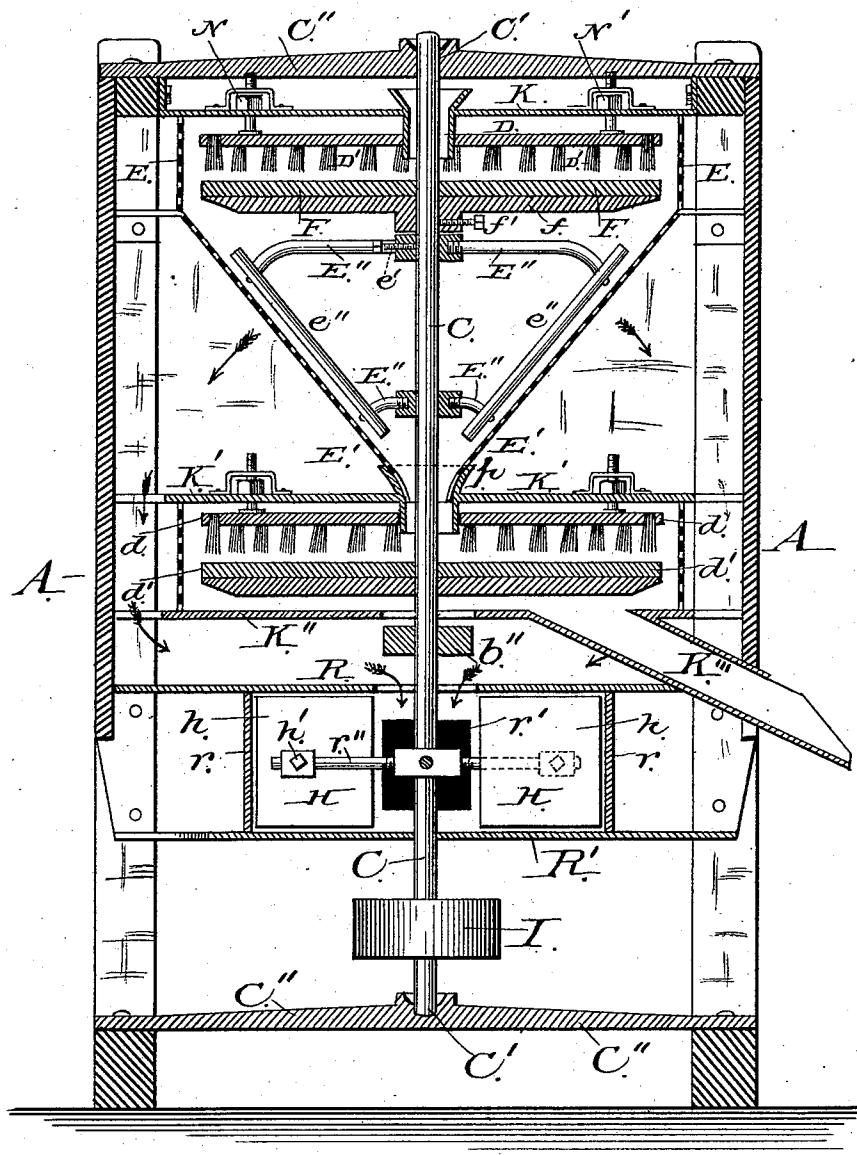


(No Model.)

R. H. GRIFFITHS.
GRAIN SCOURER AND CLEANER.

No. 294,225.

Patented Feb. 26, 1884.



Witnesses;

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Inventor;

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UNITED STATES PATENT OFFICE.

RICHARD HENRY GRIFFITHS, OF JANESVILLE, WISCONSIN.

GRAIN SCOURER AND CLEANER.

SPECIFICATION forming part of Letters Patent No. 294,225, dated February 26, 1884.

Application filed November 13, 1883. (No model.)

To all whom it may concern:

Be it known that I, RICHARD H. GRIFFITHS, a citizen of the United States, residing at Janesville, in the county of Rock and State of Wisconsin, have invented a new and useful Improvement in Grain Scourers and Cleaners, of which the following is a specification.

My invention relates to improvements in machines for scouring and cleaning grain by the removal of smut, preparatory to the process of grinding; and it relates especially to that class of machines wherein stationary brushes, with revolving disks, and a suction-fan, are employed.

The object of my invention is to scour and clean the smut from grain in a more thorough manner than is now accomplished by the machines commonly used for that purpose; and this object I attain by means of the mechanism illustrated in the accompanying drawing, in which the figure represents a vertical section of my improved scourer and cleaner.

