

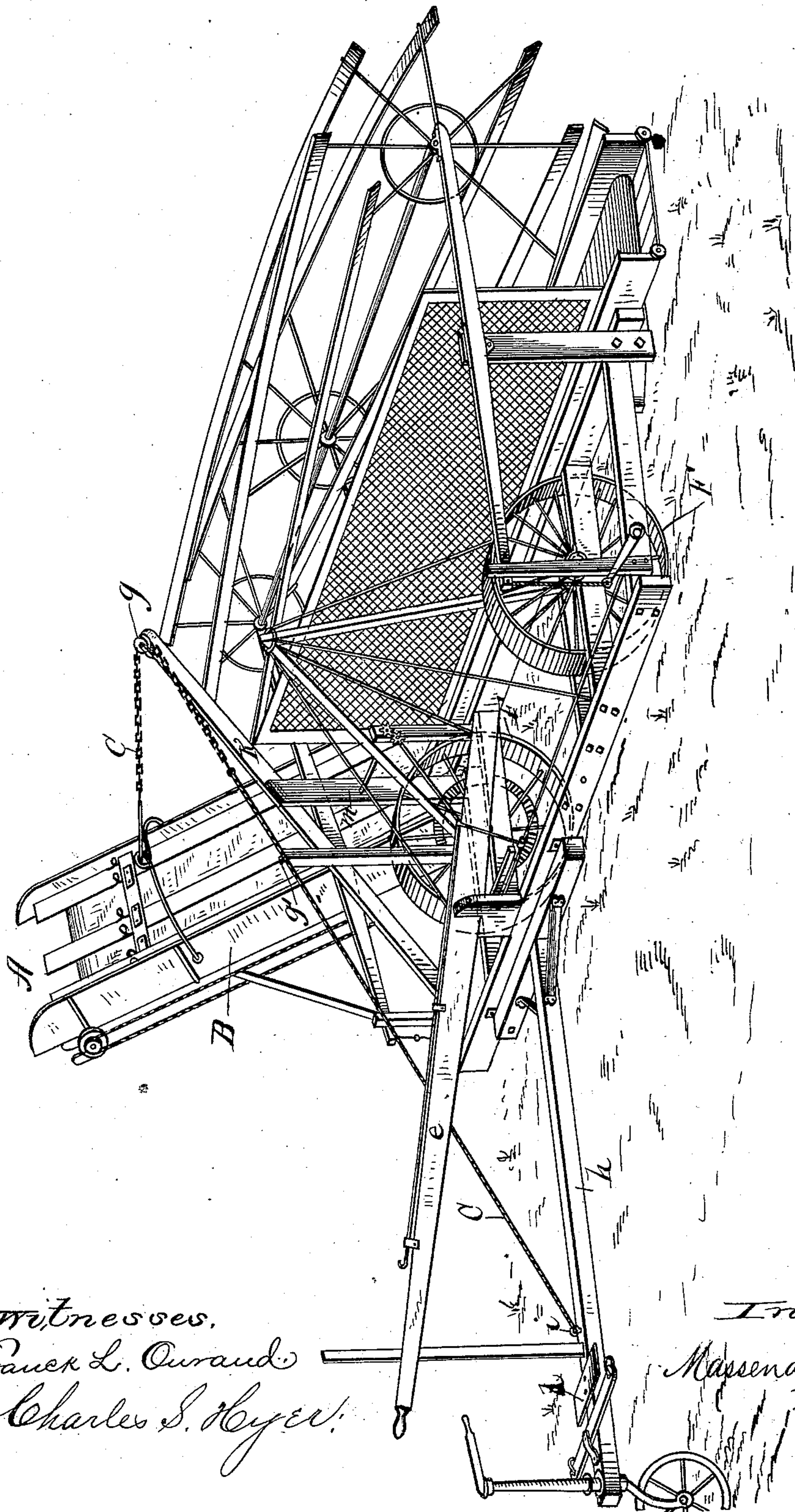
(No Model.)

M. B. ERSKINE.

HARVESTER HEADING MACHINE.

No. 248,254.

Patented Oct. 11, 1881.



Witnesses,
Frank L. Curand =
Charles S. Hoyer.

Inventor,
Massena B. Erskine,
By C. N. See,
Atty.

UNITED STATES PATENT OFFICE.

MASSENA B. ERSKINE, OF RACINE, WISCONSIN.

HARVESTER HEADING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 248,254, dated October 11, 1881.

Application filed February 14, 1881. (No model.)

To all whom it may concern:

Be it known that I, MASSENA B. ERSKINE, of Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Grain-Headers; and I do hereby declare that the following is a full, true, 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 drawing, and to the letters of reference marked thereon, which form a part of this specification, and which is a perspective view of the header, the elevator showing a device for holding the grain thereon, as hereinafter described.

