

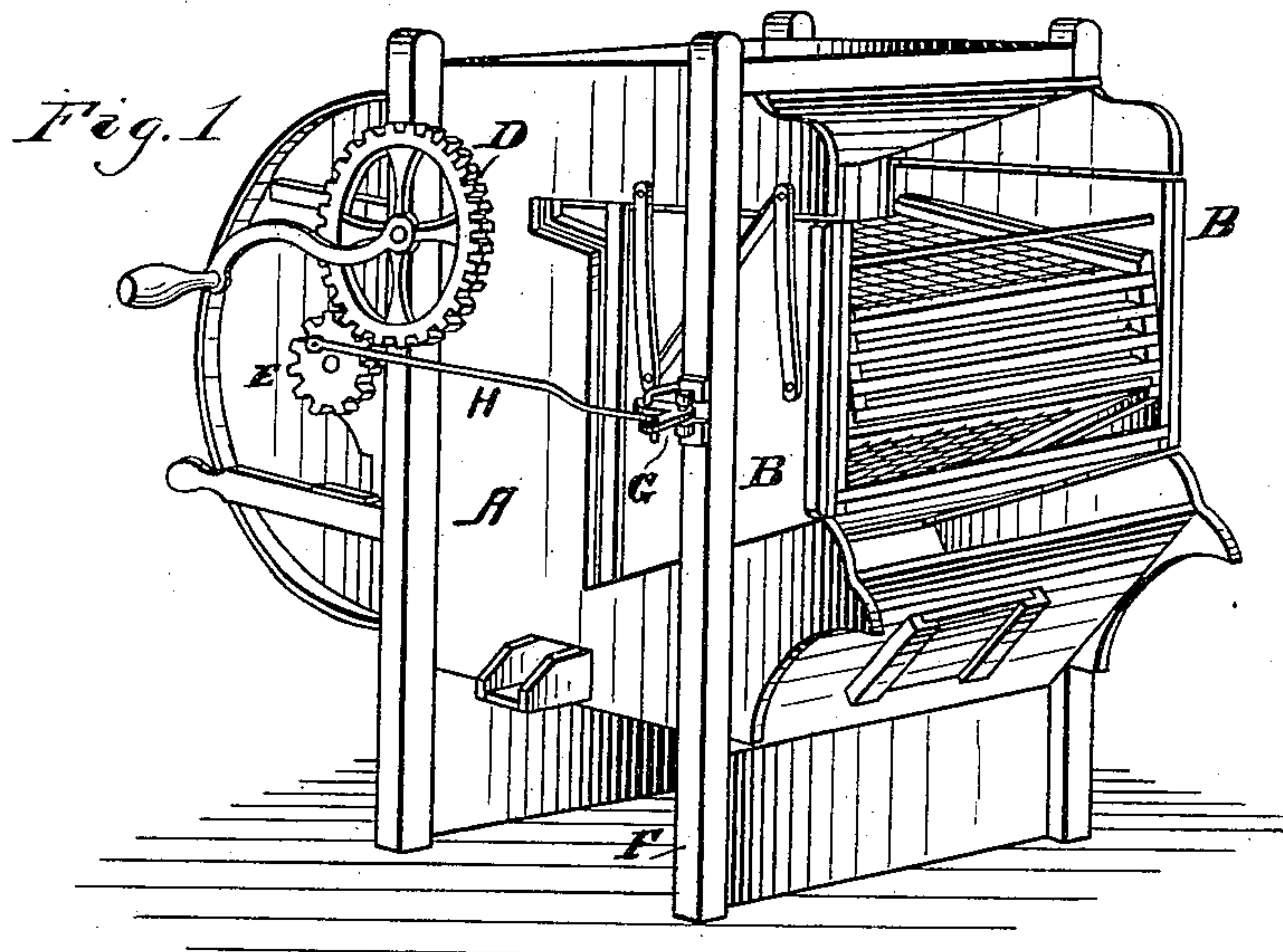
(No Model.)

