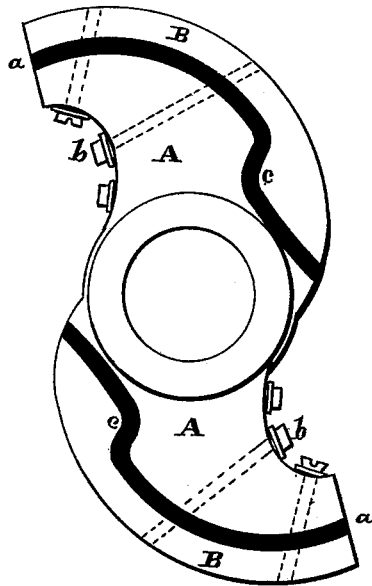


L. A. MOORE & J. DYKES.  
Cam for Stamp-Mills.

No. 221,738.

Patented Nov. 18, 1879.

FIG. 1.



WITNESSES

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# UNITED STATES PATENT OFFICE.

LEWIS A. MOORE AND JOHN DYKES, OF OREANA, NEVADA.

## IMPROVEMENT IN CAMS FOR STAMP-MILLS.

Specification forming part of Letters Patent No. **221,738**, dated November 18, 1879; application filed August 11, 1879.

### *To all whom it may concern:*

Be it known that we, LEWIS A. MOORE and JOHN DYKES, of Oreana, in the county of Humboldt and State of Nevada, have invented an Improved Cam for Stamp-Mills; and we hereby declare the following to be a full, clear, and exact description thereof.

Our invention relates to certain improvements in the construction of cams which are commonly used in lifting the stems and stamps of quartz-mills by means of the tappets; and our improvements consist in forming a removable shoe or face attached to the body of the cam by means of bolts, and placing between said body and shoe a cushion or packing of any elastic substance that will yield or spring under the blow of the cam on the tappet, so as to reduce the jar attendant on the sudden contact, as is more fully described in the accompanying drawing, in which the figure is a view of our invention.

Let A represent the body of the cam, which is shown in double form, as usually applied to quartz-mills. A hole is formed through the center, through which the cam-shaft passes, the cam being keyed to said shaft in the usual manner.

The body of the cam, and also the shoe B, may be constructed of steel, iron, or any other metal adequate to the requirements.

Between the shoe and the body of the cam is adjusted a strip or cushion, *a*, of any required thickness, composed of vulcanite, rubber, or any other suitable elastic substance that will yield or spring under the blow of the cam on the tappet.

The joint-surfaces between the body of the cam and of the shoe are made to correspond one with the other, as shown, so that a perfect joint is effected between the body of the cam and the shoe when the cushion or packing is put in place. The whole is then bolted or screwed firmly together with bolts or studs *b*, running transversely through the body of the cam from the lower edge to and into or through the shoe B, fitting rather loosely without thread through the cam-body A, but tapped and screwed into the shoe, bringing

the shoe B firmly down on the cushion and cam-body.

The joint-surfaces between the body and shoe may be plain or corrugated, or the shoe may have a bulb at one end, as shown at *c*, or be made in any desired shape, so that the joint-surfaces correspond one with the other, admitting the cushion between, and not altering the proper angle of the face of the cam.

In this improved cushioned and shod cam, when the shoes become worn they may be adjusted in a few movements without displacement of the body of the cam, thereby saving great time, labor, and expense, as usually the cams have to be unkeyed and entirely removed from the cam-shaft.

In case the cam or shoe wears away in a beveled shape, the shoe can be changed from one arm of the cam to the other arm of the same cam, or to any of the other cams of the battery, and vice versa, thereby effecting equal wear on both shoes and tappets.

The yielding capability of the cushion effectually and completely obviates all violent or sudden blows, which are so destructive to the iron-work of the battery, since under a cushioned blow crystallization of the iron does not occur, nor does loosening of cams and tappets or chipping and breaking take place. Neither will the shoes or bosses be apt to drop from the stem, as is the case where a succession of sudden jarring blows is made with a solid cam.

As the cam and tappet come together easily and smoothly, there will be no loss of power incident to drawing the stems against the guides of the battery.

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

1. The cam A, provided with the detachable or removable shoes B, said shoes and cams being jointed by the bolts or studs *b*, substantially as and for the purpose herein described.

2. In combination with a cam, A, having a detachable shoe, B, the elastic strip or cushion *a*, placed between said cam-body and shoe,

whereby all jar is obviated when the shoe comes in contact with the tappet, substantially as herein described.

3. In combination with the cam A, the adjustable and removable shoes B, with their fastening-bolts *b*, and the interposing elastic cushion *a*, whereby jar is avoided, and whereby the face of the cam may be replaced when worn without removal of the entire cam from its shaft, substantially as herein described.

In witness whereof we have hereunto set our hands and seals.

L. A. MOORE. [L. s.]  
JOHN DYKES. [L. s.]

Witnesses:

F. X. BANKS,  
PABLO LAVEAGA.