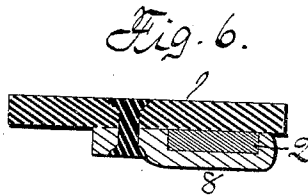
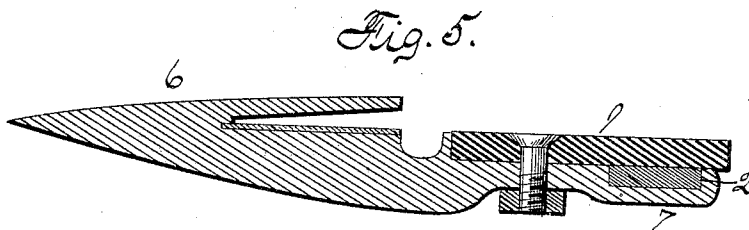
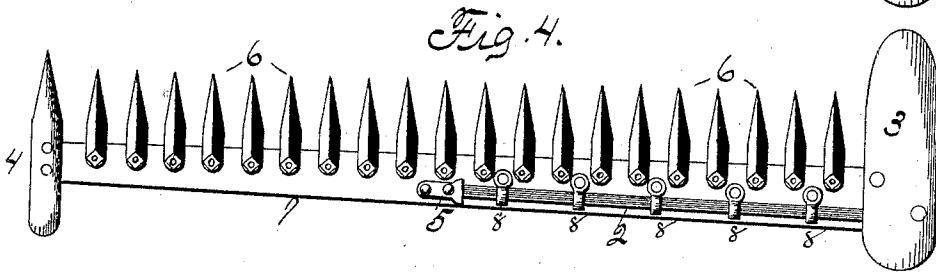
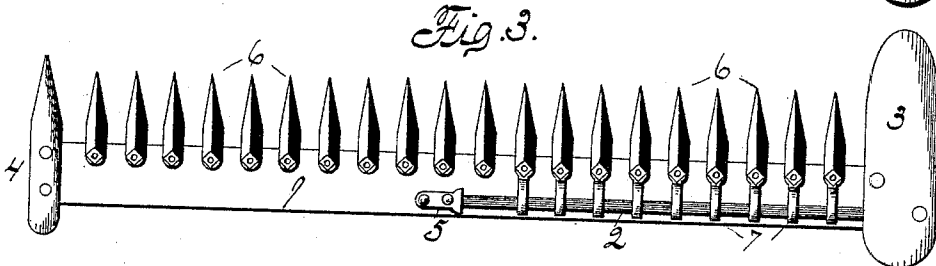
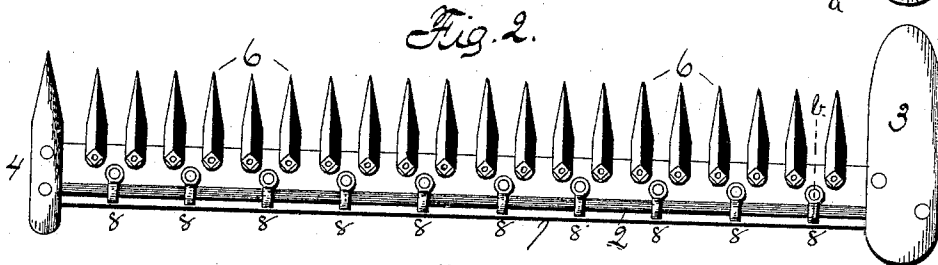
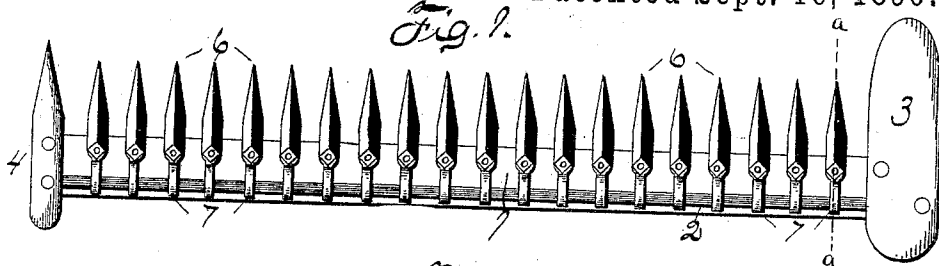


(No Model.)

R. EMERSON.
FINGER BAR

No. 436,734.

Patented Sept. 16, 1890.



Witnesses:
O. A. Behel
E. Behel

Inventor:
Ralph Emerson.
By O. A. Behel,
Att'y.

UNITED STATES PATENT OFFICE.

RALPH EMERSON, OF ROCKFORD, ILLINOIS, ASSIGNOR TO THE EMERSON,
TALCOTT & COMPANY, OF SAME PLACE.

FINGER-BAR.

