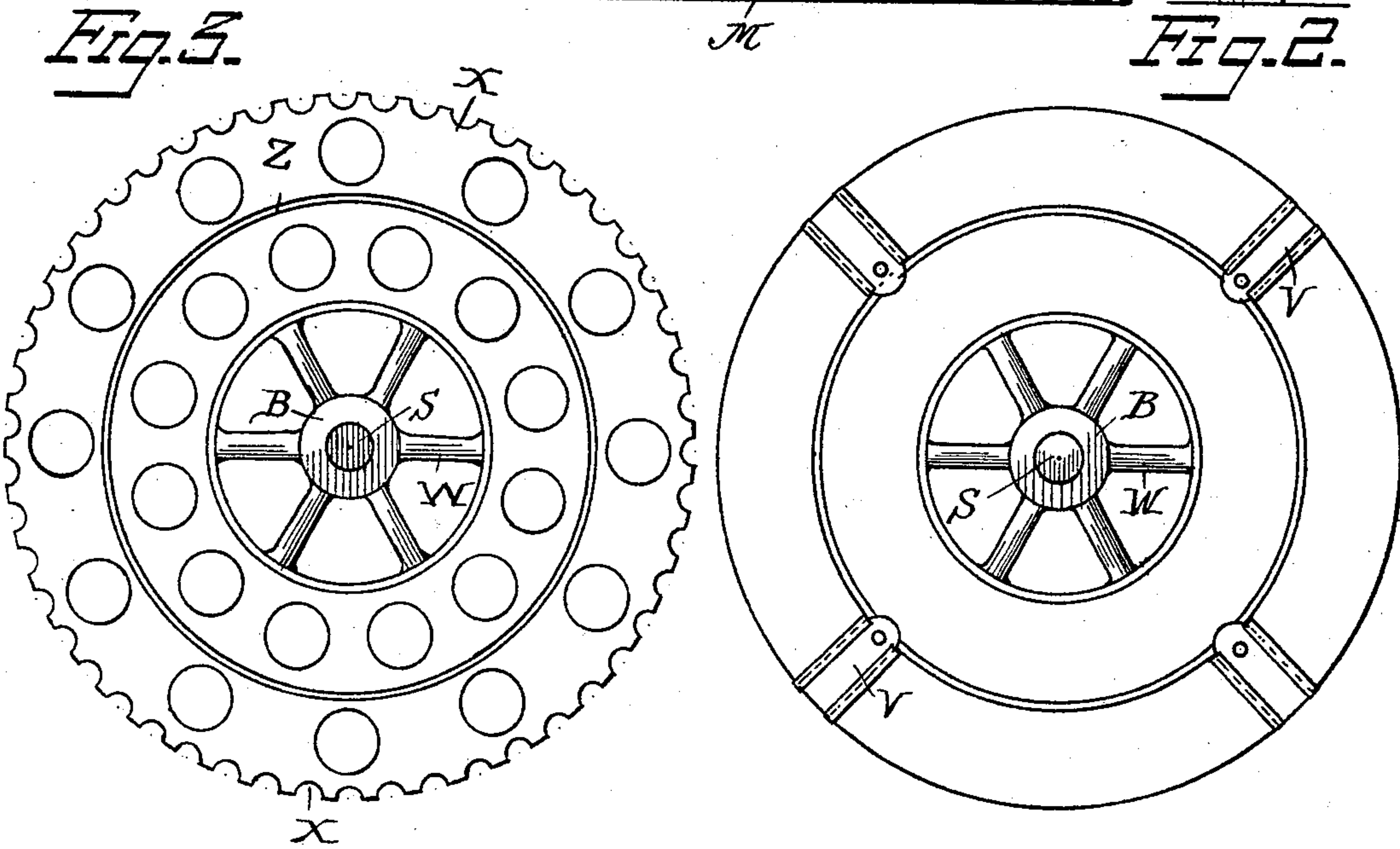
