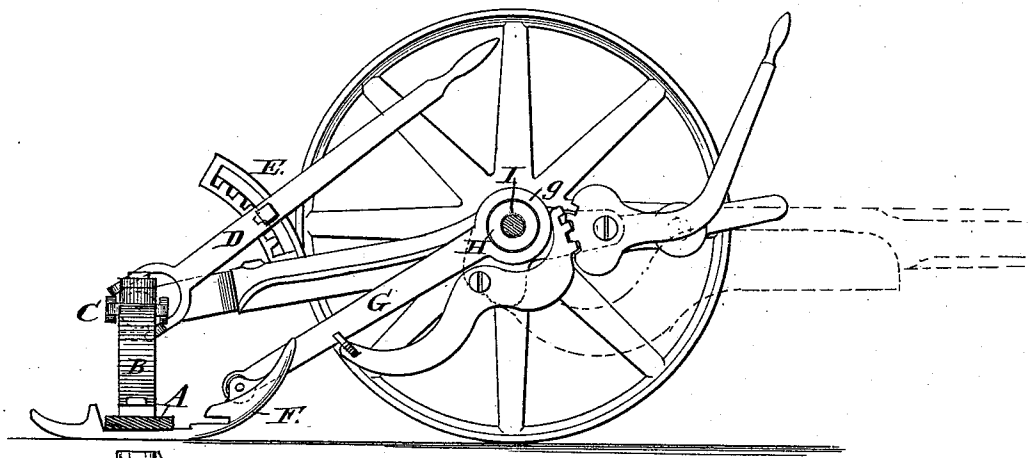
H. L. HOPKINS.

MOWING-MACHINE.

No. 193,448. Patented July 24, 1877.

Fig. 1.



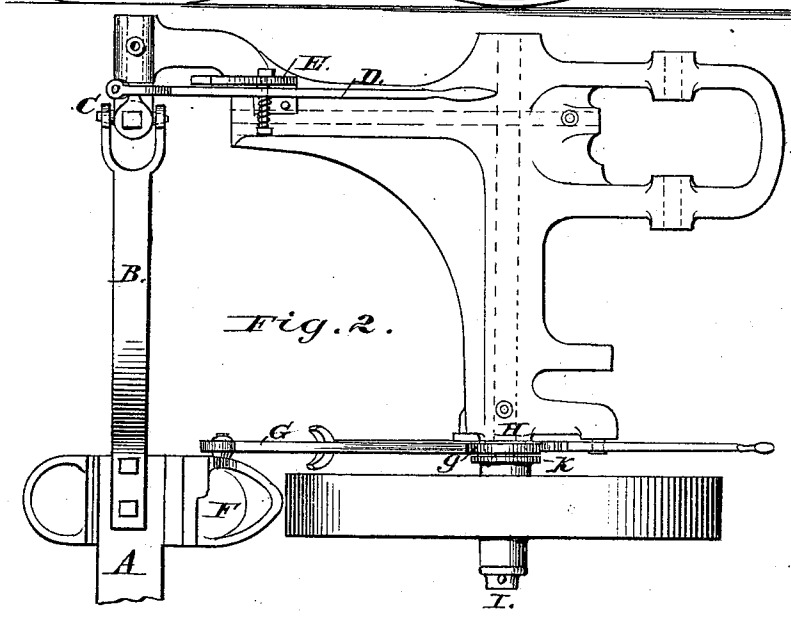


Fig. 2.

Attest:
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UNITED STATES PATENT OFFICE.

HARVEY L. HOPKINS, OF MANCHESTER, IOWA.

IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. **193,448**, dated July 24, 1877; application filed April 24, 1877.

To all whom it may concern:

Be it known that I, HARVEY L. HOPKINS, of Manchester, in the county of Delaware and State of Iowa, have invented a new and useful Improvement in Harvesters, of which the following is a full, clear, and exact description.

This invention relates more especially to a mowing-machine, such as described in my United States Letters Patent No. 121,784, granted to me December 12, 1871.

Certain practical defects were found to exist in the mode of connecting the shoe of the cutting apparatus to the frame, as shown in said patent. The defects are the result of connecting the draft-bar (called "brace" in said patent) to the frame at a point some distance from the axle, and comprise principally the following two: First, in passing over uneven ground, the cutting apparatus does not move in unison with the advance of the machine, lagging behind on mounting, and advancing too rapidly on descending a knoll, so that on the descent the cutter-bar is to become choked. Secondly, the draft-bar exerts a continuous tilting strain on the frame of the machine. These defects are remedied by my improvement, which consists in attaching the draft-bar around the axle of the machine.

In the annexed drawings, Figure 1 is a sectional side elevation, showing my improvement. Fig. 2 is a plan view.

The same letters of reference indicate like parts in all the figures.

The cutting apparatus A, is attached to the frame of the machine by the stiff arm or arch B, through a swiveling-connection, C, which in itself, as here shown, is the invention of Wm. W. Edgarton, of Bouckville, Madison county, New York, and which I therefore disclaim. The swiveling-bolt of this connection is controlled by a hand-lever, D, adapted to be locked into a segmental rack, E.

The shoe F of the cutting apparatus is connected by draft-bar G to the frame of the machine by a ring or yoke forged on the draft-bar, and loosely fitting around one of the boxes or bearings H of the frame, in which the axle I turns, a collar, K, being interposed between this bearing and the hub of the adjacent journal-wheel to hold the draft-rod in position.

The attachment of the draft-rod to the shoe is such that, in connection with its loose fitting ring or yoke *g*, it will admit of the required oblique folding of the cutting apparatus.

It will be observed that, as thus constructed, the cutting apparatus in its rise and fall in passing over uneven ground, swings in an arc concentric with the axle, and that therefore it will always advance in unison with the advance of the machine; and also that the draft-rod does not interfere with the action of the frame.

I am aware that it is not new, broadly, to connect the draft-rod of the cutting apparatus to the axle of the machine. My invention is limited to a machine in which the cutting apparatus is connected to fold obliquely over the machine, by reason whereof the draft-rod has to be connected loosely to the axle, and flexibly to the shoe.

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

The combination, substantially as specified, of the cutting apparatus adapted for oblique folding, and the stiff draft-rod flexibly secured thereto at one end, and terminating in a ring at its other end, which fits loosely around the axle of the machine.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

HARVEY L. HOPKINS.

Witnesses:

MARTIN CONNOLLY,

CHAS. A. NEALE.