C. F. COX.

CARBURETER.

APPLICATION FILED JAN. 24, 1906.

994,574.

Patented June 6, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

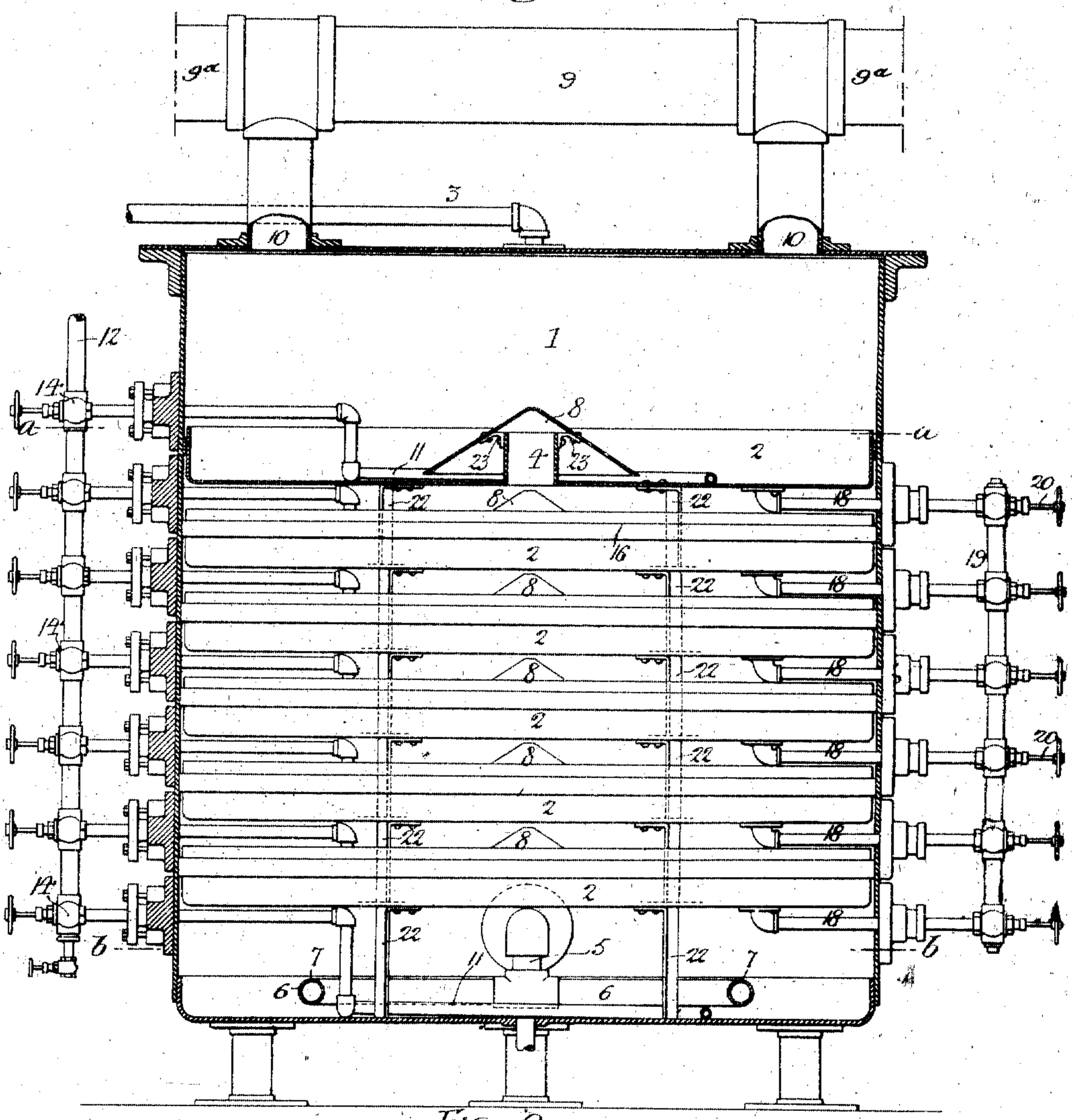
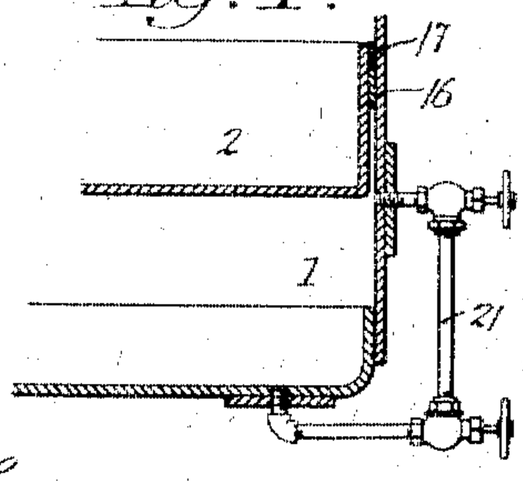


Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 2.

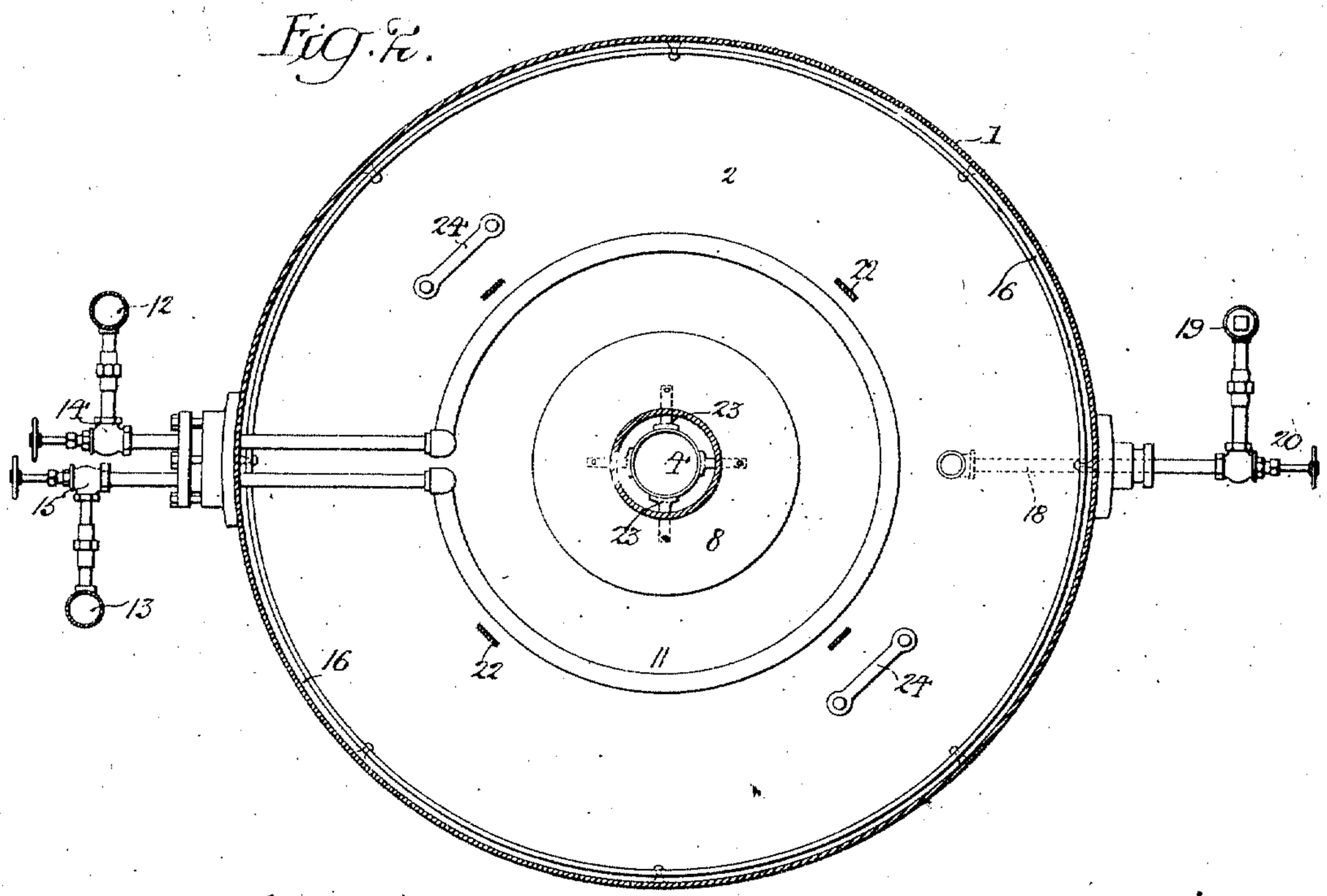
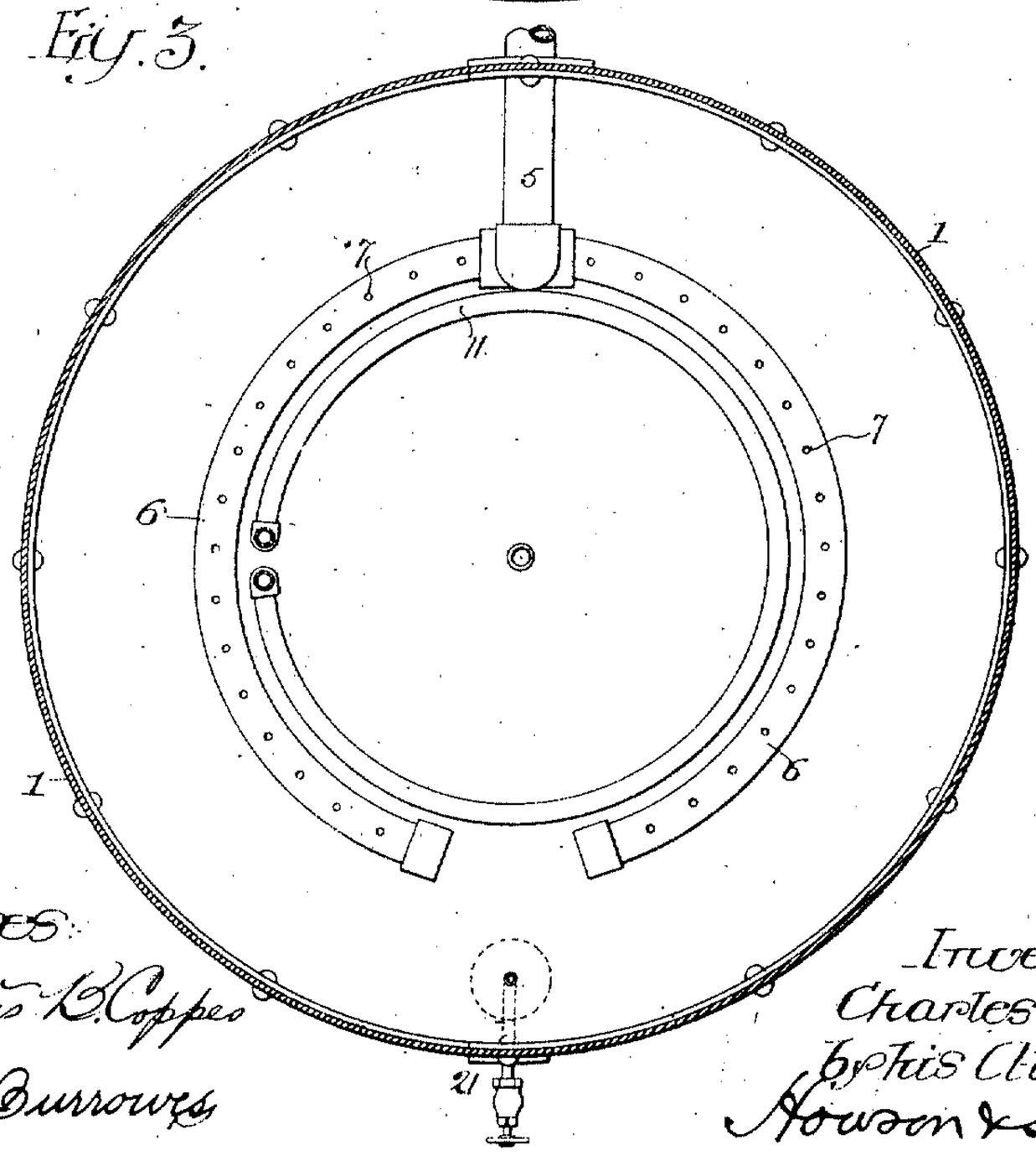


