

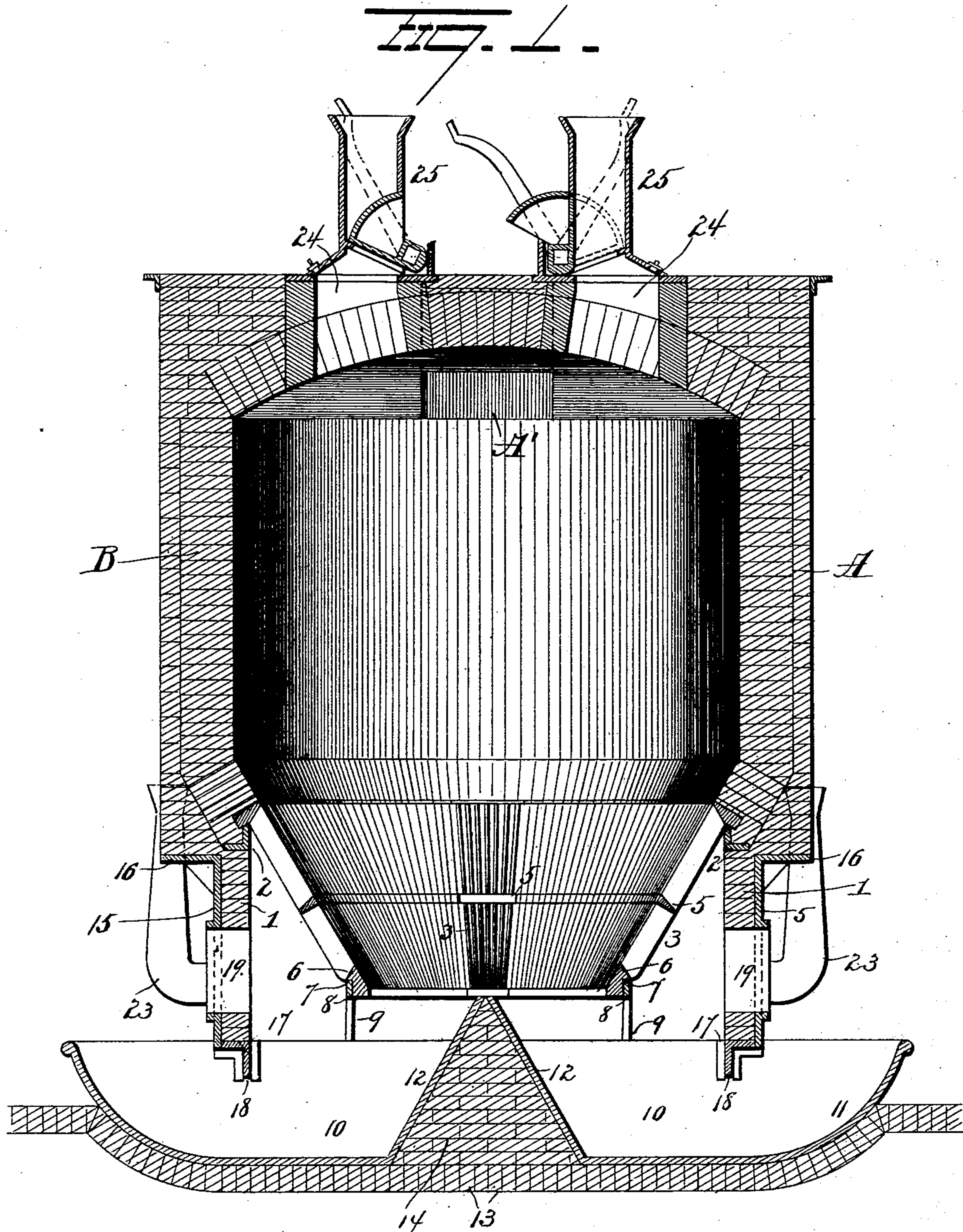
(No Model.)

2 Sheets—Sheet 1.

J. D. SWINDELL.  
GAS PRODUCER.

No. 572,184.

