(No Model.) 2 Sheets—Sheet 1.

R. B. WILSON, Jr.

COCKLE SEED SEPARATOR.

No. 306,889. Patented Oct. 21, 1884.

Fig. 1.

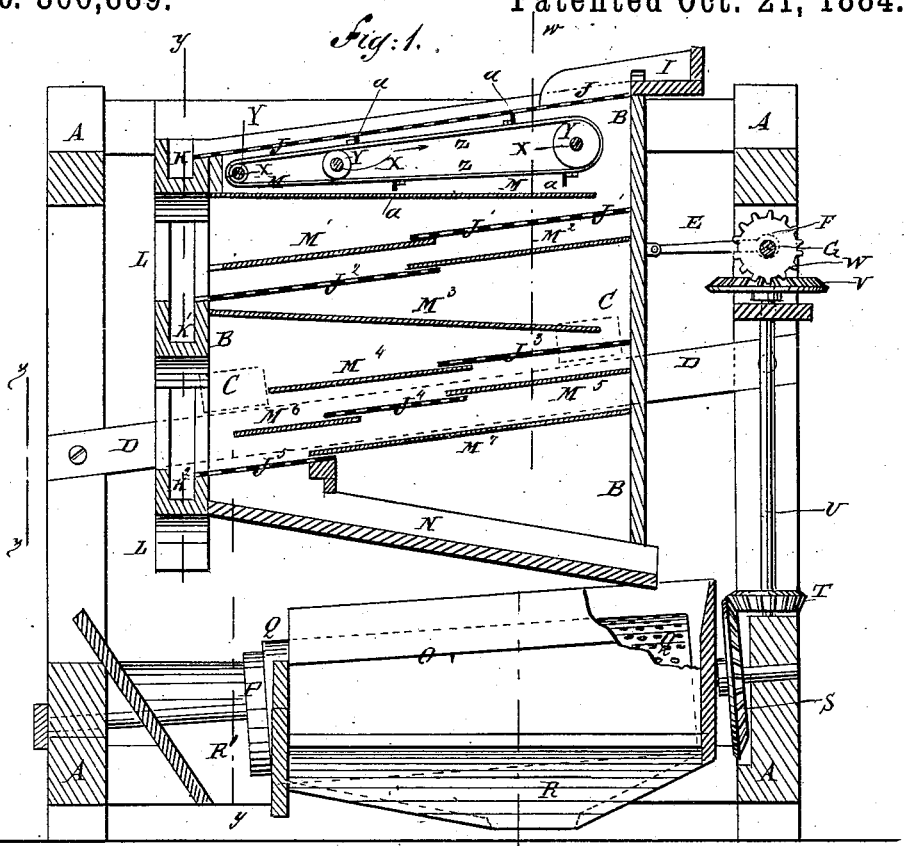
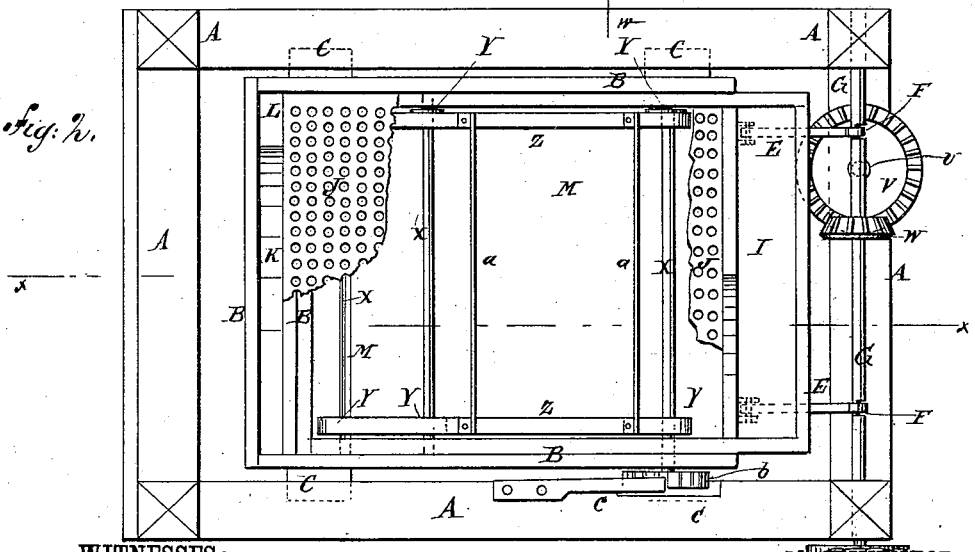


Fig. 2.



