(No Model.)

M. C. SOOTER.

CUTTER BAR FOR MOWING MACHINES.

No. 491,142. Patented Feb. 7, 1893.

Fig. 1.

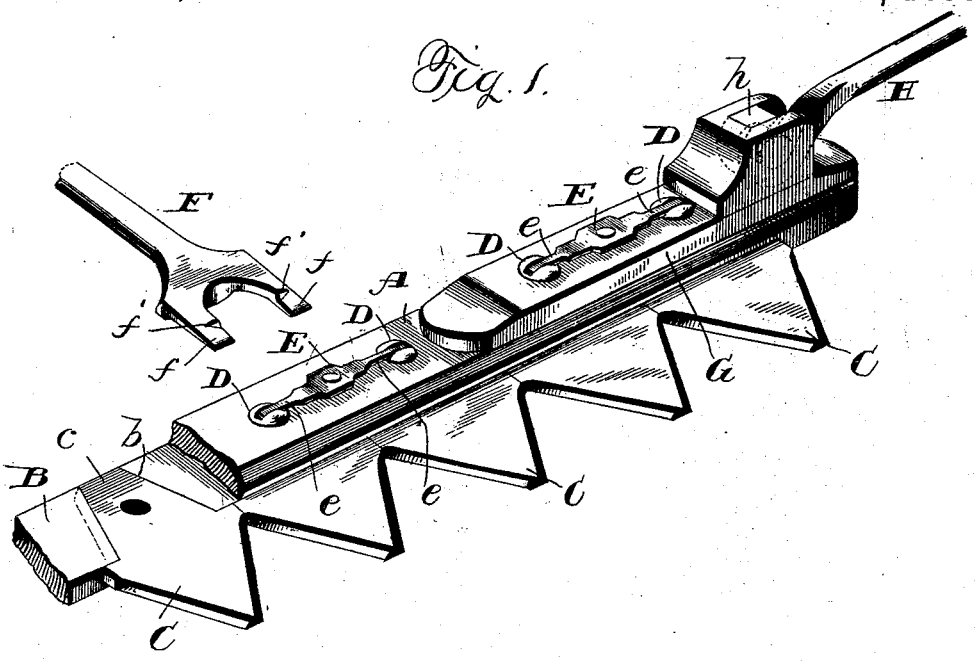


Fig. 2

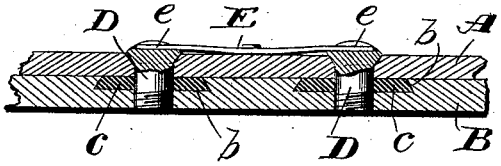
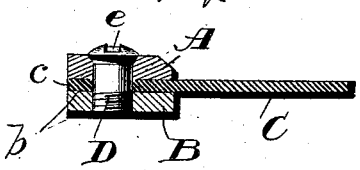


Fig. 3.



Witnesses
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A. L. Hough

Inventor
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UNITED STATES PATENT OFFICE.

MILTON C. SOOTER, OF PALACE, MISSOURI.

CUTTER-BAR FOR MOWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 491,142, dated February 7, 1893.

Application filed June 1, 1892. Serial No. 435,137. (No model.)

To all whom it may concern:

Be it known that I, MILTON C. SOOTER, a citizen of the United States, residing at Palace, in the county of Greene and State of Missouri, have invented certain new and useful Improvements in Cutter-Bars for Mowing-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is to provide improved means for attaching the knives or cutter blades of mowers and reapers to the cutter bar, and to this end my invention consists in the attaching means hereinafter described and claimed and illustrated in the accompanying drawings in which,

Figure 1 is a perspective view of a portion of a cutter bar and attached knives embodying my invention, Fig. 2 a longitudinal section, Fig. 3, a transverse section.

Referring to the drawings by letter A and B designate respectively upper and lower bars made preferably of steel, which together constitute my cutter bar. In the upper face of the bar B are provided recesses or cavities *b* each of which is adapted to receive the shank *c* of a knife or cutter blade C. The shank of each knife is made tapering and the recess *b* therefor conforms in shape and size thereto, and, preferably, to firmly seat the shank in its recess, the side walls of the latter are under cut to engage the beveled sides of said shank. The upper faces of the shanks are made to lie flush with the adjacent surface of the lower bar B, so that the under face of the bar A will engage said faces of the shanks, and the upper face of the lower bar.

Passing through an opening in the central portion of each shank *c* and through an opening in the upper bar A down into a screw threaded opening in the lower bar B, is a screw D having a flaring head which engages a countersink in the outer end of the opening in the upper bar A. The several screws D serve to hold the two bars and the knives together, but, with reference to the knives, it will be observed that owing to the manner of attaching them to the lower bar, said screws are only needed to prevent the knife shanks being pulled out of the recesses in the lower bar. As the knives, of course, have no tendency to move, and are not strained in this direction, but only rearwardly and laterally it will be seen that there will be no strain whatever on the screws, but all will fall upon the bar B. I am thus able to use but a single screw for each knife, which is a very important consideration, not only because of diminution of parts and the quickness and ease of assembling and separating them, but because there is no undue weakening of the cutter bar by the provision of additional holes, as would be the case were more than one screw employed for each knife.

As a means to lock the screws from loosening and working out of their openings, I pivot to the upper side of the upper bar A, between each pair of screws, a spring locking plate E having two downwardly extending extremities or arms *e* and *e* adapted each to engage the slot in the head of the screw. It will be noted that said plate is simply pivoted to the top side of the upper bar A no recessing of the latter being required and serves to lock the screws of two knives. No special notches or slots have to be provided in the screws as the usual slot is availed of.

To remove a screw, when it is necessary to take out a knife, it is simply needful to lift the two arms *e* and *e* out of engagement with the screw slots, and turn the plate E around sufficiently to carry said arms out of the way. I show in the drawings a tool conveniently adapted for this purpose which comprises two wedge-shaped fingers *f* and *f*, carried by a suitable handle F, which fingers, by being passed beneath the two arms *e* will raise them. Each finger *f* has a shoulder *f'* to abut against the edge of the arm so that by moving the handle in a circle, the plate E can be turned on a pivot to move the arms *e* out of the way of the screws as above indicated. It will be found that but a single screw has to be removed to take out one knife.

It will be seen that my means for attaching the knives to the cutter bar are conducive to strength, as no undue weakening of the parts is occasioned by numerous bolt or screw holes, to the secure and rigid holding of the knives

in place, and to extreme simplicity both in structure and manipulation either to assemble or separate the parts.

Attached to one end of the cutter bar, being placed upon the upper side of the upper bar A, is a plate G that is held in place by the screws D of the two end knives. At its outer end said plate has a recessed vertical lug or projection in which is a transverse pivot pin to which the hooked end *h* of the pitman H is connected.

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

The combination with the lower bar having dove-tailed recesses in its upper face, of the knives having shanks fitted to said recesses, the upper bar placed over said recesses and shanks, the screws passed through the upper bar and through the shanks of the knives and into the lower bar and having flaring heads seated in countersinks in the upper bar, and slots in the upper faces of the heads extending length-wise of the bars, and the flat spring locking plate secured at its center to the upper face of the upper bar between the shanks of two adjacent knives and having its ends narrowed and seated in the slots of the heads of two adjacent screws, all substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

MILTON C. SOOTER.

Witnesses:
T. J. WATTS,
M. D. KELLEY.