

(No Model.)

H. B. RIDDELL.
COKE OVEN FRONT.

No. 428,953.

Patented May 27, 1890.

Fig. 1.

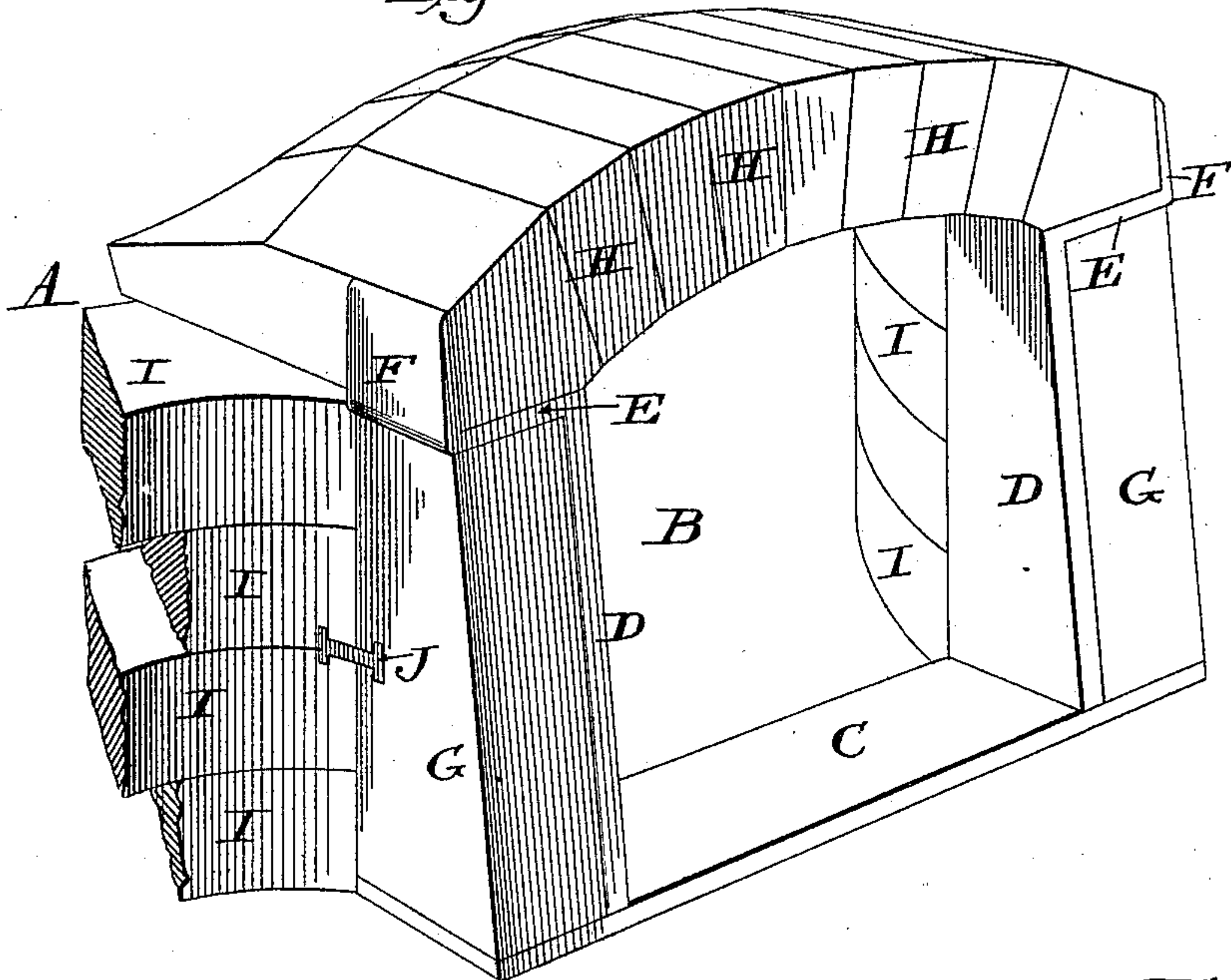


Fig. 2.