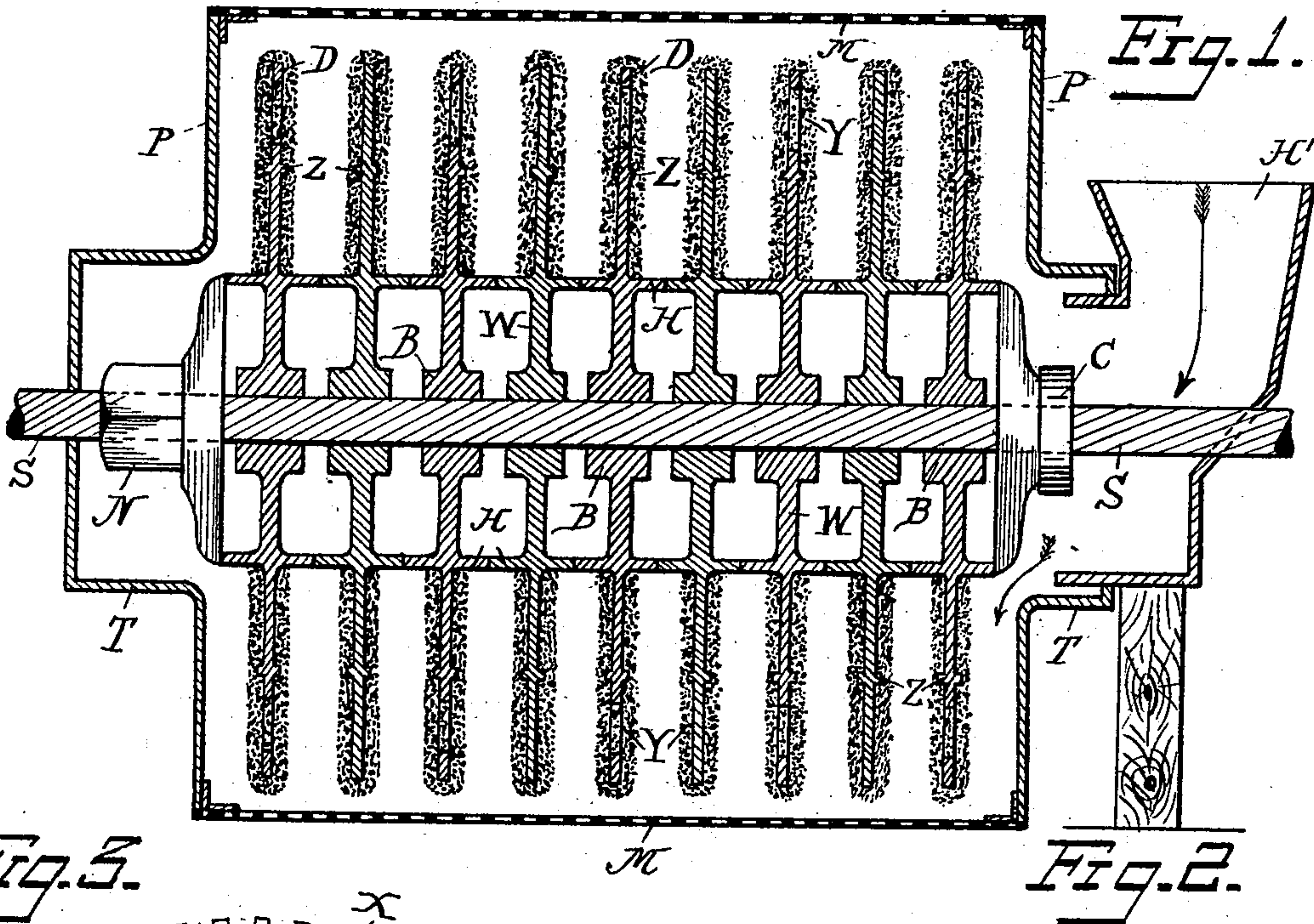


