W. J. HENDERSON.

Machine for Operating Rice-Beater, Churn, &c.

No. 206,449. Patented July 30, 1878.

Fig. 1.

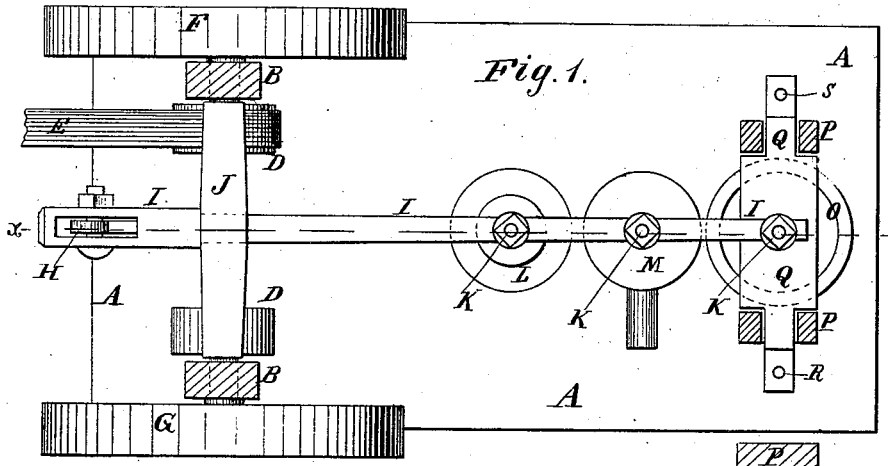


Fig. 2.

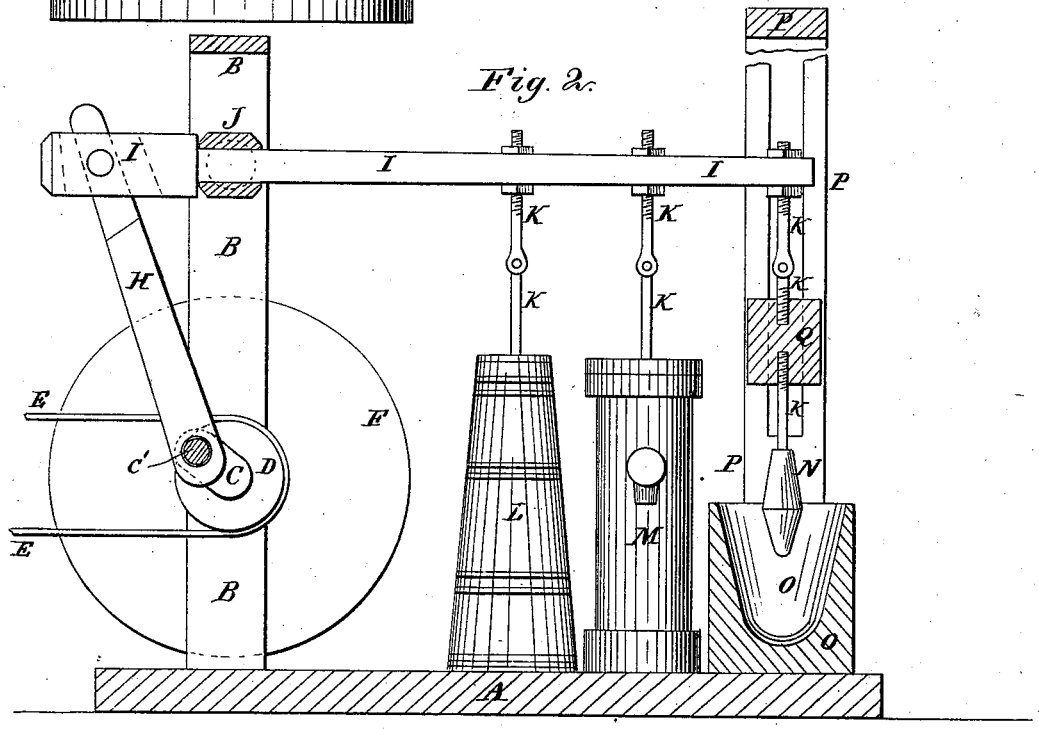
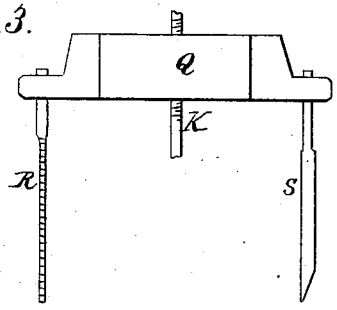


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM J. HENDERSON, OF VALDOSTA, GEORGIA, ASSIGNOR TO HIMSELF AND WILLIAM H. McKEY, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR OPERATING RICE-BEATERS, CHURNS, &c.

Specification forming part of Letters Patent No. **206,449**, dated July 30, 1878; application filed May 23, 1878.

To all whom it may concern:

Be it known that I, WILLIAM J. HENDERSON, of Valdosta, in the county of Lowndes and State of Georgia, have invented a new and useful Improvement in Machines for Operating Rice-Beaters, Churns, Pumps, &c., of which the following is a specification:

Figure 1 is a top view of my improved machine, partly in horizontal section, to show the construction. Fig. 2 is a vertical longitudinal section of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a detail front view of the sliding cross-head.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved machine for transmitting motion from a driving-power to mortars and other implements, which machine shall be simple in construction, convenient in use, and effective in operation, working with great speed and power.

The invention consists in the construction and combination of parts, which will be hereinafter fully described, and then pointed out in the claim.

A represents the base of the machine, which may be a part of the floor of the room in which the machine is to be used, and to which is attached an upright frame, B.

In bearings in the lower part of the upright frame B revolve the journals of the crank-shaft C, to which is attached one or more pulleys, D, to receive the driving-belt E, by which motion is communicated from the driving-power to the said shaft C.

The machine may be driven by steam-power, horse-power, or any other convenient power, or by hand by attaching a crank or crank-wheel, F, to one end of the crank-shaft C. To the other end of the crank-shaft C is attached a balance-wheel, G, to give steadiness of motion to the machine.

To the crank *c'* of the crank-shaft C is pivoted the lower end of a connecting rod or bar, H, the upper end of which is pivoted to the short arm of a lever, I. The lever I is attached to the rock-shaft J, the journals of which work in bearings in the upper part of the frame B. To the long arm of the lever I are attached one or more rods, K, which are jointed, so that the lower parts of said rods may move up and down vertically, while their upper parts move through the arc of a circle with the arm of the lever I. The upper parts of the jointed rods K are secured to the lever I by nuts, as shown in Fig. 2, so that they may be lengthened or shortened, as may be desired.

To the lower end of the rods K may be attached the dasher of the churn L, the piston of a pump, M, or the pestle N of a mortar, O, for hulling rice and other similar uses. The mortar O is placed upon the platform A between the posts of an upright frame, P. The posts of the frame P are slotted to receive the ends of a cross-head, Q, to compel the lower part of the rod K that carries the pestle N to move up and down vertically. The ends of the cross-head Q project upon the outer sides of the posts of the frame P, and to said ends are attached saws R, chisels S, or other desired implements, which may thus be operated by the up-and-down movement of the said cross-head Q. These several machines may all be operated at the same time, if desired, or either of them may be operated alone.

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

The combination of the cross-head Q with the slotted upright guide-frame P, the lever I, the rock-shaft J, the connecting-bar H, and the crank-shaft C, substantially as herein shown and described.

WILLIAM JACKSON HENDERSON.

Witnesses:
A. H. SMITH,
B. L. STEPHENS.