WITNESSES:

Chas. Nida.

C. Sedgwick

INVENTOR:

R. B. Wilson Jr.

BY Munn & Co.

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

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COCKLE SEED SEPARATOR.

No. 306,889. Patented Oct. 21, 1884.

Fig. 2.

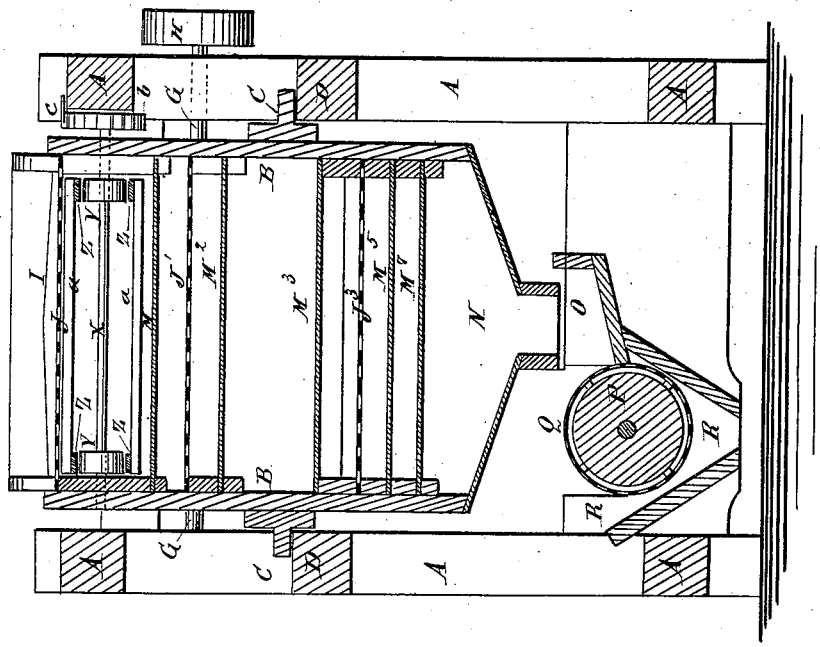
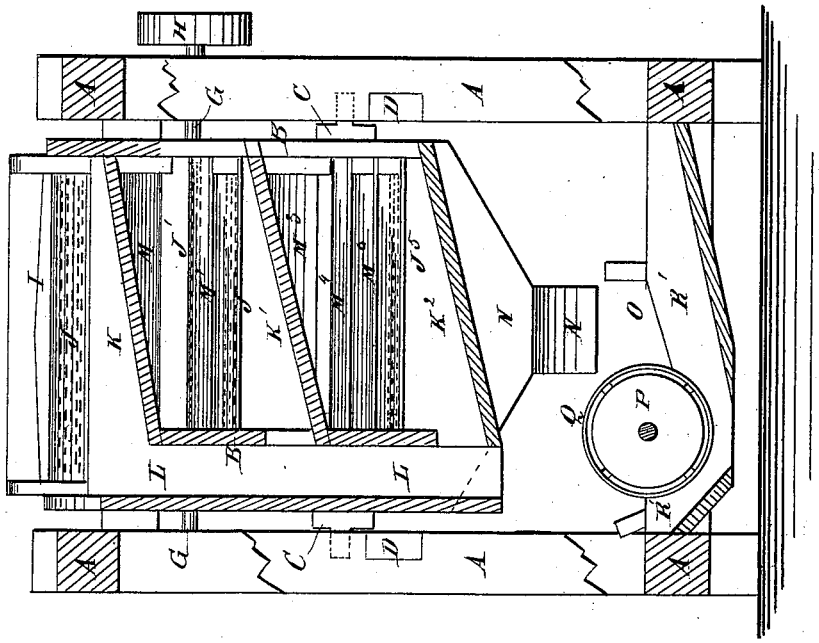


Fig. 3.



