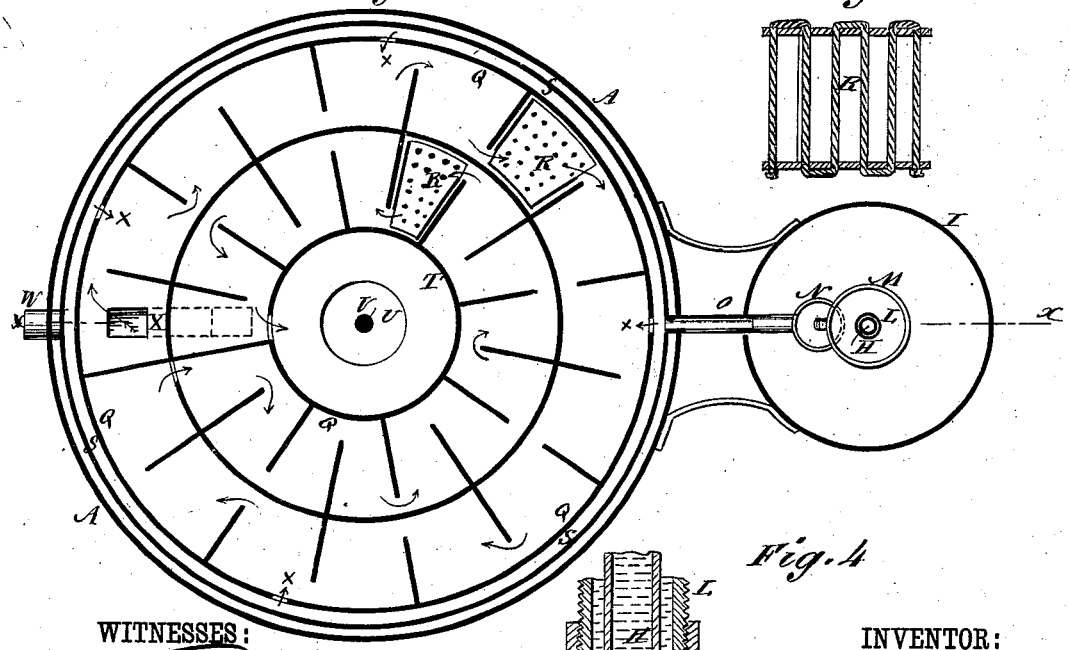
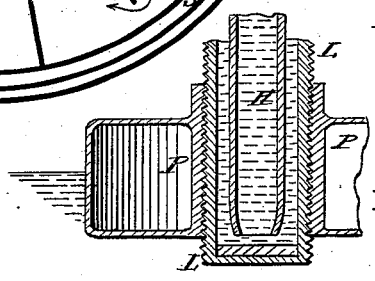


Fig. 3

Fig. 4



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THEODORE MINER, OF BROOKLYN, ASSIGNOR TO ALVIN WALKER, OF NEW YORK, N. Y.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **207,886**, dated September 10, 1878; application filed May 28, 1878.

To all whom it may concern:

Be it known that I, THEODORE MINER, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Carbureters, of which the following is a specification:

Figure 1 is a vertical section of my improved carbureter, taken through the line *x x*, Fig. 2. Fig. 2 is a horizontal section of the same, taken through the line *y y*, Fig. 1. Fig. 3 is a detail sectional view of one of the distributers. Fig. 4 is a detail sectional view of the feed-valve.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved carbureter which shall be so constructed as to feed the naphtha automatically to the carbureting-chambers as it may be required, which will introduce the gas into the warmer part of the carbureting-chambers and will withdraw it from the colder part, and which at the same time shall be simple in construction and reliable in operation, not being liable to become choked or clogged.

The invention consists in the float-sleeve provided with cup at the top and combined with the feed-pipe; and in the drum provided with a discharge-pipe extending between chamber and reservoir, as hereinafter described.

A represents the case of the carbureter, in the upper part of which is secured a tank or reservoir, B, to receive the naphtha, which is introduced through a pipe, C. The pipe C extends nearly to the bottom of the reservoir B, and its upper end passes up through the top of the said reservoir and the top of the case A.

D is a short pipe passing through the top of the reservoir B and the top of the case A, to allow air to escape from the reservoir as the naphtha is poured in.

The upper ends of the pipes C D project above the top of the case A, and are surrounded by a cup, E. The upper ends of the pipes C D are covered with caps F, the sides of which project nearly to the bottom of the cup E, so as to be beneath the surface of the water placed in the said cup, to form a water-seal and prevent the escape of vapor or the entrance of air through the said pipes. The cup E is provided with a cover, G, to prevent the water within it from evaporating.

From the reservoir B the naphtha passes out through the pipe H into the feed-well I, and in the center of the said feed-well it is bent downward at right angles, and extends nearly to the bottom of the said well. The upper part of the pipe H is provided with a stop-cock, J, to enable the escape of naphtha to be stopped when desired, the cover of well I being removable.

