

(No Model.)

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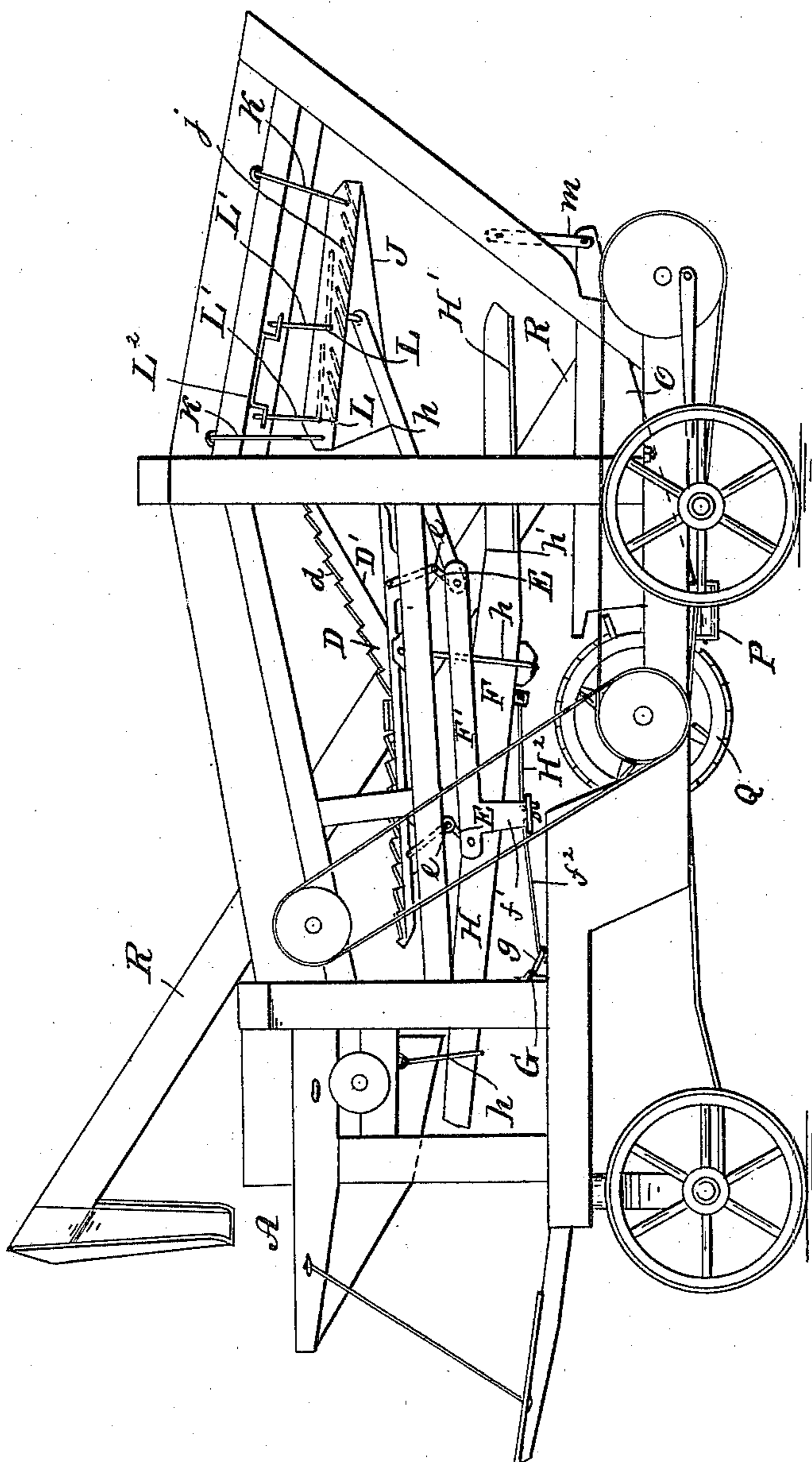
C. C. MURPHY.

GRAIN SEPARATOR.

No. 341,814.

Patented May 11, 1886.

Fig. 1.



Witnesses
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(No Model.)

