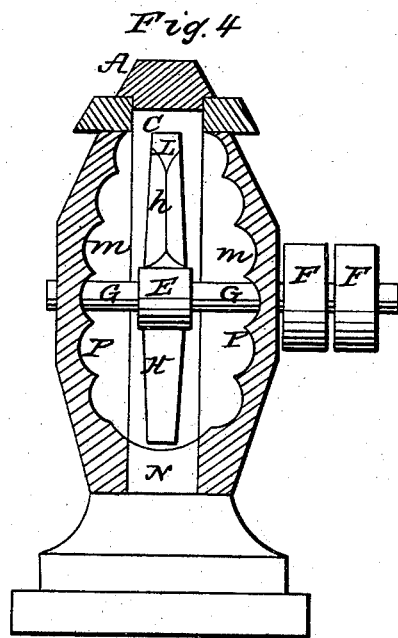
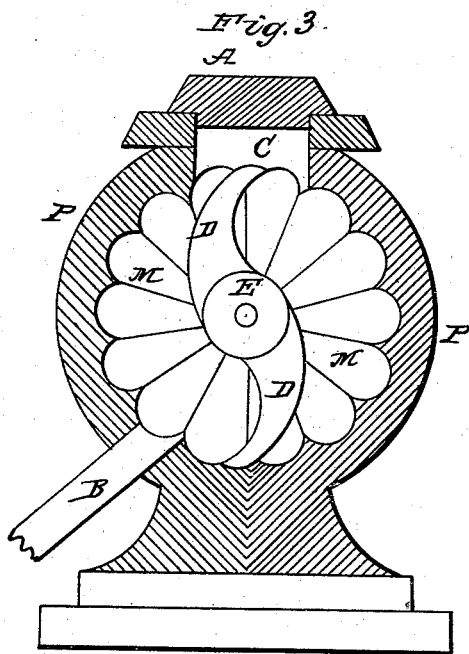
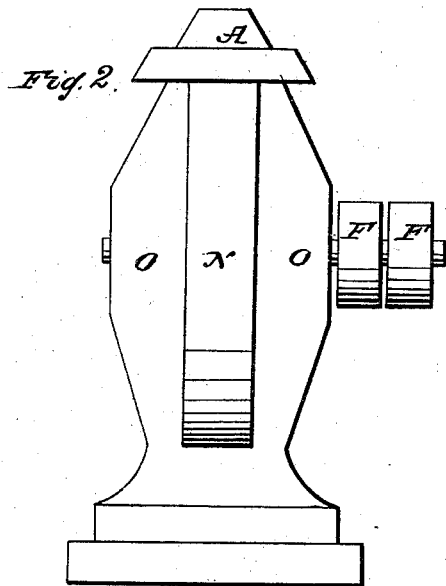
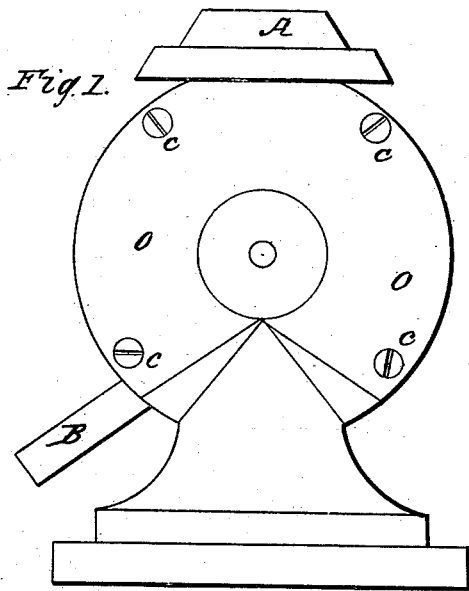


P. MCKINLAY.
Rice Cleaner.

No. 8,841.

Patented March 30, 1852.



UNITED STATES PATENT OFFICE.

PETER MCKINLAY, OF CHARLESTON, SOUTH CAROLINA.

RICE-HULLER.

Specification of Letters Patent No. 8,841, dated March 30, 1852.

