

KNOWLTON

Mowers.



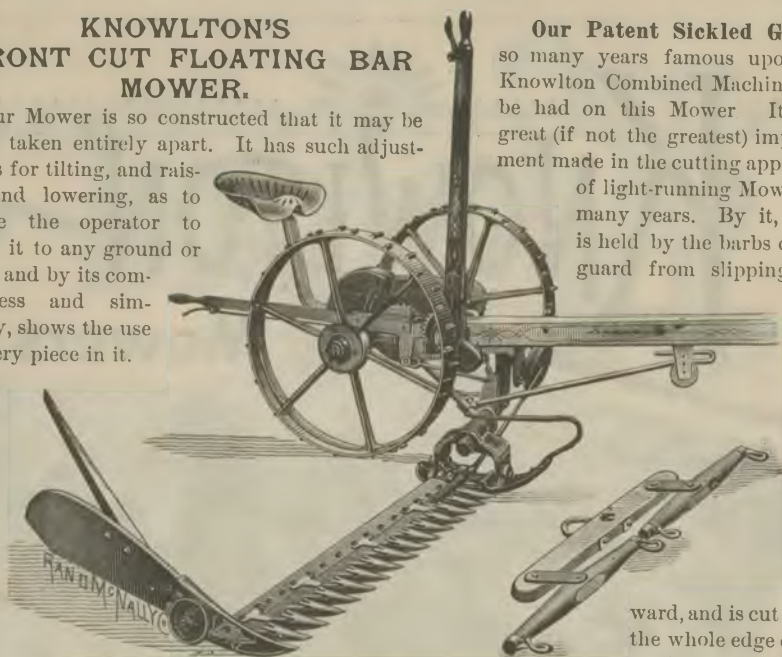
MANUFACTURED BY

Abram Ellwood,

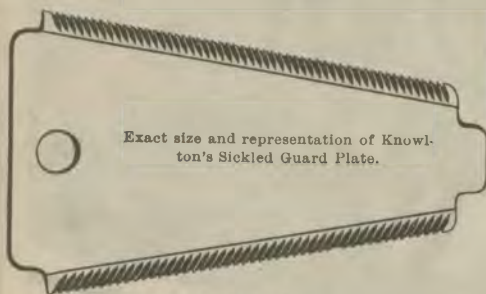
DE KALB, ILL.

KNOWLTON'S FRONT CUT FLOATING BAR MOWER.

Our Mower is so constructed that it may be easily taken entirely apart. It has such adjustments for tilting, and raising and lowering, as to enable the operator to adapt it to any ground or grass, and by its compactness and simplicity, shows the use of every piece in it.



Our Patent Sickled Guard, so many years famous upon the Knowlton Combined Machine, can be had on this Mower. It is a great (if not the greatest) improvement made in the cutting apparatus of light-running Mowers in many years. By it, grass is held by the barbs of the guard from slipping forward.



Exact size and representation of Knowlton's Sickled Guard Plate.

ward, and is cut along the whole edge of the section, instead of only by its point; and short grass is helped to fall behind the bar instead of being pushed forward as cut, and made to fall in front of the bar.



Sickled Guard holds grass from slipping forward in being cut and causes it to fall behind bar.

Smooth Guard pushes grass forward, bunching it in being cut, and causes it to fall forward of bar.

Guards are held in place by bolts instead of rivets.

The Pitman has a brass box at rapid wearing part, and a ball and socket joint.

The Sickie Eye is large, has no parts or bolts to give trouble in getting loose.

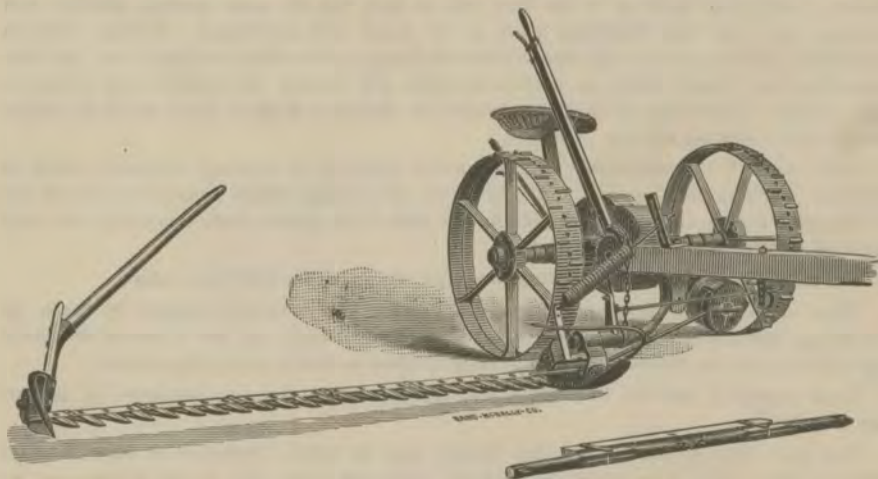
The Oscillating Joint of bar permits a self-adjusting tilt of guards to ride into and out of dead furrows, or, if on top of a bog, the guards will point down to cut clear its opposite side, making thus a **GENUINE FLOATING BAR**.

