

No. 885,832.

PATENTED APR. 28, 1908.

A. W. BREIDING.
CARBURETER.

APPLICATION FILED JAN. 10, 1907.

FIG. 1.

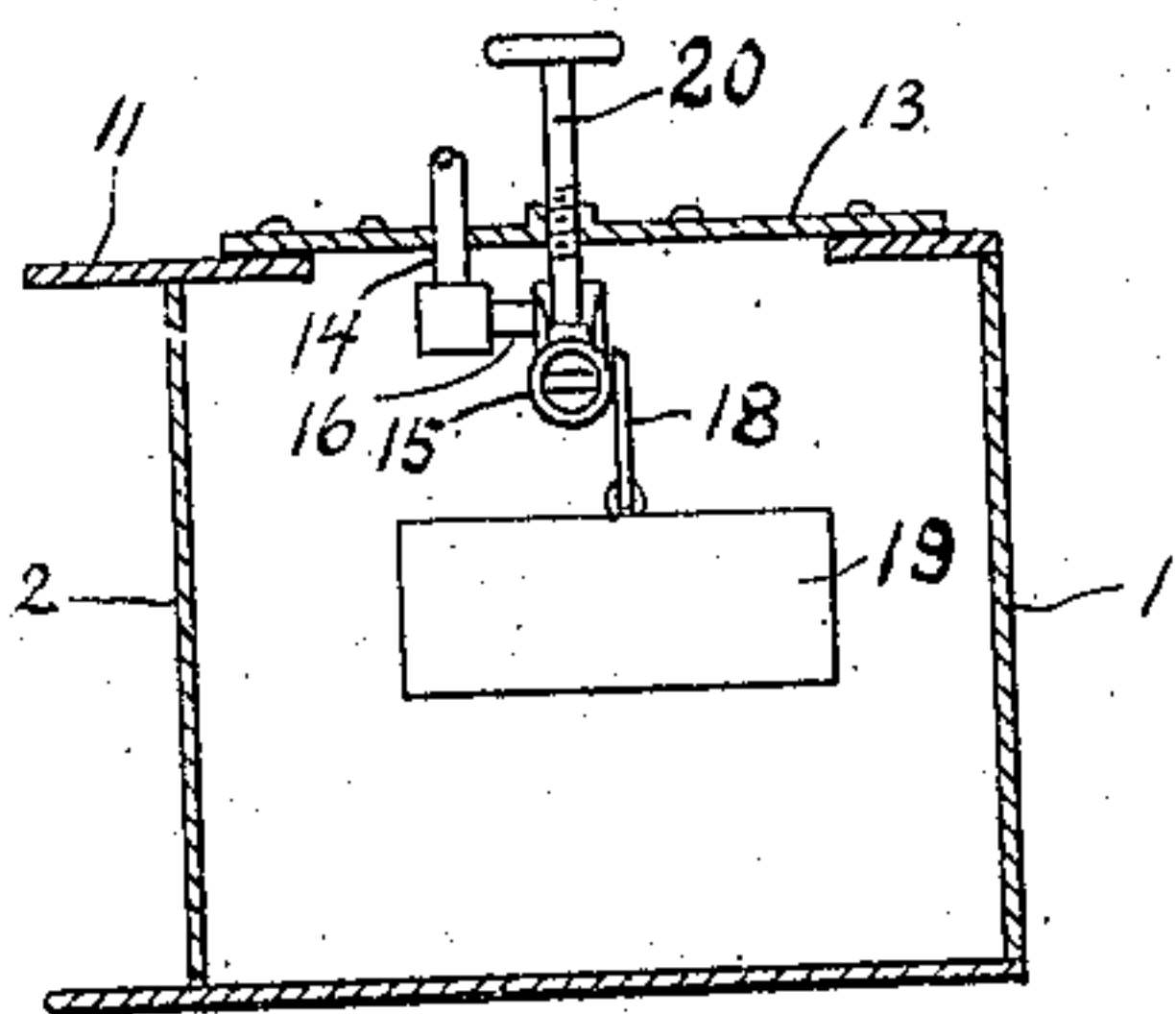
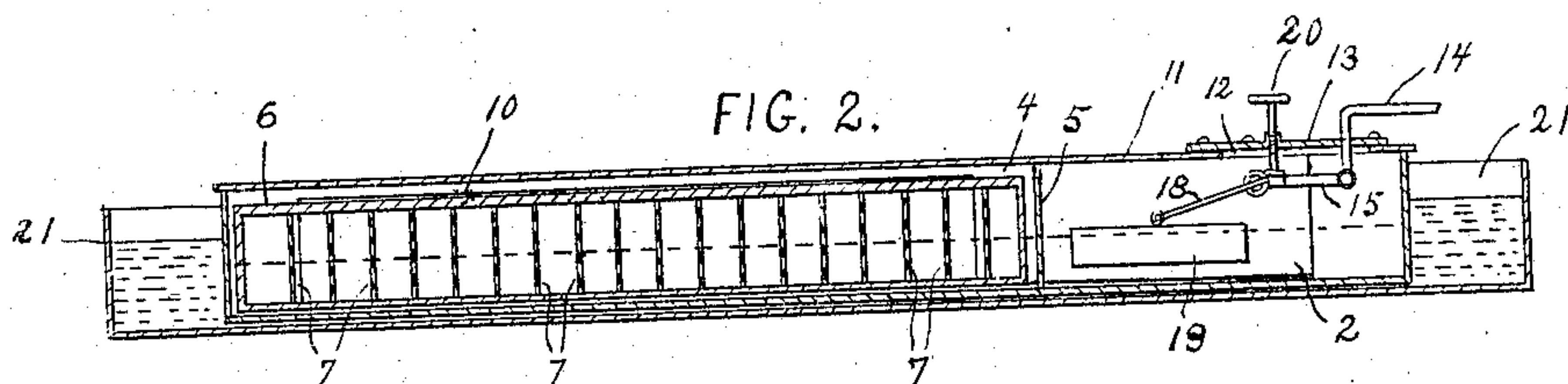
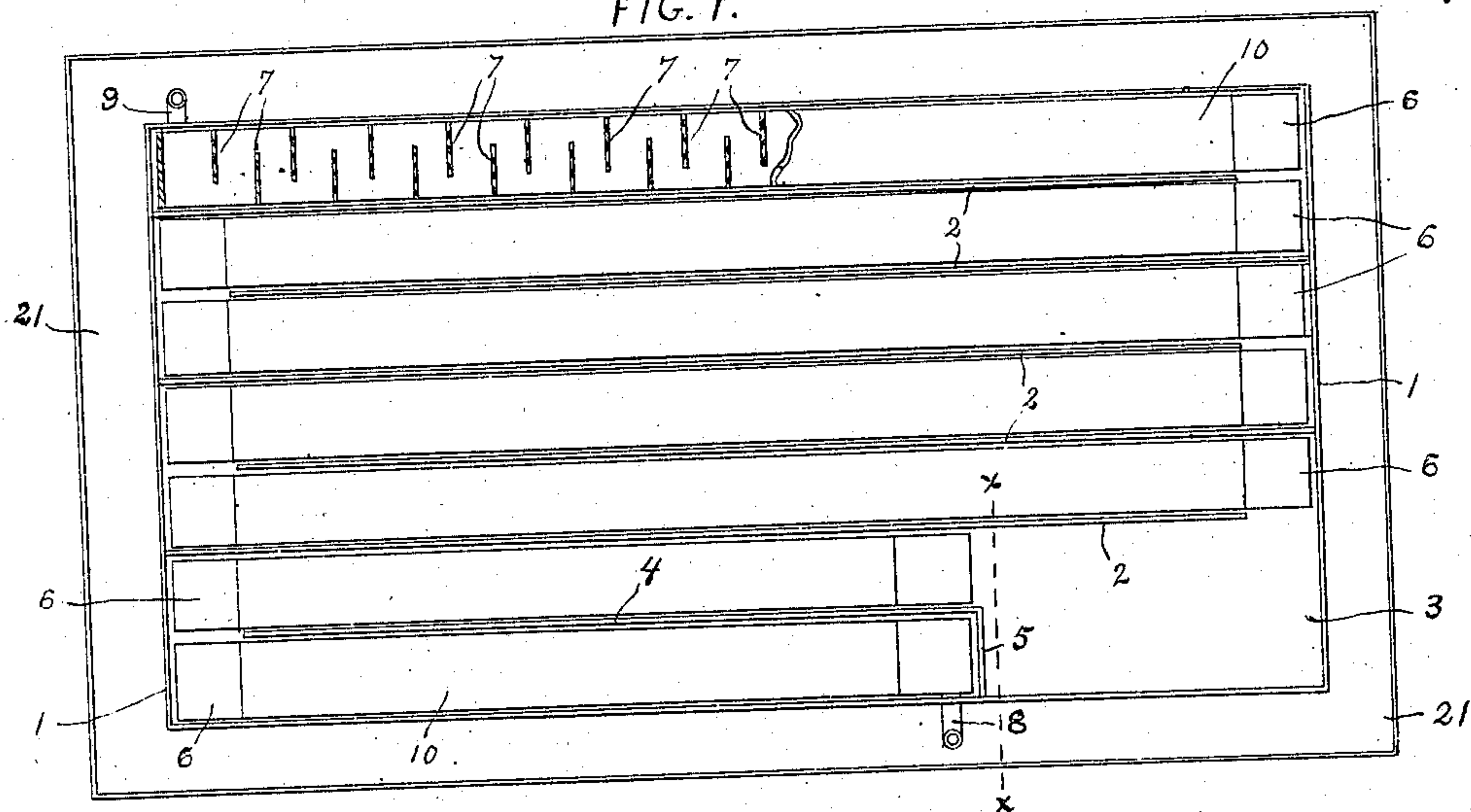