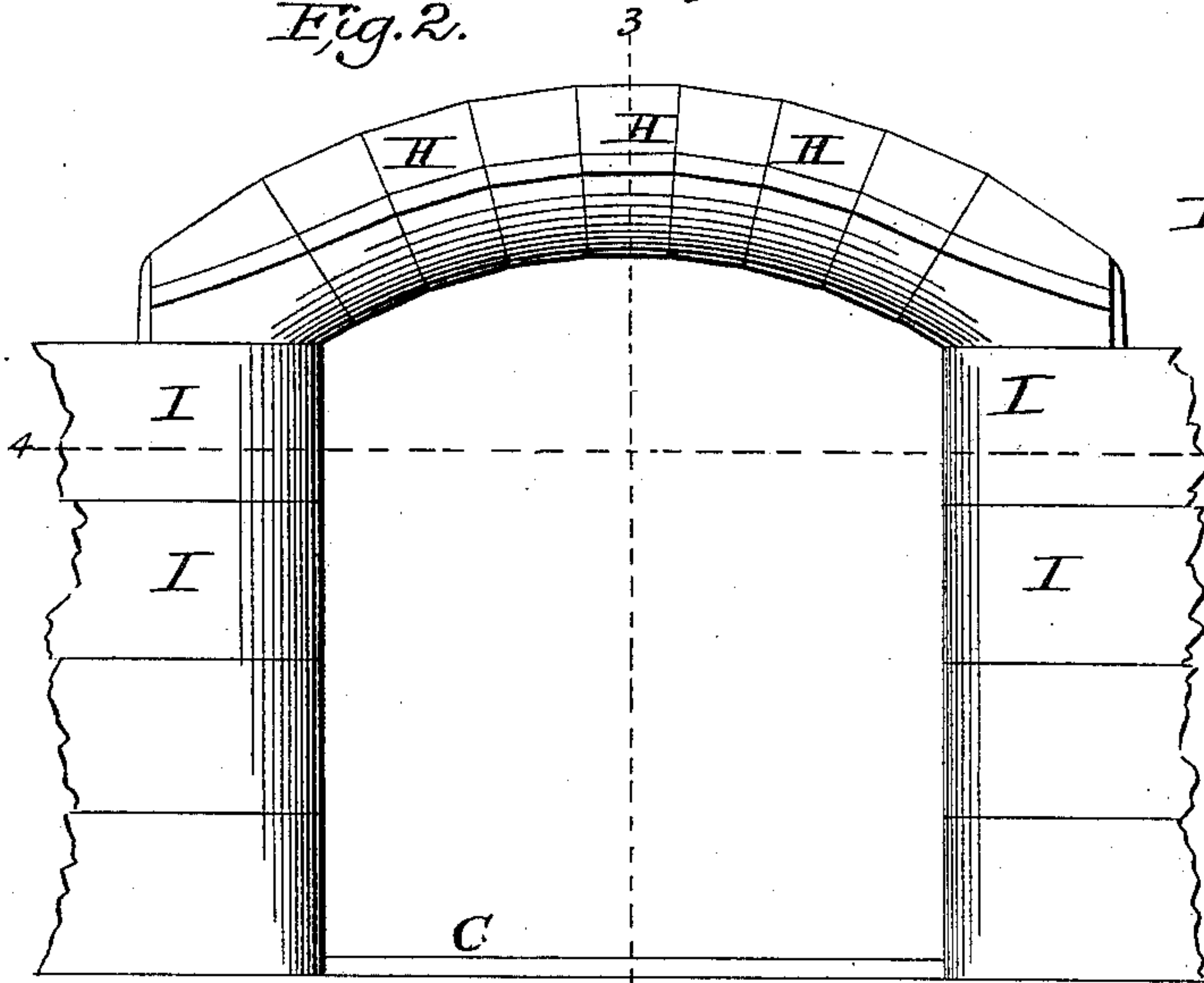


Fig. 3.

