

E. H. Covel.
Carburettors.

No 24,200.

Patented May 31. 1859.

Fig. 1.

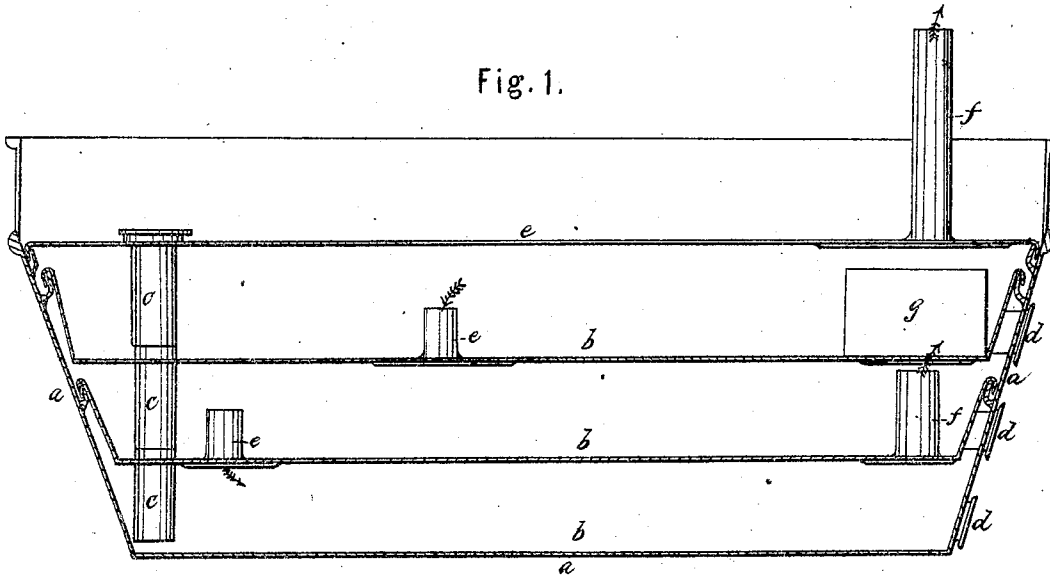
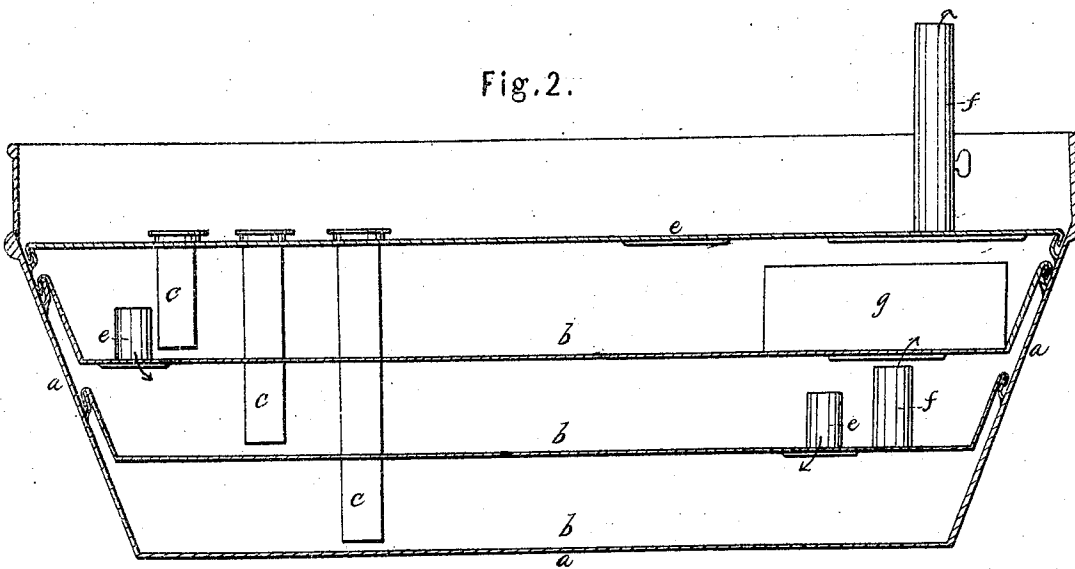


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

E. HALL COVEL, OF NEW YORK, N. Y.

HYDROCARBON-VAPOR APPARATUS.

Specification of Letters Patent No. 24,200, dated May 31, 1859.

