2 Sheets--Sheet 1.

A. GLACHET.

Gas Apparatus.

No. 166,867. Patented Aug. 17, 1875.

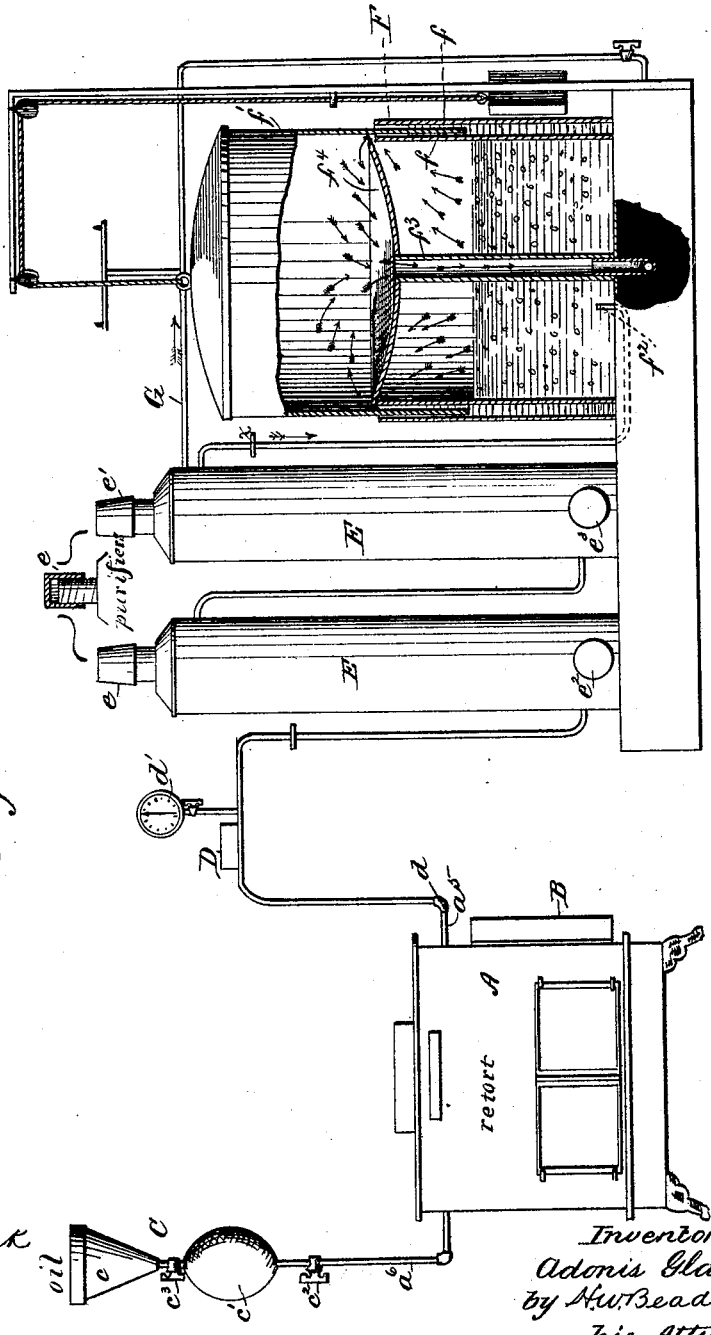


Fig 1.

Witnesses;
Harry G Clark
James J. Finley.

Inventor.
Adonis Glachet.
by H.W. Beadle & Co.
his Attys.

2 Sheets--Sheet 2.

A. GLACHET.

Gas Apparatus.

No. 166,867. Patented Aug. 17, 1875.

