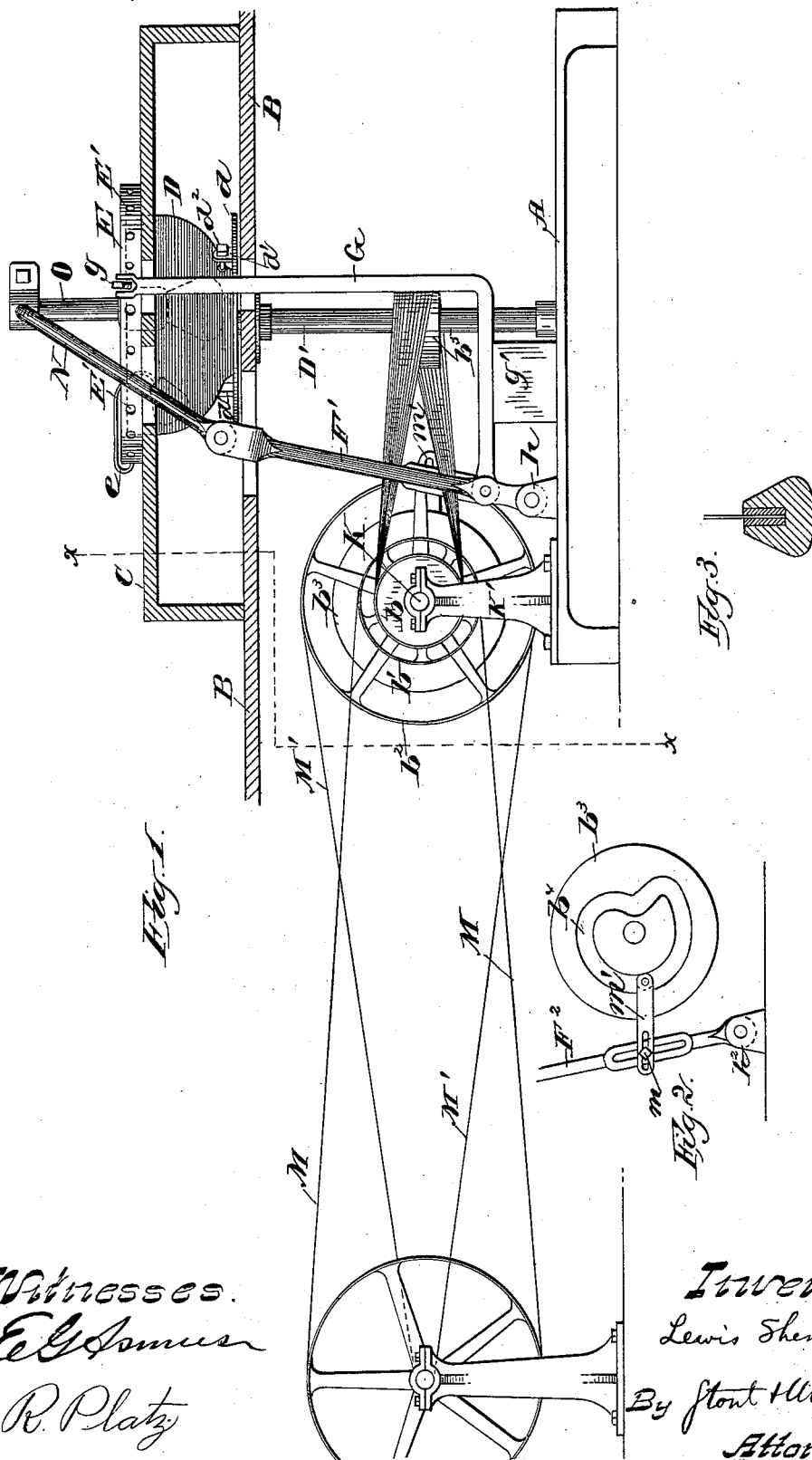


L. SHERMAN.
TRITURATOR.

No. 343,075.

Patented June 1, 1886.



Witnesses.
E. G. Ames
R. Platz

Inventor:
Lewis Sherman
By *Stout & Woodward*
Attorneys.

