M. D. BEARDSLEE.

Grain-Scourer.

No. 162,213. Patented April 20, 1875.

FIG. 1.

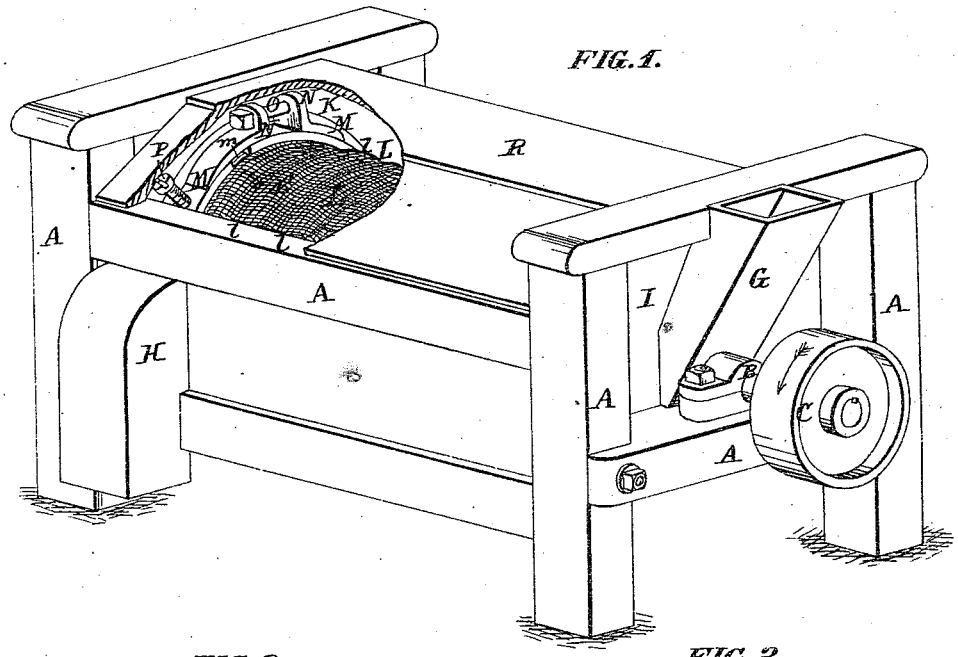


FIG. 2.

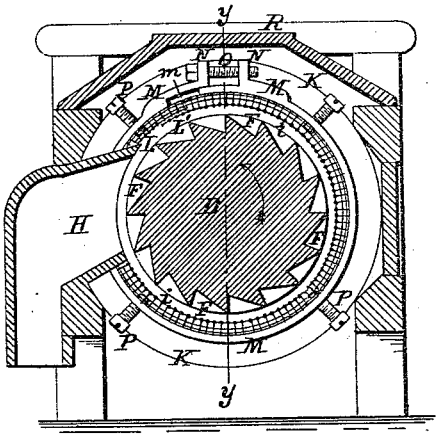
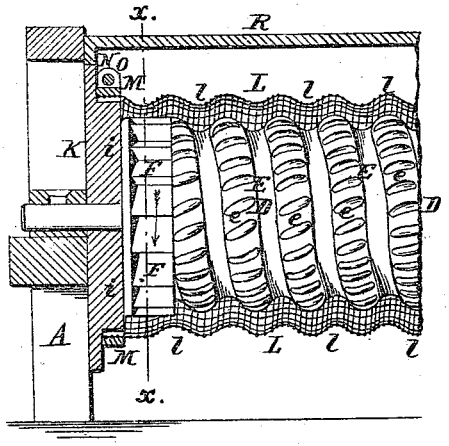


FIG. 3.



ATTEST:

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UNITED STATES PATENT OFFICE.

MARCUS D. BEARDSLEE, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN GRAIN-SCOURERS.

Specification forming part of Letters Patent No. **162,213**, dated April 20, 1875; application filed July 21, 1874.

To all whom it may concern:

Be it known that I, MARCUS D. BEARDSLEE, of St. Louis, St. Louis county, Missouri, have invented a certain new and useful Improvement in Grain-Scourer, of which the following is a specification:

In my improved grain-scourer the grain passes between a spirally-ribbed cylinder and an adjustable cylindrical case or shell of woven wire, said case being corrugated spirally.

