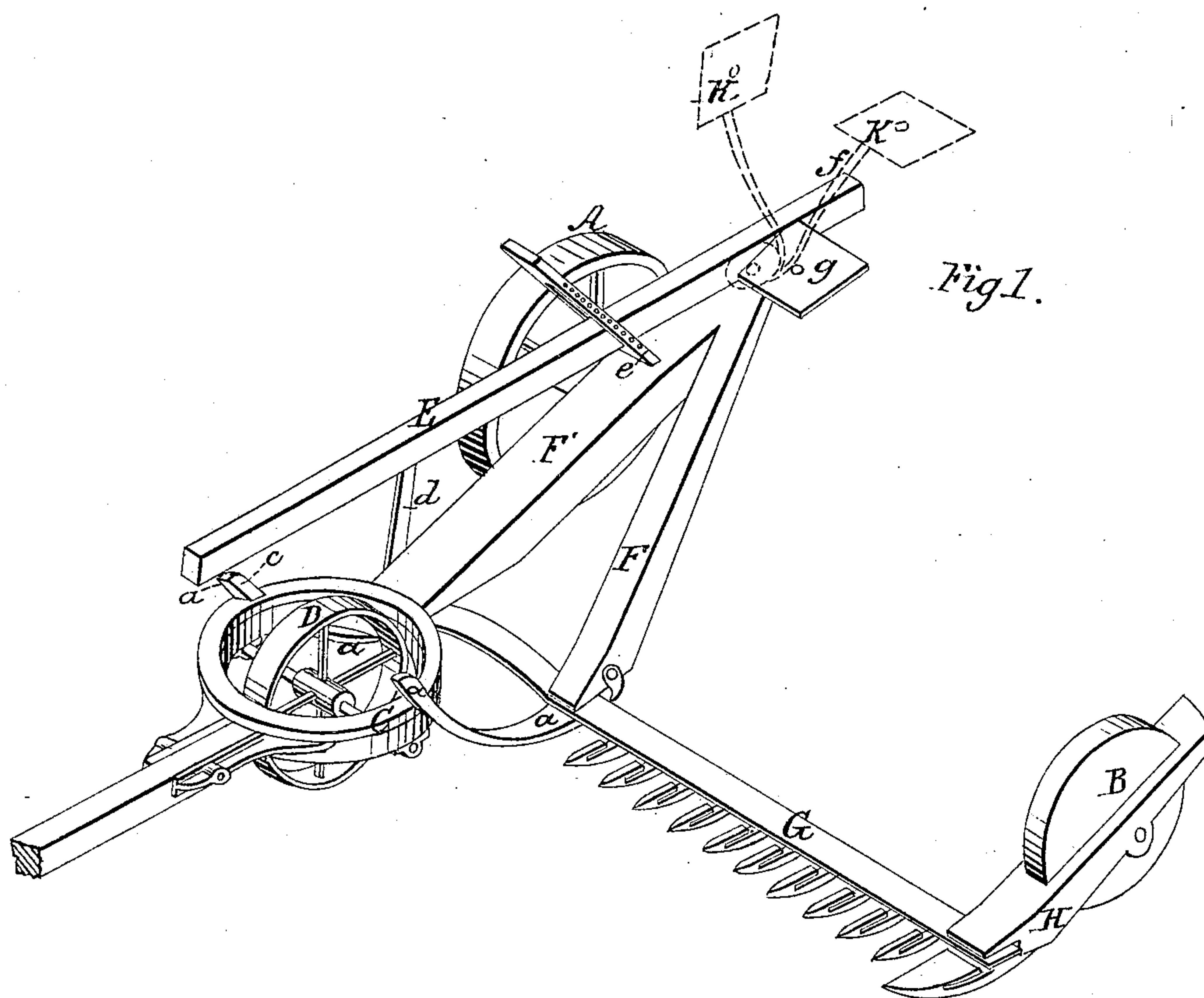


C. HOWELL.
Mowing Machine.

No. 19,422.

Patented Feb. 23, 1858.



UNITED STATES PATENT OFFICE.

CHAS. HOWELL, OF CLEVELAND, OHIO.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 19,422, dated February 23, 1858.

To all whom it may concern:

Be it known that I, CHARLES HOWELL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Reaping and Mowing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, making part of this specification, in which—

Figure 1 represents a view in perspective of a machine having my improvement applied.

In the use of harvesting-machines as now constructed it has been found that in operating them in a heavy or tangled grain or grass its tendency is to deflect the finger-bar, particularly at its outer end, thus causing side draft, and at the same time showing the greater portion of the weight conjointly between the forward truck-wheel or horse's neck and the driving-wheel, whereas for the efficient working of the knife the whole ought to be transferred to the latter, (driving-wheel.) To remedy these defects it is necessary, first, to provide certain means for raising or depressing the cutter-bar in a horizontal plane, so as to balance the frame of the machine on the driving-wheel; and, secondly, to counterbalance the weight of the grain, &c., on the outer end of the finger-bar, which causes it to droop, and materially lessens the efficiency of the machine, because of its liability to run into all the little inequalities or irregularities of the ground, to obviate which and to effect other new and useful results is the object of my improvement.

