(No Model.) 2 Sheets—Sheet 1.

G. H. THEEDE.

THRASHING MACHINE.

No. 461,967. Patented Oct. 27, 1891.

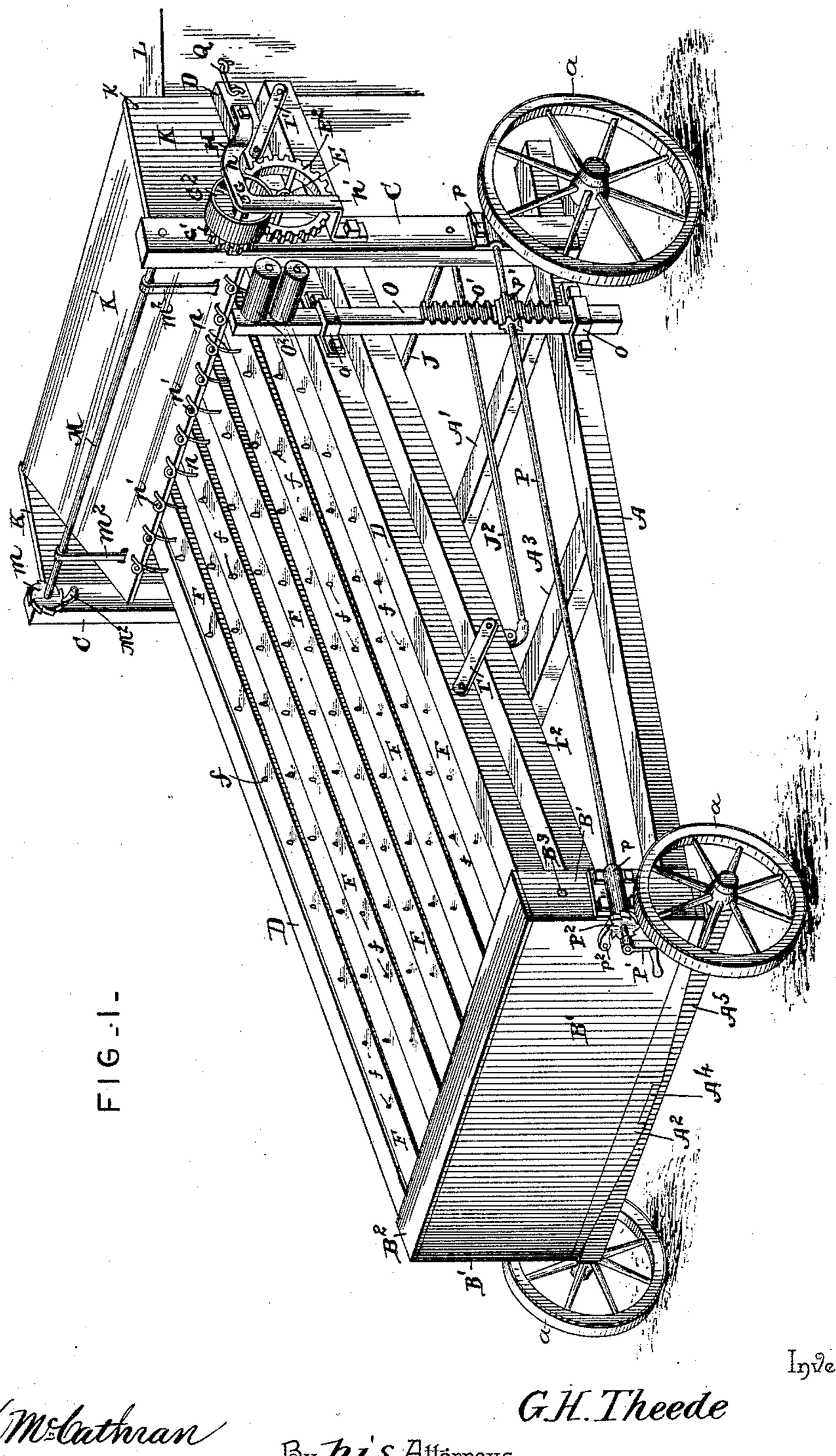

FIG. 1.

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(No Model.) 2 Sheets—Sheet 2.

