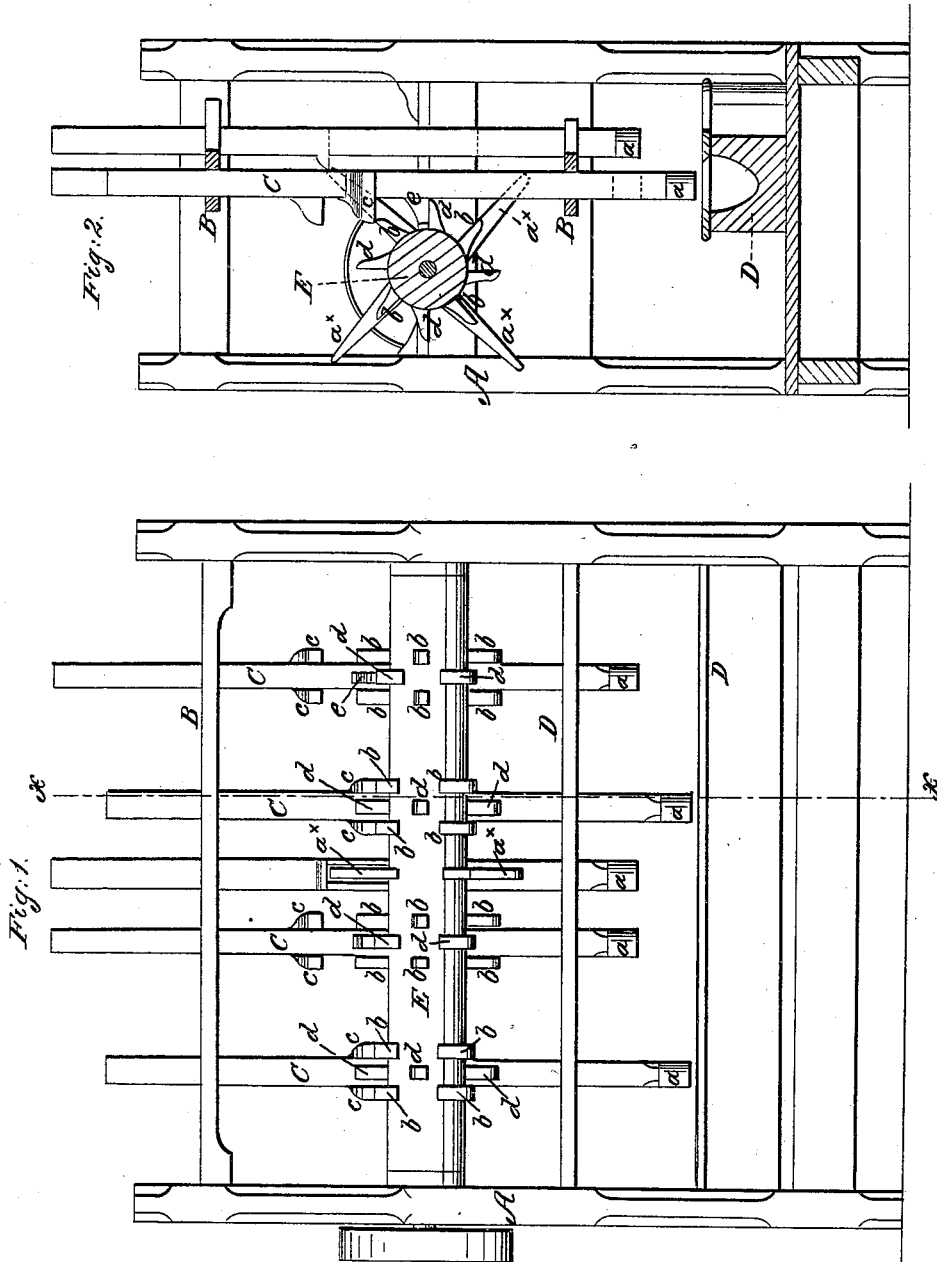


J. S. BOSSARD.
Rice Huller and Cleaner.

No. 20,860.

