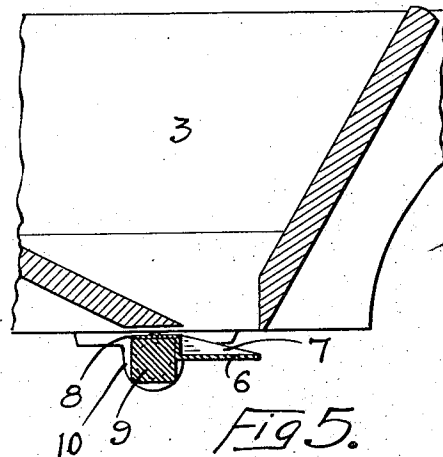
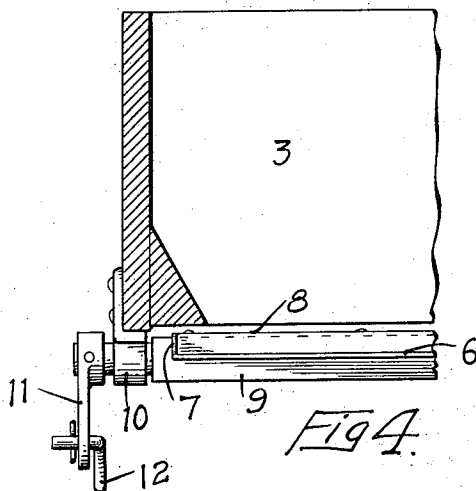
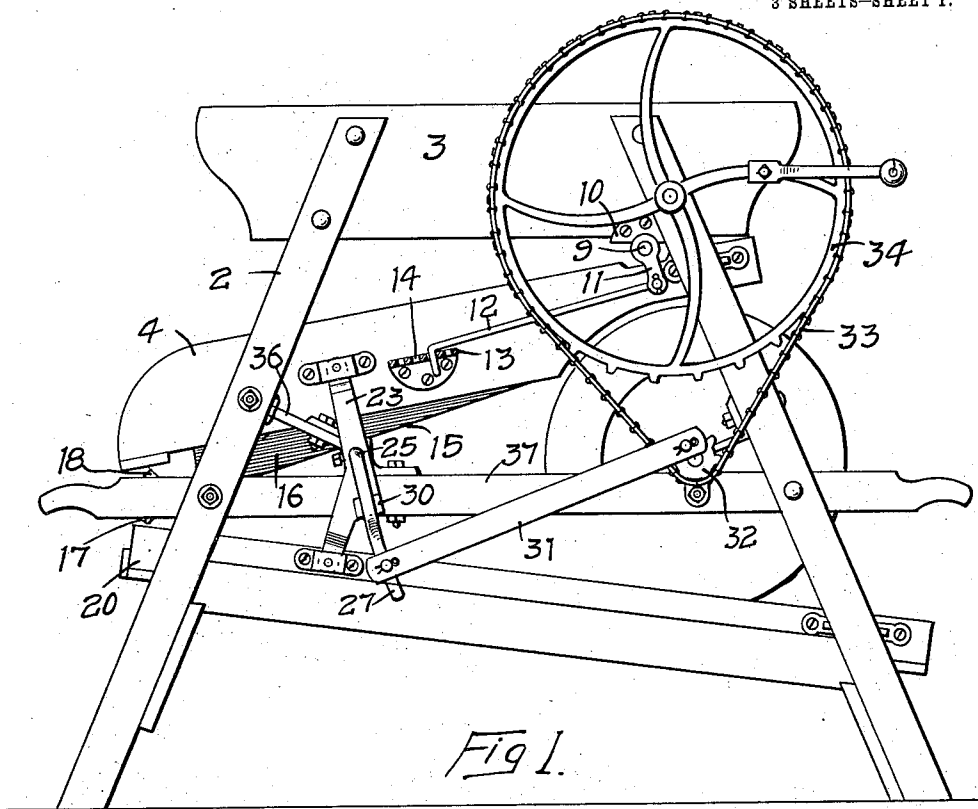


FANNING MILL.

1,031,504.

3 SHEETS—SHEET 1.



WITNESSES
M. Walsten
J. H. Byrnes.