Brass Fittings are supplied for crank journals, and for wrist-pin bearing, which may be easily renewed.

The Driver's Seat is behind the cut, out of danger, easily accessible, convenient to levers, and arranged to balance weight on wheels instead of horses' necks, and adjustable forward and backward to suit driver.

The General Arrangement is for completeness in use, easy action for man and team, simplicity, neatness and endurance—A **GOOD COMMON SENSE, FIRST-CLASS MOWER**.

WIDE-CUT MOWERS, WITH KNOWLTON'S BAR-CARRYING SPRING.



We make a sustaining spring to carry the weight of the cutter-bar on the driving wheels, still leaving the cutters flexible to conform to the ground, decreasing both forward and side draft, by transferring the weight, otherwise dragged sideways on the ground, to the driving wheels, and increasing the power of cut by increasing the weight, to give power.

The spring fixtures carrying the bar on the wheels are in two parts :

1st—An “L” shaped lever, pivoted at its angle, on the pin forming the yoke to the shoe.

2d—A coil spring between the upper end of lever and a point of attachment on the machine.

The action of the spring pulling on the long end of the lever, thus pressing the short end down against the short end of the sickle-bar, counterbalances weight on the outer end of bar.

☉ Pulling from machine, higher than its connection with the lever, carries weight at shoe end of bar. Its point of attachment to the machine is adjustable up and down, to cease, or lessen, its lifting force on the shoe.

The force of spring may be varied by the nut at its machine end.

A spring arranged to do less must be faulty, if not worthless. More than accomplished in these devices is not necessary. It seems impossible to gain like results, more simply, or efficiently.

The gain in use of bar-carrying springs is beyond belief until seen in the field. Then, the reason why a six-foot or seven-foot bar mower, with these fixtures, *exhibits equal cutting power for each inch in width*, without increase of draft, or side draft, over the narrow mowers without them, is a puzzle.

Reasoning over the matter, we find that there is the same friction in carrying the motion of the short knife as in the long one, as each has the same gearing, shafting and bearings, and the same frictional parts at the crank and knife-head. Further, there is larger gain in doing away with the friction of dragging the whole weight of the bar sideways over the ground (often an uneven surface), and placing the weight to be borne on large wheels. More than all that: the power for *driving a knife* is made up of the *weight carried* by the driving wheels.

Then, when it is understood that the power required in mowing machines, when in order, is to get the motion, and but little to do the cutting, ample reasons are found for all the gain that is shown in field work, and that it all comes from the use of the well adjusted, **perfect bar-carrying Spring.**

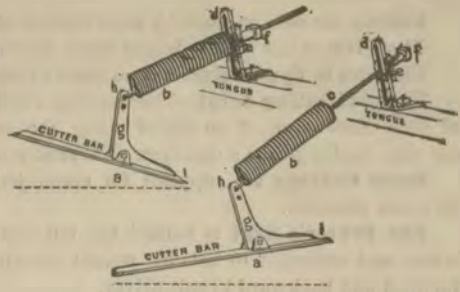
The more these bar-carrying Springs are used, the more we find their value.

Thus, in a rough or boggy bottom, they do better than expected, because the bar is, by the spring, eased over bogs or hummocks. In a muck bottom, the bar is carried so lightly that it floats over the muck instead of loading it upon the knife and in the guards.

These supposed troubles in using a long bar mower are met and overcome by the bar-carrying Spring.

The true value of the bar-carrying Spring may be better illustrated to some through figures. Thus, all mowers require in their use a man and team; that, for the illustration, we will call worth together \$3 a day. Say we compute the entire life service of a common mower at three hundred days at \$3 a day, its sum is \$900. The wide mower doing the same work in two hundred days at a cost of \$600, showing a saving of \$300, three times its cost. The six or seven-foot mower will cut in two swaths as much as the four or four and one-half-foot machines will in three swaths. Each swath averaging less than the full width of bar from two to six inches, according to care and skill of driving, the two swaths of the wide mower will exceed as a rule the three swaths of the narrow mower, so that it is certain that the wide mower will cut as much in two hundred days as the narrow mower in three hundred days.

Beyond the gain, as illustrated above, is a further gain of importance in the ability to do the most cutting in the shortest time, lessening the risks of exposure to rains in making hay. How much hay has been almost ruined for lack of the little time that might have been gained by using a wide-cut mower? Such loss might any one season be more than the entire cost of the wide-cut machine. In the best hay-making weather, ability to cut in the morning and cure early enough to have the work of each day protected every night, must be appreciated by any thrifty farmer.



Knowlton Sustaining Spring. a, Pivot joint of Yoke and Shoe; b, Spring; c, Spring bolt; d, Slotted iron attached to tongue; f, Nut changing tension of Spring; g, Lever. Pulling on Lever at h depresses part i, raising horn end of Cutters. Elevating tongue end of Spring causes its tension to pull up on the Shoe. Fastening Spring Bolt in upper part of Slot d, will lift more on heel end of Cutters; and if fastened to lower part of slot d, it will make horn end of Cutters lighter and raise less on heel or shoe end.