Patented July 13, 1858.



UNITED STATES PATENT OFFICE.

J. S. BOSSARD, OF SUMTERVILLE, SOUTH CAROLINA.

MACHINE FOR HULLING RICE.

Specification of Letters Patent No. 20,860, dated July 13, 1858.

To all whom it may concern:

Be it known that I, JOSEPH S. BOSSARD, of Sumterville, in the county of Sumter and State of South Carolina, have invented a new and useful Improvement in Machines for Hulling and Cleaning Rice; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side view of my improvement. Fig. 2 is a transverse vertical section of the same, taken in the line *x, x*, of Fig. 1. Similar letters of reference denote like parts in both figures.

This invention relates to an improvement in that class of machines for hulling and cleaning rice, in which pestles or pounders are used for effecting the purpose.

The invention consists in a novel arrangement of arms attached to a horizontal rotating shaft for elevating the pestles or pounders as hereinafter shown, whereby the said pestles or pounders are elevated to the requisite height by comparatively short arms and consequently with a proportionate diminution of power.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, represents a rectangular framing in which two horizontal bars B, B, are placed longitudinally one at the upper part and the other at or near the center of the framing.

C represents a series of vertical shafts which are fitted in said bars B, B, which serve as guides to the shafts, the latter being allowed to move freely up and down therein. The shafts are of quadrangular form, and cylindrical pestles or pounders *a*, are formed on or attached to their lower ends.

D, represents a series of mortars into which the heads *a*, work. The interior of these mortars may be of usual ellipsoidal form, as shown clearly in Fig. 2.

E, is a horizontal shaft which is placed in the framing A, and allowed to rotate freely therein. The shaft E is placed quite near the shafts C. To the shaft E, and opposite each shaft C, a series of radial arms *b*, are attached. These arms are placed in pairs or side by side at equal distances around the shaft, said arms passing at either side of the shafts C, as the shaft E rotates; and bearing against projections *c*, attached

to the shafts, one at each side. To the shaft E, and between each pair of arms *b*, other arms *d*, are attached; the said arms *b*, and *d*, being placed alternately around the shaft E, opposite each shaft C. To each shaft C, at its front side, and below the projections *c*, a projection *e*, is attached.

The operation is as follows: The rice to be operated upon is placed within the mortars D, and the shaft E is rotated by any proper means. The shafts C, and pestles *a*, are raised by the arms *b*, *d*, which strike respectively against the arms *c*, *e*, the arms *b*, elevating the pestles to a certain height, and before said arms leave the projections *c*, the arms *d* strike the projections *e*, the arms *d* extending the upward movement of the shafts. When the arms *d* leave the projections *e*, the pestles and shafts fall by their own gravity, the projections *e* passing between the arms *b*, *b*, immediately below them on the shaft E, the latter arms being arranged in pairs and acting against projections on the sides of the shafts, as shown, for this purpose. The operation of the pestles on the rice is the same as usual, and does not need to be described.

By this arrangement of the arms *b*, *b*, *d*, the shafts and pestles are elevated the requisite height with comparatively short arms, for two arms *b*, *d*, act successively upon the shafts. The usual custom is to have one set of arms only, and these arms, in order to elevate the shafts to the requisite height, are necessarily long. The ordinary long arms are shown at *a'*, and they elevate their pestles to precisely the same height as that to which the other pestles are elevated by the other arms *b*, *b*, *d*. It will be seen, therefore, that by my improvement, the pestles may be operated with much less power than hitherto; the diminution of course corresponding to the difference between the length of the arms.

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

The employment or use of the arms *b*, *b*, *d*, attached radially to the rotating shafts E, in connection with the projections *c*, *c*, *d*, on the pestle shafts C; the parts being arranged to operate as and for the purpose set forth.

JOS. S. BOSSARD.

Witnesses:

N. G. RICH,
SAMUEL C. MAYRANT.