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES F. COX, OF BRIDGETON, NEW JERSEY.

CARBURETER.

994,574. Specification of Letters Patent. Patented June 6, 1911.

Application filed January 24, 1906. Serial No. 297,621.

To all whom it may concern:

Be it known that I, CHARLES F. COX, a citizen of the United States, and a resident of Bridgeton, Cumberland county, New Jersey, have invented certain Improvements in Carbureters, of which the following is a specification.

My invention relates to apparatus employed in the generation of carbureted air from gasolene, and consists of certain improvements in structures of this character designed to operate in a rapid and efficient manner.

My invention is fully shown in the accompanying drawings, in which:

Figure 1, is a cross-sectional view of a carbureter made in accordance with my invention; Figs. 2 and 3, are sectional plan views on the lines *a*—*a* and *b*—*b*, Fig. 1, respectively, and Fig. 4, is a sectional view illustrating details of my invention.

In the drawings herewith, 1 represents a cylindrical casing or tank containing a series of pans 2 suitably supported and spaced apart. A pipe for the inlet of gasolene is shown at 3, and the gasolene in entering strikes the upper pan 2 and fills the same. Each pan is provided with a central overflow pipe 4, and when the gasolene reaches the top of such pipe it passes to the next pan and so on until it reaches the desired height in the bottom of the tank, a fact which may be determined by the use of a gage glass, when inlet of the gasolene should be cut off.

The gaseous vapor is produced by blowing air through the gasolene contained in the tank and in the several pans supported therein, and a pipe 5 is provided for the inlet of air under pressure from a suitable source of supply. This pipe leads to a circular discharge pipe 6 disposed in the lower part of the tank 1, and provided with apertures 7 in its upper side for the passage of the air under pressure through the gasolene. It will be understood that this air pipe will be open during the introduction of the gasolene in order that the latter may rise within each of the cone-shaped deflectors 8 and thus pass into the overflow pipes 4 so as to successively flow to the several pans when it is supplied at the top of the carbureter. The air under pressure evaporates the gasolene and serves also to carry the vapor up through the overflow pipes 4 and the bodies of gasolene in the several pans, such vapor passing successively under the cone-shaped deflectors or covers 8 for each overflow pipe and being enriched from the gasolene in each pan. Upon leaving the uppermost pan, the vapor or carbureted air enters the collector 9 mounted above the casing, through the inlets 10, being further enriched by contact with the gasolene, in said upper pan, and from the collector 9 the carbureted air may be delivered by a pipe or pipes 9ª at either or both ends of the same. Under ordinary circumstances the passing of air under pressure through the gasolene, evaporates the gasolene so rapidly that the temperature is materially reduced, frequently to such an extent as to prevent free liberation of the carbureted air. To overcome this condition, I provide each pan with a steam coil 11 connected at one end to a pipe 12 leading from the source of supply and at the opposite end to a pipe 13 leading to a suitable exhaust outlet. The pipes 12 and 13 are provided with suitable valves 14 and 15, respectively, opposite each connection from the coils 11, so that any one of the coils may be cut out of use, if desired. After the generation of carbureted air has commenced, the flow of vapor can be continued as long as there is gasolene present and the heat and air pressure is maintained.

