S. E. WORRELL.

Corn and Grain Cleaners.

No. 204,935. Patented June 18, 1878.

Fig. 1.

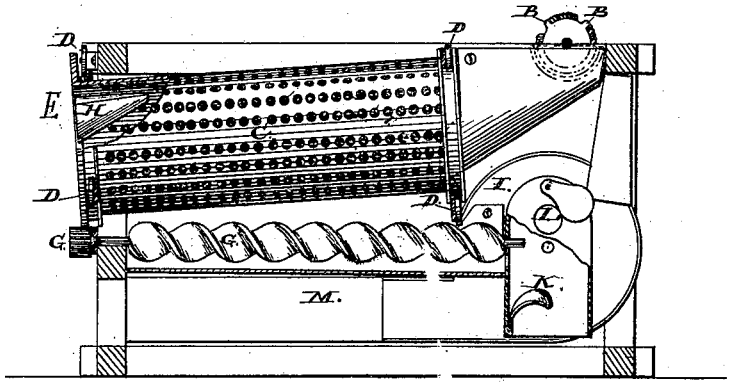


Fig. 2.

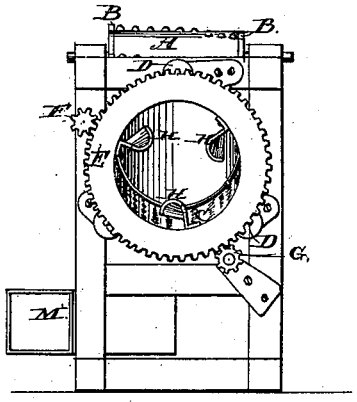
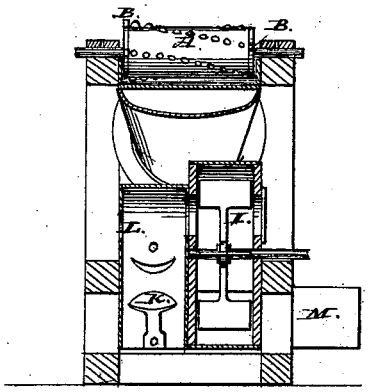


Fig. 3.



Attest:

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STANLEY E. WORRELL, OF HANNIBAL, MISSOURI.

IMPROVEMENT IN CORN AND GRAIN CLEANERS.

Specification forming part of Letters Patent No. **204,935**, dated June 18, 1878; application filed March 14, 1878.

To all whom it may concern:

Be it known that I, STANLEY E. WORRELL, of the city of Hannibal, in the county of Marion and State of Missouri, have invented a new and useful Improvement in Corn and Grain Shellers and Cleaners, of which the following is a specification:

The invention relates to an improved method of shelling and cleaning corn or other grain.

Heretofore the cylinders of such machines have been constructed in such a manner that they frequently choked up, which caused delay and great annoyance. In my improvement I propose to obviate this difficulty by the construction of large teeth on or flush with the ends of the cylinder.

Heretofore these machines have been made with shaker-screens or roller-screens supported by shaft and "spiders" or arms, for separating the grain from cobs or other coarse trash. These are easily clogged by over-feeding or damp grain. I overcome this difficulty by supporting a revolving screen upon friction-rollers supported upon adjustable arms, thereby doing away with shaft and arms, and giving a larger opening for the passage of grain.

The cobs or other coarse offal have heretofore been discharged at the bottom of the screen, which is so near the ground that a stacker is required. In the present invention this is not required, as I attach buckets on the inside of the screen at the lower end, which discharge near the top of the screen. These buckets are secured in an oblique position.

The motion is given to this rolling screen by a tooth, chain, or band wheel or ring fastened directly to one end of the perforated screen, said screen consequently not requiring an iron band to stiffen the same. This tooth, chain, or band-ring also transmits motion to the conveyer, for carrying the screened grain to the suction-leg, thereby giving the machine a more compact construction.

The friction-rollers run in a groove near the ends of the screen, thus preventing it from moving out of its position. They are held in position by a single bolt, so that they can be quickly moved without stopping the machine, for the purpose of raising or lowering the back end of the rolling screen, so as to cause a fast or slow discharge from it.

The machine is constructed so as to utilize the suction of the fan for cleaning the grain instead of the blast. The most important reason for doing this is, that the former is more easily regulated than the latter. It also frees the atmosphere surrounding the machine of dust, and carries the light trash and kernels separated from the grain in cleaning some distance from the machine.

The suction to one side of the fan passes under the whole length of the rolling screen, giving the grain its first air-cleaning. The grain is then carried by the conveyer lying just below the rotating screen to the suction-leg, which is connected to the other side of the fan, when it drops upon a convex spreader secured in this suction-spout below the delivery end of the conveyer, having a convex upper face, which spreads it into a thin sheet, thus giving the suction of air a better opportunity to thoroughly clean the grain. The strength of the suction on both sides of the fan is regulated by gates, so as to give just the right amount of suction required by grain of different kinds and conditions.

In the accompanying drawing, A represents the cylinder for shelling; B B, the large teeth on the ends of the same; C, the rolling screen supported on the friction-rollers D D D D D D; H H H, the discharge-buckets on the same; E, the ring-wheel for receiving motion for same, and for transmitting motion to wheel G on the conveyer G, which carries the grain to the suction-leg J, attached to the fan I; K, the spreader; L, the gate for regulating the strength of the suction. The suction from the opposite side of the fan I passes between the rolling screen C and conveyer G. M represents the discharge-spout from the fan.

What I claim is—

1. The combination, with the open rotating cylinder C, of the buckets H secured in an oblique position upon its interior surface at the discharge end, substantially as described.

2. The combination of the conveyer G, the suction-spout, and the spreader K, secured in the suction-spout below the delivery end of the conveyer, and formed with convex upper face, substantially as described.

STANLEY E. WORRELL.

Witnesses:
C. F. SHEPHERD,
CHAS. H. ROWE.