

R. A. HUTCHINSON.

Grate-Bars.

No. 142,471.

Patented September 2, 1873.

Fig: 1

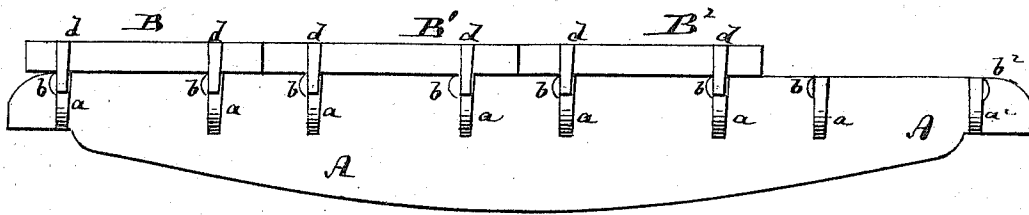


Fig: 2

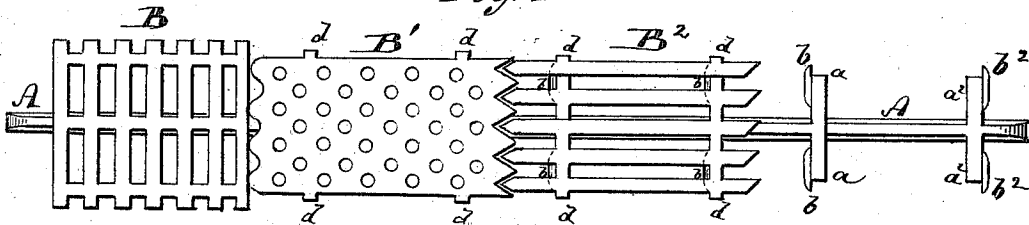


Fig: 3

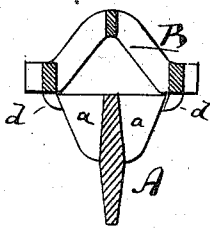


Fig: 4

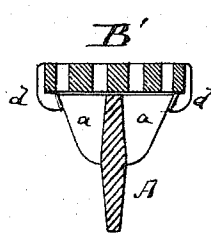
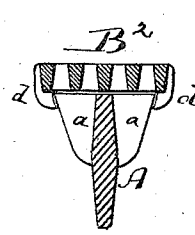


Fig: 5



Witnesses:

Michael Ryan
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UNITED STATES PATENT OFFICE.

REUBEN A. HUTCHINSON, OF BERGEN, NEW JERSEY.

IMPROVEMENT IN GRATE-BARS.

Specification forming part of Letters Patent No. **142,471**, dated September 2, 1873; application filed August 4, 1873.

To all whom it may concern:

Be it known that I, REUBEN A. HUTCHINSON, of Bergen, in the county of Hudson and State of New Jersey, have invented an Improved Grate-Bar, of which the following is a specification:

Figure 1 is a side view of my improved grate-bar. Fig. 2 is a top view thereof; and Figs. 3, 4, and 5 are vertical transverse sections of the same through the several styles of face-pieces represented on Fig. 2.

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

This invention relates to a new construction of grate-bar, of the kind intended to support sectional face-pieces, and has for its objects to facilitate the attachment and removal of the face-pieces, so that when the latter become worn or burned they may be readily replaced without disturbing the supporting-bars, and to prevent the warping or twisting of the bar. The invention consists in providing the supporting-bars with as many projecting pairs of wings on each side as there are sections or face-pieces to be held by each bar, and in making such wings of beveled or other form to fit corresponding wings on the face-pieces, and in providing suitable stops on the wings of the bar or face-pieces, whereby the face-pieces may be firmly held in position, and still be readily detachable whenever desired.

In the accompanying drawing, the letter A represents a grate-bar, of which a suitable number are placed longitudinally in position, each supported at the ends in a suitable manner. The bar A has on each side four, more or less, pairs of projecting wings, *a a*, the wings on one side being exactly in line with those on the other side, as is shown in Fig. 2. These wings, with the projecting stops *b*, with which they are provided, are cast in one piece with the bar A, and therefore intimately connected with the same. The outer edge of each wing *a* is beveled, so that the wing is broader at the upper than at the lower part, as indicated in Figs. 3, 4, and 5. The projecting stops *b b* are all formed on the wings to extend beyond the edges thereof, as shown, and are all on the same side of the wings—

that is to say, they project toward the same end of the grate-bar, except the stops *b² b²* of the outermost wings *a²* at one end of the bar, which stops *b²* are on that side of the wings *a²* that is opposite to the side at which the remaining wings have their stops. *B B¹ B²*, &c., are the detachable face-pieces, made of suitable width and design.

Fig. 2 and Figs. 3, 4, and 5 represent various styles of such face-pieces, although, of course, it is intended to use on the same grate the same style of face-pieces, the various representations shown being only intended to indicate that so many and even more styles may be used in connection with my invention.

Each detachable face-piece has on each side a pair of pendent projections, *d*, whose inner edges are beveled and so spaced that they will fit exactly the beveled edges of the wings *a*, which is fully shown in Figs. 3, 4, and 5. Each face-piece is applied to the bar A by being slid along until the projections *d* straddle the wings *a*, respectively, and strike the stops *b* on such wings. The face-piece applied to the front end of the bar—that is to say, the one last applied—straddles one pair of wings, *a*, and also the pair of wings *a²*, the latter pair of wings being made somewhat narrower than the remaining wings *a* to allow the projections *d*, that are to straddle them, to be placed over them. Between the stops *b b²* this last face-piece will be properly held in place, and will also tend to hold the remaining face-pieces in position. A key may, if desired, be introduced between one of the projections *d* and one of the wings *a²* to finally lock such last section.

In this manner the sections will all be held in position, prevented from becoming longitudinally, as well as vertically and laterally, displaced, and still, by the removal of the key in question, if used, or after the removal of the section last applied, all the remaining sections may be easily taken off, removed, and replaced.

Instead of the wings *a a* on the bar being made with beveled ends, the said wings may be made with their ends of rabbeted or

other form, provided the wings *d d* on the face-pieces are made of corresponding form to hook under them; and instead of the stops *b b* being made on the wings of the bar, they may be made on the wings of the face-pieces.

I claim as my invention—

The combination of the wings *a a* on the

bar, the correspondingly-formed wings *d d* on the face-pieces, and the stops *b b*, substantially as and for the purpose herein set forth.

REUBEN A. HUTCHINSON.

Witnesses:

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