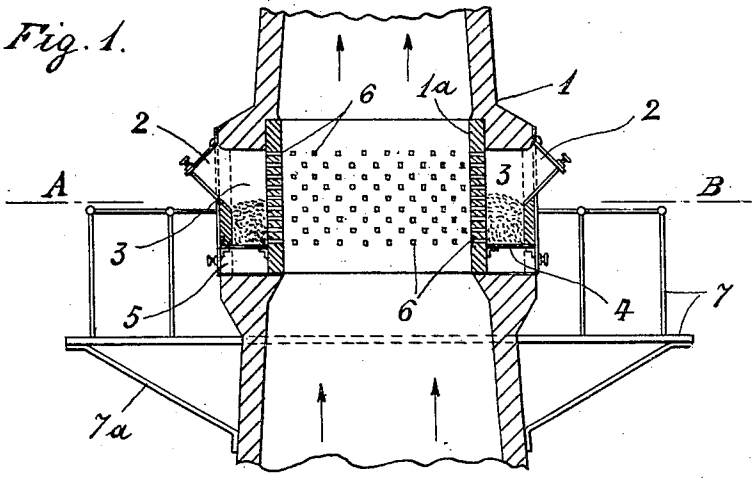
J. VOEGELI.

APPARATUS FOR THE COMBUSTION OF POISONOUS GASES IN HIGH FURNACES.

APPLICATION FILED JULY 15, 1920.

1,371,827. Patented Mar. 15, 1921.

Fig. 1.



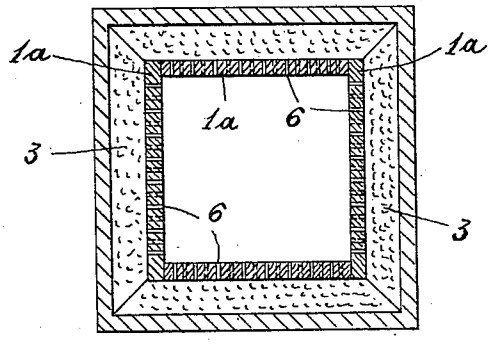


Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHANN VOEGELI, OF ZURICH, SWITZERLAND.

APPARATUS FOR THE COMBUSTION OF POISONOUS GASES IN HIGH FURNACES.

1,371,827. Specification of Letters Patent. **Patented Mar. 15, 1921.**

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To all whom it may concern:

Be it known that I, JOHANN VOEGELI, a citizen of the Republic of Switzerland, and resident of Zurich, in the Canton of Zurich, Switzerland, have invented certain new and useful Improvements in Apparatus for the Combustion of Poisonous Gases in High Furnaces, of which the following is a specification.

This invention has for its object an improved apparatus whereby the poisonous gases in high-furnaces and furnaces of mines, produced by the ores, are caused to be combusted and rendered harmless; and in order that the invention may be clearly understood, reference is made to the accompanying drawing wherein:—

Figure 1 shows a vertical section through the upper part of a high-furnace with my new apparatus applied;

Fig. 2 represents a section on line A—B in Fig. 1;

In carrying my invention into effect and referring to Figs. 1 and 2, I make use of coal or coke as a means to combust the poisonous gases. The fire-place or places are arranged about 3 or 4 meters below the top of the high-furnace and are built into the brickwork or other structure 1 in the manner shown. If the upper structure is of square section, I make provision of four adjacent fire-places, whereas, if the structure is round, one fire-place stretching around the same is to be preferred. The stoke-hole 2, the fuel chamber 3, the fire-grate 4 and the fire-door 5 may be of any convenient form and adapted to circumstances. The inner wall of the fuel chamber, however, is provided with a series of openings 6 through which the flames escape into the interior of the furnace in order there to cause the combustion of the poisonous gases mounting up toward the high-furnace mouth.

For the purpose of facilitating the handling of the apparatus described, I arrange a light gallery or platform 7 at a suitable distance below the fire-places, the said platform being secured to the structure 1 by means of stays 7^a or any other convenient device.

Having now fully described my said invention what I claim and desire to secure by Letters Patent is:—

In the herein-described apparatus for the combustion of poisonous gases in high-furnaces, the combination, of a firing device mounted near the top of the said furnace and comprising a plurality of fuel chambers and fire-places housed in the brickwork of the high-furnace, and means to direct the fire to the interior of the high-furnace, the said means comprising a wall forming the inner part of each of the fuel chambers and provided with a series of openings communicating with the interior of the furnace, substantially as and for the purpose set forth.

JOHANN VOEGELI.

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