No. 697,941. Patented Apr. 15, 1902.

J. F. HEWITT.

GAS FIRE APPLIANCE.

(Application filed July 22, 1899.)

(No Model.)

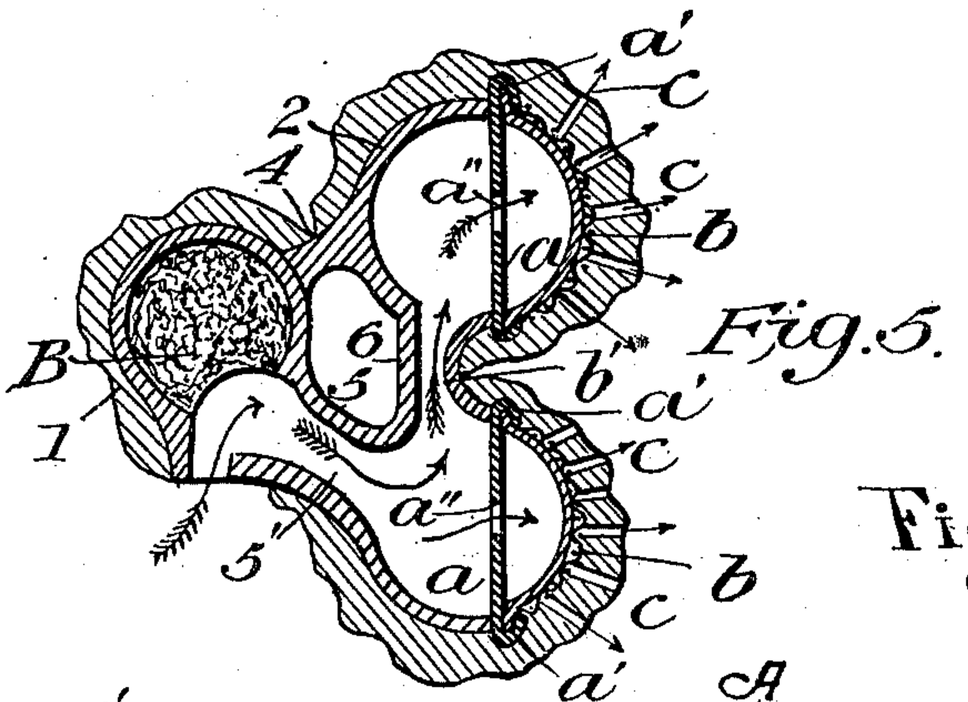


Fig. 5.

Fig. 3

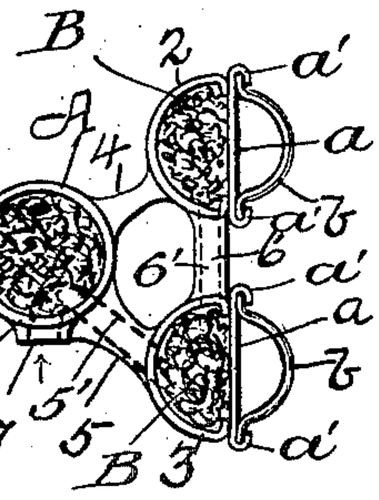


Fig. 4.