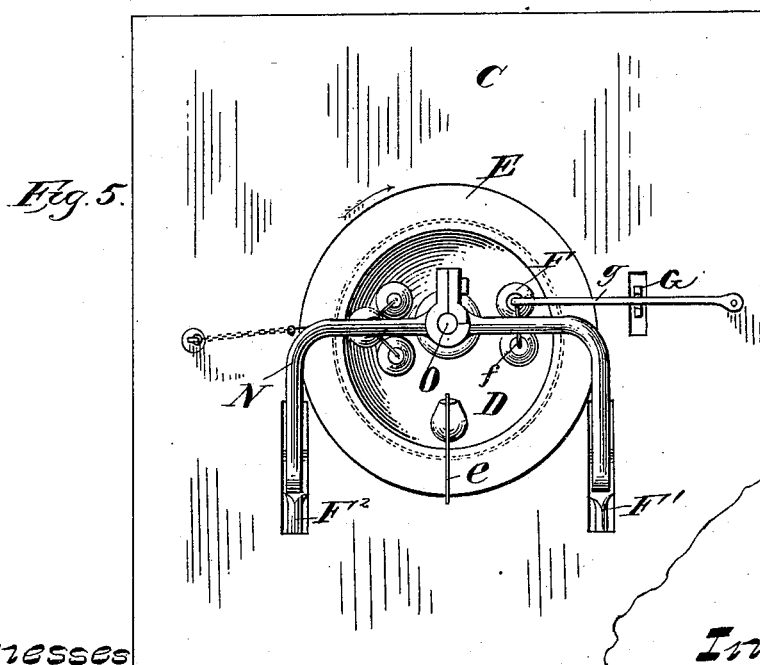
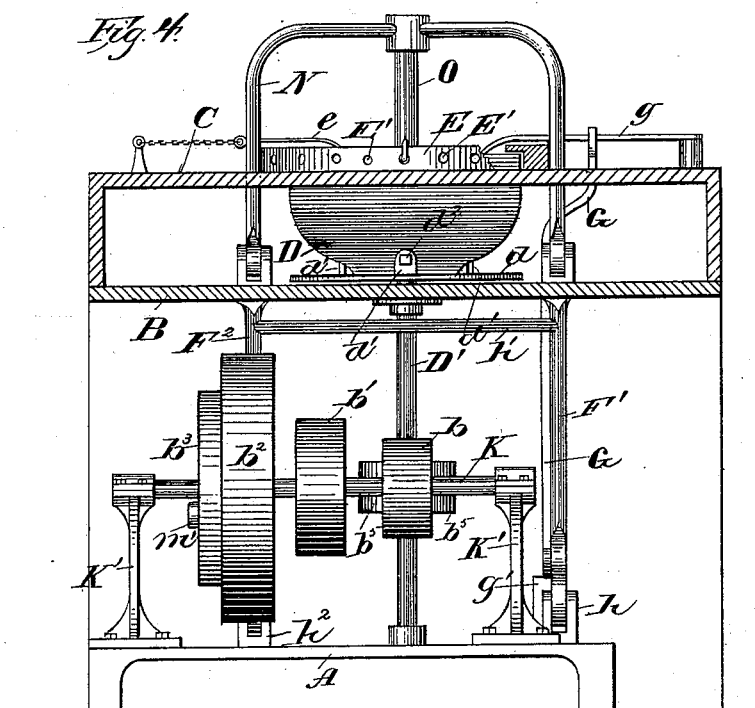
(No Model.)

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UNITED STATES PATENT OFFICE.

LEWIS SHERMAN, OF MILWAUKEE, WISCONSIN.

TRITURATOR.

SPECIFICATION forming part of Letters Patent No. 343,075, dated June 1, 1886.

Application filed August 22, 1885. Serial No. 175,040. (No model.)

To all whom it may concern:

Be it known that I, LEWIS SHERMAN, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Triturators; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to machines for triturating, and will be fully described and claimed hereinafter.

