Z. L. KAY.
Ore-Stamp.

No. 209,171. Patented Oct. 22, 1878.

Fig. 1.

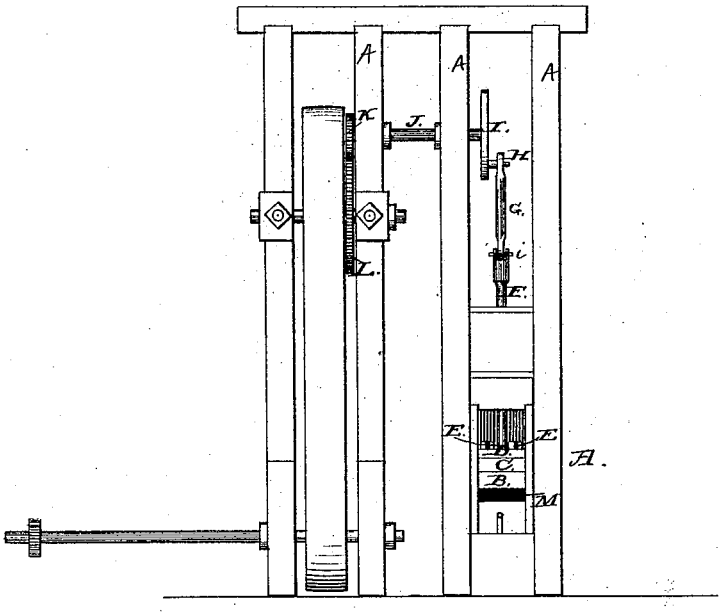
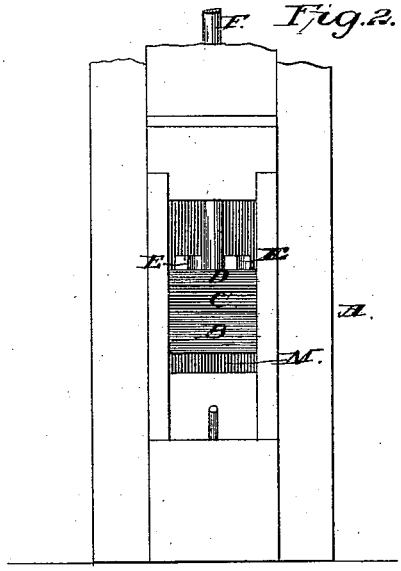


Fig. 2.



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UNITED STATES PATENT OFFICE.

ZACCHEUS LEE KAY, OF SAN DIEGO, CALIFORNIA.

IMPROVEMENT IN ORE-STAMPS.

Specification forming part of Letters Patent No. **209,171**, dated October 22, 1878; application filed March 18, 1878.

To all whom it may concern:

Be it known that I, ZACCHEUS LEE KAY, of San Diego, in the county of San Diego and State of California, have invented a new and useful Improvement in Quartz-Mills, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a front view of the main parts of my quartz-mill with my stamp attached. Fig. 2 is a front view of my stamp detached from the other parts of the machine.

My invention relates to that class of ore-crushers wherein the downward motion of the crank is utilized with the weight of the stamp in crushing the ore.

In order to accomplish this some means must be provided to allow the crank to pass the lowest point.

Heretofore this has been accomplished by interposing metal springs, either coiled or elliptical, between the crank and the stamp-rod, or upon the stamp-rod; but this construction is complicated and expensive.

My invention consists, principally, in placing the spring or cushion in the stamp-head, and thus make a cheaper and simpler machine, and also in certain minor details of construction, as hereinafter fully described and claimed.

In order that those skilled in the art may make and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents the frame of a stamp-mill. K and L are driving-gear, communicating with the shaft J, carrying the crank-head I, to the crank-pin of which is attached the pitman G, connected at *i* to the stamp-head F. The shaft J has proper bearings in the frame A.

Between two of the uprights of the frame A slides the stamp, which is constructed in sections, as follows: The face of the stamp B is made of a steel plate about six inches thick, and annexed to the stamp head or rod is a section, D, made of an iron plate about two inches thick. Between the iron plate D and the steel plate B is interposed a rubber cushion, C. These three sections, B, C, and D, are bolted together by bolts E, and attached to the stamp-rod F. The apertures in B, C, and D, through which bolts E pass, are large enough to let C and D work freely up and down upon the bolts, and thus prevent the machinery from breaking in case the hammers B should strike hard quartz which it could not crush the first blow.

I am aware that quartz-mills have heretofore been made with the stamp-head attached directly to the crank or other movement, whereby the force of the machinery is utilized in breaking the ore.

I am also aware that rubber has heretofore been used beneath the mortar of the quartz-mill; hence I do not claim, broadly, attaching the stamp directly to the machinery, nor the use of the rubber cushion in an ore-stamp; but

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

In an ore-stamp mill wherein the stamp-head is attached directly to the crank-wheel, the ore-stamp composed of the steel shoe B and iron plate D, provided with an interposed rubber cushion, C, working loose on bolts E, substantially as set forth.

ZACCHEUS LEE KAY.

Witnesses:

LEVI SANTEE,

ELIJAH WILLIAM HENDRICK.