

(No Model.)

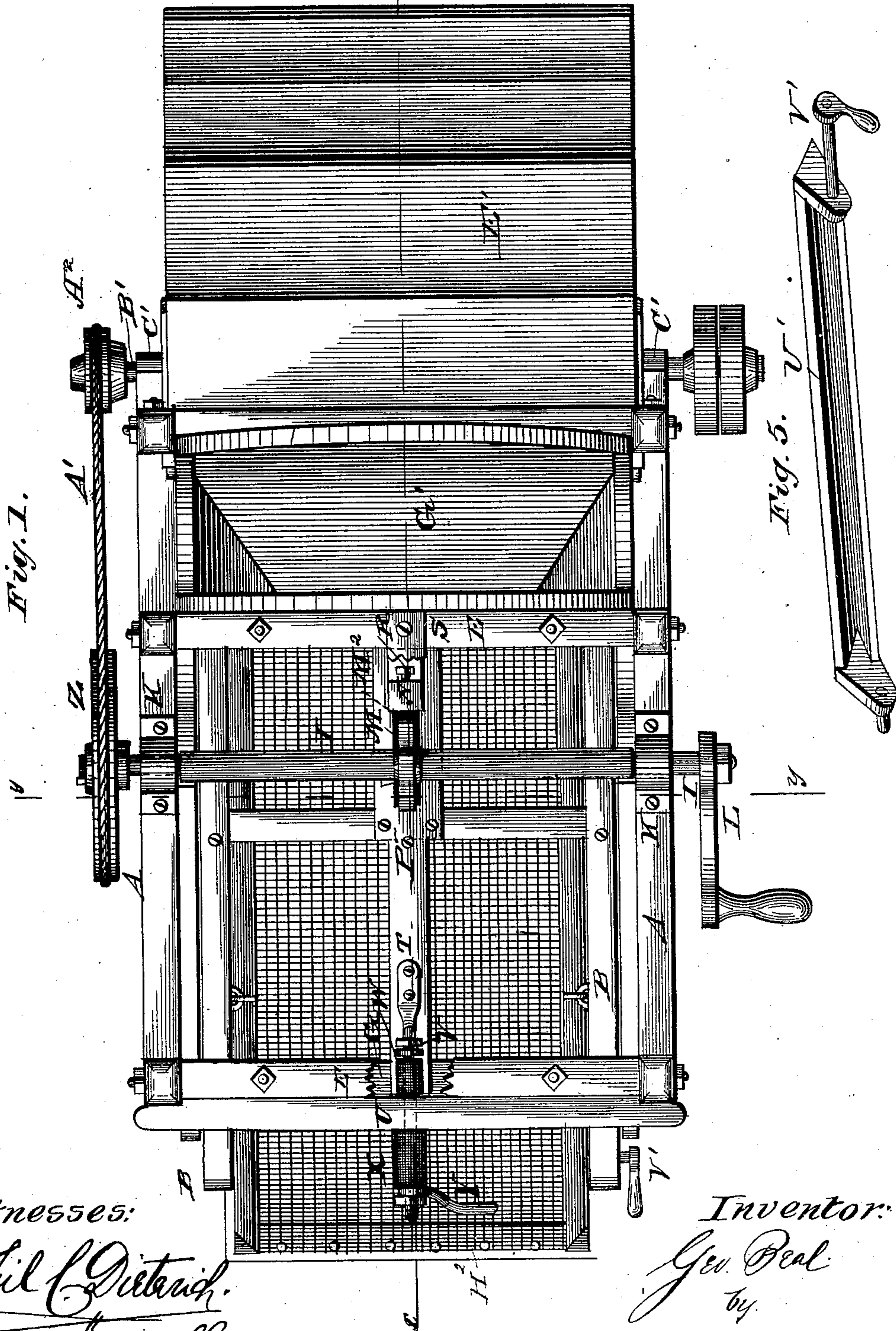
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G. BEAL.

FLAXSEED CLEANER.

No. 294,841.

Patented Mar. 11, 1884.



Witnesses:

Phil C. Dietrich.
A.E. Howell

Inventor:

Geo. Beal.
by
W. Alexander
Attorney.

