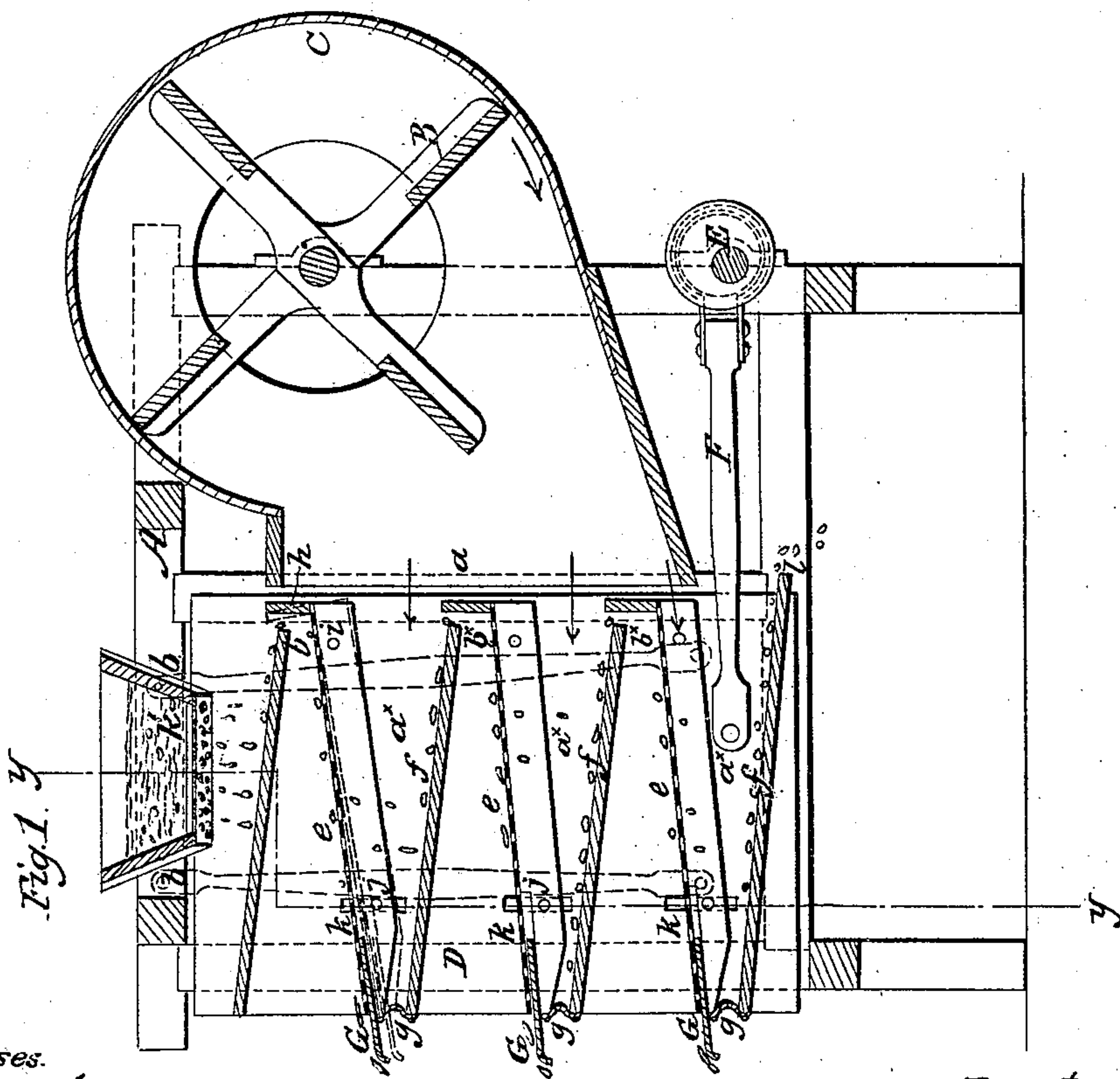
