R. ANDERSON.

Rice Huller.

No. 27,195.

Patented Feb. 21, 1860.

Fig. 3.

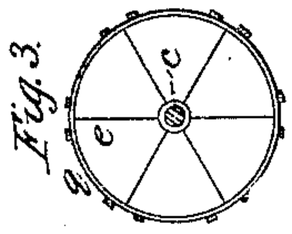


Fig. 2.

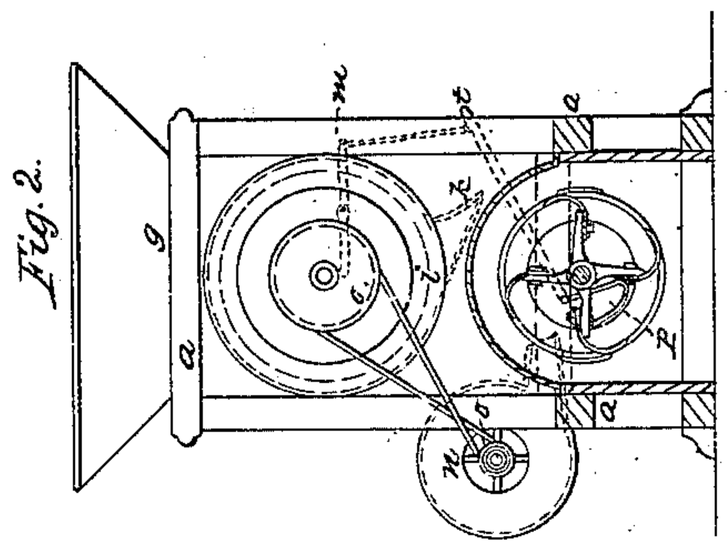
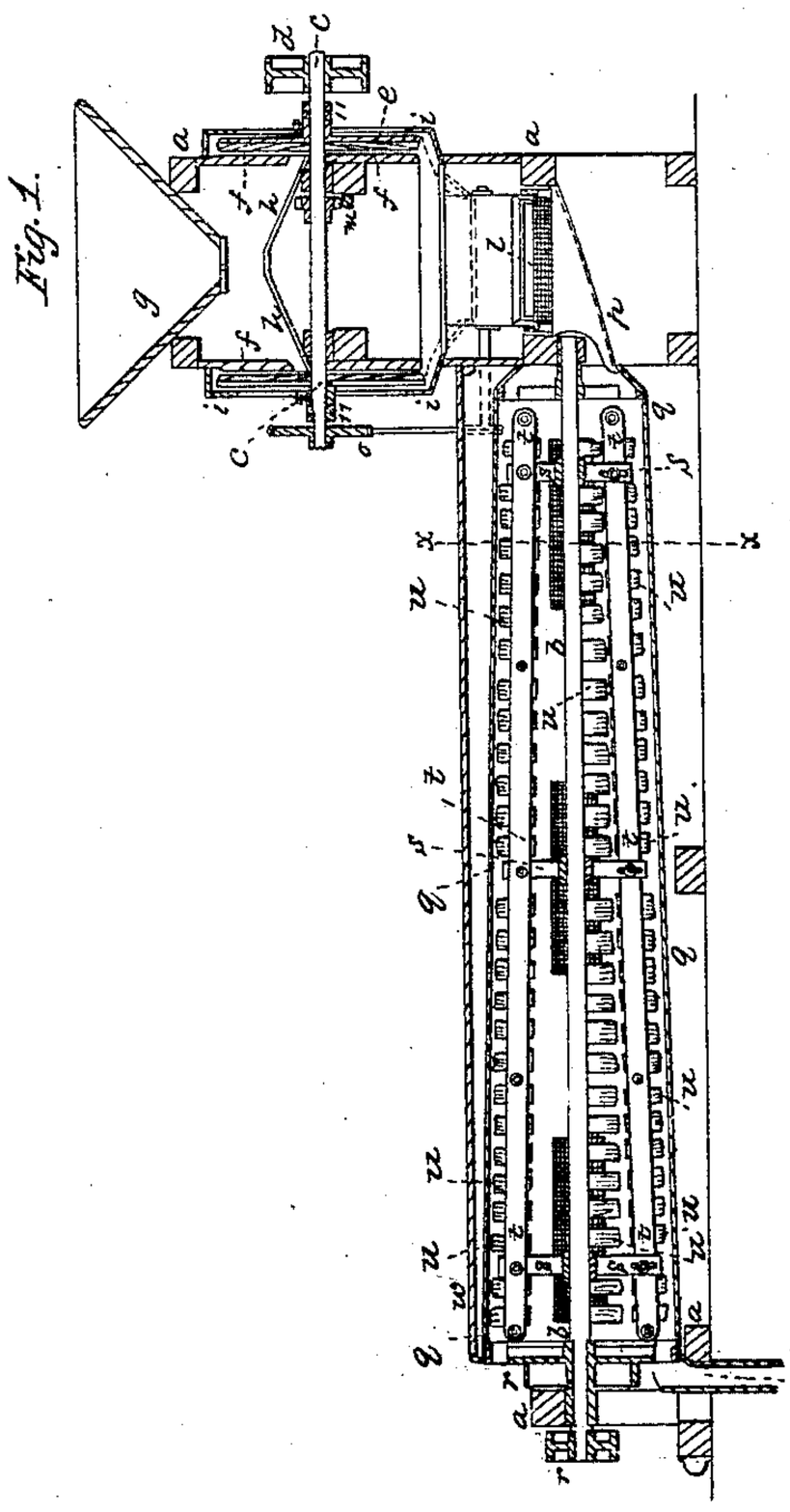


Fig. 1.



