

MACHINE FOR SCOURING GRAIN.

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# UNITED STATES PATENT OFFICE.

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## MACHINE FOR SCOURING GRAIN.

SPECIFICATION forming part of Letters Patent No. 394,019, dated December 4, 1888.

Application filed February 1, 1888. Serial No. 262,601. (No model.)

*To all whom it may concern:*

Be it known that I, CONRAD CHARLES SCHILL, of East New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Machines for Scouring Grain, of which the following is a specification.

This invention relates to an improved machine for scouring grain in a rapid and effective manner, so as to clean it from adhering dust and impurities.

In the accompanying drawings, Figure 1 represents a side elevation of my improved machine for scouring grain shown with a part of the shell broken away. Fig. 2 is a vertical transverse section of the same, showing it surrounded by a dust-retaining casing; and Fig. 3 is a broken plan view of the rotary heaters.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the supporting-standards of my improved grain-scouring machine. The standards are preferably made of cast metal and connected in any suitable manner. The standards A support an approximately-cylindrical casing or shell, B, which is made of stout sheet metal and closed at the ends by head-plates B', that are, like the shell, made in two parts and connected by horizontal flanges, which are bolted together, as shown in Figs. 1 and 2.

At one side of the casing or shell B are arranged several groups of scouring-knives, C, each group being made in segmental form and supported by angle-irons *a* and screw-bolts *a'* on the head-plates B' of the casing B. The scouring-knives C of each group are arranged radially to the center of the shell B and supported equidistantly from each other by means of interposed blocks *b*, all the blocks and knives being firmly tied together by means of arc-shaped screw-bolts *b'*, which are passed through holes in the blocks and knives and attached to the angle-plates *a a*, as shown in Fig. 2.

Each group of scouring-knives C is provided with exterior sheet-metal boxes D, which are provided with outlet-openings and outwardly-bent deflecting-plates D', as shown in Figs. 1 and 2, for the purpose of conveying

the dust and other impurities scraped off from the grain by the scouring-knives to the outside of the shell B.

The several groups of scouring-knives are preferably arranged either above or at the side of the beater-shaft, as shown in Fig. 1, so that as the grain is lifted by the beaters and stirred the dust and other impurities, which are lighter than the grain, will readily rise and be carried out of the outlets, which are upward in the boxes D.

A beater-shaft, E, is supported in suitable bearings of the head-plates B' and rotated by a suitable belt and pulley. The beater-shaft E is provided with ribbed radial arms E' and connecting-disks E<sup>2</sup>, which are bolted to said arms, so as to impart a certain degree of rigidity to the same. To the outer ends of the radial arms E' are attached longitudinal beaters F, that are supported at a slight direction to the longitudinal inclination to the axis of the shaft E, (not shown in the drawings,) so that the grain is gradually screwed by the beaters through the shell, as customary in grain-scouring and other machines.

The entire machine is surrounded by an inclosing box or casing, G, of wood or other suitable material, the driving-pulley of the beater-shaft E being arranged outside of said casing. A supply-trunk, F, passes through the exterior box, G, and at one side of the beater-shaft down to an opening, *f*, in the head-plate B' near the lower part of the shell B, while the discharge-spout *f'* at the other end of the shell B discharges the scoured grain from the shell B. The rapid rotation of the beaters throws the grain with considerable force against the plain or serrated edges of the scouring-knives, which exert thereby a cleaning action on the same, so as to remove the adhering dust and other impurities. These impurities are forced by strong air-currents produced by the rapid movement of the beaters through the interstices between the scouring-knives and the blocks to the outside of the shell, they being finally collected at the bottom of the inclosing-casing G. When the grain has passed from one end to the other of the shell, it is finally conducted off in scoured state through the discharge-spout to the outside of the machine for further treatment.

Having thus described my invention, I claim  
as new and desire to secure by Letters Pat-  
ent—

5 The combination of an approximately-cy-  
lindrical casing or shell having a supply-  
trunk at one end and a discharge-spout at the  
opposite end, rotary beaters in said shell,  
scouring-knives arranged in segmental groups  
at the circumference of the shell, each group  
10 being formed of radial knives supported at

suitable distances from each other, and exte-  
rior boxes having outwardly-bent deflectors,  
substantially as set forth.

In testimony that I claim the foregoing as  
my invention I have signed my name in pres- 15  
ence of two subscribing witnesses.

CONRAD CHARLES SCHILL.

Witnesses:

CARL KARP,  
MARTIN PETRY.