To all whom it may concern:

Be it known that I, E. HALL COVEL, of the city of New York, in the county and State of New York, have invented certain
5 new and useful Improvements on Apparatus for Charging Atmospheric Air with the Vapor of Hydrocarbons; and I do hereby declare the following to be a full and exact description of the same, reference being had
10 to the accompanying drawings and to the marks and letters thereon.

In the construction of an apparatus for the purposes here named it is very important that ample provision should be made
15 for having it air-tight. So valuable has this provision been held that it has induced most individuals to believe that the apparatus could only be constructed of entirely rigid parts incapable of being separated from each
20 other except by mechanical means. When so constructed if any one part of the apparatus gets out of order great delay and inconvenience occur in repairing it, and in case the apparatus should be found of less capacity than desirable, it is necessary to re-
25 place it by one of more capacity; and, again, the apparatus has, no provisions for easy supplying it with material when in use or for reaching its interior for cleaning or for
30 other objects.

My invention is designed to overcome the several objections here enumerated, and it consists in constructing the apparatus of
35 several pieces joined together by such means as allow of the various parts being detached, and of its capacity being diminished or increased, and when in use of being supplied and examined interiorly without interrupting or disturbing its functions.

40 Of the two views shown by the drawings forming part of this specification, Figure 1 is that of a transverse section in which the feeding tubes are in line, and Fig. 2 a like section at right angles to the first.

45 (a) indicates the shell or exterior plates of the apparatus; (b) the pans or chambers for the hydro-carbons; (c) the pipes or tubes for supplying these pans or chambers; (d) the tubes for letting out the contents
50 of the chambers or for examining the interior; (e) the inlets for the atmospheric air, which, as shown, are made up of perforated plates covering holes through the plates of the pans and top plate of the apparatus;

(f) the outlets for the charged air, also 55 having perforated plates; and (g) indicates a reducing chamber, placed in the upper pan and below the tube which conducts the hydro-carbureted air to the burner or burner
60 pipe.

It will be perceived that the pans or chambers, as also the top-plate of the apparatus, are connected to the sides by a lock-joint, the edges of the pans and plate being
65 turned downward and fitting into a groove or recess formed by a flange or strip on the sides of the shell or exterior plates of the apparatus. By putting a resinous or other cement or an alloy of metal fusible only at
70 such temperature as may be deemed desirable into the groove or recess, a perfectly tight joint will be formed and the apparatus become in every respect as useful as if the different parts of it were rigidly united
75 by mechanical means, while, whenever it may be necessary for any purpose to separate the parts of the apparatus, exposure of it to that degree of heat which will soften the cement or alloy will allow of the taking
80 apart of the entire apparatus. Under this construction the number of chambers or pans may readily be increased or diminished and the amount of surface for the hydro-carbon be enlarged or contracted without removal of any one of the chambers, as each
85 chamber or pan may be subdivided into as few or as many compartments as circumstances may require or demand. It will, also, be noticed that each pipe for conveying the material to the pan or chamber being independent of the others allows of the
90 passing of the material into any one of the chambers, even during the time when the apparatus is in active operation, without the least inconvenience or apprehension of accident therefrom, as, also, the outlet pipes
95 of the pans or chambers allow of the escape of any excess and of the examination of the interior.

The chamber (g) is specially designed for 100 the admission of atmospheric air into it and for the more perfect union and commingling of fresh air with that charged at a point away from the burner, instead of in the burner as has heretofore been practiced, 105 whenever the air has happened to have become too heavily or richly charged with the vapor of the hydro-carbon.

This apparatus is designed to be used in all cases where air is to be charged for illumination, whatever may be the articles used for yielding the vapor, by passing the air
5 over the surface of the hydro-carbon; and it can be constructed of any of the materials ordinarily used for that class of apparatus and of such dimensions and form as may be regarded most desirable. It can readily be
10 constructed of cast-iron entirely or in part only. When constructed of cast iron the recesses or grooves for the cement or alloy and the flanged edges of the pans or chambers can be a part of whole casting.
15 Having thus fully set out the construction and operation of my invention what I

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

1. Constructing the apparatus for the purposes herein set forth of detachable parts or
20 chambers substantially as described.

2. I claim the arrangement of the feed pipes or tubes and outlet pipes, whereby I am enabled to pass in the material to any
25 one of the chambers or to let out material and to examine the interior; while the apparatus is in operation and the process of charging going on, as herein set forth.

E. HALL COVEL.

Witnesses:

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