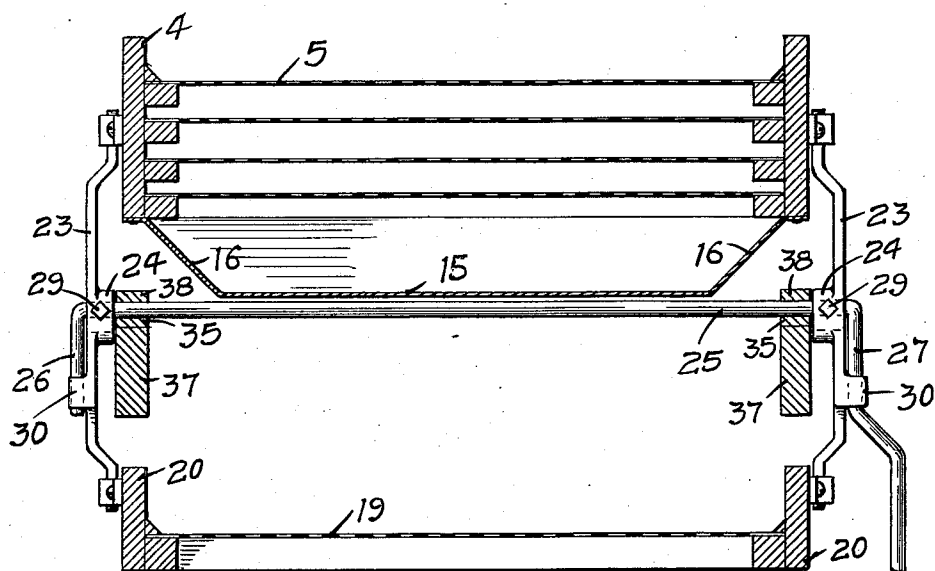
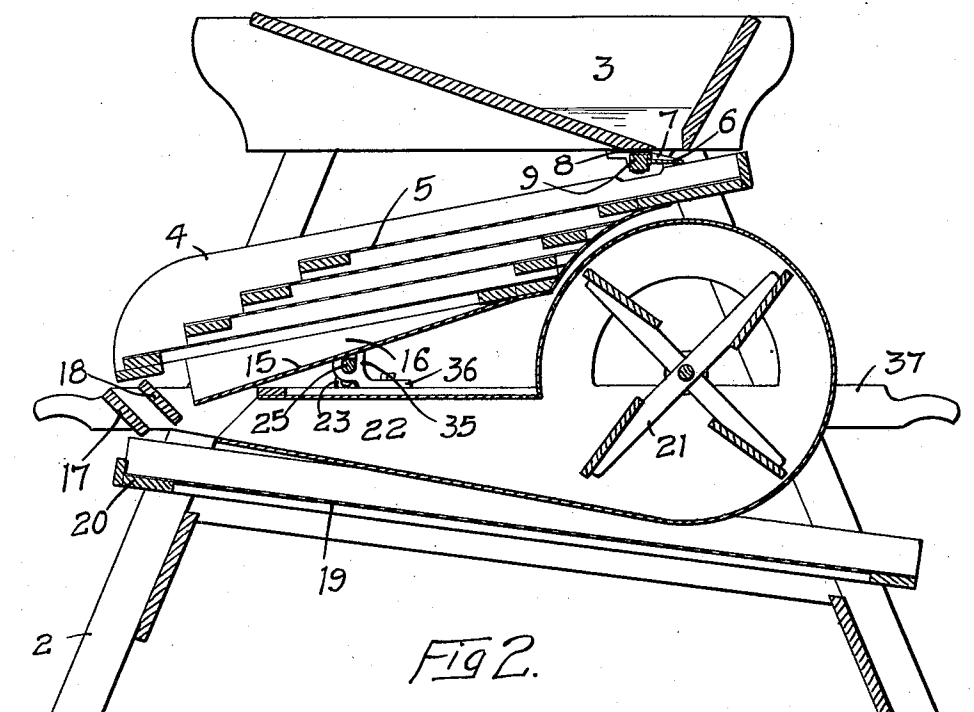
INVENTOR
LARS M. ANDERSON
BY *Paul & Paul*
ATTORNEYS

L. M. ANDERSON.
FANNING MILL.
APPLICATION FILED JUNE 7, 1910.

1,031,504.

Patented July 2, 1912.