H. E. KEELER.

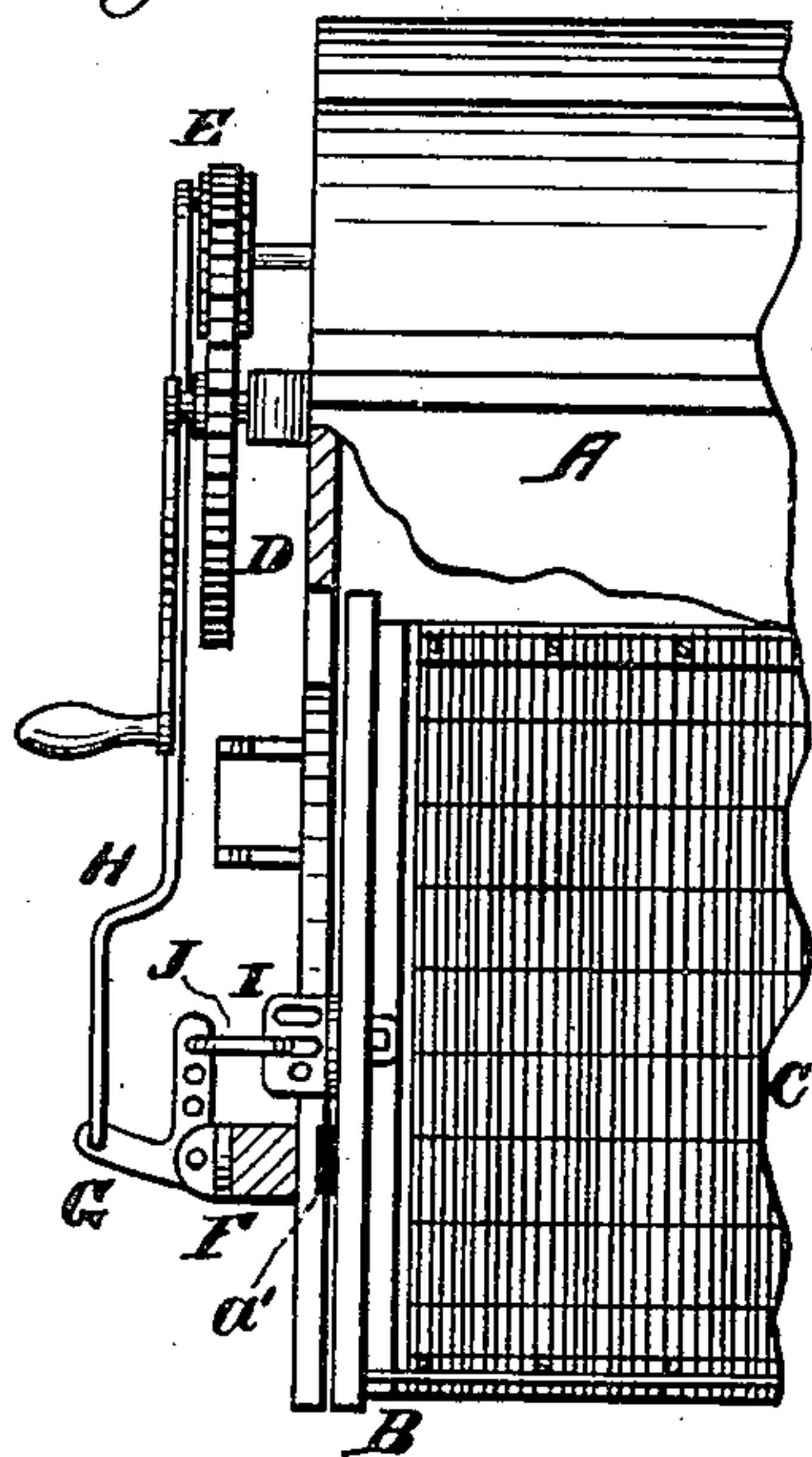
FANNING MILL.

No. 246,144.

