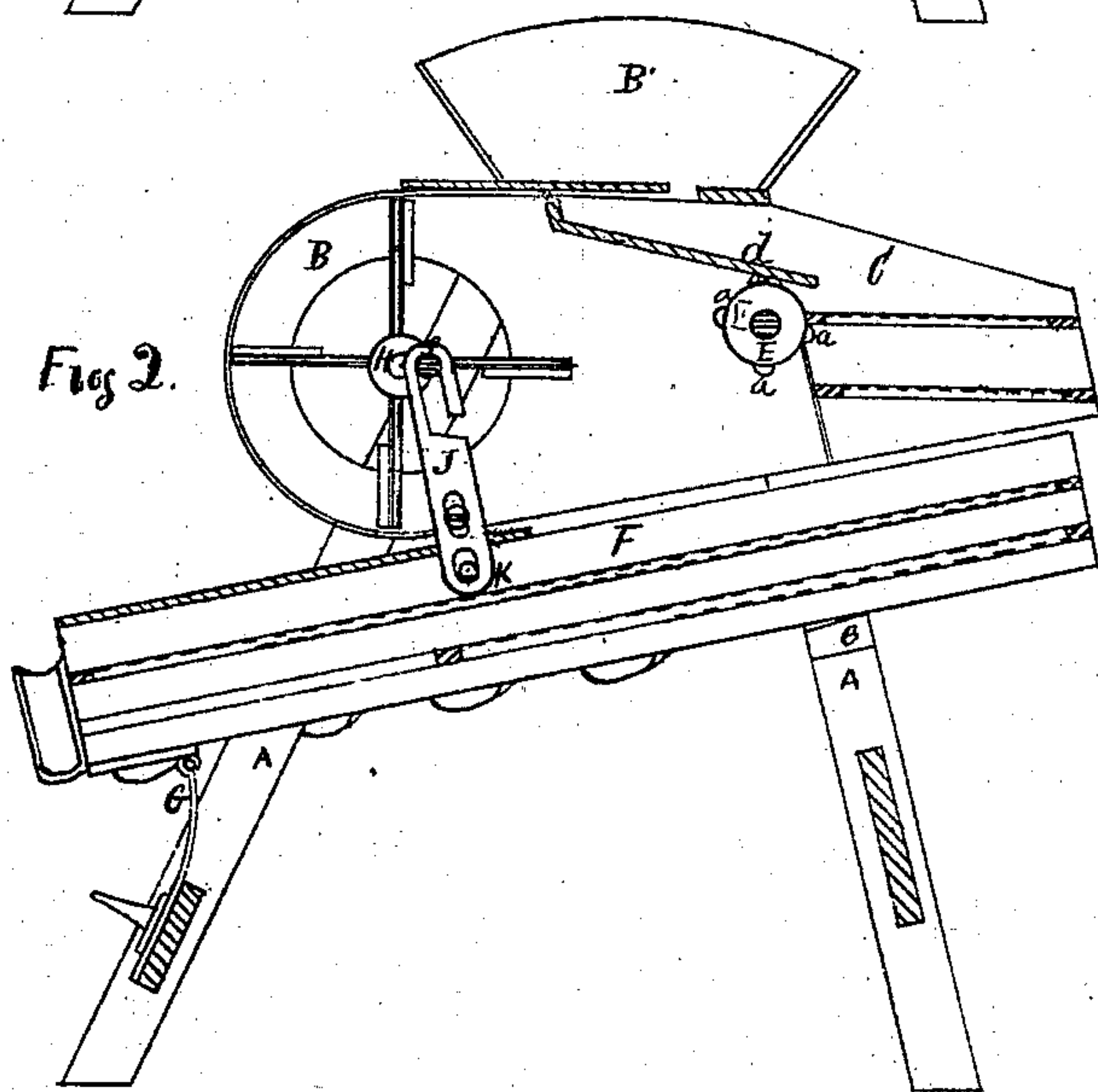
