

THE HOPKINS AUTOMATIC MOWER

MANUFACTURED BY THE

AUTOMATIC MOWER AND MFG. CO.

WORKS AT HARVEY, COOK CO. ILLS.



GENERAL OFFICES

823 ROOKERY BUILDING
CHICAGO U. S. A.

T. W. HARVEY,
PRESIDENT.

FOR SALE BY

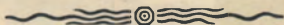
E. M. WARREN,
SECRETARY.

H. L. HOPKINS,
SUPERINTENDENT.

The Hopkins Automatic . . MOWER.



The Hopkins Mower was awarded the Grand and only medal for mowers at the World's Fair, New Orleans, in 1884, and a Special Diploma of Merit, thus achieving as great success on exhibition as in the field. It is conceded to have been the lightest draft, the freest cutting, and the most convenient mower manufactured.



THIS MOWER IS NOW SUPERSEDED BY THE

Hopkins • Automatic • Mower,

WHICH COMPLETELY REVOLUTIONIZES
GRASS CUTTING IMPLEMENTS.

The most valuable features of the old machine have been so combined with new inventions, as to produce the most surprising results, among which are the following :

- 1st. **AUTOMATIC** balance of the frame and gearing — showing absolute freedom to horses' necks; as no pole is required in mowing, except in backing and turning square corners. See engraving on page 9.
- 2d. **AUTOMATIC** tilt or float of the finger-bar, so that the guards will slide or rock easily over bogs and obstructions, and float in and out of hollows and dead furrows, thus preventing stoppages and securing more grass. See page 20.
- 3d. **AUTOMATIC** raise of the cutting apparatus in backing and turning corners, saving the lifting of the finger-bar, which always places its weight upon the horses' necks in any front-cut mower and raises the front end of the pole in any rear-cut mower, which also irritates and makes sore the necks of the horses. See engraving on page 11.
- 4th. **AUTOMATIC** axle balance of the cutting apparatus, when folded for transportation, no weight on the horses' necks. See engraving on page 18.
- 5th. **AUTOMATIC** registry of the sections with the guards, insuring at all times a proper stroke of the knife and preventing the shingling of the grass. See engraving on page 21.
- 6th. **AUTOMATIC** take up of all of the wear in the connections of the cutting apparatus with the frame. See page 22.

- 7th. **AUTOMATIC** shear-cut pitman holding the sections to the steel guard plates with any desired pressure. See page 24.
- 8th. **AUTOMATIC** take up pitman and crank box connection, preventing lost motion. See page 27.
- 9th. **AUTOMATIC** pitman and knife connection, which will perpetually and without attention take up all of the wear; so that lost motion cannot exist, and without lost motion no pitman or knife will break. See page 24.

Combined with these Automatic features, which insure at all times proper mechanical adjustments and perfect adaptibility to the practical requirements of a mowing machine, are several other new features that will be understood and appreciated by reading this pamphlet.

We have purchased the manufactory and entire business for the mowing machine business of the Hopkins Mfg. Co., and now introduce the Hopkins Automatic Mower, for which we will manufacture four different regular lengths of cutting apparatus—4 feet 3 inches, 5 feet, 6 feet and 7 feet. **Each length may be used in the same machine by changing the point of connecting the draft rod.**

The standard length will be 5 feet, and will in all cases be shipped unless another length is ordered. In the most difficult prairie cutting (wire grass) and over knolly and very uneven

surface, the 4 foot 3 inch bar is preferable. Farmers having much of these grasses and surfaces should order both the 4 feet 3 inch and 6 or 7 feet bar for the same machine. It requires two complete cutting apparatus to wear out one well built mower like ours ; so that in the purchase of the two, nothing will be lost and very much will be gained in using the right length in the right place.

We warrant the Hopkins Automatic Mower to be as represented in this circular in every detail, both in construction and in operation, and we invite the closest inspection and the severest tests by the most critical.

The mowing machine expert will admire this machine on examination, but to be able to fully appreciate it, he must use it in the most difficult places.

We therefore invite patronage on merit alone, and look to the machines to increase our trade everywhere.

Respectfully,

THE AUTOMATIC MOWER & MFG. CO.

E. M. WARREN, *Secretary.* T. W. HARVEY, *President.*
823 Rookery Bldg., Chicago.

H. L. HOPKINS,
Superintendent.

CHICAGO, ILL., January 1, 1890.

: : THE : :

Hopkins • Automatic • Mower.

Does not take engineer or blacksmith to run it or keep in repair.

All wear in the connections of cutting apparatus is taken up automatically.

No weight on horses' necks; can be run without pole.

Driver is not shaken by vibration of machine when running.

Fewer parts than any other machine in the market; everything strong and simple.

The most frequent cause of breakage is lost motion; the lost motion is perpetually and automatically taken up in our machine, which is not the case with any other machine in the field.