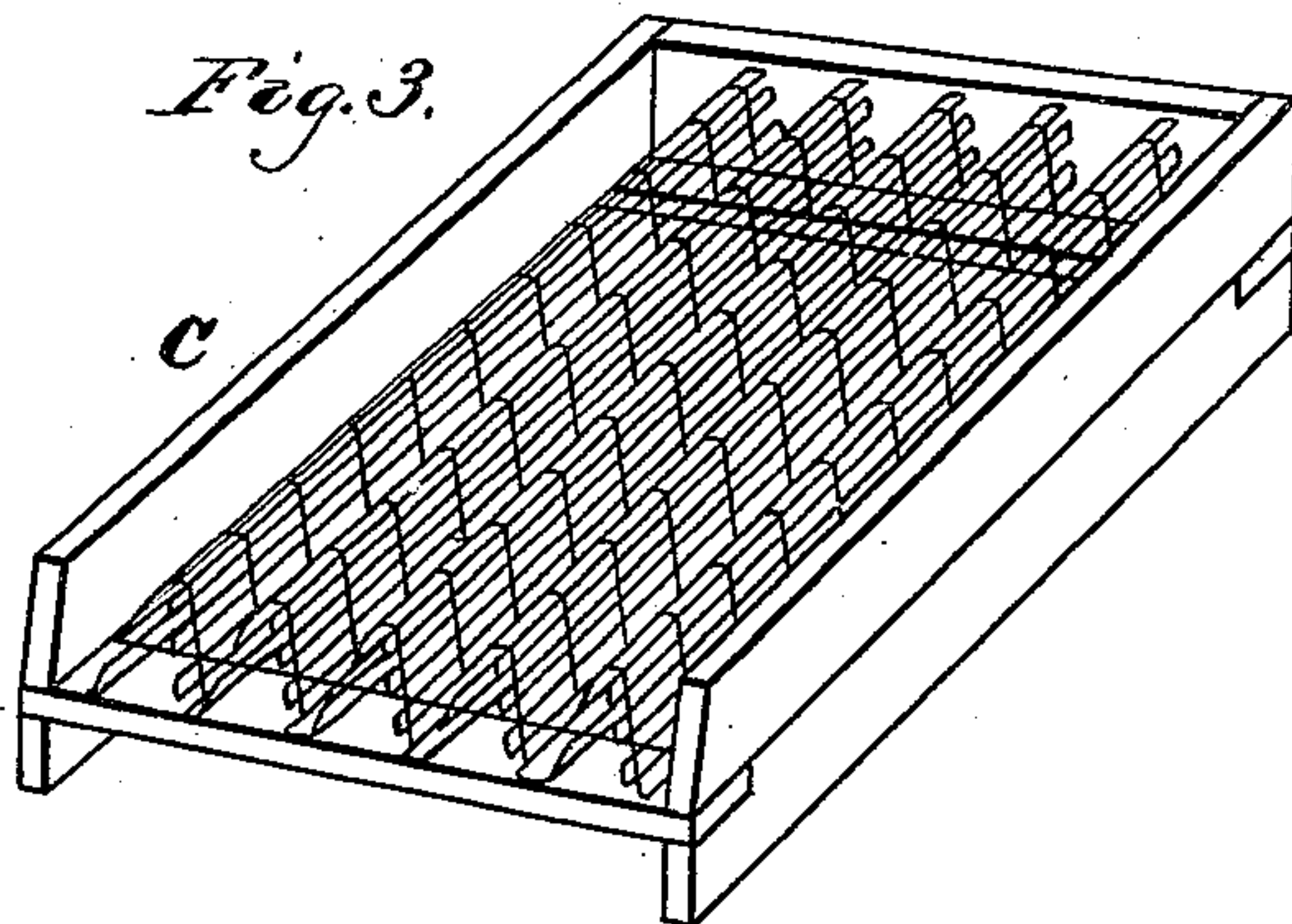
Patented Aug. 23, 1881.



