

(No Model.)

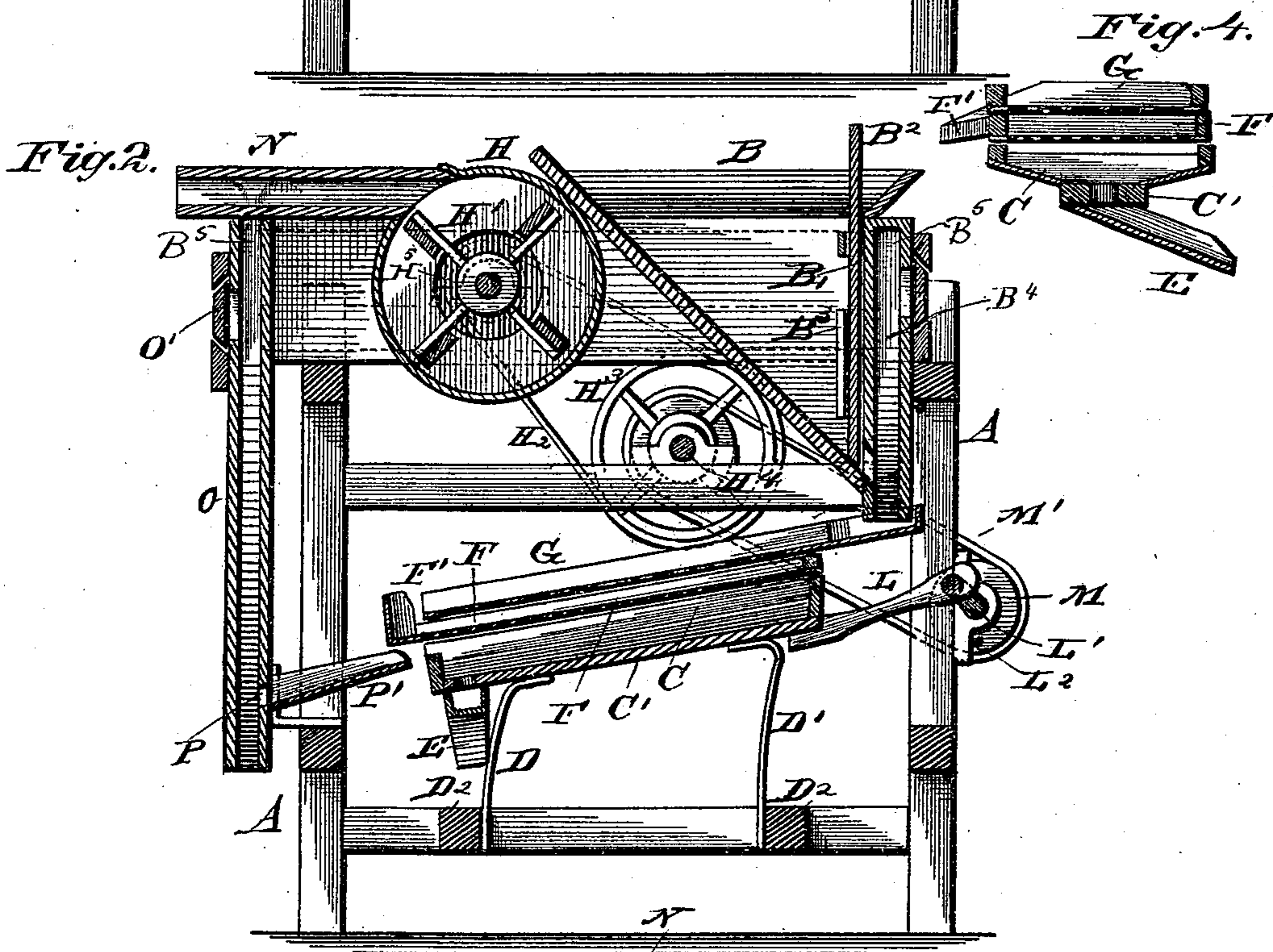
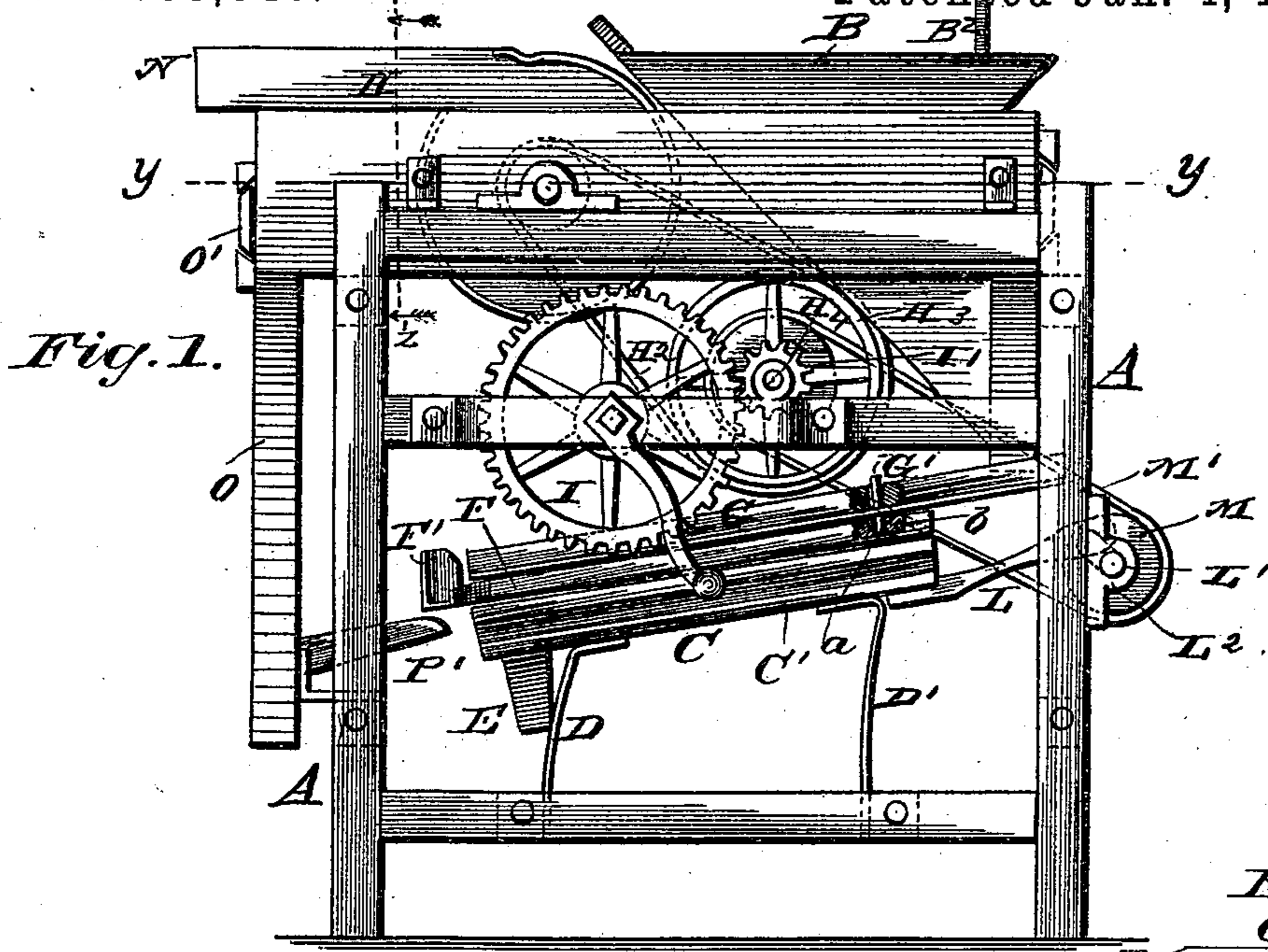
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R. McLAIN.

