

# United States Patent Office.

JULIUS LEHMANN, OF BLOOMINGTON, ILLINOIS.

Letters Patent No. 76,087, dated March 31, 1868.

## IMPROVED COMPOUND FOR WELDING AND REFINING IRON AND STEEL.

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, JULIUS LEHMANN, of Bloomington, in the county of McLean, and State of Illinois, have invented a new and improved Composition for Welding and Refining Cast Steel and Iron; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

This invention relates to a new composition for welding and refining cast steel and iron, and for restoring burnt steel, and is composed of the following ingredients, in about the proportions set forth: Three hundred and eighty-four (384) parts of fine dry sand; eight parts (8) of sulphate of iron; four parts (4) sulphate of magnesia; four parts (4) *Ammonium muriaticum*; two parts (2) prussiate of potassa; one part (1) rosin; one part (1) Venetian red; two parts (2) fluid *Acidum muriaticum*.

The sand should be warmed, and is mixed with the *Ammonium muriaticum* and with the sulphate of iron, and well stirred. The muriatic acid is then poured into the mixture, and the same is thoroughly manipulated by hand or machinery, when the other ingredients hereinbefore set forth can be added without regard to any particular succession. Those ingredients which are used in a pulverized state, viz. the sulphate of iron, and the sulphate of magnesia, the rosin, and the Venetian red, should be powdered separately, before they are added to the mixture.

The composition is applied in the same manner in which borax is applied now. It should be kept in well-closed glass or earthen jars, or in tinned vessels.

I claim as new, and desire to secure by Letters Patent—

A composition for welding and refining steel and iron, and for restoring burnt steel, made substantially in the manner and of the ingredients herein set forth.

DR. JULIUS LEHMANN.

Witnesses:

HENRY A. EWING,

M. T. LELAND.