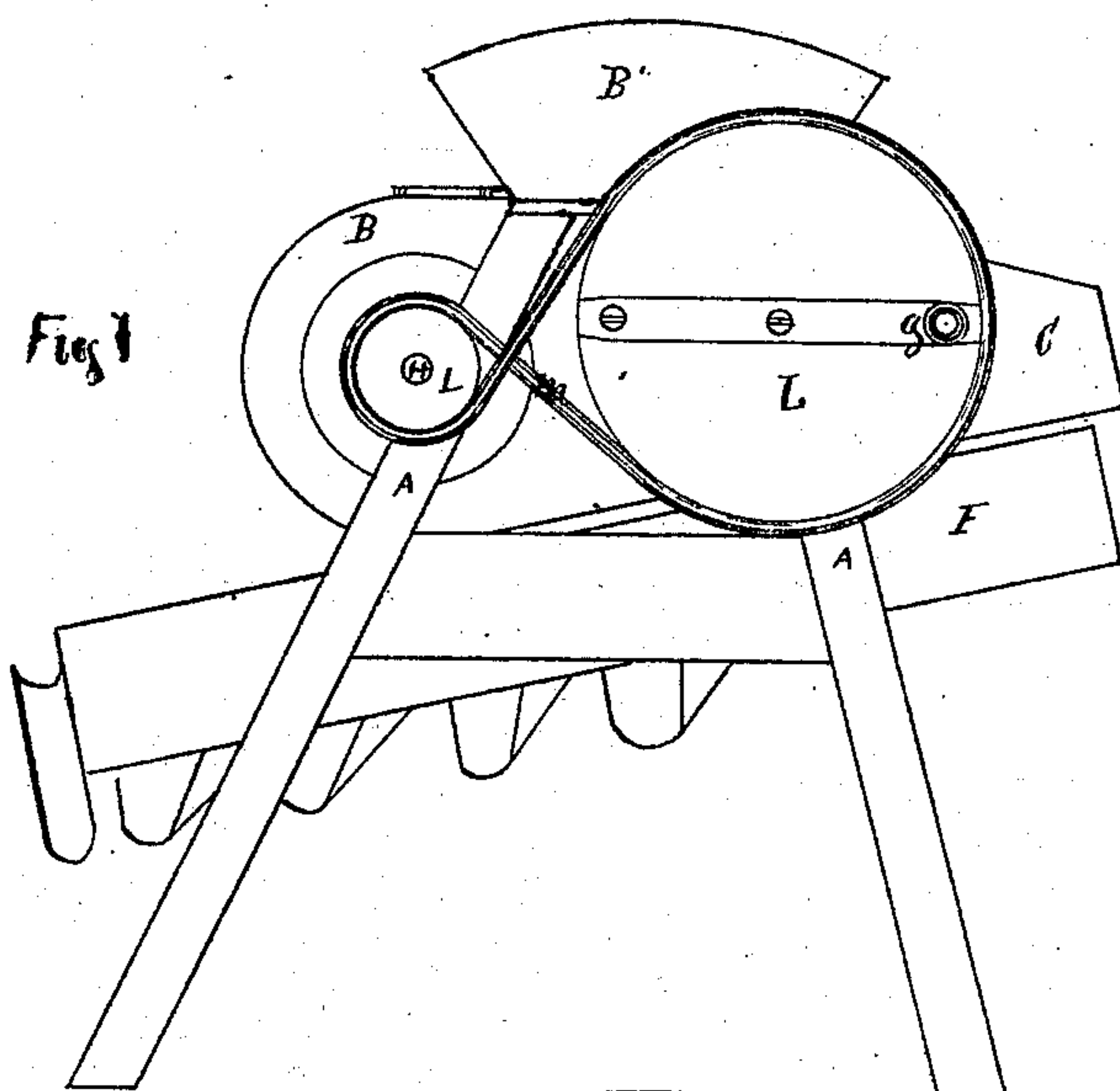


