A. AMES.

Grain-Decorticating Apparatus.

No. 204,277. Patented May 28, 1878.

Fig. 1.

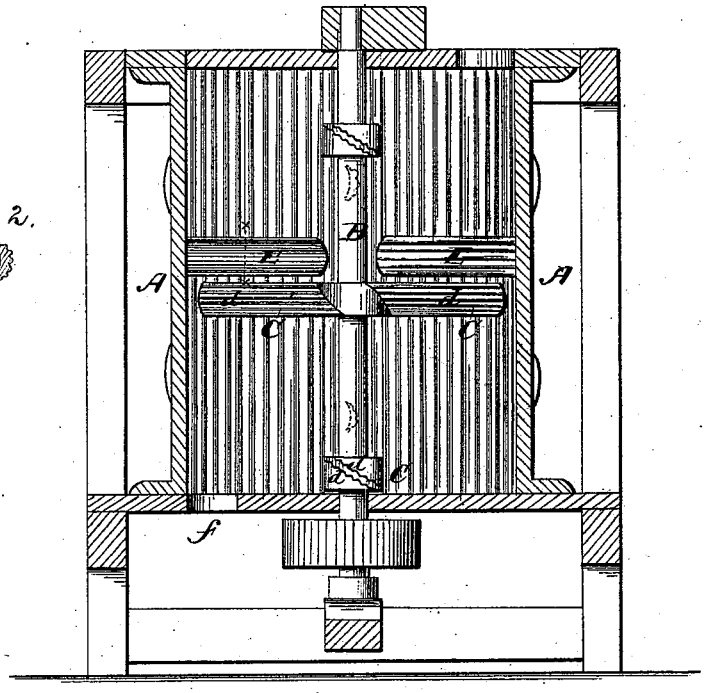

Fig. 2.

Fig. 3.

WITNESSES

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ADELBERT AMES, OF NORTHFIELD, MINNESOTA.

IMPROVEMENT IN GRAIN-DECORTICATING APPARATUS.

Specification forming part of Letters Patent No. **204,277**, dated May 28, 1878; application filed April 17, 1878.

To all whom it may concern:

Be it known that I, ADELBERT AMES, of Northfield, in the county of Rice and State of Minnesota, have invented a certain new and Improved Decorticator; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of my invention; Fig. 2, a sectional view of one of the spikes or blades which project inwardly from the wall of the cylinder; and Fig. 3 is a sectional view of a portion of the cylinder.

Similar letters of reference in the several figures denote the same parts.

This invention relates to that class of grain-scourers, smut-machines, and decorticators in which the grain is fed down through a vertical cylinder, and is acted upon during its descent by inclined rotary beaters attached to a vertical shaft arranged centrally within the cylinders; and my improvement consists in corrugating or roughening the upper inclined surface of said beaters, and combining therewith a series of spikes or blades projecting from the concave wall of the cylinder, and having their under surface inclined and corrugated or roughened, as I will proceed to describe.

In the drawings, A is the cylinder, containing a central vertical shaft, B, driven by power applied at either end. C C are a series of inclined scouring or beating arms or blades attached to the shaft B and rotating therewith, the inclination of their surfaces being such as to tend to raise and lighten up the grain through or against which they act.

The upper surfaces of the blades or arms are roughened or corrugated in any suitable manner, as shown at *d d*, for the purpose of scouring the grain with which they come in contact.

The arms C C extend from the shaft nearly to the wall of the cylinder, and may be inclined and roughened throughout their whole length, or only toward their outer ends, as preferred.

E E are a series of spikes or blades projecting inward from the concave walls of the cylinder, and having their under surfaces inclined and roughened in planes nearly or quite parallel to the planes of inclination of the revolving scourers.

The ends of the scouring-arms pass between the projecting spikes or blades E, at such a distance from them as not to grind or break the grain between the two roughened surfaces, but to subject it to the scouring action of both.

The concave wall and the outer ends of the scouring-arms may also be roughened, if preferred, though the latter construction is not essential.

The roughening of the blades, spikes, and cylinder may be effected by any known means, such as making them of sheet or plate metal, grooved, picked, perforated, &c., affixing small spurs, or in any other mode that may be preferred to these.

The grain is dampened and fed into the upper end of the cylinder till the latter is well charged. The shaft is then set in operation for a short time at a speed of about eight hundred revolutions per minute till the charge is well decorticated, when the discharge-gate *f* is opened and the feed continued, and thereafter the operation of the machine will be continuous, the grain being discharged as fast as it is thoroughly acted upon.

Suitable valves regulate the supply and discharge.

The spikes serve the double purpose of preventing the mass of grain from being carried around with the beaters, and of scouring it as it is thrown upward and forward against their inclined roughened under surfaces by the action of the rotary scouring arms or blades.

The operation of the machine is very rapid, uniform, and effective.

Having thus described my invention, I claim as new—

1. In a decorticating-machine, the concave vertical cylinder A, provided with the inwardly-projecting spikes or plates E, having their under surfaces inclined and roughened, substantially as and for the purpose set forth.

2. The vertical shaft B, provided with inclined arms or scourers C C, corrugated on their upper sides, in combination with the concave vertical cylinder, provided with the spikes or plates E, having their under sides

inclined and corrugated or roughened, substantially as described.

3. A decorticating-machine consisting, essentially, of a hollow vertical cylinder provided with internally-projecting spikes, in combination with a central vertical revolving shaft provided with radial arms, having their upper faces inclined and corrugated or roughened, substantially as described.

ADELBERT AMES.

Witnesses:
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