

J. F. BOYNTON.

Carbureter.

No. 58,209.

Patented Sept. 25, 1866.

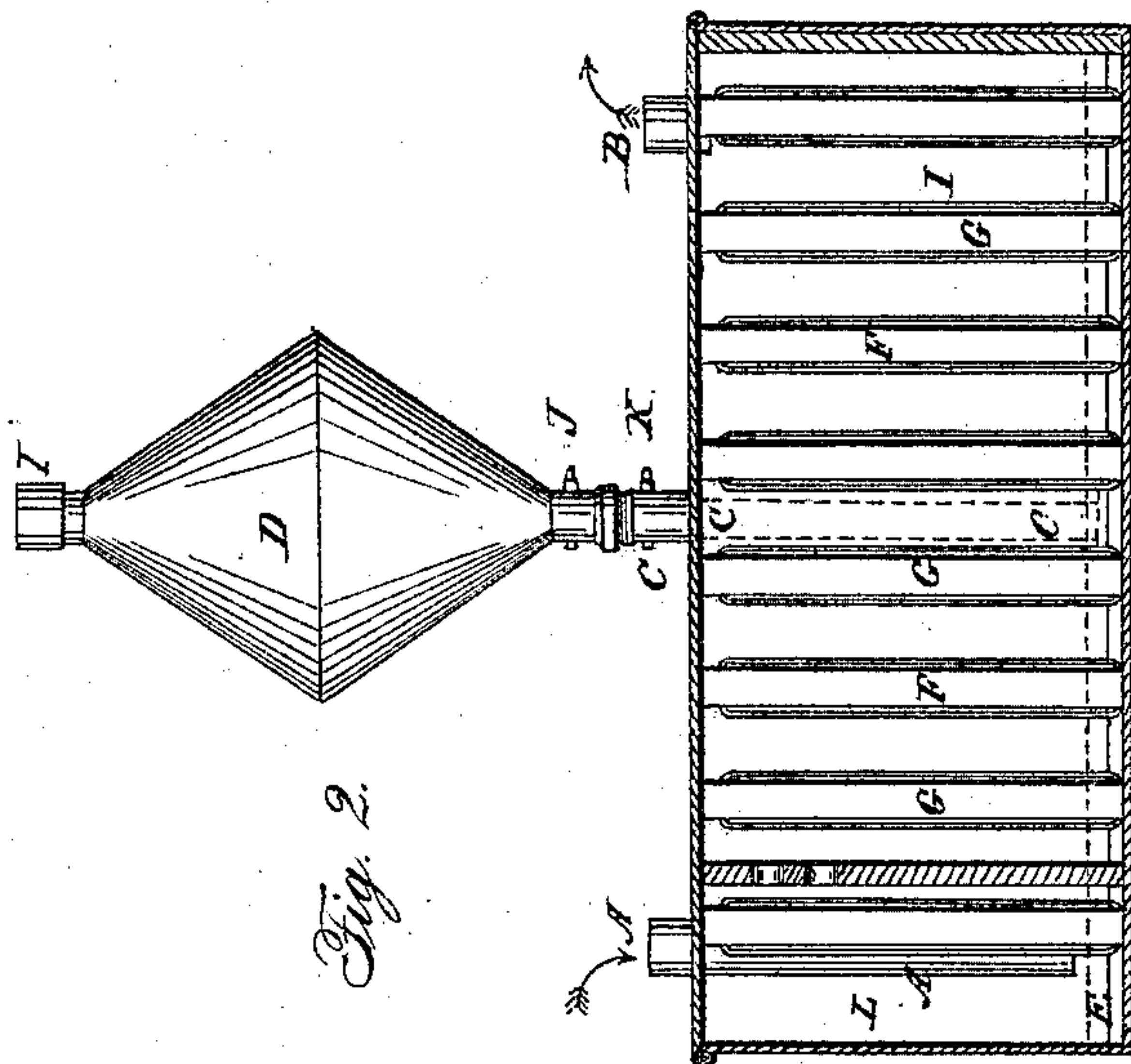


Fig. 2.

