

(No Model.)

J. HERRON.
DOOR FOR COKE OVENS.

No. 307,720.

Patented Nov. 4, 1884.

Fig. 1.

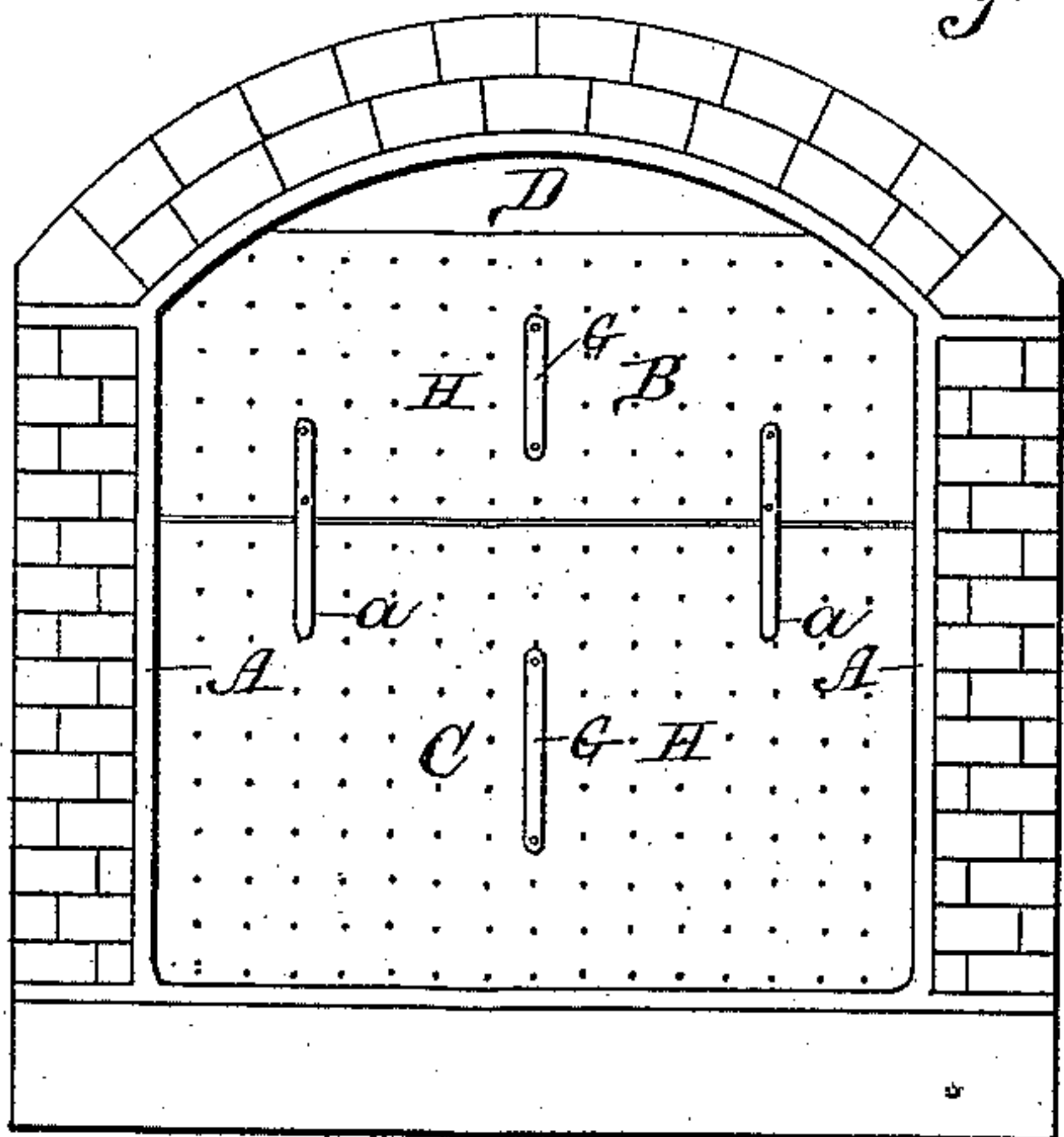


Fig. 2.