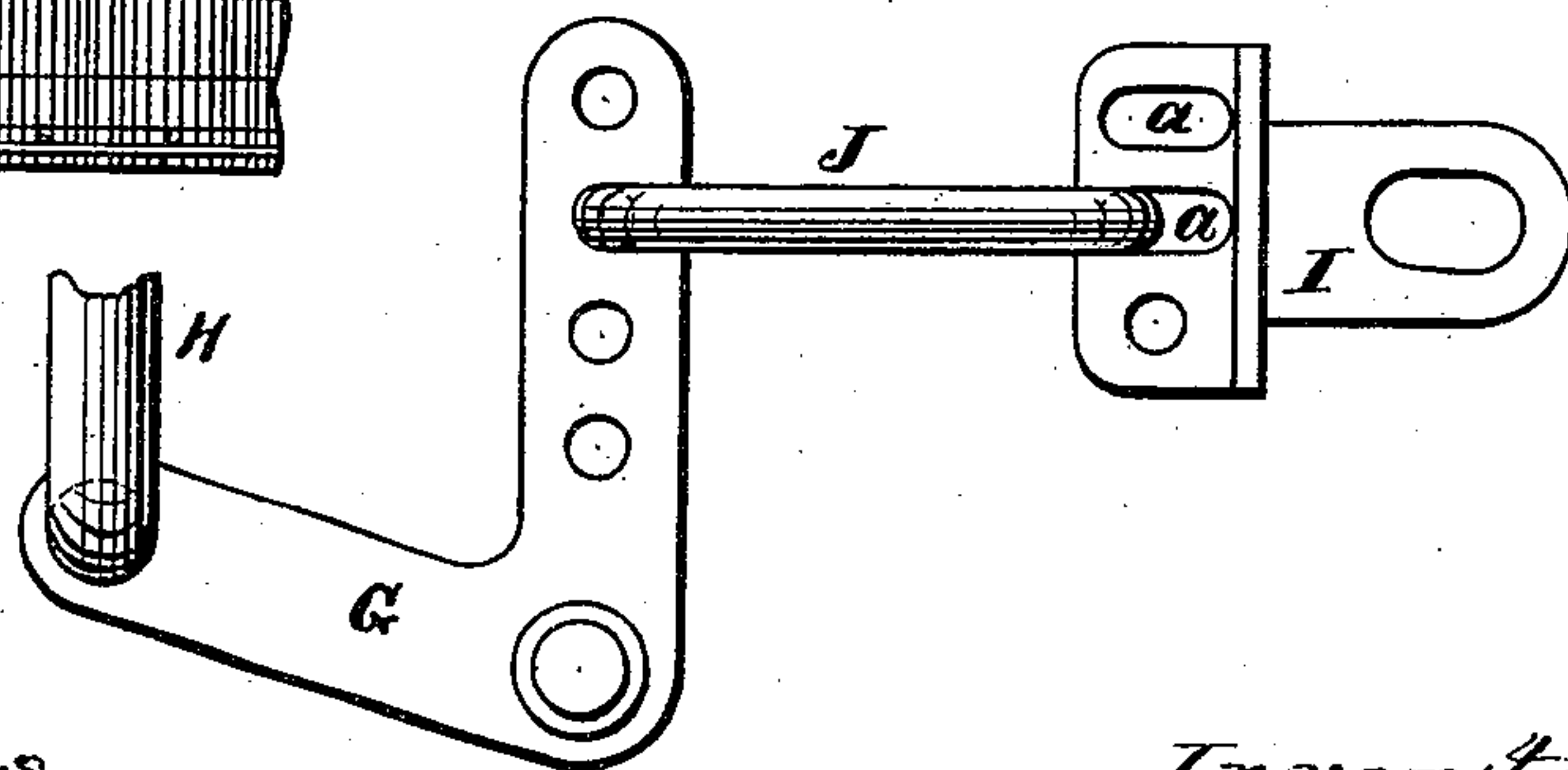
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses.  
Henry Frankfurter.  
Chas. J. Bell

Inventor.  
Herbert E. Keeler  
per F. F. Warrs, his  
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# UNITED STATES PATENT OFFICE.

HERBERT E. KEELER, OF LA CROSSE, WISCONSIN.

## FANNING-MILL.

SPECIFICATION forming part of Letters Patent No. 246,144, dated August 23, 1881.

Application filed April 11, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, HERBERT E. KEELER, of La Crosse, in the county of La Crosse and State of Wisconsin, have invented certain new and useful Improvements in Fanning-Mills, of which the following, in connection with the accompanying drawings, is a specification.

In the drawings, Figure 1 is a perspective of a fanning-mill representing an example of construction to which my improvements may be applied. Fig. 2 is a top view of the same broken away above the shoe, and showing my improvements applied. Fig. 3 is a perspective of a sieve in connection with which my improvements are intended to be used; and Fig. 4 is a plan view, in detail, of my improved shaking mechanism.

Like letters of reference indicate like parts.

Heretofore sieves having therein corrugations extending from the top to the bottom, or from the upper or inner to the lower or outer edges thereof, have been used for the purpose of cleaning grain, or separating mixed grains, or doing such work, for example, as taking rape-seed from flaxseed, which have been mixed in the field or otherwise. Such a sieve is represented in Fig. 3. Sieves of this class have been found to be particularly serviceable for the purposes set forth, for the following reasons: first, the working-surface is materially increased in proportion to the dimensions of the sieve in other respects; second, the grain has means of escape laterally; and, third, clogging is to a great extent avoided. I have discovered, however, that an improved result follows if such a sieve at the end of its lateral movement or shake receives a sharp lateral blow or jar—such, for example, as is usually given by the hand of the user while using a common hand-sieve. Such a blow or jar prevents the grain from being clogged in the meshes of the sides of the corrugations in the sieve.

