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P. PLANTINGA

CONNECTION FOR RETORT MOUTHPIECES

Filed Jan. 11, 1923

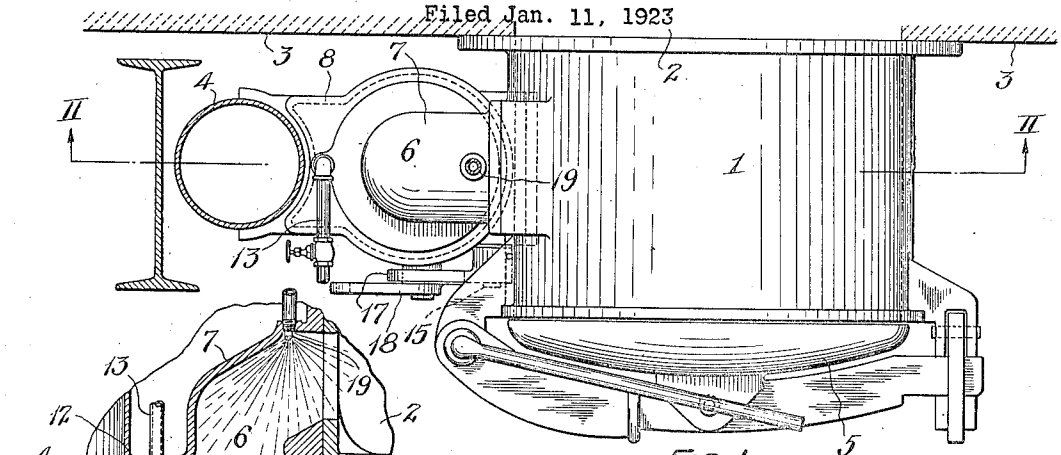


FIG. 1.

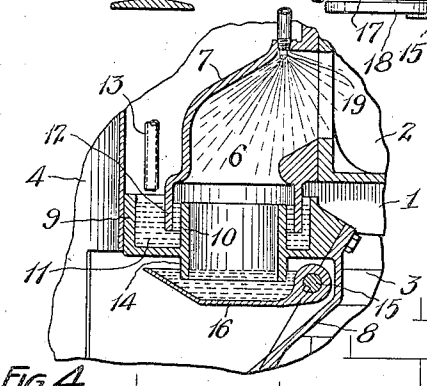


FIG. 4.

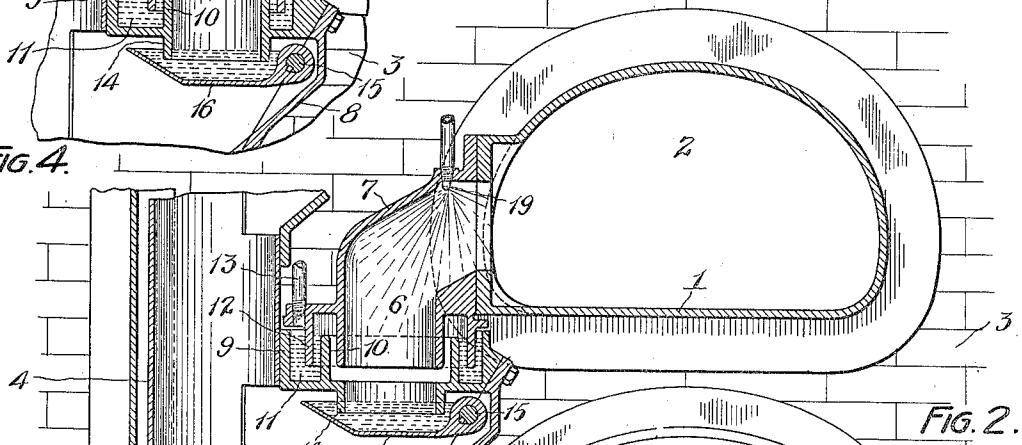


FIG. 2.

