2 Sheets—Sheet 1.

J. M. HARTMAN.

Regenerative Hot-Blast Oven.

No. 214,294. **Patented April 15, 1879.**

FIG. 1

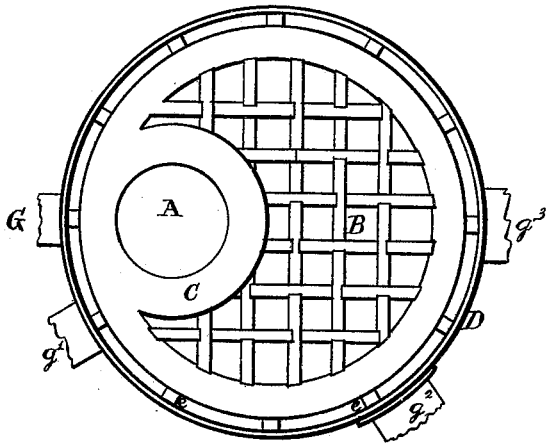
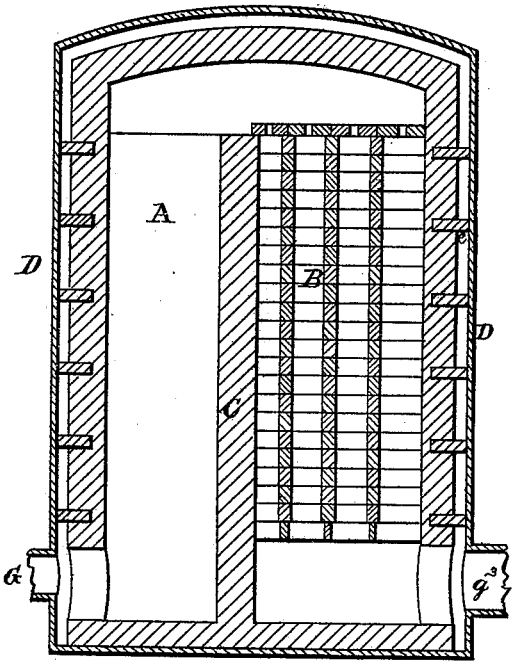


FIG. 2



Witnesses.

John F. Grant.

D. Louis Shivas

Inventor.

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attorney

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2 Sheets—Sheet 2.

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FIG. 3

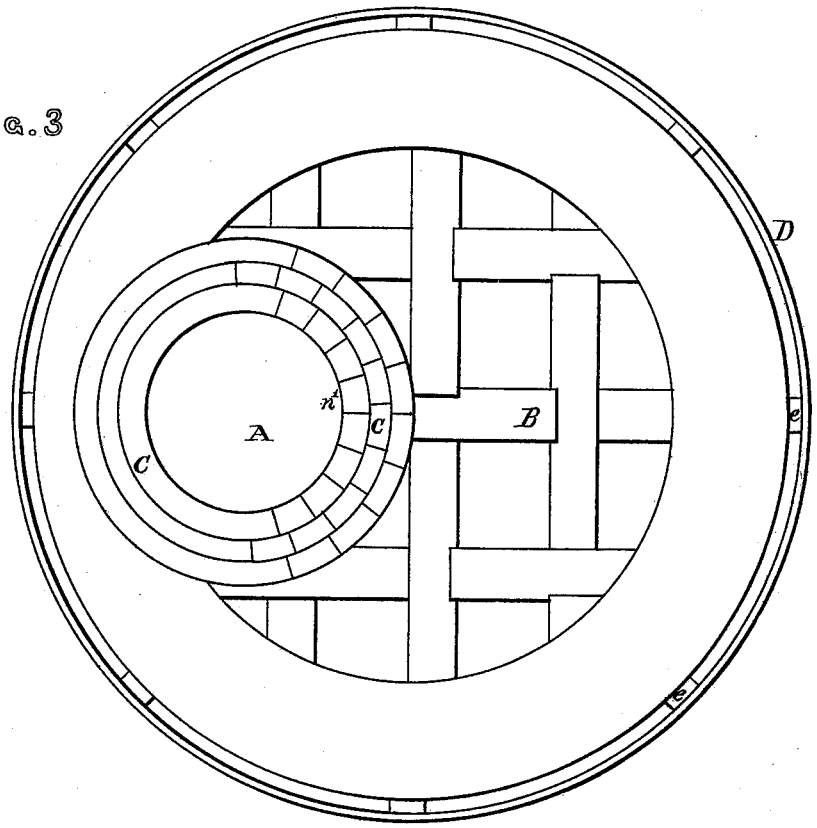


FIG. 4

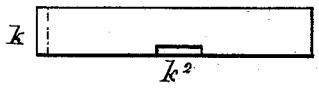
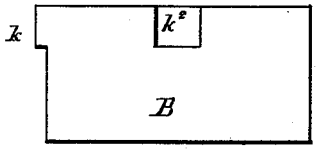


FIG. 5



Witnesses.

John F. Grant.
D. Louis Shivers

Inventor.

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UNITED STATES PATENT OFFICE.

JOHN M. HARTMAN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN REGENERATIVE HOT-BLAST OVENS.

Specification forming part of Letters Patent No. **214,294**, dated April 15, 1879; application filed May 14, 1878.

To all whom it may concern:

Be it known that I, JOHN M. HARTMAN, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Regenerative Hot-Blast Stoves for Iron-Smelting Furnaces, which improvement is fully set forth in the following specification and accompanying drawings.

The invention relates more particularly to a brick used in the construction of the interiors of said stoves, each of said bricks being an oblong block centrally recessed and provided with a projecting lug, which bricks, when in place, are laid in contiguous layers and fitted to each other. By this construction gas and flame are prevented from passing through the brick-work, the displacement of the brick-work by sudden explosions obviated, and the expansion of the same under the action of heat allowed.

Figure 1 is a horizontal section through a hot-blast stove. Fig. 2 is a vertical section through the same. Fig. 3 is an enlarged horizontal section, showing the shape of the brick-work. Figs. 4 and 5 show the bricks in detail.

In the drawings, A represents the combustion-chamber, surrounded by a circular wall, C. B is the cellular brick-work forming the regenerative portion of the stove. D is the wrought-iron shell; *e*, projecting fire-bricks to preserve an air-space next to the shell. G is the gas-inlet; g^1, outlet for hot air; g^2, dust-opening; g^3, outlet to chimney.

In the use of fire-brick stoves frequent explosions occur, by which the brick-work of the vertical walls B is displaced or thrown down. I overcome this by interlocking the brick-work by means of projections upon the end or edge of the brick, which fit into corresponding recesses in the next contiguous brick.

Figs. 4 and 5 show, respectively, the edge and side of a brick, having a projecting lug, *k*, at one end, and a recess, k^2, in its side, into which fits the lug of another brick corresponding to lug *k*. By this plan the vertical walls of a regenerative hot-blast stove retain their position better and are much more efficient as heating-surfaces than as at present constructed.

The construction of the bricks employed also admits of the expansion of the walls under the action of heat.

I claim—

In a regenerative hot-blast stove, the brick B, consisting of a block having the recess k^2 and projecting lug *k*, as specified.

JOHN M. HARTMAN.

Witnesses:
EDWD. BROWN,
JOHN F. GRANT.