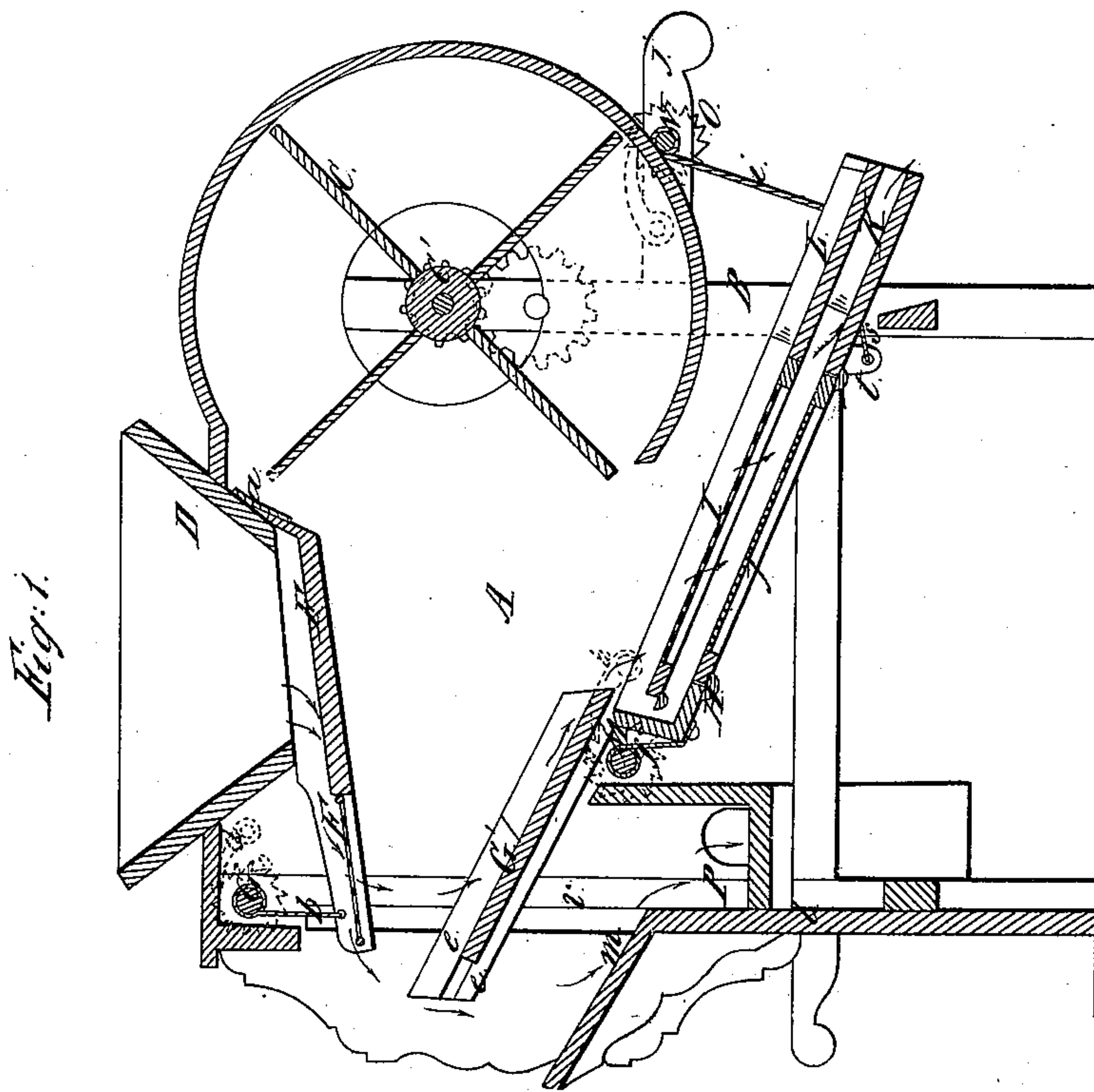
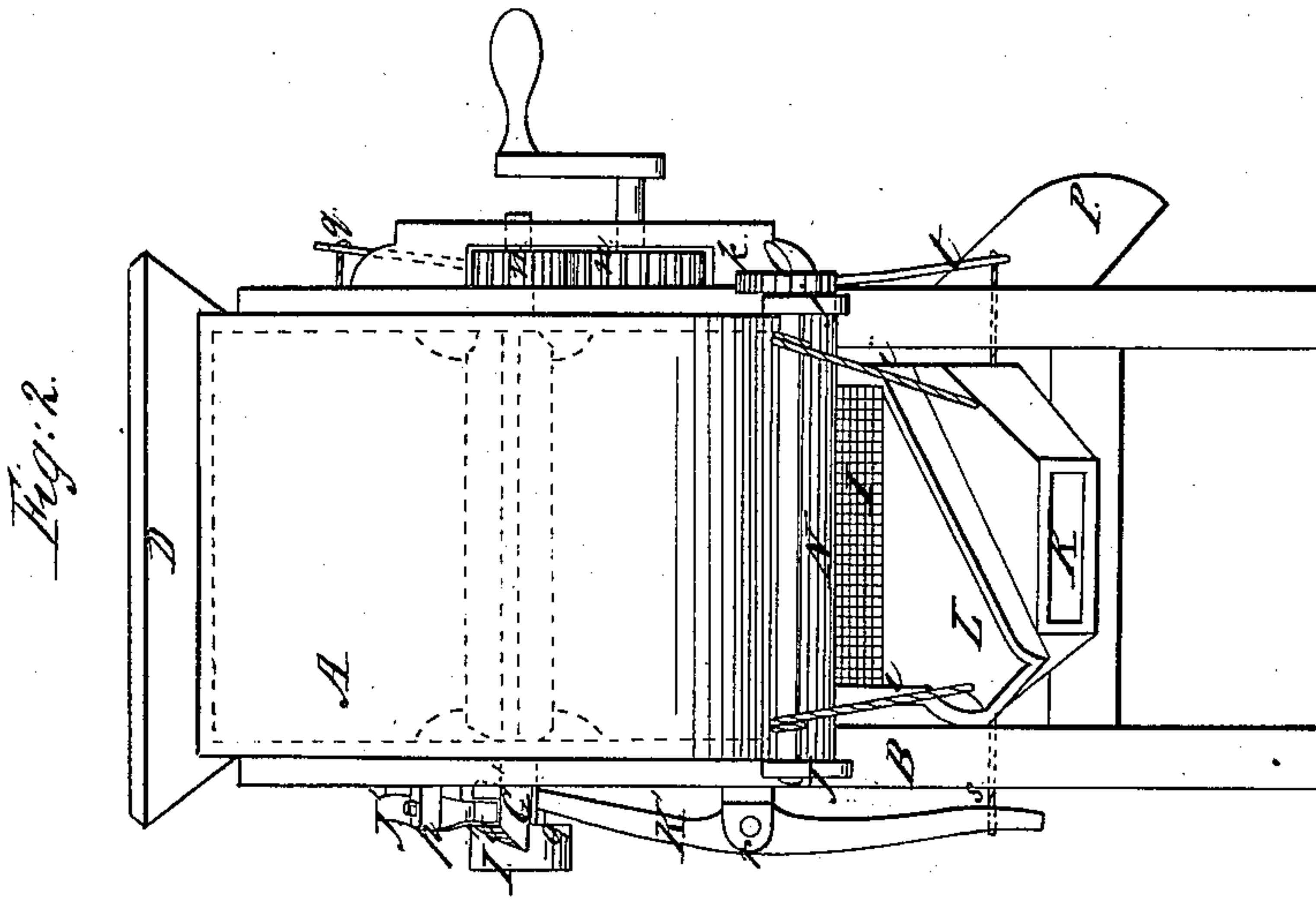