In this class of machines the tongue or thrust-bar, to which the draft-animals are attached, is hinged to the cutting and conveying apparatus. The weight of the grain-platform (and when the machine is in operation the weight of the heads of cut grain also) has a tendency to tilt the forward part of the main frame downward. The height at which the grain is cut is constantly varying, and is regulated by the operator raising or depressing the cutter-bar by means of a lever rigidly attached to the frame of the machine. The axles of the sustaining-wheels on which the machine is principally mounted are the fulcrums of the lever, and are also the axes of the rocking movement of the frame which takes place when the height of the cutter-bar is increased or diminished. The preponderating weight being forward of this axis of movement causes the tendency to tilt downward above mentioned, and it requires the entire weight of the operator to overcome such tendency and depress the lever so as to elevate the cutter-bar to the desired height.

I am aware that a spring has been employed to assist in overcoming this tendency and to facilitate the depression of the lever; but as springs exert a variable and constantly-decreasing force in proportion as the lever is depressed, they are on this account objectionable.

In the headers heretofore constructed it has been the practice to attach the elevator wholly to the portion of the machine in front of the sustaining-wheels, and to hold it at the desired angle by supporting devices secured to the

main frame of the machine only. As a consequence the height of the elevator and the point at which the grain was delivered changed every time the cutting apparatus was raised or lowered.

The objects of my invention are, first, to cause the machine to be more nearly balanced on the axles of the principal sustaining-wheels, making it thereby easily regulated as to the height of the cutting apparatus; and, second, to so organize these means that the delivery end of the elevator may be maintained at a practically uniform height, notwithstanding changes in the height of the cutting apparatus.

B shows the elevator in position for operation, the grain being delivered to the wagon at A. The elevator is sustained at the desired height by a rope or chain, C C, passing in a horizontal direction over a pulley, *g*, on the angle-stick K to a point, *i*, near the rear end of the tongue *h*, where it is made fast.

The angle-stick K is fixed on the support *m*, rising from the main frame in front of the axle, and in this instance extends downward to the rear end of the main frame, where it is again secured.

The tongue or thrust-bar is hinged to the main frame at the point of attachment.

The force applied at the point *g* through the chain C is composed of two forces, one acting transversely toward the elevator and the other in a rearward direction toward the point of attachment on the tongue. The former force is resisted by the machine, and the available force may be resolved into that acting toward the rear. This has a tendency to tilt back the main frame on the axles, and thus to counteract the preponderance of weight on the part of the frame forward of the wheels F F, and this tendency is found sufficient (the support *m* and the angle-stick K being of proper length and height) to nearly equalize the weight of the machine on each side of the axle of the sustaining-wheels F F.

The cutting apparatus is raised and lowered by means of the lever *e*, the operator standing on the platform *d*. When the lever is dropped or lowered the cutting apparatus is raised. This moves the pulley *g* toward the point *i*, and

the rope or chain C C renders over the pulley toward the elevator, thus lowering the upper end of the same, while its lower end is raised with the cutting apparatus, the point of delivery being thus maintained at about the same height. Conversely, as the cutting apparatus is lowered, the rope or chain acts to maintain the proper position of the elevator.

To keep the rope or chain in a more convenient position and out of the way of the draft-animals, I have also made use of a guide-sheave mounted on a suitable support at *g'*. To facilitate the movement of the rope or chain, I have placed a suitable sheave or angle pulley at *g*.

It is obvious that a counterbalancing effect will be produced so long as the rope acts upon the main frame at a point forward of the axle; hence I wish it to be understood that I do not limit myself primarily to the use of the bar *m* and angle-stick K.

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

1. The combination, substantially as before set forth, of the main frame carrying the cutter-bar and pivoted upon the axle, the hinged elevator, the tongue, and a rope or chain fastened with its ends to the tongue and elevator, respectively, and acting on the main frame, at a point forward of the axle, in such a manner that the superior weight of the forward portion of the main frame is nearly counterbalanced and the power required to raise the cutter-bar is correspondingly diminished.

2. In a heading-machine, a rope or chain, in

combination with and connected to the thrust-bar and elevator-frame, and an intermediate support on the main frame, for the double purpose of compensating the excess of weight of the forward end of the main frame and of maintaining the elevator at a practically uniform height for delivery of the cut grain.

3. In a heading-machine, the combination, with the elevator, main frame, tongue *h*, and frame-lever *e*, of the rope or chain C C, angle-stick K, and pulley *g*, substantially as and for the purpose described.

4. In a heading-machine, a rope or chain forming a connection between and attached to the elevator and tongue or thrust-bar, in combination with an intermediate support on the main frame, by which said elevator is adapted to lessen the power required to raise the cutting apparatus by counterbalancing the weight of the forward end of the frame.

5. In a heading-machine, a rope or chain attached to and forming a connection between the elevator and tongue or thrust-bar, in combination with an intermediate support, by which said chain is adapted to support the elevator at a uniform height for delivery of the cut grain, independent of the upward or downward movement of the cutting apparatus.

In testimony that I claim the foregoing I have hereunto set my hand this 1st day of February, A. D. 1881.

MASSENA B. ERSKINE.

Witnesses:

CHARLES H. LEE,
WM. B. WHARTON.