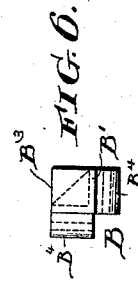
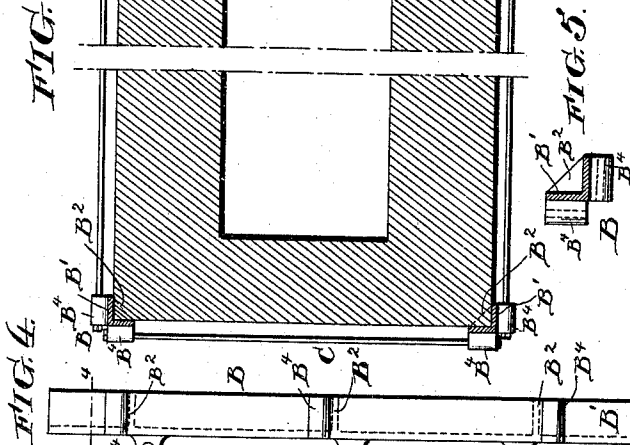
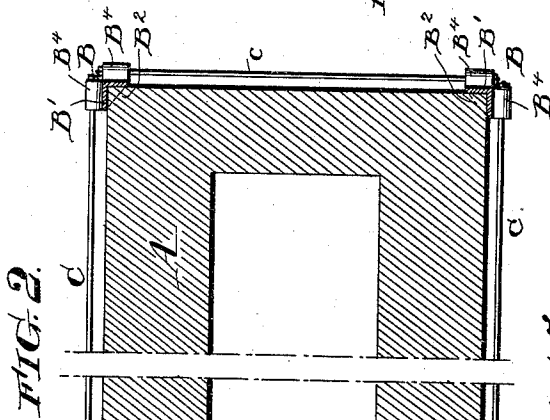
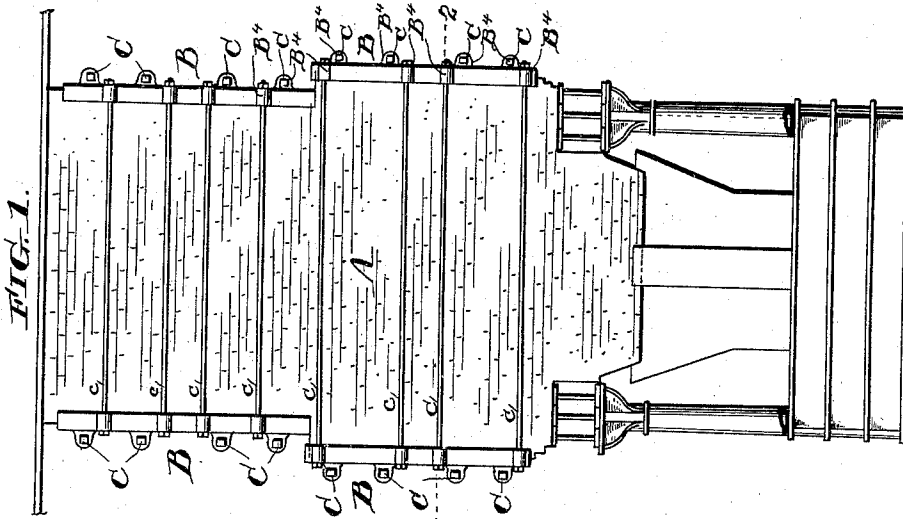


(No Model.)

M. W. ILES.
FURNACE BUCKSTAVE.

No. 476,275.

Patented June 7, 1892.



Witnesses:
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J. A. R. R. R.

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UNITED STATES PATENT OFFICE.

MALVERN W. ILES, OF DENVER, COLORADO.

FURNACE-BUCKSTAVE.

SPECIFICATION forming part of Letters Patent No. 476,275, dated June 7, 1892.

Application filed March 3, 1892. Serial No. 423,590. (No model.)

To all whom it may concern:

Be it known that I, MALVERN W. ILES, of the city of Denver, county of Arapahoe, and State of Colorado, have invented a certain new and useful Improved Furnace-Buckstave, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to the construction of buckstaves for furnaces, and has for its object to render them stronger and better adapted for their work. This I do by forming the buckstaves substantially as illustrated in the drawings and as hereinafter described in connection therewith.

In the drawings, Figure 1 is an elevation of a furnace provided with my improved buckstaves; Fig. 2, a cross-sectional view on line 1 2 of Fig. 1; Figs. 3 and 4, enlarged views of the buckstaves shown; Fig. 5, a cross-section on line 3 4 of Fig. 4, and Fig. 6 an end view of the buckstave shown in Fig. 3.

A is the furnace; B B, &c., the buckstaves, which rest against each corner of the furnace and to which are secured the tie-rods C C, &c., which hold the buckstaves in place and through them hold the furnace together.

The improved buckstaves consist of a single casting, each having flanges B' B', which lie against the adjoining sides of the furnace, enveloping the corner thereof. On the outside of flanges B' are formed lugs B⁴, through which the ends of the tie-rods pass and against which the nuts or heads of the rods rest. Preferably these lugs are arranged in staggered pairs, as shown, one on each flange B' B', one being on a slightly higher level than the other. Across the inside or trough

of the buckstave I form webs B², which serve to strengthen the casting, and which, preferably, are placed one for each staggered pair of lugs and at a level midway between said lugs. These webs pass into seams or joints in the masonry of the furnace and are found both convenient and efficient. Where the top of the buckstave comes flush with the masonry, as is the case with the lower set in the furnace of Fig. 1, a web B³ should be formed at the top to rest on the masonry, and it is conveniently made square, as shown, instead of triangular, like those lugs B² which enter the masonry seams.

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

1. The furnace-buckstave having the flanges B' B', braced by webs B², extending from flange to flange, and having lugs B⁴ formed on the outside of the webs to receive the tie-rods, all substantially as and for the purpose specified.

2. The furnace-buckstave having flanges B' B', lugs B⁴, formed on the outside of the flanges to receive tie-rods, and webs B², extending from flange to flange on the inside and close to each lug B⁴.

3. The furnace-buckstaves having flanges B' B', lugs B⁴, formed on the outside of the flanges to receive tie-rods, said lugs being arranged in staggered pairs, one on each flange, as shown, and webs B², extending from flange to flange on the inside and situated between each staggered pair of lugs.

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Witnesses:

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