

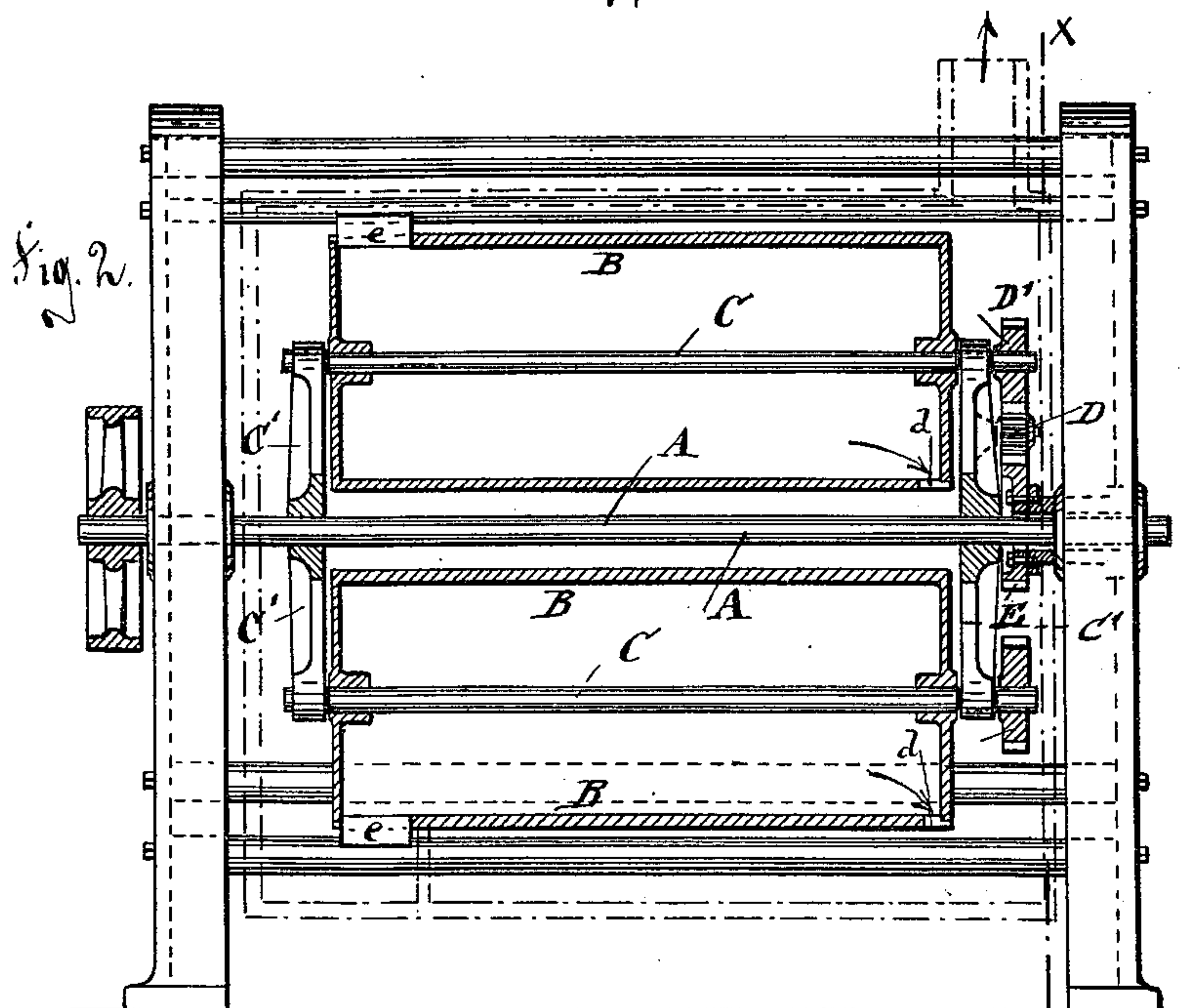
