

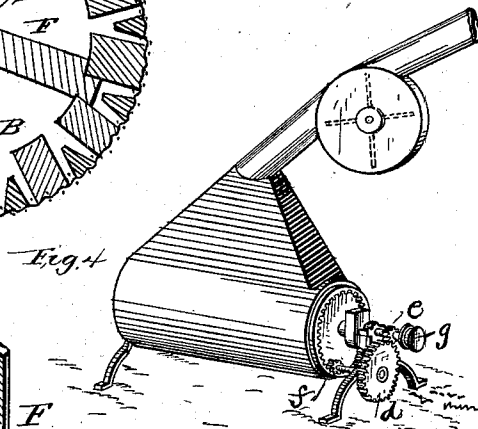
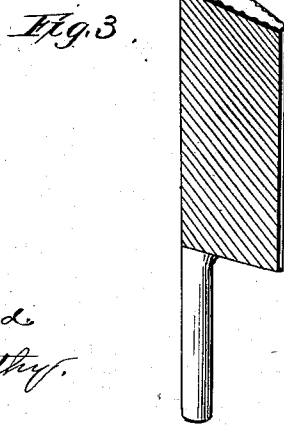
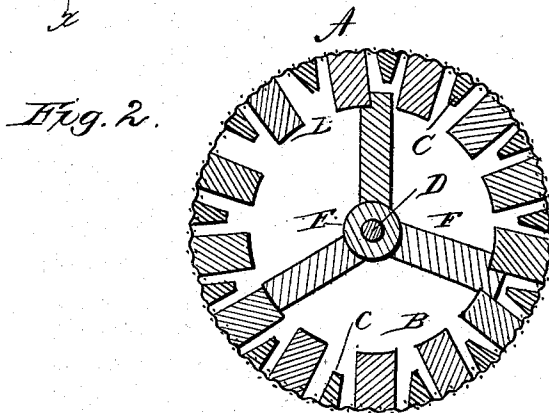
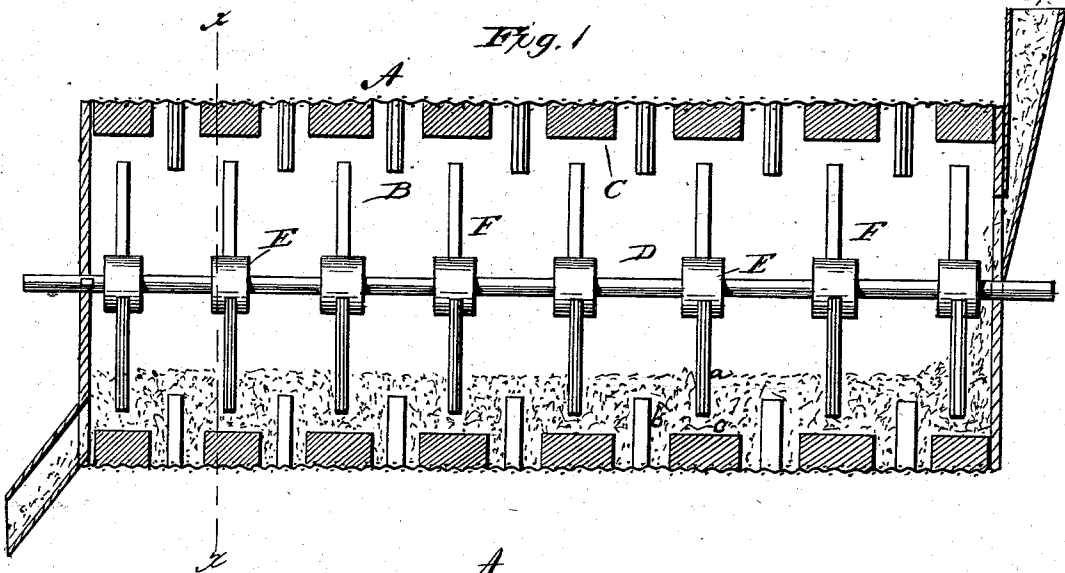
(No Model.)

W. AGER.

GRAIN DECORTICATING APPARATUS.

