SILAS C. SCHOFIELD.

Improvement in Corn Shellers.

No. 115,646. Patented June 6, 1871.

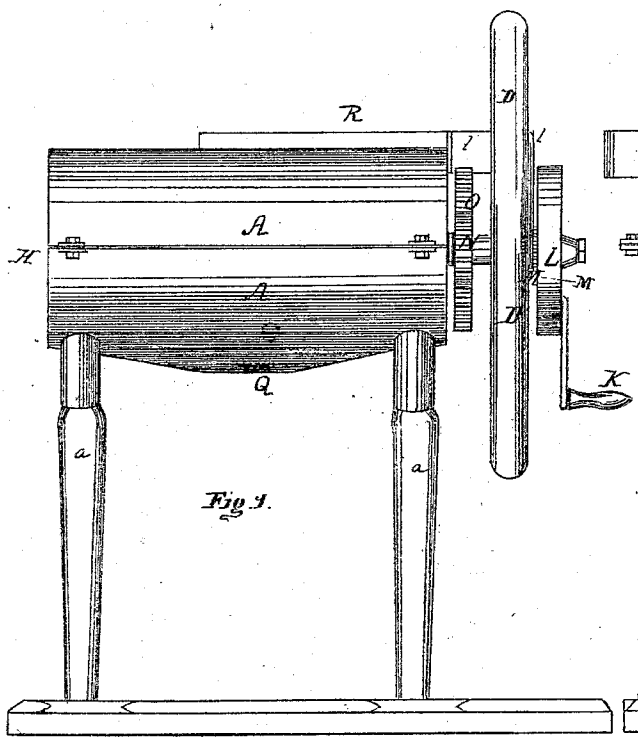


Fig. 1.

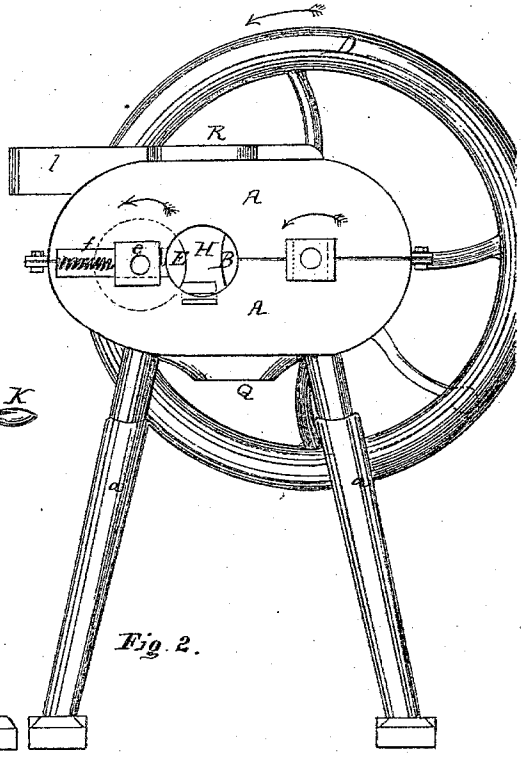


Fig. 2.

Fig. 4.



Fig. 3.

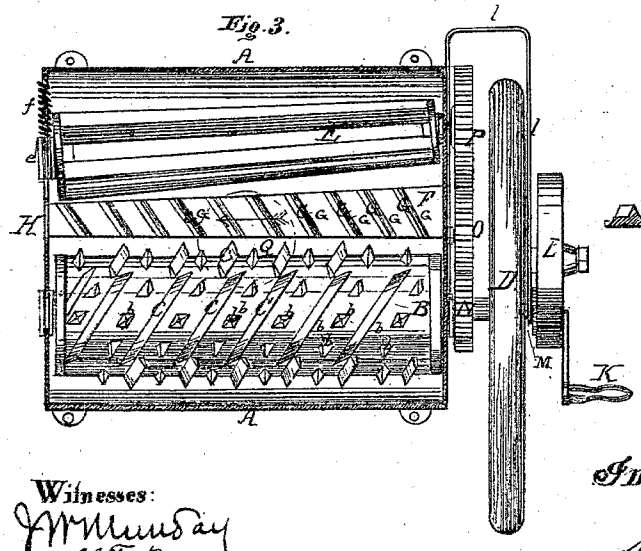
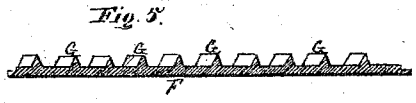


Fig. 5.



