

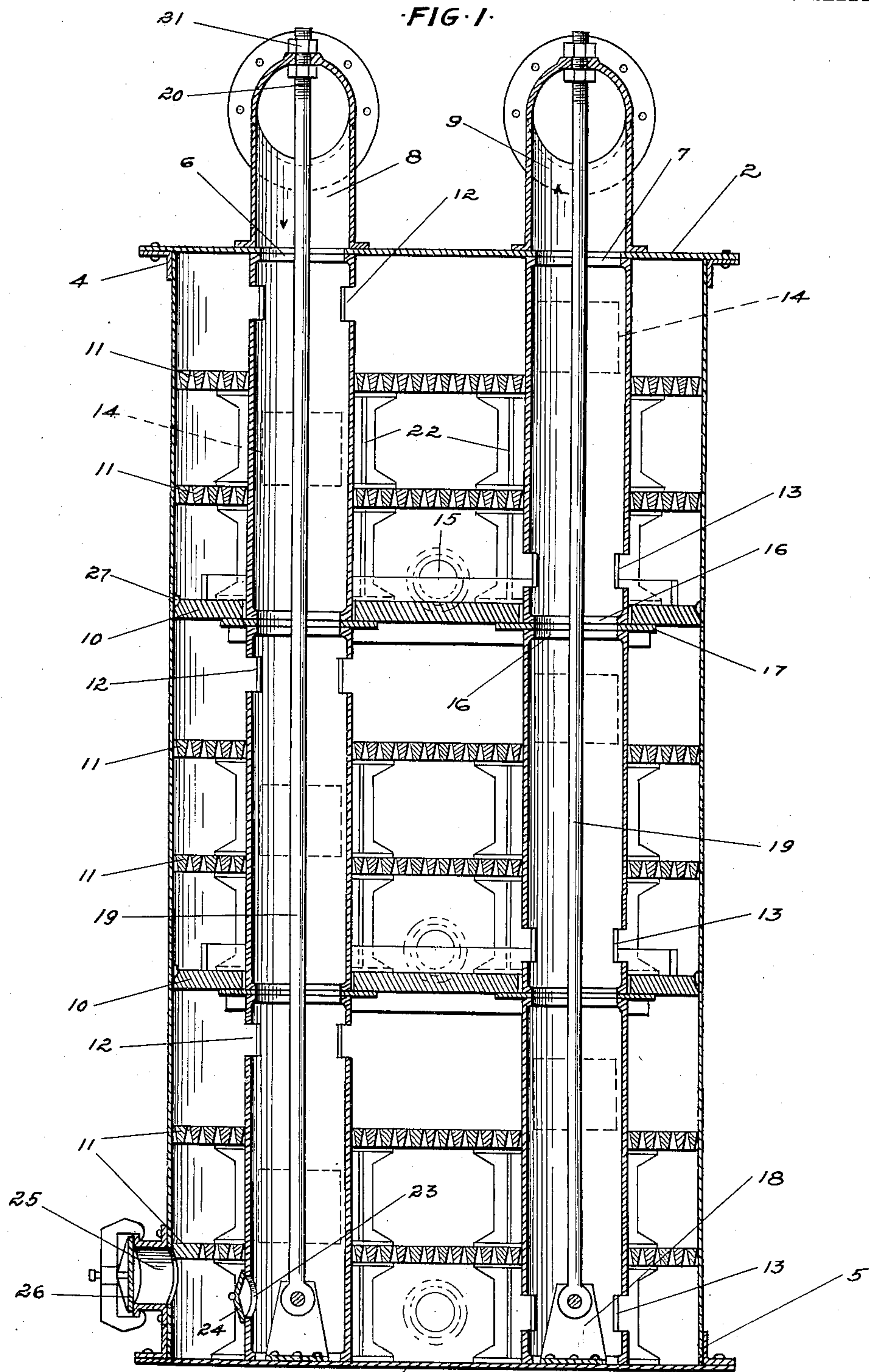
No. 814,698.

PATENTED MAR. 13, 1906.

F. G. HOBART.  
GAS PURIFIER.

APPLICATION FILED APR. 20, 1905.

2 SHEETS—SHEET 1.



WITNESSES

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*Edward V. Ault*

INVENTOR  
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BY

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ATTY.

