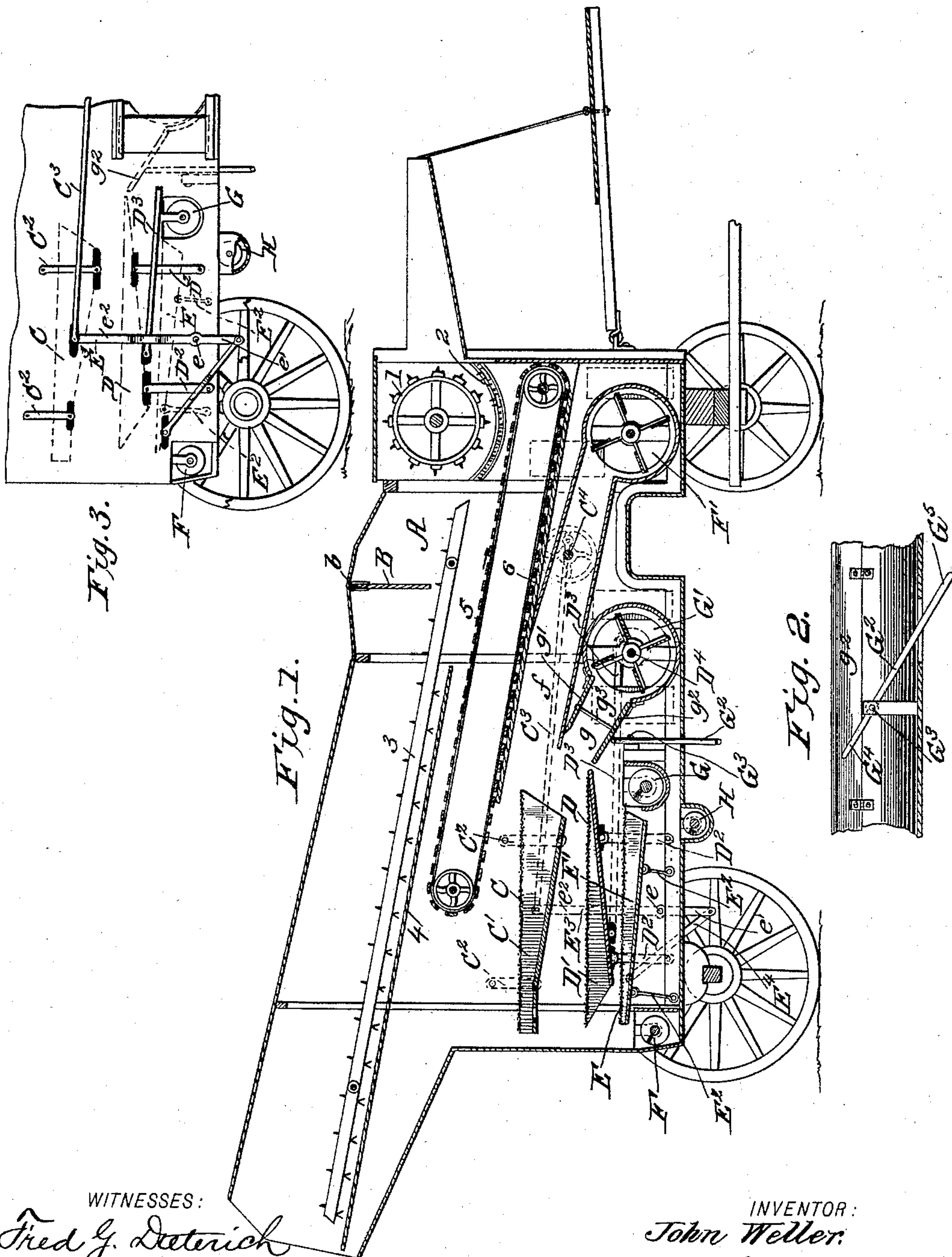


(No Model.)

J. WELLER.  
THRASHING MACHINE.

No. 474,275.

Patented May 3, 1892.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

JOHN WELLER, OF FUNKSTOWN, MARYLAND.

## THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 474,275, dated May 3, 1892.

Application filed November 9, 1891. Serial No. 411,393. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN WELLER, of Funkstown, in the county of Washington and State of Maryland, have invented a new and  
5 useful Improvement in Thrashing-Machines, of which the following is a specification.

My invention is an improvement in thrashing-machines, and particularly in the construction and arrangement of the stop-board  
10 or shutter, the shoes, and the blasts and parts connected therewith; and the invention consists in certain features of construction and novel combinations of parts, as will be hereinafter described, and then pointed out in the  
15 claims.

In the drawings, Figure 1 is a vertical longitudinal section of a machine constructed according to my invention. Fig. 2 is a detail transverse section showing the lever for operating the fan-chute, and Fig. 3 is a side elevation of a part of the machine.

The machine, as shown, includes, in connection with the necessary framing, the cylinder 1, concave 2, rakes 3, return-board 4,  
25 slotted apron or carrier 5, and bottom board 6 for such apron, which parts operate in a well-known manner and need no special description herein. In the head or cap chamber A, which is located directly in rear of the  
30 cylinder and concave, I arrange a swinging shutter or stop-board B, which forms, practically, the rear or back wall of the cap-chamber. This shutter or stop-board is hinged at its upper edge at *b* transversely of the cap, so  
35 it may swing back and forth to permit the masses of straw to pass under it, and at the same time such board operates to prevent the thrashed grain from being thrown on the straw in rear of the head or cap chamber.