To all whom it may concern:

Be it known that I, PETER MCKINLAY, of the city of Charleston, in the State of South Carolina, have invented a new and useful
5 Machine for Cleaning Rice After the Rough or Outer Shell is Taken Off, which I call the "Rotary Rice Cleaner;" and I do hereby declare that the following is a full, clear, and exact description of the construction
10 and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side elevation of my rotary rice cleaner. Fig. 2 is an end elevation of
15 Fig. 1. Fig. 3 is a longitudinal inside view of Fig. 1. Fig. 4 is a transverse inside view of Fig. 2.

Similar letters in the several figures refer to corresponding parts.

20 The nature of my invention consists in having a circular conical chamber into which the rice is put after having the outside shell taken off by a pair of stones operated on in the usual way. The rice after
25 having the outer shell taken off has still a thin film or skin on it of a dark color.

The object of invention is to take off this skin or film by rotary friction without breaking the grain, by which means the market
30 value of the article is increased.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Fig. 2, A is the movable cover; O, O,
35 shows the outside shape of the rice cleaner and may be of wood or iron. The dark part N is either stone or metal and put in between the parts O, O, and are then screwed together by the screws C, C, C, C, as shown
40 in Fig. 1, by which arrangement the metal or stone can be taken out and renewed as required.

Fig. 3, A is the movable cover by which the circular conical chamber is closed after
45 the rice has been put in, and the process of cleaning can be examined. C is a continuation of the opening. M, M, are flutes radiating from the center to the inner diameter of the chamber. The flutes may be of
50 any number, say from 12 to 20, sunk to about an inch at the center and brought to a sharp edge between each. D, D, is the rotary arms, which may be straight or circular as shown. These are secured by the boss E,
55 to the shaft G, G, which passes through the chamber and rests on bearings. The pulleys

F, F, are also on the shaft G, G, and by which motion is communicated from the motive power to the rotary arms D, D, and as they may revolve in either direction the rice
60 is forced by them against the sharp edges of the plates. The dark part N in Figs. 2 and 4 may be of stone, metal or any other substance having a rough surface put in as mentioned in Fig. 2. The rotary arms D, D,
65 pass immediately over this rough surface in the rotary motion and come to within three-fourths of an inch of the circle, where the flutes end, so as to allow a portion of the rice to be between the end of the rotary arm
70 D, D, and the rough surface N. B, the opening by which the rice is let out when cleaned.

Fig. 4, A, is the movable cover. C is a continuation of opening shown in Fig. 3.
75 G, G, is the shaft passing through the chamber on which is the rotary arms h, H, as also the pulleys F, F. H shows the back of the rotary arm, which is flat from the boss E, to the end. h shows the face or
80 working front. It is made to come to a sharp edge from the back to the front to within 5 or 6 inches of the end L, which is slightly convex across the face and on which may be fastened stone or metal or simply
85 the end of the arm as shown at L. As above mentioned the dark part shows to where the arms come to within three-fourths of an inch of it, where the rice is rubbed by the arms D, D, of Fig. 3, as it revolves the rice being
90 forced between the rough surface and the end of the arm as well as by its friction against the sharp edges of the flutes as shown at m, m. P, P, shows the form of the chamber which may be of wood or iron, if of iron
95 three-eighths of an inch in thickness or of wood as shown in the drawings at a scale of an inch to the foot but may be of any capacity from a half bushel to five bushels, the same proportions being observed.
100

The operation of my rice cleaner is as follows: Let a quantity of rice be put in to the circular conical chamber so as to fill it up a little above the shaft. Rotary motion is communicated from the driving shaft
105 to the pulley that is on the shaft that passes through the machine and by which the arms are set in motion at the rate of from 80 to 100 per minute. By this means a large amount of friction is brought to use on the rice and
110 thereby avoiding all percussive force, so that the rice is less broken than by any other

method now in use that I am aware of, thereby increasing its market value in proportion as the grains are kept whole.

5 The advantage of my invention over all others is its simplicity of operation and the absence of all heavy machinery such as is now in use at present. In consequence there is a great saving of power. It can be driven with cog gearing or by band and pulley.
10 It is not liable to get out of order or in any

way become deranged and not expensive to be repaired.

I claim as my invention—

The combination of the concave fluted chambers with the smooth curved radial 15 beaters for hulling rice as set forth.

PETER MCKINLAY.

Witnesses:

BENJAMIN L. COLE,
F. W. AVERFELD.