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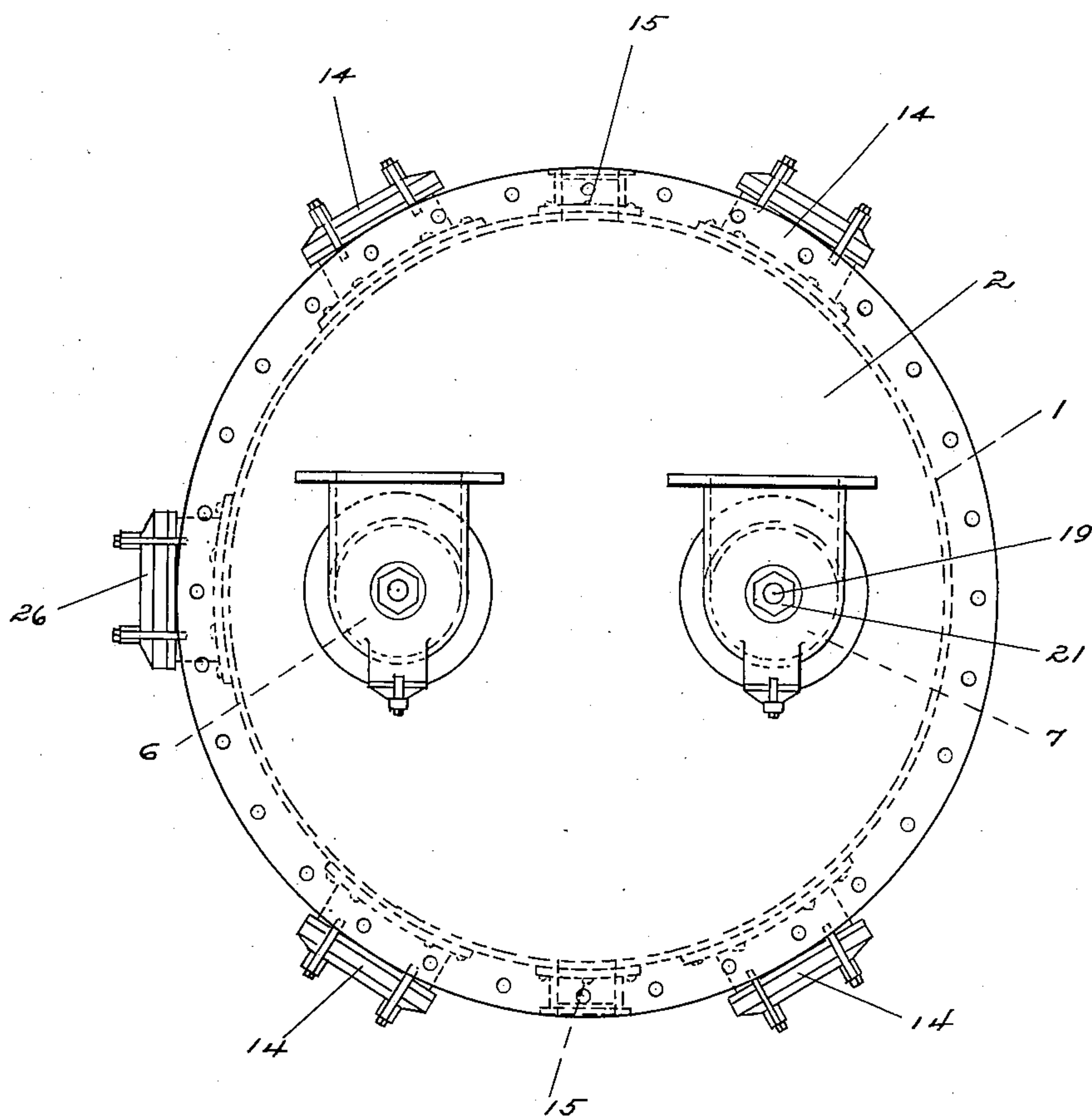


FIG. 2.

WITNESSES

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# UNITED STATES PATENT OFFICE.

FRANKLIN G. HOBART, OF BELOIT, WISCONSIN, ASSIGNOR TO FAIRBANKS, MORSE & COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## GAS-PURIFIER.

No. 814,698.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed April 20, 1905. Serial No. 256,632.

*To all whom it may concern:*

Be it known that I, FRANKLIN G. HOBART, a citizen of the United States, residing at Beloit, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Gas-Purifiers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to new and useful improvements in purifiers or filters for gases or liquids; and it consists in the construction and arrangement of parts thereof as will be more fully hereinafter described, and set forth in the claims.

The object of my invention is to construct a purifier or filter which can be adapted for use, having a wide range of capacities, which will be simple to construct and convenient for cleaning and which presents a large surface of purifying or filtering material to the passage of the gas.

In the drawings, Figure 1 is a vertical central section through the purifier. Fig. 2 is a plan view of the end of the purifier.

