

W. D. JONES.
Corn-Husking Machines.

No. 156,422.

Patented Nov. 3, 1874.

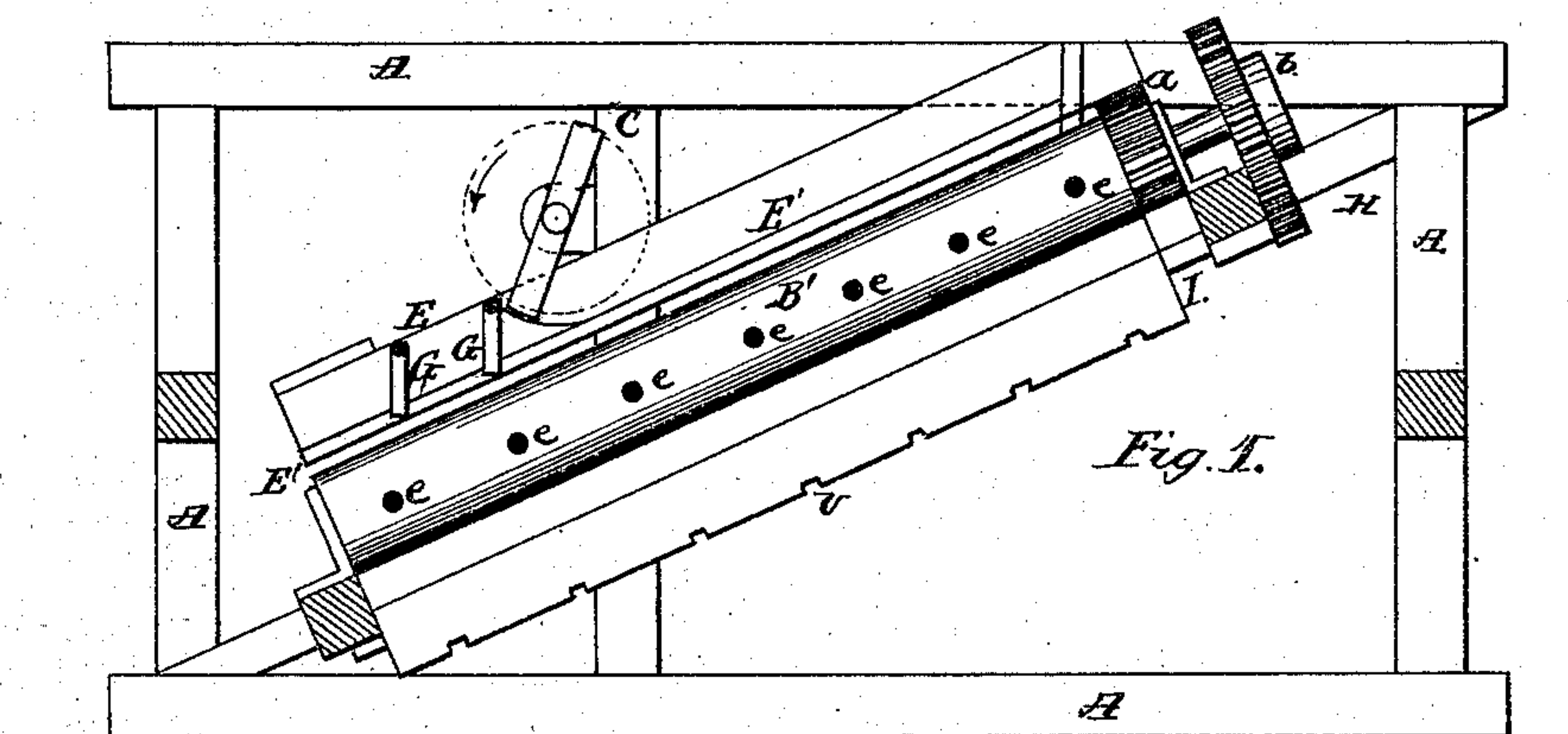


Fig. 2.

