

J. P. NEFF.
ARCH BRICK.
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Patented Dec. 3, 1912.

1,046,008.

Fig. 1.

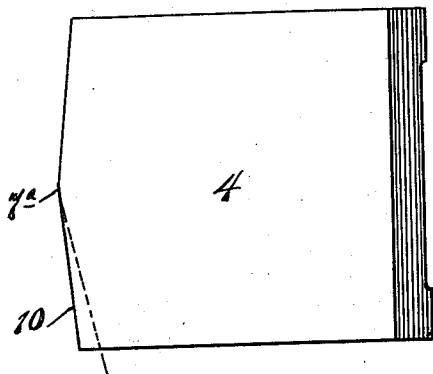


Fig. 2.

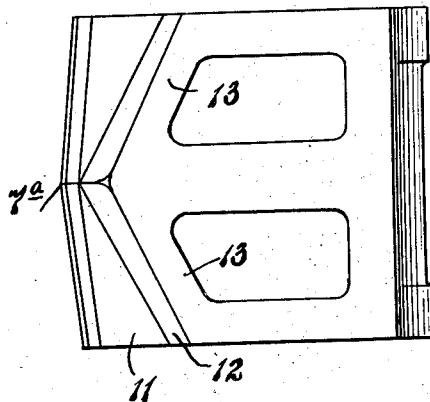
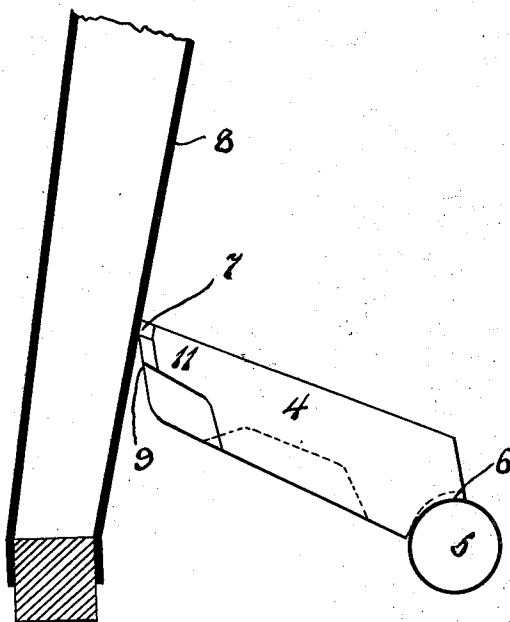


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

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ARCH-BRICK.

1,046,008.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN P. NEFF, a citizen of the United States, residing at New York city, in the county of Kings and State of New York, have invented certain new and useful Improvements in Arch-Brick, of which the following is a specification.

This invention has reference to an improved construction of arch brick designed particularly for use in positions in boilers where the lower or inner edge of the brick is supported from a tube or equivalent supporting means and the opposite or outer and upper side of the brick rests against a side sheet or inner wall of the fire box.

The object of this improvement is to avoid an accumulation of cinders or slag on the upper side of the brick next to the sheet where such accumulation would be objectionable or injurious, and also to arrange the construction so that as small an amount of the brick will touch the side sheet as is possible while still affording a good secure support.

A still further object of this invention is the provision of a brick of such a character that it can be changed in configuration at its upper or outer side so as to fit tubes which are located at various different angles with the side sheet and seldom exactly parallel with the latter, and still provide a secure bearing and support for the brick, and also to provide means whereby, if desired, additional clearance past the outer edge of the brick may be obtained between the brick and the side sheet so as to regulate the air space between the arch and the side sheet and permit just as much air to pass up between the side sheet and the brick as may be desired.

In the drawing illustrating my improvement, I have shown in Figure 1 a plan view of my improved brick, in Fig. 2, I have shown an inverted or bottom plan view, and in Fig. 3 I have illustrated the end view of the brick showing the same in position between the supporting tube and the sheet.

Referring now more particularly to Fig. 3, it will be seen that the brick 4 is therein carried upon a tube 5 its lower side or edge resting upon the lug 6 and inclining in an upwardly direction to a point 7 where it bears against the side sheet 8. The point 7, as shown, is adjacent the upper face of the

brick, the cut-away part or clearance indicated at 9 being upon the under side, so that there will not be a pocket formed on top for the lodgment of cinders or slag which would be injurious to the side sheet.

From examination of Figure 1 it will be seen that on the inner side of the central point of the brick marked 7^a in this figure, the side of the brick adjacent the central point is beveled off or inclined as indicated at 10, and by this means it is possible to set the brick in place without difficulty throughout quite a different range of angles of the supporting tube. This beveling gives a one-point bearing at the end of the brick, with a minimum amount of clearance between the sides 10 and the sheet. If, however, it becomes necessary to set the brick in a place where a still greater angle than is provided for by the inclination 10 is required, the brick can be readily adapted to such greater angle by simply breaking or chipping off some of the inner part marked 11, which, on account of its being materially thinner than the balance of the brick, can be readily broken away to any extent desired to fit such greater angle. If it be desired to leave a predetermined amount of air space between the outer edge of the brick and the side sheet 8, the thinner part 11 can also be broken away, even back to the point marked 12 on Fig. 2, this provision of the wings or thinner portion 11 extending in a kind of triangular shape to the central part at 7^a making it possible to get any extent of angularity desired without injuring or interfering with the main or body portion of the brick at all. The engagement of the wing adjacent the upper edge of the brick with the clearance space below reduces the tendency of the brick to wedge tightly into place.

In order to get the desired strength and material adjacent the thinner wings or projections 11, I also provide the thickened walls or ribs indicated at 13 in Fig. 2.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is the following:

1. A furnace arch brick having a supporting socket at one end and at the other end comprising two surfaces inclined from the edge of the brick to a central meeting point and adapted to engage a side sheet at such

meeting point, the end of the brick having the inclined surfaces being relatively of less thickness than the body of the brick.

2. A furnace arch brick adapted to engage
5 a supporting tube at one end, and at the other end comprising two surfaces inclined from the edge of the brick to a central meeting point, and adapted to engage a side sheet at such meeting point, the end of the
10 brick having the inclined surfaces being relatively thin as compared with the body of the brick.

3. A furnace arch brick having a supporting socket at its inner end and having its
15 outer end cut away upon the lower side to provide a relatively thin wing at the upper side of the brick adapted to engage the firebox side sheet, the brick being out of contact with the side sheet beneath such wing,
20 and the said wing being cut away at the

sides, so that it engages the side sheet only at the central portion of the wing.

4. An improved arch brick having a body portion adapted to engage a supporting tube at its inner end and having its outer end
25 cut away upon the lower side to provide a relatively thin wing at the upper side of the brick adapted to engage the firebox side sheet, the brick being out of contact with the side sheet beneath such wing, and the
30 said wing being cut away at the sides, so that it engages the side sheet only at the central portion of the wing.

In testimony whereof I have hereunto signed my name in the presence of the two
35 subscribed witnesses.

JOHN P. NEFF.

Witnesses:

E. N. PARKER,
CLARA G. MILLER.