MACHINE FOR CLEANING GRAIN.

No. 355,546.

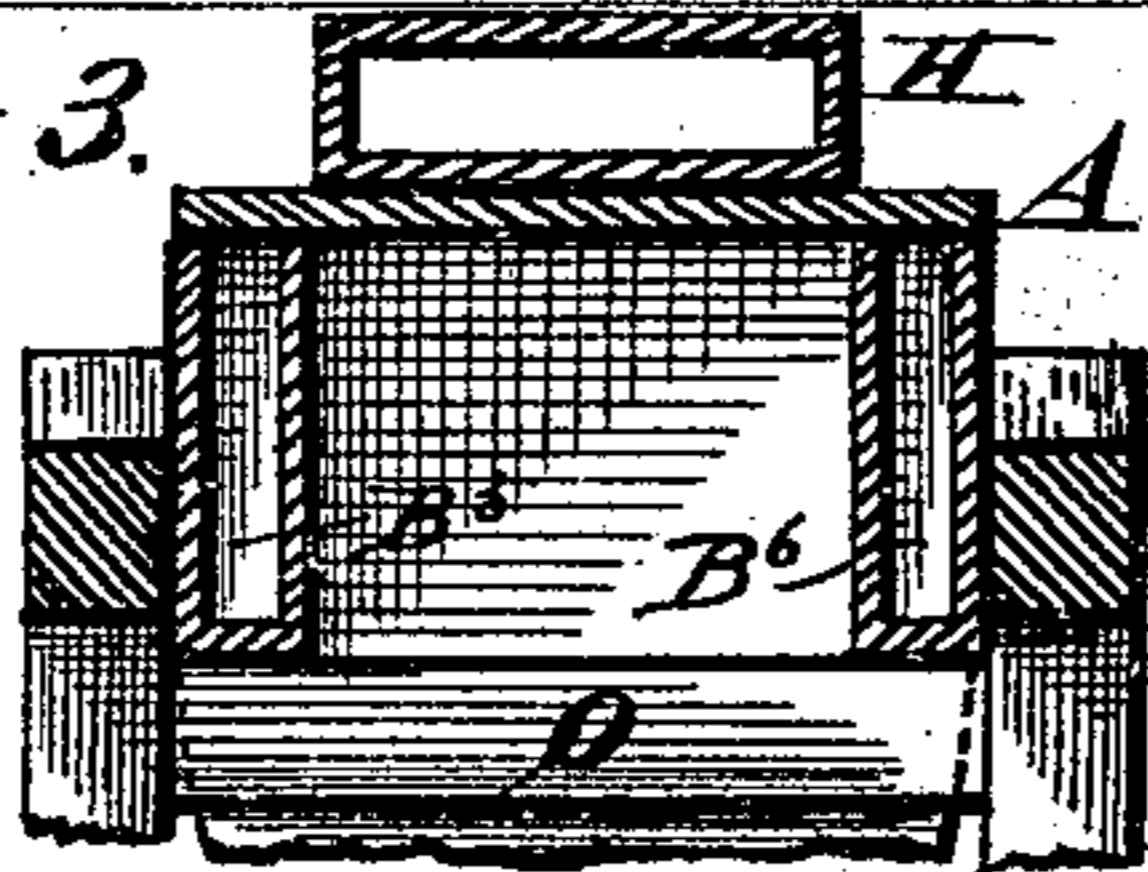
Patented Jan. 4, 1887.



WITNESSES

Phillemasi.
Ben. Fugitt.

Fig. 3.



INVENTOR

Ralph McLain,
by Anderson Smith
his Attorneys

(No Model.)

