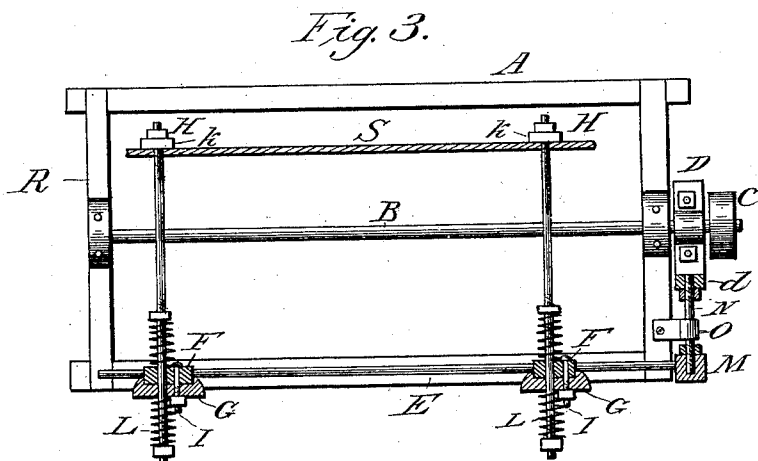
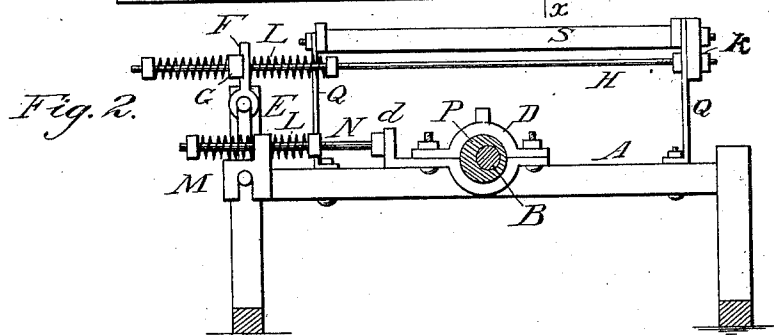
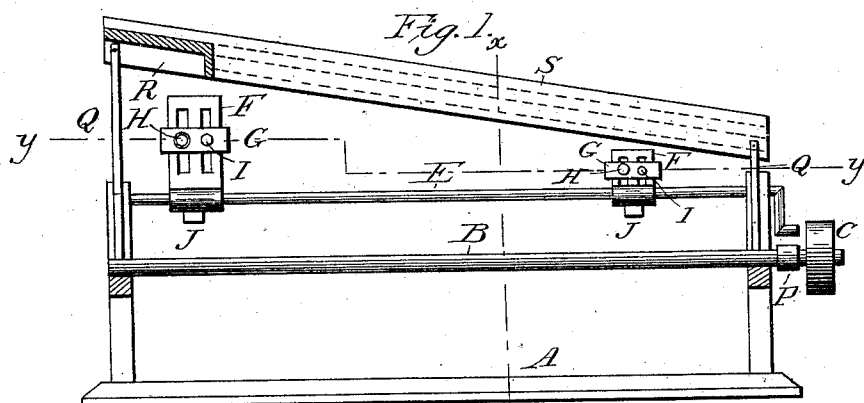


(No Model.)

H. J. LIVERGOOD.
WHEAT SEPARATING MACHINE.

- No. 468,568.

Patented Feb. 9, 1892.



Witnesses:

Witnesses:
A. M. Wilson
 John Dowling

Inventor:

Hiram Jeph Limerood

UNITED STATES PATENT OFFICE.

HIRAM JOSEPH LIVERGOOD, OF BRANTFORD, CANADA.

WHEAT-SEPARATING MACHINE.

SPECIFICATION forming part of Letters Patent No. 468,568, dated February 9, 1892.

Application filed April 16, 1891. Serial No. 389,248. (No model.)

To all whom it may concern:

Be it known that I, HIRAM JOSEPH LIVERGOOD, a citizen of the Dominion of Canada, residing at the city of Brantford, in the county of Brant and Province of Ontario, Canada, have invented a new and useful Wheat-Separating Machine, of which the following is a specification.

My invention relates to improvements in wheat-separating machines in which a lateral-reciprocating shoe operates in conjunction with sieves located in the shoe; and the objects of my improvements are, first, to provide better facilities for the operation of the shoe and for the separation of oats and coarse grain on the sieves in the shoe; second, to afford facilities for the proper adjustment of the reciprocating movement of the shoe in respect to the action of the grain on the sieves, and, third, to reduce the friction on the shaft which gives reciprocating motion to the shoe which carries the sieves. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical side view of the machine. Fig. 2 is an end view of the machine. Fig. 3 is a top view of the machine.

Similar letters refer to similar parts throughout the several views.