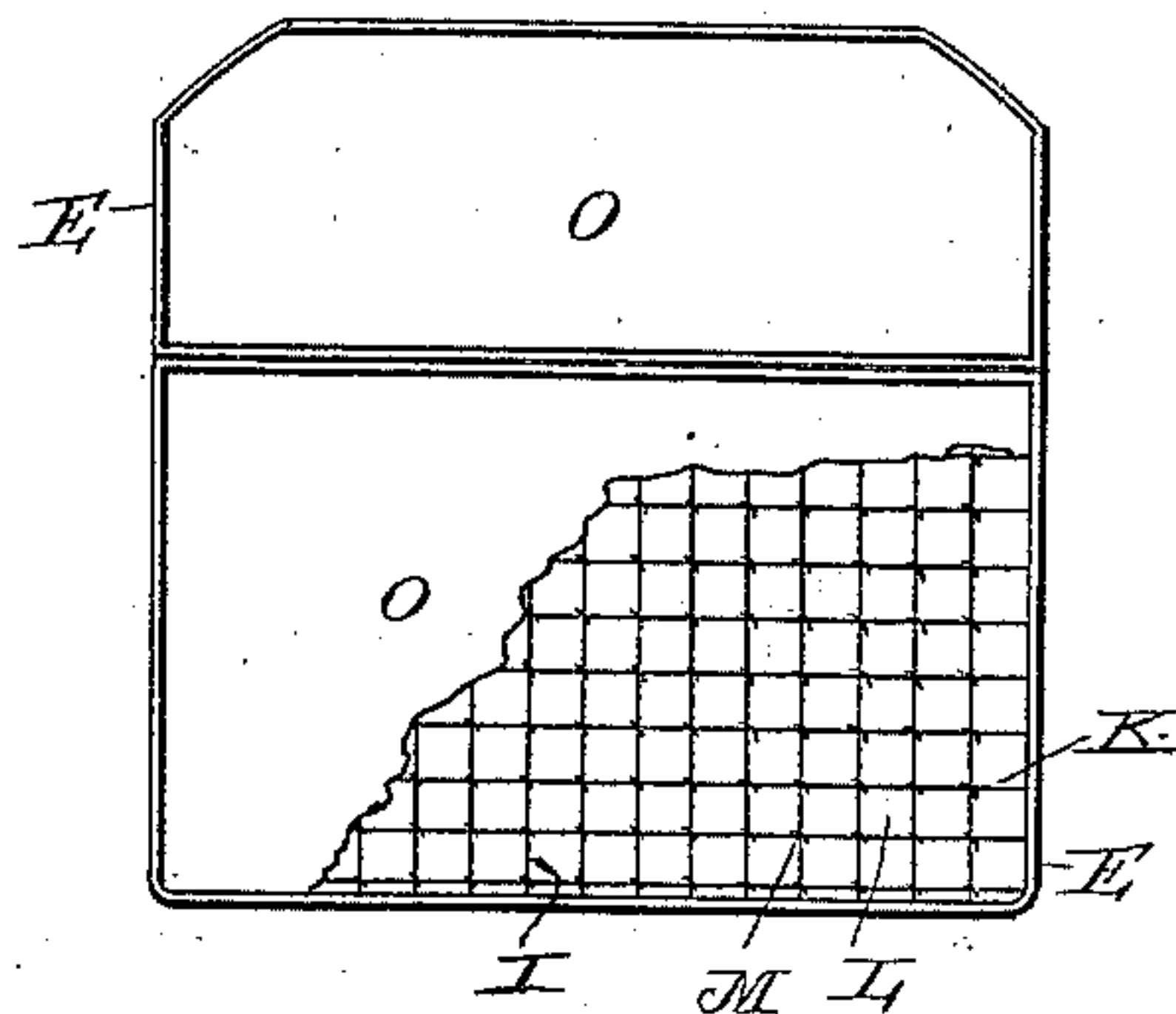


Fig. 3.