"I cut 700 acres without a repair," says F. W. Nye, Opolis, Kas.

Any one can handle our mower. "They are run successfully by Indians," says Whistler, Pickett & Co., Indian Territory.

"I have used mowing machines for thirty years; the Hopkins pleases me best in every particular." David Carll, Suffolk County, N. Y.

Won the Grand Medal and Diploma at World's Fair, New Orleans, 1884.

If you have a piece of grass which no machine will cut to your satisfaction, try the Hopkins Automatic and be convinced.

READ THE TESTIMONIALS IN THIS CIRCULAR.

What We Say.



The problem of mowing machine inventors for the past few years has been to bring out wider cut machines without proportionately increasing the draft. It is safe to assume that no one hoped to increase the width of cut without increasing the draft. Our recent improvements have reduced the draft as per dynamometer tests so that our 5 feet bar runs lighter than our 4 feet 3 inch bar formerly did.

We recognize the fact that a mowing machine may be light in draft, and yet be very tiresome for a team; by reason of the main frame and gearing being held in position by the pole, which in addition to the weight, receives all of the jar and vibration of the gearing, thus irritating and making sore the necks of the horses. True the seat is set back that the weight of the driver may balance the machine and relieve the horses' necks, but were this possible, their necks cannot be relieved from the jar and tremble of the pole. When this class of machines are not in use or are out of gear, the weight can be properly balanced by the weight of the driver, and this is the time when farmers are shown by agents the perfect balance of these machines. Set them in operation and this "seat and driver"

balancing dont amount to much, for the reason that the tendency of gearing wherever it may be used is to turn its supporting frame with it. This tendency must be resisted to keep the frame from turning, and to resist it the necks of the horses must support the pole. The time to test the balance of any mowing machine is when it is in operation. A mower to be perfectly balanced and to insure absolute freedom to horses' necks, should be so constructed as to be used without any pole, and each part of the machine remain in proper position with the driver in the seat, as shown in engraving No 1.

With the exception of backing and turning corners, each part of our mower remains in position and **WILL DO EQUALLY AS GOOD WORK WITHOUT, AS WITH THE POLE ; WITH OR WITHOUT THE DRIVER IN THE SEAT, WHICH CANNOT BE SAID OF ANY OTHER MOWING MACHINE IN THE WORLD.**

A machine may also be very tiresome for a team in backing and turning corners alone, by the entire weight of the cutting apparatus resting upon the ground, and being slid instead of carried to the required position. To relieve the horses the driver usually raises the finger bar ; but this places its weight upon the horses' necks, which makes the "remedy worse than the disease."

A mowing machine should be so con-



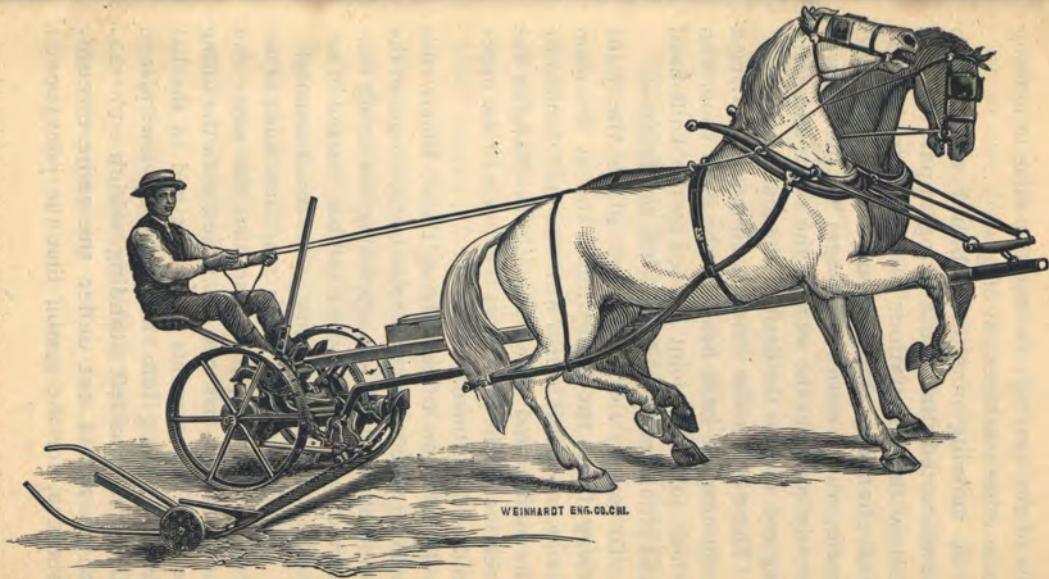
Engraving No. 1. Automatic Balance—No Pole Required in Mowing, Except in Backing and Turning Square Corners. [See page 8.]

structed that the cutting apparatus will be automatically raised from the ground in backing and in turning corners. **OURS IS THE ONLY MOWER THAT MEETS THESE REQUIREMENTS.**

The weight of our cutting apparatus is mostly carried upon the driving wheels by a balance spring being placed in a socket between the rear bend of the pole and the main frame [see engravings]. This transfer of the weight of the cutting apparatus from the ground to the driving wheels adds greatly to their traction and driving power, and decreases the draft of the machine as per dynamometer tests over forty pounds ; by preventing the wheels from sliding in the least when rolling, so that the knife is vibrated the full number of times in any given distance, and also by carrying the finger bar, instead of pushing or dragging it with its entire weight upon the ground. We can therefore use a long cutting apparatus without increasing the size or weight of the machine, and then have a surplus of driving power.

