C. KETCHUM.

Corn Sheller.

No. 46,245. Patented Feb. 7, 1865.

Fig. 1

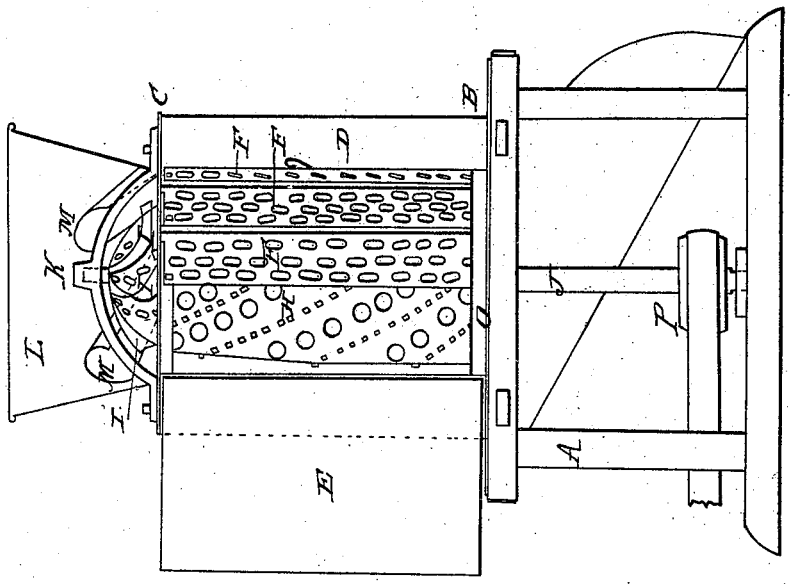


Fig. 2

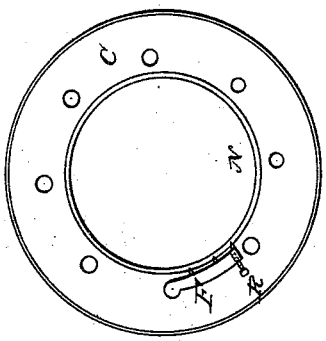


Fig. 3

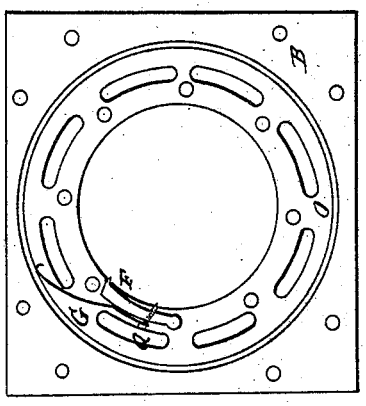


Fig. 4

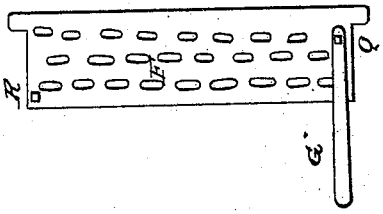
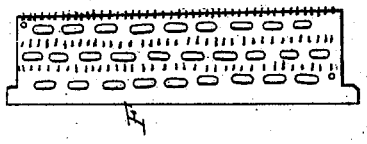


Fig. 5



WITNESSES

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CHARLES KETCHUM, OF PENN YAN, NEW YORK.

CORN-SHELLER.

Specification forming part of Letters Patent No. **46,245**, dated February 7, 1865; antedated January 29, 1865.

To all whom it may concern:

Be it known that I, CHARLES KETCHUM, of Penn Yan, in the county of Yates and State of New York, have invented a new and useful Improvement in Corn-Shellers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side elevation of the whole machine. Fig. 2 is an under side view of the upper plate. Fig. 3 is is an upper side view of the base-plate. Fig. 4 is an outside view of one section of the cylindrical concave and spring. Fig. 5 is an inside view of the same section of the concave.

The letters of reference refer to the same parts in each figure.

A is a frame that supports the various parts of the machine, and is made of wood, in shape as represented in Fig. 1. Its dimensions may be varied to suit the various attachments that may be required to separate the cob from the corn or to winnow the corn.

B is the base-plate, made of iron, and large enough to be securely fastened to the top of the frame A. It has a circular opening in the middle a little larger than the diameter of the cylinder. Next to this opening is a series of holes in a circle, and as many in number as there are sections in the concave. Into these holes the pivots at the lower ends of the sections F are inserted. Outside of these holes is another series of holes, also in a circle. These holes may be made in any form required. Their use is to allow the corn and dust or whatever passes through the concave to pass down through them. Outside of this circle of holes is a rim, O. It is made large enough to allow the springs G to rest against it and form part of the support of the case D.

C is the upper plate. It is made circular in form, as shown in Fig. 2. Its diameter must be near the same as the diameter of the rim O. It has a circular opening in the center about the same in size as the opening in the base-plate. At edge of this opening is a rim, N. Outside of this rim is a series of round holes in a circle, the same in number as in the base-plate. These holes are to receive the pivots of the upper end of the sections F. At the outer edge and under side is a rim that serves to hold the case D.