Witnesses:

J. M. Murray

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Inventor:

Silas C. Schofield

A.H. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

SILAS C. SCHOFIELD, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN CORN-SHELLERS.

Specification forming part of Letters Patent No. 115,646, dated June 6, 1871.

To whom it may concern:

Be it known that I, SILAS C. SCHOFIELD, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Corn-Shellers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, which, together with the letters and figures marked thereon, forms part of this specification, and in which—

Figure 1 is a side elevation of a corn-sheller, according to my invention. Fig. 2 is an end view of the same, the rear end being shown. Fig. 3 is a horizontal section of Fig. 1 taken on the line *x x*. Fig. 4 is a cross-sectional view of the pressure-roller. Fig. 5 is a longitudinal section of the bottom piece.

Like letters of reference made use of in the several figures indicate like parts.

To enable those skilled in the art to make and use my invention, I will proceed to describe the same, making reference, in so doing, to the aforesaid drawing.

General Description.

A is the outside casing of the sheller, supported by the legs *a*. B is the picker or shelling-cylinder, furnished with a number of radiating teeth, *b*, and provided also with a series of spiral flanges, C, which project from the surface of said cylinder to about the same height of the teeth, and serve to prevent the ears of corn from becoming jammed between said teeth in the operation of shelling, and, at the same time, to assist in shelling, and, by their spiral inclination, to help propel the cobs and ears longitudinally toward the discharge. This cylinder is carried upon the same shaft as the fly-wheel D, and revolves with a considerable rapidity. E is a fluted pressure-cylinder, placed beside the cylinder B, and revolved in the same direction and with a much less velocity. A section of this cylinder is shown at Fig. 4. This pressure-cylinder is carried in the sliding bearings *e e*, which are furnished with springs *f*, so arranged as to press the said cylinder toward the shelling-cylinder. F is a flat horizontal bar, made with a series of diagonal ridges, G, upon its upper surface. This bar is placed between the two revolving cylinders, and low enough down to form a bottom or floor to support the ears of corn as they pass; and the diagonal ridges act upon the revolving ears of corn in the manner of a screw and force them along toward the cob-discharge H, in the direction of the arrow at Fig. 3.

The gearing to operate this mechanism, as shown in the drawing, is as follows: The hand-crank K is attached to an internal cog-wheel, L, carried upon the brace *l*. This cog-wheel meshes into a smaller cog-wheel, M, carried upon the shaft of the fly-wheel D. By this arrangement the velocity of the fly-wheel is increased over that of said hand-crank. A cog-wheel, N, is also carried upon the fly-wheel shaft, and meshes into an intermediate cog-wheel, O, carried upon the casing of the sheller, which, in turn, meshes into the cog-wheel P carried upon the shaft of the revolving pressure-cylinder E. By this arrangement the cylinder B is caused to revolve rapidly and the cylinder E to revolve with a less speed in the same direction with said cylinder B.

The operation of my machine is as follows: Corn upon the cob to be shelled is placed into the machine by an opening, R, at the top, and falls immediately between the revolving cylinders, while the horizontal bar F prevents the ears from falling too low. The fluted pressure-cylinder E holds the ears up against the shelling-cylinder B, at the same time revolving the ear so as to present every side to the sheller. It will be noticed that the pressure-cylinder is slightly conical in form, being largest at the end nearest the discharge H. This form is necessary on account of the the varying size of the ear as the corn is removed from it. The ear, as it is revolved, is also pressed down by the action of the shelling-cylinder upon the diagonally-ribbed bar F, and the ribs or ridges G act upon the ear as a screw to force it along until the denuded cob is finally discharged at the opening H. The shelled grain, in the meantime, falls each side of the bar F and between the cylinders, and is discharged at the opening Q.

Claims.

Having thus fully described the construction and operation of my invention, I will pro-

ceed to specify with particularity what I claim as new, and desire to secure by Letters Patent:

1. The combination of the yielding and revolving roller E, and the revolving shelling-cylinder B, when constructed and arranged substantially as shown, and for the purposes set forth.

2. The combination of the yielding and revolving pressure-roller E, the revolving shelling-cylinder B, and the diagonally-ribbed bar F, all constructed and arranged substantially as shown, and for the purposes described.

SILAS C. SCHOFIELD.

Witnesses:
J. W. MUNDAY,
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