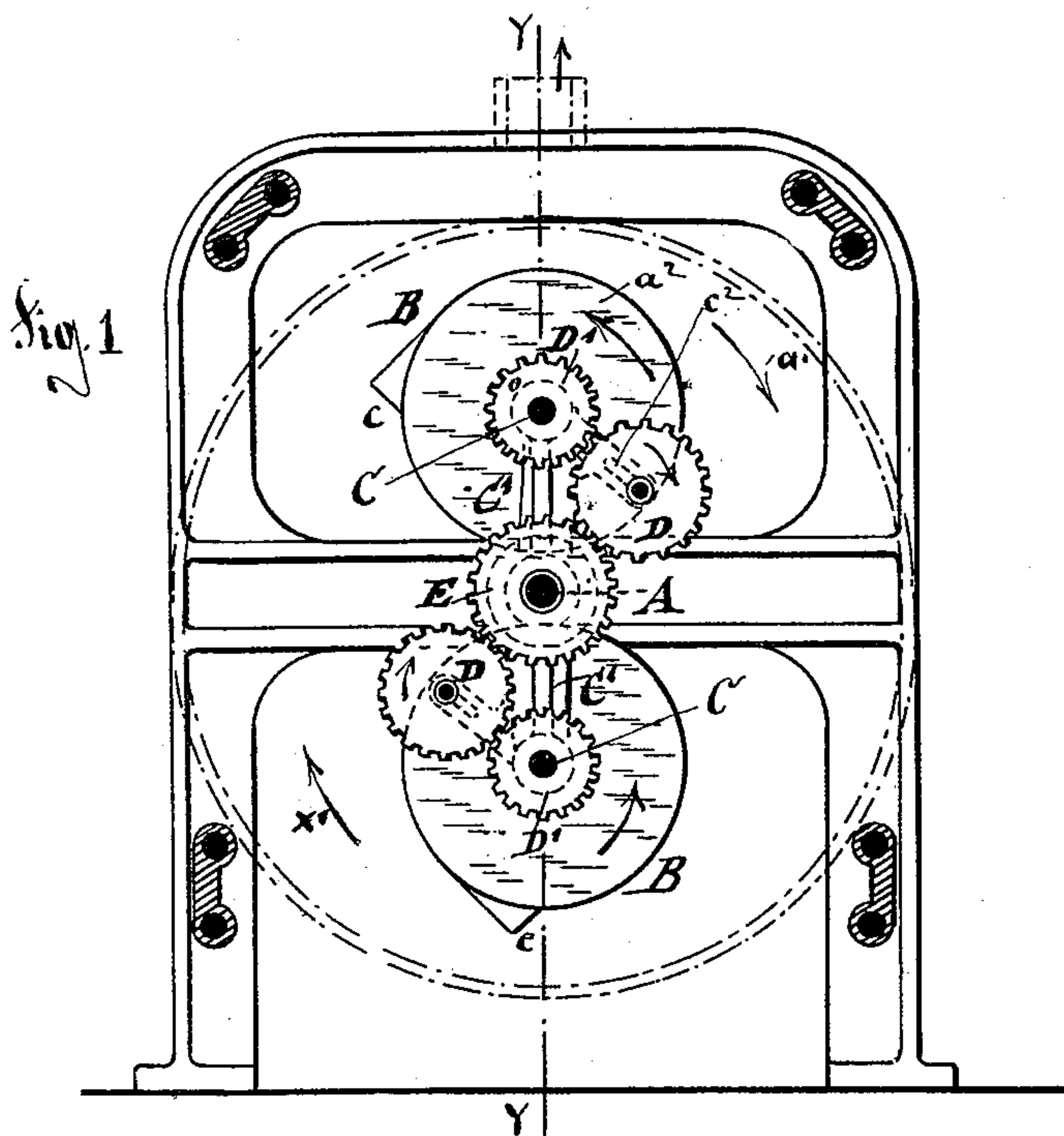
(No Model.)

