

A. WEMPLE.
Cockle-Separator.

No. 213,720.

Patented Mar. 25, 1879.

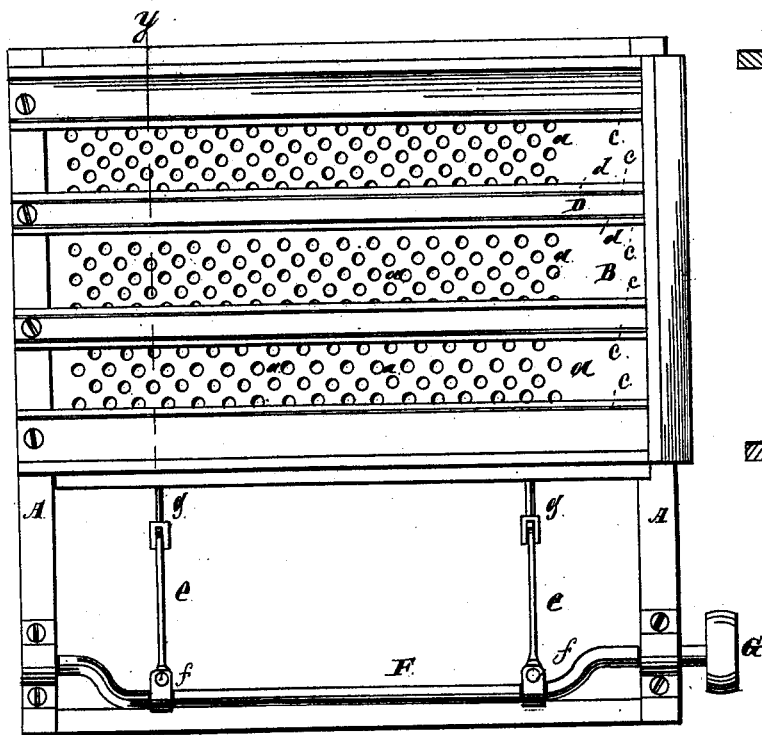


Fig. 1.

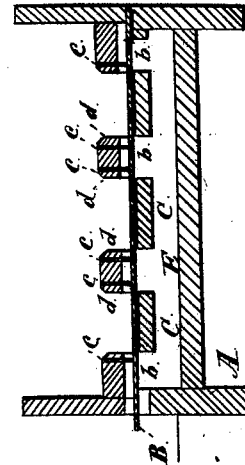


Fig. 3.

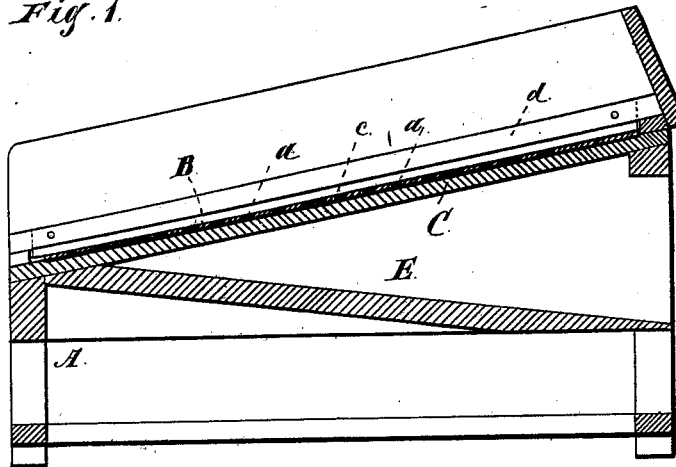


Fig. 2.

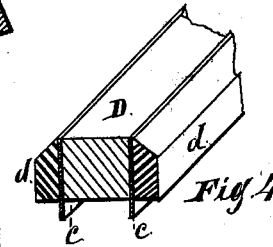


Fig. 4.

Witnesses:

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ANDREW WEMPLE, OF CHICAGO, ILLINOIS, ASSIGNOR TO GEORGE B. DOUGLASS, OF SAME PLACE.

IMPROVEMENT IN COCKLE-SEPARATORS.

Specification forming part of Letters Patent No. **213,720**, dated March 25, 1879; application filed February 3, 1879.