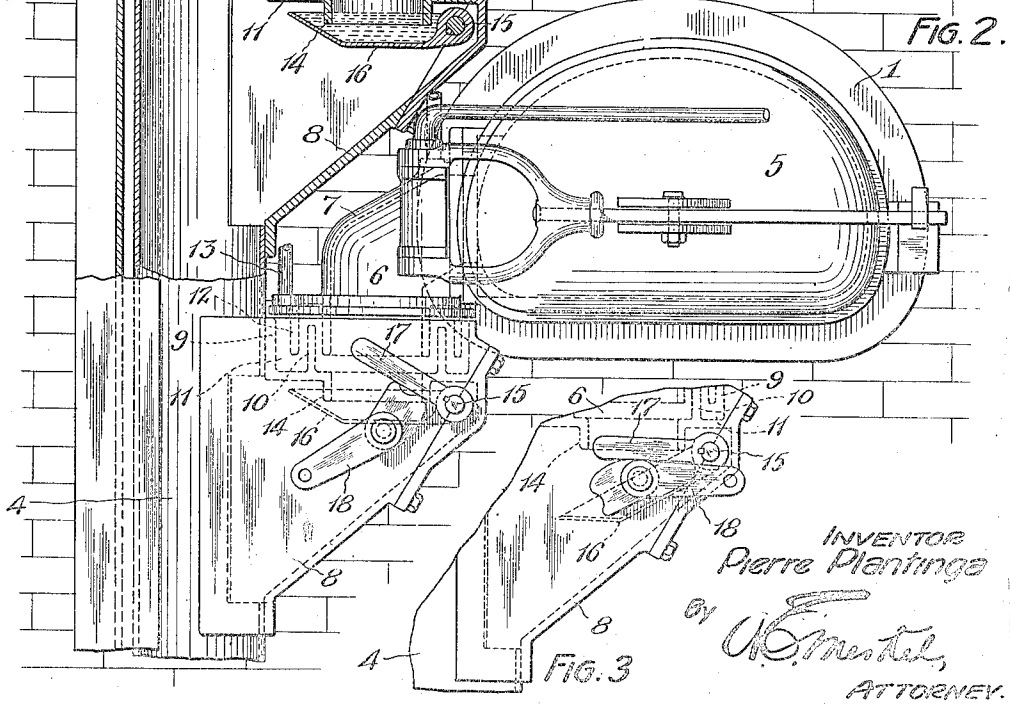


FIG. 3

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CONNECTION FOR RETORT MOUTHPIECES.

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My invention relates to gas retorts, its object being to provide a connection between a retort and a standpipe which will be flexible and hence compensate for contraction and expansion, and whereby any one of a battery of retorts may be cut off from communication with said standpipe when it is desired for any purpose to open the door of the retort.

The said invention consists of means hereinafter fully described and particularly set forth in the claims.

The annexed drawing and the following description set forth in detail certain means embodying my invention, the disclosed means, however, constituting but one of various ways in which the principle of the invention may be applied.

In said annexed drawing:

Fig. 1 represents a plan of the mouthpiece of a retort embodying my invention.

Fig. 2 represents a fragmentary front elevation of a battery of retorts showing a vertical transverse section of one of the retorts.

Fig. 3 represents a fragmentary front elevation of the said mouthpiece showing parts in a position different from that shown in Fig. 2.

Fig. 4 represents a fragmentary vertical section illustrating a modified form of certain details of construction.

The illustrated embodiment of my invention includes a retort mouthpiece 1 for each retort 2, such mouthpiece being located outside and in front of the front wall 3 of the masonry. A vertical standpipe 4 is connected with each mouthpiece and hence with each retort 2, through the medium of which, the gases formed in the retorts are taken off. The front of each retort is provided with a suitable door 5.

Each mouthpiece is connected with the standpipe 4 by means of a conduit 6. This conduit consists of a part 7 connected with the mouthpiece, and a part 8 mounted independently of the mouthpiece, and upon said pipe, into which the part 7 discharges. As shown in Fig. 2, part 8 is provided with two upwardly extending flanges 9 and 10 which form a receptacle 11, and part 7 is formed with a downwardly extending flange 12 projecting into said receptacle. A fluid connection 13 is provided which discharges a suitable liquid such as the circulating liquor of the gas plant, as will be understood, into receptacle 11 as shown.

A fluid-sealed universal flexible connection is thus formed between the retort and standpipe which allows expansion and contraction to take place without disturbing or injuring such connection, as will be understood.

The part 8 is furthermore provided with a downwardly extending flange 14, and adjacent to the latter is secured upon a suitable oscillatory shaft 15, a valve-member 16 in the form of a pan-shaped receptacle. The said shaft projects through the side of the part 8 and has secured to one outer end, a lever 17 by means of which and said shaft the receptacle 16 may be oscillated and a horizontal position imparted thereto, as shown in Fig. 2.