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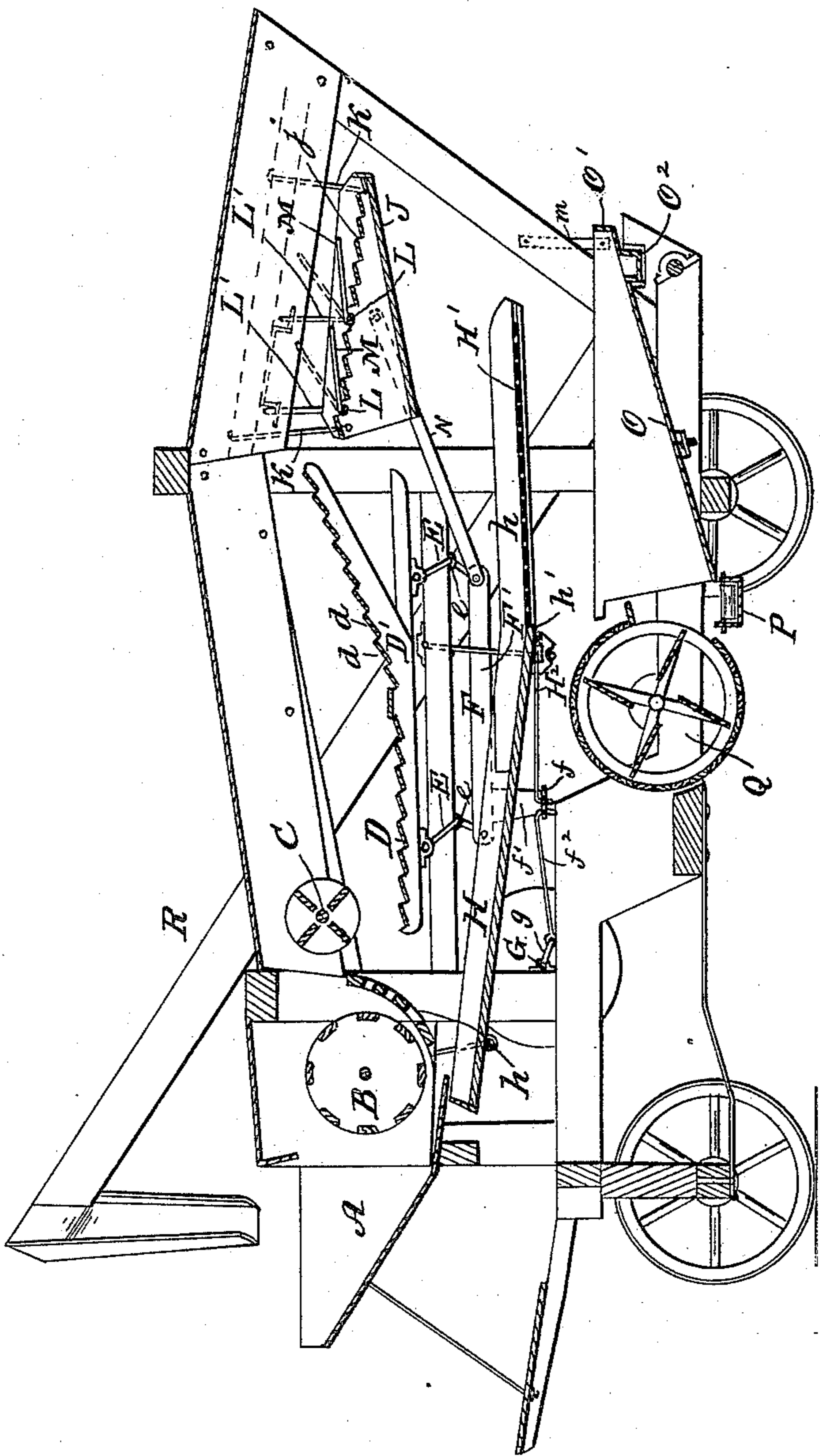
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Fig. 2.



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(No Model.)

