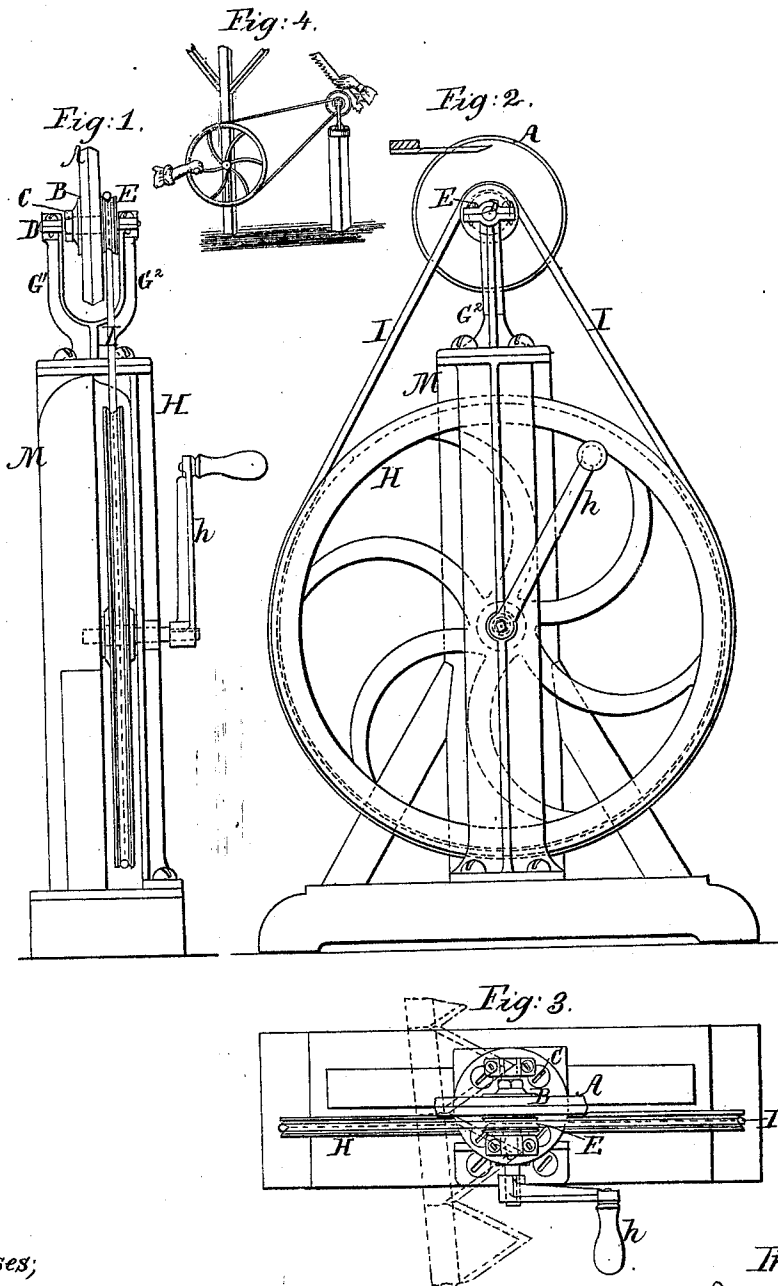


W. Tanner.

Sharpening Mach.

N^o 90,407.

Patented May 25, 1869.



Witnesses;
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W. C. Day

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UNITED STATES PATENT OFFICE.

WARREN TANNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND
OLIVER BASCOM, OF WHITEHALL, NEW YORK.

IMPROVEMENT IN DEVICE FOR SHARPENING THE CUTTERS OF MOWING-MACHINES.

Specification forming part of Letters Patent No. 90,407, dated May 25, 1869.

To all whom it may concern:

Be it known that I, WARREN TANNER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Means for Sharpening the Cutters of Harvesters; and I do hereby declare that the following is a full and exact description thereof.

My invention is adapted for grinding the cutters, by holding by hand with ordinary skill, without removing them from the bar or plate to which they are fastened.

I will first describe what I consider the best means of carrying out my invention, and will afterward designate the point which I believe to be new therein.

The accompanying drawings form a part of this specification.

Figure 1 is a front view. Fig. 2 is a side view. Fig. 3 is a plan view; and Fig. 4 is a perspective view, showing the driving-wheel mounted on a separate frame and less in the way of the feet of the operator.

Either arrangement of these parts may be used; but I prefer that shown in Fig. 4 for most situations. The parts may be mounted either permanently or temporarily. I prefer to mount them temporarily, but firmly, and to stow them away after the season has passed, to be kept safely until the succeeding season approaches.

Similar letters of reference indicate like parts in all the figures.

A is a grinding-wheel, of small diameter, with its periphery beveled, as represented, so as to exactly match into the angle between two cutters. It will be of course observed that the bevel required is modified by the fact that the cutters are held above the plane of the axis of the grinding-wheel. B is a disk of metal, which supports one side, and C is a nut on a corresponding thread in the shaft D. E is a sheave, fitting against the other side of the wheel A, and which may be formed in one piece with the shaft D. The grindstone A is firmly held between the sheave E and the plate or washer B. The shaft D projects at each end sufficiently to form a journal. These journals are supported in bearings in stout rods $G^1 G^2$, which extend up from the face-casting

G, which may be bolted or otherwise fixed on the supporting-post M. The shaft D is turned rapidly by the round belt I from the driving-wheel H, which is turned by the handle *h*.

The driving-wheel may be of any size desired, and so may its operating-crank; but the wheel A and its supports, the pulley or sheave E, &c., must be necessarily of small dimensions.

I prefer the following: The wheel A is eight inches in diameter and one inch thick. The sheave E is three inches in diameter and about three-fourths of an inch in thickness, and the thickness of the nut C and washer B together is one and one-fourth inch. The length of the bearings may be one inch.

When the cutters become dulled, the cutter-bar is removed from the harvester, and is held by hand upon the grinding-wheel A, while a boy or other assistant turns the driving-wheel H. The wheel H operates the belt I, and the grinding-wheel A being thus rapidly and steadily revolved, the cutters, on being presented thereto, and successively shifted and moved at the proper angles to sharpen the cutting-edges throughout their whole extent, are rapidly sharpened, and the cutter-bar is again replaced in the machine and connected for operation.

I have experimented with my machine, and find that the time consumed in sharpening the cutters is much less than with those devices in which the cutter-bar has to be secured in a frame to hold it with its cutters for sharpening.

I am not aware of any machine prior to mine in which the grinding-wheel and its adjuncts, considered collectively, occupy so small a space that they may be operated, like mine, in the angle between two teeth. It is not indispensable to give the grinding-surface the double bevel represented, because by turning the cutter-bar very much, which my invention allows, the edges may be sharpened on plain cylindrical surfaces; but I prefer the double bevel, for the reason, among others, that the operator can then work in the crotch or angle between two cutters without shifting the angular position of the bar, and can hold the bar with the points of the cutters either toward or from the operator, as may be most convenient.

The grinding-wheel is preferably made arti-

ficially, in the manner described in the patent issued to myself and others, dated March 6, 1866—that is to say, compounded of coarse emery, flour-emery, and sulphur; but any suitable natural or artificial material may be used.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows:

The within-described device for sharpening

harvester and mowing-machine cutters, consisting of the standards G¹ G², shaft D, grinding-wheel A, driving sheave or pulley E, clamp-washer and nut B C, the whole arranged as and for the purpose herein set forth.

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Witnesses:

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