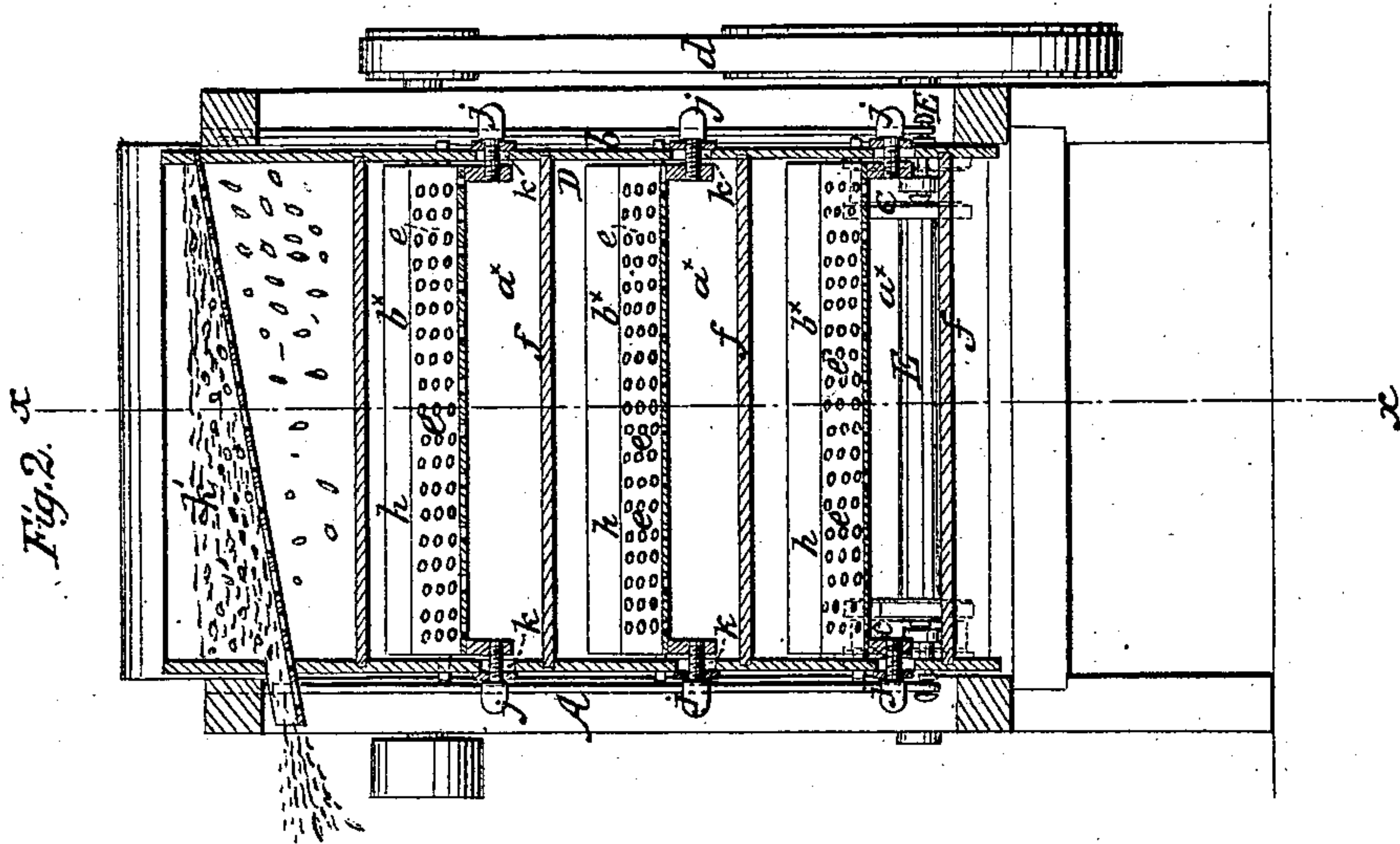


