

# UNITED STATES PATENT OFFICE.

JOHN C. McNULTY, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO HIMSELF AND THOMAS LEE.

## IMPROVED METHOD OF BURNING GAS.

Specification forming part of Letters Patent No. 55,777, dated June 19, 1866.

*To all whom it may concern:*

Be it known that I, JOHN CALHOUN McNULTY, of the city and county of San Francisco, State of California, have invented or discovered a certain new and useful Metalline Fire; and I do hereby declare that the following description is sufficient to enable any person skilled in the art to make and use my said invention without further invention or experiment.

The nature of my invention or discovery consists in the employment of clinkers upon which jets of lighted gas are turned, causing them to ignite and burn without replenishing for a great length of time.

For the carrying of my invention into practical effect I take the common or worthless vitreous matter cast away from the blacksmith's forge, called "clinkers," in the quantity desired, and place them in an ordinary coal grate or stove—say nearly full. Gas is then to be brought through an iron pipe and communicated to the grate underneath the bars longitudinally, and may be best arranged for grates by a branch on either side of the fire-place, meeting in the center. Burners (three or more) are placed on the longitudinal

bar, so as when lighted the gas will come in direct contact with the clinkers. After the gas has been lighted for about ten minutes the clinkers become red hot, sending out heat in about as great a quantity as the same amount of coal would do if properly ignited, and at less expense, and no discoloration of the grate is visible, neither is there any smoke or ashes, and the fuel need not be replenished more than once in six months.

For stoves and ordinary cooking-ranges the clinkers are placed in the grate and the gas admitted in the same way as in a parlor-grate, and the effect is the same, sending out heat sufficient to make the stove red hot.

Having described my invention and improvement in generating and utilizing heat, what I claim is—

The burning of jets of inflammable gas in combination with clinkers, substantially as described.

In witness whereof I hereunto set my hand and seal this 20th day of January, 1866.

JNO. C. McNULTY. [L. S.]

Witnesses:

N. LANDRY,

C. W. M. SMITH.