S. Dodson.

Rice Cleaning.

No. 30,131. Patented Sep. 25, 1860.

Fig. 1.

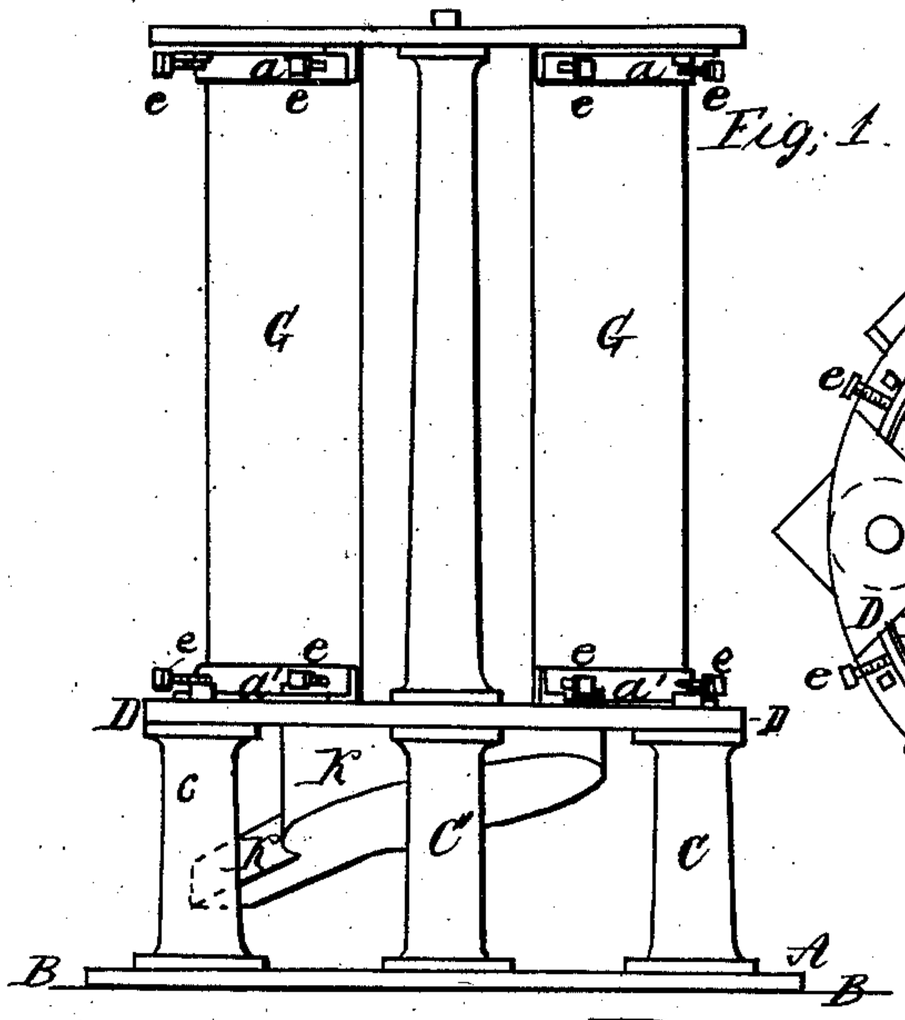


Fig. 3.