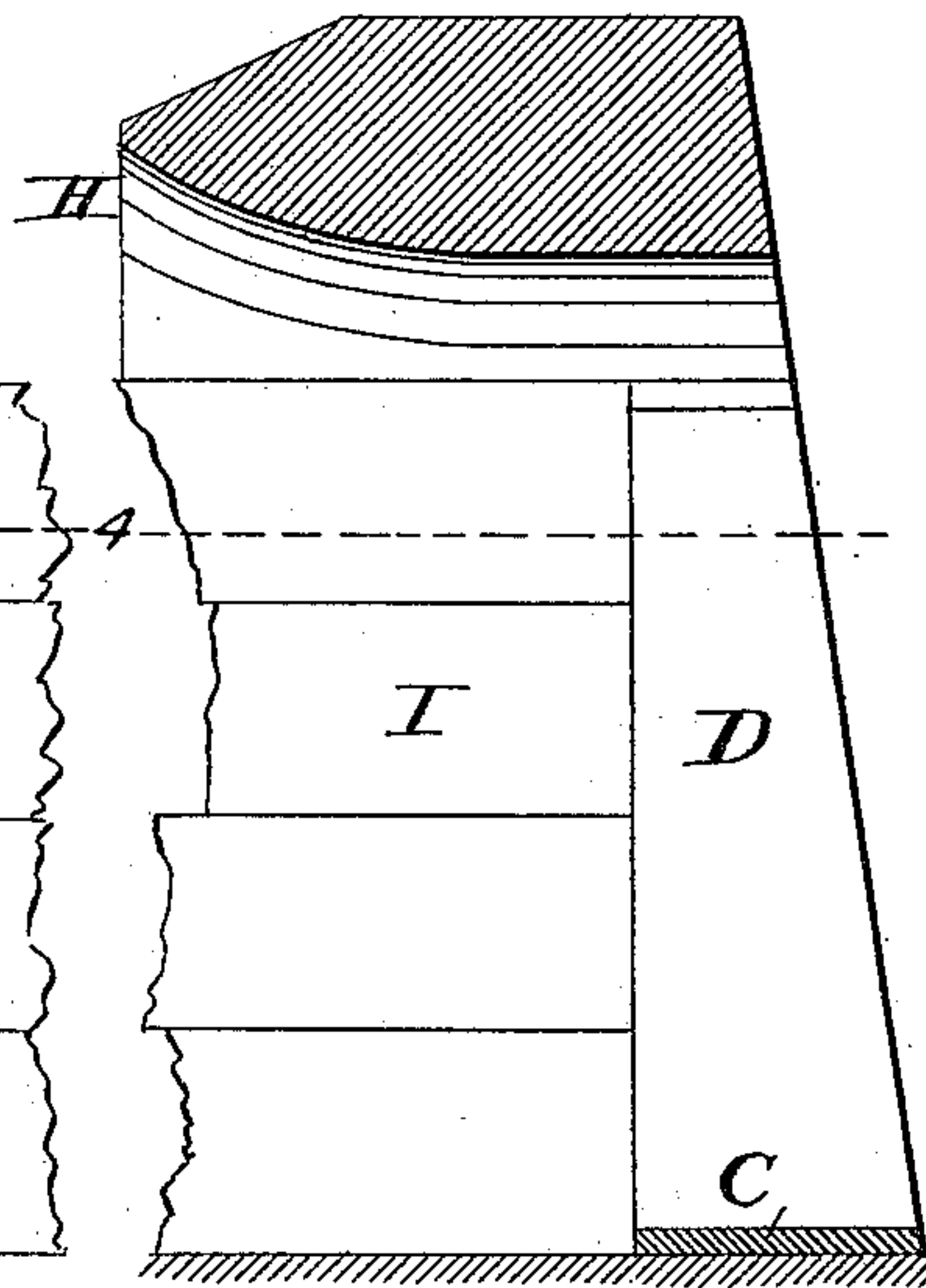