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FIG_2_

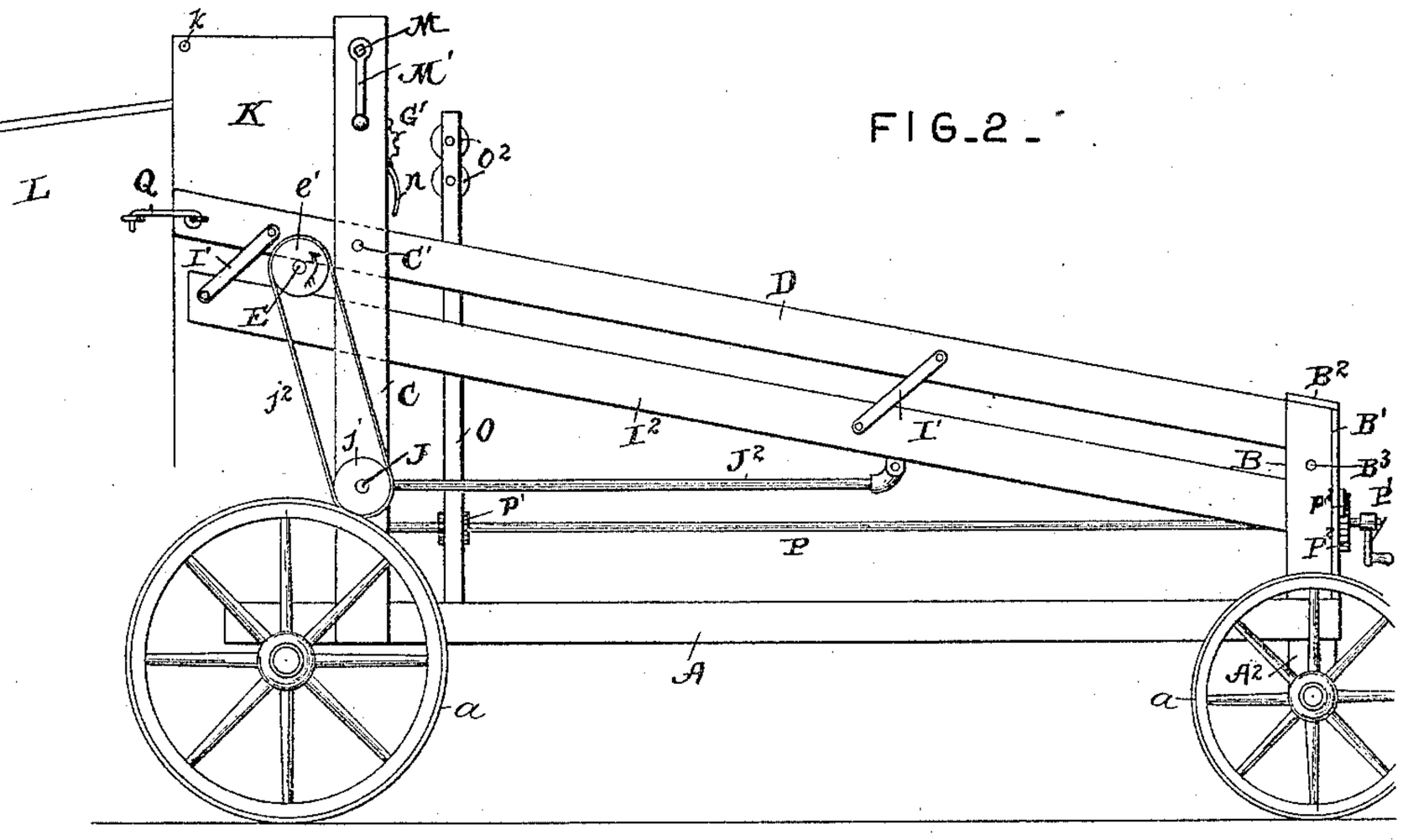

FIG_3_

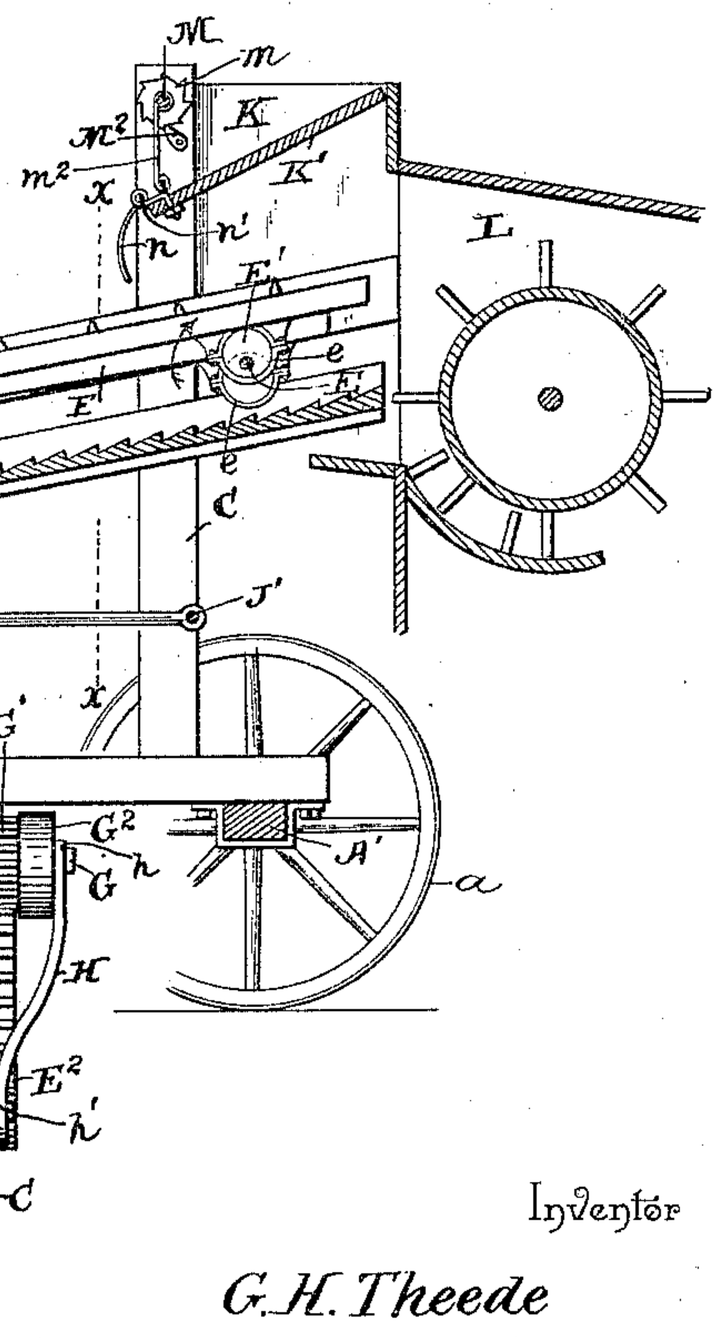

FIG_4_

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UNITED STATES PATENT OFFICE.

GUSTAV H. THEEDE, OF NEAR MALMO, NEBRASKA.

THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 461,967, dated October 27, 1891.

Application filed July 29, 1890. Serial No. 360,330. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV H. THEEDE, a citizen of the United States, residing near the village of Malmo, in the county of Saunders and State of Nebraska, have invented a new and useful Thrashing-Machine Feeder, of which the following is a specification.

My invention relates to feeders for thrashing-machines; and it consists of the mechanism illustrated in the accompanying drawings, the peculiar construction, combination, and arrangement of which will be more fully described hereinafter, and the specific points of novelty particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my improved feeder. Fig. 2 is a side elevation of the same, looking at the right-hand side thereof. Fig. 3 is a central longitudinal sectional view of the same. Fig. 4 is a transverse sectional view on the line *x x* of Fig. 3.

Similar letters of reference designate corresponding parts in the several views.

The operating parts of my invention are supported upon a rectangular frame composed of the side beams or sills A A, the rear axle A′, the front bolster A^2, and the girt and draw-bar A^3 and A^4, the former of which extends transversely across the frame near the center thereof. The front axle A^5 is pivotally connected to the bolster A^2 by a king-bolt A^6, which passes through the center of the said bolster A^2 and the axle A^5, as is usual. The draw-bar A^4 extends from the center of the girt or cross-bar A^3 and is secured upon the king-bolt at its forward end. The frame just described is mounted upon suitable carrying-wheels *a*.