To all whom it may concern:

Be it known that I, ANDREW WEMPLE, of Chicago, Cook county, State of Illinois, have invented a new and useful Improvement in Cockle-Separators, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view; Fig. 2, a vertical longitudinal section; Fig. 3, a cross-section of the parts shown, taken at *y* of Fig. 1; Fig. 4, an enlarged detail.

The object of my invention is to separate cockle from wheat, which I accomplish by means of an inclined perforated metal plate arranged to vibrate over a slotted bed, and beneath bars located just above the plate and over the slots in the bed, the plate being of such thickness that cockle-seed, in passing over the same, will be held in the perforations until they pass over the slots or openings in the bed, and will then fall through such openings, while the larger grains of wheat will pass down over the plate, as fully hereinafter described.

In the drawings, A is a suitable frame. B is a plate, preferably made of metal, provided with a number of perforations, *a*. This plate is to be of such thickness that the cockle-seed will be held in the perforations *a* when they are over a bed just beneath the plate B, and the perforations *a* are large enough to permit the cockle-seed to pass through them. This plate B is inclined, as shown in Fig. 2.

C are slats or bars, which form a bed on which the plate B rests, and over which it moves when vibrated. Between these bars C are slots or open spaces *b*, and upon the outside of each of the outer bars, C, are similar open spaces *b*.

D are longitudinal bars, secured at each end to the frame A. They are located over the openings *b*, and a little above the plate B. On each side of each bar D, and suitably secured thereto, is a strip of rubber or other suitable material, *e*. As shown, the rubber is secured to the bars or strips D by means of strips *d*.

E is an inclined board or partition, onto which the cockle-seed falls, and from which it passes at the lower end.

F is a crank-rod, supported in suitable bear-

ings in the frame, which rod may be driven or rotated by means of a belt over the pulley G, or in other suitable manner. *ee* are arms, connected at one end with F by means of straps *f*, and at the other end pivoted to arms *g*, secured to the plate B.

In use the wheat which contains cockle-seed is to be delivered upon the upper end of the plate B, which is to be vibrated somewhat rapidly, and the grain and cockle-seed will pass down over the plate B; but the cockle will fall into the perforations *a*, and will be retained and held therein until the perforations, by the vibration of the plate, are carried under the bars or strips D and over the openings *b*, when the cockle-seed will fall from the perforations through such openings *b* onto the partition E; but the grains of wheat, which are much larger than the cockle-seeds, will pass down over the plate B and be delivered at the lower end thereof, the cockle-seed having been separated therefrom.

If the ends of some of the grains of wheat drop into the perforations, such grains will be thrown out therefrom by coming in contact with the edges of the bars D, or by the vibration of the plate; and in no case can the wheat be carried under the bars D, their arrangement relatively to the other parts being such as to prevent this.

The plate B may be No. 14 or No. 16 gage, and it may be about three feet square, or may be oblong. It is essential that this plate be of such thickness that the cockle-seed will be retained in the holes while they are over the bars C. If an ordinary sieve or thin plate were used, the cockle-seed would not be separated from the wheat.

A second plate might be used in connection with other parts similar to those described.

The strips of rubber *e* are used for the purpose of preventing the grains of wheat which may temporarily lodge in the perforations from being broken by being brought in contact with the sides of D by the vibration of the plate B. The rubber, or its equivalent, may not be a necessity; but I think it advisable to use it, or something in its place, in connection with the bars D.

In place of the bars D, revolving brushes

might be used; but they would be more expensive, and probably no more efficient.

As shown and described, the plate B vibrates only one way. It might be made to vibrate longitudinally, as well as transversely.

I think that the strips D should be about four inches apart.

The upper end and the sides of the machine extend above the plate B, so that the wheat which flows or is placed thereon can only escape at the lower end of such plate.

The same principle and mechanism can be used for separating other things in many cases where one of two articles which are to be separated from each other is larger than the other.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. The perforated vibrating plate B, having such thickness as will adapt it to operate as described, in combination with a bed or base, C, having openings *b*, and the bars or strips D, substantially as and for the purposes set forth.

2. The perforated vibrating plate B, in combination with the base or bed C, having openings *b*, and the bars D, provided with strips of rubber or other similar suitable material, substantially as and for the purposes specified.

ANDREW WEMPLE.

Witnesses:

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