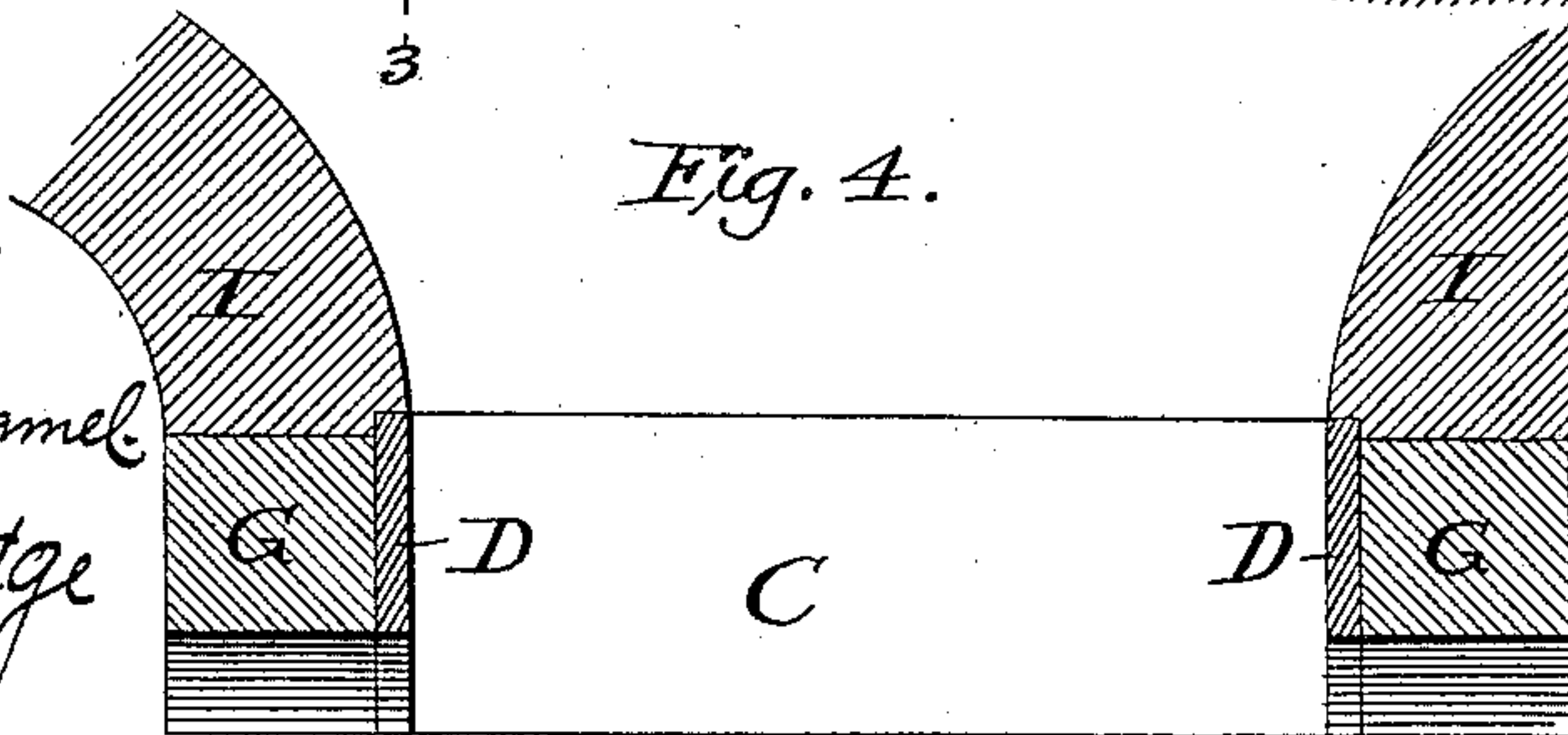


