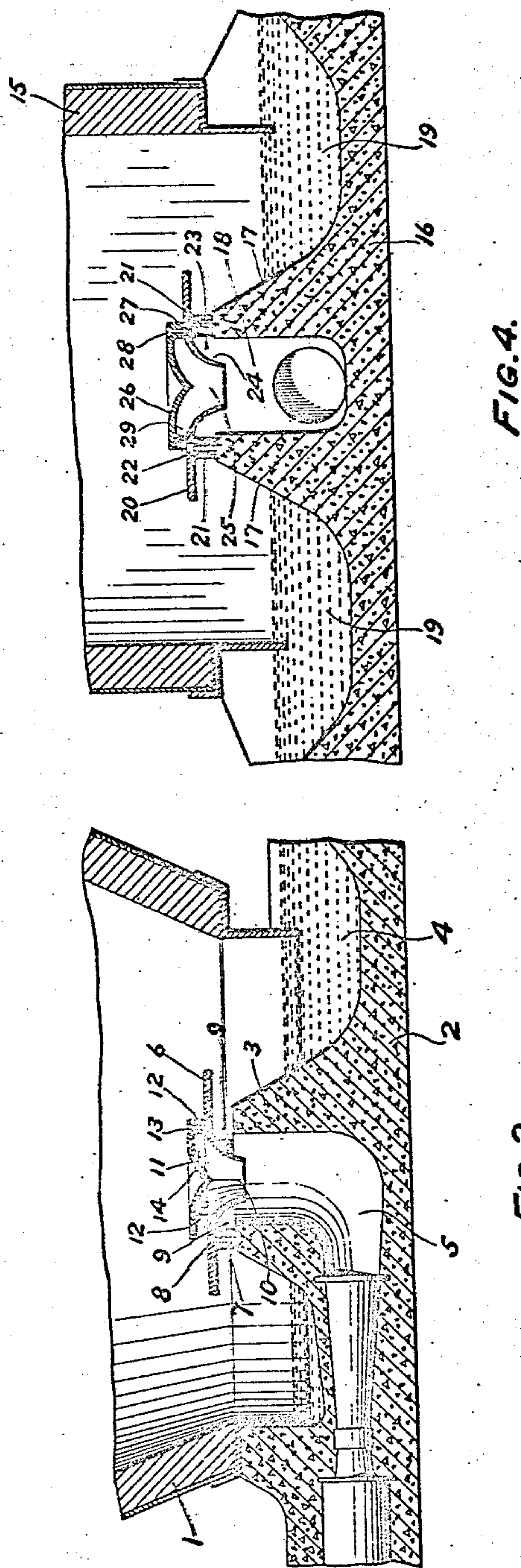
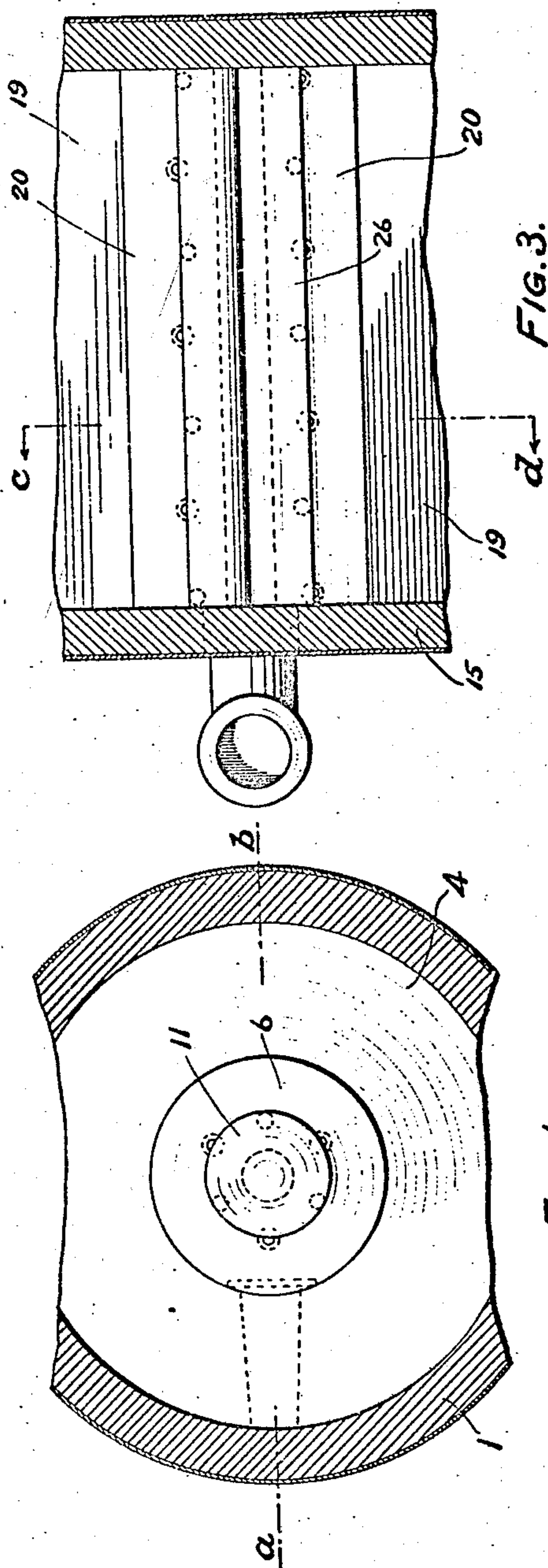


W. B. HUGHES.
GAS PRODUCER.
APPLICATION FILED MAR. 23, 1903.

Patented Sept. 22, 1908.