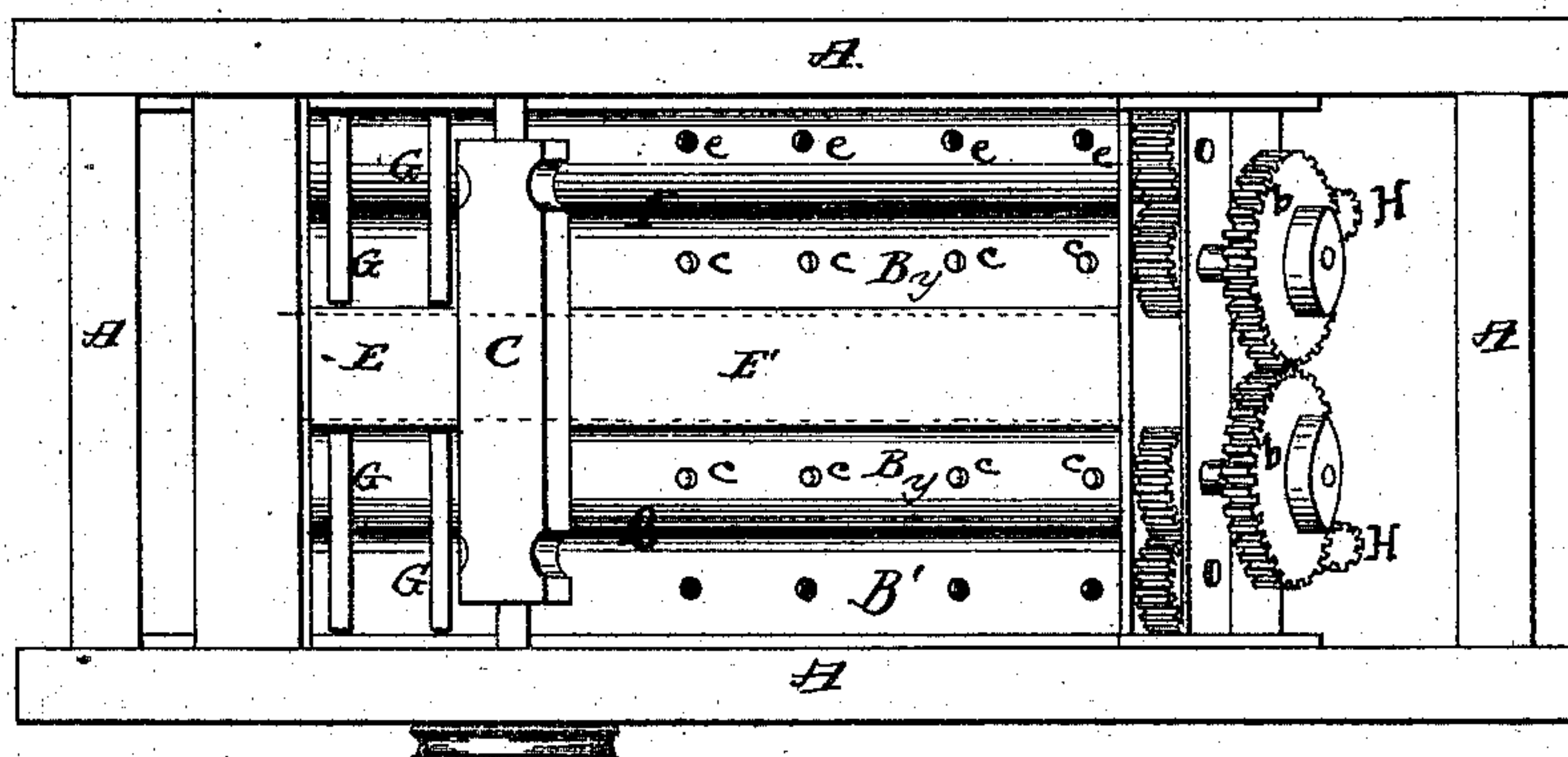


Fig. 3.

