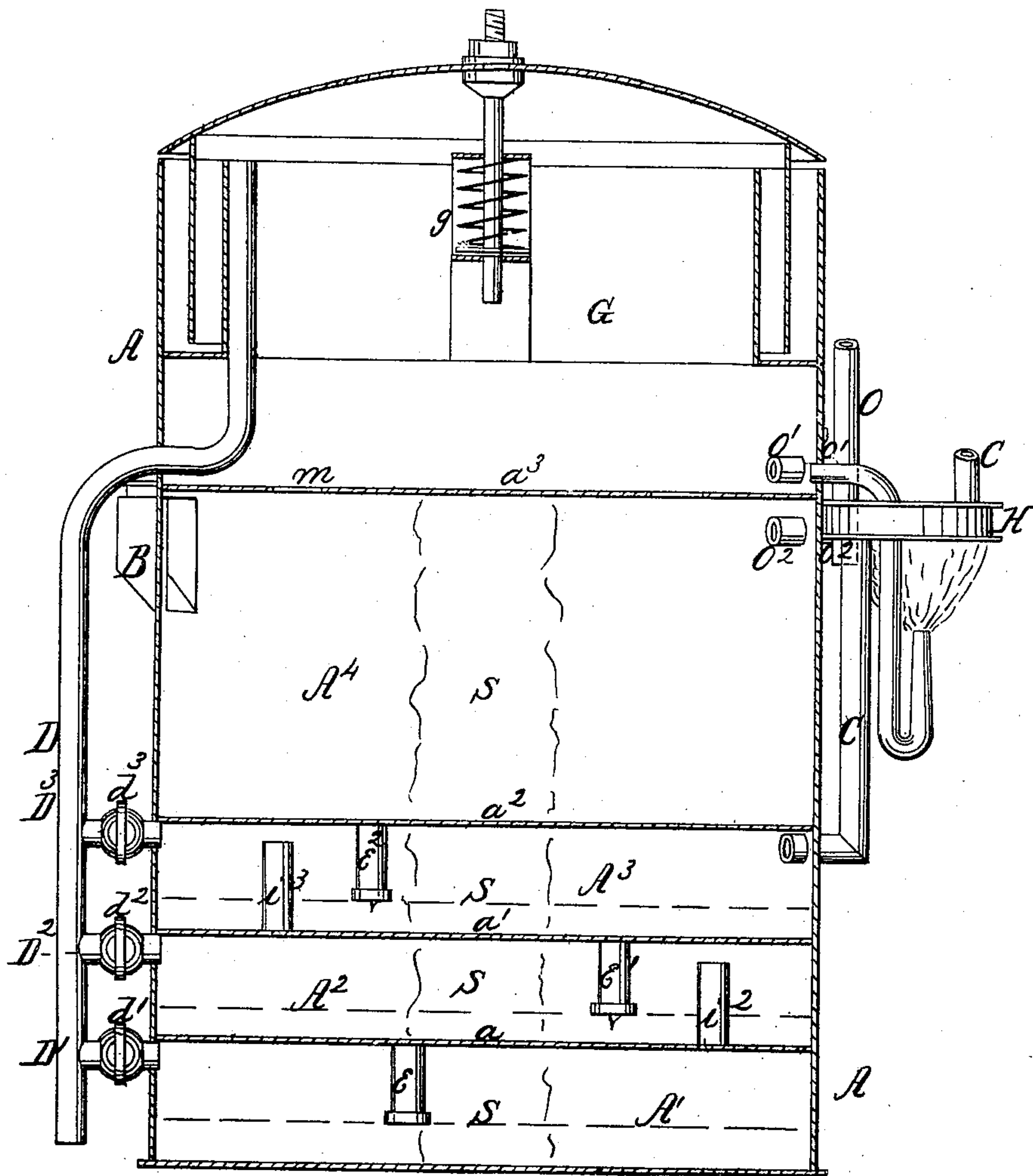


J. Johnson.

Gas Generator.

N^o 89,665.

Patented May 4, 1869.



Witnesses
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JOSIAH JONSON, OF TOLEDO, OHIO.

Letters Patent No. 89,665, dated May 4, 1869.

IMPROVED APPARATUS FOR CARBURETTING AIR OR 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, JOSIAH JONSON, of Toledo, in the county of Lucas, and State of Ohio, have invented a new and improved Gas-Generator; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which my invention is represented by a vertical axial section.

The object of this invention is to provide, for public use, a cheap, convenient, and substantial carburetter, the action of which can be so adjusted and controlled as to present a greater or less carburetting surface to the air, whereby the latter can be combined with any required proportion of inflammable vapor, without changing the draught or quantity of air.