F E Bowen Fanning Mill

PATENTED JUL 25 1871

117374



Witnesses

N. H. Sherburne

A. C. Lundy



Inventor

Franklin E. Bowen
By Parwell & Co
his atty

UNITED STATES PATENT OFFICE.

FRANKLIN E. BOWEN, OF KNIGHTSTOWN, INDIANA.

IMPROVEMENT IN FANNING-MILLS.

Specification forming part of Letters Patent No. 117,374, dated July 25, 1871.

To all whom it may concern:

Be it known that I, FRANKLIN E. BOWEN, of Knightstown, in the county of Henry and State of Indiana, have invented new and useful Improvements in Fanning-Mills; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a side elevation of a fanning-mill embodying my improvements; and Fig. 2 is a vertical longitudinal section of the same, showing its interior parts.

Similar letters of reference indicate like parts in both figures of the drawing.

My invention relates to that class of fanning-mills used in separating and cleaning grain, seeds, &c.; and the improvement consists, chiefly, in the construction and arrangement of mechanism employed for imparting the requisite movement to the shoes carrying the riddles, which will be more fully understood from the following description:

In the drawing, A represents the frame, which may be made as shown, or may be made in any known form that will receive the operating parts of the machine. B is the fan-case, and B' the hopper. C is the shoe, within which are secured the riddles for separating the chaff in the usual manner. The shoe C is pivoted at its inner end to the upper portion of the frame, in such manner as to admit of a slight tilting movement of its outer end. E is a horizontal knocking-shaft, which extends from side to side of the frame, and is provided at each end with a series of knobs, *a*, projecting outward from its periphery and in contact with the lower surface of the apron *d* of the shoe, whereby the requisite tilting movement and jar are imparted to the said shoe by the rotation of the said shaft. F is a supplemental shoe, within which are secured the graduating-riddles for completing the final separation of the grains or seeds. Said shoe is supported at its rear end upon lugs *e* affixed to the inner side of the frame, which lugs also act as stop-blocks to said shoe in its downward movement, whereby a sudden jar is imparted to said shoe, which is of great advantage in the operation of cleaning. The said shoe, and at its forward

end, is supported by a vertical spring, G, which is made vertically adjustable, the lower end of which is secured to the cross-girt of the frame, and all of which is so arranged as to admit of a longitudinal and vertical movement of the said shoe. Said shoe may be provided at its bottom with a series of graduating discharge-spouts, as shown in the drawing; but these I do not claim. H is the fan-shaft, which is secured in suitable bearings affixed to the frame of the machine in the usual manner, and is provided at each end near its bearings with a crank, *f*, upon which are hung slotted arms J, extending downward, and are pivoted at near their lower ends to the lower portion of the fan-case, which arms are made vertically adjustable upon their pivots for changing the inclination of the lower shoe, and also increasing or decreasing the amount of jar imparted to said shoe by the stop-blocks *e*. Said arms are arranged also in such a manner as to admit of a free-and-easy oscillating and also an up-and-down movement of the same by the rotation of the fan-shaft. The lower extremities of said arms are pivoted to the supplemental or lower shoe F, as shown at K, and thus, as the said fan-shaft is rotated, a longitudinal and vertical movement is imparted to the said supplemental shoe, thereby producing the requisite agitation of the grain or seeds upon the riddles. L is a drive-wheel, which is affixed to one end of the fan-shaft, around which wheel is passed a belt, M, which passes around a like wheel, L', on shaft E. Firmly secured within the said wheel L is a crank-handle, for imparting the requisite rotary motion to the said wheel.

It will be observed that the arrangement of the riddles in the respecting shoes constitutes no part of this my improvement or invention, and a description thereof is not necessary to be herein fully given.

In using my invention, the grain is placed in the hopper B in the usual manner; wheel L' of shaft E is then rotated, by which means the requisite motion is imparted to all the moving parts of the machine. The current of air from the fan-case is thrown against the grain upon the riddles of the shoe C, thereby throwing off the refuse or lighter particles, the grain passing to and upon the riddles of the supplemental shoe F, where the final separation is produced.

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

In combination with the shoes C and F and fan-shaft H, the knocker-shaft E, slotted arms J, spring-support G, and lugs *e*, all constructed and arranged to operate substantially as and for the purpose described.

The foregoing specification of my invention signed by me this 29th day of May, A. D. 1871.
FRANKLIN E. BOWEN.

Witnesses:

N. C. GRIDLEY,
N. H. SHERBURNE.

1,200