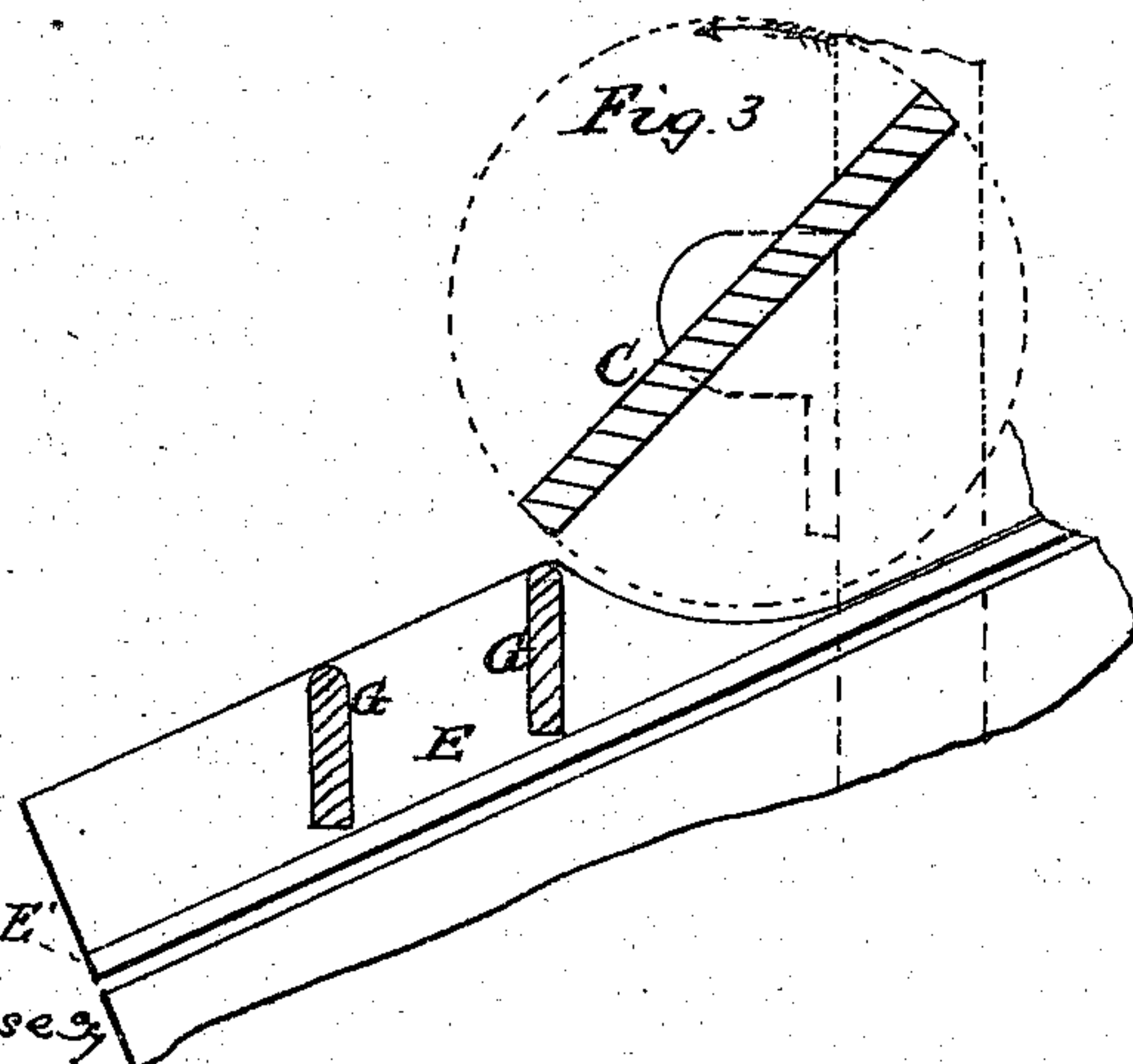