D is one of the quadru cylindrical-shaped parts of the case. The circle of them corresponds with the rim of the base-plate and the outer rim of the upper plate. They are securely fastened to the base-plate, and upper plate also. They are placed at opposite sides of the machine, and the space between them is filled with doors E. To them the doors E are hung in any convenient manner. These cases form the support for the upper plate, and are fastened securely to prevent the upper plate being turned around by action of the other parts of the machine.

E is one of the doors. There is a corresponding door at the opposite side of the machine. The door is opened, as represented in Fig. 1. Both doors may be hinged to one of the cases D, or one to each, according to choice. The doors must fill the spaces between the cases D and be fastened with a latch, or otherwise. The use of the doors and cases above mentioned is to keep the corn and dust within the machine until it is all discharged in the place required.

F is one of the sections of the cylindrical concave. They are represented in Figs. 4 and 5, and an end view is shown in Figs. 2 and 3. They are made in length the same as the distance between the plates B and C, and they are provided with a pivot at each end, both pivots at same edge, as shown in the figures. These pivots are to be inserted into the holes in the plates B and C. These sections are rounded at the outer surface, as shown in Figs. 2 and 3. At the inner surface is a series of rows of teeth that assist in shelling the corn. They may be made with a series of holes through them, as shown in Figs. 1, 4, and 5, or they may be made without holes if they are placed apart so that the corn can escape between them, or to make the concave tight for the purpose of preventing the corn escaping, which may be required in certain conditions. These holes or spaces allow the shelled corn to pass out, thereby relieving the machine and preventing the corn being broken. These sections swing as a door upon the pivots. They swing outward by means of the action of the

cobs and corn, and will allow the largest kind of cobs to pass, and they are caused to swing inward by the spring G. They are prevented from swinging too far inward by the set-screws R, which are inserted at the upper end, as shown in Figs. 1, 2, and 4.

G is a spring. There is one to each section, and are held to them by the set-screws Q, as shown in Fig. 4. These springs are curved so as to touch the outer edge of the section F and the inside of the rim O before the set-screw Q draws the end through which it passes to the section F, so that by turning the set-screw inward the force of the spring is increased, and by turning it out the force is diminished. Thus by the set-screws Q the force of the springs is regulated.

H is the cylinder. It is shown in Fig. 1. It is supported by the spindle J, by which it is turned. It is nearly as large in diameter as the openings in the plates B and C, and enough smaller than the circle of the concave to allow the cobs to pass down between them. It is made smaller at the upper end to allow the ears of corn to enter more freely. It is made hollow, and is provided with holes through from the outside to the inside. The holes are made to allow the corn to escape as soon as it is shelled. The lower head of the cylinder has holes through, also to allow the corn to pass out of the cylinder. The upper end of the cylinder is made hemispherical, as shown in Fig. 1, and has holes in it to allow the corn to escape. The cylinder is provided with teeth in any convenient way or manner, and in sufficient number to do the work required.

I I and I are spiral agitators. They are attached to the upper end of the cylinder. Their use is to stir the corn and throw it outward to facilitate its entrance between the cylinder and concave.

J is the spindle that supports the cylinder. It rests in a step at the bottom, and the top is held by the trevet-box K.

K is a trevet-box that holds the upper end of the spindle. It is securely fastened to the upper side of the plate C.

L is the hopper. It is made larger at the top than at the bottom, and round at the top. The bottom rests upon the upper plate C. It surrounds the rim N, to which it may be fastened.

M and N are scroll-shaped guides that serve to direct the corn endwise into the machine. They are attached to the inside and lower part of the hopper L.

N is a rim around the edge of the opening in the upper plate C. It extends above the plate sufficiently to hold the hopper and below the plate far enough to allow the set-screws R to come against it, thereby preventing the sections F from being swung against the cylinder by means of the springs G.

O is a rim upon the upper surface of the base-plate B. Its outer diameter is the same as the inner diameter of the case D. It serves to hold the case also to allow the doors to shut against it; also, to hold the outer ends of the springs G.

P is a pulley at the lower end of the spindle J. Around it a belt is placed to drive the cylinder, or in place of it a pinion may be put, if desired.

Q is a set-screw that passes through the inner end of the springs into the sections F. By these the force of the springs is increased or diminished.

R is one of the set screws that are put through the sections F at the upper end and outer corner. They rest against the rim N, and by them the sections F are adjusted to suit the various sizes and condition of the corn to be shelled.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The cylinder H, when made as specified and used for the purpose set forth.

2. The concave, when composed of the sections F, substantially as specified.

3. The guides M and agitators I, when constructed, arranged, and used as specified.

4. Incasing the concave, substantially as specified, and for the purpose set forth.

5. The plates B and C′ and hopper L, when constructed as specified, and used in combination with the other parts of the machine, as set forth.

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Witnesses:

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