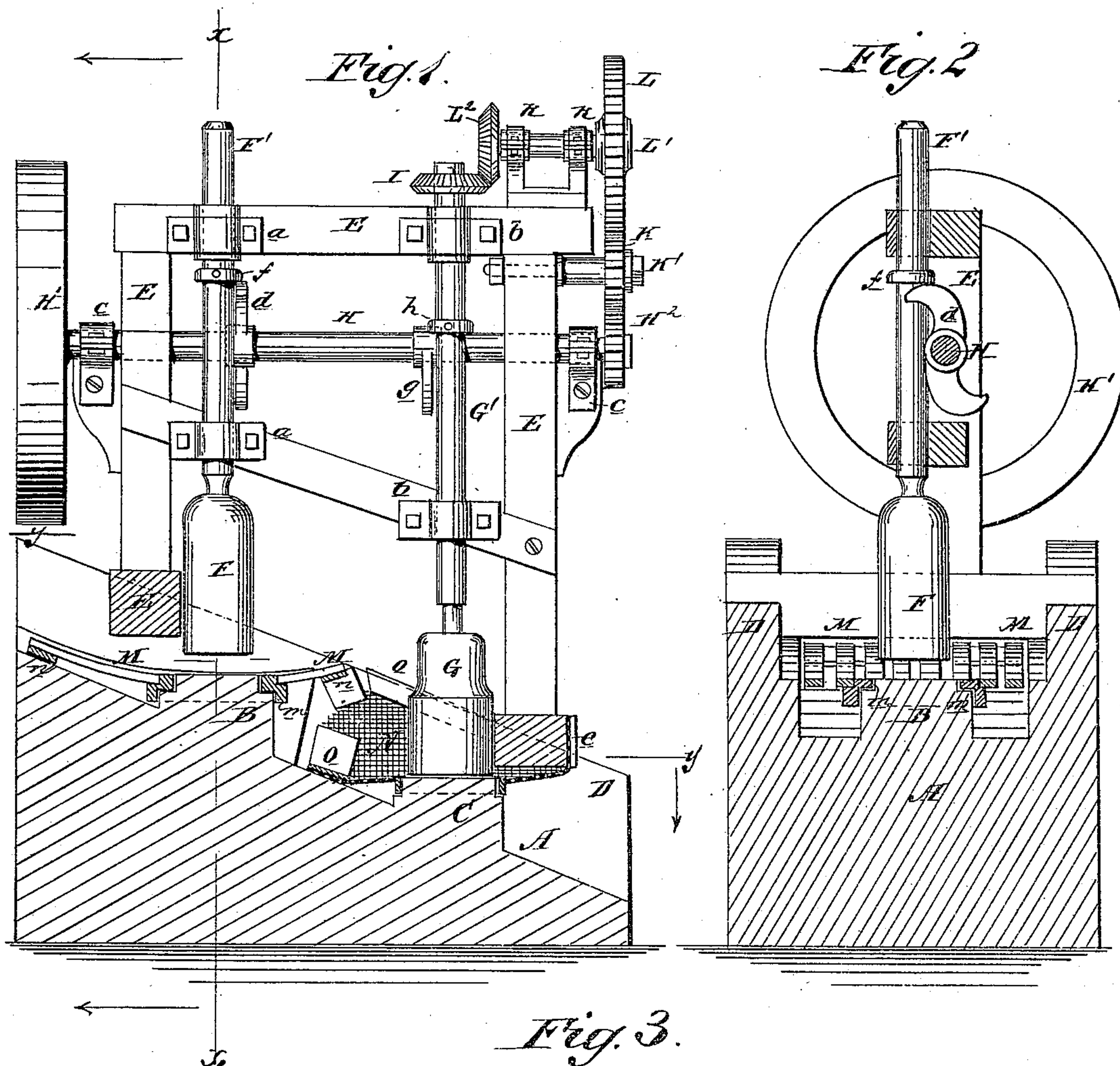


(No Model.)

