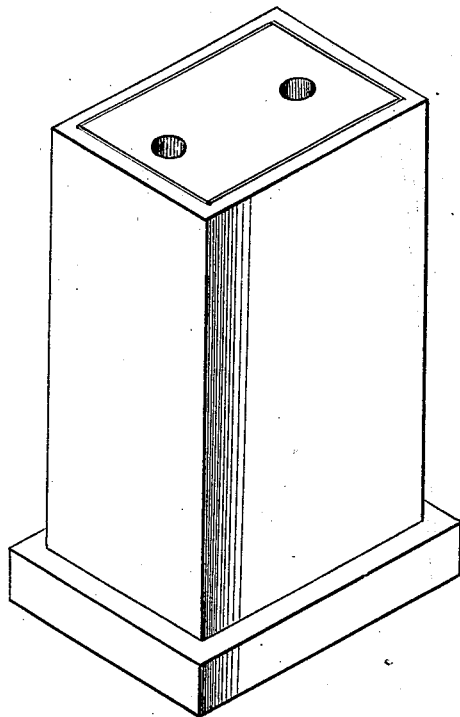


H. H. EAMES.
Non-Corrodible Compositions for Quicksilver
Condensers.

No. 211,721.

Patented Jan. 28, 1879.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY H. EAMES, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN NON-CORRODIBLE COMPOSITIONS FOR QUICKSILVER-CONDENSERS.

Specification forming part of Letters Patent No. **211,721**, dated January 23, 1879; application filed August 22, 1878.

To all whom it may concern:

Be it known that I, HENRY H. EAMES, of the city and county of San Francisco, and State of California, have invented an Improved Condenser; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a novel construction of vessels or chambers employed as condensers, and it is more especially applicable to that class of condensers which are used to collect the fumes of mercury.

In the separation of mercury from its ores considerable quantities of sulphurous and sulphuric acids are produced, and these acids act with great energy upon iron condensers, so that in a short time they are rendered useless. This destructive action does not take place in the first two or three of the condensers, as these are comparatively hot; but as the aqueous vapors condense the action commences, and they attack the iron with great energy.

In order to remedy this difficulty I employ a material which will resist the attack of acids and other destructive substances, and I either construct the condensers entirely of this material, or I line the iron or other condensers with the material, or employ it in the form of partitions or plates, either with or without perforations, to arrest the mercurial vapors, prevent their too quick exit, and assist in their condensation.

In making my condensers, I take three parts of sulphur; of refuse or burned ore, two parts; and quartz rock, one part. To this are added one part of pulverized asbestos and about one-thirtieth of tungstate of soda to make the mass non-inflammable. The refuse ore and quartz rock are ground to a fine powder and intimately mixed. The sulphur is melted in a suitable vessel, either by the direct action of heat or (what I prefer) by the action of steam, and, when sufficiently heated, the ore and quartz are gradually added and thoroughly mixed until the material is ready to be poured into the molds. These molds I form

of any suitable shape and size, and if made in sections, the parts are made to fit so that all joints and pipes will come together closely. The material being thoroughly mixed and of the proper consistency, I pour it into the molds, where it remains until cold, when it may be removed.

If there are joints to be formed or closed, it may be done by running a quantity of the melted material over them, and passing a warm iron over them to make all secure.

In some instances it may be found advisable to make a foundation of iron or other material, and to coat this foundation with my resisting compound. In such cases this may be done by brushing the compound over the surfaces until a coating of sufficient thickness has been formed; or it may be accomplished by dipping the parts into the melted compounds, when sheet-iron is to be used, or when both sides are to be coated.

The proportions of my compound may be changed somewhat without materially altering its effects.

By this or similar means I am enabled to form a perfect resisting-surface to the action of acids or acid vapors, and a mercurial condenser that will be effective at the lower temperatures, and where the aqueous vapors begin to condense. It is easily constructed upon the spot, and may be repaired at any time with but little difficulty.

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

As a new article of manufacture, quicksilver and other condensers constructed of or coated with a compound of sulphur, refuse ore, quartz, and asbestos, with tungstate of soda, combined and employed substantially as herein described.

In witness whereof I hereunto set my hand.

HENRY H. EAMES.

Witnesses:

GEO. H. STRONG,
FRANK A. BROOKS.