B B designate two short uprights, which extend upwardly from the front ends of the sills A A and are braced and inclosed by a front board B′ and a top board B^2. A transverse shaft B^3 is mounted at its ends in the uprights B and extends across the frame of the machine. Two uprights C C are mounted upon the sills A A just in front of the rear axle A′ and stand about three times as high as the uprights B B. Side beams D D extend from the upper ends of the uprights B rearwardly in an upwardly-inclined direction, and are secured to the uprights C C at a point C′ somewhat above the center of the latter. Said side beams D are extended some distance in rear of the uprights C, as shown in Figs. 2 and 3 of the drawings. A shaft E extends across the rear part of the machine and is journaled in the side beams D just in rear of the uprights C C. Upon the shaft E, between the side beams D, are mounted a suitable number of eccentrics E′.

Carriers F are arranged between the side beams D and inclined to correspond therewith. Each of the said carriers is supported at its rear high end upon one of the eccentrics E′, the yoke *e* of the eccentric being secured to the lower side of the carrier. The front lower ends of the carriers are supported upon rollers *b*, mounted upon the shaft B^3 in the front of the machine. By this construction it will be seen that if the shaft E, carrying the eccentrics E′, be rotated in the direction of the arrow the rear ends of the carriers F will be raised and carried rearwardly and then depressed and moved forwardly, their front ends moving freely backward and forward upon the rollers *b*. The arrangement of the eccentrics upon the shaft E is such that each alternate carrier will be raised to its highest point at the time that the intermediate carriers are at their lowest point, as shown in Figs. 3 and 4 of the drawings. The carriers F are provided upon their upper sides with upwardly-extending teeth *f*, which are very short at the forward ends but increase in height as they near the rear ends. The ends of the shaft E extend through the side piece D, and on the end at the left side of the machine is mounted a toothed wheel E^2, which is arranged to mesh with a toothed pinion G′ upon a short shaft G, which latter is mounted in suitable bearings in the side of one of the uprights C, and in a bracket H, having two arms *h h′*, one of which is secured to the said uprights C and the other to the adjacent side beam D. A pulley G^2 is also mounted upon the shaft G, and is arranged to receive motion through the medium of the driving-belt of the thrashing machine from any suitable source of power. An elevator I is arranged beneath the carriers F, and suspended thereunder by links I′, which are pivoted at one end to the side beams D, and at their opposite ends to the side pieces I^2 of the elevator I. A crank-shaft J extends

across the frame of the machine below the elevator I, and is journaled at its ends in the uprights C, the said crank-shaft being provided with a crank J′ near each end thereof, just inside of the uprights C. Pitmen J^2 are connected at one end with each of the cranks J′, and at their opposite ends with the side pieces I^2 of the elevator I. Upon the right-hand end of the shaft J is mounted a pulley *j*, which is arranged to receive motion transmittted by a belt j^2 from a pulley *e′* upon the right-hand end of the shaft E. The object of the elevator I is to receive any grain or straw which may fall between the carriers F, and from the foregoing construction it will be seen that when the crank-shaft J is rotated it will, through the pitmen J^2, impart a reciprocating motion to the elevator I, causing it to swing upon the links I′, for a purpose to be hereinafter explained.

Side-boards K are placed upon the rear ends of the side beams D in rear of the uprights C to guide the grain to the cylinder L of an ordinary thrashing-machine, and a board K′ is arranged between the upper edges of the side-boards K to form a cover for the space inclosed between the said side-boards above the carriers, and the said board K′ is pivoted at its rear corners *k* to the upper rear corners of the side-boards K. A shaft M is journaled in the upper ends of the uprights C and extends across the machine, one end of the said shaft being provided with a crank-handle M′ by means of which it may be rotated. A ratchet-wheel *m* is mounted upon the said shaft M adjacent to one of the uprights C, and a pawl M^2 is pivoted upon the said upright and arranged to engage the teeth of the ratchet-wheel *m* to check the rotation of the ratchet-wheel and shaft. Straps m^2 are secured at one end to the shaft M and at their opposite ends to the front edge of the board K′ to support the latter. Wire fingers *n*, which may be coiled, as at *n′*, to give them sufficient elasticity, are secured along the front edge of the board K′ and curved downwardly toward the carriers F. By rotating the shaft M to wind or unwind the strap m^2 the front edge of the board K′ and the fingers may be raised or lowered to increase or decrease the space between the edge of the said board and the carriers F. A vertical bar O is arranged to slide through bearings *o o*, one of which is secured to one of the sills A, and the other is secured to the side beam D upon the same side of the machine. A toothed rack O′ is secured to the side of the bar O near the lower bearing *o*, and a pair of rollers O^2 are journaled near the upper end of the said shaft, between which rollers the driving-belt is arranged to pass. A longitudinal shaft P is journaled in suitable brackets *p p* upon the uprights B and C and carries near the rear end thereof a toothed pinion *p′*, arranged to mesh with the teeth upon the rack O′. The forward end of the shaft P is provided with a crank-handle P′ and a ratchet-wheel P^2, with which latter a check-pawl p^2 is adapted to engage to hold the shaft P from movement.