The pressure of this balance spring upon the frame, combined with the pole being hinged to near the top of upwardly projecting lugs, causes the finger bar to be raised automatically in backing and turning corners as represented in engraving No. 2.

The pole being thus independent of the frame and gearing, and the seat spring being attached to it, the driver rides free from the jar and trem-



Engraving No. 2. Automatic Raise of Cutting Apparatus in Backing and Turning.

ble of the gearing ; in fact the same in mowing as in other machines out of gear.

A mowing machine should also be so constructed that the cutting apparatus will follow the undulations of the ground without changing the line of the pitman and knife, which causes breakages of these parts, greatly increases the wear of the shafts and gearing and adds to the draft of the machine.

These difficulties exist in all mowers having a joint near the knife-head in the inner shoe, with which joint the joint formed by the knife-head and pitman must work, with the result stated.

To remedy this defect we place the joint away from the knife-head and at the main frame, so that it works with the joint formed by the pitman and crank shaft, thus changing the location of the joint from the lower to the upper end of the pitman.

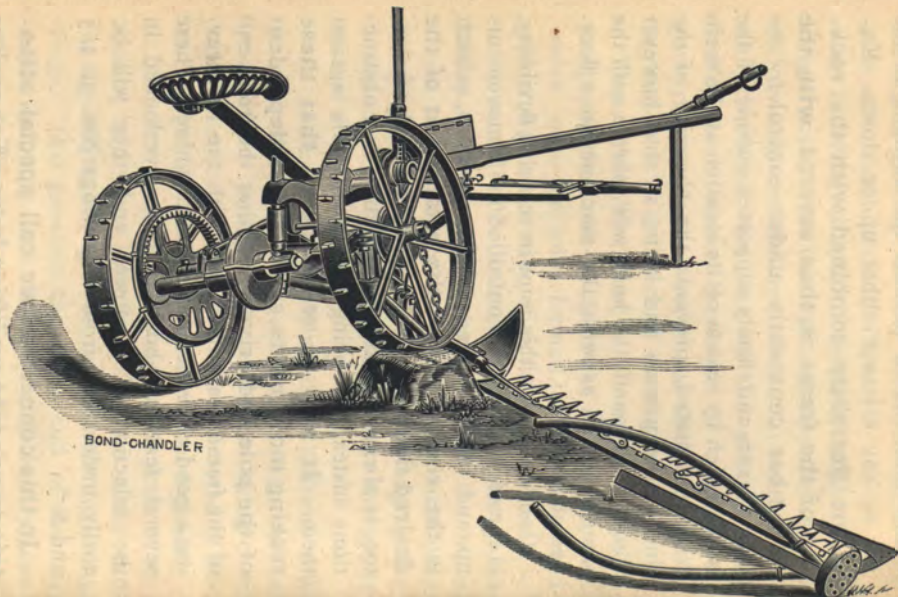
In addition to remedying these defects, this manner of construction relieves the strain on the joint by the push or supporting bar being connected between the joint and bar, instead of between the joint and frame in the usual manner.

The shoe joint in other machines must of necessity be a "stop joint," so that the outer end of the finger bar can be raised with the lifting lever. This prevents the outer end of the bar from dropping into hollows and low places. Grass is thus left standing, which our machine would cut under the same circumstances, for the reason that the joint is not a

