

S. DIESCHER.
Bee-Hive Coke-Oven.

No. 225,354.

Patented Mar. 9, 1880.

Fig. 1.

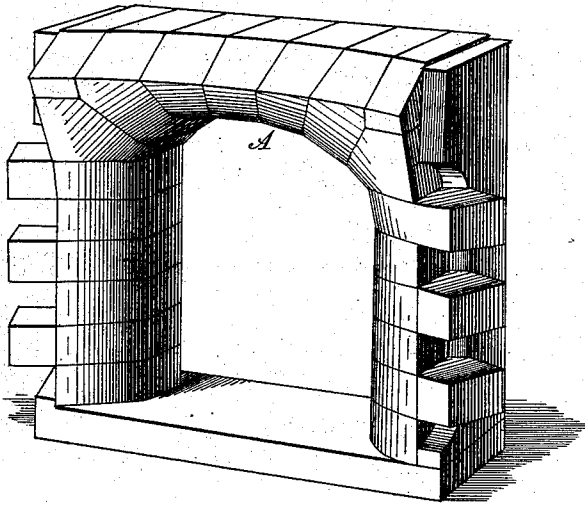


Fig. 2.

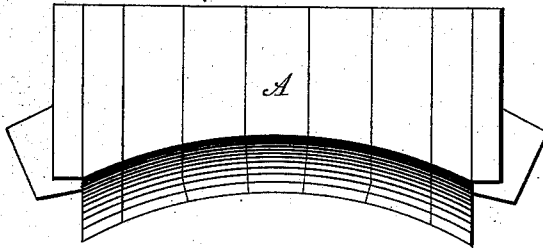
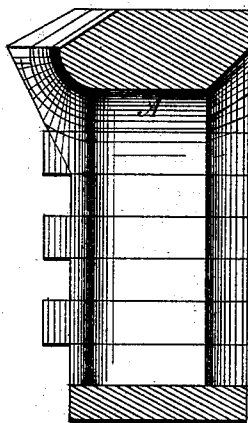


Fig. 3.



Witnesses:

J. W. Garner
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Inventor:

S. Diescher
per
F. A. Lehmann
att'y

UNITED STATES PATENT OFFICE.

SAMUEL DIESCHER, OF PITTSBURG, PENNSYLVANIA.

BEE-HIVE COKE-OVEN.

SPECIFICATION forming part of Letters Patent No. 225,354, dated March 9, 1880.

Application filed October 13, 1879.

To all whom it may concern:

Be it known that I, SAMUEL DIESCHER, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Bee-Hive Coke-Ovens; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in bee-hive coke-ovens; and it consists in constructing the front opening or door of a series of blocks, respectively adapted by their forms to that purpose, and at the same time to serve as a basis for the arch or crown of the oven, and to determine its curvature, as will be fully described hereinafter.

The accompanying drawings represent my invention.

Figure 1 is a perspective of my invention. Fig. 2 is a plan view, and Fig. 3 is a vertical section.

The arch A is composed of a number of blocks, tapered as arch-stones usually are: The tops of all these blocks, when united in the arch, form a level surface; otherwise they are of various shapes, as their respective location in the arch requires. They are of different lengths, measured from the front face backward, the key-stone being the shortest and those above the jambs the longest.

The rear part of the level top of the surface of the blocks forming the arch is sloped toward the oven to such an angle as produced by stretching a line from the center, upon which the crown of the oven is turned, to the top of the key-stone. This point usually lies at the bottom of the oven. The slope on these blocks in length is equal to that of a crown-brick, or, what amounts to the same, to the thickness of the crown. A top view over these blocks shows that the slopes of all lie in the surface of an inverted cone whose point coincides with the center of the oven.

The bricks used for the crowns of bee-hive ovens are of a double wedge form, and tapered in such a manner that if the four long edges were prolonged they would meet at one and the same point in the center of the oven.

From this it will be seen that every brick

in the crown is in itself a component part of a shell or cupola, and thus each course laid of such bricks forms a ring, and the top surface of each ring lies in the surface of an inverted cone whose apex is in the center of the crown.

The course of bricks lying on a level with the slope on the rear of the arch-blocks forms a cone that corresponds exactly with the slope; hence the following course next to this will be continued all around, while the lower courses extend only from one outside of a jamb to another, omitting the whole width of the door and jambs. The sloping rear part of the arch-blocks thus forms a skew-back to the crown-bricks supporting the arch of the oven, where, in the present mode of construction, it is weakest and liable to break down.

By constructing the door-arch in the above manner the crown is much strengthened, since with this form of the blocks the usual distortion of the crown above the door is altogether avoided.

At the present time the doors are constructed with their inner faces parallel to their front faces, and the crown itself being a part of a sphere, the working in of this kind of doors necessitates a distortion of the crown to be brought in contact with the door-arch. In other words, the crown has to be stretched. By this stretching or flattening of the crown its equilibrium is disturbed, the flattened portion weakened, the downward strain increased, and in consequence of this the front wall is pushed out, and the crown next to the door falls to the ground.

To avoid these faults in the construction of bee-hive ovens, I have made the improvement hereinbefore described; and

I claim—

In a coke-oven, a door-arch made level on top, its inner top edge being beveled to correspond with the surface of an inverted cone placed with its axis vertical and its apex in the center of the floor of the oven, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of September, 1879.

SAML. DIESCHER.

Witnesses:

T. F. LEHMANN,
OTTO STEIN.