

G. A. WELLS.
Fire-Back for Stoves.
No. 214,856. Patented April 29, 1879.

Fig. 1.

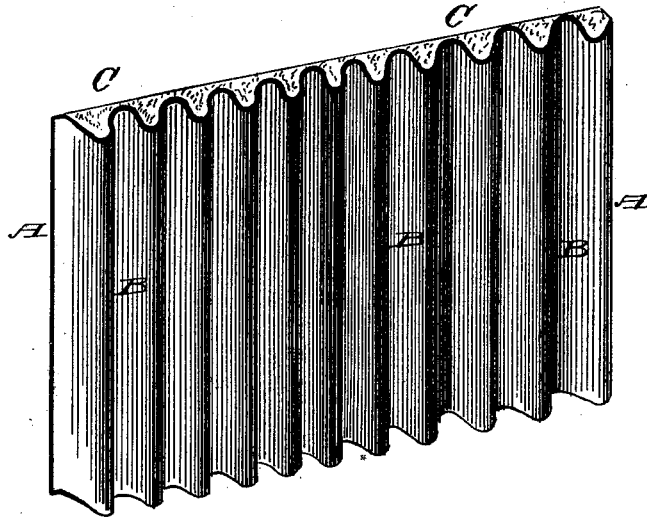


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE A. WELLS, OF OSKALOOSA, IOWA.

IMPROVEMENT IN FIRE-BACKS FOR STOVES.

Specification forming part of Letters Patent No. **214,856**, dated April 29, 1879; application filed January 6, 1879.

To all whom it may concern:

Be it known that I, GEORGE A. WELLS, of Oskaloosa, in the county of Mahaska and State of Iowa, have invented certain new and useful Improvements in Fire-Backs for Stoves; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved fire-back, and Fig. 2 is a vertical section of the same.

Similar letters of reference indicate corresponding parts in both the figures.

This improvement relates more especially to the fire-backs or lining of grates, stoves, ranges, and furnaces of all kinds; and it consists in constructing the said fire-backs or lining of corrugated metal, the corrugations of which, upon one side, are filled with a plastic composition made from ashes, or sand and ashes mixed, with the addition of water, and any suitable cementing composition, so that that side of the fire-back which is next to or impinges upon the walls of the fire-box shall present a smooth and even appearance, while the corrugated metal faces the interior of the fire-pot, substantially as hereinafter more fully set forth.

In the drawings, A is a corrugated metallic plate, which may be either cast with its corrugations, or made of malleable or sheet metal, and the corrugations (denoted by the letter B) formed afterward. C is the lining referred to, which, after being mixed with the water and cement, is tamped into the parallel corrugations upon one side of the plate, and then smoothed off, so as to be about even with the ridges formed by the counter corrugations, as shown in Fig. 1 of the drawings. After the material thus tamped into the corrugations has set and dried, the plates are ready for use.

If desired, the corrugated plates A may be inserted into the fire-pot before the plastic lining C has been filled in, and this then tamped in afterward from the top.

I am aware that it is not new to use corrugated metal, or corrugated fire-brick, or fire-clay lining for grates, stoves, ranges, or furnaces; but I am not aware that a compound lining such as herein described has ever before been used for this purpose.

Where corrugated metal alone is used for the fire-backs or lining, it will soon melt, become cracked, and burn out; and where fire brick or clay is used alone, it is apt to become broken by the poker when stirring or shaking the fire, being very brittle in its nature; and another disadvantage is, that fire brick or clay, or other similar compositions, "burn in" with the ashes and clinkers in the fire-pot, forming a thick coating on the lining, by which the open fire-space is gradually reduced; but by my improvement all these drawbacks are obviated, and an effective, non-conductive, and durable fire-back or lining produced.

Having thus described my improvement, I claim and desire to secure by Letters Patent of the United States—

A compound fire-back or lining for grates or the fire-pot of stoves, ranges, and furnaces, composed of a thin corrugated metallic shell, A, the corrugations B of which upon one side are filled in with a plastic non-conductive packing, C, whereby solid ribs or ridges are formed alternating with the open spaces or clefts on the opposite side of the metal shell, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

GEORGE A. WELLS.

Witnesses:

O. O. WELLS,
J. C. MYERS.