3 Sheets—Sheet 3.

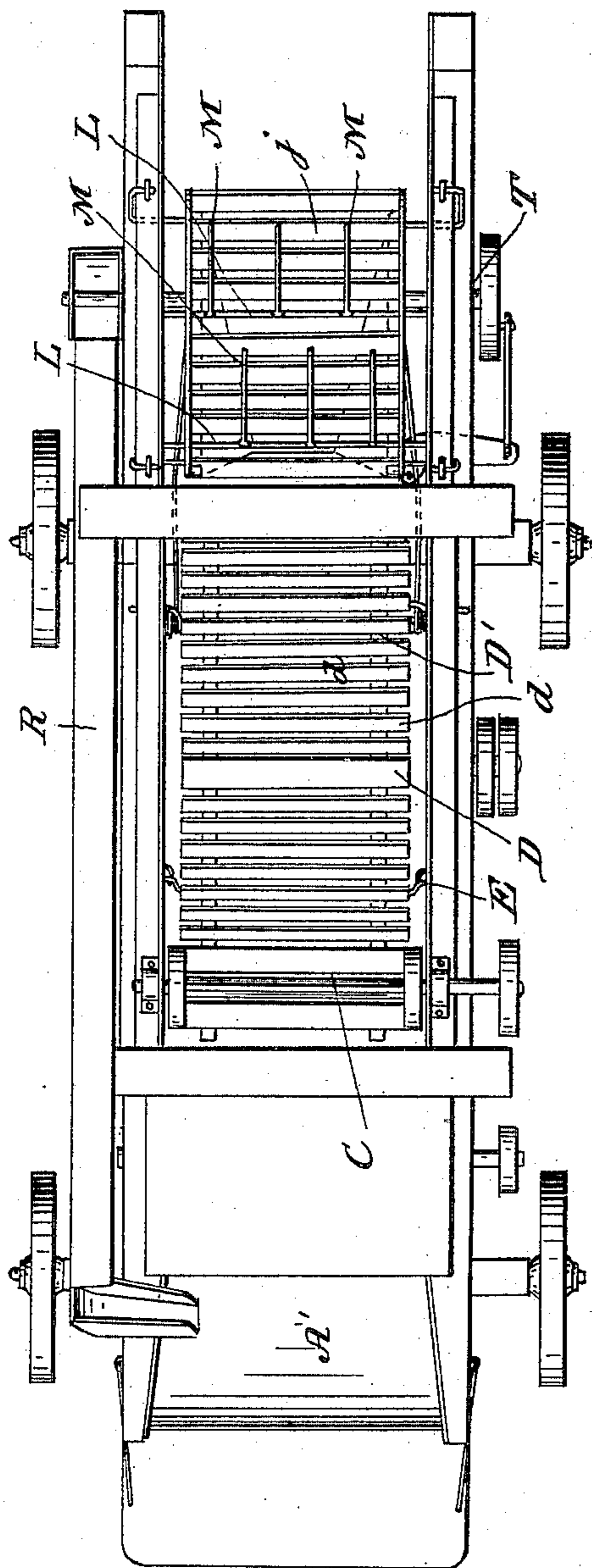
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Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

COLUMBUS C. MURPHY, OF LE SUEUR, MINNESOTA.

GRAIN-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 341,814, dated May 11, 1886.

Application filed November 9, 1885. Serial No. 182,230. (No model.)

To all whom it may concern:

Be it known that I, COLUMBUS C. MURPHY, a citizen of the United States, residing at Le Sueur, in the county of Le Sueur and State of Minnesota, have invented certain new and useful Improvements in Grain-Separators; 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 the letters and figures of reference marked thereon, which form a part of this specification.

This invention is an improvement in thrashing-machines; and it consists in certain novel constructions and combinations of parts, which will be hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of my machine. Fig. 2 is a longitudinal vertical section thereof, and Fig. 3 is a top plan view with the cover partly removed.

The machine has a suitable feed-table, A, located in front of the cylinder B, which operates in a suitable concave. Slightly back of and above the concave a slatted roller, C, may be journaled in position to direct the straw onto the straw-carrier D, presently described.