In practice the grain, &c., is carried up the board 6 by the slotted apron and is discharged at its upper rear end onto the screen C of the upper shoe C', and passes from such shoe to the screen D of shoe D', and thence to the  
45 screen E of the shoe E', the said shoes being arranged one above the other, as shown. These shoes are supported and operated in the manner more fully described hereinafter, and by their arrangement, as shown, I secure  
50 a screening of the grain for a distance equal the combined lengths of the three screens. At the same time I arrange the shoes com-

pactly and secure a fall of the grain, &c., onto each of the screens. The tailings from the screens C and D discharge to a conveyer F, 55 and they are carried back to the feed-board or to the concave in any suitable manner and again run through the machine. The screenings from the screen E are discharged to a conveyer H and the cleaned grain to a conveyer G. 60

The shoe C' is supported on hangers C<sup>2</sup>, being pivotally connected with the lower end of such hangers, the upper ends of the hangers being pivoted to the frame of the machine. 65 The shoe D' is supported on the upper ends of the supporting-bars D<sup>2</sup>, while the shoe E' is supported on the upper ends of rods E<sup>2</sup>, which rods are pivoted at their lower ends to the framing of the machine and at their upper ends to the shoe E'. By supporting the middle and lower shoes in the manner described such shoes are given a different movement from the upper shoe and for such reason the grain is subjected to a somewhat different influence on the said middle and lower screens. 75

The upper shoe C' is oscillated by rods C<sup>3</sup>, connecting it with cranks on a shaft C<sup>4</sup>. The middle shoe D' is oscillated by rods D<sup>3</sup>, connecting it with straps or eccentrics on the fan-shaft D<sup>4</sup>, and the lower shoe E' is oscillated by means of levers E<sup>3</sup>, which are pivoted at *e* and have their short arms *e'* connected by rods or bars E<sup>4</sup> with the shoe E' and their long arms *e*<sup>2</sup> connected with the shoe C'. By this construction the upper and lower shoes are operated reciprocally, the former with a long and the latter with a short movement and the former rising as it is moved toward either end and the latter descending as it is moved from its normal position in one or the other direction. 80 85 90

The machine is provided with two fans F' and G', which for convenience of reference I term, respectively, the "front" and "rear" fans. 95 These fans may both be controlled by side doors or shutters, and the discharge-chute *f* of the front fan is arranged to direct a blast into the upper shoe. The rear fan G' has its discharge-chute *g* adjustable, said chute having its boards *g'* *g*<sup>2</sup> hinged at their inner or front ends, so their rear ends may be adjusted up or down, and such boards *g'* *g*<sup>2</sup> are 100



connected by a link  $g^3$ , so that they will move alike and so that the movement of one will move the other. To operate the chute, I provide the lever  $G^2$ , pivoted at  $G^3$  and having one arm  $G^4$  arranged to engage the board  $g^2$  and its other arm  $G^5$  to serve as a handle, the pivot-bolt of such lever being drawn sufficiently tight to secure the lever in any position to which it may be adjusted. It will be seen that the lever may be operated to set the adjustable chute up or down and to force a blast of air to the upper shoe to supplement the front fan blast or to deliver the blast of the rear fan to the middle or lower shoe or partly to each, as may be desired.

Having thus described my invention, what I claim as new is—

1. In an apparatus substantially as described, the combination of the shoes C, D, and E, arranged one above the other, as described, of the fan  $F'$ , having a fixed chute arranged to direct a blast to the upper shoe C, and the fan  $G'$ , having its discharge-chute adjustable and arranged to be set to direct a blast to any one of the shoes, whereby it may be caused to direct a blast to the middle or lower shoe or to supplement the blast of the fan  $F'$  to the upper shoe.

2. In an apparatus substantially as described, the combination of the shoes C D E and the hangers and bars supporting the same, said shoes being arranged one below the other and each to discharge to the next lower one, the levers  $E'$ , arranged alongside the shoes and pivoted between their ends to the framing and connected at their upper ends with the shoes C, links  $E^4$ , connecting the lower ends of said levers with the lower shoe E, rods  $C^2$ , connecting said levers  $E^3$  with moving parts of the machine, and rods  $D^3$ , connecting

the shoe D with moving parts of the machine, all substantially as and for the purposes set forth.

3. In a machine substantially as described, the combination of the framing, the upper, lower, and middle shoes, the hangers supporting the upper shoe, the bars supporting the middle shoe, the rods or bars supporting the lower shoe, said rods being pivoted at their lower ends to the framing and at their upper ends to the lower shoe, and operating mechanism, all substantially as and for the purposes set forth.

4. The combination, substantially as herein described, of the framing, the upper and middle shoes and their hangers and supporting bars, the lower shoe and its supporting rods or bars, the levers connecting the upper and lower shoes, and operating mechanism for oscillating the upper and middle shoes, substantially as set forth.

5. In an apparatus substantially as described, the combination of the shoe C, the hangers  $C^2$ , supporting the shoe  $C'$ , the shoe D, arranged below the shoe C and in position to receive the discharge from said shoe, the rods or bars supporting the shoe D, the shoe E, arranged below and in position to receive the discharge from the shoe D, rods supporting the shoe E, the levers  $E^3$ , arranged alongside the shoes C, D, and E and connected at their upper ends to the shoe C and at their lower ends with the shoe E, and mechanism for reciprocating the shoes C and D, substantially as set forth.

JOHN WELLER.

Witnesses:

J. IRVIN BITNER,  
C. B. WAGNER.