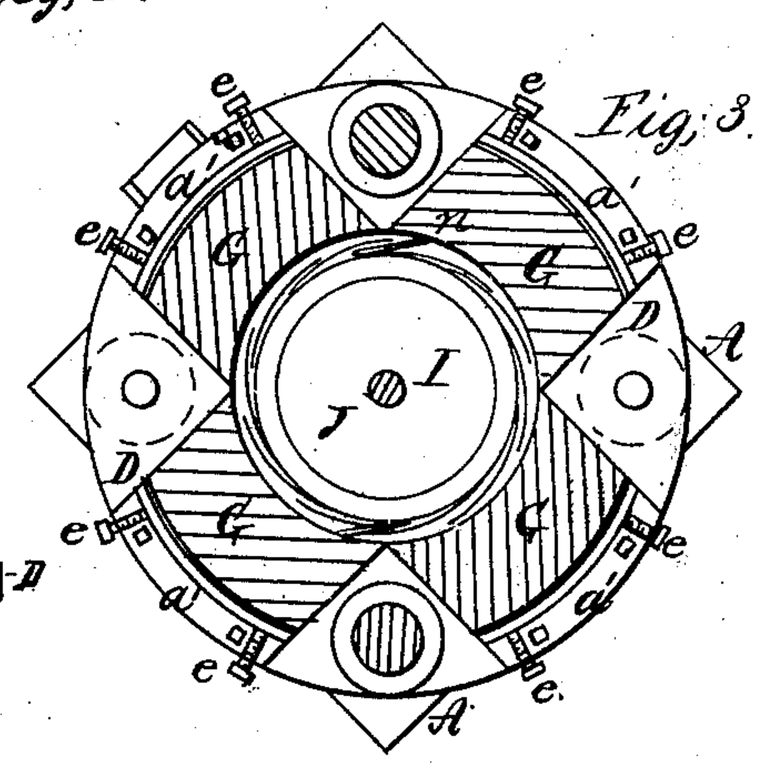


Fig. 2.

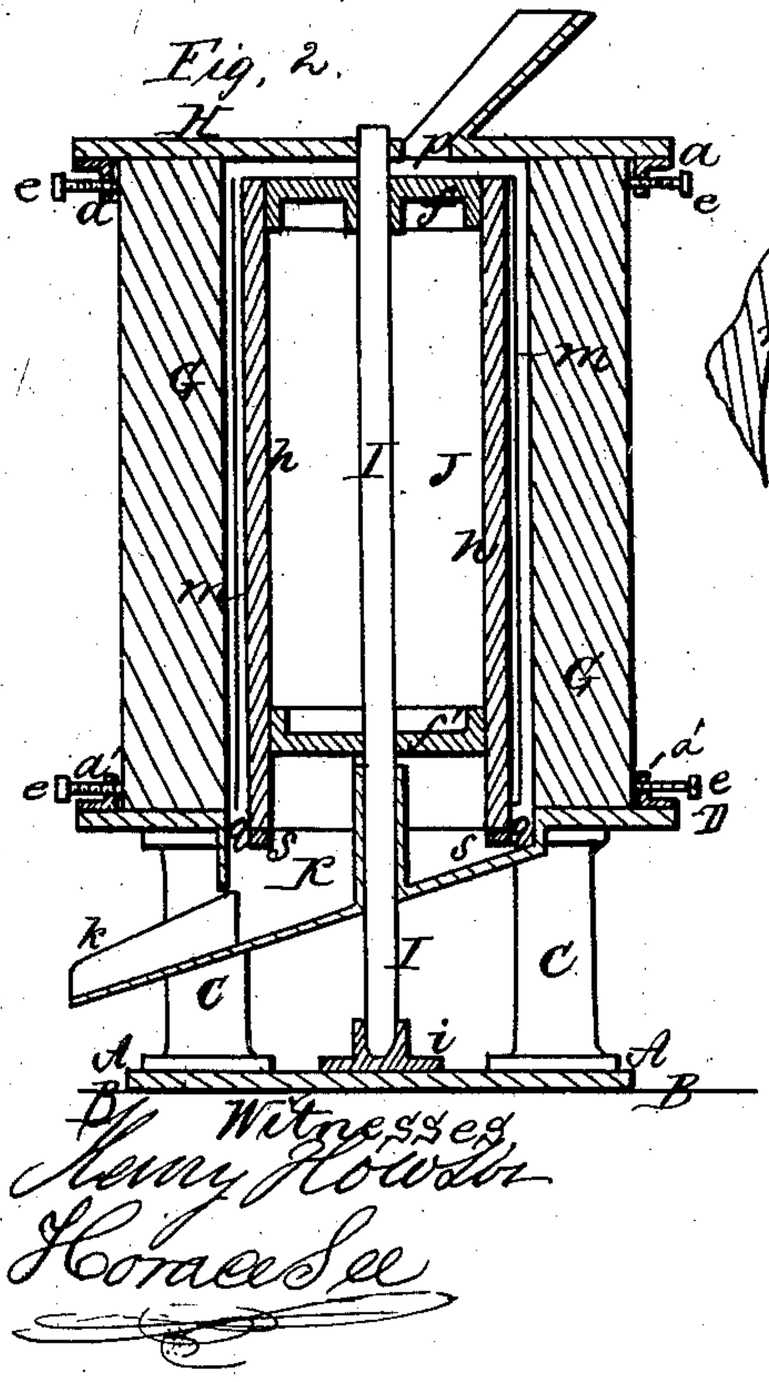


Fig. 4.