The improvement which produces these highly important results consists in so arranging and combining a raker's or driver's seat (for the raker in reaping-machines and driver in mowing-machines) of peculiar construction with the machine that he can throw his weight either toward or from the finger-bar, or on either side of the driving-wheel as circumstances may require, whether for the purposes of raising or depressing the finger-bar by causing the frame of the machine to turn on the axes of the driving and supporting wheels as on a pivot, or for raising and sustaining the outer end of the finger-bar by throwing his weight on the outside of the driving-wheel, and by means of which in cutting on the side of a hill or other rising ground he can throw his weight on the upper side of the driving-wheel, whether in ascending or de-

scending or in passing along its face, thus insuring to the driving-wheel a firm hold on the ground, preventing slipping, &c., which has heretofore been a great drawback to this class of machines.

To enable others skilled in the art to make, construct, and use my invention, I will now proceed to describe it in detail, omitting a description of such parts of a harvesting-machine as are non-essential to a full understanding of my present improvement.

In the accompanying drawing, the machine is represented as consisting of two parts, to wit: a main frame mounted, supported, and balanced upon the driving-wheel A and supporting-wheel B, and a truck-frame, C, supported on a caster-wheel, D, the two frames being connected together by means of draft-bars *a* and *a'*, which are connected to the front of the main frame immediately in rear of the finger-bar by horizontal bolts *b* in such manner as to form a hinge-joint, by means of which the cutter-frame can be made to turn or tip on the axes of the driving and supporting wheels as on an axis. The front end of these draft-bars may either be secured rigidly to the frame C of the caster-wheel D or hinged, as may be deemed best.

For the purpose of controlling the tipping of the main frame—that is to say, of regulating the distance of the finger-bar and cutting apparatus from the ground—a lever, E, is hinged to a standard, *c*, secured on the upper side of the truck-frame C, and extends back over the main frame and within convenient reach of the raker's or driver's seat. To this lever the front part of the main frame is connected by means of an arm, *d*, at a point considerably nearer its front than rear extremity, for the purpose of giving the necessary leverage to the operator, so that he can with little exertion either raise or lower the cutting apparatus, as circumstances may direct, by simply raising or depressing the lower end of the lever, and maintain it in either position by passing a pin through the standard *e* and lever E; or the pin may be passed through the standard on the under side of the lever, which, while it prevents the finger-bar from dropping too low, yet permits the cutter-bar to rise as it passes over inequalities or obstructions on the ground.

The main frame of the machine as represented

in the drawing consists of two rails, F and F', firmly mortised and bolted together at their rear extremity in such manner as to describe an acute angle to each other, to the front end of which is secured the inner end of the finger-bar G in any suitable manner, and whose outer end (the one next the standing grain) is secured to the frame-beam H of the supporting-wheel B. To the under side of these diverging rails F and F' are connected the hinged or rear ends of the draft-bars *a* and *a'* by bolts, as before described. These rails also serve to support the driving-gear of the machine.

The outside rail, F', is mounted on the axle of the driving-wheel A, which, conjointly with the axle of the supporting-wheel B, forms the fulcrum on which the frame tips.

The machine thus constructed is intended merely for mowing; but where it is intended to be used as well for reaping as for mowing, then a curved metallic beam similar to that represented in the drawing of a former patent granted to me connects the rear end of the diverging rails with the frame-beam H of the supporting-wheel, for the purpose of giving to the machine the requisite degree of rigidity and strength for the support of the platform, reel, &c. In either event a revolving seat, K, (for the raker when reaping and driver when mowing,) is arranged over the rear ends of the rails F and F'. This seat consists of a strong arm, *f*, bent at an angle to the upper side of the rails, and so secured to them by a screw-

bolt or other equivalent device that it is capable of being turned in any direction. To the upper end of this arm is secured the seat *g* in any suitable manner. By the use of this seat it will instantly be perceived that the operator can readily throw his weight in any particular direction, so as to exert a leverage on the cutter-bar to raise or lower it, or to steady the machine while operating on uneven or hilly ground. The leverage for raising the machine and for counterbalancing the weight of the grain will attain its maximum degree when the arm on which the seat is mounted forms, as it were, a prolongation of the rail, and vice versa. All other positions for the purpose of effecting a particular object will readily suggest themselves—as, for instance, the balancing of the machine and the greater portion of the weight of the driving-wheel on a hillside by so arranging the seat as to throw the weight on the upper side of the driving-wheel, &c.

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

The revolving seat, when arranged in the manner substantially as and for the purposes set forth.

In testimony whereof I hereunto set my hand.
CHAS. HOWELL.

Witnesses:

W. LESLIE,
E. MAILLET.