

(No Model.)

L. MILLER.

CUTTING APPARATUS FOR MOWING AND REAPING MACHINES.

No. 552,665.

Patented Jan. 7, 1896.

Fig. 1.

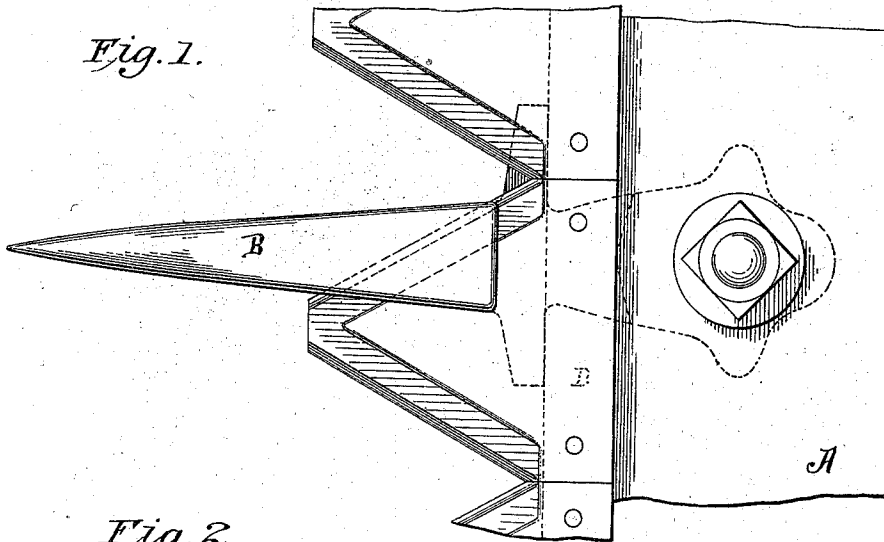


Fig. 2.

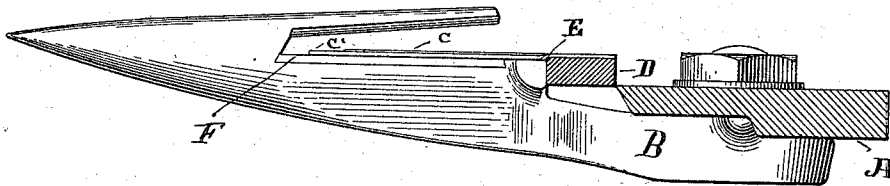


Fig. 3.

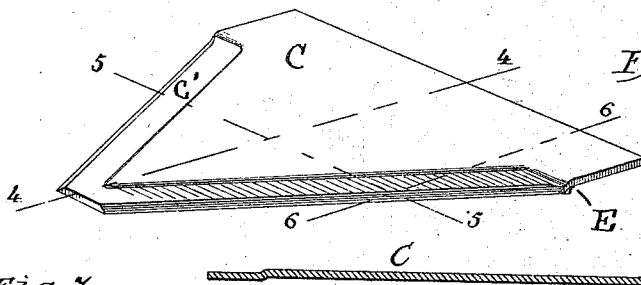


Fig. 4.
ON 4-4

Fig. 7.

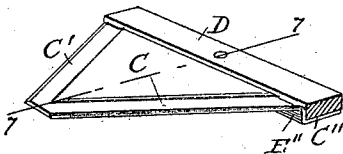


Fig. 5.
ON 5-5

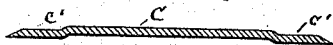
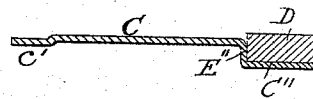


Fig. 6.
ON 6-6



Fig. 8.
ON 7-7



Witnesses.

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LEWIS MILLER, OF AKRON, OHIO.

CUTTING APPARATUS FOR MOWING AND REAPING MACHINES.

SPECIFICATION forming part of Letters Patent No. 552,665, dated January 7, 1896.

Application filed January 22, 1895. Serial No. 535,774. (No model.)

To all whom it may concern:

Be it known that I, LEWIS MILLER, a citizen of the United States, and a resident of Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in the Cutting Apparatus of Mowing and Reaping Machines, which improvements are fully set forth in the following specification and the accompanying drawings, forming a part of the same.

