

(No Model.)

C. ALTRINGER.

FANNING MILL.

No. 375,524.

Patented Dec. 27, 1887.

Fig. 1.

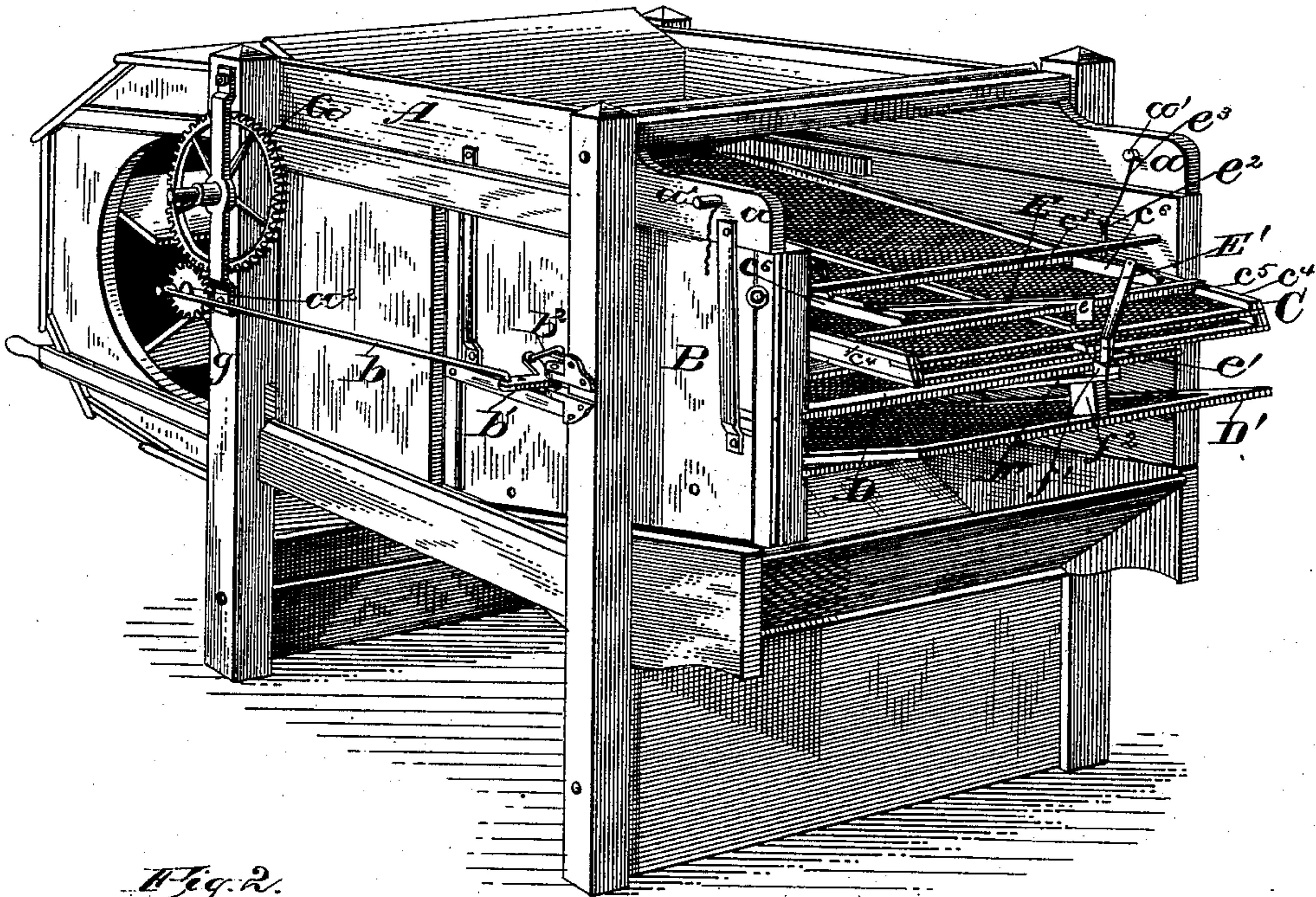


Fig. 2.