A. H. DIXSON.

Grain Winnower.

No. 33,636.

Patented Nov. 5, 1861.



Witnesses.
J. W. Coombs.
M. M. Livingston.

Inventor.
Alex. H. Dixon.
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UNITED STATES PATENT OFFICE.

ALEXANDER H. DIXSON, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. 33,636, dated November 5, 1861.

To all whom it may concern:

Be it known that I, ALEXANDER H. DIXSON, of the city and county of San Francisco, in the State of California, have invented a new and Improved Grain Cleaning and Separating Machine; and I do hereby 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—

Figure 1 is a vertical longitudinal section of my invention, taken in the line $x x$, Fig. 2; and Fig. 2, a transverse vertical section of the same, taken in the line $y y$, Fig. 1.

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

This invention relates to a new and improved machine designed for separating wheat from oats and barley, as well as from straw and other foreign substances.

The object of the invention is to obtain a machine which may be adjusted to suit the condition or quality of the grain, and to have the blast act in a more efficient manner than hitherto on the former.

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

A represents a frame, which may be constructed in any suitable way, to support the working parts of the machine, and B is a rotary fan which is placed at the upper part of the framing at one end. The fan B may be constructed in the usual way, and it is inclosed by a fan-box C, the orifice a of which is in line with a rectangular box D, which is suspended in the frame A by rods b , two rods being at each side of the box, said rods being attached to the frame and box by pivots, so as to admit of the box having a swinging or oscillating movement.

E represents the driving-shaft of the machine, said shaft being at the lower part of the frame A, and having two eccentrics $c c$, from which eccentrics the box D is operated by connecting-rods F. The fan B is driven from the shaft E by a belt d .

Within the box D there are placed a series of screens e , which are inclined and are parallel one with another, as shown clearly in Fig. 1. Directly underneath each screen e there is placed an inclined board or chute f .

These boards or chutes f are inclined in a reverse direction to the screens e , and each chute conducts the substance which passes through the screens immediately above it to the head of the screen immediately below it. The lower and outer end of each screen e is connected to the outer end of the chute f immediately below it by means of a leather strip g , or any yielding fabric. These strips g close the spaces a^x between the screens e and the chutes f at their outer ends, the spaces a^x , at the inner ends of the screens and chutes, being open to receive the blast from the fan-box C. The spaces b^x between the inner ends of the chutes f and screens e below the chutes are protected from the blast by means of upright bars or shields h . (Shown clearly in Fig. 1.)

Each screen e is secured near its back end within the box D by means of pivots i , and the outer ends of the screens are secured in proper position by means of set-screws j , which pass through slots k in the sides of the box D. By this arrangement it will be seen that the screens may be adjusted in a greater or less inclined position, as desired, the strips g admitting of such result and at the same time keeping the outer ends of the spaces a^x closed at all points of adjustment of the screens.

Just below each screen e at its outer part there is placed a slide G. These slides may be of sheet metal, and by adjusting them in and out the screens e are virtually lengthened or shortened.

On the top of the box D there is placed a coarse inclined screen k' . This screen admits all the grain and small substances through it, while the coarse substances are discharged at the side of the machine. The grain, it will be seen, as the machine is in operation passes through the several screens e , each screen separating and discharging from its lower inclined end a portion of the foreign substances, the good grain being discharged from the lower chute f , as shown at l , Fig. 1. The blast from the fan-box C is directed directly into the spaces a^x , and is rendered very effective, as none of it is lost, all being made to pass through the screens e and eject light dust and impurities from the grain.

The box D is vibrated with an easy movement well calculated to aid the screens in ef-

fecting a separation of oats and barley from the wheat. The adjusting of the screens *e* to vary their inclination, as well as the employment of the slides *G* to vary the length of the screens, are important, for by these means the machine may be adjusted to suit the condition and quality of the grain, very poor and dirty grain requiring a slower and more efficient screening than grain which is in good condition.

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

1. The employment or use of a series of ad-

justable screens *e* and stationary chutes *f*, placed in a vibrating or reciprocating box *D*, connected at their outer ends by strips *g*, of leather or other suitable material, and placed relatively with the fan-box *C*, to operate as and for the purpose set forth.

2. The employment or use of the slides *G*, placed beneath the screens *e* at their outer ends, substantially as and for the purpose set forth.

A. H. DIXSON.

Witnesses:

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