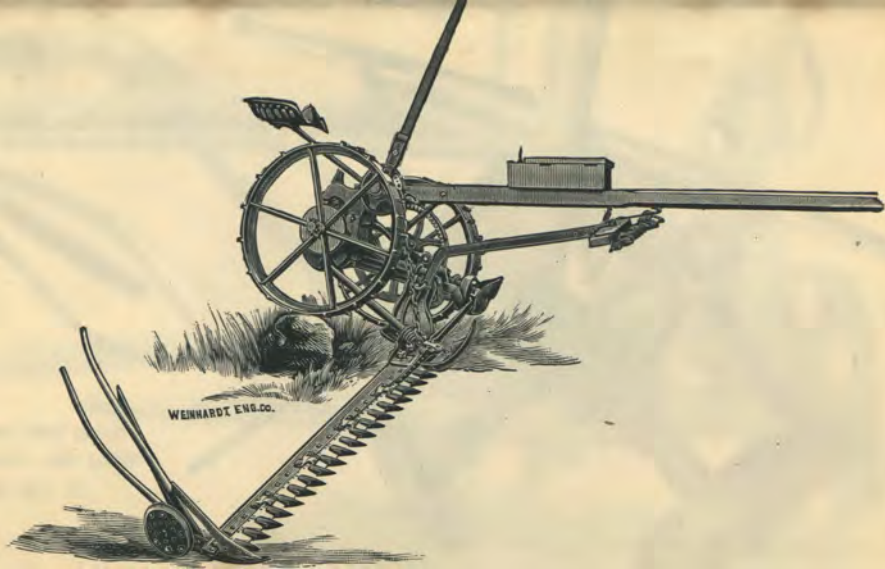
“stop joint,” but it permits the swinging of the bar to any distance either up or down. **Extreme flexibility combined with the rocking of the frame is thus assured, with the finger bar constantly under control by the lifting lever, and firmly supported outside of the joint, which by reason of its location at the main frame, as stated, prevents the changing of the line of the pitman and knife, so that however rough the ground, the knife will vibrate with the same freedom as with the machine on a floor. See engravings.**

Combined with this joint in securing flexibility, is the rocking frame, controlled in its movements up and down by the cutting apparatus, **which is the real secret of the attainment of the desired flexibility.** The front end of the frame, too, is always free to raise and slide over obstructions instead of being stopped rigidly against them. **It will be remembered that these rocking movements are wholly independent of the pole and driver, and that the front end of the frame is always raised with the bar, leaving a good clearance under the machine.** These several features should not be overlooked in the selection of a mower, and they will be easily understood from engravings Nos. 3, 4, 5 and 6.

In this connection we call special attention to our take-up lifting lever which enables the driver from his seat to raise the cutting apparatus to any desired height, and which when

