

*J. M. Long,
Mower.*

No. 38,232

Patented April 21, 1863

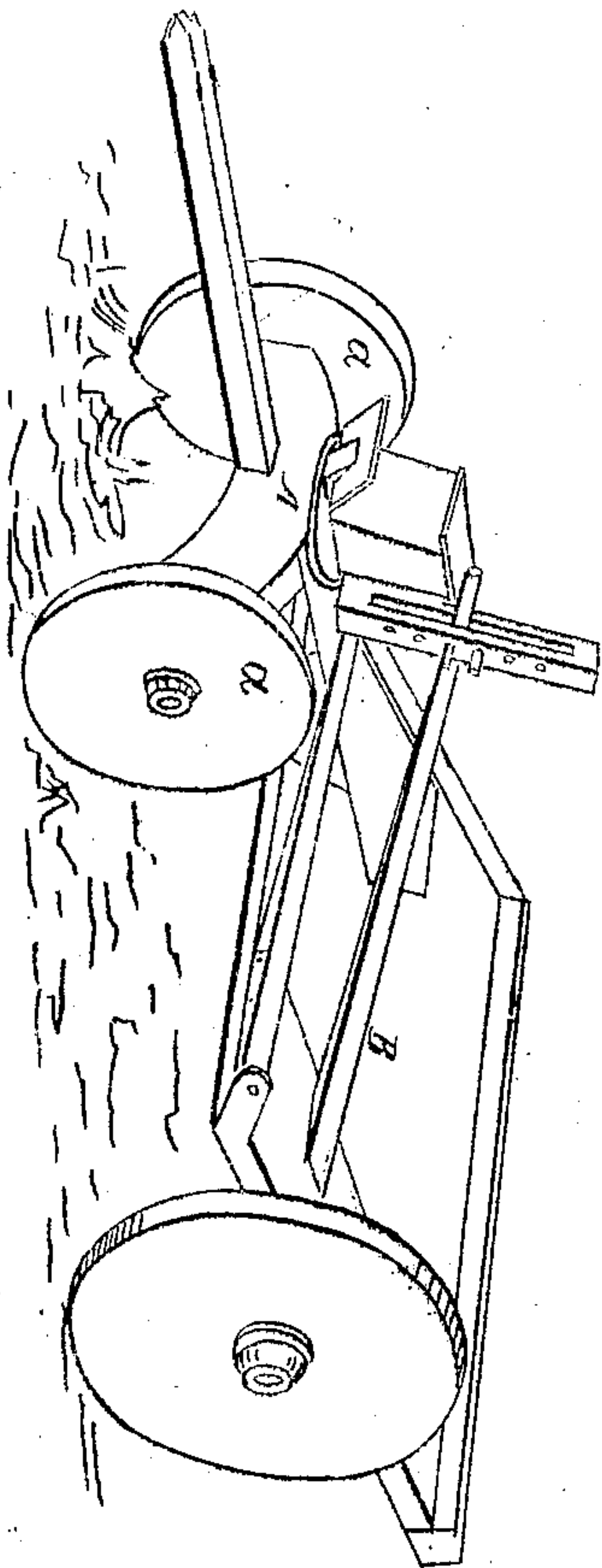


Fig. 2.

