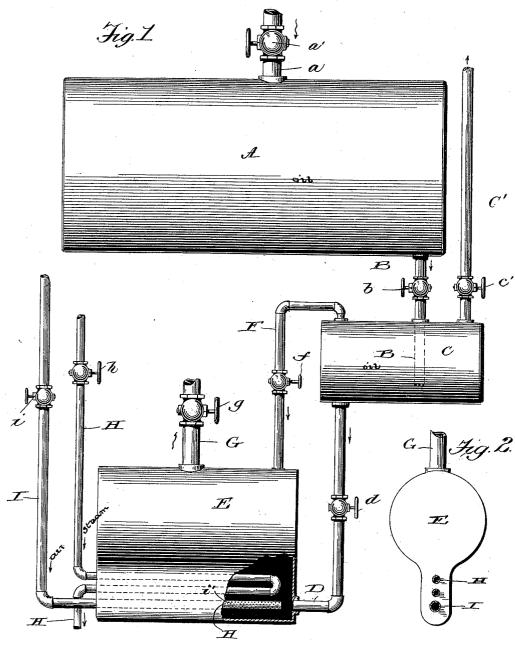
(No Model.)

### H. C. SCHRADER. CARBURETER.

No. 566,413.

Patented Aug. 25, 1896.



Witnesses: L. C. Hills CABond

Inventor: Henry C. Schruder, by EBS Locking Atty

HE NERRIS PETERS CO. PHOTO/LITHO,, WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

#### HENRY C. SCHRADER, OF HAMMONDVILLE, PENNSYLVANIA.

#### CARBURETER.

## SPECIFICATION forming part of Letters Patent No. 566,413, dated August 25, 1896.

Application filed December 23, 1895. Serial No. 573,099. (No model.)

To all whom it may concern: Be it known that I, HENRY C. SCHRADER, a citizen of the United States, residing at Hammondville, in the county of Fayette,

- 5 State of Pennsylvania, have invented certain new and useful Improvements in Carbureters, of which the following is a specification, reference being had therein to the accompanying drawings.
- This invention relates to certain new and IO useful improvements in gas-making apparatus; and it has for its object, among others, to provide a simple and cheap plant or apparatus whereby the gas may be manufactured
- 15 rapidly and at a small cost. It is designed, primarily, for use in such parts of the country as are not provided with gas of any kind. The apparatus embodies a storage-tank, an intermediate tank connected therewith and
- with the gas-making reservoir, the latter be-20 ing provided with a steam pipe or coils and an air-pipe extending thereinto and provided with minute perforations. I provide means for equalizing the pressure in the gas-mak-
- 25 ing tank and I avoid pressure or heat in the storage-tank.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed 30 out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which-

Figure 1 is a side elevation of my improved 35 apparatus with a portion of the gas-making tank broken away. Fig. 2 is an end elevation of the gas-making tank with the inletpipes in cross-section.

40 Like letters of reference indicate like parts in both of the views.

Referring now to the details of the drawings by letter, A designates the storage-tank, of any desired capacity, provided with the sup-

45 ply-pipe *a*, leading from any suitable source of supply (not shown) and provided with a value a', whereby the supply may be controlled and regulated. From the bottom of this tank extends a pipe B, having a suitable value b and extending into the intermediate

tank C, of small capacity compared with the

tank A, the said pipe extending thereinto nearly to the bottom thereof, as indicated in Fig. 1. This tank C is provided with a vent-pipe C', having a suitable valve c', and from 55 the lower end of said tank extends a pipe D, having a suitable value d and extending into the gas-making tank or chamber E. This tank is preferably of the shape shown, that is, pear-shaped, and the pipe D communicates 60 therewith at the lower portion of the contracted part of said tank. A pipe F affords communication between the top of the tank C and the top of the tank E and is provided with a valve f. This is for equalizing the 65 pressure within the tanks.

G is a pipe extending from the top of the tank E and forming the gas-outlet, and this pipe is provided with a valve g, as shown. H is a steam-pipe adapted to be connected 70

with any suitable source of supply and provided with a valve h. This pipe extends within the lower portion of the tank E and has one or more coils within the same, and after passing through the said tank the re- 75 quired number of times the end thereof is

again brought out, as indicated in Fig. 1. I is a pipe provided with a value i and adapted to be connected with any suitable source of supply for compressed air. This 80 pipe extends into the lower portion of the tank E and within said tank is provided with numerous perforations i'.

In operation the tank A is filled with benzin or the like, the value b is opened, and the 85 tank C allowed to fill, and the benzin from this tank flows into the tank E through either the pipe D or the pipe F, the flow being controlled by the valves therein and the valve in the vent-pipe C' being opened. Steam is 90 then admitted to heat the oil, and then the compressed air is forced through the pipe I at the bottom of the tank E and thoroughly mixed with the benzin. The gas thus generated is conducted from the tank E through 95 the pipe G to the desired place of usage. This gas makes a very hot fire and is produced at minimum cost and with but little attention on the part of the attendant. The intermediate tank is an important element 100 in the device, permitting of the making of the gas continuously and also relieving pressure from the storage-tank, so as to avoid any possibility of danger.

What I claim as new is—

1. The apparatus described, comprising the 5 storage-tank with supply-pipe and valve, an intermediate tank, a pipe connected with the bottom of the storage-tank and extending into the intermediate tank and provided with a valve, an independent vent-pipe from the

intermediate tank provided with a valve, the gas-making tank having contracted lower portion, a pipe connecting the bottom of the intermediate tank with said contracted portion and having a valve, a pipe connecting
the top of the intermediate tank with the top

the top of the intermediate tank with the top of the gas-making tank and provided with a valve, a steam-pipe provided with a valve and extended into and coiled within the contracted portion of the gas-making chamber

20 with its other end passed out through the same, and a compressed-air pipe extending into the contracted portion of the gas-making tank below the coils of the steam-pipe and provided with minute perforations, subart steating as specified.

25 stantially as specified.

2. The gas-making apparatus described, comprising the storage-tank with supply-pipe, the gas-making tank, the gas-outlet pipe connected with its upper side and provided with a valve, the steam-coil arranged within the 30 lower portion of the gas-making tank, a pipe for admitting compressed air into said lower portion and perforated within the same, a tank intermediate the storage and gas-making tank, a pipe leading from the storage- 35 tank into the intermediate tank, a vent-pipe extending from the upper side thereof inde-pendent of the other pipes, a pipe connect-ing the upper side of the gas-making tank with the upper side of the intermediate tank, 40 and an independent pipe connecting the lower end of the intermediate tank with the bottom of the gas-making tank; all substantially as described.

In testimony whereof I affix my signature 45 in presence of two witnesses.

HENRY C. SCHRADER.

Witnesses:

E. L. RUTHERFORD, THOS. H. RUTHERFORD.

2