F. SCHUNKO.  
GRAIN SEPARATOR.

No. 19,877.

Patented Apr. 6, 1858.





# UNITED STATES PATENT OFFICE.

F. SCHUNKO, OF YORK, PENNSYLVANIA.

## GRAIN-SEPARATOR.

Specification of Letters Patent No. 19,877, dated April 6, 1858.

*To all whom it may concern:*

Be it known that I, FRANCIS SCHUNKO, of York, in the county of York and State of Pennsylvania, have invented a new and Improved Grain-Separator; and I do hereby  
5 declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

10 Figure 1, is a side sectional elevation of my improvement. Fig. 2, is an end view of ditto.

Similar letters of reference indicate corresponding parts in the two figures.

15 This invention consists in the employment or use of a series of sieves or screens and a blast fan, arranged relatively with each other and operated as hereinafter shown, whereby the grain is not only sieved or  
20 screened in a perfect manner but, in its passage from one sieve or screen to the other, presented in the most favorable manner to the action of the blast from the fan so that all light foreign substances will be blown  
25 from it. In order to render the operation of the screens and fan as perfect as possible provision is made for the adjustment of the former whereby the passage of the grain through the machine may be accelerated or  
30 retarded as occasion may require.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

35 A, represents a box or case supported by a suitable framing B. Within the box or case A, and at its front part a blast fan C, is placed as shown clearly in Fig. 1.