FIG. 3.

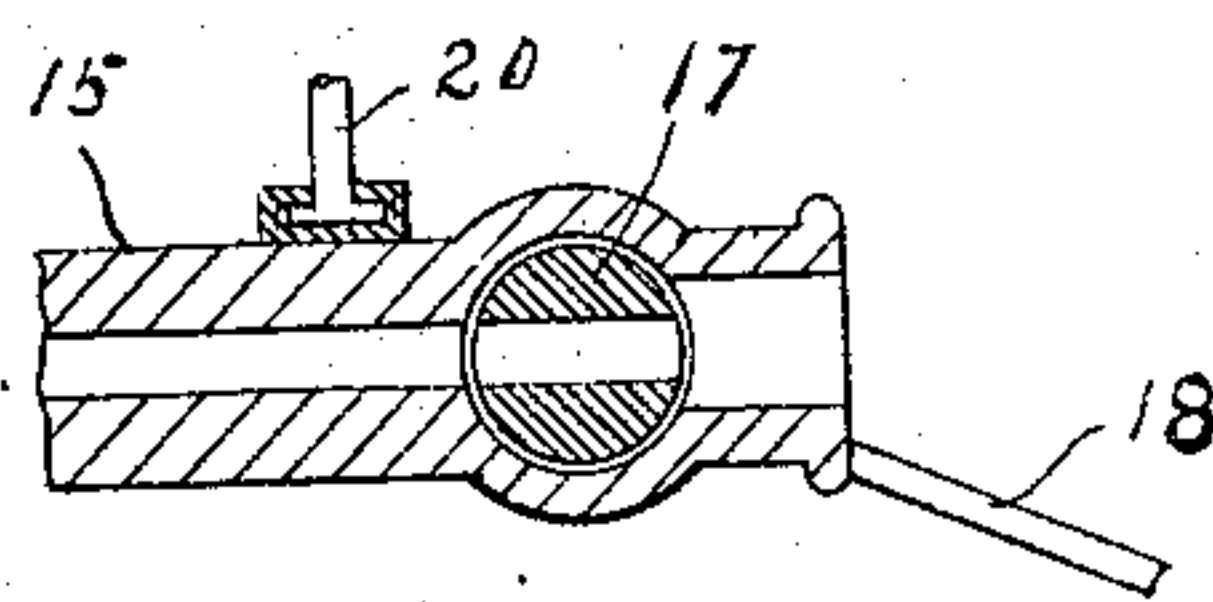


FIG. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

ALBERT W. BREIDING, OF STERLING, ILLINOIS.

CARBURETER.

No. 885,832.

Specification of Letters Patent.

Patented April 28, 1908.

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To all whom it may concern:

Be it known that I, ALBERT W. BREIDING, a citizen of the United States, residing at Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Carbureters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention has reference to improvements in carbureters, of the character used in machines for producing gas from hydro-carbons.

One of the purposes of my device consists in exposing to the action of the current of air passing through the carbureter a maximum quantity of the gasoline, and at the same time present to the current of air the greatest possible amount of resistance, so that such air is thoroughly saturated with the hydro-carbon, and is always of a uniform degree of richness.

There are other novel features which will more fully appear in the following specification, reference being had to the accompanying drawings, in which:

Figure 1 is a plan view of my invention, with the cover removed. Fig. 2 is a vertical section, longitudinally of the valve chamber and first short frame 6. Fig. 3 is a vertical cross-section, in the line $x-x$ of Fig. 1. Fig. 4 is an enlarged detail of the valve 16 and appurtenant parts, in section.

Similar numbers refer to similar parts throughout the several figures.