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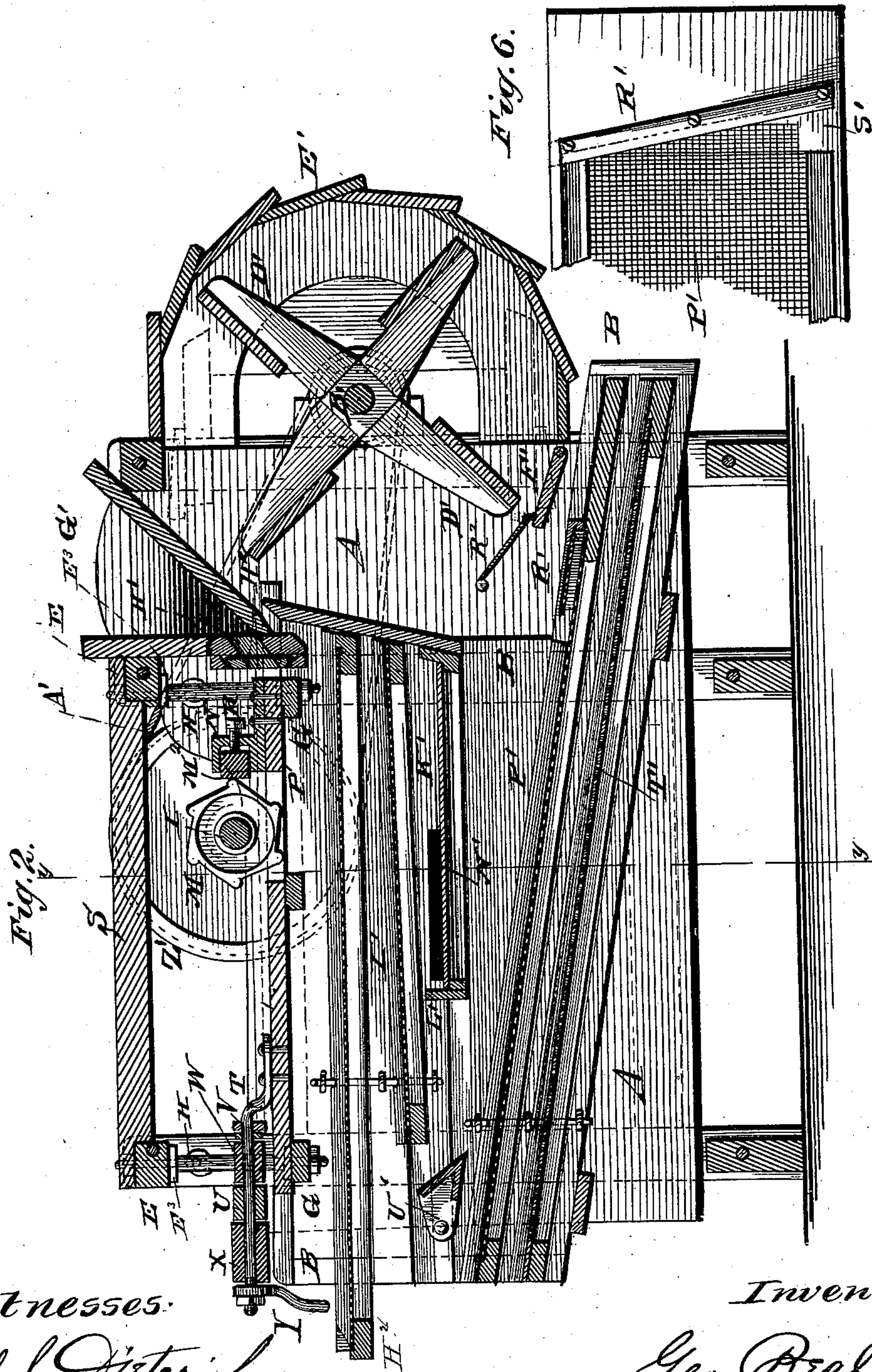
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Fig. 4.