Patented Dec. 1, 1896.



Witnesses  
*E. J. Nottingham*  
*G. F. Downing*

Inventor  
*J. D. Swindell*  
By *H. A. Symour*  
Attorney

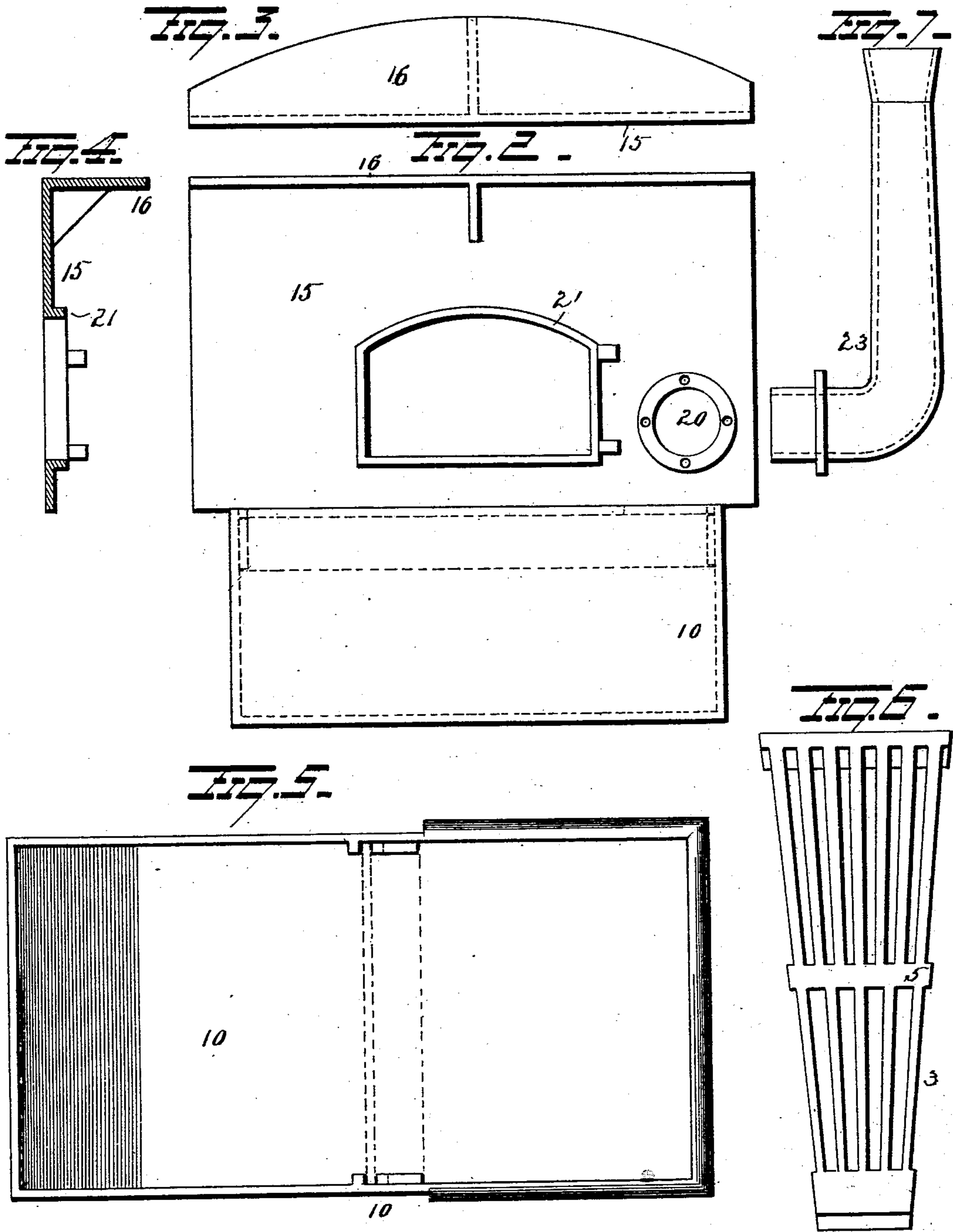
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# UNITED STATES PATENT OFFICE.