899,050.



WITNESSES:

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GAS-PRODUCER.

No. 899,050.

Specification of Letters Patent.

Patented Sept. 22, 1908.

Application filed March 23, 1903. Serial No. 222,737.

To all whom it may concern:

Be it known that I, WILLIAM B. HUGHES, a citizen of the United States, residing in the city of Cleveland, county of Cuyahoga, and State of Ohio, have invented certain Improvements in Gas-Producers, of which the following is a specification.

The improvements of my invention are designed to provide simple and inexpensive means for effecting a more efficient distribution of the blast and guarding the blast passage against the deposition of matter from the producer body.

In the accompanying drawings, Figure 1 is a horizontal sectional view, taken through the body of a gas producer, embodying a form of the improvements; Fig. 2 is a vertical sectional view thereof, taken on the line *a-b* of Fig. 1; Fig. 3 is a horizontal sectional view taken through the body of the gas producer, embodying a second form of the improvements, and Fig. 4 is a vertical sectional view taken on the line *c-d* of Fig. 3.

As illustrated in Figs. 1 and 2, a circular producer body 1 is supported by a base 2 having a dome 3 surrounded by a circular channel 4, the base containing the blast passage 5 extending upwardly through the dome into the body. A hood 6, forming a blast spreader and ash guard, is supported by feet 7 upon the dome 3 and fixed thereto by bolts 8, the device 6 having a laterally extending disk like peripheral part between which and the top of the dome are passages 9 and a downwardly curved central funnel like part forming a mouth or nozzle having the passage 10 centrally disposed with reference to the blast passage 5. A second hood 11, providing a blast spreader and ash guard of smaller diameter than the hood 6, is supported by the feet 12 on the hood 6 and fixed thereto by the bolts 13, the part 11 having a laterally extending disk like peripheral portion and a central downwardly disposed conical portion between which and the device 6 are the laterally extending passages 14.

As illustrated in Figs. 3 and 4, a rectangular body 15 is carried by the base 16 having the internal longitudinal walls 17 forming the centrally disposed longitudinal blast passage 18 and the parallel channels 19 on either side thereof. A hood 20, forming spreading and guarding means, extends the length of the passage 18 and is supported by the feet 21 on,

the walls 17 to which it is fixed by bolts 22, the part 20 having laterally disposed wings between which and the top of the walls are the passages 23 and downwardly curved inner parts 24 forming a mouth having the longitudinal passage 25 centrally disposed with reference to the passage 18. A spreader and guard 26, of width less than that of the device 20, extends longitudinally thereof and is supported thereon by the feet 27, bolts 28 fixing the parts 20 and 26 together. The device 26 has laterally disposed wings extending the length of the device 20 and a downwardly extending central angle or ridge forming with the device 20 the passages 29 communicating with the opening 25.

It will be seen that in each form of the improvements there is provided a simple structure that both guards the blast passage against the contents of the body and spreads the blast which is easily divided, deflected and discharged thereby so that it is spread throughout the body.

Having described my invention, I claim:

1. In a gas producer, a blast conduit, a spreading device having a downwardly extending interior part and a laterally extending part disposed so as to divide and direct the blast issuing from said conduit, and a second spreading device disposed so as to further direct said blast.

2. In a gas producer, a spreader and guard having a downwardly extending mouth, and a second spreader and guard disposed above said mouth.

3. In a gas producer, a spreader and guard having a downwardly extending mouth with a part or parts extending laterally therefrom, and a second spreader and guard having a downwardly extending angular part above said mouth and a part or parts extending laterally therefrom.

4. In a gas producer, a blast conduit, a spreading and guarding mechanism having a laterally extending disk like part with an opening therethrough, said mechanism being disposed so that there is a passage or passages beneath it through which blast from said conduit is directed, and a second spreading and guarding mechanism disposed above said opening so that there is a passage or passages between said mechanisms through which blast from said opening is directed.

5. In a gas producer, spreading and guard-

ing mechanism consisting of a laterally extending main portion and a downwardly extending interior portion forming a mouth having walls expanding into said main portion, and a spreading and guarding device
5 above said mouth.

In witness whereof I have hereunto set my

name this 18th day of March, A. D. 1908, in the presence of the subscribing witnesses.

WILLIAM B. HUGHES.

Witnesses:

C. L. SWAISGOOD,

W. G. HILDEBRAN.