(No Model.)

W. G. BEYERLY.

FIRE BRICK.

No. 262,727. Patented Aug. 15, 1882.

Fig. 2.

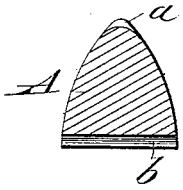


Fig. 1.

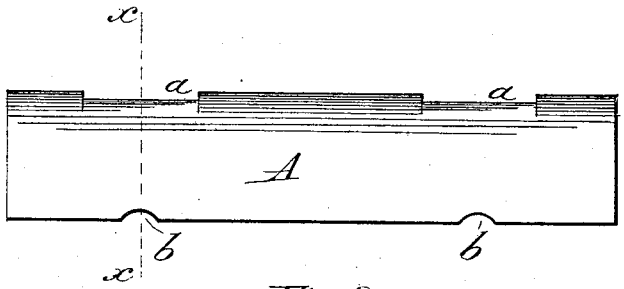


Fig. 4.

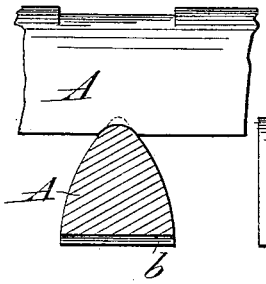
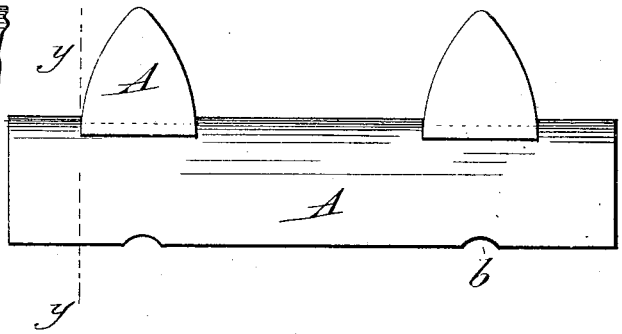


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM G. BEYERLY, OF PORTSMOUTH, OHIO.

FIRE-BRICK.

SPECIFICATION forming part of Letters Patent No. 262,727, dated August 15, 1882.

Application filed June 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. BEYERLY, a citizen of the United States, residing at Portsmouth, in the county of Scioto and State of Ohio, have invented certain new and useful Improvements in Fire-Bricks; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in that class of fire-bricks for which Letters Patent No. 260,155 were granted to me June 27, 1882; and it consists of a fire-brick the sides of which are curved convexly to its upper edge, one or more depressions or recesses, each having a curved base, being formed in said upper edge or ridge, while the flat under surface of the brick is grooved transversely at suitable intervals to correspond with the recessed upper edge of the adjacent brick, as hereinafter more fully described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a side elevation of my improved fire-brick. Fig. 2 is a transverse section of the same on the line *x x* of Fig. 1. Fig. 3 is a view representing the manner of arranging and connecting the bricks; and Fig. 4 is a section on the line *y y* of Fig. 2.

Like letters indicate like parts in the several views.

The letter A designates the fire-brick, which is so made as to have a conoidal form in cross-section similar to that of the brick described in my patent above mentioned.

It will be observed that the brick may be made of any desired length or breadth, and that its sides are curved convexly from its flat under surface to its rounded upper edge, thus facilitating the downward passage of dust or ashes. The upper rounded edge or ridge formed by the convergence of the two opposite sides of the brick is provided with one or more depressions or recesses, *a*, for the reception of the under surfaces of the adjacent or superimposed bricks. These depressions or recesses *a*, as shown in Figs. 1 and 2, are each formed with a rounded base that corresponds with the curved walls or sides of the transverse grooves *b b*, which are formed at suitable intervals in the flat under surface of the brick.

The manner of arranging the brick in tiers or checker-work is represented in Figs. 3 and 3, from which it will be seen that when the grooves *b* of one tier are made to engage with the depressions or recesses *a* of the tier immediately beneath the several bricks will be held firmly in position without liability of displacement in any direction.

It is obvious that providing the depressions *a* in the top or upper edge of each brick will not only allow the bottom of the brick that rests on it to be held firmly in its proper place, but will also furnish an absolute guide to the workmen in setting the brick, thereby insuring their correct arrangement. By this means it will be simply impossible for the brick to be placed or become disarranged in such position as to stop up each other and not allow the dust to fall to the bottom of the chamber.

I am aware that a checker-work for furnaces has heretofore been composed of bricks having sharp wedge-shaped upper edges or ridges, with notches at the ends upon said upper edges, for the purpose of receiving the bricks composing the adjacent transverse course. This, however, I do not claim. In my bricks the depressions *a* on the upper rounded edge, as well as the transverse grooves *b* on the lower flat surface of the brick, are formed away from the ends, the various sections of the checker-work being thus capable of an independent arrangement, so that if some of the bricks should become broken or melted those in the remaining sections will not be disarranged and the parts may be readily put in repair. The convexly-curved sides of my improved brick not only furnish a larger heating-surface than a flat or angular brick, but also enable the soot, dust, and ashes to fall off as well as if its sides were straight or inclined, while the manner of connecting the brick—namely, by means of transverse rounded grooves in the lower flat face of one brick engaging with depressions having curved bases formed in the upper edge or ridge of the adjacent brick—forms a positive guide in setting the brick and ob-

viates all liability of displacement in any direction.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A fire-brick having convexly-curved sides, terminating in a rounded upper edge and provided on said upper edge with depressions *a*, each having a curved base, and on its flat under surface with transverse grooves *b*, corresponding with the depressions in the upper edge of the adjacent brick, substantially as shown and described.

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

WILLIAM G. BEYERLY.

Witnesses:
PH. ZUELLNER,
C. H. WILHELM.