JAMES D. SWINDELL, OF PITTSBURG, PENNSYLVANIA.

## GAS-PRODUCER.

SPECIFICATION forming part of Letters Patent No. 572,184, dated December 1, 1896.

Application filed February 7, 1896. Serial No. 578,425. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES D. SWINDELL, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Gas-Producers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in gas-producers; and it consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical cross-sectional view of a gas-producer embodying my improvements. Figs. 2, 3, 4, 5, 6, and 7 are detail views.

The body of my improved gas-producer comprises a wrought-iron shell A and a lining B, of fire-brick, the latter being arched at the top and having a gas-outlet A'.

The lower portion of the apparatus is made with an annular lining 1, on the top of which a ring 2 (L-shaped in cross-section) rests.

Within the space formed by the annular lining 1 a circular basket-grate 3 is disposed. The basket-grate 3 is made in the form of an inverted truncated cone, and at its upper or larger end is provided with an outwardly-projecting flange or shoulder which normally rests on the ring 2, thus in effect suspending the basket-grate from said ring. The grate is provided between its ends with strengthening-ribs 5, and at its lower or smaller end with a ring 6, having a recess 7 for the reception of an iron band 8, and the latter is supported by means of a series of posts 9. The posts 9 are attached at their lower ends to a basin 10, disposed under the body of the apparatus. The basin 10 is made of a length to project beyond the ends of the body of the producer and the ends of said basin are preferably curved or dished, as shown at 11, Fig. 1.

In the center of the basin 10 there is an upward projection 12, made A-shaped in cross-section, and the apex of said upward projection terminates at the bottom of the grate at the center thereof. The basin 10 rests on masonry 13, the central portion 14 of

which projects within and fills the A-shaped projection 12.

The ends of the lower portion of the producer are provided with face-plates 15, which rest against the lining 1 and have outwardly-projecting flanges 16 disposed under the lower ends of the main wall of the producer. Under the lining 1 angle-irons 17 are placed and supported at their ends by the basin 10, the depending flanges 18 of said angle-irons preferably dipping in water contained in said basin. Each face-plate is made with two openings 19 20, the openings 19 being normally closed by doors 21, and the openings 20 being for the accommodation of the blowpipes 23, the inlets of said blowpipes to the producer being thus disposed about in line with the bottom of the grate.

The top of the producer is made with openings 24 for the admission of coal, the supply of which can be controlled by suitable feeding-hoppers 25.

When the coal enters the producer, it has room enough to expand and allow the gas to be forced from it from all sides. As the gas is taken from the coal the latter will be contracted and reduced and enters the basket-shaped grate in the form of coke, which produces a hot fire, which forces the gas from the coal. The residue, consisting of ashes, partly-burned coke, clinkers, &c., will be divided by the A-shaped projection 12 and made to enter the water-bath, from which said residue can be easily and quickly removed.

The A-shaped projection 12 in the basin 10 above referred to can be conveniently formed by making the basin in two sections and making the adjacent ends of said sections inclined.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a gas-producer, the combination with a body portion for the reception of coal, of a basket-grate, and a projection having steep sloping sides and a sharp-pointed apex the apex thereof reaching across the center of the grate from side to side thereof and serving to divide the falling ashes and cause them to descend in two directions as they drop from the grate, substantially as set forth.

2. In a gas-producer, the combination with

a body portion, of a basket-grate, a basin, and a projection extending upwardly from the bottom of the basin with steep sides, its apex reaching beneath the center of the grate,  
5 substantially as set forth.

3. The combination with a solid masonry wall, and an annular ring L-shaped in cross-section built therein, of a basket-grate the upper end of which hooks over the ring and

is built into the masonry wall, substantially as set forth.

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

JAMES D. SWINDELL.

Witnesses:

CHAS. A. WOODS,  
W. J. BRANT.