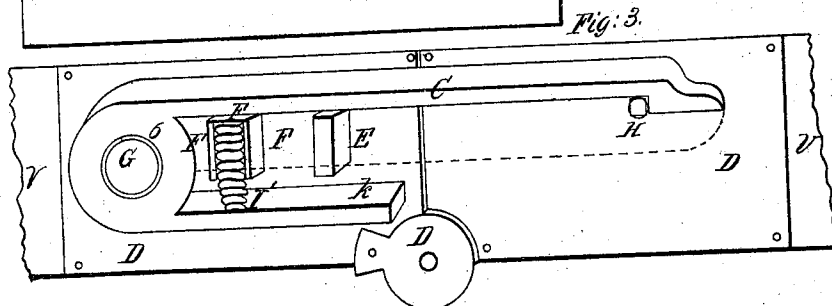
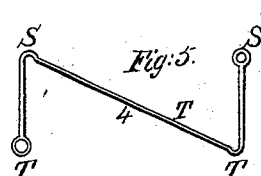
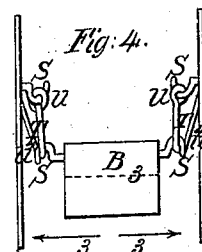
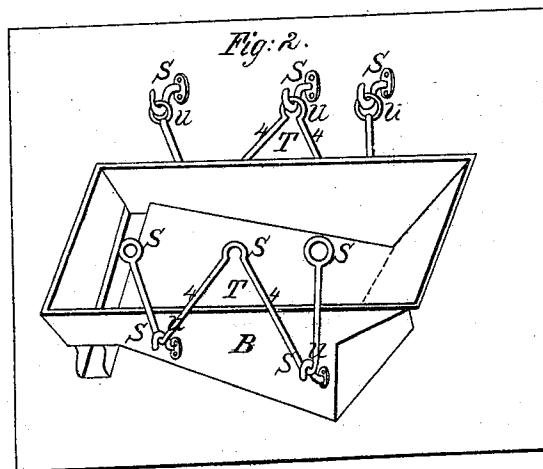
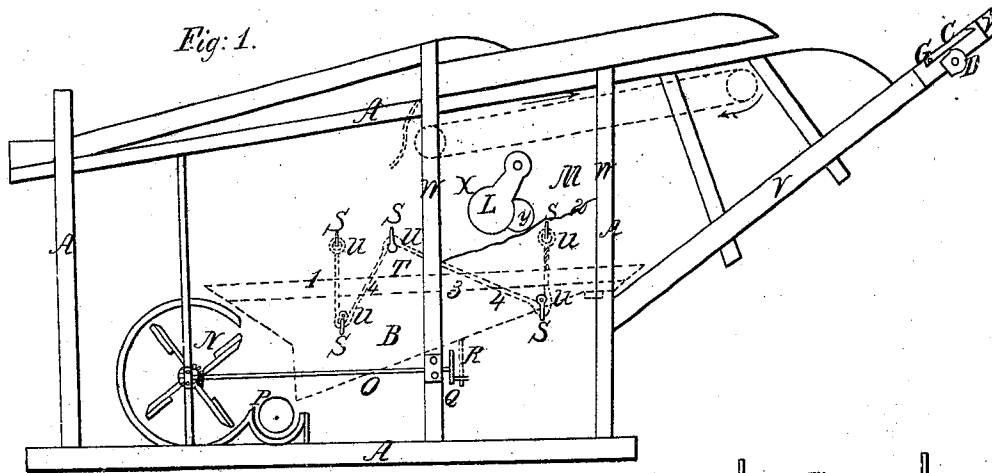


F. W. Robinson. Grain Winnower.

N^o 86,942.

Patented Feb. 16, 1869



Witnesses:
Thos. A. M'Young
Edw. C. King

Inventor;
F. W. Robinson

United States Patent Office.

FRANCIS W. ROBINSON, OF RICHMOND, INDIANA.

Letters Patent No. 86,942, dated February 16, 1869.

IMPROVEMENT IN GRAIN-SEPARATORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, FRANCIS W. ROBINSON, of the city of Richmond, county of Wayne, and State of Indiana, have invented new and useful Improvements in Grain-Separators, which consist of the manner of hanging the shoe, the mode of constructing the chaff-chamber, and of combining, with the straw-stacker, a latch and hinge of peculiar construction, providing the hinge with projections, &c., all of which I will hereafter more fully describe, that those skilled in the art may be enabled to construct the same, reference being had to the accompanying drawings, and the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a side view of my separator, with the siding boards removed, except between the uprights W W, and above the line 2, showing the siding board of the straw-stacker at v.

Figure 2 is a section of the siding boards, with a perspective view of the shoe and bails.

Figure 3 is a side view of the latch and hinge, with two of the projections shown diagonally.