SPECIFICATION forming part of Letters Patent No. 436,734, dated September 16, 1890.

Application filed July 20, 1889. Serial No. 318,125. (No model.)

To all whom it may concern:

Be it known that I, RALPH EMERSON, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Mowing-Machines, of which the following is a specification.

In a side-cut mowing-machine having a hinged finger-bar with one free end the finger-bar has a great tendency to droop or sag at the outer end when it is raised by the lifting-lever. This forces the bar into a convex form in the direction of its length. This "crowned" condition places the guard-fingers all out of line with each other, and as the knife or cutter-bar is moving at the same time it is very materially injured by the section being unnaturally worn downward in the guard-fingers in the center and upward at its ends, and both cutter-bar and guard-fingers are soon destroyed.

The above-described convex condition of finger-bar and cutter-bar also exists when they are working in the grass on the ground with the outer free end wholly or partially held up by a spring lifting device acting upon it by means of leverages at the inner shoe.

The purpose of my invention is to wholly or approximately overcome this difficulty of the drooping or springing of the bar. To this end I have constructed a device for strengthening or stiffening the finger-bar.

Figures 1, 2, 3, and 4 are under-face representations of a finger-bar having its shoes attached and showing my improved strengthening-rib in place. Fig. 5 is a lengthwise section of a guard-finger, finger-bar, and strengthening-rib on dotted line *a*, Fig. 1. Fig. 6 is a transverse section of the finger-bar, showing the rib held in place by cleats cut on dotted line *b*, Fig. 2.

On the under side of the finger-bar 1, in close contact with its surface and toward the rear edge, I place a flat truss-bar 2 of a suitable width and thickness. This truss-bar 2 is made in one instance to reach from the inner shoe 3 to the outer shoe 4 and in another instance to reach from the inner shoe 3 to an abutment 5, firmly attached to the finger-bar 1. This truss-bar 2 has an exceed-

ingly firm thrust or pressure at its ends. This is attained by making it somewhat longer than the space it is to fill between the shoes 3 and 4 or between the inner shoe 3 and the abutment 5. The finger-bar 1 being upside down, it is sprung down by mechanical means at the two ends and given the form of a bow until the crowning side is sufficiently lengthened to allow the truss-bar 2 to be placed in position.

In one instance I provide the guard-fingers 6 with rearwardly extending and clasping projections or lips 7, which when bolted to the finger-bar 1 in the ordinary manner hold the truss-bar 2 in position against the finger-bar 1. In another instance I provide plates or cleats 8, which are independent of the guard-fingers and which clasp the truss-bar 2 and when bolted or riveted to the finger-bar 1 hold the truss-bar 2 in place.

The guard-fingers or cleats 8, as the case may be, are attached to the finger-bar and the truss-bar firmly secured in its place while the finger-bar is yet in the form of a bow. When the truss-bar 2 is thus secured to the finger-bar 1 by the guard-fingers 6 or the cleats 8, it is forced very powerfully against the resistance at its ends, and the result is that when the finger-bar is turned over in its working position it is greatly strengthened or stiffened in the direction of its length and is prevented from sagging at its outer end.

My purpose in providing truss-bars 2 of variable length is that in one case the finger-bar may be so thin and limber that it will be necessary to support it the entire length from the inner to the outer shoes. In another case the finger-bar may be stiff enough within itself to only require a truss-bar from the inner shoe to an intermediate abutment properly attached to the finger-bar.

It is evident that an abutment might be placed just outside of the inner shoe and still accomplish the same result, and by the term "abutment" I mean the parts against which the ends of the truss-bar press.

I claim as my invention—

1. The combination of an inner shoe, a finger-bar secured thereto, a separable truss-bar on the under side of the finger-bar, and an

abutment, said truss-bar made to press against the inner shoe at one end and the abutment at its other end, and cleats secured to the finger-bar holding the truss-bar to the finger-bar, substantially as set forth.

5 2. The combination of an inner shoe, a finger-bar secured thereto, a separable truss-bar on the under side of the finger-bar, and an abutment, said truss-bar made to press against
10 the inner shoe at one end and the abutment at its other end, and guard-fingers secured to the finger-bar and provided with rearward extensions spanning the truss-bar and holding it to the finger-bar, substantially as set
15 forth.

3. The combination of an inner shoe, a finger-bar secured thereto, a separable truss-bar on the under side of the finger-bar, and an abutment, said truss-bar made to press against the inner shoe at one end and the abutment 20 at its other end, and guard-fingers secured to the finger-bar and provided with rearward extensions transversely grooved, which clasp the truss-bar and hold it to the finger-bar, substantially as set forth.

RALPH EMERSON.

Witnesses:

WALLACE L. SERRELL,
MARSHALL K. SNELL.