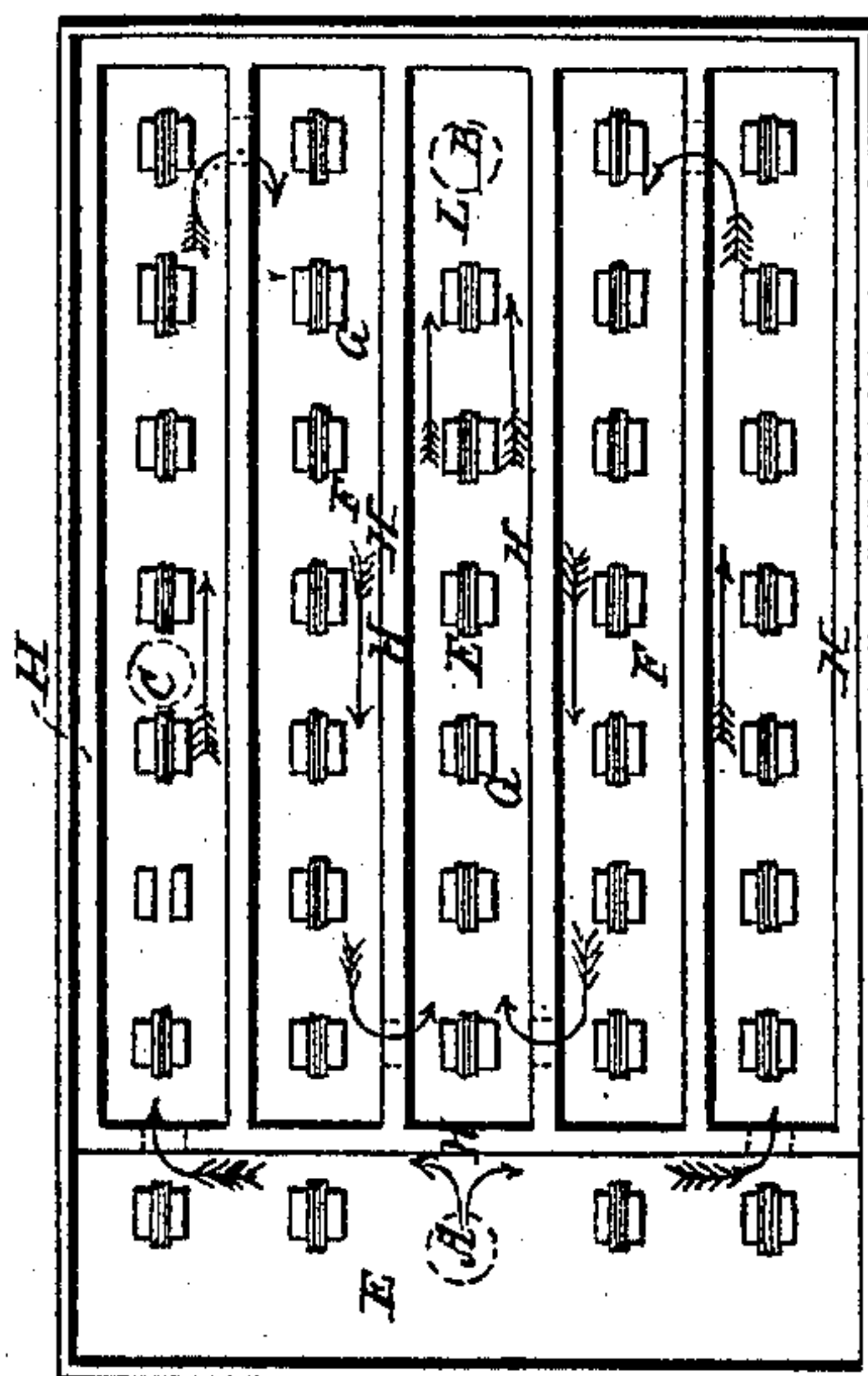


Fig. 1.

Witnesses:

H. A. Markie
Edw. F. Brown

Inventor:

John F. Boynton.

UNITED STATES PATENT OFFICE.

JOHN F. BOYNTON, OF SYRACUSE, NEW YORK.

IMPROVED APPARATUS FOR CARBURETING GAS.

Specification forming part of Letters Patent No. 58,209, dated September 25, 1866.

To all whom it may concern:

Be it known that I, JOHN F. BOYNTON, of Syracuse, in the county of Onondaga and State of New York, have invented an Improved Apparatus for Carbureting Gas, of which the following is a specification.

