

# United States Patent Office.

SAMUEL K. WELLMAN, OF NASHUA, NEW HAMPSHIRE.

*Letters Patent No. 61,966, dated February 12, 1867.*

## IMPROVED FIRE-BRICK.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, SAMUEL K. WELLMAN, of the city of Nashua, in the county of Hillsborough, and State of New Hampshire, have invented a certain new and useful Improvement in Fire-Brick; and I do hereby declare that the following is a full, clear, and exact description of the same.

To enable those skilled in the art to which my invention belongs to make and use it, I will now proceed to describe the same.

There have been many different kinds of fire-brick invented and used, but to most, if not all of them, there are many practical objections. When subjected, as they are, to great heat, and in some cases to intense heat, they scale off, crack, crumble, or fuse, and thus become useless. After repeated experiments I have invented an improved fire-brick, which from actual trial appears to obviate all of the foregoing and other objections. I use, in the manufacture of my improved fire-brick, the following materials and in substantially the proportions named: fire-clay, fifty per cent.; "diamond rock" (very pure quartz) crushed to the fineness of flour or dust, twenty-five per cent.; "diamond rock" (very pure quartz) coarsely crushed, twenty-five per cent. The materials may be mixed and prepared for the burning-kiln in any of the well-known modes. If only the "diamond rock" coarsely crushed is used, the bricks do not answer the purpose, nor will they if only the powdered "diamond rock" is used. In the latter case they are too compact and dense and conduct the heat too much, while the surface exposed to the action of the heat is liable to scale off. By using, however, the "diamond rock" about in the proportions named, one-half reduced to a fine powder or dust, and the other half coarsely crushed, say to the size of kernels of wheat or corn, great practical advantages are obtained. The brick resist the action of the fire, are non-conductors, and do not crumble nor scale off.

Having described my improved fire-brick, what I claim as new and of my invention, and desire to secure by Letters Patent, is—

An improved fire-brick, when made from the materials, and combined in the proportions and in the manner substantially as above described.

SAMUEL K. WELLMAN.

### Witnesses:

FRANKLIN MUNROE,  
SAML. T. WELLMAN.