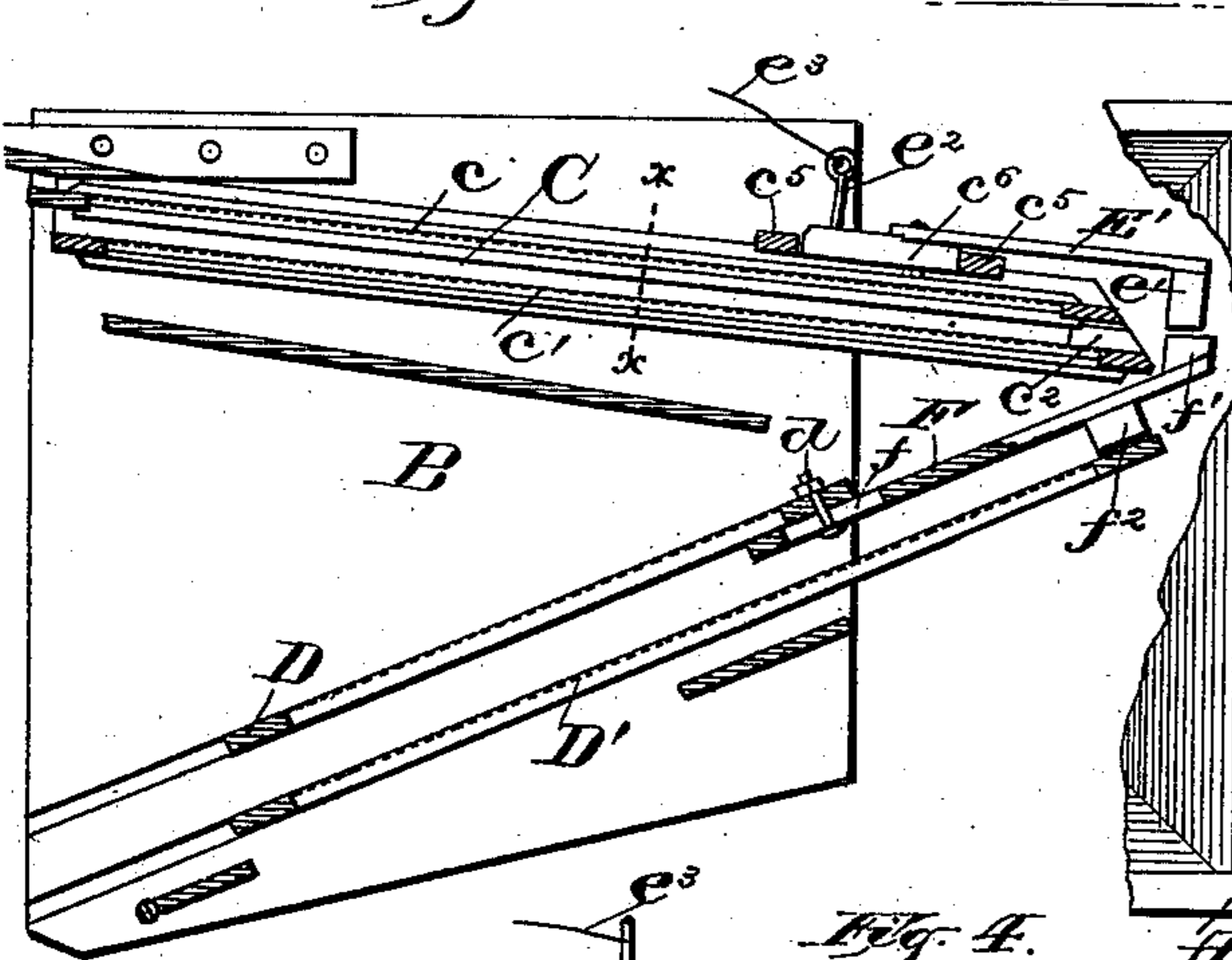


Fig. 3.