It is well known that illuminating-gas standing a long time over cold water or conveyed a long distance through cold pipes will have much of its illuminating properties condensed and lost, and it is believed that the illuminating qualities of gas are hydrocarbons, such as benzole and toluole held in suspension by hydrogen and other gases, and that these elements are precipitated in the gas-mains of the city, and may be found with the water at the water-traps at the street-mains instead of being carried forward into the houses and places of consumption, so that, however perfectly the gas may have been manufactured at the works, it will become deprived of a large portion of its value before it reaches the consumer.

Many devices have been suggested for overcoming the difficulty by restoring to the gas its illuminating properties at some part of the gas-pipes before it reaches the burner. This is the object of my invention; and it consists of an apparatus for thoroughly commingling the compound vapors of hydrocarbons with depreciated gases, and also for the purpose of carbonizing common air.

The following is an accurate description, to enable others skilled in such matters to construct the same, when taken in connection with the accompanying drawings.

I prefer to call my apparatus a "gas-light multiplier."

Figure 1 is a view of the inside of the apparatus as seen from above, showing the double-wall perforated partition dividing the multiplier into an outer and inner chamber, and showing the pegs sustaining fibrous material supported by base-board; Fig. 2, vertical longitudinal section of the interior of the same.

A, entrance; B, exit for gas or air; C, tube and opening for supplying hydrocarbons; D, the magazine of automatic filler; E, base-board perforated for sustaining wooden pegs supporting fibrous material, driven into the

perforations, carrying the fibrous material with it; F, wooden pegs, with slot X in the top, supporting fibrous material; G, fibrous material; H, compound double-wall movable partition resting upon the base-board, dividing the vapor-chambers into six compartments, causing the gas as it passes through the apparatus to be extensively divided and brought in contact with the surfaces of the wooden pegs and fibrous material. Wood or ligneous substances are preferable for supporting the fibrous material, as, by their capillary action, they raise the liquids to the upper portion of the apparatus, and, with the fibrous material, exert a compound capillary action.

D, the magazine of the automatic filler, as seen attached in Fig. 2, is a vessel to be filled with the carbonizing-fluid, with a plug, I, closing it air-tight at the top, and at its bottom or tubular portion a cock, J, so arranged that it may be screwed or attached to the tube C, which extends nearly to the bottom of the reservoir, as seen by the dotted lines in Fig. 2. K is a cock in the external and upper portion of tube C, to prevent escape of gas when the magazine of the automatic filler is removed from tube C for filling or other purposes.

To supply the automatic filler D it is only necessary to close the cock J, remove plug I, and introduce the liquid through a funnel. After replacing plug I, open cocks J and K, and the liquid will pass down tube C from the magazine, being displaced by the gas, until the reservoir is filled sufficiently to close the mouth of tube C, when no more can escape until the gas has absorbed a sufficient quantity in the reservoir to free the mouth of tube C, and thereby allowing another portion of gas to ascend into the magazine, displacing more liquid.

L L are outer and inner chambers; M, condensing and absorbing plate covered with fibrous material, resting upon and over the partitions and pegs.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. An apparatus for carbonizing gas and air, and which I prefer to call a "gas-light multiplier," as hereinafter described.
2. A detachable reservoir, to operate sub-

stantially as described, for filling the carbonizer with liquid.

3. The filling-reservoir D, in combination with the cocks J and K.

4. The combination of ligneous material with fibrous material.

5. The compound capillary action of ligneous material with fibrous material.

6. The perforated base-board or its equivalent.

7. The use of pegs supported from a base-board.

8. The arranging of the fibrous material parallel with the ligneous material, in the manner described.

9. The slot in the top of the pegs for securing the fibrous material.

10. The securing of the fibrous material at the bottom of the peg by its being driven with the peg into a perforation of the base-board.

11. The combination of ligneous and fibrous material, producing a compound capillary action, attached to a base-board forming a cage, and so arranged that it can be placed

in and taken from the reservoir or carbonizing-chamber.

12. A compound perforated partition, so arranged as to divide the carbonizing-chamber into an internal and external apartment.

13. The arrangement of the compound perforated partition, that it may be removed and replaced in the carbonizing-chamber without disturbing the cage.

14. A double partition, so arranged that the compound capillary action of the ligneous and fibrous material may take place between its walls.

15. The making of these partitions of any material capable of producing capillary action.

16. The use of capillary action of any material of which these partitions may be constructed.

17. The using of ligneous material for a partition.

JOHN F. BOYNTON.

Witnesses:

H. O. MARTIN,

EWM. F. BROWN.