The straw-carrier is formed of side bars, D', and cross-slats d, extending between such side boards. The rear portion of the carrier is preferably inclined upward. This carrier is supported on the upper ends of levers E, which are pivoted at e between their ends to the framing, and support the actuating-frame F on their lower ends. This frame F comprises side bars, F', which are connected with the levers E, and connected at or near the front ends by a cross-bar, f, usually extending between lugs f', depending from the side bars, as shown. A link, f², connects the cross-bar f with crank g, on shaft G which is geared with the operating mechanism of the machine. As the shaft G is revolved, it moves the frame F, which in turn actuates the levers E and the straw-carrier. As the levers E are turned on their pivots, the straw-carrier is given a longitudinal movement upward toward the rear and back to the position shown in Figs. 1 and 2, giving the straw a throw toward the rear end of the machine.

The grain-chute H is supported on hangers

h, and extends below the straw-carrier, its front end resting below a suitable inclined board, I, which receives the grain from the concave and directs it onto the grain-chute. This chute is inclined downward to about a point, h', in rear of which it is provided with a screen, H', which inclines upward from the point h' toward the rear end. This screen serves to separate from the grain chaff, &c., and the grain falls thence onto the discharge-chute.

The grain chute H is connected by a link, H², with the cross-bar of the actuating-frame, and is given a reciprocating vibratory movement, which aids in agitating the grain and facilitates its passage through the screen.

The shaker is located to the rear of and in position to receive the straw from the carrier. This shaker is formed with a bottom board, J, inclined toward its front end, and having such end located over and in position to discharge directly onto the grain-chute. The shaker is suspended on hangers K, and is provided above its bottom board with a frame of slats, j. These slats form openings, which permit the passage of the grain and stop the straw; and it will be understood that said slats might be replaced by open meshed sieves or perforated frame-work of other description without departing from the invention.

The shafts L are journaled between the sides of the shaker and in approximately the plane of the slats j. These shafts have crank-arms L' at one or both ends, which project through openings in a keeper, L², so placed that as the shaker is swung on its hangers K the shafts will turn slightly. On these shafts L, I secure teeth M, which are arranged at approximately right angles to the crank-arms L', and project rearwardly over the slats j. A link or links, N, connect the shaker with the actuating-frame, in order to swing such shaker automatically and simultaneously with the other parts of the machine. As the shaker swings forward, the vibrating fingers M are brought down close to the slats, and hold the straw from moving off the front end of the shaker, and during the back-swing the fingers rise and loosen the straw, enabling the same to be thrown off the shaker at each backward swing thereof. By the shaker the straw is given a final agitation before it is discharged from the machine, and

all grain contained in said straw is shaken out. The fingers also serve to divide said straw and render more certain the deposit of all grain therefrom.

- 5 The discharge-chute O is arranged under the sieve of the grain-chute, and receives the grain therefrom. This grain-chute is inclined toward its front end, at which end I arrange a transverse trough, P.
- 10 The discharging-chute is provided at its upper rear end with a stop-board, O', which projects upward, and serves to prevent the fan Q from blowing unhusked grain out with the chaff, which latter is blown over the said stop-
- 15 board, as will be seen. The fan is located in front of the lower end of the discharge-chute, and its blast is directed up the said chute, driving the chaff over the stop-board, and blowing back any unhusked grain or grains to which
- 20 any particles of husk adhere. These latter pass into a gutter or trough, O², located at the upper end of the chute O and immediately in front of the stop-board O', this trough O² inclining toward one end, and discharging the
- 25 grain it receives into the lower or receiving end of an elevator, R, by which it is conveyed upward and deposited into the feed-board and again run through the machine. This discharge-chute is suspended on hangers m, so that
- 30 it may be vibrated laterally.

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

1. The combination of the framing, the pivoted levers, the actuating-frame supported on 35 the lower ends of said levers, the straw-carrier supported on the upper ends of such levers, the grain-chute suspended on hangers below the straw-carriers, and a link connecting said grain-chute with the actuating-frame, substan- 40 tially as set forth.

2. The combination of the levers pivoted between their ends, the straw-carrier supported on the upper ends of said levers, the actuating-frame supported on the lower ends 45 of the levers, the grain-chute located below the straw-carrier, a link connecting the grain-chute and the actuating-frame, the shaker suspended by hangers, and a link connecting said shaker with the actuating-frame, substantially as set 50 forth.

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

COLUMBUS C. MURPHY.

Witnesses:

WASHINGTON BORIGHT,
JNO. RYAN.