3 SHEETS-SHEET 2.



WITNESSES
M. Walster
J. W. Byrnes

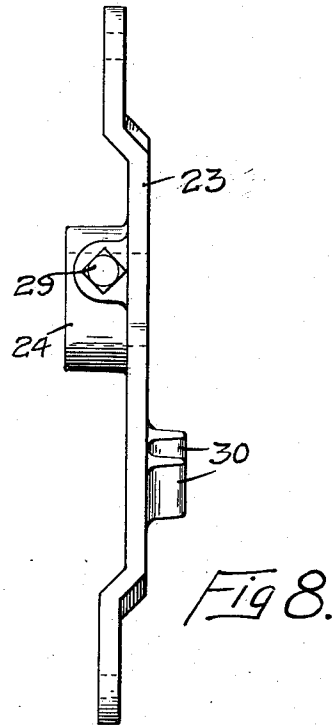
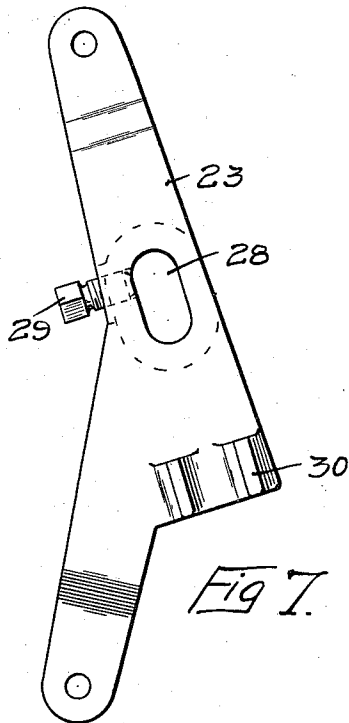
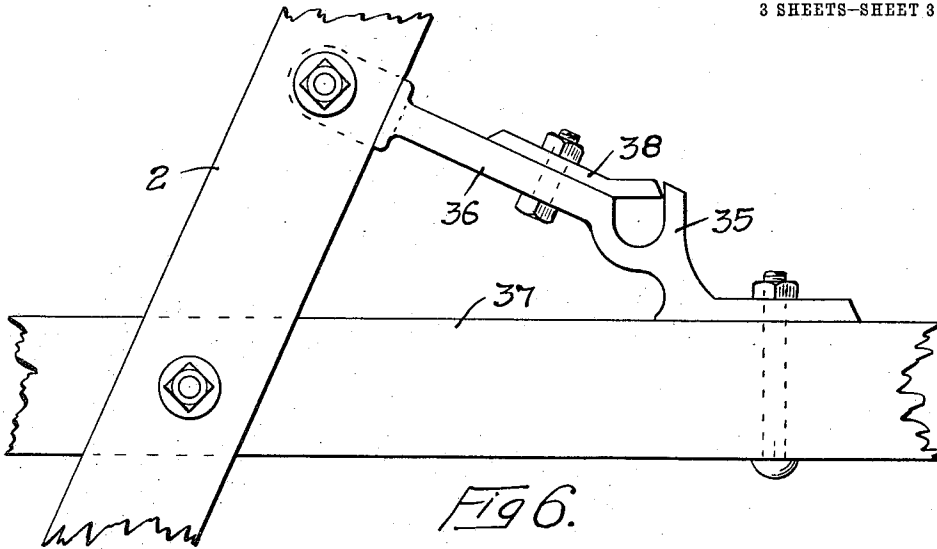
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3 SHEETS-SHEET 3.



WITNESSES
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J. A. Byrnes

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UNITED STATES PATENT OFFICE.

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OF MINNEAPOLIS, MINNESOTA.

FANNING-MILL.

1,031,504.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed June 7, 1910. Serial No. 565,555.

To all whom it may concern:

Be it known that I, LARS M. ANDERSON, of Crookston, Polk county, Minnesota, have invented certain new and useful Improve-
5 ments in Fanning-Mills, of which the following is a specification.

My invention relates to mills for separating oats from wheat and cleaning all kinds of grain, and the object of the invention is
10 to provide a mill of improved construction which will be economical of manufacture and easily operated.

A further object is to provide a mill which will be very efficient for grain cleaning
15 purposes.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in a feed
20 pan arranged to deliver the grain in the opposite direction from which it travels on the sieve shoe.

Further the invention consists in a bottom plate for the upper shoe having a greater
25 incline than the sieves.

Further the invention consists in connecting the upper and lower shoes to operate simultaneously.

Further the invention consists in various
30 constructions and combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification, Figure 1 is a side
35 elevation of a fanning mill embodying my invention, Fig. 2 is a vertical sectional view of the same, Fig. 3 is a transverse sectional view showing the plate in the bottom of the upper shoe and the hangers between the
40 upper and lower shoes, Figs. 4 and 5 are details of the feed pan, Fig. 6 is a detail of the combined brace and journal, Figs. 7 and 8 are detail views of the hanger casting connecting the upper and lower shoes.

In the drawing, 2 represents the frame
45 of the mill supporting the hopper 3, of ordinary construction.

4 is the upper shoe, containing a gang of
50 sieves 5, the upper one of which extends under the discharge opening of the feed hopper and preferably to a point beyond the same.