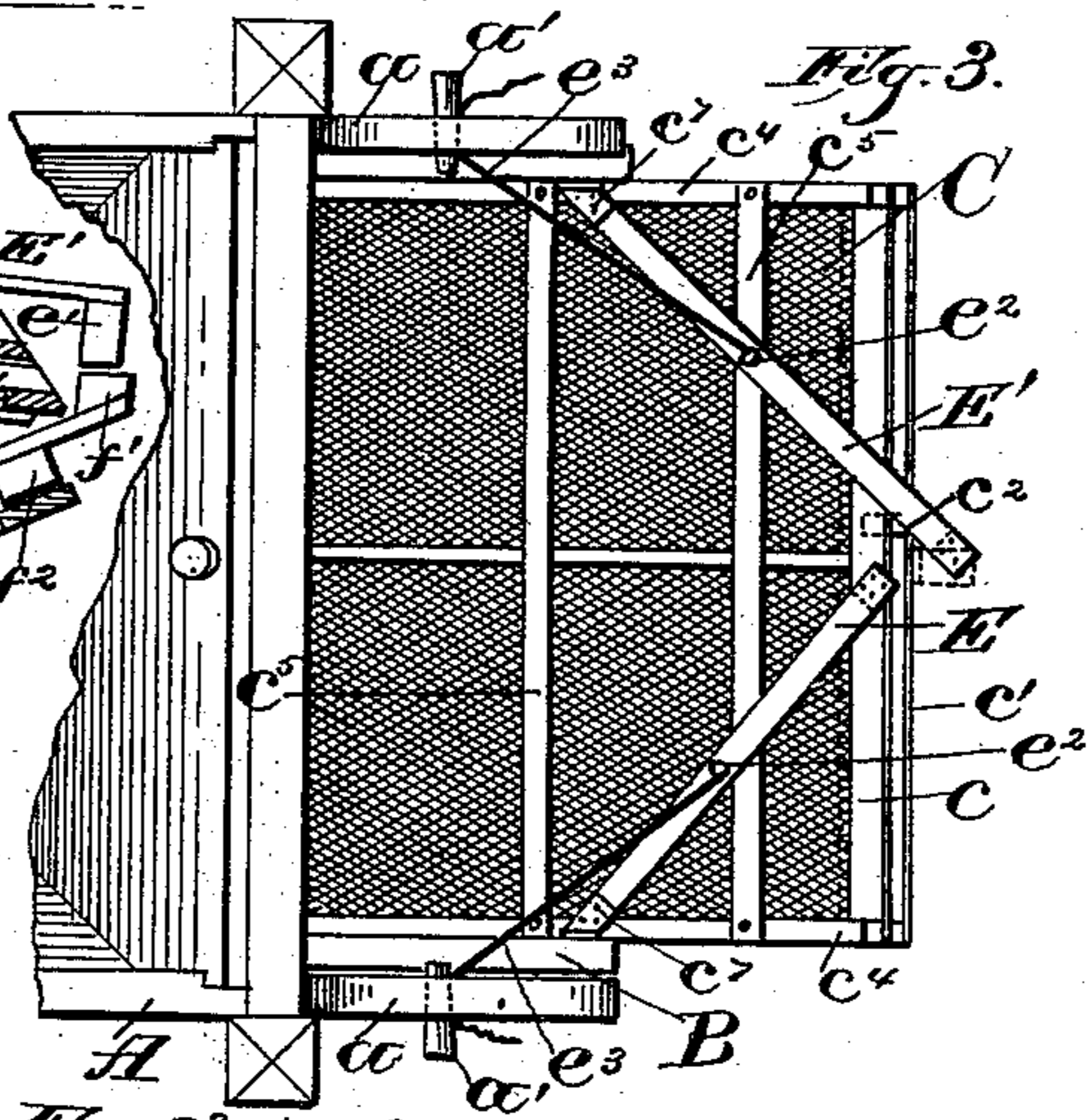
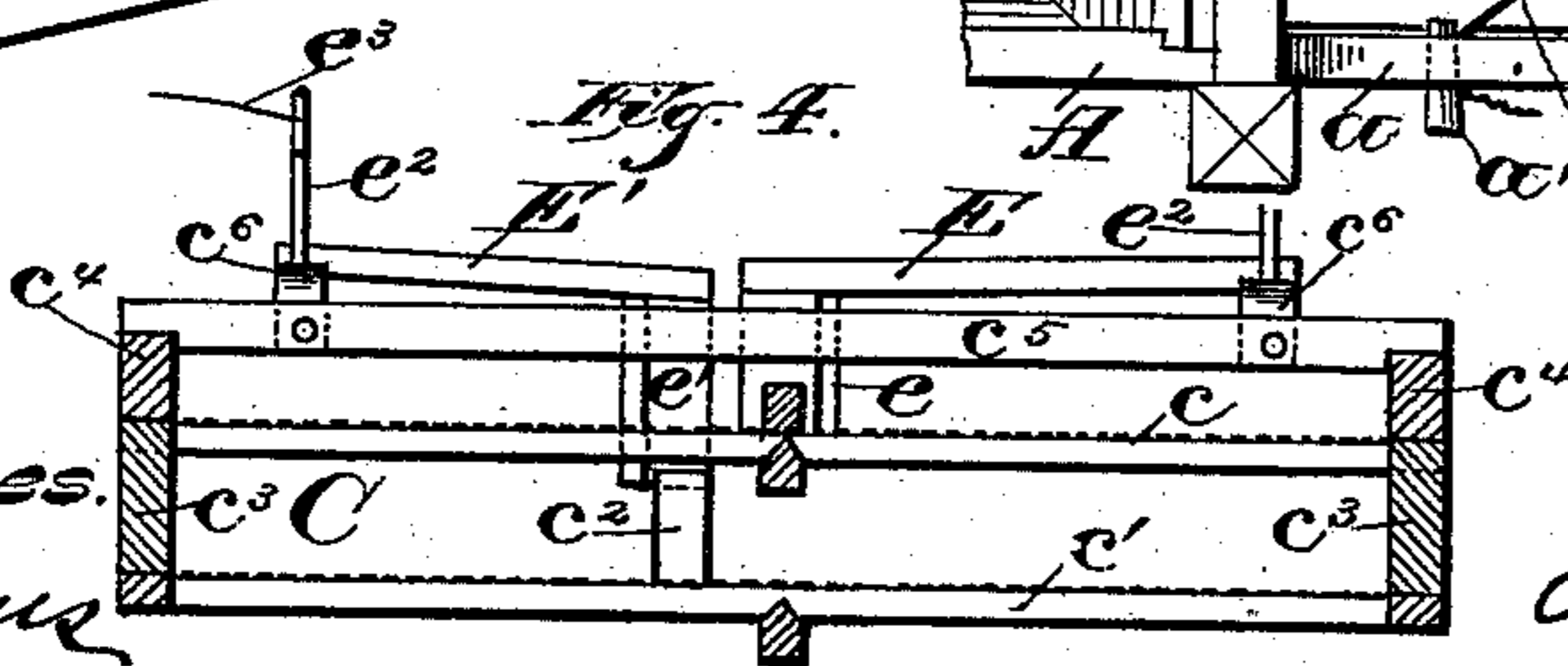