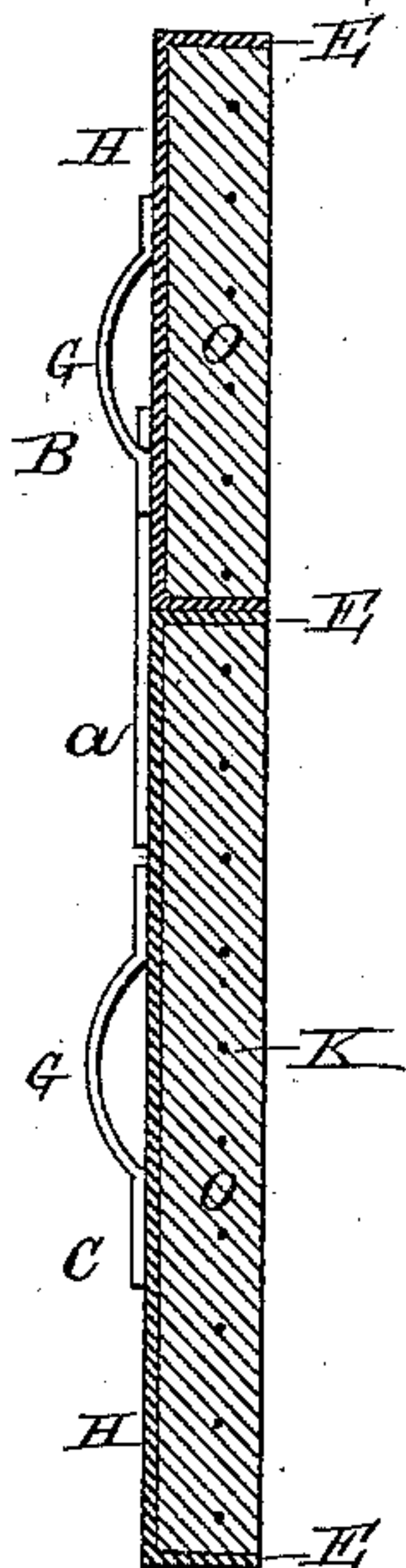
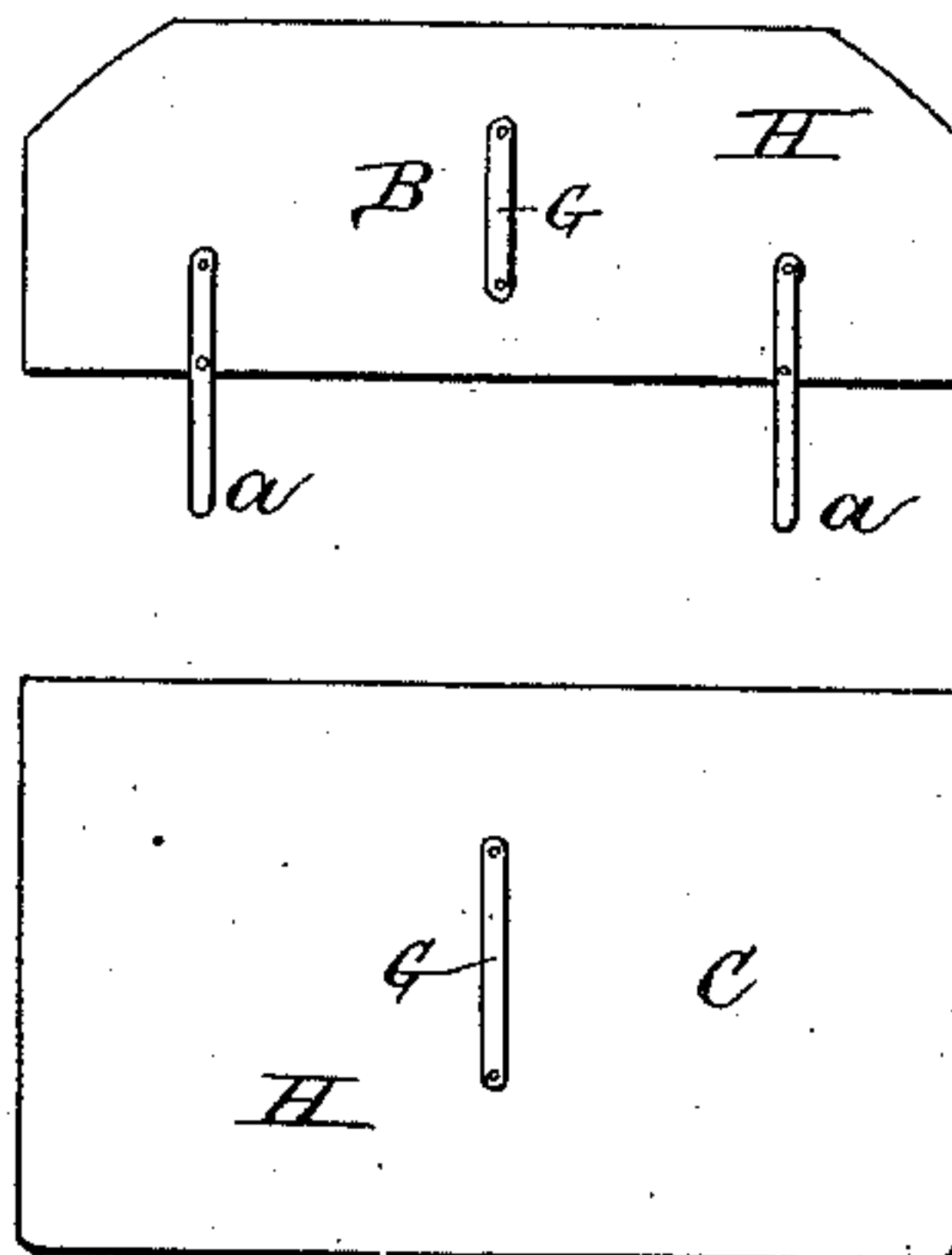


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

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DOOR FOR COKE-OVENS.