In the drawing, A represents the frame-work or casing of the machine; C, the vertical shaft, to which all the revolving parts of the machine are adjustably secured, said shaft being arranged to revolve in suitable bearings, C' C', formed in the cross-bars C'' C''.

K is the top plate or platform, to which is secured the disk or stationary platform D, through the center of which passes loosely the vertical shaft C, and which is adapted to be adjusted by means of the screw-threaded bolts and nuts N N', secured to the disk and passing through the platform K.

To the disk D are secured the scouring and cleaning brushes D', placed in any desired position, and as many of which may be employed as found necessary.

F represents an adjustable emery-disk, adjustable by means of the metal disk f, which is secured to the shaft C and to the disk F, and adjusted by means of the screw f', the purpose of which will be hereinafter described.

The stationary disk D and revolving emery-disk F are inclosed and surrounded by a perforated cylindrical casing, E, which extends down and forms a funnel-shaped connection, E', its lower portion being open to allow the shaft and grain to freely pass through. The perforations in the casing and funnel are for the purpose of permitting the air-currents

which are created by means of a fan and the revolving arms E'' to pass through said perforations and down to the fan-opening, as indicated by arrows, and thus carry away the smut from the grain as it falls from the disk. The funnel receives the grain that has received its first scouring on the upper disk as it falls through the opening between the periphery of the disk and casing. In the funnel are adjustably secured to the shaft, by means of the screw-threaded bolts e' e', a series of radial arms, E'' E'', adapted to revolve with said shaft, which has its upper arms longer than the lower ones, so as to adapt them to the shape of the funnel. To the radial arms are suitably secured the diagonal arms e'' e'', which, as they are revolved, beat the falling grain, causing the loose smut to fly off and pass through the perforations in the casing, while the grain passes down through the mouth of the funnel. The mouth of the funnel fits into a short funnel, p, which is formed with or secured to a plate, K', suitably secured to the frame-work, and which is in turn connected by a cylindrical perforated casing to a plate, K'', to the lower side of which is secured an inclined discharge-spout, K'''. Between the plates K' K'' are secured an adjustable disk, d, having brushes, and a revolving emery-disk, d', both of which are constructed similar to the disks D and F, before described. Below the plate K''' is a strengthening cross-bar, b'', through which the vertical shaft is adapted to pass. Plates R and R' are secured to the frame-work, and connected together by a cylindrical casing, r, which is provided on one side with an eduction air-spout, r', through which the air is forced. Between the plates R R' is adjustably secured to the shaft, and revolving therewith, a suction-fan, H, consisting of the radial arms r'', to which the plates h are adjustably secured by means of screw-threaded bolts and nuts h'. Below the plate R' is secured to the shaft a driving wheel or pulley, I, which is connected by belting or otherwise to any suitable motive power.

The operation is as follows: The shaft being rotated by means of the driving-belt on the pulley, and grain being fed to the machine through the funnel-shaped spout on the top plate, it passes through the opening in the stationary disk and falls upon the central

portion of the upper emery-disk, where it is revolved rapidly and thoroughly scoured by said emery-disk and the brushes. By this action the grain is gradually forced tangentially toward the periphery of the disk, when it falls into the funnel-shaped receptacle, where it is subjected to a stirring action by the beaters, which further scour and clean the grain; and by means of the air-currents the smut is forced through the perforations. The grain, as it reaches the mouth of the funnel, falls through the opening in the plate to the second pair of disks, where it is again subjected to the same action as above described, which has the effect of still further freeing the grain from smut, &c., and as the grain is revolved rapidly it will be forced through the discharge-spout into any suitable receiver.

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

1. In a grain scouring and cleaning machine, the frame-work and a cylindrical perforated casing forming at one portion thereof the funnel-shaped compartment, in combina-

tion with the vertical shaft provided with suitable bearings, the revolving emery-disks F *d'* and their metal plates, the stationary disks D and *d*, provided with brushes, and the radial and diagonal arms forming beaters, the whole being operated substantially as set forth and described.

2. The plates K K', the stationary disks provided with brushes, the vertical and revolving shaft, the emery-disks, and arms or beaters, in combination with the perforated casing having air and discharge openings, substantially as shown and described.

3. The stationary brushes and revolving emery-disks, and the radial and connecting diagonal arms, the whole being surrounded by a perforated casing, in combination with the fan having adjustable blades, and mechanism for operating the same, all substantially as shown and described.

RICHARD HENRY GRIFFITHS.

Witnesses:

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