Fig. 4.

Witnesses:
James F. Duhamel
Horace A. Dodge



Horace B. Riddell,
Inventor,
by Dodge & Sons,
his Attys.

UNITED STATES PATENT OFFICE.

HORACE B. RIDDELL, OF LOCKPORT, ASSIGNOR TO S. H. BAKER, OF EAST LIBERTY, AND WM. H. BECKWITH, OF UNIONTOWN, PENNSYLVANIA.

COKE-OVEN FRONT.

SPECIFICATION forming part of Letters Patent No. 428,953, dated May 27, 1890.

Application filed July 19, 1889. Serial No. 318,027. (No model.)

To all whom it may concern:

Be it known that I, HORACE B. RIDDELL, a citizen of the United States, residing at Lockport, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful improvements in Coke - Oven Fronts, of which the following is a specification.

My invention relates to coke-ovens; and it consists in a novel construction of the same, as hereinafter set forth and claimed.

In the drawings, Figure 1 is a perspective view of a portion of my improved oven; Fig. 2, a face view of the walls of the door or opening, looking from the inside; Fig. 3, a vertical central sectional view on the line 3 3 of Fig. 2; and Fig. 4, a horizontal sectional view on the line 4 4 of Fig. 2.

The objects of the present invention are, first, to so construct the oven that the air instead of being carried straight in and striking and thereby destroying the coke, as has been customary, shall pass or be carried upward, thereby effecting a large saving of the coke; second, to prevent the tools used in withdrawing the coke from catching upon the walls of the oven and thereby pulling them out of position or unduly wearing them away; and, third, to make the front practically a part of the oven, and thereby prevent it from separating and pulling apart, as occurs with those now in use.

A indicates the oven as a whole, and B the door or opening thereof, the said oven being shown in the present instance as of ring form or circular in cross-section.

C indicates the sill, and D D the jambs, resting at their lower ends on the sill, as shown, these parts being made of cast-iron and of such form and dimensions as the requirements of each case demand. At their upper ends the jambs are each provided with a lateral plate or extension E, which in the example shown in the drawings would be about seven inches square and one and one-half inch thick, each plate being provided at its outer edge with an upwardly-projecting

rim or flange F, for a purpose presently explained. The sill C will be about four feet long and one foot wide, and is so arranged relatively to the jambs that when the parts are in proper position the flanged edges of the plates will be directly above the ends of the sill.

Upon reference to Figs. 1, 3, and 4 it will be noted that the jambs are about five inches wider at their lower than at their upper ends, the result of which construction is that the front or wall of the arch and its supports will incline, as shown in Figs. 1, 3, and 4.

Blocks G are properly placed in position upon the sill, and extend upward to the under side of the plates E of the jambs, and thereby materially aid in supporting the arch, which latter is prevented from spreading by means of the flanges or ribs F, formed upon the plates.

The arch proper is formed by blocks H, somewhat longer than the blocks G, the said arch blocks having their lower faces curved upward at their inner end, as shown in Figs. 2 and 3, so as to permit the air that enters through the opening B to rise instead of passing straight in, as would be the case if the blocks were not curved, the curvature of the blocks also preventing the formation of a dead-air space or chamber inside of the oven.

I indicates blocks which connect the "front" with the "ring," these blocks serving to aid in supporting the arch, and by breaking joints with the blocks of the oven they tie the front firmly thereto and prevent any separation of the front from the oven proper. These blocks I, as shown, are curved so as to form a continuation of the oven-ring, thereby avoiding the formation of any sharp corners against which the tools might catch, and also obviating the liability of the blocks being displaced.

The blocks I and G will advisably be tied together, as represented at J, Fig. 1, so as to firmly bind all of the parts together, and in order to further insure the retention of parts in place, the ends of the blocks I are fitted

into the recessed faces of the jamb-blocks G, as shown in Fig. 3, the ends of the blocks I being embraced on one side by plates E.

Having thus described my invention, what I claim is—

In combination with the oven A, having an opening B, the sill C, jambs D, resting on the sill, blocks G, also resting upon the sill, jamb-blocks I, connected with the walls of the

oven, and arch-blocks H, supported by the blocks G and I.

In witness whereof I hereunto set my hand in the presence of two witnesses.

HORACE B. RIDDELL.

Witnesses:

JOHN A. HORTMANN,
J. E. HECK.