F. WEGMANN.

METHOD OF GRINDING AND SCOURING GRAIN.

No. 405,811.

Patented June 25, 1889.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRIEDRICH WEGMANN, OF ZURICH, SWITZERLAND.

METHOD OF GRINDING AND SCOURING GRAIN.

SPECIFICATION forming part of Letters Patent No. 405,811, dated June 25, 1889.

Application filed May 26, 1888. Serial No. 275,216. (No model.) Patented in Germany July 20, 1887, No. 44,396; in France July 25, 1887, No. 184,981; in Belgium July 26, 1887, No. 78,347; in England July 27, 1887, No. 10,456; in Italy September 20, 1887, No. 22,105; in Spain November 20, 1887, No. 11,744, and in Austria-Hungary June 2, 1888, No. 18,622 and No. 38,755.

To all whom it may concern:

Be it known that I, FRIEDRICH WEGMANN, of Zurich, in the Republic of Switzerland, have invented certain new and useful Improvements in Method of Cleaning, Grinding, Scouring, and Decorticating Grain, &c., (for which Letters Patent were granted to me in Germany, No. 44,396, dated July 20, 1887; in France, No. 184,981, dated July 25, 1887; in Belgium, No. 78,347, dated July 26, 1887; in England, No. 10,456, dated July 27, 1887; in Italy, No. 22,105, dated September 20, 1887; in Spain, No. 11,744, dated November 20, 1887; in Austria-Hungary, No. 18,622 and No. 38,755, dated June 2, 1888,) of which the following is a specification.

The object of my invention is to provide a new and improved method of cleaning, grinding, scouring, and polishing grain or other materials in a perfect manner and without causing any loss of meal or of the material under operation.

The invention consists in cleaning, grinding, scouring, or decorticating grain or other materials by subjecting them to pressure by centrifugal force against a suitable friction-surface and displacing the particles relatively to each other by subjecting them to rotary motion in a direction opposite to the motion imparted to them while subjected to centrifugal force.

In the accompanying drawings, Figure 1 is a sectional end view of one construction of a machine which can be used in carrying out my improved method on line $x x$, Fig. 2. Fig. 2 is a vertical longitudinal sectional view of the same on line $y y$, Fig. 1.

Similar letters of reference indicate corresponding parts.

A is the main shaft.

B B are cylinders or drums having their shafts C parallel with the shaft A, but eccentric to the same, and mounted in arms C' of the shaft A.

D D' are gear-wheels for rotating the drums from the gear-wheel E on the main shaft A. Instead of imparting the double motion to the drum or drums by means of cog-wheels, frictional rings, pulleys, and belts may be ap-

plied for this purpose. The drums B are revolved around the main shaft in the direction of the arrow x' and at the same time in a reverse direction around their own axis. As the drums revolve around the main shaft the grain or other material under the action of the centrifugal force presses itself against the inner surface of that part of the drum farthest from said main shaft A. As at the same time the drum is rotating in the reverse direction to its direction of revolution around the main shaft, it is evident that that point of the drum farthest from the main shaft changes continually, and thus the grain or other materials are subjected to a continual displacement upon the inner surface of the drum, producing a scouring or abrading action against each other and by the walls of the drum, which shells, cleans, or decorticates the grain or other materials in a perfect manner.

By the action of centrifugal force the grain or other material is made to hug the inner surface of the drum at a point farthest from the center around which the drum revolves, while by the simultaneous rotation of the drum on its own axis in a direction opposite to its revolving motion the individual particles of grain or other materials are constantly displaced relatively to each other, so as to be exposed to friction against each other and against the surface of the drum, whereby an effective abrading action on the grain or other material is procured.

The pressure under which the grain or other materials are pressed against the inner surface of the drum and against each other can be regulated by regulating the speed of revolution of the drums around the main shaft.

It is obvious that the revolution of the drums around the main shaft and their rotation on their axes in an opposite direction subjects the mass of material in the drums to the action of two centrifugal forces generated on different centers, so that said mass is held in contact with the abrading-surface of the drums while the particles thereof are continuously shifted relatively to each other.

Grain, rags, shot, and numerous other materials can be scoured, cleaned, shelled, husked, polished, ground, or disintegrated by my improved method.

5 The apparatus described herein forms the subject-matter of a separate concurrent application filed August 18, 1887, Serial No. 247,259.

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

The method of cleaning, grinding, scouring, or decorticating grain or similar material, which consists in subjecting a mass of such material while in contact with an abrading-

surface simultaneously to the action of two 15 centrifugal forces generated in opposite directions from different centers, whereby said mass is held in contact with the abrading-surface and the particles thereof shifted relatively to each other, substantially as set forth. 20

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FRIEDRICH WEGMANN.

Witnesses:

ROBERT STOLZ,

WILLIAM SCHNEIDER.