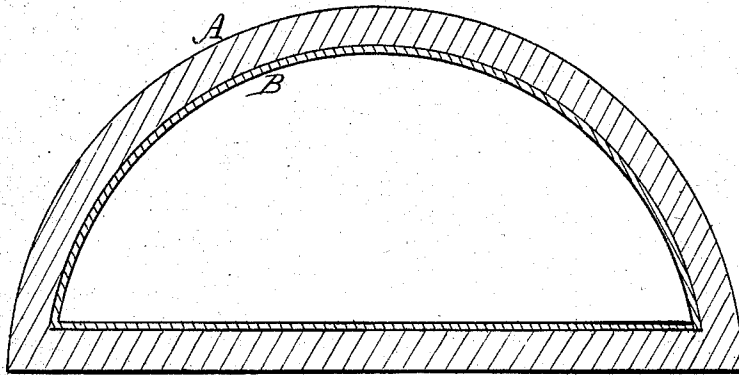


E. G. WELLMAN.

Compounds for Lining Gas-Retorts.

No. 158,228.

Patented Dec. 29, 1874.



Witnesses.

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per R. F. Osgood,
atty.

UNITED STATES PATENT OFFICE.

EDWIN G. WELLMAN, OF BROCKPORT, NEW YORK.

IMPROVEMENT IN COMPOUNDS FOR LINING GAS-RETORTS.

Specification forming part of Letters Patent No. **158,228**, dated December 29, 1874; application filed November 19, 1874.

To all whom it may concern:

Be it known that I, EDWIN G. WELLMAN, of Brockport, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Composition for Lining Gas-Retorts; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to a coating for the interior of gas-retorts, the object of which is to prevent the sticking and adhering of the residuum, and to improve the quality, of the gas; and my invention consists of a compound composed of clay, wood-ashes, and lime, combined and applied in the manner herein-after described.

The drawing represents a cross-section of a gas-retort with my improvement.

In carrying out my invention I take of fire-clay, wood-ashes, and lime, in about the proportions of four-eighths of clay, three-eighths of ashes, and one-eighth of lime; but the proportions may be varied, if desirable. I first sift the materials, so as to use only the finest quality. I then mix them together, and stir them up, and afterward add water till the mass is reduced to the consistency of paste. I then apply the compound to the interior of the retort by a swab, brush, trowel, or otherwise, till the whole surface is covered. The covering may be made of any desired thickness, and smoothed off.

When heat is applied to the retort this lining hardens and vitrifies, and will not crack nor peel off. It forms, in fact, a perfectly-hard covering, which will endure heat, and is much more effective than the natural surface of the retort.

I find from experiment that the residuum

which is produced by the distillation of coal will not stick or adhere to this surface, but will scale and fall off, and can be easily removed by pushing or pulling out with suitable tools. It obviates the great difficulty which has heretofore been experienced from the adhesion of the residuum to the natural surface of the retort. This residuum bakes and cakes in place, and requires frequent cleaning and much labor to remove it. It frequently clings so closely that sharp tools are required to chip it from place. My improvement avoids all difficulty of this kind, as the material will not adhere to the artificial surface. In addition to the above, the joints of the retort are all closed, and a better surface is produced. The qualities of the gas are improved, the carbon uniting more intimately with the gaseous elements.

I am aware that the interior of gas-retorts has been lined with fire-clay, and that they have also been lined with a compound made of clay, sand, and borax, but such is not claimed by me; but

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

A coating or lining for the interior of gas-retorts composed of fire-clay, wood-ashes, and lime, combined in the proportions herein described, for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

EDWIN G. WELLMAN.

Witnesses:

R. F. OSGOOD,
W. A. LODER.