D, is a hopper placed on the upper part of the box or case and E, is a coarse inclined sieve or screen which is placed within  
40 the box or case A, just below the hopper D. The back end of the frame F, in which the screen E, is placed is attached to the hopper D at its lower end by a strap (a) and the front end of said frame is attached by cords  
45 (b), to a roller G, which passes transversely through the upper part of the box or case A, and has a ratchet (c) at one end in which a pawl (d) catches, see dotted lines Fig. 1.

50 G', is an inclined board which is fitted in the box or case A, between cleats (e) so that it may be adjusted farther in or out as may be desired.

55 H, is an inclined frame fitted in the lower part of the box or case and having two screens I, J, placed within it, one over the

other the lower screen J, being the finest and communicates with a discharge passage K, in the frame H, while the upper screen communicates with a passage L, the discharge end of which is at one side of the  
60 frame, see Fig. 2. The inner end of the frame H, is suspended by cords (f) to a roller M, which passes through the box or case and has a ratchet (g) at one end into  
65 which a pawl (h) catches. The outer end of the frame H, is suspended by cords (i) to a roller N, which is fitted in arms (j) attached to and projecting from the case or box A. This roller has a ratchet O, at one  
70 end in which a pawl (k) catches.

The lower and inner end of the board G', projects over the inner end of the frame H, and its upper and outer end projects over  
75 a spout or passage P, in the box or case. The end piece (l) of the box or case A, forms the outer side of this spout or passage P, and the end piece (l) is provided at its upper end with an inclined board  
80 (m) which may be raised or lowered as also the end piece (l) the edges of which are fitted in the grooves (l') in the framing B.

The fan C, may be driven by multiplying gear (n) at one end, connected with one end  
85 of its shaft C', and the opposite end of the shaft has a cam I' placed on it, said cam being formed of a circular disk with ratchet shaped projections (o) at its inner side, see Fig. 2.

J', is a lever which is placed at one side  
90 of the case or box and has its fulcrum at (p). One end of this lever is connected by a cord to the outer end of the frame F, at one side, the opposite side being connected by a cord to a spring (q). The opposite  
95 end of the lever J', bears against the face of the cam I', see Fig. 2.

K', is a lever which is placed at the same side of the case or box as lever J'. The lever K', has its fulcrum at (r) and its  
100 upper end bears against the inner side of the lever J, near the cam I'. The lower end of the lever K', is connected by a cord (s) to the outer end of the frame H, at one side, the opposite side being connected by a cord  
105 with a spring (t).

The operation is as follows: The grain to be cleaned is placed in the hopper D, and motion being given the shaft C', the fan C, is rotated and a shake motion given each  
110 frame F, H, in which the screens are placed, through the medium of the cam I', levers



J', K', and the springs (q), (t). The grain passes down through the screen E while all chaff and coarse foreign substances are blown from the box or case by the blast from the fan C, while coarse impurities too heavy to be acted upon by the blast will fall from the depressed end of screen E, into the passage P, see black arrows. The inclined board G', conducts the grain that falls upon it from the screen E, on the screen I, the boards G' and (m) being adjusted as occasion may require. The grain passes through the screen I, and falls on screen J, and impurities too coarse or large to pass through screen I, are conducted out of the machine by the passage L. Fine impurities pass through the screen J, and the sound grain passes out through the passage K. The grain it will be seen is subjected to the blast from fan C, during nearly the whole of its passage through the machine and by turning or adjusting the rollers G, M, N, a greater or less inclination may be given the screens so that the passage of the grain through the machine may be accelerated or retarded as circumstances may require. By operating the screens, that is, giving them the shake motion by means of the cam, levers, and springs as shown, the screens

are suddenly stopped at the completion of each stroke thereby giving a jarring shake motion well calculated to render them efficient in their operation. 30

I do not claim separately any of the parts herein shown and described for said parts or their equivalents have been previously used, but I am not aware that the parts have been arranged as herein shown so that the screens could be inclined more or less as desired, the screens subjected to a jarring shake motion and the grain subjected to the action of the blast during the principal part of the time occupied in its passage through the machine. 35 40

I claim therefore as new and desire to secure by Letters Patent, 45

The screens E, I, J, placed in adjustable frames F, H, operated by the cam I', levers J', K', and springs (q), (t), and arranged relatively with each other and the fan C, spout or passage P, and board G', substantially as shown and described for the purpose set forth. 50

FRANC. SCHUNKO.

Witnesses:

JACOB L. KUEHN,  
GEORGE M. SHELTER.