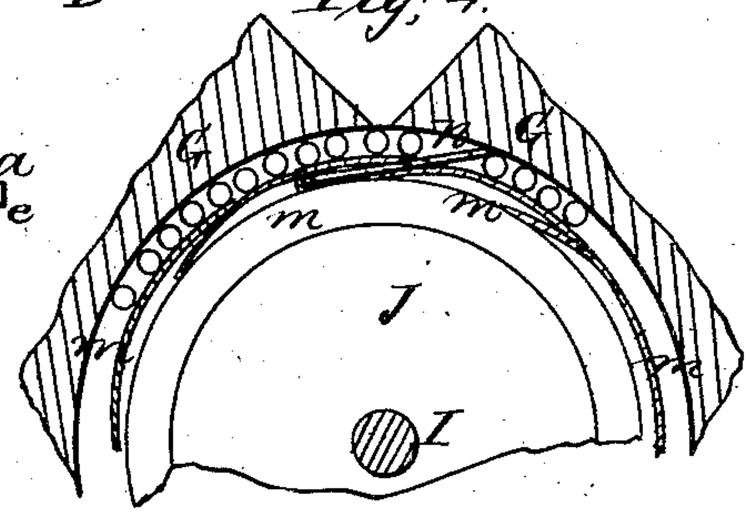
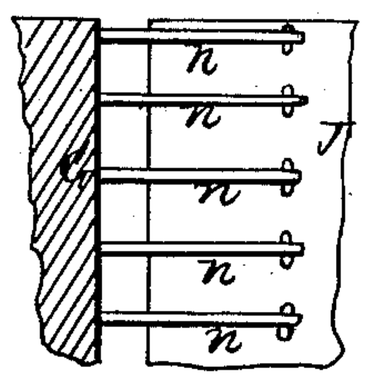


Fig. 5.



Witnesses,
Henry Howson
Horace See

Inventor,
Silas Dodsone

UNITED STATES PATENT OFFICE.

SILAS DODSON, OF SAN FRANCISCO, CALIFORNIA.

MACHINE FOR CLEANING RICE.

Specification of Letters Patent No. 30,131, dated September 25, 1860.

To all whom it may concern:

Be it known that I, SILAS DODSON, of San Francisco, California, have invented certain new and useful Improvements in Rice-Cleaning Machinery; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention consists in the employment of a hollow cylinder formed of any convenient number of stone blocks constructed, rendered adjustable and arranged in the manner as set forth hereafter, in combination with a revolving drum or cylinder covered with sheep skin, for the purpose of effectually and rapidly removing the outer skin or pellicle of rice which passes through the space between the said stone cylinder and drum the arrangement of the stones and the appliances connected therewith being such that any unequal wear of the cylinder may be remedied by reversing and setting up the blocks.

My invention further consists in combining with the above mentioned drum and its sheep skin cover certain drags or scrapers for removing any glutinous substance which may collect on the surface of the stone.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawing, which forms a part of this specification, Figure 1, is an external view of the improved mill for cleaning rice. Fig. 2, a vertical section. Fig. 3, a sectional plan. Fig. 4, a sectional plan of part of the machine drawn to an enlarged scale. Fig. 5, a view of the metal drags or scrapers.

Similar letters refer to similar parts throughout the several views.

A is the base plate of the machine secured to a suitable foundation B, and to this plate are secured the four pillars C, C, and C′ C′ supporting an annular plate D on which rest the lower ends of the four stone blocks G. These blocks are concave on the inside, so that when arranged on the annular plate D with their corners touching each other, the four blocks combined inclose a circular space equivalent to the interior of a hollow stone cylinder, as seen in Fig. 3.

Two of the pillars C′ C′ are carried upward above the annular plate D and are secured to the cap H. On the under side of this cap are secured flanges *a* and on the top of the annular plate are similar flanges *a*′.

