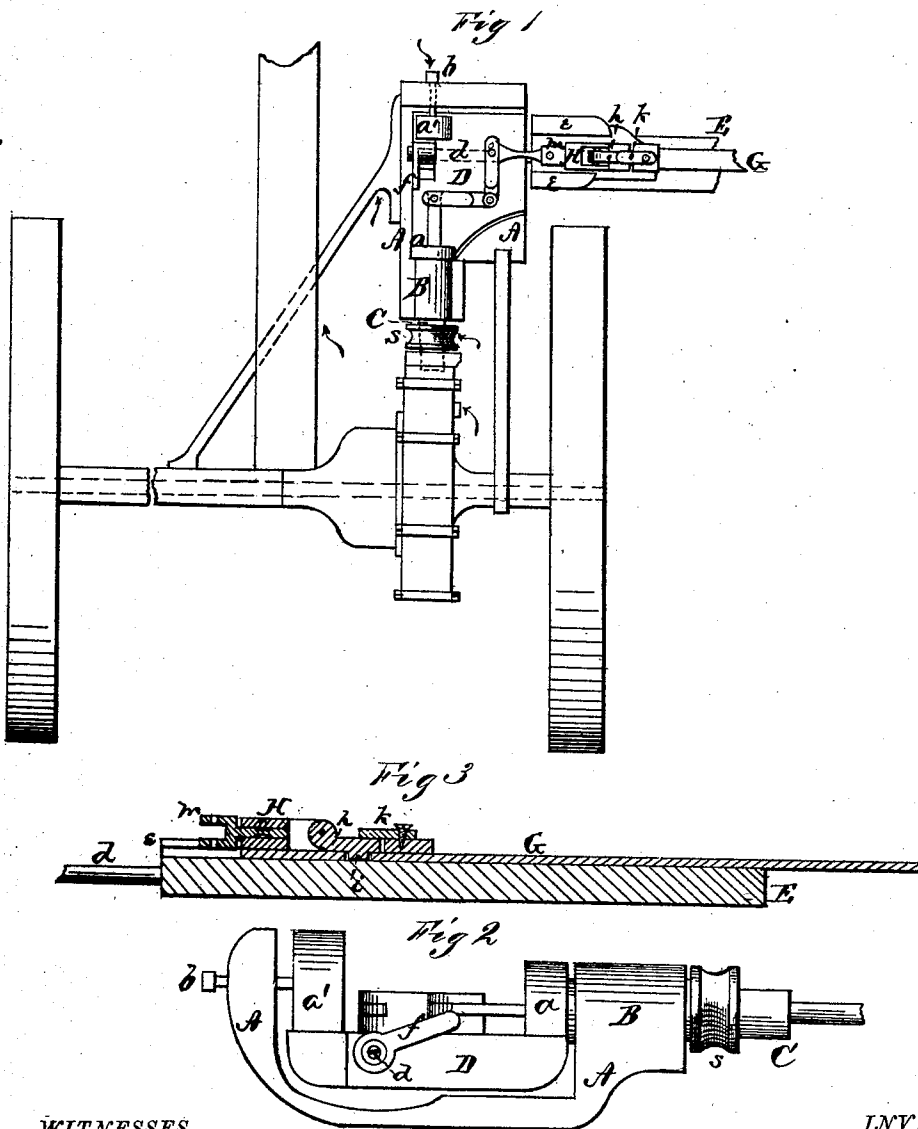


E. C. HOPPING.
Mowing-Machines.

No. 145,872.

Patented Dec. 23, 1873.



WITNESSES.
A. L. Quiland
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By

INVENTOR
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UNITED STATES PATENT OFFICE.

EUGENE C. HOPPING, OF MADISON, NEW JERSEY.

IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. **145,872**, dated December 23, 1873; application filed November 26, 1873.

To all whom it may concern:

Be it known that I, EUGENE C. HOPPING, of Madison, in the county of Morris and in the State of New Jersey, have invented certain new and useful Improvements in Harvesters; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and mode of attaching the finger and cutter bars of harvesters in a rigid shoe to the machine, the knife-head being considered necessary to perfect the construction of the same, all of which will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view of so much of my machine as will illustrate my invention. Fig. 2 is a side view of so much of the same as will illustrate its connection with the movement box or frame of the machine; and Fig. 3 is a longitudinal section, showing the connection of the knife-head and cutter-bar.

A represents the inner shoe of a harvester, constructed in any suitable manner, and provided at its inner end with a box, B, through which passes a hollow sleeve, C. This sleeve is formed upon or attached to an ear, *a*, which projects upward from a plate or casting, D, placed on top and within the shoe A. The casting D is at its front end provided with a similar ear, *a'*, and a set-screw, *b*, is passed through the front of the shoe and into the ear *a'*, up to a shoulder to force the plate or casting D to its bearings in the movement-box and shoe, and tighten the braces, thereby forming a set of perfect bearings, upon which the casting D may turn without interfering with the motion of the knives, when the outer end of the finger-bar is thrown up by means of a lever attached to a chain, and fastened to an

eyebolt in the drum or collar *s* on the sleeve C, and between the movement-box and the box B on the shoe. E represents the finger-bar, which is provided at its inner end with a shaft, *d*, and the shaft passes through a hole in the plate D, at right angles with the axis of the plate. Upon the end of the shaft *d* is a lever, *f*, by means of which the finger-bar may be turned upon its axis independent of the plate, by a properly-constructed lever, for the purpose of setting the cutter-bar at any angle desired. G represents the cutter-bar, and H the head of the same. The head H is provided with inclined side flanges, which fit in dove-tailed guides *e e* on the inner end of the finger-bar E. In the head H is hinged a lip, *h*, which is on its under side provided with a lug, *i*, which, when the lip is closed, projects into a corresponding slot in the cutter-bar G, the inner end of said cutter-bar fitting in a groove in the under side of the head. A button, *k*, holds the lip *h* down in place. By this means the cutter-bar can be readily removed for sharpening without the head being in the way. At the inner end of the head H is a swivel-fork, *m*, connected with the mechanism for operating the cutter-bar, as specified and claimed in my Patent No. 137,924, dated April 15, 1873.

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

1. The plate or casting D, provided with ears *a a'* and hollow sleeve C with collar *s*, in combination with the shoe A, provided with a box, B, and set-screw *b*, all substantially as and for the purposes herein set forth.

2. The head H, provided with a hinged lip, *h*, having lug *i*, in combination with swiveled fork *m*, slotted cutter-bar G, and the button *k*, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 17th day of November, 1873.

EUGENE C. HOPPING.

Witnesses:

THEO. M. ELY,
REUNE J. D. DUNN.