The pans are provided with an annular band of metal 16 riveted to the outside to stiffen the same, and a fluid tight joint is preferably made between the shell and pan by calking the space between the pans and the inner wall of said shell with asbestos or other suitable material as shown at 17. By this means the carbureted air generated within the tank must pass through the overflow pipes to the bodies of gasolene in the pans and thence successively through the overflow pipes and pans to the collector at the top.

Each pan is provided with a drainage pipe 18 communicating with a vertical pipe 19 common to all of said drainage pipes, which latter pipe is provided with a series of valves 20 so that any one or all of the pans may be drained at will. I also provide the lower portion of the carbureter with a gage 21 so that the quantity of gasolene therein can be accurately determined preparatory to closing the gasolene inlet.

The pans are supported in nested form by legs 22, and the deflectors, covers or cones 8 carried by the several pans are secured by arms 23 to the overflow pipes 4 and have

their lower edges placed as close to the bottom of each pan as may be desired. Each pan is provided with handles 24 whereby they may be readily lifted out of the shell when desired.

My improved carbureter is very compact, simple in construction and mode of operation, and of such character that a large amount of carbureted air may be generated from an apparatus of comparatively small size.

I claim:

1. The combination, in a carbureter, of a casing, a series of separate and removable containers mounted therein, means for introducing gasolene into the casing for passage to the several containers, centrally disposed overflow pipes for passing the gasolene successively from one container to another, means carried by each overflow pipe for sealing the inlet to each container by the body of gasolene within the same, means for forcing air successively through said bodies of gasolene, means for heating each body of gasolene, and fluid-tight joints interposed between the walls of said containers and the wall of the casing whereby the vapor generated must pass through the several bodies of gasolene and be enriched thereby.

2. The combination, in a carbureter, of the casing, a series of separate and removable pans mounted therein and in communication with each other within the casing, overflow pipes carried by said pans, means for introducing gasolene into the casing for passage to the upper pan, said overflow pipes providing for its passage to the other pans successively, cone-shaped covers for said overflow pipes, means for forcing air through the bodies of gasolene, the overflow pipes being sealed by contact of the cone-shaped covers with the gasolene in the pans so that the carbureted air in passing through said pipes is deflected and caused to pass through the body of gasolene in each pan whereby it will become enriched, means for independently heating the body of gasolene in each pan, and a storage receptacle at the top of the casing for the vapor.

3. The combination, in a carbureter, of the casing a series of separate and removable pans mounted therein and in communication with each other within the casing, overflow pipes carried by said pans, means for introducing gasolene into the casing for passage to the upper pan, said overflow pipes providing for its passage to the other pans successively, cone-shaped covers for said overflow pipes, a perforated pipe connected with a source of air supply mounted in the lower part of the casing whereby air discharged therefrom within the casing will be forced through the several layers of gasolene, the overflow pipes being sealed by contact of the cone-shaped covers with the bodies of gasolene in the pans so that the carbureted air in passing through said pipes is deflected and caused to pass through the body of gasolene in each pan whereby it will become enriched, means for independently heating the body of gasolene in each pan, and a storage receptacle at the top of the casing for the vapor generated.

4. In a carbureter, the combination of a casing, a series of removable pans or containers having centrally disposed overflow pipes, sealing covers carried by said pipes and extending below the tops of said overflow pipes, means whereby said pans or containers may be properly supported with respect to other pans or containers of similar size and design, an annular band secured to the outer wall of said pan or container, packing interposed between said pans and the inner wall of the casing, means for supplying gasolene to said casing for passage to the containers, means for heating the bodies of gasolene within said containers, means for forcing air through said bodies of gasolene, drainage pipes connected to each of said pans or containers, a main common to all of said drainage pipes, and valved connections for said main whereby any one of said pans or containers may be drained independently of the rest.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CHARLES F. COX.

Witnesses:
WM. A. LOGUE,
FRANK H. LOGUE.