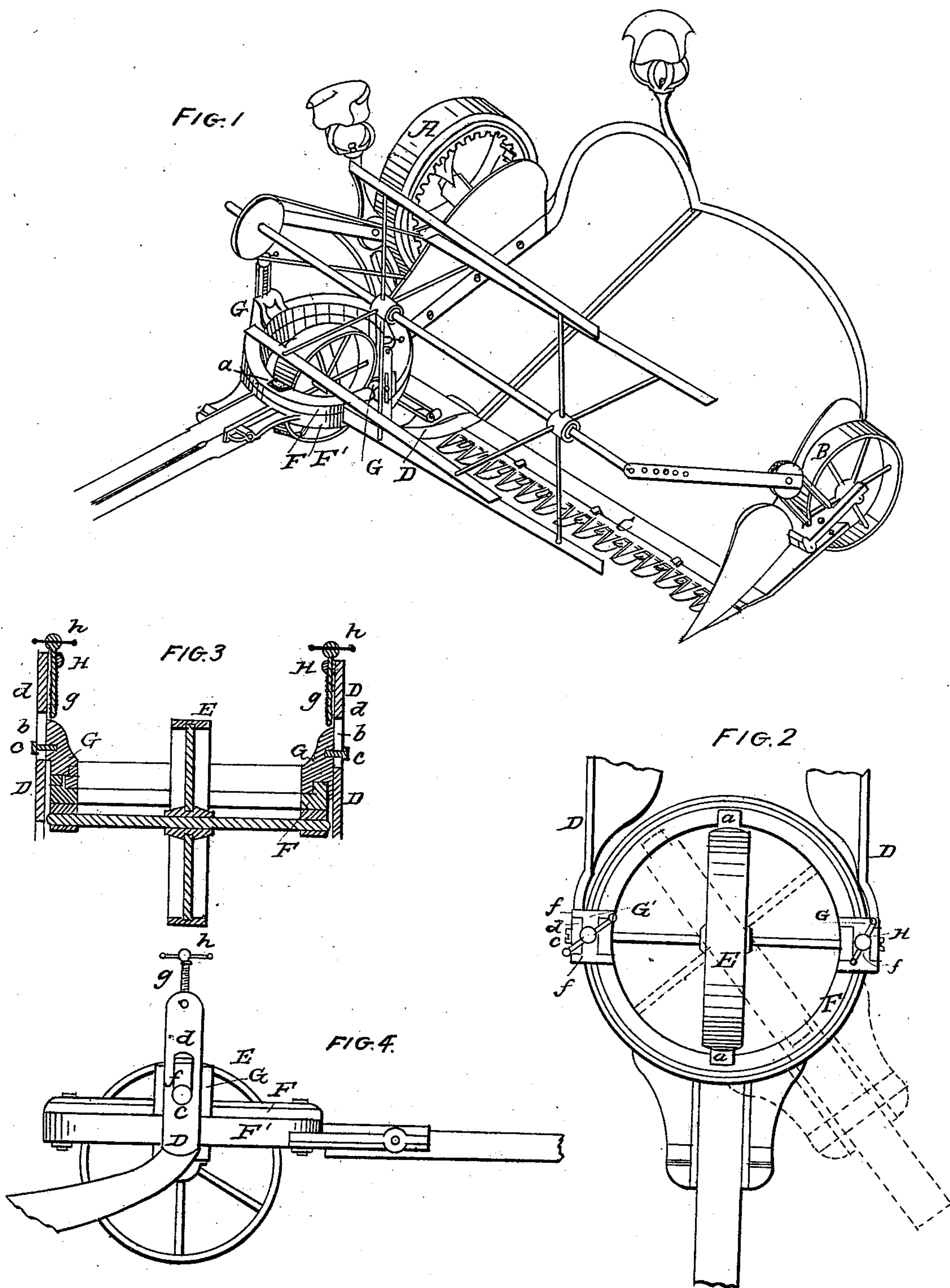


C. HOWELL.  
Mowing Machine.

No. 19,504.

Patented March 2, 1858.





# UNITED STATES PATENT OFFICE.

CHAS. HOWELL, OF CLEVELAND, OHIO.

## IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. 19,504, dated March 2, 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 new and useful Improvement in Harvesting-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents a view in perspective of a harvesting-machine having my improvement applied thereto; Fig. 2, a plan of the front truck; Fig. 3, a vertical transverse section of the same, and Fig. 4 a side elevation.

My present improvement relates to that class of reaping or mowing machines which are provided with a front truck to which the tongue for the horses is secured; and its nature consists in a new and improved mode of connecting the main frame to the truck-frame, by means of which the height of the cut may be readily regulated as required, and at the same time the finger-bar (or front part of the machine) allowed freely to accommodate itself to the inequalities of the ground.

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

In the accompanying drawings the machine is represented as consisting of two frames—namely, the main frame and truck-frame. The former is mounted upon the axles of the driving-wheel A and supporting-wheel B, and carries the gearing apparatus, platform, finger-bar C, and cutting apparatus, &c., and is secured to the truck-frame by means of supporters or draft-bars D and D'. The truck-frame in this instance is of the caster or revolving variety, and is supported upon a single supporting-wheel, E, whose axle is mounted in suitable bearings on the revolving ring F' of the truck-frame, which consists of two—to wit, a fixed ring, F, and revolving one, F', the two operating together somewhat on the principle of the fifth-wheel of a wagon. The inner faces of these rings are formed with corresponding projections and depressions, so as to fit into

each other and work smoothly, and in such manner as to prevent them from working apart or being separated, they, for greater security, being clamped or held together by means of clasps *a*. In the arrangement of these rings in relation to each other the revolving ring F', in which the wheel E is mounted, is placed on the under side of the stationary one, F, so as to afford a rest or fulcrum for a screw or lever on the latter for the raising and lowering of the front part of the main frame of the machine, to be presently described.

On the sides of the stationary ring F, and in a line diametrically opposite to each other, are formed two standards, G and G', of a sufficient height, provided with grooves *f* on their outer sides, so as to form guideways for the upper ends of the draft-bars D and D', by means of which the main frame is connected to the truck-frame. These draft-bars are secured at their rear extremities to the front of the machine, next the driving-wheel, in any suitable manner, whence they extend forward and in an upward direction in a curved line, their upper ends, *d*, assuming a vertical position, or nearly so, and of such shape as to fit loosely in the guideways. Thus formed, they are provided with longitudinal slots *b*, through which and a hole made in the grooves of the standards G and G' screw-bolts *c* may be passed for retaining the draft-bars in their proper position. The slots *b* are of such a size as to allow the upper end of the draft-bars to slide freely up and down in the grooves *f*.

At the top and on the inner side of each of the draft-bars D and D' are formed or otherwise secured projections H, having a screw-thread cut in them, in which is fitted a screw-rod, *g*, so arranged as to work in a vertical position, and which is provided at the top with a lever or crank-arm, *h*, in any suitable manner for operating it. The lower end of these screws rest in a socket, *o*, formed on the upper sides of the standards G and G'. Thus arranged, they serve to support the front end of the main frame of the machine and regulate its height from the ground, as when the screws *g* are turned down the draft-bars D and D' will be raised, thereby elevating the cutters, and vice versa, as by raising the screws the draft-bars, and with them the cutters, will be de-

pressed by their own weight, thus affording a ready means of regulating the height of the cut as required. The screws must be made of a sufficient length—that is to say, at least equal to the difference between the maximum and minimum elevation of the cut. By this arrangement it will be apparent that the front end of the machine will be prevented from dropping lower than the height at which it is adjusted, while the machine is left free to rise and fall to that point as it accommodates itself to the inequalities of the ground.

On level ground, when the height of the cut has been adjusted, the side screw-bolts, c, may be screwed tight, so as to prevent the vibrating of the draft-bars and front side of the machine, if desired or deemed advisable. Instead of forming the guideways and upper ends of the draft-bars vertical, they may be

made curved, having the axle of the driving-wheel as the center of the arc, in which event it will be better to secure the collar or projection through which the screws pass in such a manner as to allow the latter to adjust itself to the curves.

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

The method of connecting the truck to the main frame of a reaping or mowing machine and of regulating the height of the cut, &c., substantially as set forth.

In testimony whereof I hereunto set my hand.

CHAS. HOWELL.

Witnesses:

P. HANNAY,  
W. LESLIE.