The first part of my improvement consists in the combination of a spirally-ribbed cylinder and a corrugated wire-work cylindrical case or shell. The second part of my improvement consists in the combination of the said cylindrical case or shell with adjusting straps or hoops, to which its ends are made fast, and which are jointed, so as to admit of circumferential elongation or contraction to regulate the size of the case, and set-screws to give greater or less space on either side of the cylinder. The third part of my improvement consists in the combination of a cylinder, provided with a spiral rib having notches, and a cylindrical case or shell.

Figure 1 is a perspective view, with part of the cover broken away to show the interior. Fig. 2 is a transverse section at *x x*, Fig. 3. Fig. 3 is a longitudinal section of one end at *y y*, Fig. 2.

A is the frame, in which is journaled the cylinder-shaft B, on which is the driving-pulley C. The cylinder D has upon its circumference a spiral thread or rib, E, which extends from the receiving end of the cylinder nearly to the other end; and in the face of this spiral E is a number of notches, *e*, which are preferably oblique to the thread, so that while they engage the grain and cause its movement upon the rough and porous surface of the cylindrical case or shell, they shall allow it readily to slide off upon one side. The obliquity of these notches is preferably in such direction as to tend to carry the grain in a contrary direction to the motion imparted to the grain by the spiral E. At the posterior end of the cylinder D is a circumferential series of pockets, F, by which the grain is raised, and by the rotation of the cylinder thrown into the discharge-spout H. G is the spout through which the grain enters the machine. The cylinder D turns in a case formed by the fixed heads I and K and the cylindrical case or shell L, which latter is formed of wire fabric—the ordinary rectangularly-woven wire-work. This cylindrical case or shell is corrugated, so as to form it into a spiral, *b b*, from end to end, the spiral winding in an opposite direction to that upon the cylinder D; for instance, the cylinder is shown with a right-hand spiral, E, and consequently the spiral *b b* of the cylindrical case or shell would have a left-hand turn. The heads I and K are fixed to the frame, and have a circumferential rabbet, *i*, to receive the ends of the hoops or straps holding the ends of the cylindrical case or shell L. The ends of the cylindrical case or shell are attached to the inner sides of the straps or hoops M M, which are furnished with lugs and screws N O, to contract and hold them upon the heads, and set-screws P, whose points rest upon the circumferential faces of the rabbet, as shown. The straps are open at *m*, where they have a slip-joint, and the cylindrical case or shell also has a slip or lap joint at L′, to allow of the circumferential adjustment to regulate the distance of the cylindrical case or shell from the cylinder D, said adjustment being made by means of the draw-screws O and set-screws P. The lap-joint L is laid in such direction as to prevent the lodgment of grain in the lap as it is carried around by the cylinder D. R is the cover.

The operation of the machine is as follows: The grain enters through the spout G, and falls, through the head I, into the annular space between the cylinder D and cylindrical case or shell L, the grain being carried forward by the screw E, and caught up and thrown out by the pockets F into the discharge-spout H. The weight of the grain in the spout G assists to force the grain through the machine, and the spiral *b b* of the cylindrical case or shell also assists this movement when the grain is carried around by the cylinder D; but a counter action is had on the grain by the oblique notches *e*, but only sufficient to stir the grain and scour it against the cylindrical case or shell. The cylindrical case or shell is made readily adjustable, equally or unequally, on each side of the cylinder, so as to give a greater or less space where required

by means of the set-screws working through the bands or loops, to adapt it to quantity, quality, or description of grain passing through in a given time.

The machine is for the purpose of removing the fuzz from wheat, and for scouring extraneous substances from grain, the refuse escaping through the wire cylindrical case or shell.

I claim—

1. The combination of spirally-ribbed cylinder D and corrugated wire-work cylindrical case or shell L, substantially as and for the purpose set forth.

2. The combination of cylindrical case or shell L, straps M M, with set-screws O P, heads I K, and cylinder D, all substantially as and for the purpose set forth.

3. The combination of cylinder D, provided with spiral E, having notches *e e*, and cylindrical case or shell L, all substantially as and for the purpose set forth.

MARCUS D. BEARDSLEE.

Witnesses:
JOHN F. MILLER,
CLARK H. HADLEY.