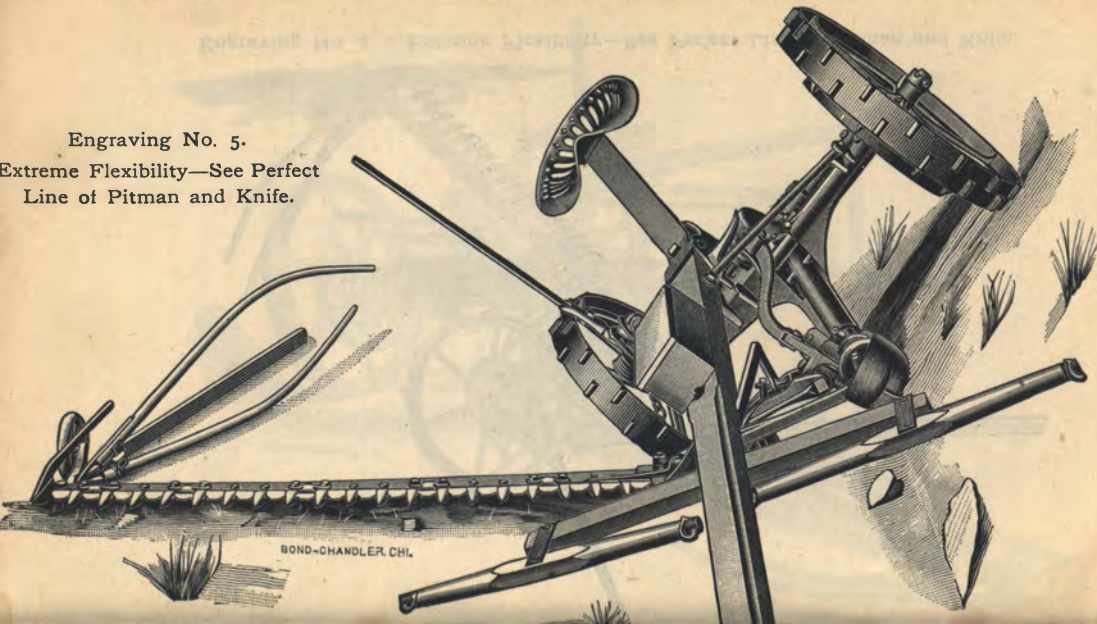


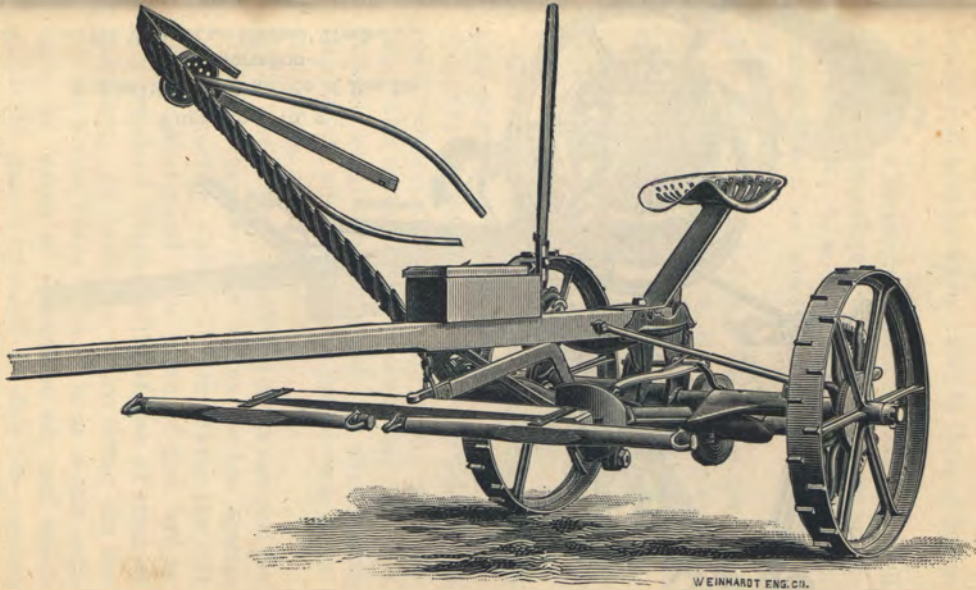
Engraving No. 3. Extreme Flexibility.



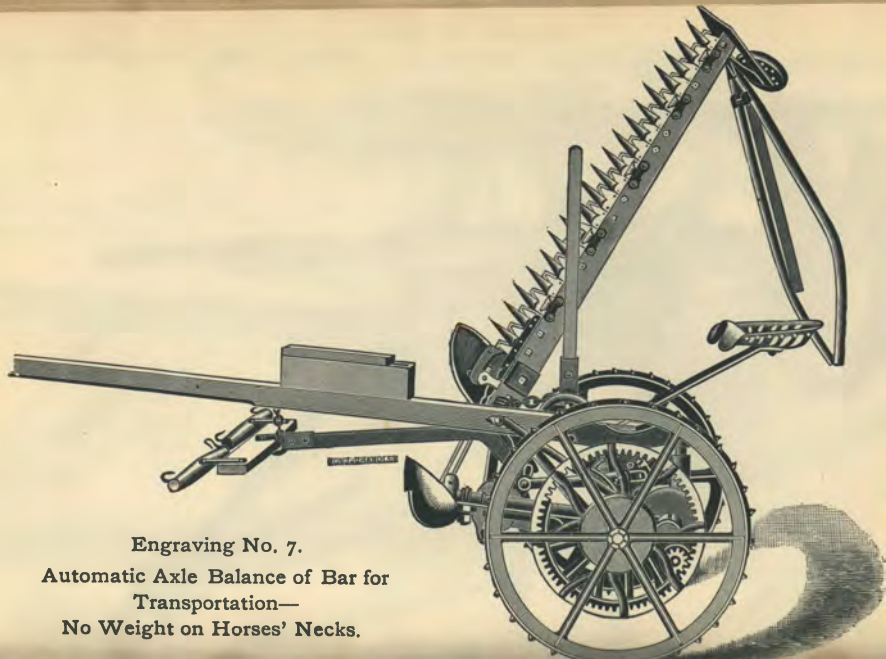
Engraving No. 4. Extreme Flexibility—See Perfect Line of Pitman and Knife.

Engraving No. 5.
Extreme Flexibility—See Perfect
Line of Pitman and Knife.





Engraving No. 6. Knife Vibrates in this Position Without Extra Friction—See Clearance Under the Machine.



Engraving No. 7.
Automatic Axle Balance of Bar for
Transportation—
No Weight on Horses' Necks.

raised and held by a foot catch in three different positions.

First, in a horizontal position common to all mowers. Second, in the position shown in engraving No. 6, and third, in the position for transportation as shown in engraving No. 7, page 18.

It will be observed that the finger bar, when folded for transportation, is not in the common perpendicular position with its weight upon the horses' necks ; but that the bar is automatically carried back over the axle, which receives its entire weight, so that as in mowing, the machine is perfectly balanced.

Our lifting lever is the only one which also serves as a tilting lever ; this not only simplifies the machine, but it greatly adds to its convenience and utility. Its convenience by being able to raise the bar after having tilted it without changing levers, which it is necessary to do when the tilt will not pass the mound, bog or obstruction, as anticipated.

The loss of time in changing levers compels the driver to stop the team or run the bar against the obstruction, while with our mower the tilt can be continued to a raise of the bar to any required height without loss of time or stoppage. Its utility by always tilting the finger bar before lifting it, which is as a rule sufficient, by reason of its extreme tilt, and which points the guards upwards to slide like runners over obstructions instead of being stopped

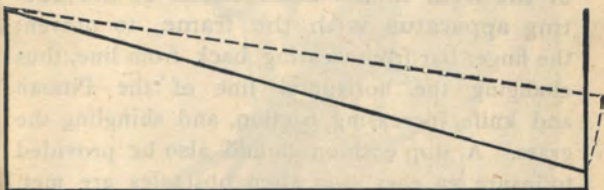
against them as when level. This in ordinary use saves the lifting of the bar from the ground, and the placing of its weight on the horses' necks, and it also makes it very easy for the driver, as an eight year old boy can tilt the bar with ease. See engraving No. 8, page 23.