In the drawings, Figure 1 is a view of my device, partly in elevation and partly in section. Figs. 2 and 3 are details. Fig. 4 is a section on line *xx* of Fig. 1. Fig. 5 is plan view.

A is the base upon which my machine rests.

B is the table or counter.

C is the platform that surrounds the mortar D. This mortar is mounted upon an arbor, D', which is driven by a belt, the mortar being connected to the arbor by an annulus, *d*, from lugs *d'* of which binding screws *d''* project against the lower edge of the mortar. An annulus, E, is secured to the platform C, so as to extend around the edge of the mortar, and this annulus is perforated, as at E', each perforation to receive a bent end of a wire, *e*; or the wire *e* may be connected, as by a chain, to the platform. Each of these wires carries a pestle at its inner end, which hangs in the mortar. Any number of these pestles may be used, according to the requirements of the work.

F is a group of two pestles, which are connected by a wire, *f*, and suspended from one end of another wire, *g*, which latter is pivoted at its end, opposite the pestles, to the platform C.

G is a lever that is pivoted to a standard, F', and this standard in turn is pivoted to a lug, *h*, on the base A. The lever G is of bell-crank shape, and its horizontal arm is supported by a block, *g'*, while its vertical arm projects up through the table and platform, where it is bifurcated and straddles the wire *g* from below. The standard F' is connected by brace *h'* with another standard, F'', which is pivoted also to a lug, *h''*, on the platform, so that as the standard F' is vibrated, as will be hereinafter described, a corresponding movement will be imparted to lever G, which

in turn acting upon wire *g* will cause it to oscillate the group of pestles F in the mortar.

K is a shaft that has its bearings in brackets K', and this shaft, besides carrying tight pulleys *b* and *b'*, also carries a loose pulley, *b''*, which in turn carries on one of its faces a disk, *b'''*, in which is a cam-groove, *b⁴*. The standard F'' is slotted near its lower end to receive a bolt, *m*, by which it is bound to a slotted link, *m'*, from which a sleeved lug projects into the cam-groove *b⁴*, so that the revolution of the pulley *b''* and its disk *b'''* will cause the standard F'' and its companion F' to vibrate. The pulley *b'* is driven by the belt M, and another belt extends from the pulley about a like pulley, *b⁵*, on the arbor D', and the pulley *b''* is driven by a belt, M', and as the latter pulley is loose on shaft K the standards F' and F'' will be vibrated independently of the arbor D'. The degree of vibration of the standards is regulated by adjusting the link *m'* on the standard F''.

N is a yoke, which carries suspended from its center a large pestle, O, the bottom of which rests in the bottom of the mortar, and the ends of the yoke are pivoted each to a standard, one to standard F' and one to standard F'', the result being that as the standards and yoke are vibrated the pestle will be drawn slowly back and forth in the mortar. I propose at times to dispense with the large pestle and yoke, and simply to suspend a greater or less number of small pestles in the mortar, as I find that each pestle will do as much work individually when several are used as when one only is used. By adjusting the binding-screws *d''* the position of the mortar may be so changed as to make it more or less eccentric to the axis of the arbor. As the mortar revolves, the centrifugal force will tend to throw the matter being triturated out, but the small pestles upon the sides of the mortar will act as scrapers to return it.

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

1. The combination, in a triturating-machine, of a revolving mortar, an annulus surrounding said mortar, and carrying wires extending over its rim, and the pestles attached to said wires, substantially as described.

2. The combination, with an adjustable revolving mortar and its arbor or shaft, of a power-shaft, belting connecting the power-shaft with the mortar-shaft, a cam-grooved disk carried by said power-shaft, vibrating pestle-operating arms, and a slotted link engaging the groove of the cam-disk and connected to the pestle-operating arms, substantially as described.

10 3. The combination, with a revolving mortar, of a pestle suspended therein, a yoke, N, standards F' F², a revolving disk, b³, having cam-groove, and a link having a lug that works in the cam-groove, as set forth.

4. The combination, with the standards, of a lever, G, wire g, having pestles suspended therefrom, and the revolving mortar, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

LEWIS SHERMAN.

Witnesses:

S. S. STOUT,
E. G. ASMUS.