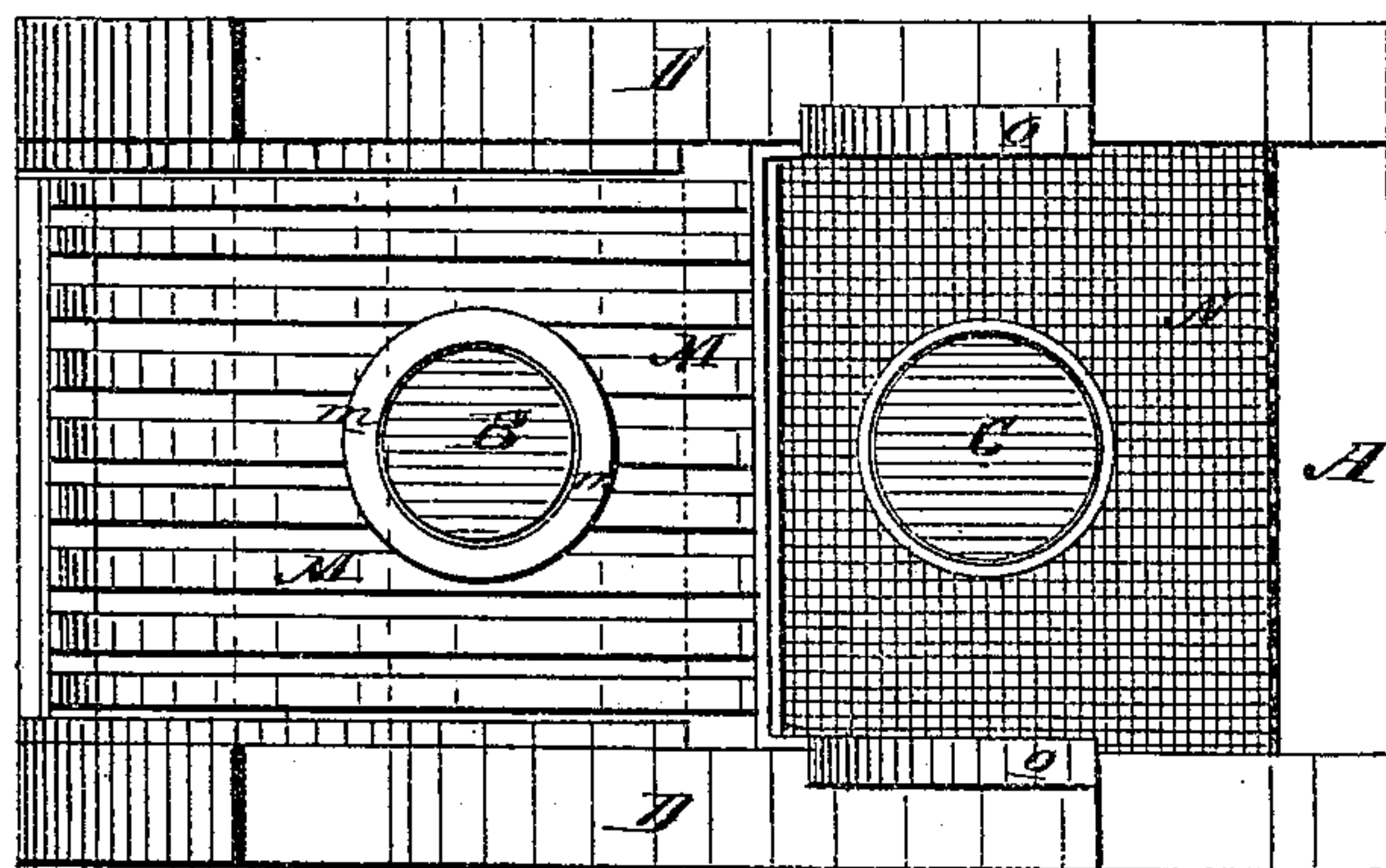
J. F. MARVIN.
STAMP MILL.

No. 251,264.

Patented Dec. 20, 1881.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JAMES F. MARVIN, OF FORT McDOWELL, ARIZONA TERRITORY.

STAMP-MILL.

SPECIFICATION forming part of Letters Patent No. 251,264, dated December 20, 1881.

Application filed July 6, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. MARVIN, of Fort McDowell, in the county of Maricopa, Arizona Territory, have invented certain useful Improvements in Stamp-Mills, of which the following is a specification.