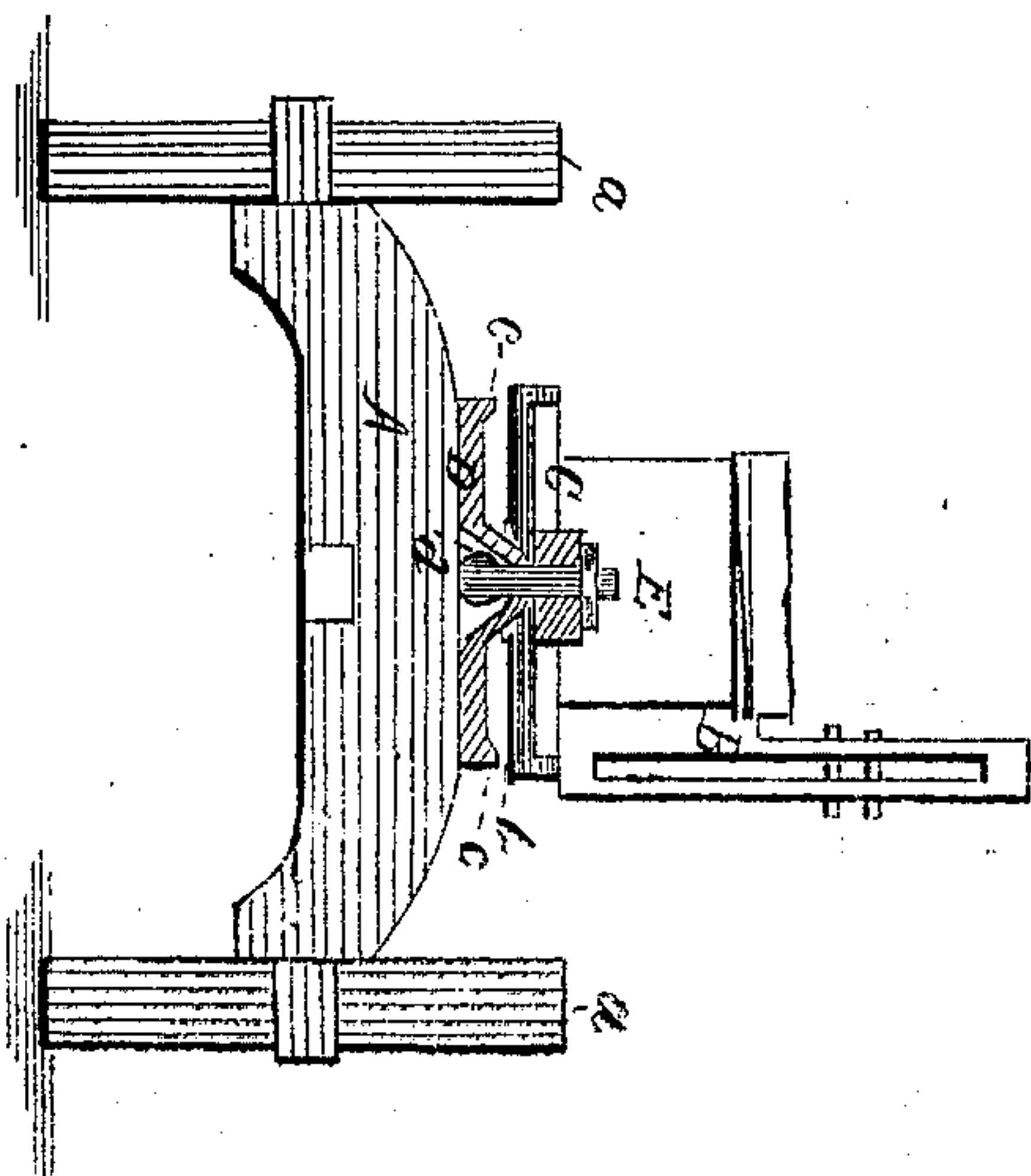


Fig. 1.

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UNITED STATES PATENT OFFICE.

JOHN M. LONG, OF HAMILTON, OHIO.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **38,232**, dated April 21, 1863; antedated December 4, 1862.

To all whom it may concern:

Be known that I, JOHN M. LONG, of Hamilton, in the county of Butler and State of Ohio, have invented a new and useful Improvement in Reaping and Mowing Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings and letters of reference marked thereon, forming part of this specification.

My invention relates to the class of reaping and mowing machines in which the forward part of the machine is supported and the machine guided by a pair of auxiliary wheels, which, for convenience, I shall designate "pilot-wheels;" and it consists in supporting the part thus carried by the pilot-wheels upon a pivotal bearing, which permits the pilot-wheels, when passing over uneven ground or obstructions in their way, to adapt themselves to the same without affecting the horizontality of the machine or straining any part of the frame, the center or king bolt also having a construction adapted thereto, and the plates being made with side bearings which confine the vibration of pilot-wheels within certain limits, as will hereinafter appear.

I will now proceed to describe my invention, referring to the annexed drawings, of which—

Figure 1 is a vertical axial section, showing the center plates, center bearing, side bearings, and center bolt. Fig. 2 is a perspective view of the pilot-wheels supporting the forward part of a machine, one of the pilot-wheels being considerably elevated by an obstruction without affecting the horizontal position of the frame of machine.

Like letters of reference indicate like parts in the different figures.

A is the axle of pilot-wheels. *a a* are the pilot-wheels. B represents the machine, the forward part of the frame resting upon axle A of pilot-wheels. C is the upper center plate, and D the lower center plate. E is the center bolt. The center plates are made of cast metal. The lower plate, D, is formed with a conical elevation, *b*, at the center, through the apex of which the center bolt, E, passes. At the opposite extremities of D slight projections *c* are formed, which extend

upward. *d* is a conical space under the center of D, which accommodates the head of center bolt, E. The upper center plate, C, is circular, and is made with a conical depression on the under side, which rests upon the conical projection *b*, and this constitutes the center bearing, the upper plate, C, being attached to frame B of the machine, and the lower plate, D, being secured to the center of axle A of the pilot-wheels, and the two plates being so adapted to each other that, within certain limits, the pilot-wheels may vibrate or adapt themselves to uneven ground without any resistance at the point of bearing or center. The head of the center bolt, as should be observed, has room in the space *d* to accommodate the amount of vibration that is required; but should the laterally-extended part of the machine, which carries the cutter-bar in machines as ordinarily constructed, meet with a resistance, and thus cause the pilot-wheels to be wrenched violently to one side, so as to tend to overturn them, or should any other unusual occurrence tending to produce the same result take place, then the outer extremity of center plate D will encounter the under face of upper plate, C, and restrain the wheels from overturning or from being unduly thrown up toward a vertical position.

It will be apparent that several modes of applying my invention may be employed, all producing the same result in substantially the same manner. The relative position of the two center plates may be inverted. The projections *c* may be omitted, or other modifications may be made without materially affecting the result.

The advantages of my invention will be sufficiently apparent to persons familiar with the operation of the kind of machines to which it applies. Its importance, however, will not be so obvious to others without considering that the pilot-wheels are connected by a very short axle, so that a considerable vibration at the center is produced from comparatively slight inequalities of ground, and these occur so constantly that before provision was made to accommodate them, as is done by my invention, a considerable irregularity was communicated to the frame of the machine, and it was also exposed to a constant and trying strain, ren-

dering it after a short time loose-jointed and shakly.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is the following:

Constructing the center plates, C and D, with a central pivotal bearing, in combination with

the vibratable center bolt, E, and outer bearings, *c c*, substantially as described, and for the purpose specified.

JOHN M. LONG.

Witnesses:

WM. CLOUGH,
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