Witnesses:

Samuel W. Small

Samuel S. Anderson

Inventor:

Robert Anderson

UNITED STATES PATENT OFFICE.

ROBERT ANDERSON, OF BROOKLYN, NEW YORK.

MACHINE FOR HULLING AND FINISHING RICE.

Specification forming part of Letters Patent No. 27,195, dated February 21, 1860; Reissued August 13, 1867, No. 2,733.

To all whom it may concern:

Be it known that I, ROBERT ANDERSON, of Brooklyn, in the county of Kings and State of New York, have invented and made certain new and useful Improvements in Machinery for Hulling and Finishing Rice; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1, is a vertical longitudinal section of my machine, and Fig. 2, is a cross section at the line *x*, *x*, of Fig. 1.

Similar letters refer to the same parts.

My said invention relates to the finishing of rice after the operation of hulling and for this purpose I apply a rubbing operation that removes the refuse skin or "douse" between the hull and rice. To perform this rubbing operation I make use of a series of revolving beaters or stirrers of alum dressed hide that I have found practically to possess peculiar fitness for this purpose.

In the drawing *a*, *a*, is a frame of suitable size and material carrying the horizontal shaft *b*, that is connected either directly or through an intermediate shaft and belting to the second shaft *c*, likewise supported in a part of the frame *a*.

d is a pulley or crank by which the shaft *c*, is rotated and also the disks *e*, *e*, that are attached thereto as seen in Fig. 1, and adjusted by set nuts 1, 1. The faces of these disks *e*, *e*, are lined with either natural or artificial stone or the equivalent thereof of a porous hard and gritty nature and the sections setting onto the face of each of these disks are confined by a band 2, as seen in Fig. 1, and the face view Fig. 3. These mineral sectional facings may be three or more in number, and two or more pairs of hullers may be fitted on one shaft.

Against the sides of the machine I attach disks of india rubber or similar material as seen at *f f;* and *g* is a hopper from which a regulated supply of rice passes onto the inclines *h*, *h*, that supply the same through an opening near their center to each pair of hullers composed of the stationary elastic or india rubber surface *f*, and the revolving disk, faced with stone or its equivalent. These hullers effectually rub, abrade and crack off the hulls, and the hulls and rice are thrown off into a casing *i*, *i*, surrounding the hullers, and thence spouts *k*, *k*, convey then onto an inclined screen *l*, that is shaken by a lever *m*, see dotted lines Fig. 2, that is acted on by a cam or cams on the shaft *c*.

n, is a rotary blower revolved by the pulleys and cord *o*, and the blast from said blower takes away the hulls, and any particles of grit or dirt fall through the screen *l*, while the rice is taken by the trough *p*, to the finishing cylinder *q* that surrounds the shaft *b*. This cylinder *q*, is formed with open ends connected by arms to a journaled box at each end surrounding the shaft *b*, so that said cylinder *q*, can be rotated in one direction by power applied to the pulley *r*, while the shaft *b*, is rotated in the other direction by power applied to the pulley *r'*.

The cylinder *q* is provided with a suitable number of openings at proper intervals which openings are covered with fine wire netting so that dust may pass out, but the rice will be effectually retained. The interior of cylinder *q*, may be coated with any suitable substance such as sand, emery or a peculiar composition which I have invented, and which will probably form the subject of a separate patent.

The shaft *b*, carries arms *s*, *s* see Fig. 2, onto which are attached longitudinal clamping bars *t*, *t*, that are adjustable on said arms nearer to, or farther from the shaft and said clamps confine the flexible beaters *u*, *u*, that are composed of alum dressed hide. I have found practically that this alum dressed hide possesses a peculiar fitness for pearling or finishing rice, because the glutinous skin of the rice does not adhere thereto or become sticky as is the case with ordinary tanned hide and with india rubber, and the peculiar velvet consistency of such hide renders it especially adapted to this use, because the rice partially embed themselves and are more thoroughly polished.

By means of the adjustable bars *t*, *t*, the wear on the flexible beaters *u*, *u*, may be compensated; and when desired beaters of india rubber may be interspersed with the

alum dressed hide, although I prefer that all should be of the latter material.

The rice passing into the cylinder *q* by the spout *p* enters at the conical hood 3, and thence said rice travels through and is pearled or finished in the revolving cylinder as specified, and escapes by the openings at the other end into a trough *v*, ready for market, while the douse or refuse matter works off through the screens in said cylinder *q*, into a box or casing *w*, surrounding the same.

Having thus described my said invention, I do not claim a revolving cylinder for pearling or finishing rice; but

What I claim and desire to secure by Letters Patent is—

A series of revolving beaters of alum dressed hide acting to finish the rice substantially in the manner specified.

In witness whereof I have hereunto set my signature this ninth day of November 1859.

ROBERT ANDERSON.

Witnesses:

LEMUEL W. SERRELL,

SAMUEL S. ANDERSON.