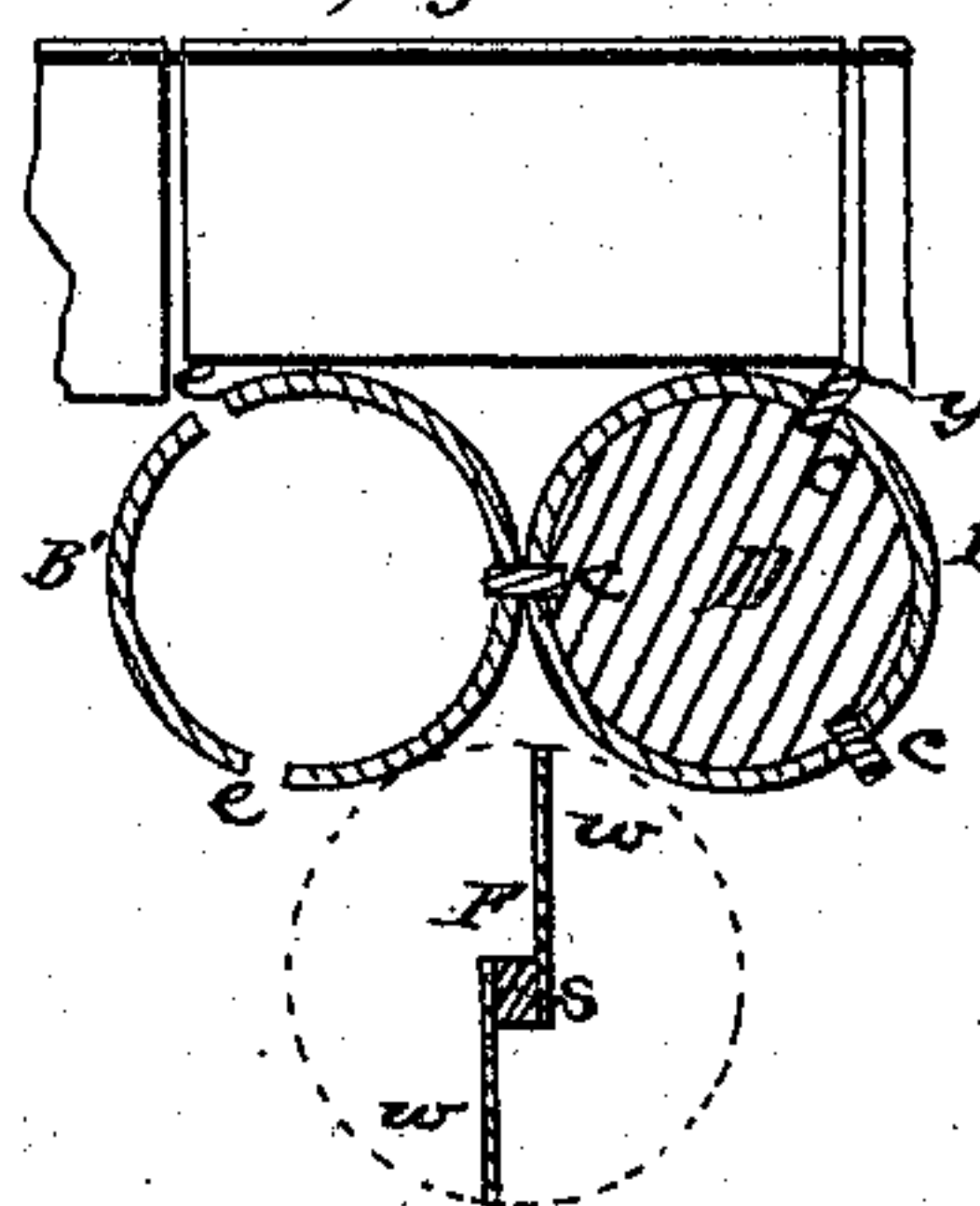