Fig. 4.



Witnesses.

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CHRISTOPHER ALTRINGER, OF RACINE, WISCONSIN.

FANNING-MILL.

SPECIFICATION forming part of Letters Patent No. 375,524, dated December 27, 1887.

Application filed February 1, 1886. Serial No. 180,445. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER ALTRINGER, of Racine, in the county of Racine, and in the State of Wisconsin, have invented certain new and useful Improvements in Fanning-Mills; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to fanning-mills and separators; and it consists in certain peculiarities of construction, as will be fully set forth and claimed hereinafter.

In the drawings, Figure 1 is a perspective view of a fanning-mill embodying my improvements. Fig. 2 is a vertical longitudinal section of the shoe thereof. Fig. 3 is a plan view of part of the same, illustrating a modified construction; and Fig. 4 is a detail sectional view of the hurdle on the line *x x* of Fig. 2.

My present invention is in part an improvement on the machine patented to me and to Nicolaus Altringer and Nicolaus Altringer, Jr., on July 26, 1881, and numbered 244,727.

A represents the fanning-mill frame and case.

B is the shoe.

C is a hurdle of sieves.

D D' are screens below the hurdle, inclining up toward the same at the rear of the machine, the said hurdle inclining downward at that point, as shown.

The fanning-mill proper and the shoe are about the same as in the prior patent named; but the hurdle C in the present case is of a different construction. It consists of two screens or sieves, *c* and *c'*, suitably united at their sides by the side bars, *c³ c³*, above which are other side strips, *c⁴ c⁴*, while resting on and secured to the upper surface of the rear edge of the lower sieve, *c'*, is a block, *c²*, whose upper surface is normally just under the lower surface of the rear edge of the upper sieve, *c*, but without being in contact therewith, all as clearly shown in Fig. 4. Across the top of the hurdle C are two strengthening-bars, *c⁵ c⁵*, secured to the described strips *c⁴ c⁴*, and in the preferred form of my present device (illustrated in Figs. 1, 2, and 4) I pivot two short strips or bearings, *c⁶ c⁶*, between the strengthening-bars *c⁵ c⁵*, and to these strips *c⁶*, I secure the ends of the pounding bars or levers E E',

(of which I employ two in my present invention in place of the single pounding-bar shown in the patent hereinbefore referred to;) or, if preferred, I may omit the bearing-strips *c⁶* and simply hinge or pivot the ends of the pounding-bars E E' to the sides of the shoe, as shown at *c⁷ c⁷* in Fig. 3. To the strips *c⁶* (or, if the form of device shown in Fig. 3 is used, directly to the levers E E') I secure vertical eyebolts *e² e²*, from which there extend cords *e³ e³*, the other ends of which pass through holes in the upper rear extensions, *a a*, of the fanning-mill above the shoe, which cords, after proper adjustment, are secured therein by means of the pins *a' a'*.