Fig 2

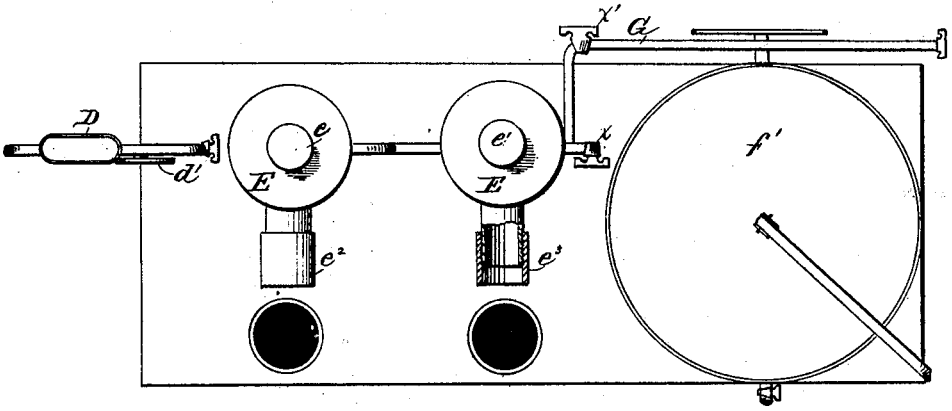


Fig 3

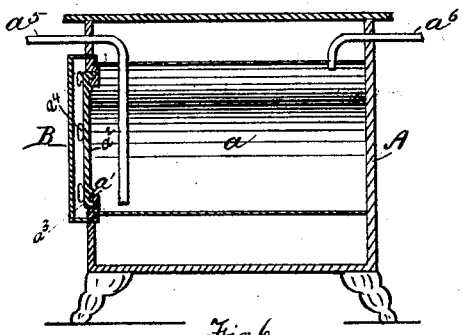


Fig 4

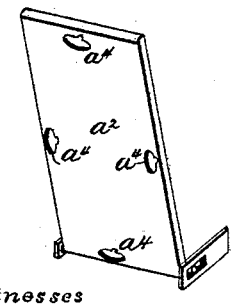


Fig 5

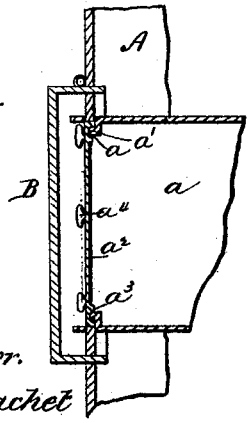
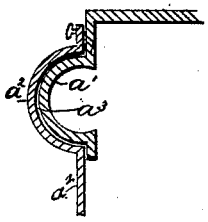


Fig. 6



Witnesses

Harry G. Clark

James J. Finley

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UNITED STATES PATENT OFFICE.

ADONIS GLACHET, OF ALEXANDRIA, VIRGINIA.

IMPROVEMENT IN GAS APPARATUS.

Specification forming part of Letters Patent No. **166,867**, dated August 17, 1875; application filed July 21, 1875.

To all whom it may concern:

Be it known that I, ADONIS GLACHET, of Alexandria, in the county of Alexandria and State of Virginia, have invented a new and useful Improvement in Gas Apparatus; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

This invention relates to household apparatus for making gas; and consists, mainly, in certain special details of construction, by means of which certain improved results are obtained, as will be fully described hereinafter.

In the drawings, Figure 1 represents a front elevation of my improved apparatus; Fig. 2, a partial plan view; Fig. 3, a longitudinal sectional elevation through the retort; Fig. 4, a perspective view of the retort-door; Fig. 5, a sectional elevation of the retort and box-doors; and Fig. 6, a sectional elevation of part of the projecting rib of the retort, and the corresponding recess of the retort-door.

To enable others skilled in the art to make and use my invention, I will now proceed to describe fully its construction and manner of operation.

