E. S. McEWEN.

CORN-SHELLER.

No. 190,721. Patented May 15, 1877.

Fig. 1.

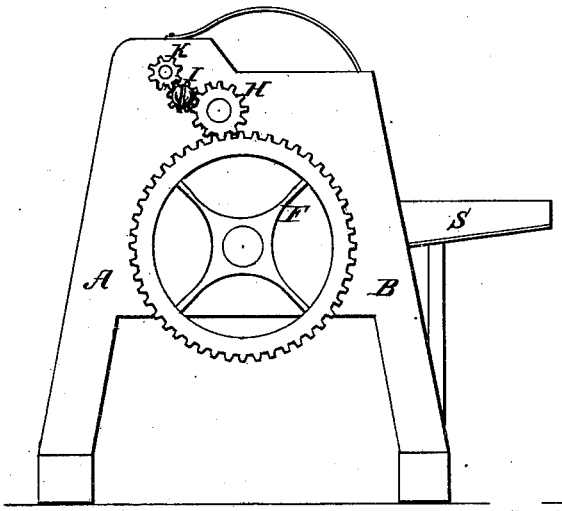


Fig. 2.

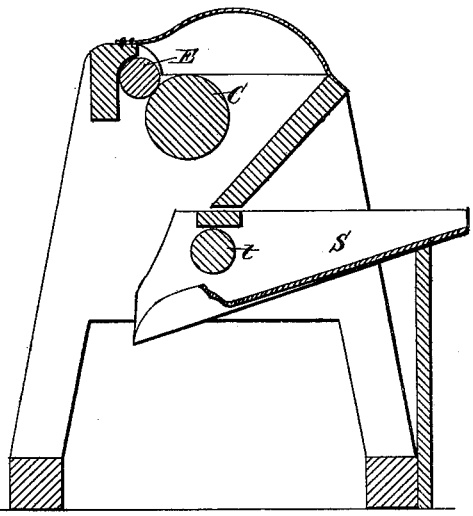


Fig. 3.

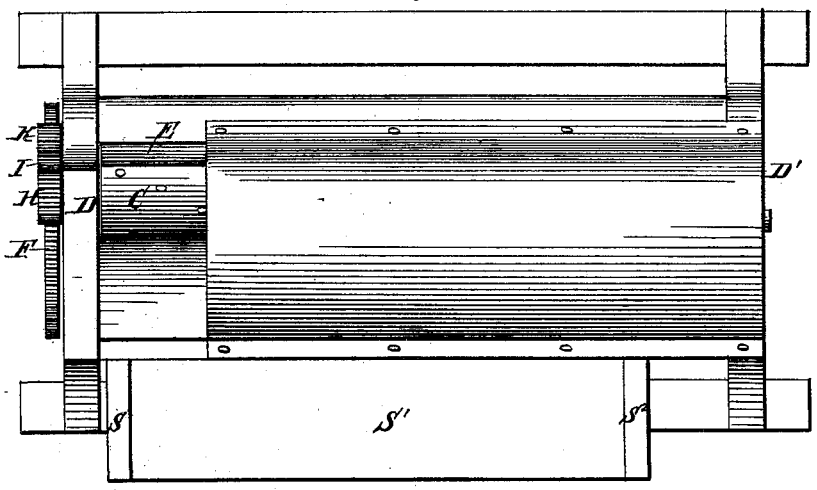
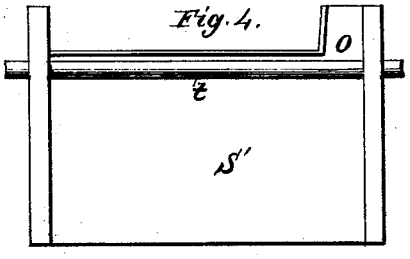


Fig. 4.



Attest.

Eslwin Lewis

Frank A Fisher

Inventor.

Eugene S McEwen

UNITED STATES PATENT OFFICE.

EZRA S. McEWEN, OF LISBON, ILLINOIS.

IMPROVEMENT IN CORN-SHELLERS.

Specification forming part of Letters Patent No. **190,721**, dated May 15, 1877; application filed January 27, 1877.