(No Model.)

F. DRESSER.
RICE DECORTICATOR.

No. 516,479.

Patented Mar. 13, 1894.



Witnesses
Albert Popkins.
Grace J. Andrews.

Inventor
Frederick Dresser
By Horison & Horison
his Attorneys

UNITED STATES PATENT OFFICE.

FREDERICK DRESSER, OF CHESTER, ENGLAND.

RICE-DECORTICATOR.

SPECIFICATION forming part of Letters Patent No. 516,479, dated March 13, 1894.

Application filed July 10, 1893. Serial No. 480,066. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK DRESSER, a subject of the Queen of Great Britain, residing at Chorlton Hall, Chester, Cheshire, England, have invented a Rice-Decorticator, of which the following is a specification.

My invention relates to improvements in machines for decortivating rice and other grain. Its object is to provide a decorticator that will rapidly and effectively decorticate grain and particularly rice, without injury to or breakage of the grain.

The common method of decortivating rice in this country is by means of an iron pestle and mortar which causes one grain to rub against another until the pellicle is removed. This method is very defective inasmuch as it requires great power to work it while it is very tedious and slow, besides causing frequent breakage of the grain.

Some attempts have been made to decorticate rice in machines having revolving disks but so far I know none have been free from many of the defects of the older method.

By my device I overcome all these defects in making a machine that is exceedingly simple and effective in operation and capable of rapidly cleaning large quantities of grain at a much less expenditure of power than heretofore and with consequently greater economy.

Referring to the drawings—Figure 1 is a central longitudinal section of my improved machine, showing the back of the revolving casing in elevation. Fig. 2 is an end view. Fig. 3 is a detail of the decortivating disk or wheel.

Upon the central shaft S, suitably journaled outside of the casing, I mount a series of six, eight or any desired number of disks D, provided with hubs H, on each side thereof. These hubs abut against each other, and are preferably cast integral with the disks, thereby avoiding the common necessity of using spacing blocks of wood, &c., between the disks, and likewise dispensing with the use of additional securing means for each disk. These hubs are preferably attached to the shaft bearings B by webs W, cast integral with the disks, the bearings being fitted tightly to the shaft; and at one end of the series of disks a nut N se-

curely holds the disks in place pressing the whole series against a collar C upon the shaft at the other end. Surrounding the disk is a casing of wire netting M which is provided with end plates P preferably of cast iron, having trunnions T projecting outwardly, made larger than the shaft and adapted to turn in suitable bearings, not shown. The plates P at one end are provided with valves V, of any suitable form, but here shown as sliding gates so arranged that they may be opened more or less as described. Four of these valves are shown but any suitable number may of course be employed. At the other end is provided a hopper H' into which the grain is poured, discharging it around the shaft centrally into the decorticator. The outer casing revolves by any suitable gear, preferably at a speed of three revolutions a minute, while the shaft S with the disks thereon revolves in the same direction at a peripheral speed of the disks of from sixteen hundred to eighteen hundred feet per minute. Any common form of differential gear may be used for effecting these two motions. By these two motions the grain as it is delivered through the hopper into the casing strikes against the disks by which it is thrown by centrifugal force against the outer revolving casing which, moving in the same direction, carries it through the machine and discharges it through the valves at the opposite end. In causing the casing to revolve in the same direction with the shaft and disks the breakage of the grain is avoided.

I employ the novel abrading disk shown in detail Fig. 3, where it will be seen I provide a perforated disk having notches X in the periphery, with an annular flange Z midway between the hub and the circumference, and covered with an emery composition Y which by abrasion or cutting action quickly removes the pellicle from the rice or grain, without damage to the grain itself. I prefer to use for this purpose the composition described and claimed in my pending application, filed July 10, 1893, Serial No. 480,067, but any suitable emery composition may be employed. The notches, perforations and the flange on the disk all securely hold the emery to the wheel, and if a crack should occur in the emery out-

side of said flange the latter will prevent this crack from extending farther inward.

What I claim is—

In a grain decortivating machine having an
5 axial feed, the combination with an outer revolving casing, of a revolving shaft provided with a series of abrading disks, each consisting of a cast iron body with a notched periphery, and having an annular flange between its
10 periphery and hub, with perforations in said

body on each side of said flange, and an emery composition enveloping the said disk and extending to the hub, substantially as described.

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

FREDERICK DRESSER.

Witnesses:

ALBERT POPKINS,
J. FRED. KELLEY.