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UNITED STATES PATENT OFFICE.

RICHARD BESON WILSON, JR., OF McLEANSBOROUGH, ILLINOIS.

COCKLE-SEED SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 306,889, dated October 21, 1884.

Application filed June 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, RICHARD BESON WILSON, Jr., of McLeansborough, in the county of Hamilton and State of Illinois, have invented a new and useful Improvement in Cockle-Seed Separators, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal section of my improvement, taken through the line *x x*, Fig. 2. Fig. 2 is a plan view of the same, part of the upper sieve being broken away. Fig. 3 is a sectional end elevation of the same, taken through the line *y y*, Fig. 1, part of the frame being shown in end view as indicated by the line *z z*, Fig. 1. Fig. 4 is a sectional end elevation of the same, taken through the line *w w*, Fig. 1.

The object of this invention is to facilitate the separation of cockle seed from wheat and promote thoroughness in such separation.

The invention relates to a cockle-seed separator constructed with a series of inclined sieves, sieve-boards, and discharge-spouts and chute, arranged in a vibrating shoe, a cylinder covered with perforated sheet metal, and a driving mechanism. To the shoe are attached angular slides, which rest upon inclined bars attached to the frame, and placed parallel with the sieves, so that the said shoe will be made to move parallel with the sieve. The shoe is connected by rods with eccentrics formed upon the driving-shaft, so that the said shoe will be vibrated from the said driving-shaft. The cylinder, covered with perforated sheet metal, is placed at the side of the spout that receives the cockle-seed from the sieves, to remove the said cockle-seed from the machine. The receiving-sieve is kept clean by brushes attached to endless bands passed around wheels attached to shafts journaled to the sides of the shoe, and driven by a pawl attached to the frame, and engaging with a ratchet-wheel attached to one of the shafts, as will be hereinafter fully described.

A represents the frame of the machine; B, the shoe or shaker, to the sides of which are attached the upper arms of angle-irons C, the lower arms of which rest and slide upon bars D, attached to the frame A at the same inclination as the sieves, so that the movement of the shoe B will be parallel with the movement of the grain upon the said sieves.

To the front end of the shoe B are hinged the ends of two short rods, E, the other ends of which are pivoted to eccentrics F, formed upon the shaft G. The shaft G revolves in bearings in the front of the frame A, and to one of its ends is attached a pulley, H, to receive a driving-belt from any convenient power.

To the upper edge of the front of the shoe B is attached a transverse spout or apron, I, to receive the grain from a feed-hopper (not shown in the drawings) and deliver it to the upper sieve, J, which has a slight downward inclination toward the tail end of the machine. The sieve J is made of such a fineness of mesh that the large kernels of wheat cannot pass through the meshes, but will slide down the said sieve and fall from its lower end into the inclined transverse spout K, from which they pass into the chute L. The cockle-seed and the small kernels of wheat that pass through the sieve J fall upon the sieve-board M, attached to the shoe B, with a downward inclination toward the head of the machine. The sieve-board M does not extend quite to the head of the shoe B, so that the small kernels of wheat and the cockle-seed will fall from its lower end upon the head end of the sieve J′. A part of the small kernels of wheat slide down the sieve J′ and pass from its lower end to the sieve-board M′, down which they slide, and fall from its lower end into the inclined spout K′, and pass thence into the chute L. The part of the small kernels of wheat and the cockle-seed that pass through the sieve J′ fall upon the sieve-board M^2, down which they slide to the upper end of the sieve J^2. A part of the small kernels of wheat left with the cockle-seed slide down the sieve J^2, fall from its lower end into the inclined spout K′, and pass thence into the chute L. The part of the small kernels of wheat and the cockle-seed that pass through the sieve J^2 fall upon the sieve-board M^3, slide down the said sieve-board toward the head of the shoe B, and fall upon the head end of the sieve J^3. A part of the small kernels of wheat still left with the

