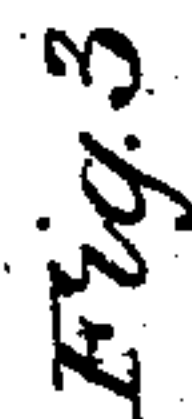


Harvester.

Patented Aug. 10, 1858.



UNITED STATES PATENT OFFICE.

M. E. ELLSWORTH, OF HUDSON, OHIO.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 21,125, dated August 10, 1858.

To all whom it may concern:

Be it known that I, MARCUS E. ELLSWORTH, of Hudson, in the county of Summit and State of Ohio, have invented new and useful Improvements in Harvesters; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification.

The nature of my invention relates to the mounting of the driver's seat upon the gear-plank or frame in such a manner that in raising or depressing the cutter-bar the center of gravity of the seat is changed relatively to the machine itself, and consequently an equilibrium is preserved, whereas in other cases, in a rigidly-attached seat, for example, as in those machines having a gear-plank, reach-board, and caster-wheel, the weight of the driver is thrown more or less forward or backward, according as the cutter-bar is elevated or depressed.

Figure 1 is a side elevation of a machine with my improvement attached. Fig. 2 is an end view of the same, and Fig. 3 is a diagram representing the difference in the operation of a machine with and without my improvement.

Like letters refer to like parts.

A represents the driving-wheel.

B represents the gear-plank.

C represents the foot-board.

D represents the lever, and F represents the seat.

The foot-board C and seat F are attached to each other in the following-named manner: The standard G is rigidly attached to the foot-board C and supported by the brace H. When a long seat is used the forward end is attached to the standard G by a hinge-joint, and the back end is supported by a spring, I; or the standard G, brace H, and spring I may be dispensed with if the long seat is not used, and a single standard, K, to the top of which a single seat may be attached to the arm L, used instead, and upon which the seat L' may be mounted.

The foot-board C is supported in a horizontal position by rods M and N, of proper lengths to reach the gear-plank B, the rods M being enough longer to accommodate the inclined position of the gear-plank B. These rods are

attached both to the gear-plank and foot-board by flexible pin or hinge-joints M' M'' and N' N''. By this means a certain amount of forward and backward movement is allowed the foot-board; but this is kept at any desired point by the rods O and P, but one of which, however, is used at one time. When the seat F is used the long rod O is attached by a hook-and-eye joint to the forward end of the foot-board C at C', the opposite end being secured in a similar manner to the reach-board at O'. Now, if the lever D occupies the position seen in Fig. 1, the gear-plank B, reach-board E, and foot-board C and seat F will also occupy the same relative position seen in Fig. 1; but if the lever D is elevated from its position at Q to R the gear-plank, reach-board, foot-board, and seat would all be changed from their position seen at B E C F to that indicated by the red lines in Fig. 1, representing the several positions of these parts, respectively. By this means the seat F is not only kept in nearly a horizontal position, but is brought forward, so as to preserve an equilibrium in regard to the point of gravity. If the seat L' is used, the same being attached to the arm L upon the standard K, the rod O is removed and the short rod P used instead thereof, with like results in regard to the seat L'.

In case the seat is rigidly attached to the gear-plank B, the consequence resulting from an elevation or depression of the cutter-bar is clearly shown in the diagram, Fig. 3, in which the black lines represent the position of the machine as seen in Fig. 1, the red lines showing the position of the seat and other parts, with my improvement, the same as in Fig. 1, and the dotted lines showing the position the seat and other parts would occupy with the lever raised from Q to R, with the seat rigidly attached to the gear-plank B, as in the common form of construction. The reason of this change is, that the distance between N' and O' is less when the lever is at Q than it is when the lever is at R, in consequence of the increased number of degrees embraced in the angle E', the point O' moving forward as the lever D is raised, and thus drawing the seat forward, as described, the rod N standing at a greater angle from the gear-plank B than the rod M. As the hind end of the gear-plank is depressed by raising the forward end by means

of the lever D, the back end of the foot-board and seat are consequently elevated more than the forward end, as specified.

It will also be observed that in a certain sense this seat is self-adjusting—that is, it preserves its equilibrium in relation to the axis of the driving-wheel, as specified.

What I claim as my invention, and desire to secure by Letters Patent, is—

The herein-described manner of attaching the seat to the gear-plank by means of the

rods M N, or their equivalents, having a pin or hinge-joint both upon the gear-plank and foot-board, in combination with the rods O and P, or their equivalents, which connect the foot-board C directly with the reach-board E, all operating in the manner and for the purpose set forth.

M. E. ELLSWORTH.

Witnesses:

H. C. THOMPSON,

HARRIET A. THOMPSON.