## United States Patent Office.

JEREMIAH BROWELL, OF SAN FRANCISCO, CALIFORNIA.

## LINING FOR CHIMNEYS.

SPECIFICATION forming part of Letters Patent No. 307,173, dated October 28, 1884.

Application filed July 26, 1884. (No specimens.)

To all whom it may concern:

Be it known that I, Jeremiah Browell, of the city and county of San Francisco, and State of California, have invented an Improvement in Linings for Chimneys; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the lining or protection for the interior of flues or chimneys; and it consists of a coat of black-lead, either applied separately or mixed, so as to produce a smooth surface within the flues or chimneys.

In the construction of chimneys or flues which may be made of brick, paper, terra-15 cotta, metal, or other material, the interior surfaces are sufficiently rough to arrest particles of unconsumed carbon and leave deposits of soot, which, with some kinds of coal, speedily fill up the flues or chimneys so as to 20 nearly or quite prevent its operation. In order to prevent this, I form a coating for the interior surface of the flue or chimney, which consists of black-lead or plumbago. This material may be applied in various ways. In some 25 cases it may be mixed with water, either fresh or salt, or with other substances, and then applied with a brush or trowel and made smooth. In some cases, as in the building of

brick chimneys, it may be mixed with the mortar or cement with which the chimney is 30 lined, and then troweled down so as to produce a smooth surface. If glazed pottery should be used for chimneys, they would split or break when subjected to heat; but by the application of plumbago to the interior before baking 35 a smooth surface will be produced which will not crack. By thus lining chimneys or flues a better draft is produced, the surface will be of such character that particles of soot will not so readily adhere, and where the chimney 40 is constructed of paper or similar substances it acts as a protection against heat.

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

A coating or lining for chimneys or flues, consisting of black-lead or plumbago applied to the interior, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my 50 hand.

JEREMIAH BROWELL.

Witnesses:

S. H. Nourse,

J. H. BLOOD.