The operation of the invention is as follows: The machine is backed up to a thrashing-machine of ordinary construction and secured thereto in any suitable manner—as, for instance, by a hook and staple, as shown at Q. It must, however, be placed in such position that the carriers F and elevator I will deliver their contents to the cylinder L of the thrashing-machine, as shown in Fig. 3. To start the feeder, the shaft P is rotated by means of the handle P′ to slide the bar O to tighten the driving-belt and rotate the pulley G^2, and thus start the mechanism of the feeder. The grain to be thrashed is placed upon the lower front ends of the carriers P, the movement of which will carry it upwardly and rearwardly. The arrangement of the eccentrics is such that while one half of the carriers—*i. e.*, each alternate one—are moving upward and rearwardly, carrying the grain along with them, the other half (alternate ones) are being depressed and moving forwardly beneath the grain to raise and carry it forward while the first-mentioned half of the carriers are making their return movement. Thus it will be seen that the grain is being pushed rearwardly, first by one half of the carriers and then by the other half, alternately, until it is delivered over the rear ends of the said carriers to the cylinder L of the thrashing-machine. Should any of the grain fall through between the carriers P, it will be caught upon the elevator I, the movement of which will carry the said grain rearwardly and deliver it into the separator L of the thrashing-machine.

The quantity of grain fed to the separator may be regulated by raising or lowering the front edge of the board K′, which will cause the fingers *n* thereon to intercept to a greater or less extent the grain as it passes thereunder. The board K′, being hinged at its upper rear edge, as described, forms with the side pieces K a close casing, which is practically dust-proof, the opening between the front edge of said board and the reciprocating carriers being closed by the grain entering the machine. The spring-fingers *n* secured to said board serve to prevent the grain from receding.

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

1. In a feeder for thrashing-machines, a series of longitudinal reciprocating toothed carriers, rollers mounted upon a shaft journaled in the frame of the machine upon which the ends of the said carriers are supported, a driving-shaft journaled in the frame of the machine, eccentrics mounted upon the said driving-shaft and connected to the said carriers to operate the latter, an elevator suspended from the sides of the frame beneath

said carriers, and means for operating the driving-shaft and said elevator, substantially as described.

2. The combination of the frame, the reciprocating toothed carriers, the elevator suspended by links from the sides of the frame and beneath said carriers, the shaft having a series of eccentrics supporting the elevated rear ends of the carriers, the shaft having rollers supporting the front ends of the carriers, and suitable operating mechanism, substantially as specified.

3. In a feeder for thrashing-machines, the combination of the frame, the reciprocating toothed carriers, the casing at the discharge end of the carriers having upwardly-extending side pieces and a top piece hinged at its upper rear edge between said side pieces, the spring-fingers extending down from the front and free edge of said hinged top board, and mechanism for adjusting and retaining the latter, substantially as specified.

4. In a thrasher-feeder, the combination, with the frame, of the reciprocating toothed carriers, a transverse shaft arranged under the front ends of said carriers and having rollers supporting the same, a shaft arranged under the rear and upper ends of the carriers and provided with eccentrics engaging yokes located upon the under sides of said carriers, the elevator suspended under the carriers by links connected to the sides of the frame, the casing at the discharge end of the carriers and having hinged top board, spring-fingers depending from the front and free edge of said hinged top board, and a pawl-and-ratchet-controlled shaft located in the sides of said casing and provided with depending straps secured to the free edge of said top board and adjusting and retaining the same, substantially as specified.

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Witnesses:
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JOHN M. MOHR.