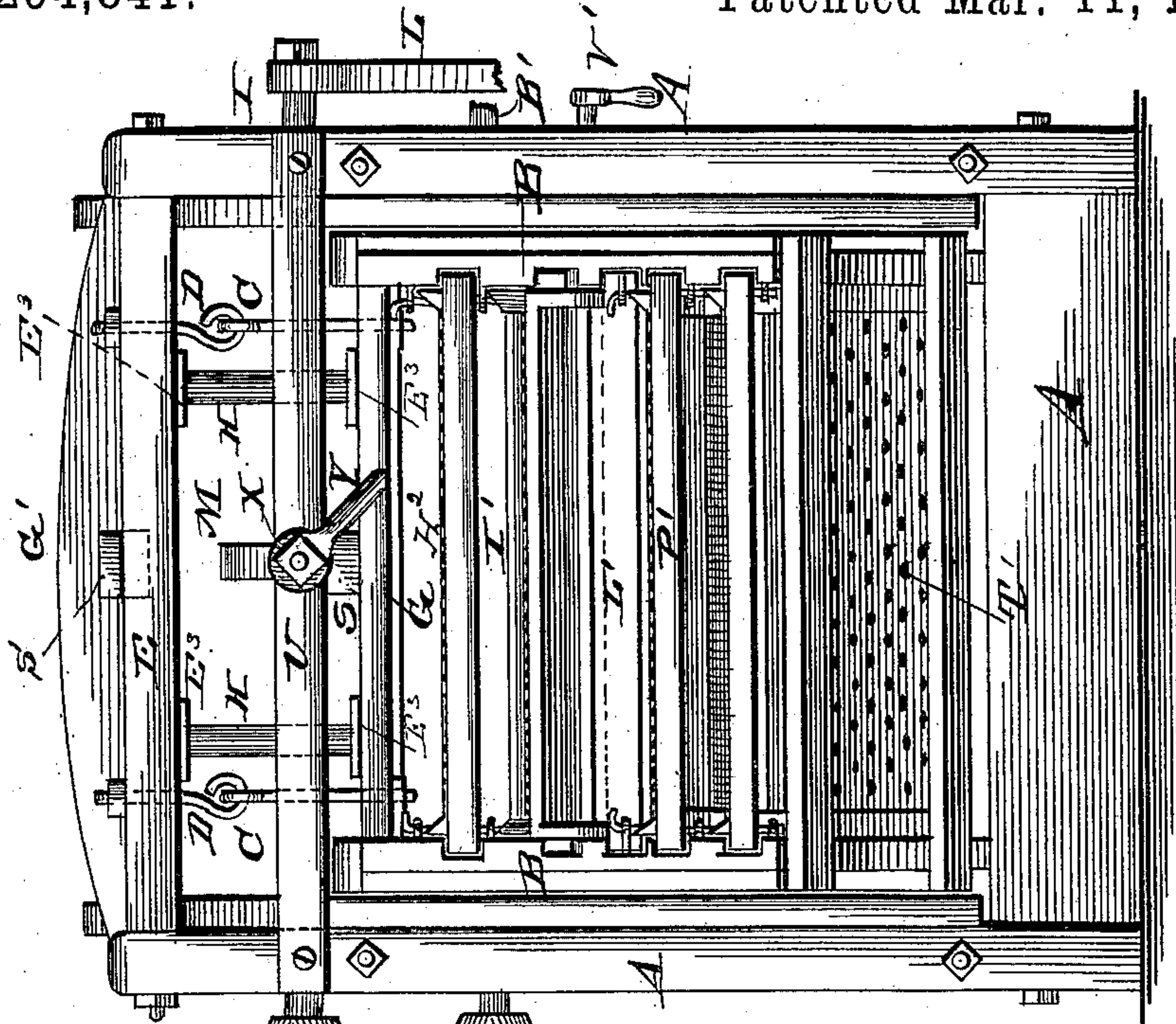
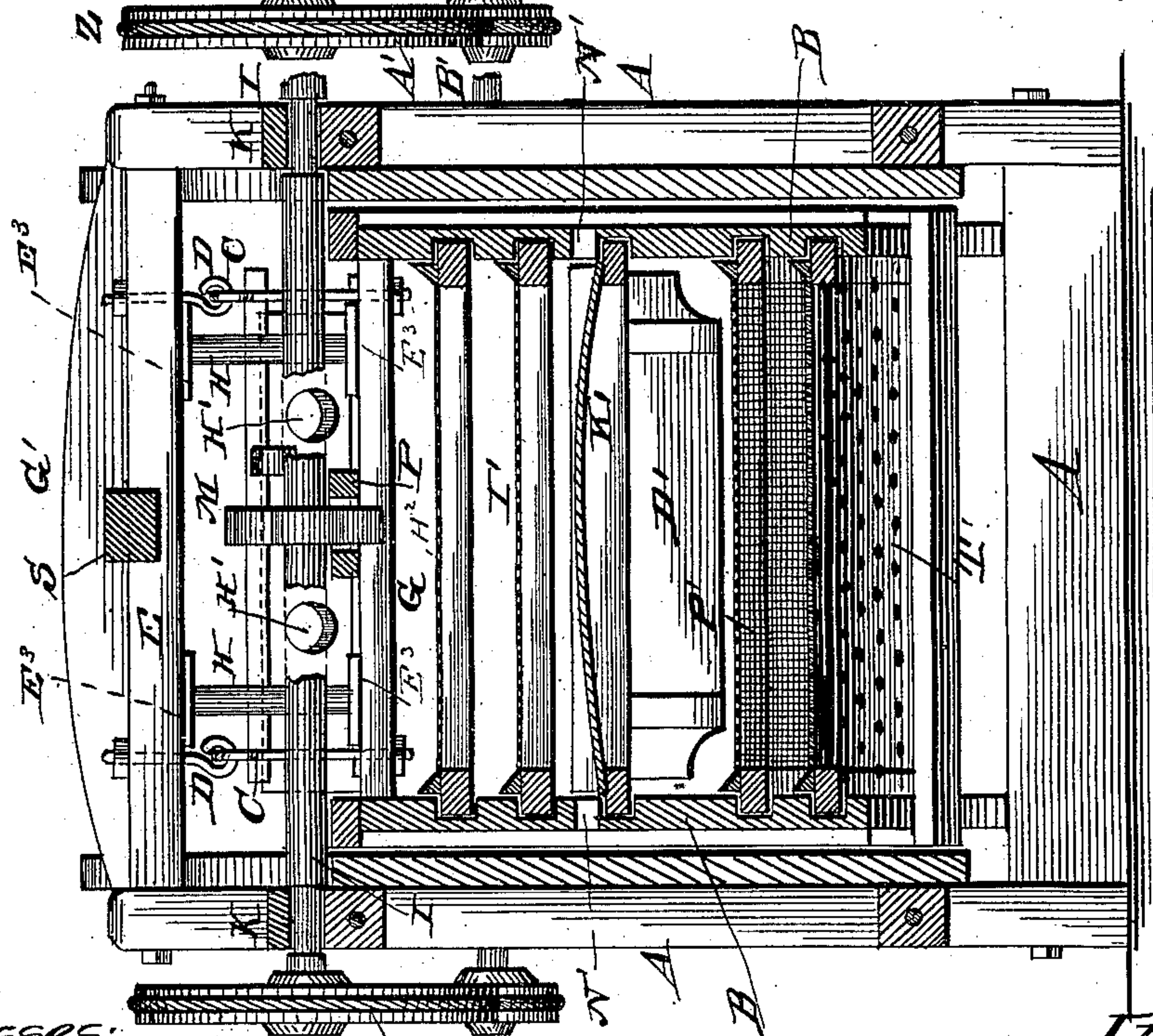