All the flanges are furnished with set screws *e e*, the points of which bear against the outside of the stone blocks G, so that the latter can at any time be set up by turning the screws, both at the top and at the bottom, as more fully described hereafter.

I is a vertical shaft turning at the bottom in a step *i* on the base A, and at the top in the cap H, the shaft being driven by any suitable system of gearing. To this shaft are secured the upper and lower cast iron plates *f* and *f*′, and to the latter the wooden strips or "lagging" *h* the exterior of which is turned perfectly true so as to form the inner cylinder or drum J, the diameter of which is such that a space of an inch, or thereabout, shall intervene between it and the opening formed by the stone blocks. This drum is covered with sheepskin in the peculiar manner best observed on reference to Fig. 4. A series of vertical strips *m m* of sheep skin are secured at one edge only to the drum, the opposite edge which overlaps the adjacent strip, being loose and at liberty to fly out by centrifugal force acquired by the velocity of the drum.

At one or more points in the circumference of the drum are attached iron or steel rods or scrapers *n* part of which are covered by one of the sheep skin strips, the other portions projecting from beneath the folds of the strip, as illustrated in Fig. 4. These scrapers are so loosely connected to the drum that they are at liberty to vibrate vertically and to fly out by centrifugal force, thus bearing against the concave surfaces of the stone blocks.

The rice to be cleaned, drops from any elevated receptacle down a chute on the cap H, and through an opening in the latter, onto the top of the drum, from whence it rolls into the space between the sheep skin covered sides of the drum and the curved stone blocks. From this space the cleansed rice falls through the annular opening between the plate D and the lower end of the drum onto the inclined and circular chamber K which is provided with a spout *k* to guide the grains of rice to any suitable receptacle. One two or more vanes *s* project from the lower end of the drum into the chamber K, where, by the speed of the drum, they act as a fan for the purpose described hereafter.

It will be seen that the four stone blocks

are confined in their proper position vertically by the plate D and the cap H, that they cannot move inwardly horizontally on account of their corners being in contact with each other, and that they are prevented from moving outward by the set screws on the flanges *a* and *a'*.

As there is invariably a greater amount of the pellicles or skins of the rice nearer the lower than the upper portion of the stone cylinder, the surface of the lower portion of the stone blocks will wear away faster than the upper portion.

When the lower ends have been worn to such an extent that the cleaning operation is rendered uncertain, the screws *e e* are turned so that their points are free from contact with the stones, the upper plate H is elevated, the stone blocks are turned upside down, when the screws *e e* are again tightened and the upper plate H firmly secured to its place.

When the stone blocks are so far worn that they require setting up both at top and bottom they are removed from their places and the corners are chipped after which they are replaced between the plates D and cap H and the screws *e e*, are tightened until the chipped corners of the adjacent blocks touch each other.

The object of the loose drags or scrapers *n n* is to remove the coagulated mass which is apt to adhere to the surface of the stones when they are used for cleaning partially dried rice.

The fan blower formed by the projections *s s* serves to prevent the accumulation of chaff in the chamber K and its chute.

It will be evident that more or less than four stone blocks may be used for forming the cylinder the number of such blocks depending partly on the size of the stones which can be procured and partly on the diameter and height of the cylinder to be formed.

I am aware that a cylinder, consisting of a casing having on its inner surface vertical strips of metal between which are placed blocks, capable of being reversed, is mentioned in the patent of D. Ulam No. 7312.

I do not claim broadly the employment of a stone cylinder nor the use of the drum covered with sheep skin; nor do I claim broadly the employment of the adjustable stone blocks in combination with the sheep skin covered drum for cleansing rice; but—

I claim as my invention and desire to secure by Letters Patent—

1. The blocks G G composed entirely of stone forming a vertical hollow cylinder with uninterrupted inner surface, when the said blocks are arranged and combined with the drum J and its sheep skin strips as and for the purpose herein set forth.

2. The drags or scrapers *n n* hung loosely to the drum within the folds of the sheep skin strips and arranged in respect to the stone cylinder as specified in combination with the sheep skin strips arranged as described.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

SILAS DODSON.

Witnesses:

HENRY HOWSON,

CHARLES D. FREEMAN.