In addition to this tilt and its advantages as stated, it also **frees the knife by turning the crank**; as the front end of the frame is raised by the tilt, and when being raised by the lever the gearing must turn; so that without starting the team the driver can, with the lever, cause the knife to vibrate any number of times.

By the manner of connecting the cutting apparatus with the main frame combined with the rocking connection of the inner shoe, as described, the arch of the inner shoe moves backwards and forwards with the tilt, **so that the bar tilts automatically "in its tracks,"** instead of swinging laterally at either or both ends and changing the horizontal line of the Pitman and knife—a very common defect.

This feature, combined with the spring balance and with the draft attachment to the arch of the inner shoe **gives us the first and only real floating cutting apparatus ever made.** It follows the uneven surfaces of the ground closely but freely; so that the guards will automatically tilt over obstructions which would stop other machines. The finger bar is also drawn instead of being pushed, thus fully securing the acknowledged important advantages of a rear cut machine.

In any position of the tilt or finger bar the registry of the knife is perfect, which is necessary for smooth and easy cutting. The upward tilt of any finger bar has the effect of lengthening the Pitman by raising the knife end of the Pitman nearer on a level with the crank end. To insure the strokes of the knife to exactly the same place in the guards—a perfect registry—the distance between the crank shaft and the inner shoe must be increased with the upward tilt of the bar, to correspond with the further outward movement of the Pitman. This point can be easily demonstrated with a stick, by holding one end at a fixed point several inches higher than the other end, and raising the lower end, as shown in dotted lines in the following engraving.



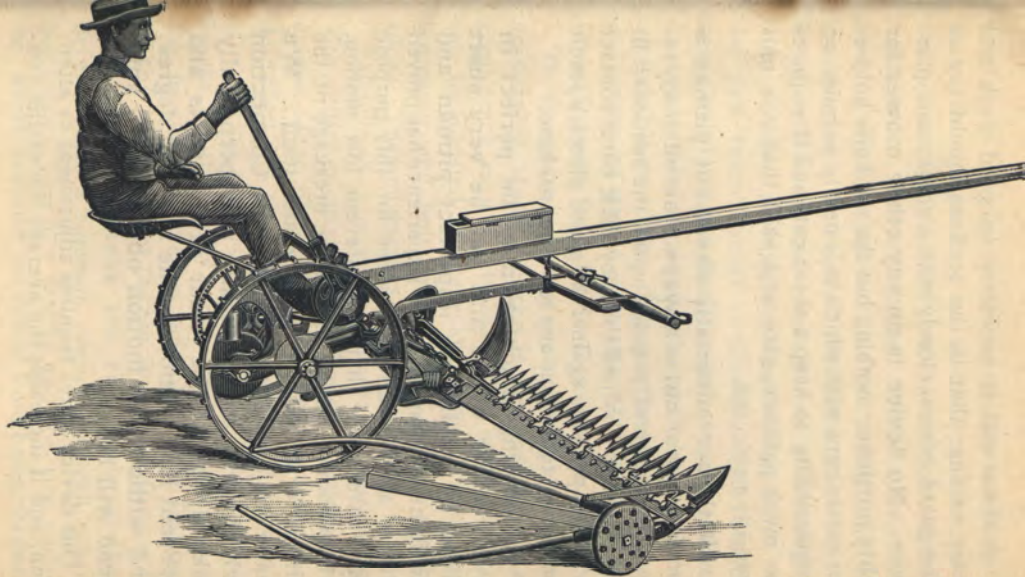
It will be seen that the distance between the two vertical or perpendicular lines representing the points of the crank shaft and of the inner shoe, must be increased to correspond with the further outward movement of the upper pitman line. In a mowing machine this increase is about $\frac{7}{16}$ of an inch, thus making the pitman this much too long on the upper tilt of the bar.

In our mower **these vertical points** representing the crank and inner shoe are **automatically separated** and brought together with the raising and lowering of the lower end of the pitman with the tilt, **a new feature of great practical value.**

Attention is also called to the 8 inch wheel at the outer end of the finger bar and to the position of the lever guards, frame and pitman, when tilted as illustrated in engraving No. 8.

Persons accustomed to the use of mowing machines, especially over uneven surfaces, will appreciate the value of the position of the different parts of the machine as illustrated and described.