Figure 4 is a view of the front end of the shoe, as hung on the bails, and showing the direction of its motion by arrows, 33.

Figure 5 is the bail, T, made with but one brace; and having but four eyes, or loops, in place of five.

I insert this figure in the drawing to show the different ways my bail may be made, retaining the same principle.

A A A A, in fig. 1, is the frame.

B, the shoe, more plainly shown at figs. 2 and 4.

C, in fig. 1, is a latch, more plainly shown at fig. 3.

D is a hinge, also more plainly shown at D D D, fig. 3.

E, in fig. 3, is a projecting piece to prevent the latch rising too high.

F F F, in fig. 3, are also projecting pieces connected at the top, and cast solid on the hinge D.

G, in fig. 1, is a pin, or projecting piece, forming the fulcrum of the latch C, more plainly shown at fig. 3, and also cast solid on the hinge D.

H, in fig. 3, projecting piece, on which the latch catches for the purpose of holding up the back end of the stacker V. This projecting piece is also cast solid on the hinge D.

I, in fig. 3, is a spring.

K is a flange, cast permanent at the bottom of the latch, and extending from the back of the latch nearly to the joint of the hinge.

L, in fig. 1, is a vibrating shutter.

M is the chaff-chamber.

N is the fan.

O is the shaft.

P is a pulley.

Q is a crank.

R is a rod for connecting the crank Q with the shoe.

S S S are loops, or eyes, in the bail T, shown also at figs. 2, 4, and 5.

T, the bail, or hanger, seen also at figs. 2 and 4.

U U U, hooks on the side of the chaff-chamber and on the side of the shoe, upon which the loops or eyes of the bail T are hooked. Also seen at fig. 2, and partly shown at fig. 4.

V V, the straw-stacker, parts of which are shown at V V in fig. 3.

W W are upright pieces.

X is the siding board of the chaff-chamber, shown above, and cut off at the line 2.

Y is an opening in the side of the chaff-chamber.

1 is the top line of the shoe.

2 is the lower edge of the side board of the chaff-chamber, cut off at the line 2.

3, dotted line showing the position of the top riddle in the shoe, also seen at fig. 4.

4, in figs. 1, 2, 4, and 5, are braces, preventing any longitudinal motion.

6, in fig. 3, is a hole in the back end of the latch C, to receive the fulcrum G, and on which the latch vibrates.

Construction.

I construct my separator the same as is described in my patent, No. 30,932, except the improvements hereafter claimed on the same.

I construct my improved chaff-chamber, M, by combining the uprights W W with the siding board X, which should be one inch thick, and nailed on to the uprights, on the inside.

In the said board X is cut an opening, Y, over which I hang a vibrating shutter, L, by means of a single screw. Said shutter is made of cast-iron, and serves the purpose of a name-plate, as well as a shutter for covering the opening Y.

The bottom of the chaff-chamber is formed by the riddle in the shoe, as represented by the dotted line 3.

The shoe is hung, by the bails T, upon the hooks U U.

The hooks U U U are made of cast-iron, and screwed on to the inside of the machine and on to the outside of the shoe.

The bails T are made of seven-sixteenths round iron, and are made by turning an eye at each end of a piece of iron of the proper length to form the bail, and should be bent the shape shown at figs. 2 or 5.

The object of bending the bails in the form shown is to obtain braces from one end to the other, to prevent any longitudinal motion, and at the same time afford to the public a cheaper article, and more effective.

I do not confine myself to the form of bail shown in figs. 1 and 2, as that exhibited at fig. 5 will answer, where a lighter bail is desired.

I make my latch of cast-iron, shaped as shown at fig. 3, with a flange on its lower edge extending from near the fulcrum to near the joint of the hinge.

I cast my hinge with the projections F F F, E, H, and G, solid to the plate.

Operation.

When the machine is in operation, the chaff is blown through the chamber M. The vibrating shutter may be turned aside, and the hand inserted in the opening Y for the purpose of clearing the riddles of obstructions.

As motion is given to the shoe by means of the crank Q and rod R, it will be seen that it has a lateral vibratory motion. By raising the latch C off the projection H, the flange K will press upward against the spring I, said spring I being supported by the projections F F F, on the hinge D, the upward motion of the latch C being checked by the flange K coming in contact with the projecting piece E on the hinge D.

By releasing the latch, the spring I will press on the flange K, and press down the latch, causing it to catch on the projection H.

I do not claim a hinged straw-stacker, as I am aware

it has long been in use; neither do I claim a pendulum shutter, of itself, as I am aware it is an old device; but

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

1. The construction of the bails T.
2. Constructing the latch C, when provided with the flange K and spring I.
3. Constructing the hinge D, provided with projecting pieces F F F and E and pin G.
4. Combining the latch C and hinge D, when they are both constructed as above described, and not otherwise, with the stacker V V.

F. W. ROBINSON.

Witnesses:

JONAS W. YEO,
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