The nature and object of my invention consist in forming a knife provided with a raised central support for the angular cutting-face of the knife, that projects in a lower horizontal plane therefrom and has its cutting-edge formed on the outer side of its broad flat face to present a thin cutting-knife for severing the grass or grain stalks, and that portion of the blade secured on the knife-back immediately back of the cutting-edges being on a higher horizontal plane the entire width of the knife. This portion forward of the knife-back penetrates the opening made by the cutting-edge of the knife as it severs the grass, and does not displace the butts that are cleanly cut off and fall back over the finger-bar without liability of being drawn into the guard-slot, as is often the case in the use of the old form of knife that is much thicker than my improved knife, and the latter does not require so much power to operate it as the old form of thick knife.

The under side of my improved knife has a flat face, which gives it a wide bearing on the steel ledger-plate secured to the guard. This broad flat face of the knife extends back in a horizontal plane about three-eighths of an inch from the outer side of its tempered face or cutting-edge, thereby securing a good bearing on the ledger-plate or cutting-surface of the guard and also retaining a continuous bearing on the guard, while the upper or raised central portion of the knife may find a bearing upwardly on the under side of the guard-cap and has no bearing on the ledger-plate.

The knife-holding clip secured to the cutter-bar holds down the knife-back to which the knives are secured. The back of the

knife is raised on the same plane with the central portion of the knife and the depressed edge of the knife is on a plane below this back of the knife and extends to a point in contact with the knife-bar, which thus affords a projecting bearing on each side of the knife against the knife-bar to which the knives are attached, and this aids in securing the knife and maintains it firmly on the knife-bar, and it cannot get loose, as ordinary knives are liable to when only held by the rivet to the bar, as the knife is subjected to very severe shock and jar in cutting all kinds of grass and grain, and the obstructing material that is often encountered in ordinary fieldwork cannot enter or catch between the knife and its bar, as the knife fits close down on it, while, the cutting-face of my knife being secured below the upper plane of the knife-back and its pitman attachment or actuating power, it is balanced against the force of resistance in cutting and the cutting-edge only rests on the ledger-plate at the time of severing the grass-stalks, and the clogging entangling wire-grass and dirt that may be encountered is free to fall out, and the advance reciprocating edge of the knife is thus permitted to form a close contact with the ledger-plate or cutting-edge of the guard, and this obviates the tendency of the knife to rise or twist when it encounters obstructing material while doing its work.

In the drawings, Figure 1 is a plan view of the cutting apparatus, showing the knife and knife-guard; Fig. 2, a side elevation of the knife-guard and knife with the knife-bar and finger-bar in section. Fig. 3 is a view of the knife in perspective; and Figs. 4, 5, and 6 are sectional views of the knife on lines indicated. Fig. 7 is a modification of my improved knife provided with a depressed back for placing the bar to which the knives are secured on the top, as this is sometimes desirable, in which case the central raised portion serves as a bearing against the bar, as seen in Fig. 8, taken on line 7 7 of Fig. 7.

A represents the finger-bar; B, the knife-guard; C, the raised central portion of the knife; C', the lower horizontal plane, which

extends only to the knife-bar and is provided with the cutting-edge; E, the projecting bearing at which point the cutting-edge terminates and fits against the knife-bar D, upon the top of which the knives are secured.

5 F is the ledger-plate or cutting-edge of the guard.

C'' of Fig. 8 represents the bearing-surface of the knife, upon the top of which the knife-bar may be secured in the modification.

10 E'' represents that raised middle portion of the knife forming a projecting bearing that fits against the knife-bar when it is placed on the top of the knife.

15 As only the cutting-edge of my improved knife has at all times a bearing during its reciprocation at some point of its length upon the ledger-plate of the knife-guard, this materially reduces the friction of the knife, and
20 the broad bearing protects and strengthens

its outer cutting-edge from breakage and wear.

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

25 In a mowing and reaping machine a knife provided with a broad thin cutting edge on its lower face projecting laterally on a plane below its central portion and parallel therewith, and extending rearwardly to a point in contact with the knife bar upon the top of which the knives are secured the plane of the cutting edge being below and forward of the upper surface of the knife bar substantially as shown and described.

LEWIS MILLER.

In presence of—

O. L. SADLER,

WALTER K. MEANS.