6 is a feed pan of sheet metal or other
55 suitable material, having a flat bottom and end walls 7 and a flanged rear edge 8 that

is secured to a shaft 9 journaled in brackets
10 secured to the lower walls of the hopper 3. This feed pan extends in under the discharge opening of the hopper and receives and discharges the material therefrom in
60 the opposite direction from which the grain travels on the shoe. The effect of this method of feeding is to cause the grain to move more deliberately over the upper portion of the upper sieve and utilize a greater
65 portion of this sieve for cleaning purposes. Generally the momentum of the falling grain is so great that it passes rapidly down over the upper part of the sieve without the desired separation taking place. The entire
70 surface of the sieve is not, therefore, utilized, and the efficiency of the machine is considerably impaired. I have found by discharging the grain from the hopper upon the extreme upper portion of the upper
75 sieve in a direction opposite to the movement of the grain on the sieve, that the initial downward travel of the grain will be slow and the desired separation will take place.

11 is a rocker arm mounted on the shaft 9 and connected by a rod 12 with a plate 13 secured to the upper shoe 4 and having a series of holes 14 to permit the adjustment of the rod therein, the vibration of the shoe
85 causing the reciprocation of the rod and the oscillation of the feed pan to distribute the grain in a thin sheet upon the upper portion of the upper sieve. A pan 15, of sheet metal or other suitable material, is provided in the
90 bottom of the upper shoe and has flaring side walls 16 which direct the grain falling thereon to the middle portion of the pan and the bottom of said pan is inclined to a
95 greater degree than the sieves, so that the flow of grain over and out of the pan will be accelerated. At the lower end of this pan I prefer to provide deflecting boards 17 and 18, by means of which the grain from
100 the pan 15 and the tailings from the sieves are directed upon the sieve 19 of the lower shoe 20. The fan 21 has a trunk 22, the mouth of which is near the discharge end of the pan 15, to separate the dust and chaff from the material before it reaches the
105 lower sieve.

I prefer to vibrate the two sieve shoes simultaneously and to accomplish this I provide a casting 23 pivotally connected at
110 its upper and lower ends to the upper and

lower shoes respectively, as shown in Fig. 1. The middle portion of the castings, one of which is provided on each side of the machine, has a hub 24 through which a shaft 25 extends transversely of the machine, said shaft having downwardly turned ends 26 and 27, slots 28 being provided in the hub 24 to allow the insertion of the shaft therein, and the castings are secured to the shaft by set screws 29. The lower portions of the castings have lugs 30 thereon between which the ends 26 and 27 depend, so that when the shaft 25 is rocked, a vibrating movement will be imparted to the shoes, one in one direction and the other in the other direction. The end 27 on the shaft 25 is connected by a pitman 31 with a crank sprocket 32 on the fan shaft that is driven by a belt 33 on a sprocket wheel 34. The shaft 25 has bearings on each side of the machine in a U-shaped portion 35 of a casting 36, which is bolted at one end to a bar 37 and at its other end to a leg of the machine frame bridging the angle between the bar and leg and bracing the frame at this point. A plate 38 is mounted on the casting 36 and closes normally the open top of the U-shaped portion of the casting, preventing the shaft 25 from becoming separated from its bearing and allowing the convenient removal of the shaft whenever it is desired to separate the parts of the machine for any purpose. This manner of mounting the castings 23 on the machine frame and oscillating the sieves thereby forms an extremely simple and efficient means for effecting the desired vibration of the sieves and at the same time adds to the durability and strength of the machine frame.

I claim as my invention:—

1. In a grain cleaning machine, upper and lower sieves and supporting legs therefor, cross bars between said legs, braces bridging the angles between said legs and

bars, said braces having bearings therein, and a rock shaft journaled in said bearings and operatively connected with said shoes.

2. In a grain cleaning machine, upper and lower sieve shoes and supporting legs therefor, cross bars connecting said legs, braces interposed between said bars and said legs, said braces having U-shaped bearings formed therein, a movable plate overhanging said bearings, and a rock shaft journaled in said bearings and operatively connected with said shoes.

3. A grain cleaning machine comprising a frame, upper and lower sieve shoes supported therein, a rock shaft journaled in bearings between said shoes, castings having hubs near their middle portions secured on said shaft on each side of the machine, the ends of said castings being pivotally connected respectively with said shoes, and means operatively connecting said rock shaft with the lower portion of said castings, whereby the rocking of said shaft will impart a vibrating movement to said shoes.

4. In a grain cleaning machine, a suitable frame, upper and lower sieve shoes mounted therein, a rock shaft journaled in said frame and having downwardly turned ends, castings secured near their middle portions on said rock shaft and having pivotal connections at their ends respectively with said upper and lower sieve shoes, the lower portions of said castings having lugs spaced apart thereon, the space between said lugs being adapted to receive the depending ends of said shaft, and means for rocking said shaft.

In witness whereof, I hereunto set my hand this 27th day of May 1910.

LARS M. ANDERSON.

Witnesses:

GENEVIEVE E. SORENSEN,
J. U. BYRNES.