A mowing machine should also be so constructed as to automatically take up all of the wear in the connections of the cutting apparatus with the frame, to prevent the finger bar from wearing back from line, thus changing the horizontal line of the Pitman and knife, increasing friction, and shingling the grass. A stop cushion should also be provided to insure an easy stop when obstacles are met, thus easing both the horses and the machine, and preventing the driver from being thrown from the seat. These important requirements are met only in our mower, by a spring at the shoe end of the push or supporting bar, which serves the double purpose of a stop cushion and a joint tightener, thereby effectually remedying these two defects complained of.



Engraving No. 8. Extreme Easy Tilt—The Most Practical Position of Bar and Machine,
Except in Mowing.

A shear-cut is necessary to good work and easy cutting; that is, the sections should lay on the guard plates closely with a continuous pressure. **No device is on any other mower for this purpose;** nothing but the old knife holders or cutter caps with which it is nearly or quite an impossibility to keep a shear-cut, and it requires so much patience, care and skill that it is universally neglected.

With our automatic shear-cut pitman a perfect shear-cut is always assured to any required degree of pressure upon the sections; in fact so as to sharpen them by their close contact with and pressure against the guard plates, a result necessary to perfect any mowing machine.

A mowing machine may be perfect in every other detail and yet be very short lived by having an imperfect pitman and knife head connection. Experience has proved that of all the various devices for this purpose there are none that will prevent lost motion, which sooner or later will cause breakage of the pitman or knife, if not the crank itself. **We have the only Pitman and Knife Connection which will automatically and perpetually take up all of the wear of the parts and prevent lost motion in the slightest degree, and without lost motion no pitman or knife head will break.**

Our device never requires adjustment or attention, and it increases the average life of the con-

nection in the hands of the farmers over four-fold. No nuts or keys are used. It can be connected or disconnected with a motion of the hand, and is always in order. It fills a long felt want on any mowing machine in the field, and it is conceded to be of more real value to the durability, efficiency and convenience of a mower, than all other mowing machine improvements of the past twenty years combined. Full sized samples of this invention will be sent free to agents and dealers who will keep them on exhibition. For this purpose, write for a sample of the Automatic Mower & Mfg. Co.'s Pitman and Knife Connection.

To complete a perfect cutting apparatus an adjustable track clearer is necessary that a good track may be cleared. Our track clearer can be adjusted to clear any desired track, by loosening one bolt and turning one or both sticks. [See engravings.]

Safety and convenience must be combined with utility to attain perfection in mowing machines. Our lifting lever not only operates as described, but the driver can move it forward after having raised the finger bar to any desired height, so that if by carelessness or otherwise the foot-catch becomes unhooked, the falling of the bar will not throw the lever forward and injure or break the right arm of the driver, quite a common occurrence with other machines. This new feature and the stop cushion, which prevents the driver from being thrown

from the seat as stated, makes our mowing machine absolutely safe, which cannot, in truth, be said of any other grass cutting implement.

Our main frame is made wholly of gray iron, in one solid piece, in the form of a letter T. [See engravings.] This form combined with its peculiar proportions insures so much strength, that from a record kept, **not one frame in over one thousand was broken in a Hopkins Mower during six years use in the field.** Being in one solid piece the boxes are always in line, which cannot be said of so called steel frames that are made partly of cast iron.

The different parts—cast iron and steel—are riveted together, and farmers have learned to their sorrow, that after a time the rivets will work loose, when the boxes will be out of line, thus bringing the strain upon the shafts in the boxes, thereby creating an expensive friction. The working loose of the rivets wears the holes out of round, so that new rivets will not fit; the machine is therefore abandoned, and very frequently before the close of the first haying season. **The best part of a steel frame is that part which is made of cast iron.**

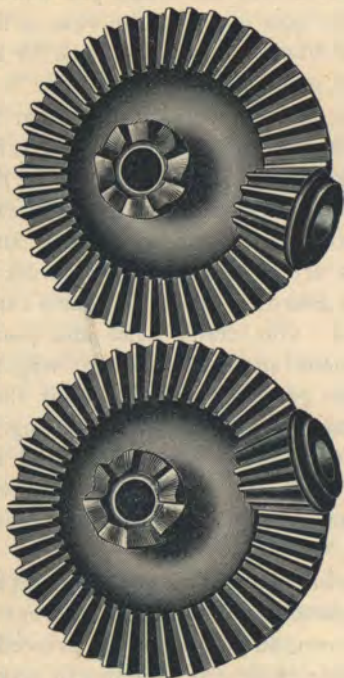
Our brass box for the crank pin can be replaced without removing or loosening any other part of the machine; so can the crank pin. Our crank shaft boxes are thimbles separate from the frame, exact duplicates, and can be cheaply replaced without disturbing any other part.

Our Pitman is made of our special Pitman steel, in two pieces and without a weld. **Either piece may be bent like an ox bow and straightened when cold,** and go to mowing. It is connected with the crank pin box so as to automatically take up all of the wear of this connection, and like its connection with the knife, as described, it never has lost motion.