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE BEAL, OF GILMAN, IOWA.

FLAXSEED-CLEANER.

SPECIFICATION forming part of Letters Patent No. 294,841, dated March 11, 1884.

Application filed November 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE BEAL, of Gilman, in the county of Marshall and State of Iowa, have invented certain new and useful
5 Improvements in Flaxseed-Cleaners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon,
10 which form part of this specification.

This invention relates to certain improvements in machines for cleaning flaxseed; and it has for its object to provide for thoroughly separating the chaff and other impurities from
15 the same, as more fully hereinafter specified. This object I attain by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a plan view of my improved machine with the top removed and a
20 portion broken away, to show a portion of the operating mechanism. Fig. 2 represents a longitudinal vertical sectional view of my machine on the line *x x*, Fig. 1. Fig. 3 represents a transverse vertical sectional view taken
25 on the line *y y* of Figs. 1 and 2; Fig. 4, a rear elevation of the machine; Fig. 5, a detached perspective view of a device for regulating and controlling the blast or draft of air through the machine; and Fig. 6, a top view of one of
30 the screens, showing an oblique guide-bar leading to a discharge-recess at one side.

A indicates the frame of the machine, which may be constructed of any suitable material, and in which the working parts are located.

35 B indicates a rectangular shoe, which is arranged to vibrate longitudinally in said frame, and which is suspended upon loosely-connected hangers C, secured to eyebolts D, fastened in the cross-beams E of the machine. The
40 said hangers, at their lower ends, are pivoted or otherwise loosely connected to the cross-bars G of the shoe, so that the same may freely vibrate.

45 H H indicate a series of prop-sticks, which are interposed between the cross-beams of the frame and cross-bars of the shoe before mentioned, respectively, which prevent the screen H² from rising as it is vibrated. The prop-sticks have their bearings against the metallic
50 plates E³, secured to the beams E and bars G.

I indicates a transverse shaft, which is jour-

naled in bearings K at the upper part on opposite sides of the machine, and which is provided with a crank, L, at one end, or a suitable driving-pulley, by means of which power
55 may be applied. The said shaft is provided with a cam-wheel, M, the cams of which successively engage an adjustable seat, M², of rawhide secured to an abutment or bracket, N, attached to a longitudinal slotted bar, P, at the
60 top of the shoe, the said seat being controlled and moved for adjustment by means of a set-screw, R, to regulate the throw of the shoe, the cam serving to move the shoe in one direction, while the spring X moves it in the
65 other.