The object of my invention is to produce this desirable result mechanically in mills containing sieves having therein corrugations parallel to their sides, which result may be accomplished by means which I will now proceed to describe.

A represents a fanning-mill, which, with the

exceptions hereinafter specified, is constructed and operates in a well-known manner, as will be perceived from the following description.

B is the shoe, which is suspended in the usual way to admit of its being shaken laterally.

C is a sieve, having in it deep and comparatively steep grooves or corrugations parallel to its sides, substantially as shown and already described. It is to be understood that one or more sieves, C C, are to be suitably arranged in the shoe B.

D is the drive-wheel, and E a pinion engaging it.

F is a post, constituting a part of the frame. Between the shoe B and the post F there are no intervening parts, excepting as hereinafter stated.

G is a bell-crank, turning in bearings on the post F.

H is a pitman, connected to the pinion E and to the outer arm of the crank G.

I is the shoe-iron, and J is a hook or link connecting the iron I to the inner end or arm of the crank G.

The operation of the parts, so far as results from the construction now described, is as follows: If the wheel D be rotated the shoe, as will be perceived, will be swung back and forth laterally and with much rapidity.

I employ the following means for producing the blow or jar referred to, without danger of consequent injury to the machine. In the lateral shoe-iron I, I elongate one or more of the holes made therein for receiving one end of the link or hook J pivotally, as shown at *a a*. By this means a sufficient degree of lost motion is produced between the shoe and the parts employed to move it laterally, to allow the shoe to strike the post F or some other fixed part, and a concussion is thus produced between parts other than the moving mechanism, which, therefore is not strained, and does not strain the other parts of the machine, and the parts which strike each other are such as to bear the blow without injury. The sieve C thus also feels the force of the lateral blow so produced, and the result thereof is that the grain therein, and which is to be expelled laterally, passes much more freely through the sides of the corrugations than it otherwise would. If



it be deemed desirable to break or modify the force of this blow, a block of rubber, *a'*, may be interposed between the shoe and the post F.

It is obvious that an elongated opening or slot, *a*, if made in the crank G to receive either the hook J or the pitman H, will also result in lost motion with effect. Provision also may be made for lost motion between the pitman H and the pin connecting it to the pinion E.

It is also obvious that a metallic spring may be employed instead of a rubber cushion, *a'*.

I do not here intend to restrict myself to the precise means herein shown and described for producing the blow or jar for the purpose set forth, as the means therefor may be varied without exceeding the scope of my invention; but I regard as preferable the method and means hereinbefore first described for producing the result desired.

I do not here intend to claim, broadly, a sieve having corrugations in its bottom and parallel to its sides; neither do I here intend to claim, broadly, mechanism for shaping the same laterally; but,

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

1. The combination, substantially as specified, in a grain separator or cleaner, of one or more sieves, C C, having therein a series of corrugations or channels parallel to the sides thereof, mechanism for shaking the said sieves laterally, and adapted to admit of lost motion

in a lateral direction between the said sieves and the said shaking mechanism, for the purpose of thereby allowing the sieves to have during a portion of their lateral-shake movement a lateral movement independent of the said shaking mechanism, and a stop or knocker arranged to limit the extent of the said independent movement, for the purposes set forth.

2. The combination, in a grain separator or cleaner, of one or more sieves, C C, having therein a series of corrugations parallel to the sides thereof, and mechanism for shaking the said sieves laterally when the said mechanism has therein the elongated opening or slot *a* for producing lost motion laterally between the said sieves and their shaking mechanism, substantially as and for the purposes specified.

3. The combination, in a grain separator or cleaner, of one or more corrugated sieves, C C, of mechanism for shaking the said sieves laterally, and having therein, between the driver of the said mechanism and the said sieves, an elongated slot or opening, *a*, for producing lost motion laterally between the said sieves and their shaking mechanism, and of a fixed stop or knocker arranged to limit the lateral shake of the said sieves, substantially as and for the purposes specified.

HERBERT E. KEELER.

Witnesses:

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HOMER C. HART.