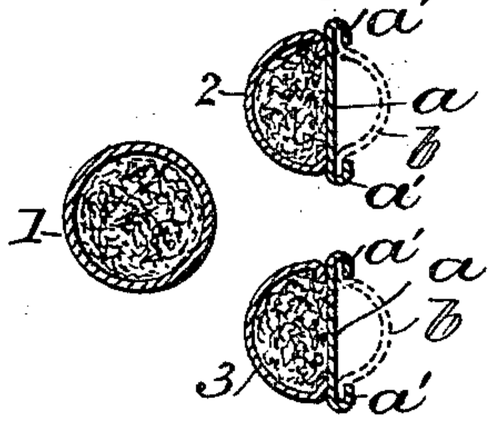


Fig. 2

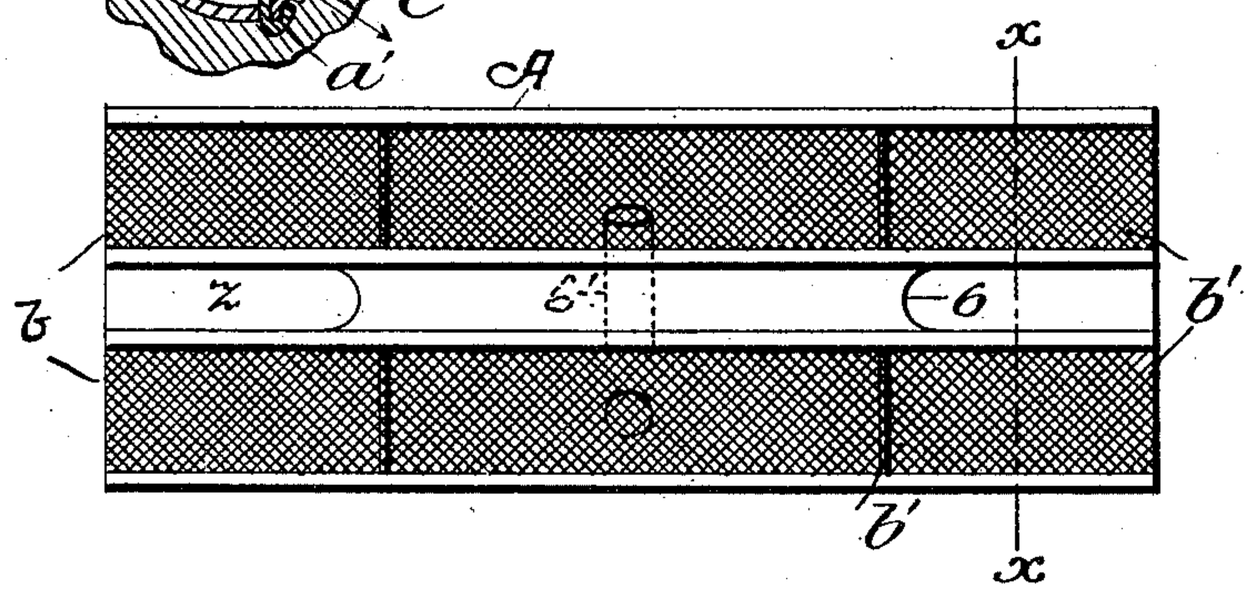
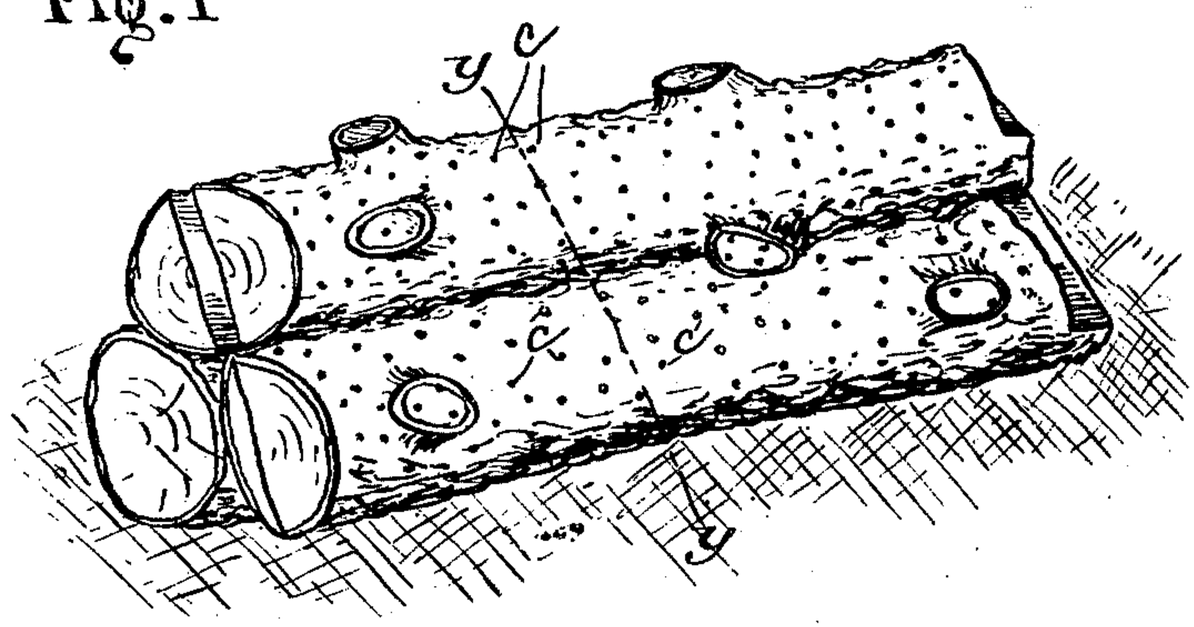


Fig. 1



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JOSEPH F. HEWITT, OF ALLEGHENY, PENNSYLVANIA.

GAS-FIRE APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 697,941, dated April 15, 1902.

Application filed July 22, 1899. Serial No. 724,759. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH F. HEWITT, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in Gas-Fire Appliances, of which improvement the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 indicates a perspective view of a gas-log embodying my invention. Fig. 2 is a front elevation of the skeleton frame of the same. Fig. 3 is an end view of the skeleton frame. Fig. 4 is a section taken on the line $x\ x$ of Fig. 2, and Fig. 5 is a section taken on the line $y\ y$ of Fig. 1.