In the drawings, A is the frame. This consists of two sills, four posts, and two girts. B is the driving-shaft, journaled in boxes. (Plainly shown in Fig. 3.) On this shaft is located the driving-pulley C and the eccentric P, which is fastened to the shaft and revolves with it. The eccentric P has eccentric-boxes D, in which it runs, clamped together and held by bolts. The under half of eccentric-box D has a raised projection. In it a hole is made and a screw-thread is cut. A thread is cut on the pitman-rod N to fit a jam-nut threaded and put on the pitman-rod N. It is then screwed into the eccentric-box D. The jam-nut is tightened against the upright. The pitman N is now firmly fastened to the eccentric-box D. On this pitman-rod N, at the opposite end, are two other jam-nuts, the crotchet-box M, and two spiral springs L L, slipped loosely on the pitman-rod N, one spring L on the inside between the crotchet-box M and the jam-nut, the other

spring L on the outside of crotchet-box M, and inside of outer nut.

E is the rock-shaft, which is shown in Fig. 1 a side view, in Fig. 2 an end view, and Fig. 3 a top view. This shaft is journaled in the posts A. On the rock-shaft E are located two outwardly-extending arms F F, which are fastened to the rock-shaft E by set-screws J. These outwardly-extending arms F have two slits in them, one for the pitman H to slide up and down in, the other one for the bolts I I to slide up and down in. G G are two cross-pieces, which slide up and down on the outwardly-extending arms F, which have two holes in them, one for the pitmen H H to pass through, the other for the bolts I I to pass through, and by which the cross-pieces G are held in any set position to the outwardly-extending arms F. By moving the cross-pieces G upon the outwardly-extending arms F it increases the throw on the shoe S. By lowering the cross-pieces G it decreases the throw on the shoe S. By this manner of operating the shoe the shake on the shoe can be regulated to a minimum. The brackets K K are fastened to the shoe S and project down below the shoe S. In the projecting part there is a hole, which the pitmen H H pass through and are fastened to the brackets K by two jam-nuts. At the opposite end the pitmen H H pass through the slits in the outwardly-extending arms F and through the holes in the cross-pieces G G and are held there by the bolts I I. On the pitmen H H there are two jam-nuts. Between the inner nut and the outwardly-extending arms F, on the inside, there is a steel or brass spiral spring L or india-rubber slipped loosely on the pitmen H. On the outside, between the outer nut and the cross-pieces G G, there is a spiral spring L or india-rubber slipped loosely on the pitman-rods H H between the tension-nuts which move upon a thread on the pitman-rods H, for the purpose of taking up any slack of the springs L. The object of the springs L L, slipped loosely on the pitman-rods H, attached at one end to the reciprocating shoe S, is this: The pitman-rods H H being rigidly fastened to the shoe S at one end, the other end slipped loosely through the slits in the outwardly-extending arms F and cross-pieces G, the springs slipped loosely on the pitman-rods H

H, the nuts then tightened up against the springs L, the springs are sufficiently strong to operate the shoe S. The elasticity in the springs L L is free to act at every revolution of the eccentric. By the use of the springs L, slipped on the pitman-rods H and N, the sudden stop and sudden start of the shoe S is prevented. The pitmen and springs being arranged in this manner, the shoe S may be run at a higher reciprocating motion and the grain will not bounce on the sieves. A more perfect separation of the oats and coarse grain is obtained from the good wheat without waste than can be done by the rigid-pitman principle. At the upper end of the shoe S there is a table R, on which the grain falls and is spread before it enters the sieves, which forms no essential part of this invention.

O is a bracket which is fastened to the girt, a part of the frame A. By lifting the pitman N up off the rock-shaft E and turning the bracket O around under the pitman N, as shown in Fig. 3, it (the pitman) is then disconnected; and the bracket may be turned around out of the way when the pitman is connected as indicated by dotted lines, Fig. 3.

Q Q are the upright springs which hold up the shoe S, bolted to the shoe S at one end and to the girts, a part of the frame A, at the other end.

I am aware that prior to my invention wheat-separating machines have been made with springs on brackets rigidly fastened to the frame of the machine. I therefore do not claim such a combination, broadly; but

What I do claim, and desire to secure by Letters Patent, is—

1. The combination, in a wheat-separating machine, of the frame A, driving-shaft B, the eccentric P, fastened to the shaft B and surrounded by the eccentric-box D, pitman N, fastened at one end to the eccentric-box D, the crotch-box M, located on the opposite end of said pitman N, two springs L L, one on each side of said box M, two tension-nuts, one behind each spring L, the rock-shaft E, the outwardly-extending arms F F, attached to said rock-shaft E, and the pitman-rods H H, attached to the brackets K K, said brackets attached to the shoe S, all substantially as set-forth.

2. The combination of frame A, movable shaft B, pitman N, rock-shaft E, having outwardly-extending slotted arms F F, attached to said shaft, the perforated cross-pieces G G, the adjustable bolts I I, the pitman-rods H H, the springs L L and tension-nuts on the pitman-rods H, one joining one of the cross-pieces G and tension-nut, the other joining one of the arms F and tension-nut, the pitmen H, rigidly attached to the brackets K K, said brackets fastened to the supported reciprocating shoe S, the detachable pitman N, and supporting-springs Q, all substantially as described.

HIRAM JOSEPH LIVERGOOD.

Witnesses:

W. MCK. WILSON,
JOHN DOWLING.