To all whom it may concern:

Be it known that I, EZRA S. McEWEN, of Lisbon, Kendall county, State of Illinois, have invented an Improved Corn-Sheller, of which the following is a specification:

My improvements relate to cylinder corn-shelling machines; and they consist in certain novel features of construction and arrangement, hereinafter more fully described and explained.

Referring to the accompanying drawings, forming part of this specification, Figure 1 is an elevation, showing the driving-gear. Fig. 2 is a transverse section, showing the relative arrangement of the parts. Fig. 3 is a plan view, and Fig. 4 is a detail view of the separating-shoe.

A B is the frame, constructed in any usual or approved manner, of suitable material, wood or metal. C is the principal or shelling cylinder, journaled in the bearings D D′, and armed with teeth, spirally arranged, as shown in Fig. 3.

This cylinder may be roughened or ribbed, instead of toothed.

E is the smaller cylinder, journaled parallel, or nearly so, with, contiguous to, and above the horizontal plane of the axis of the cylinder C.

The cylinder E is, preferably, smooth on its surface, though it may be roughened or slightly toothed, the use of the teeth or roughened surface, when used, being, not to shell, but to revolve, the ears of corn.

The machine may be constructed with more than one of these smaller or auxiliary cylinders.

F is the main driving-gear, journaled at the end of the casing upon the driving-shaft T, and imparting motion to the cylinder C through the pinion H on the shaft of the same, and a more rapid rotation to cylinder E in the same direction as cylinder C, through a smaller pinion, K, by means of gear I.

The separating-shoe S, to be provided, if desired, with sieves, is hung under the main cylinder C, and extends outward, as shown in the drawing, and is supported in any suitable manner, its width being such with reference to the frame as to allow free lateral reciprocation, as shown in Fig. 3.

The sheet-metal floor S′ inclines from one side downward to the other—viz., to the discharge-spout O—to facilitate the discharge of the grain into the sack, box, elevator, or other suitable conveyer or receptacle. Said spout O is formed by turning up the extended portion of the sheet metal to form sides and bottom, and the upturned lower edge of the sheet metal also forms a fender and guide to the grain at that point. A fan, also, may be employed to separate the chaff, &c., from the grain.

The ears of corn are fed into the sheller at the end D, the two cylinders forming a trough, down which the ears, resting by their gravity, are moved by the spiral shelling-teeth, while the cylinders concur to cause it to rotate, no further pressure being applied to the ears than their own gravity. The teeth strike off the grains without breaking the kernels, and cobs besides, thus saving power to that extent.

A further and considerable saving of power is effected by the use of the cylinder E, which, by its rapid rotation, prevents the ears of corn and cobs from wedging between it and the sheller-cylinder, as they do when a stationary bar or concave is used to shell against in place of the cylinder E.

By the use of cylinder E revolving outwardly from cylinder C, the sheller can be started even when filled with corn, as the moving surface of E prevents the ears of corn from holding the large cylinder.

The auxiliary cylinder or cylinders may be placed in other positions than the precise ones shown, the essential thing being that said cylinder or cylinders shall be parallel, or nearly so, to the main or shelling cylinder, and revolve in the same direction with it, so that the teeth of the main cylinder shall carry the ears of corn against the moving surface of the auxiliary cylinder or cylinders.

The shelled grain falls through the sieves of the shoe, exposed to a fan-blast in falling on the floor S′, and is discharged by the vibration through the spout O.

Having thus fully described my invention, I claim—

1. The combination, in a corn-sheller, of the cylinder E and the shelling-cylinder C, the

two revolving in the same direction, and being so constructed and arranged that the shelling-cylinder C carries and shells the ears of corn against the revolving surface of E, substantially as and for the purposes set forth.

2. In a corn-sheller, the combination of one or more auxiliary cylinders on a shelling-cylinder, all the cylinders being parallel, or nearly so, and rotating in the same direction, the auxiliary cylinder or cylinders being so arranged as to form a channel in combination with said shelling-cylinder, and to rotate the ears of corn and prevent them from wedging as they pass along said channel while being shelled by the shelling-cylinder.

EZRA S. McEWEN.

Witnesses:
EDWIN N. LEWIS,
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