G. W. HERRICK.

Fire-Back for Stoves.

No. 160,906. Patented March 16, 1875.

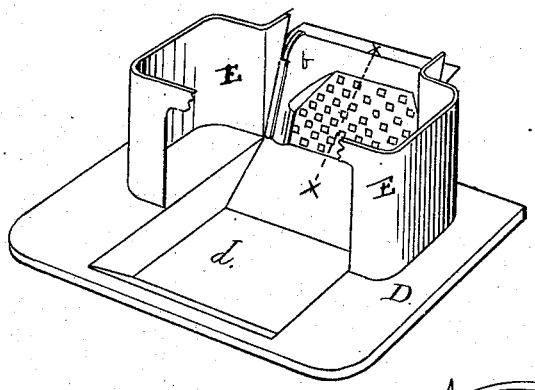

Fig. 1

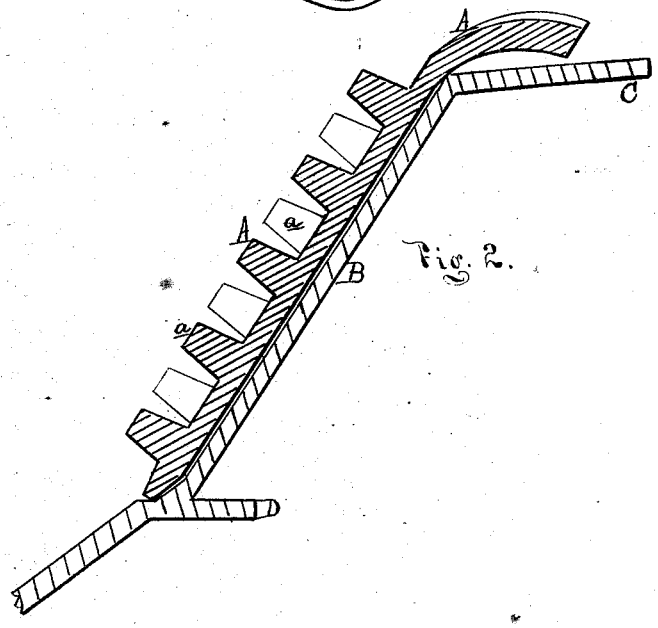

Fig. 2.

ATTEST.
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By Attorney
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THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

GEORGE W. HERRICK, OF DETROIT, MICHIGAN, ASSIGNOR TO DETROIT STOVE WORKS, OF SAME PLACE.

IMPROVEMENT IN FIRE-BACKS FOR STOVES.

Specification forming part of Letters Patent No. **160,906**, dated March 16, 1875; application filed December 10, 1873.

To all whom it may concern:

Be it known that I, GEORGE W. HERRICK, of Detroit, in the county of Wayne and State of Michigan, have invented an Improvement in Fire-Backs for Cook-Stoves, of which the following is a specification:

The nature of this invention relates to an improved form of back-plate for the fire-pot or combustion-chamber of cooking-stoves, which plates, as ordinarily constructed, are not durable, being soon destroyed by the intense heat to which they are subjected. The invention consists in providing the front side of the plate with numerous projecting studs of solid metal having the form of cubes or truncated pyramids, which receive at their ends the heat of the flames, between which and the plate a current of air circulates between the studs to keep the plate comparatively cool. The plate is so constructed as to form an air-space between it and the front plate of the oven, thereby keeping the body of the plate cool, and an undue degree of heat from being imparted to the front part of the oven.

Figure 1 is a partial perspective view of a stove fitted with my improved fire-back. Fig. 2 is an enlarged cross-section of the fire-back at *x x*.

In the drawing, A represents a plate cast with projecting studs *a*, having the form of truncated pyramids. B is the front plate of the oven, and C the top plate of the oven, while D is the wing-plate, having the central part sunk to form the ash-pit; and E E are portions of the side plates of the stove. These latter have projecting ribs *b* cast on their inner faces, between which and the oven plate the ends of the fire-back A are inserted to keep the latter in place, leaving an air-space between the fire-back and the oven-plate, which is closed at the top by a curve in the former extending back over the front part of the oven. The projecting ribs *b* are placed so that the fire-back A slides in loosely to admit air by the sides of the fire-back into the air-space behind it. The ends of the studs receive the direct heat of the flame, between which and the body of the plate A a current of air circulates and prevents the plate from being subjected to an intense heat. The ends of the studs will, of course, slowly burn away, but in practice, the projection being nearly one-half inch, it will require many years' use of the stove to burn them down to their bases and allow the flames to attack the plate.

I am aware that fire-backs have been used, and have had their surfaces corrugated in various forms to enable them to resist the heat; and while I disclaim the invention thereof—

What I do claim as new, and desire to secure by Letters Patent, is—

The fire-back A, consisting of a plate, constructed as described, to form an air-space with the back of a cooking-stove, bearing a series of frusto-pyramidal studs on its surface, said studs being arranged in lines, so that those of one line shall be opposite the intervals of those in another line, substantially as and for the purposes set forth.

GEORGE W. HERRICK.

Witnesses:
H. F. EBERTS,
C. E. HUESTIS.