SPECIFICATION forming part of Letters Patent No. 307,720, dated November 4, 1884.

Application filed September 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN HERRON, of Dunbar, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Doors for 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 doors for coke-ovens; and it consists, first, in a door for coke-ovens, composed of an upper and a lower section, the upper section being adapted to be removed from the door-frame without disturbing the lower section, and having strips depending from the lower side of its face for bearing against the upper side of the face of the lower section; second, in a door for coke-ovens, composed of two separable sections, each one of which consists of a metallic shell or frame, a filling of fire-proof composition, and a wire-netting for holding the composition in place, the upper section being provided with depending strips for catching against the face of the lower section, as will be more fully described hereinafter.

The object of my invention is, first, to provide a door for coke-ovens which is made in sections, and which will admit of the upper section being removed while the lower section is left in place; and, secondly, to provide a door which is cheap, which avoids the necessity of having the usual brick filling, and which at the same time is capable of withstanding the action of the heat.

In the accompanying drawings, Figure 1 is a front elevation of the arched doorway for coke-ovens, showing my door applied thereto. Fig. 2 is a rear elevation of my door, showing a portion of the fire-proof composition removed so as to disclose the wire net-work. Fig. 3 is a vertical section of the same. Fig. 4 is a front elevation showing the parts of my oven-door detached.

In an arched doorway of an ordinary coke-oven is placed a metallic frame, A, of the ordinary construction, which is slightly narrower at its inner side than it is at its outer side.

C represents the lower section of the door, which is placed in the frame, and B represents the upper section, which is placed on the upper edge of the section C. This upper section does not extend entirely to the upper side of the arched doorway, but is cut away so as to leave an opening, D, to permit the ingress of the air into the oven. These sections of the door are each composed of a metallic face, H, having flanges E formed at right angles thereto around its sides. A series of vertical wire rods, I, pass across the back side of these sections at a suitable distance from the face, and have their ends riveted in the upper and lower flanges. Similar wire rods, K, are riveted at their ends to the side flanges of the sections, and extend across the rods I at right angles therewith and intercept them, thus forming meshes L, as shown in Fig. 2. Wire staples or tags M pass over the rods K and I where they cross, for the purpose of binding them together at the joint, and thereby strengthening the meshes of the net-work, their ends passing through the face-plates of the sections of the door, and are riveted or swaged thereto. This construction forms a wire net-work of great strength. A fire-proof composition, O, which is preferably composed of a mortar made of fire-clay, but which may be composed of any suitable substance or substances, is filled into the sections of the door while plastic, and which, when it hardens, is firmly held in said sections by means of the net-work previously described, as will be readily understood. When making these doors, after the clay has been applied the doors may be exposed to the sunshine, which will sufficiently harden the clay, and when the doors are placed in the oven the heat from the fire will bake the clay to the requisite hardness. On the outer side of the section B, I apply iron or other metallic strips a, which extend down below the lower edge of said section, and when said section is in place upon the lower section the lower projecting ends of these strips bear against the upper side of the face of the lower section, C, and thereby prevent said lower section from tilting forward out of place. The inner side of the door-frame being narrowed, as previously described, and the sections of the door be-

ing made to correspond thereto, prevents the sections from falling inward out of place.

G represents metallic strips, which are applied to the sections on their outer sides, and which are bent out at their centers so as to form suitable handles therefor, which handles may be either rigid or removable.

The operation of my invention is as follows: After the charge of coke is withdrawn from the oven, the lower section of the door is placed in the door-frame, and the charge of coal is fed into the oven and leveled. The upper section of the door is then placed in position above the lower section, and the outer edges of the door next to the frame are caused to form a tight joint therewith by being pointed with mortar, and thus exclude all air from the oven excepting that which enters at the inlet D, which is formed for that purpose.

A coke-oven door thus constructed is exceedingly convenient in use, is perfectly fire-proof, is strong, and is lighter than those which are constructed in the ordinary manner.

Having thus described my invention, I claim—

1. A door for coke-ovens, composed of two separable sections, each one of which consists of a metallic shell or frame, a filling of fire-proof composition, and a wire-netting for holding the composition in place, the upper section being provided with depending strips for catching against the face of the lower section, substantially as shown.

2. A door for coke-ovens, composed of an upper and a lower section, the upper section being adapted to be removed from the door-frame without disturbing the lower section, and having strips depending from the lower side of its face for bearing against the upper side of the face of the lower section, for the purpose set forth, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN HERRON.

Witnesses:

SAMUEL TARR,

BUELL TARR.