My invention relates to improvements in gas-fire appliances, commonly called "gas-logs."

The object of my invention is to simplify the construction and add to the durability and efficiency of devices of this character.

Heretofore, so far as I am aware, gas appliances constructed to imitate logs in combustion have been formed of clay shaped into hollow cylindrical bodies of irregular exterior to imitate bark and rough projections on logs. Perforations formed in the front of the same enabled gas, or gas and air mixed, contained in said hollow cylindrical bodies to issue therethrough and when ignited present the appearance of burning logs. When so formed, they were difficult to construct, quite fragile, and very liable to breakage in shipping, and when perforated the punch or other instrument used in forming the holes produced a bur on the interior, which had a tendency to interfere with the proper discharge of the gas, and thus caused uneven distribution of flame over the surface of the burner.

My invention is intended to obviate the difficulty incident to the construction above mentioned; and to this end it consists in forming the front or burning face of the superstructure or frame of metallic gauze or mesh, which not only adds to the durability of the burner, but also enables the perforations subsequently formed in the burning-face of the device to be clear-cut and well defined interiorly, as well as exteriorly, thus avoiding the formation of burs on the interior and preventing clogging of the perforations or holes, and thus insuring uniform distribution of flame over the entire front of the device.

I will now describe my invention, reference being had to the accompanying drawings, which form a part of this specification, in which like reference characters indicate like parts wherever they occur throughout the several views.

Referring to said drawings, A is a skeleton frame comprising a number of cylindrical chambers 1, 2, and 3, which are connected, as shown in the accompanying drawings, by means of connecting-braces 4, 5, and 6, through the front and lower one of which the gas-conduits 5′ and 6′ project, or they may be connected in any other suitable manner. Gas-conduit 5′ communicates with a gas-inlet pipe 7, which may be connected with the usual gas and air mixer. (Not shown.) The rear chamber, or chambers, if desirable, is not supposed to contain gas and air mixed, the same being filled with a plastic refractory material of any suitable composition. I preferably fill the rear chamber and the rear portion of the front chambers, at the ends thereof, with a fibrous refractory material B to prevent gas accumulating therein, and thus avoid possible explosion. The front cylindrical chambers 2 and 3 are subdivided longitudinally by partitions $a\ a$, in the center of which are formed gas-admission orifices $a''\ a''$. The upper and lower edges of said partitions $a\ a$ are provided with hooks $a'\ a'$, in which the metallic gauze b is secured or fastened. The ends of the said chambers to the rear of said partitions are filled with any suitable fibrous refractory material, as heretofore specified, to prevent the accumulation of gas therein. The said gauze b constitutes the front superstructure of the front chambers of the apparatus and is supported and held in curved or circular shape, as shown in Fig. 3, by the arches or braces $b'\ b'$, which are formed of heavy wire or other suitable material, over which and the entire super structure is molded, in the form of logs horizontally disposed, a plastic compound of mineral wool or asbestos, or both, and the front of the same punctured with numerous small openings or perforations c, as shown in Fig. 1. The said perforations c pass through

the refractory material and into the interstices of the gauze or mesh, the interstices of the gauze or mesh forming well-defined and clear-cut openings on the interior, preventing the refractory material pressed inwardly around the openings from forming a bur, which after usage has a tendency to break down and fill and clog the openings, and thus prevent the uniform and even distribution of combustible gas over the entire face of the device. The gauze or mesh in which the openings are formed insures solid and even walls around the interior openings, prevents the formation of the bur, produces clear-cut openings, and removes the danger of clogging of the openings, insuring even distribution of the gases of combustion over the entire face of the device.

I preferably harden the asbestos board which forms the cylindrical chambers and the partition *a* by saturating or dipping the same into a solution of silicate of soda or other suitable solution.

My improved appliance is arranged as shown in the accompanying drawings, the logs being horizontally disposed, the front or burning logs being vertically arranged—*i. e.*, one above the other.

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

1. A gas-burner comprising a hollow body formed of refractory material and metallic gauze or mesh, the refractory material forming the front being supported by the gauze or mesh and having numerous minute perforations formed therein through the interstices of the gauze.

2. A gas-burner comprising a number of intercommunicating bodies formed of refractory material and metallic gauze or mesh, the refractory material forming the face thereof being supported by the gauze or mesh and having numerous minute perforations therein through the interstices of the gauze.

In testimony whereof I, JOSEPH F. HEWITT, have hereunto set my hand in the presence of two subscribing witnesses.

JOSEPH F. HEWITT. [L. S.]

In presence of—

JNO. H. RONEY,

CLARENCE A. WILLIAMS.