A represents a cooking or other household stove or furnace, provided with a retort, *a*, Fig. 3, which in this case takes the place of the fire-brick, and forms consequently the fire-back, it being so supported as to permit the flame to surround it upon all sides. a^1, Fig. 6, represents a semicircular or other curved rib projecting from the face of the retort and extending about the opening; and a^2, a door provided with corresponding recesses a^3 and locking-screws a^4, by means of which latter it is securely fastened in place when desired, clay or other luting being employed, if desired, to make a tight joint. This door is provided upon its sides near its lower ends with pivot-pins resting in slotted arms, as shown in Fig. 4, which project from the face of the retort. By means of this construction the door is provided, as it were, with loose hinges, so that it is capable of being turned freely to open and close the retort without interfering with its adjustment by means of the securing-screws, when it is desired to tightly close the same. a^5 represents the discharge-pipe for the gas, and a^6 the pipe through which the contents of the receiver are delivered to the retort. B represents a box-door, which is adapted to inclose the door of the retort, and prevent any escape of gas into the room. The special construction of this door is represented in Figs. 3 and 5, in which, it will be observed, the edge of the door when closed projects within the line of the stove, so that any leakage of gas is delivered into the interior of the stove instead of into the room. In practice it will be found sufficient to cause the top plate of the door to project within the line of the stove, in consequence of the tendency of gas when in a hot current to rise in straight lines, rather than to spread to either side. C represents the receiver, which is designed to receive fat or grease accumulating from time to time, which would otherwise be thrown away. *c* represents the funnel, into which the properly-melted fat is poured, the upper stop-cock being open. c^1 represents the receptacle into which the contents of the funnel flow, and from which they are discharged into the retort through the stop-cock c^2. c^2 c^3 represent the cocks, by means of which the escape of gas is prevented, the upper cock being closed always before the lower cock is opened. *d* represents a joint of any suitable construction, by means of which, when desired, the main pipe may be readily connected with, and disconnected from, the discharge-pipe a^5 of the retort. D represents the water-box placed upon the hot pipe between the retort and the purifying-chamber, by means of which the gas is partially cooled. d^1 represents a gage, adapted to indicate the amount of pressure in the pipes.

E E represent purifying-chambers adapted to receive the gas at the bottom and discharge it at the top, which are provided with the openings *e* e^1 for introducing the purifying materials, water, lime, &c., and the openings e^2 e^3 for drawing off the tar and residuum. F represents the gasometer having the double wall *f f* and vertically-moving holder f^1, sustained by chains and weights in any proper manner. It is provided also with the inlet-pipe f^2 opening beneath the water, and the discharge-pipe f^3 having the disk-shaped cap f^4 extending nearly to the side of the inner

wall, but leaving sufficient space for the passage of the gas, as shown. G represents a branch-pipe connected with the service-pipes, by means of which the gas may be used as made without going through the gasometer.

Some of the advantages of the described construction are as follows: The gas is made either from coal, grease, or oil, by the heat of the ordinary fire made for cooking or heating purposes, so that no extra expense is incurred for fuel. The waste fatty matter of the kitchen, by means of the receiver, may be readily utilized instead of being wasted. The coke and residuum in the retort may be employed for fuel after the gas has been removed. By the special construction of the door of the retort a tight joint is cheaply and easily made. The auxiliary box-door also prevents any leakage that may occur from escaping into the room. The purifying-chambers are exceedingly simple in their construction, and are adapted to permit readily the introduction of the purifying materials and the removal of the residuum. By the employment of double walls in the gasometer the gas is much more securely held. By the employment of the disk-shaped cap to the discharge-pipe the incoming gas from the inlet-pipe is relieved from pressure, and consequently also the retorts, so that the generation of gas is not interfered with. By locating the inlet-pipe beneath the water the gas receives a final purification as it enters the gasometer. By the employment of the branch pipe the gas may be used direct without passing through the gasometer.

The general construction of the parts is so simple and the arrangements so compact that the apparatus may be set up by unskilled labor in an ordinary dwelling, and be readily removed from place to place when desired.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the stove and retort-door, the box-door, the inner edges of which project within the line of the door for the purpose of preventing leakage into the room, as described.

2. The combination of the retort-door having pivot-pins, as described, with the slotted supporting-arms, the construction being such that the door is capable of adjustment upon the supporting-arms, for the purpose of tightly closing the retort, as described.

3. In combination with the gasometer having its supply-pipe discharging in the lower part of the tank, the discharge-pipe f^3 having the disk-shaped cap f^4, the construction being such that the gas enters at the edges of the cap and passes out at its center, as described.

This specification signed and witnessed this 21st day of July, 1875.

ADONIS GLACHET.

Witnesses:

JAMES J. FINLEY,

C. A. BRAINERD.