In the drawings—

A represents the carburetting-vessel, which is divided by horizontal partitions, $a^1 a^2 a^3$, into four or more chambers, $A^1 A^2 A^3 A^4$, and is surmounted by a gasometer, G, the top of which may be held down by a spring, g , and the space between which and the upper edges of the vessel A may be packed and sealed in any suitable manner.

B is the cock, through which the gasoline or other carburetting-material is introduced.

C is the pipe, through which the supply of fresh air is introduced, said air first passing through a heater, H, and then down, and in through the wall, under the partition a^2 , so as to be discharged into the chamber A^3 , in contact with the surface of the gasoline in the chamber.

D represents the exit-pipe, through which the carburetted air is discharged from the gasoline-chambers into the gasometer, said pipe being connected with said chambers by means of branches, $D^1 D^2 D^3$, each of which has a stop-cock, $d^1 d^2 d^3$.

Each of the partitions $a^1 a^2$ is provided with a tube, $e^1 e^2$, extending downward from it, said tube being closed at its lower end, by a float-valve, v .

The two chambers $A^2 A^3$ are each provided with a waste-pipe, $i^2 i^3$, by which the gasoline, when arriving at a certain height, will flow into the chamber next below.

S is a sponge, designed to take up the gasoline by capillary attraction, and promote its vaporization.

The partition a^3 is provided with one or more openings, m .

O is the delivery-pipe, which connects both with the gasometer and the chamber A^4 , by means of branches, $O^1 O^2$, so that, by turning a stop-cock, o^1 or o^2 , the gas may be drawn for use, either from the former chamber or from the latter.

The operation of the apparatus is as follows:

The gasoline is introduced through cock B, and,

running down through tube e^2 , it fills chamber A^3 to the height of tube i^3 , when it runs down into the next chamber, A^2 , filling that to the height of tube i^2 , when it passes to the lower chamber, A^1 , filling that till the float-valve stops it from entering.

Or, the float-valves may be so arranged that the gasoline will pass freely through all the pipes, $e^1 e^2$, to the lower chamber, which it will fill, until it raises the valve, and cuts off the passage into that chamber, when it will fill the chamber above, until, in turn, it closes the valve there, after which it will, in like manner, fill chamber A^3 , till it cuts off the supply, when, after thus filling the lower chambers, it will rise in chamber A^4 , to any height required.

The latter is the preferable construction, since, by its means, the supply can be better adjusted, and the upper chamber A^4 can be made to act as a reservoir, to automatically fill the three lower chambers as fast as the fluid within them wastes away.

If the two lower stop-cocks, $d^1 d^2$, are closed, and the upper one opened, the air introduced through pipe C will pass across over the gasoline in chamber A^3 , and, taking up but little of the vapor, will escape directly through cock d^3 , filling the gasometer and chamber A^4 with a gas of comparatively poor quality.

If the middle cock, d^2 , be opened, and the others closed, the air from pipe C will not only pass over the same surface of fluid as before, but, going down through pipe i^3 , into chamber A^2 , will pass over the fluid therein, and escape through cock d^2 , much richer than before.

And, likewise, if the lower cock, d^1 , be opened, the two upper ones being closed, the air from pipe C will be obliged to travel over the gasoline in all three of the chambers $A^3 A^2 A^1$, before it can escape through branch D^1 into the gasometer.

When gasoline is allowed to stand in chamber A^4 , its evaporation also will enrich the gas that has already passed over through pipe D.

If there should, in consequence of this, or when first filling the apparatus, be any difference between the richness of the gas in chamber A^4 and gasometer G, it can be taken for use from either, or from both of said chambers at once, by means of two branches, $O^1 O^2$ and cocks $o^1 o^2$, so as to regulate the quality, as may be desired.

The whole apparatus is simple in construction, cheap, economical in operation, and not liable to get out of order, or cause accidents of any kind.

As will have been already clearly understood, from the above description, it will enable the operator, by properly adjusting the stop-cocks, to produce and draw off for use gas or carburetted air of any degree of richness of illuminating-quality that may be desirable.

Having thus described my invention,

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

1. The arrangement of a series of chambers, A^1 A^2 A^3 , pipes e e^1 e^2 , i^2 i^3 , valves v v v , supply-pipe O , and exit-pipes D^1 D^2 D^3 , having cocks d^1 d^2 d^3 , in such a manner as to operate substantially as and for the purposes set forth.

2. In connection with the several parts, thus arranged and operating, the arrangement and combination of the delivery-pipe O , having two branches,

O^1 O^2 , and two cocks, o^1 o^2 , with relation to the chamber A^4 , and gasometer G , substantially as and for the purposes set forth.

To the above specification of my improvement, I have set my hand, this 1st day of March, 1869.

JOSIAH JONSON.

Witnesses:

CHAS. A. PETTIT,

S. C. KEMON.