Fig. 4.



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IMPROVEMENT IN CORN-HUSKING MACHINES.

Specification forming part of Letters Patent No. **156,422**, dated November 3, 1874; application filed June 29, 1874.

To all whom it may concern:

Be it known that I, W. DAVIDSON JONES, of Hagaman's Mills, in the county of Montgomery and State of New York, have invented certain new and useful Improvements in Corn-Huskers; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents a side elevation of the operating parts of a machine embodying my improvements. Fig. 2 is a plan perspective view of the same. Fig. 3 is a side elevation of a section of the machine, illustrating the concave guard attached to the hopper-strip; and Fig. 4 is a cross-sectional view of the revolving scrapers and the pendulous check.

This invention relates to certain improvements in corn-husking machines; and consists in one part of a concave guard secured to the lower end of an inclined hopper-strip, placed between two pairs of inclined husking-rollers arranged within a frame, in combination with a revolving recessed beater or separator suspended in bearings in the frame of the machine, and traversing the pairs of husking-rollers and the concavity of the guard laterally and in such position that the recesses in the edges of the separator oppose the channels formed between the peripheries of the adjacent husking-rollers, and the plain-edge surfaces of the beater or separator when revolved describe a circle, the radius of which is about one inch shorter than the radius required to describe the segment which forms the concavity in the concave guard, the objects of this portion of the invention being to separate or single out one ear at a time from the bulk of ears resting upon each pair of husking-rollers by throwing the bulk of ears back and up the inclined rollers, and permitting but one ear at a time to pass down the rollers through each recess presented to the rollers; also, to prevent the stopping, choking, or clogging of the machine by preventing the ears which are thrown upon the hopper-strip, either by the action of the husking-rollers or the separator, from being caught between the separator and the hopper-strip. It further consists of a husking-roller composed of a tubular iron shell provided with a tightly-fitting core of

wood, into which the teeth of the roller are driven through holes drilled in the iron shell, the objects of this part of the invention being to secure lightness and durability, and to prevent the springing of the roller, which would greatly impair the efficiency of the machine; also, to facilitate the operation of repairing the roller when it becomes necessary to replace broken teeth. It consists, in another part, of two or more consecutive pendulous checks suspended over a pair of husking-rollers below the beater or separator, and in such proximity to the said rollers as to touch lightly upon an ear of corn in its passage down the rollers and between them and the said checks, the object being to prevent the ears of corn from jumping or flying up after they have passed the revolving separator by a series of independent pendulous checks, no one of which can be effected by two ears of corn at one and the same time. It consists, in another part, of a revolving scraper or clearer, in combination with a pair of husking-rollers, the object being to clear the surfaces of the pair of rollers of gum, juice, fiber, husks, or like matter that may adhere to them, in consequence of the labor they perform.

In the accompanying drawing, the frame A of the machine is represented by full lines in Figs. 1 and 2. B and B' are the husking-rollers, of which there are two pairs, pair 1 and pair 2, represented, that number of pairs being sufficient to illustrate my invention. The roller B in each pair consists of a cylindrical iron shell, *y*, the bore of which is filled by a core, D, of wood, made by turning the wood to a size that it may be driven into the bore of the shell *y*, and fit it tightly. Holes are drilled through the shell *y*, and teeth *c* driven through the said holes into the wooden core D, which latter retains them firmly in place. Should a tooth, *c*, be broken or otherwise become injured, it may be either withdrawn from or driven into the core D, and a new tooth, *c*, inserted in its place. The core D gives the shell *y* sufficient stability to prevent the roller B from springing, and lessens the weight and cost of the machine. The roller B' consists of a cylindrical iron shell provided with holes *e*, located therein in position to engage with the teeth *c* of the roller B. The rollers B and B' of each pair have their bear-

ings in the frame A, are placed at an inclination, which causes the corn to traverse them from their upper to their lower ends, and are connected by gearing *b b*. The pairs 1 and 2 of rollers B B' are separated by a hopper-strip, E', extending the full length of the rollers B B'. Upon the hopper-strip E', at its lower end, and extending a short distance upwardly therefrom, is placed and secured the guard E, the upper termination of which is concave.

