

L. WOOD.
ADJUSTABLE FIRE BACK.

Patented Dec. 31, 1889.

Inventor
Lyman Wood
By Plant & Underwood
Attorneys

UNITED STATES PATENT OFFICE.

LYMAN WOOD, OF RACINE, WISCONSIN.

ADJUSTABLE FIRE-BACK.

SPECIFICATION forming part of Letters Patent No. 418,482, dated December 31, 1889.

Application filed May 7, 1889. Serial No. 309,900. (No model.)

To all whom it may concern:

Be it known that I, LYMAN WOOD, of Racine, in the county of Racine, and in the State of Wisconsin, have invented certain new and useful Improvements in Adjustable Fire-Backs; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to adjustable fire-backs; and it consists in certain peculiarities of construction and combination of parts, to be hereinafter described with reference to the accompanying drawings and subsequently claimed.

In the drawings, Figures 1 and 2 represent vertical transverse sections respectively taken on lines 1 1 and 2 2 of Fig. 3; Fig. 3, a rear elevation of a fire-back constructed according to my invention, certain of the parts being broken away for the purpose of better illustration; Fig. 4, a horizontal section on line 4 4, Fig. 3; and Fig. 5, an enlarged detail sectional view illustrating graduated corrugations that are made in the lower portion of the main plate and its adjustable leaves.

Referring by letter to the drawings, A represents the main plate of my fire-back, provided at or about its vertical center, near the ends, with longitudinal slots *b*, the latter being preferably countersunk upon the front side of said plate, as best illustrated in Fig. 4.

Secured to the front side of the plate A is a channel-rib B for the reception of nuts *c* on bolts *d*, the latter being passed through lateral extension-leaves C and the slots *b* in said plate to adjustably secure the leaves in position, the nuts being held against rotation by the countersinks in said plate. In order to prevent pivotal movement of the leaves C, they are provided with longitudinal ribs *e*, that engage corresponding depressions *f* in plate A, as is best illustrated in Figs. 2 and 3.

In my device I countersink the bolt-openings in the leaves C, and thus bring the heads of the bolts *d* flush with said leaves, and the nuts *c* come within the channel-rib

B on the plate A, whereby there is nothing projecting from the rear of the device other than the usual flanges at the top of said plate and leaves, while at the same time said bolts and nuts are protected from direct contact with the fire by means of said channel-rib.

While I have shown the channel-rib B as closed at its ends and detachably secured to the front of the plate A by means of bolts *h* and nuts *i*, it is obvious that were said rib and plate cast in one piece the ends of the rib would be left open in order to facilitate the removal of the necessary core.

In that class of devices to which my invention relates it is usual to corrugate the lower portion of the plate A and its leaves C, in order that sections of the same may be readily broken off to adjust such a device to the depth of a stove or fire-place in which it is to be placed.

In fire-backs as usually constructed the corrugations in the main plate and its laterally-adjustable leaves are uniform as regards the thickness of metal between the convex portions of said corrugations. This being the case, extreme care has to be exercised in order to prevent breaking off more than is desirable when fitting the device to a stove or fire-place. I prefer to graduate the corrugations, as is illustrated in the detail sectional view, Fig. 5, the thickness of metal between the convex portions of said corrugations being gradually increased as the non-corrugated portion of a main plate or adjustable leaf is approached. By means of the construction just described the lower one of convex corrugations on a main plate or adjustable leaf will be the easiest to break off, the next one will require more effort, and so on throughout the series.

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

In a fire-back, the combination of the main plate A, provided with the longitudinal slots *b*, countersunk upon the front side thereof, the channel-rib B, secured to said front side of the main plate, leaves C, ar-

ranged on the rear side of said main plate,
the nuts *c*, arranged within said channel-rib
to engage the countersinks in said main plate,
and the bolts *d*, passed through said leaves
5 and slots to engage said nuts, substantially
as set forth.

In testimony that I claim the foregoing I

have hereunto set my hand, at Milwaukee, in
the county of Milwaukee and State of Wis-
consin, in the presence of two witnesses.

LYMAN WOOD.

Witnesses:

N. E. OLIPHANT,
WILLIAM KLUG.