A suitable locking-arm 18 is provided for engaging lever 17, as shown in Fig. 3, whereby the receptacle 16 may be held in such horizontal position.

By disengaging locking-arm 18 from lever 17, the receptacle 16 may be dropped as shown in dotted lines in Fig. 3.

The receptacle is of dimensions such that, when in its horizontal position, it will catch the overflow liquor from the receptacle 11, and thus, in conjunction with the flange 12, forms a valve and fluid seal for controlling communication through the conduit. When the pan 16 is full, the overflowing liquid is discharged therefrom into the lower part 8 of the conduit, from which it passes into the standpipe 4.

When the gasifying operation is being conducted in any one of the retorts, the corresponding receptacle 16 is given its open or dropped position, as shown in dotted lines in Fig. 3, and the gases of distillation are permitted to freely flow from such retort to the standpipe. Liquor is allowed to flow continuously, in suitable amount, from the connection 13 into the receptacle 11, so as to cause a continuous overflow from the latter into the conduit.

When it is desired to cut off communication between a retort and the standpipe, as for instance when for any reason the retort door is opened, the horizontal position is imparted to the corresponding receptacle 16, the overflow from receptacle 11 fills same and interrupts such communication, as will be understood.

When the receptacle 16 is dropped to rees-

tablish such communication, the liquor is discharged therefrom into the conduit from whence it flows into the standpipe.

The above described construction of the flexible connection may be modified as shown in Fig. 4, wherein a flange on the part 8 is shown to extend into the part 7, thereby permitting the elimination of the double wall structure at the end of the part 7, as shown in Fig. 2, and providing a corresponding simplicity of structure.

As is customary, I also provide a suitable spray 19 in the conduit 6, for cooling the gas as it emerges from the retort, as will be understood by those skilled in the art.

What I claim is:

1. The combination of a gas retort, a standpipe arranged alongside of the retort; and a laterally extending conduit establishing communication between the retort and the standpipe comprising two tubular members one of which is secured to the retort and the other to the standpipe and whose adjacent ends are universally flexibly connected.

2. The combination specified in claim 1 with the addition of a valve to close the conduit.

3. The combination specified in claim 1 in which the flexible connection is formed by two overlapping tubular members providing a loose connection, the lower member having a liquid receptacle into which the upper member enters to form a fluid seal.

4. The combination specified in claim 1 in which the flexible connection is formed by two overlapping tubular members providing a loose connection, the lower member having a liquid receptacle into which the upper member enters to form a fluid seal, with the addition of a movable receptacle cooperating with the lower member to form a fluid seal and adapted to open or close the conduit.

5. The combination specified in claim 1 in which the flexible connection is formed by two overlapping tubular members providing a loose connection, the lower member having a liquid receptacle into which the upper member enters to form a fluid seal, with the addition of a pivoted pan cooperating with the lower member to form a fluid seal and adapted to open or close the conduit.

6. The combination of a gas retort; a standpipe arranged alongside of the retort; a laterally extending conduit establishing communication between the retort and the standpipe, a tubular member connected with the walls of the conduit and having an open end within the conduit; and a movable receptacle cooperating with said end to form a fluid sealed valve and adapted to open or close said conduit.

7. The combination specified in claim 6 in which the receptacle is pivoted to move toward and from the open end of the tubular member.

8. The combination of a plurality of gas retorts having superimposed mouth pieces; a single standpipe arranged alongside of the retorts; and laterally extending conduits establishing communication between each retort and the standpipe, each conduit comprising two tubular members one of which is secured to the retort and the other to the standpipe and whose adjacent ends are universally flexibly connected.

9. The combination of a gas retort; a standpipe; a conduit connected with said retort and communicating with said standpipe; a flexible connection in said conduit; a valve within the conduit consisting of a movable member in the form of a receptacle between the retort and standpipe adapted to contain fluid and a downwardly extending flange extending into said receptacle, said valve being adapted to control communication through said conduit; and means for supplying fluid to said receptacle.

10. The combination of a gas retort; a standpipe; a conduit connecting said retort and standpipe and including a hydraulically sealed flexible connection; a downwardly extending flange in said conduit; a hinged receptacle adapted to be set beneath said flange so as to allow the latter to extend thereinto; and a fluid supply adapted to discharge into said receptacle.

Signed by me this 3rd day of January, 1923.

PIERRE PLANTINGA.