cockle-seed slide down the sieve J^5 to the sieve-board M^4, from the lower edge of which they fall upon the lower part of the sieve-board M^6, fall from its lower edge to the sieve J^5, and pass thence into the spout K^2, and are discharged into the chute L. The part of the small kernels of wheat and the cockle-seed that pass through the sieve J^5 fall upon the sieve-board M^5, from the lower end of which they pass to the sieve J^4. A part of the small kernels of wheat still left with the cockle-seed slide down the sieve J^4 to the sieve-board M^6, from the lower edge of which they fall upon the sieve J^5, pass thence into the spout K^2, and are discharged into the chute L. The part of the small kernels of wheat and the cockle seed that pass through the sieve J^4 fall upon the sieve-board M^7, from the lower edge of which they pass to the sieve J^5, down which a part of the small kernels of wheat slide into the spout K^2, and pass thence to the chute L. The small kernels of wheat and the cockle-seed that pass through the sieve J^5 fall into the spout N, and fall from its lower end at the head of the shoe B into the head end of the spout O. One side of the spout O is formed by the cylinder P, which is covered with perforated sheet metal Q, the perforations being made of such a size as to receive cockle-seed, but not kernels of wheat. The perforated sheet metal Q carries the cockle-seed over the cylinder P, and allows it to fall into the hopper R, placed below the said cylinder P, and from the discharge opening of which the said cockle-seed fall into a receiver placed elow the machine. Any small kernels of wheat that may enter the spout O pass down the said spout along the side of the perforated covering Q of the cylinder P and fall into the hopper R', that receives the wheat from the chute L, and from the discharge-opening of the said hopper R' the wheat, wholly freed from cockle seed, falls into some suitable receiver placed beneath the machine. The journals of the cylinder P revolve in bearings attached to the frame A, and to the journal of the head end of the said cylinder is attached a beveled gear-wheel, S, the teeth of which mesh into the teeth of the beveled gear-wheel T, attached to the lower part of the vertical shaft U. The shaft U revolves in bearings in the frame A, and to its upper end is attached a beveled gear-wheel, V, the teeth of which mesh into the teeth of the beveled gear-wheel W, attached to the driving-shaft G.

To the sides of the shoe B, a little below the sieve J, are journaled two or more shafts, X, to the end parts of each of which are attached wheels Y.

Around the wheels Y pass two endless belts, Z, to which are attached brushes *a*, of rubber or other suitable material. The brushes *a* move along the lower side of the sieve J, and thus keep the said sieve clear.

To a journal of one of the shafts X is attached a ratchet-wheel, *b*, with the teeth of which engages a spring-pawl, *c*, attached to the frame A, so that the said ratchet-wheel will be turned the space of one tooth at each rearward movement of the shoe B, causing the brushes *a* to move slowly along the under side of the sieve J.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a cockle-seed separator, the combination, with the shoe B, of the sieves and sieve-boards J J' J^2 J^3 J^4 J^5 and M M' M^2 M^3 M^4 M^5 M^6 M^7, the discharge-spouts K K' K^2 N, and the chute L, the sieves J', J^2, J^3, and J^4 alternating end for end with the boards M' M^2 M^4 M^5, and the board M^3 being disposed intermediately of and in a reversely-inclined position to said sieves and boards, substantially as herein shown and described, whereby the cockle-seed will be separated from the wheat, as set forth.

2. In a cockle-seed separator, the combination, with the shoe B, the receiving sieve J, and the frame A, of the shafts and wheels X Y, the endless bands Z, the brushes *a*, the ratchet-wheel *b*, and pawl *c*, substantially as herein shown and described, whereby the said receiving-sieve will be kept clean, as set forth.

RICHARD BESON WILSON, JR.

Witnesses:
T. M. ECKLEY,
R. T. MEADOR.