No. 258,339.

Patented May 23, 1882.



Witnesses.
 A. L. Curran
 J. J. M^o Conroy.

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UNITED STATES PATENT OFFICE.

WILSON AGER, OF WASHINGTON, DISTRICT OF COLUMBIA.

GRAIN-DECORTICATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 258,339, dated May 23, 1882.

Application filed July 30, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILSON AGER, of Washington city, in the county of Washington, and in the District of Columbia, have invented certain new and useful Improvements in Grain-Decortivating Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention relates to certain improvements in apparatus for decortivating grain and cereals; and it consists in the combination and arrangement of parts, as more fully hereinafter set forth, and specifically pointed out in the claims.

In the drawings, Figure 1 represents a longitudinal vertical sectional view of my improved decorticator; Fig. 2, a transverse vertical section of the same; and Fig. 3, a detached view of one of the decortivating-arms, which is to be secured to the rotating shaft of the apparatus. Fig. 4 represents a perspective view of the apparatus complete, showing the mechanism for rotating the shaft and cylinder carrying the decorticators in opposite directions.

The letter A indicates a cylindrical screen, suitably mounted so as to be properly rotated. The said screen on its interior is provided with a series of decorticators, (indicated respectively by the letters B and C.) These decorticators may be constructed of steel with file-surfaces, or of compressed emery, or natural or artificial abrasive stone, as may be desired. They are arranged in the screen in alternate long and short sections, as shown in the drawings, so as to offer abrasive surfaces *a b c* to the grain, which passes in a body through the lower part of the cylinder, as indicated in the drawings.

The letter D indicates a longitudinal shaft passing centrally through the cylindrical screen, and journaled in suitable bearings at each end. The said shaft is provided with a series of hubs, E, carrying the radial decorticators F. These, like the before-mentioned decorticators, may be formed of steel with file-surfaces, or they may be formed of natural or artificial abrasive material, such as

Derbyshire gray, tannite, or pressed Turkish emery, properly molded or shaped. The screen and central shaft are provided with suitable gearing, *d e f g*, to rotate them in opposite directions, and the grain is fed in at one end of the screen and passes out at the other, being subjected on its passage to the action of the decorticators traveling in opposite directions, whereby the decortication is rendered complete.

It has been shown that the decorticators are arranged in the screen in alternate long and short sections, and that the screen revolves in an opposite direction to the motion given to the central shaft and its decortivating-arms.

The object in view—viz., thoroughly decortivating the grain in its passage through the apparatus—can only be successfully obtained by constructing the serrated arms or teeth and arranging them so that every grain shall be repeatedly acted on by said decortivating-surfaces. It will be seen that the grain, during its passage through the cylinder, is not only thoroughly stirred, but that it is compelled to pass between the short and long teeth, over the long teeth and short teeth, and against the abrading-surfaces thereof. I produce variable or fast and slow movements of the streams of grain, some of the teeth impelling the grain fast in one direction, while others give it a comparatively slow motion in another direction. Then, again, it will be seen that the teeth or arms on the shaft D operate between the longer teeth and past the shorter teeth on the screen-cylinder. The essential feature of my invention is therefore the employment of alternate long and short abrading and decortivating teeth or arms in the cylinder.

To carry off the dust or outer integument removed from the grain or cereals, a forced blast of air may be induced through the apparatus, or an exhaust-current may be established by means of suitable mechanism.

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

1. In an apparatus for decortivating grain, the combination of the rotary screen, having alternate long and short decorticators on the interior thereof, with the central shaft provided with a series of radial decorticators, the

whole arranged to operate substantially in the manner explained.

2. In an apparatus for decorticating grain or cereals, the rotary screen, having alternate
5 long and short decorticators on the interior thereof, the rotary shaft, and decorticators, the two being adapted to operate as described, in combination with air-exhaust mechanism to
10 remove the dust and decorticated hulls, substantially as and for the purposes described.

In testimony whereof I affix my signature, in presence of two witnesses, this 25th day of July, 1881.

WILSON AGER.

Witnesses:

J. J. MCCARTHY,
C. D. DAVIS.