1 is the carbureter, of rectangular pattern, and preferably constructed of sheet metal. The interior thereof is divided into a plurality of winding passages by means of partitions 2, which are alternately provided with openings at their ends. In one corner of the carbureter is a valve-chamber 3, provided for by a short partition 4 and angular extension 5 thereof.

In each of the passage ways formed by the partitions 2 and 4 is a frame 6, each of such frames being provided with a plurality of curtains or wings 7, formed of absorbent material, and arranged in staggered position longitudinally of the frame.

8 is an air-inlet pipe, and 9 an outlet pipe

for the passage of the gas to a gasometer, or the place where it is to be used.

The frames 6 may be covered throughout the greater part of their length with absorbent material 10, to aid in the evaporation of the gasoline, but I am aware that it is not new to provide frames with a covering of this kind, in carbureters, and nothing is claimed thereon.

11 is the cover of the carbureter, provided above the valve chamber with an opening 12, normally closed by means of a plate 13. The gasoline or other hydro-carbon is introduced into the valve-chamber through a pipe 14, passing through the plate 13. Within the valve compartment is a pipe 15, pivotally united with the pipe 14 by means of a connection 16, and provided near its free end with a cut-off valve 17. To the valve 17 is attached one end of a lever 18, the other end thereof being loosely secured to the float 19. A thumb-screw 20 is seated in the plate 13, the lower end thereof being loosely secured to the pipe 15, near the valve end thereof, so that by the operation of the screw such end may be raised or lowered, as desired.

21 is a shallow pan, partly filled with water, in which the carbureter is seated. The pan is of sufficient size to leave a space for the water on all sides of the carbureter. By this means the temperature on the interior of the carbureter is not so quickly affected by changes in the temperature outside, and a more uniform degree thereof maintained within. As it is usual to set the carbureter in an excavation or vault on the outside of the building, the advantage of using the water protection is easily understood. When the carbureter is located so as not to be exposed to changes in the weather, the use of the water pan is unnecessary.

In operation, a desired quantity of gasoline is admitted to the carbureter, the height thereof being regulated by the float 18. A current of air is then introduced through the pipe 8, passing through the first short frame 6 and into the other one thereof. It then passes through the valve chamber and each of the long frames 6, in succession, passing out through the pipe 9. During its passage it is saturated with the hydro-carbon, and leaves the carbureter in the form of a rich gas. In passing through the frames it is apparent that the current of air must pursue a zig-zag course, passing around the edge of one of the wings 7 and coming in contact

with the face of the next succeeding wing, through which a portion of the air sifts.

As the gasoline in the carbureter is consumed, the float 19 is lowered, opening the valve 17, and permitting more of the fluid to enter the carbureter. If the quantity of gasoline is too great, producing a gas which is too rich, this can be remedied by lowering the end of the pipe 15 by means of the set-screw 20. When this is done the valve 17 will be closed more quickly, and a less quantity of the fluid admitted. The opposite result can be attained by raising the valve 17. This type of valve is preferred on account of the sediment and foreign matter which is frequently found in gasoline, and which is apt to interfere with the working of a valve acting on a valve-seat.

I prefer to attach the partitions 2 and 4 tightly to the cover of the carbureter, and leave their lower edges unattached to the bottom thereof. This compels the passage of the air through the winding passages, and permits the passage of the gasoline beneath the partitions, so that all parts of the carbureter can be more readily supplied therewith. By passing the current of air through the valve-chamber 3, evaporation of the gasoline takes place in said chamber, as well as in other parts of the carbureter.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is:

1. A carbureter, comprising a closed tank, having an air inlet and gas outlet; a series of partitions, alternately disposed, to form a series of adjacent passages constituting one continuous passage from said air inlet to said gas outlet; a plurality of rectangular frames, located in said passages; and a plurality of absorbent curtains, alternately disposed at short intervals in said frames, at right angles to the walls of said passages, substantially as shown and described.

2. In a carbureter, the combination, with a closed tank, having an air inlet and gas outlet, and a valve-chamber in one corner thereof; of a winding passage connecting said air inlet and gas outlet, and provided with a plurality of absorbent curtains, extending alternately from opposite sides of such passage, partially across the same; a supply pipe, entering said valve-chamber, and provided with a cut-off valve at its inner end; a float, located in said valve-chamber, and actuating said valve; and means for raising and lowering said valve from without the carbureter, when the same is closed, substantially as shown and for the purpose named.

In testimony whereof, I affix my signature, in presence of two witnesses.

ALBERT W. BREIDING.

Witnesses:

R. W. E. MITCHELL,
A. K. HABERN.