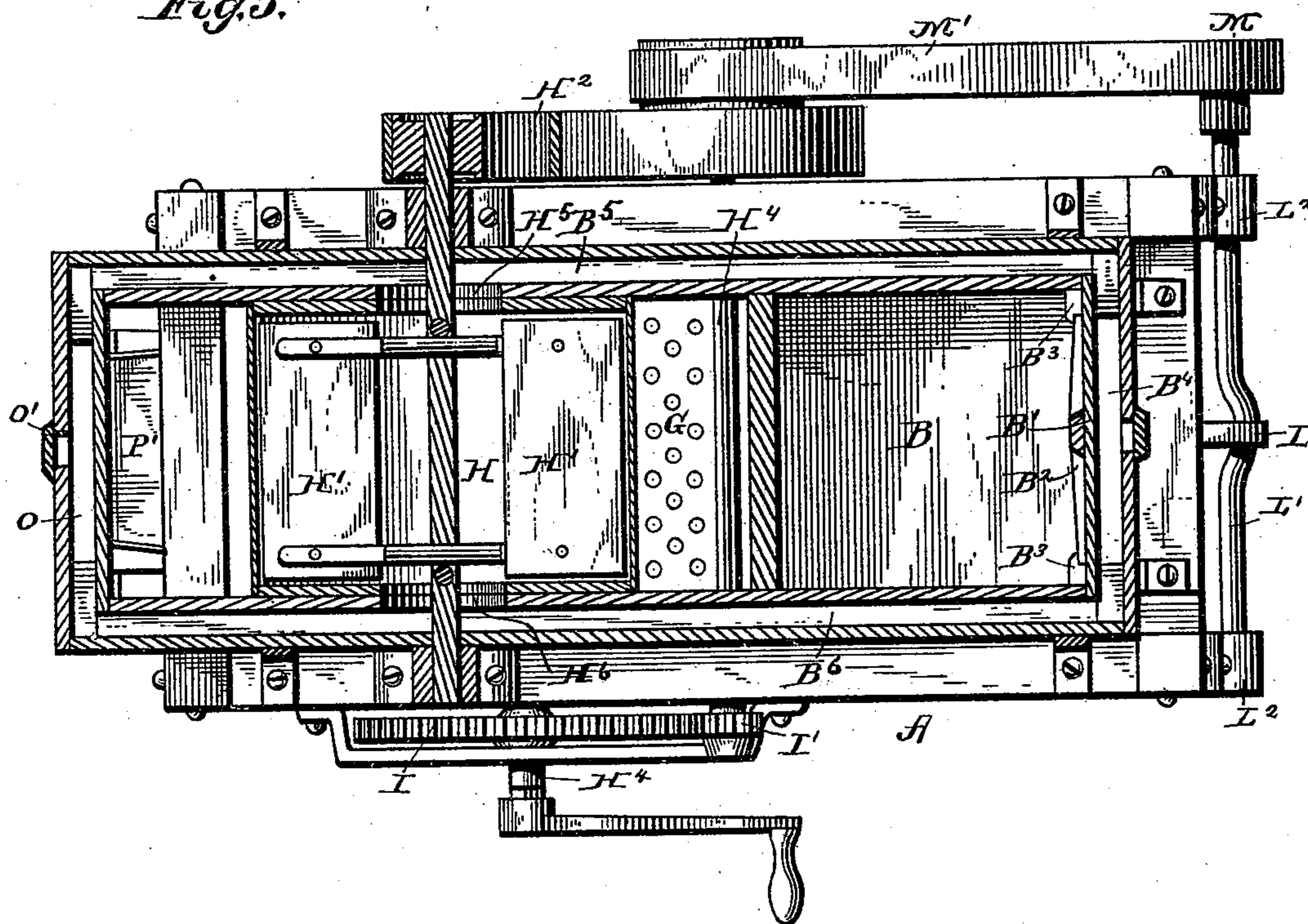
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Fig. 5.



WITNESSES

Ben. Fugitt,
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INVENTOR

INVENTOR
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UNITED STATES PATENT OFFICE.

RALPH McLAIN, OF ONTARIO, INDIANA.

MACHINE FOR CLEANING GRAIN.

SPECIFICATION forming part of Letters Patent No. 355,546, dated January 4, 1887.

Application filed March 5, 1886. Serial No. 194,138. (No model.)

To all whom it may concern:

Be it known that I, RALPH McLAIN, a citizen of the United States, residing at Ontario, in the county of La Grange and State of Indiana, have invented certain new and useful Improvements in Machines for Cleaning Grain; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a side elevation of a grain-cleaning machine embodying my improvements. Fig. 2 is a vertical section of the same. Fig. 3 is a vertical sectional detail view on the line $z z$ in Fig. 1, showing the flues B and the discharge-flue N. Fig. 4 is a similar view of the shoe; and Fig. 5 is a horizontal section taken on line $y y$, Fig. 1.

My invention relates to grain-cleaners; and it consists in the construction and novel arrangement of the parts, as hereinafter set forth, and pointed out in the claims.

Referring by letter to the accompanying drawings, A designates the frame of the machine, the dimensions of said frame being preferably three feet in length, twenty-one inches in width, and thirty-eight inches in height; but these dimensions may be varied, if desired.