1 represents a shell or chamber, preferably a metallic cylinder, on which are the top 2 and the bottom 3 of greater diameter than the shell and having the annular flanges 4 and 5 tightly surrounding the ends of the shell. In the top 2 are the inlet-opening 6 and the outlet-opening 7, at which the purifier may be connected at any point of the system of a gas-producer. Inside the shell are two approximately vertical pipes or conduits 8 and 9, registering with the inlet and outlet openings, respectively, and extending from the top to the bottom. These conduits I preferably build up in sections, as I will hereinafter describe; but it is obvious that they may be formed integrally, if desired. The interior of the shell is divided into a plurality of compartments by the transverse horizontal partitions 10. I have shown a shell divided into three compartments; but it is obvious that more divisions may be made, necessitating merely a shell of greater height, when it is desired to increase the capacity of the purifier. In each compartment is one or more trays 11, on which the purifying or filtering material may be placed. I have shown two trays in each compartment; but any number may be used to secure the degree of purity desired. In the inlet-conduit near the

upper end of each compartment are the openings 12 12, through which the gas or liquid passes into the compartment, and in the outlet-conduit near the lower end of each compartment are the openings 13 13, through which the gas or liquid may escape into the outlet-passage. The trays 11 closely fit the interior of the shell and around the conduits, and they are placed intermediate the openings in the inlet and outlet conduits, whereby the fluid entering the compartment must pass through the material on the trays before it can escape into the outlet-conduit. An opening 14 is provided immediately above each tray, through which the filtering material can be examined and renewed, if necessary, and an opening 15 is provided above each partition, through which inspection may be made.

As above stated, I preferably form the inlet and outlet conduits of separate tubes extending between each two adjacent partitions, as clearly shown in Fig. 1, each tube having an inwardly-extending flange 16 at each end to increase its bearing-surface. Between each two pairs of these tubes are the metallic collars 17 17 for supporting the partitions. If desired, these collars may be fixed to the partitions.

A pair of lugs 18 are attached to the bottom of the shell by any suitable means, and to these are attached the rods 19, passing the length of the conduit and terminating with threaded ends 20 outside of the inlet and outlet connections, as shown in the drawings, and adapted to engage the nuts 21. By these rods the assembled parts are clamped tightly together; but it is obvious that the parts may be riveted or clamped in any other way without departing from the scope of my invention.

The trays rest upon supports 22, the supports for the upper tray resting on the lower tray. I have shown these supports formed angled and grouped around the conduit; but they may be in the form of rings fitting loosely around the conduits. They may be of any desired form without departing from the scope of my invention.

I also find it desirable to provide in the lower end of the inlet-conduit an opening 23, having a removable plate 24 and a hand-hole 25 in the shell having the removable cover



26, said openings being in alinement, whereby dust settling in the lower end of the inlet-conduit may be readily removed.

In order to make each compartment gas-tight, I preferably calk the edges of the partitions with rope of any desired calking material, as shown at 27 in the drawings.

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

10 1. In a purifier for gas or liquid, the combination with a shell, of a plurality of removable trays bearing filtering material supported therein, and a pair of parallel conduits passing snugly through apertures in said  
15 trays, one of said conduits having inlet-ports on one side of the trays, the other conduit having outlet-ports on the other side of the trays, for the purpose described.

20 2. In a purifier for gas or liquid, the combination with a shell, of a plurality of removable partitions forming a plurality of compartments therein, a plurality of removable trays bearing filtering material supported in each compartment, a pair of conduits passing the length of the shell and each formed of  
25 a plurality of complementary sections having inlet and outlet ports, substantially as described.

30 3. In a purifier for gas or liquid, the combination with a casing, of a bottom therefor, a plurality of partitions, a plurality of trays

bearing filtering material, inlet and outlet conduits, and a closure for the top of the casing, said partitions, trays and conduits being adapted to be inserted through the end of said casing.

4. In a purifier for gas or liquid, the combination with a casing having a bottom, of a plurality of removable trays bearing filtering material supported in said casing, and a pair  
40 of ported conduits resting on said bottom and passing through said trays, substantially as described.

5. In a purifier for gas or liquid, the combination with a casing having a bottom, of a  
45 plurality of removable partitions closely fitting the interior of said casing forming compartments therein, trays bearing filtering material supported in said compartments, an apertured closure for the top of the casing,  
50 and a pair of sectional conduits extending from the bottom of said casing into registration with the apertures in said closure, each section being ported and extending substantially the length of a compartment, substan-  
55 tially as described.

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

FRANKLIN G. HOBART.

Witnesses:

A. B. GARDNER,  
A. E. ASHCROFT.