The upper screen, D, has attached to the under side of its rear part the strip F by means of a bolt, *d*, passing through a slot, *f*, in the said strip F, whereby when the bolt *d* is loosened the strip can be adjusted so as to project a greater or less distance from the rear end of said screen, as desired, and secured in the preferred position by retightening the bolt. The extreme outer or rear end of the strip F carries on its upper surface a block, *f'*, and on its under surface, a slight distance from said rear end, another block, *f²*, the latter block being designed to normally be just above, but without touching, the rear edge of the lower screen, D'.

Power is communicated to the mill in the ordinary manner and transmitted through the gearing shown, G g, to the main shaft *a²* of the fan, and by means of the crank-pin, pitman *b*, and elbow-lever *b'*, shoe-hook *b²*, and connections to the shoe B, substantially as in my prior patent, No. 126,371, granted to me May 7, 1872. These parts serve to give the shoe B the desired side motion, and at the same time, as the shoe thus reciprocates, the cords *e³ e³* are alternately drawn taut, thereby in turn raising the pounding bars or levers E E', while as one cord is tightened the other is relaxed, permitting the lever to which it is attached to fall. In the arrangement shown the head *e* of the lever E strikes upon the upper rear edge of the sieve *c* of the hurdle C and vibrates that sieve and depresses it upon the block *c²*, attached to the sieve *c'* of the hurdle, and thereby vibrates the latter sieve also, while the head *e'* of the lever E' in its turn strikes upon the

block f' of the strip F, attached to the screen D, and thus vibrates it, at the same time depressing said strip F, so that its other block, f'' , strikes the edge of the lower screen, D', and thereby transmits the vibration to that screen also. Of course, in place of the double-sieve hurdle, a single screen may be substituted; but the arrangement shown is very effective, notably for flax and similar small seeds. In some instances I may omit the block f' and make the head e' of the lever E' long enough to strike the end of the strip F; but ordinarily I prefer to use the block, as stated.

If desired, my hurdle might have three or more sieves, the additional lower sieve or sieves being like the lower sieve of the hurdle shown in Fig. 4, (with similar blocks, e'' , to transmit vibrations,) and similarly the number of screens used is immaterial; but in most cases a pair of screens, as shown, will be found sufficient.

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

1. The combination of the frame, a vibrating shoe carrying sieves or hurdles, and a pair of pounding bars or levers attached to the said vibrating shoe and flexibly connected to fixed parts of the frame at opposite sides thereof above the shoe, whereby the said pounding-bars will be alternately raised and let fall by the vibrating action of the shoe, substantially as set forth.

2. The combination of the frame, a vibrating shoe carrying sieves or hurdles inclined downward, and screens inclined upward at their respective rear edges, the said lower screens having a rearwardly-projecting frame, with a pair of pounding bars or levers attached to the said shoe above the upper sieve, and means whereby they are flexibly connected to a fixed part of the frame above the shoe and adapted to be raised and let fall by the vibrations of the latter, one of said pounding-bars extending rearwardly farther than the other, whereby the head of one bar strikes upon the frame of the upper sieve or hurdle, while the head

of the other bar strikes upon the projecting frame of the lower screens, substantially as set forth.

3. The combination of the frame and a vibrating shoe carrying sieves or hurdles and lower screens, with a pounding-bar attached to the shoe above the upper sieve and projecting back beyond its rear edge, means whereby the bar is flexibly connected with the frame, and an adjustable strip or frame projecting from the rear edge of a lower screen and adapted to receive a blow from said pounding-bar, substantially as set forth.

4. The combination of a frame, a vibrating shoe having a hurdle consisting of two sieves connected at their side edges and a block secured to the rear edge of the lower sieve of said hurdle, a pounding-bar attached to the said vibrating shoe above the upper sieve of the hurdle, and means whereby it is caused to strike thereon, whereby a blow on the said upper sieve will force its rear edge down upon the described block, and thereby vibrate the lower sieve of the said hurdle, substantially as set forth.

5. The combination of a vibrating shoe carrying sieves or hurdles and screens, a pounding-bar attached to the said vibrating shoe above the upper sieve and projecting back beyond its rear edge, means for operating said bar, a pair of screens below the sieves or hurdles, an adjustable strip or frame projecting from the rear edge of the upper screen, and a block secured on the under side of said screen over the rear edge of the lower screen, whereby a blow from the pounding-bar will be transmitted to the lower screen, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

CHRISTOPHER ALTRINGER.

Witnesses:

H. G. UNDERWOOD,
MAURICE F. FREAR.