From the well I a pipe, K, passes into the reservoir B, and extends up nearly to its top, for the passage of air or vapor from one to the other of the said vessels to equalize the pressure.

The lower part of the pipe H passes down through a pipe, L, which is made so much larger than the said pipe H that the naphtha may flow out of the lower end of the pipe H and rise through the space between it and the pipe L.

To the upper end of the pipe L is attached a cup, M, into which the naphtha rises, and from which it flows through a small spout into a cup, N, attached to the end of a pipe, O, leading into the carbureting-chamber.

Upon the lower part of the pipe L is formed a screw-thread to receive a screw-thread formed upon the sleeve or hub of the float P.

With this construction, when the naphtha rises in the well I above the fixed limit, the float P rises and brings a packing placed in the lower end of the pipe L against the open lower end of the pipe H, and stops the outflow of the naphtha.

When the naphtha rises in the carbureting-chamber to the desired height it overflows the cup N and falls into the lower part of the well I. When more than one carbureting-chamber is used the lower chamber or chambers are provided with feed-pipes O opening into the lower part of the well I, so that the naphtha in the lower part of the said well may flow through it into the said chamber.

Q represents the carbureting-chambers, one or more of which may be used, and which are secured in the lower part of the case A, below the reservoir B. The carbureting-chambers Q are made ring-shaped, and are divided into

two concentric rings, which rings are divided by partial partitions into circles of zigzag compartments, as shown in Fig. 2, so that the gas may pass all around through the said compartments.

In each of the compartments of the carbureting-chambers Q is placed a distributing device, R, consisting of a number of wicks extending from the upper part of said chambers, or from a plate in said upper parts, nearly to their bottoms, a space being left below the lower ends of the said wicks to prevent the heavy oil in the bottom of said chambers from coming in contact with the said wicks and impeding their operation.

To the lower part of the sides of the carbureting-chambers Q are secured ring-pipes S, into which the naphtha from the feed-pipes O passes, and from which it escapes into the carbureting-chambers through numerous small holes formed in the inner side of the said pipes and leading into the said chambers, as shown in Fig. 2. By this arrangement the naphtha is introduced into the warmest part of the carbureting-chamber, so that it will not be chilled at its first introduction and thus rendered less easily vaporized.

In the center of the carbureting chamber or chambers Q is formed a cylindrical drum, T, the lower end of which does not extend quite to the bottom of the carbureting-chamber Q, or has openings in its lower part, so that the heavy oil from the said chamber may flow into the lower part of the said drum, pass into the chamber U, and flow through the inclined pipe V into the lower part of the well I, whence it may be removed as desired.

The lower edge of the drum T should extend below the surface of the naphtha in the lower carbureting-chamber, so that the gas cannot pass around the said lower edge.

The gas is introduced into the carbureter through a pipe, W, leading into the first compartment of the carbureting-chamber, or the first compartment of the outer ring of the carbureting-chamber, or of the lower carbureting-chamber when more than one is used, whence it passes through all the compartments of the outer ring, then into the first compartment of the inner ring, through all the compartments of the said inner ring, and into the upper carbureting-chamber when more than one is used, through a pipe, X, being introduced into the first compartment of the outer ring of the said upper chamber. The gas passes through the upper chamber, Q, in the manner hereinbefore described, and escapes from the last compartment of the inner ring through an opening in the upper part of the drum T.

From the drum T the enriched gas passes out through the pipe Y to the burners. The pipe Y leads out of the top of the drum T, and passes out through the space between the bottom of the reservoir B and the top of the carbureting-chamber Q.

By this construction the gas is introduced into the warmer part of each carbureting-chamber, passes thence to the colder part of said chamber, and escapes into the drum T, which is the coldest part of the apparatus, and passes thence through the pipe Y to the burners.

By this construction the gas will not be chilled upon its first introduction into the carbureter, and be thus prevented from becoming properly enriched. At the same time the gas escapes from the coldest part of the apparatus without contact with any of the walls or partitions of the carbureting-chambers, so that all condensable vapor is removed from it before it passes into the pipes, so that the supply-pipes will not be liable to become filled or choked with naphtha from condensation.

The pipe Y is so arranged that the combined gas and vapors, after being carried to the center or coldest portion of the machine, may be passed out without coming in contact with any portion of the machine by which its temperature can be affected.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The float-sleeve L, provided with cup M at the top, and combined with the feed-pipe H, as and for the purpose described.

2. The drum T, provided with a discharge-pipe, Y, extending between the chamber Q and reservoir B, as and for the purpose specified.

3. The combination of the ring-pipe S, provided with discharge-holes in its inner side, with the feed-pipe O and the outer circle of compartments of the carbureting chamber or chambers Q, substantially as herein shown and described.

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Witnesses:
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