B designates a hopper, which is located at the upper portion and front end of the machine, and is provided in its vertical end B' with a slide, B², which works in vertical ways B³ within the hopper, and is used to regulate the supply of grain that is to be fed to the sieves below the hopper through the vertical flue B⁴, which is open at its lower end and communicates at its upper end with the front ends of the two horizontal side flues, B⁵ B⁶, which flues open into the fan-chamber H through openings H⁵ H⁶ in the ends of the fan-chamber around the fan-shaft, and said side flues, B⁵ B⁶, connect at their rear ends with the vertical flue O.

C designates a vibratory shoe, which is secured to the upper ends of vertical flexible legs D D', the lower ends of said legs being secured to transverse lower bars, D² D², intermediate of the ends of the frame. This vibratory

shoe C has downwardly and inwardly inclined sides of sheet metal, which connect with a middle horizontal strip, C', of wood, and this wooden strip is provided near its lower end with a discharge-spout, E, for the sand and dirt to pass off from the shoe. Secured in place (by pins a passed up through holes b) upon this vibratory shoe C is a sieve, F, having a discharge-spout, F', near its lower end, which spout discharges in the direction opposite to that in which the spout E discharges. Upon the sieve F a second sieve, G, having larger meshes than the sieve F, is placed and held in place by pins G', or the like, and at its upper end the bottom of this sieve G is imperforate, or is closed, so that the grain may not pass through it when it first leaves the hopper. Other sieves of smaller or larger meshes may be employed to suit the kind of grain that is to be cleaned by the machine.

In the rear of the hopper is the fan-chamber H, within which is mounted the rotary fan or blower H', which is driven by a belt, H², running from the larger band-wheel H³ on the driving-shaft H⁴, motion being imparted to said driving-shaft by a cranked gear wheel or pulley, I, the teeth of which engage a pinion, I', on the driving-shaft H⁴.

The vibratory shoe C is connected at its upper end by a spring pitman-rod, L, to a transverse crank-shaft, L', secured in bearings L² L², connected to the uprights at the front end of the frame. The crank-shaft L' is provided at one end with a small pulley, M, and this pulley is connected by a belt, M', to the smaller pulley on the driving-shaft H⁴.

The fan-chamber H is provided at its upper portion with a rearwardly-extended discharge-flue, N. The vertical flue O is provided in its front wall, near its lower end, with a transverse opening, P, and with a short inclined chute, P', which receives the chaff and imperfect or light grain from the vibratory shoe C. When the chaff, &c., enters the flue O, it will be drawn up therein by the action of the blower H', and drawn back into the fan-chamber H through the side flues, B⁵ B⁶. By this construction—that is, by providing the vertical flues at each end and connecting these said vertical flues with the ends of the horizontal parallel flues—any chaff that may escape being drawn through the front flue to the fan-cham-

ber will be drawn up through the rear flue, O, to the fan-chamber H, and will be blown out at the discharge-flue N. The vertical flue O has a slide, O', in its rear wall, which may be opened
5 to regulate the draft in said flue.

This grain-cleaner takes the place of the fanning-mill usually employed in cleaning grain, and is adaptable to all kinds of grain.

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

1. A grain-cleaning machine comprising the lateral horizontal parallel flues B⁵ B⁶, arranged in the upper portion of the main frame, the
15 fan-chamber arranged between the respective flues and having communication therewith, the flue B⁴, having communication at its lower end with the hopper and at its upper portion with the said lateral flues, the slide for adjusting
20 the opening between the said hopper and vertical flue B⁴, the sieves F and G, having the discharge F', the shoe C, having the spout leading from its bottom central portion and sup-

ported on flexible legs, the crank-shaft and pitman-rod connecting the same with the shoe, 25 the vertical flue O, open at its lower end, and the spout P', secured to and communicating with the lower portion of the said flue O and adapted to receive from the sieves, substantially as specified. 30

2. A grain-cleaning machine, substantially as described, comprising the lateral horizontal parallel flues B⁵ B⁶, arranged in the upper portion of the main frame, the fan-chamber arranged between the said flues and having com- 35 munication therewith, the hopper, the flue B⁴, having communication at its lower end with the hopper, and the slide for adjusting the opening between the hopper and flue B⁴, substantially as specified. 40

In testimony whereof I affix my signature in presence of two witnesses.

RALPH McLAIN.

Witnesses:

JAMES M. KEITH,
JAMES C. ROSSMAN.