

2, Sheets, Sheet 1.

F. H. Lunkewitte,

Carburetor.

No. 113317.

Patented Apr. 4, 1871.

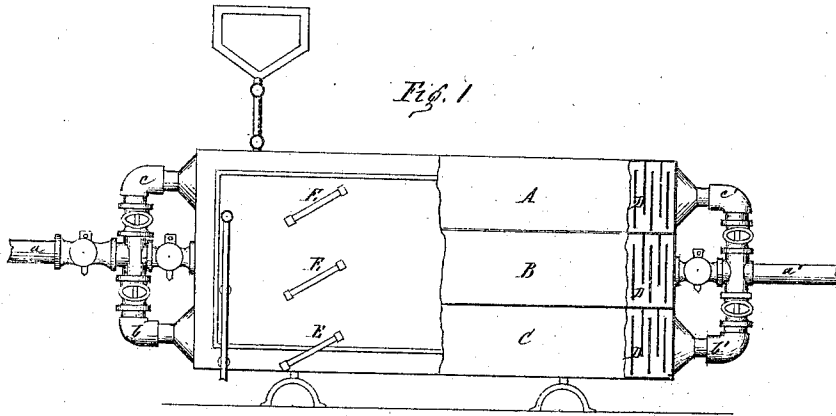
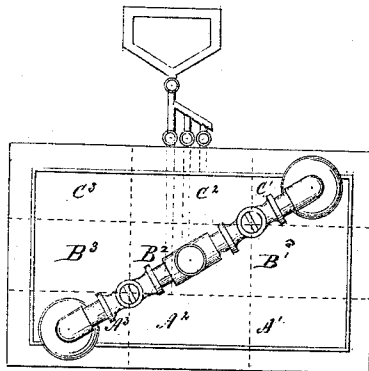


Fig. 3.



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S. M. Pove

Inventor:

F. H. Lunkewitte

per

Attorneys.

2. Sheets, Sheet 2.

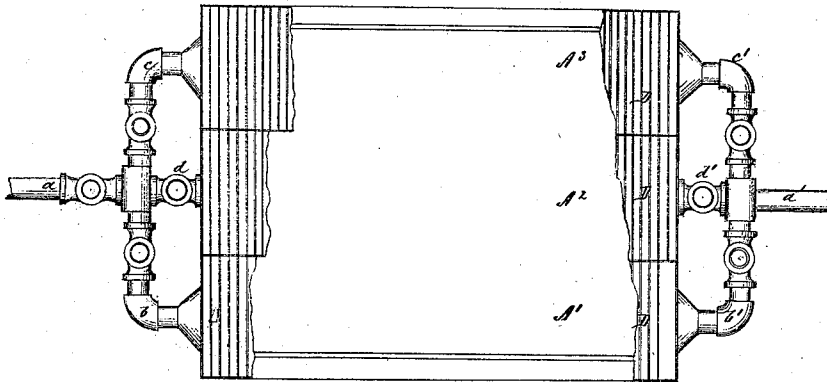
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Fig. 2.



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United States Patent Office.

FRANCIS H. LUTKEWITTE, OF ST. LOUIS, MISSOURI.

Letters Patent No. 113,317, dated April 4, 1871.

IMPROVEMENT IN APPARATUS FOR CARBURETING AIR AND GAS.

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, FRANCIS H. LUTKEWITTE, of St. Louis, in the county of St. Louis and State of Missouri, have invented a new and improved Illuminating Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification.

My invention relates to a peculiarly-constructed sectional carbureter, which will be hereinafter fully described.

Figure 1 represents a side view;

Figure 2, a top or bottom view; and

Figure 3, an end view.

A B C are a series of horizontal sections, placed one above another, and connected or disconnected at their ends.

Each of these is again subdivided into a series of sub-sections, A¹ A² A³ B¹ B² B³ C¹ C² C³, connected at their ends with one another.

Each of these sub-sections is again subdivided into small apartments D, in which is placed a quantity of capillary or absorbent material, in the well-known way, to enable the air to come in contact with the greatest amount of hydrocarbon particles or surface.

a b c are the pipes through which the air is injected by a suitable air-pump or other apparatus of analogous character. This forces the air through the absorbent and causes it to become saturated with hydrocarbon, when it is conveyed through pipes a' b' c' to the burners or some receptacle.

E are gauges, arranged in each sub-section, and notated so as to indicate the amount of hydrocarbon consumed.

The mode of operation is as follows:

If the weather is cold (as, for instance, at zero,) the air and hydrocarbon will be considerably densified and increased in specific gravity. This will cause a less surface contact to take place when they are brought together, and hence will require a given quantity of air to be passed through the largest quantity or maximum of hydrocarbon, in order to give the requisite illuminating power. I, therefore, enter the air at the first pipe, on the bottom, and into right-hand sub-section A¹ of section C. I then force it through chambers D until it arrives at the farther end thereof, where it passes laterally into sub-section A², and then

on through sub-section A³, all of section C; thence it passes up into section B; here it moves along through the saturated absorbent until it arrives at the end of the sub-sections of this section. Then it passes, in like manner, through all the sub-sections of section A into pipe C¹ and out of the discharge-pipe a' into the burner or receptacle. If, again, the temperature is moderate, as in the spring or fall, the air is rarer and the hydrocarbon less dense—I then shut off one, two, or all the sub-sections of section C, according to the degree of temperature which prevails at any particular time, by turning the cocks in the air-inlet pipes b c d, commencing at the right, and taking one after another toward the left. Again, in summer, when the temperature is high and the air and oil are both much expanded by the interpressure of heat, I throw out two whole sections in the same way.

Whether applied on a large or small scale it will be perceived that I can graduate to a nicety, and in a moment, the quantity of hydrocarbon through which a given amount of air must pass, and the duration of contact between the two substances, which will secure the precise commixture desired.

Exactness, in the relative proportions of the two substances, is a "*sine qua non*" in producing the best light. This can never be produced and uniformity in the quality of gas secured, except on the principle of graduation according to temperature.

Having thus described all that is necessary to a full understanding of my invention,

What I esteem to be new, and desire to protect by Letters Patent, is—

The sectional carbureter herein described, consisting essentially of the horizontal sections A B C, placed one above another, and subdivided into a series of sub-sections, which are subdivided into small apartments D by vertical partitions, every alternate one of which is open at both top and bottom, and the others at bottom only, the said horizontal sections being connected at one end by the inlet-pipes a b c, and at the other end by the outlet-pipes a' b' c', and each provided with a gauge, E, all constructed as and for the purpose specified.

FRANCIS H. LUTKEWITTE.

Witnesses:

THOS. D. D. OURAND,
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