

## UNITED STATES PATENT OFFICE.

JOHN W. HOARD, OF PROVIDENCE, RHODE ISLAND.

## IMPROVEMENT IN SOLDERING-IRONS.

Specification forming part of Letters Patent No. 125,893, dated April 23, 1872; antedated April 6, 1872.

*To all whom it may concern:*

Be it known that I, JOHN W. HOARD, of the city and county of Providence, in the State of Rhode Island, have made certain new and useful Improvements in "Soldering-Irons;" and I do hereby declare that the following specification is a full, clear, and exact description thereof.

The object of my invention is to make a soldering-iron by combining certain metals, as hereinafter described, which enables me to produce the manufactured article at a much less expense than it has heretofore been made. Soldering-irons have heretofore been made of copper, and from a solid bolt, on account of its great property of retaining heat, (being a necessity,) and in solid form as it requires but a slight expenditure of labor to put it in working form. To cast it of that metal alone it becomes porous and spongy, unfit and valueless for such a use. I find, by experiment, that a very little tin or zinc—say a quarter of an ounce to a pound of copper—enables me to produce a sound casting without detriment to

the iron, whereas, an undue proportion would spoil it for the purpose intended, by lessening its conducting power—making it hard and brittle when subjected to the necessary degree of heat.

The iron I use is hollow, having suitable air-passages, &c., to create which from solid metal necessitates much labor, a large waste of material, and makes it too expensive for common use. My purpose is to produce about all the labor in the casting, and in so doing to cheapen the product, and greatly benefit the public, by being able to furnish them with a very useful improvement at a moderate price.

What I claim as my invention, and desire to secure by Letters Patent, is—

A soldering-iron cast from metal composed of the elements, and possessing the characteristics herein described.

JOHN W. HOARD.

Witnesses:

WALTER B. VINCENT,  
JOHN D. W. TAYLOR.