A revolving beater or separator, C, supported in bearings in the sides of the frame A, and provided with recesses in its edges, traverses the pairs of husking-rollers B B' and the concave guard E transversely. The recesses in the separator C come directly over the channels formed between the rollers B B' of each pair—1 and 2. The separator C revolves in the direction of the arrow in Figs. 1 and 3, and its edges in one-half revolution describe the circle shown by dotted lines in Figs. 1 and 3, and its edges coming quite near to the curved surface of the concave guard E. The plane surface of the guard E is parallel with that of the hopper-strip E', and through the center of the shaft of the separator C.

Two or more pendulous checks, G, consisting of rectangular pieces of wood or other material, are suspended over each pair of husking-rollers, below the separator C, and swing freely up and down in the channel formed by the side of the machine and the side of the concave guard E, and directly over the channel formed between each pair of husking-rollers.

A revolving scraper or clearer, F, consisting of a shaft, I, provided with wings *w*, having recesses *v* in their edges, is placed directly under each pair of husking-rollers, and connected to the gear-wheels *b b* by the pinions H H.

Owing to the construction of the gear-wheels *b* and H, the scrapers F perform about two and a half revolutions to one revolution of the husking-rollers B B', and they are so placed in relation to the husking-rollers that the edges of the wings *w* will scrape from the surfaces of the said husking-rollers any foreign substances which may have adhered thereto. The teeth *c* of the rollers B pass through the recesses *v* in the wings *w* of the scrapers F.

The operation of the invention is as follows: Power being first applied to the machine, unhusked ears of corn are thrown promiscuously, and in bulk, with a shovel or basket, upon the upper ends of the pairs 1 and 2 of husking-rollers B B', and consequently in front of or above the separator C. The teeth *c* of the rollers B B' engage with the husks on the ears of corn lying in the channels between the rollers B B' of each pair, and start them loose and downward between the rollers B B', thus tearing the husks from the ear.

As the bulk of ears ride down the inclined rollers B B', the separator C, revolving upwardly, throws the ears not in the channel between the rollers B B' back up the incline, to be acted upon by the rollers B B', when the ears fall into the said channel. The husked or partly-husked ears in the channel between the rollers B B' pass down the said channel through the recess in the separator C.

The concave guard E prevents the husked or partly-husked ears that jump or fly upward, as they pass under the separator C, from being caught between the edge of the separator and the top of the hopper-strip E', which would otherwise frequently occur, and stop the machine.

If an ear should fly upon the concavity in the guard E, the sides of which are perpendicular, it would be swept up the inclined hopper-strip E' or the rollers B B', to be again acted upon, for the reason that there is no place for the ear to rest upon, that it may be grasped by the edge of the separator C, nor is there sufficient space between the edge of the separator C and the concave guard E through which an ear may pass.

The husked or partly-husked ears, after they have passed the separator C, ride under the pendulous checks G, which prevent them from jumping, and, in connection with the teeth *c* of the roller B, causes the ears to revolve spirally as they pass downwardly, thereby presenting every side of the ear to the action of the husking-rollers.

The revolving scrapers or clearers F revolve at a high rate of speed, and come so nearly in contact with each roller B and B' of a pair as to effectually clear the surfaces of the said rollers from all gum, fiber, &c., which may adhere to them in consequence of the labor which they perform.

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

1. The guard E, having concave face, and secured to the hopper-strips E', in combination with the revolving beater or separator C and rollers B B', constructed and operating substantially as and for the purposes hereinbefore set forth.

2. The corn-husking roller B, consisting of the perforated tubular metallic shell *y*, filled with wooden core D, into which the teeth *c* are driven.

3. The combination, with the husking-rollers B B', of the revolving beater or separator C and the pendulous checks G G, as and for the purpose set forth.

4. The revolving crenelated scraper or clearer F, in combination with a pair of husking-rollers, B B', constructed and operating substantially as and for the purpose set forth.

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