S indicates a longitudinal bar forming part of the frame. The said bar P, near its rear, is provided with a bracket, T, having a screw-threaded extension passing through an aperture
70 in the cross-bar U of the frame. The said bracket on its threaded extension has arranged a jam-nut, V, and between it and the bar U an elastic tubular spring, W, the object of which will be hereinafter explained, and the said
75 extension has at its outer end a similar tubular spring, X, and an adjusting-nut, Y, for the purpose hereinafter set forth.

Z indicates a grooved wheel or pulley, from which extends a band or belt, A', to a small
80 grooved pulley, A², on a fan-shaft, B', which is journaled in boxes C', and carries a fan, D', which rotates in a chamber, E, forming part of the machine.

F' indicates a valve located near the lower
85 forward part of the fan-chamber, and secured on suitable pivotal bearings, the said valve having attached to it a cord, R², passing through the side of the frame of the machine, by means of which it may be adjusted to regulate the
90 draft.

G' indicates a hopper provided with openings H', in front of which is a slide-valve, by means of which the seed may be delivered
95 in regulated quantities to the upper screen, H². The said upper screen is secured in the upper part of the shoe, and extends to the rear of the same, so as to carry off the tailings or coarser impurities separated from the seed. Beneath
100 said screen is secured a shorter screen, I', of finer mesh, and below this a table, K', extending about half the length of the machine. The

said table inclines from the center longitudinally to each side, and at its rear edge is provided with a raised flange, L', which prevents the particles falling upon it from passing off to the rear and directs the same to each side, where they are discharged through ducts N'. Below the table K' is located a screen, P', which, near its forward end, is provided with an oblique deflecting-bar, R', the frame of the screen at one side being cut away, as indicated by S', so as to permit the larger particles dropping upon the same to pass off.

T' indicates the lower and final screen, which is preferably constructed of perforated metal, and extends forward beyond the frame for the purpose of discharging at the front of the machine the seed cleansed from all impurities. At or near the rear or tail of the machine, below the upper screen, is located a pivoted deflector, U', which is mounted upon a shaft provided with a crank, V', by means of which it may be adjusted so as to regulate the blast, so as to transmit the air through the screens in properly-regulated quantities. For this purpose the deflector is made angular in cross-section, with its edge projecting toward the front of the machine, so as to divert the entire blast either above or below said deflector, or to divide it, as occasion may require.

The advantages of my improved machine will be apparent, as it combines simplicity, practicability, and efficiency. It is easy to manage, and by means of the regulating-springs the "shake" may be readily regulated to suit all requirements; also, the entire screen-surface being open to view, any obstructions will be readily perceived, so that the machine may be cleaned and put in order at the moment required.

The operation of my invention will be readily understood in connection with the above description, and is as follows: The power being suitably applied to vibrate the shoe, the seed and impurities are allowed to pass from the hopper onto the upper screen. Here the gross impurities are separated, and pass off at the tail of the screen, while the seed and finer

impurities are separated, the impurities passing through the screen, while the seed passes over the end of the same and is delivered to the lower screen, from which it is finally discharged. The finer impurities and dust fall upon the table above mentioned, and are discharged at each side.

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

1. In a seed-cleaner, the combination of a vibrating shoe having a longitudinal top bar, a bracket secured upon the latter near its front end, a rawhide bearing-strip in the said bracket, a horizontal adjusting-screw, R, and a cam-wheel bearing against the said strip, substantially as set forth.

2. The combination of the vibrating shoe, mechanism for operating and for regulating the throw of the same, a bracket mounted upon the said shoe, a screw-threaded arm extending through a cross-bar of the frame, elastic cushions arranged upon the said arm on each side of the frame-bar, and a tightening-nut, as substantially set forth.

3. The combination, with the shoe carrying the screens, the suspending links, and prop-sticks, of the seat provided with an adjustable bearing of rawhide, a rotating cam-wheel adapted to strike said bearing to move the shoe in one direction, and the bracket, and the springs adapted to move the shoe in the opposite direction, substantially as specified.

4. The combination, with the shoe hung and propped as described, of adjustable devices for moving it in one direction, and the bracket T, springs X and W, and jam-nut V, forming adjustable devices for moving the shoe in the opposite direction, substantially as specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

GEORGE BEAL.

Witnesses:

T. H. ALEXANDER,
W. R. KEYWORTH.