The object of this invention is to increase the yield of stamps in dry crushing.

The invention consists in the combination and arrangement of parts, as hereinafter fully described, and pointed out in the claims.

Figure 1 is a side elevation of my improved stamp-mill, partly in section. Fig. 2 is a sectional elevation of the same on line *x x*, Fig. 1. Fig. 3 is a sectional plan view of the same on line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the bed of the battery, having its upper face sloping at an angle of twenty degrees, or thereabout, and having securely fixed in or upon it at different elevations the dies B C.

D D represent the sides of the battery, and E the supporting-frame, secured thereon for supporting the stamps F G and their actuating mechanism. The upper stamp-shaft, F', is journaled in suitable boxes, *a a*, secured on the frame E, and the lower stamp-shaft, G', is journaled in like manner in boxes *b b*.

A horizontal shaft, H, is journaled in boxes *c c* on the frame E, and has on one end a driving-pulley or band-wheel, H', and on the other end a cog-wheel, H², and is provided with a double tappet, *d*, and a single tappet, *g*, the former of which, as the shaft H revolves, comes twice at each revolution in contact with the collar *f* on the stamp-shaft F', and thereby operates the stamp F, while the tappet *g* operates the stamp G by contact with the collar *h*, said stamp-shaft G' being rotated through the bevel-gear wheel I, that is secured on its top by an ordinary spline, which permits the bevel-gear wheel to slide upon the shaft G in the upward movement of the said shaft.

Power is applied to the device through the band-wheel H'.

It is desired that the stamp G shall operate not only with a stamping but with a grinding motion; and in order to effect this the cog-wheel H² is meshed with an intermediate cog-

wheel, K, that is keyed on a horizontal shaft, K', journaled on the frame E, and the cog-wheel K is meshed with a corresponding cog-wheel, L, that is keyed on a horizontal shaft, L', which is journaled in suitable boxes, *k k*, on top of the frame E, said shaft L' having on its opposite end a bevel-gear wheel, L², that gears with the corresponding wheel I on the stamp-shaft G', so that when the device is in operation the stamp G has a rotary motion on the die C always between its strokes, whereby the ore operated upon is more finely comminuted.

The die B is provided with an annular shoulder, as shown at *m*, and in the higher part of the battery, resting on end cross-bars, *n*, and the die-shoulder *m*, are secured the parallel bars or grating M, whose ends are higher than their central portions and whose faces are flush with the top of the said die B, said curved grating M extending laterally in all directions from the die B, and thereby serving as a screen for the ore operated upon by the stamp F. The ore falling through the screen or grating M follows the slope of the battery-bed onto the finer screen N, which is stretched from side to side of said battery on a level with the top of the die C, and is secured in place by side strips, *o*, or by any other convenient device, the diameter of the die C being greater than that of the stamp G, so that the latter shall not come in contact with the former. The fine ore falls through the screen N as fast as it is sufficiently reduced into the open space beneath, whence it is discharged by its own gravity. The constant jarring of the stamps while at work greatly facilitates the passage of the ore through the screens M N.

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

1. In a stamp-mill, the combination, with the stamp-shaft F', provided with the collar *f*, the stamp-shaft G', provided with the collar *h*, and the bevel-wheel I and the gear-wheels K L L², of the drive-shaft H, provided with the double tappet *d*, the single tappet *g*, and the gear-wheel H², whereby one stamp-shaft will be elevated twice and the other rotated and elevated once at each revolution of the said drive-shaft.

2. In a stamp-mill, the combination, with the inclined bed A and the die B, of the parallel bars or grating M, having their ends higher

than their central portions and their faces flush with the top of the die, substantially as and for the purpose set forth.

3. In a stamp mill, the combination, with the
5 inclined bed A, provided with the cross-bars *n*, and the die B, provided with the shoulder *m*, of the parallel bars M, supported upon the said bars and shoulder, and having their faces flush with the top of the said die, substantially as
10 and for the purpose set forth.

4. In a stamp-mill, the combination, with the inclined bed A and the shouldered dies B C, of the grating M and the netting N, each having its face flush with the top of its die, substantially as and for the purpose set forth.

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Witnesses:

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