Our knife, head guide and finger bar support never can turn to bind the knife, and it is a perpetual wedge for holding the bar in the recess of the shoe. Our malleable guards are of extra size and strength, are bolted to the bar, and their steel plates are riveted with the rivets passing through the guards, so that the plates can easily be replaced. Our crank head and pinions are screwed on the shafts like nuts to wagon axles, and the main gear and axle flange for the pawls, are keyed on the axle instead of being pinned, in the common, cheap and short-lived manner. All of the shafts like the finger bar are of the best material for the purpose, and are easily replaced.

There are but two pairs of gear inclosed and protected, which are made and set on a new principle of our own, and **they have proved to be more durable than the gearing in any other mowing machine in the field.**

We can refer to a number of our mowers that have each cut over 3,000 acres of prairie grasses with the same sets of gears that show but little wear, which will be seen from the engravings



Which is the Old and Which the New.

on page 28, made from photographs of two pairs of gears, one pair being new and the other pair being taken from one of these old machines.

Each driving wheel is provided with two pawls or ratchets, each pawl engaging two cogs at once and working alternately, so that **the knife starts with either or both driving wheels.**

The gear shifter is an eccentric, making the motion positive; does not depend on a spring and can be operated with the foot. The seat is adjustable to accommodate man or boy.

In addition to the superior quality of material employed in the manufacture of our mower, as stated, **we use in each machine over 100 pounds of malleable iron, which insures lightness and strength.** No material is used in construction but the very best for the office to be performed as demonstrated by experience.

We invite the closest inspection of the workmanship; all like parts are interchangeable and are mechanically fitted by special tools and machinery, insuring a degree of accuracy and perfection quite unexpected in agricultural implements.

Hopkins Automatic Mower contains fewer parts than any other mowing machine in the field. It requires no master mechanic to operate it and no blacksmith to keep it in order. A stranger to the machine will set it up in fifteen minutes and wonder how so little can do so much.

We call special attention to three quite popular, but erroneous ideas with reference to mowing machines, which are :

First, that it is advantageous to have high driving wheels.

Second, that it is advantageous to set the driving wheels widely apart from each other, and

Third, that it is advantageous to have a double motion—fast and slow—in the same machine.

AS TO HIGH DRIVING WHEELS.

With the machine out of gear and the weight the same, the higher wheels will run more easily over uneven surfaces ; but with the machine in gear more draft is required, for the reason that the gearing must be proportionately larger, giving an increase in weight and friction, and for the further reason that the power is applied from the gearing to the knife more indirect, as the crank must be higher, making a more acute angle to the pitman, increasing friction at the knife head ; or the crank shaft must be on more of an incline—a well-known mechanical nuisance ; or the curse must be divided between the two as usual, to hide, but not to remedy these defects.

Keep in mind the fact that the object of gearing in a mowing machine is to vibrate the knife lying upon the ground ; so that the nearer to the ground the gearing the more direct is the application of power, and the center of power being the main axle, the smaller the driv-

ing wheels the nearer is the center of power on a line with the work to be performed.

AS TO SPREADING THE DRIVING WHEELS.

No power is added by spreading the driving wheels, and while the resistance of each wheel in passing over obstructions is the same with the wheels wide apart as when nearer together, yet the wheels being farther from the pole cause a severe side draft when being drawn over obstacles. Again, in spreading the driving wheels the left wheel only can be set off, thus making a one-sided affair and greatly increasing the draft in turning to the right by giving so much unnecessary motion, as when thus turning the cutting apparatus moves forward very slow while the driving wheel is rolling rapidly. **Motion is obtained at the expense of power and this in a mowing machine means more draft for the horses.**

In turning to the left when the cutting apparatus is moving forward rapidly, this extra motion would be valuable, but the right hand driving wheel which imparts all of the motion in turning to the left, cannot be set off on account of the standing grass, next to which the horse must travel so that the distance between the pole and the standing grass is a fixed distance in all mowing machines.

AS TO A FAST AND SLOW MOTION.

Now as to a fast and slow motion in the same machine—the two extremes. The fast motion causes the sections to advance or to cut ahead on each stroke $1\frac{5}{8}$ inches, and the slow motion to cut ahead on each stroke $2\frac{1}{4}$ inches, which advance cuts, to each stroke on the two motions are within a fraction of the accepted rule.

Another accepted rule founded on experience is, that the cutting edge of a section should be within a fraction of $\frac{1}{2}$ of an inch longer than the advance cut per stroke, to give the spare cutting edge required to be used when the machine is being turned to the left at which time the motion of the knives is decreased and the rapidity of the forward movement of the cutting apparatus is increased. For the slow motion then the length of the cutting edge of the sections should be $2\frac{3}{4}$ inches, or grass must be pulled from the roots. Now a section having a cutting edge of $2\frac{3}{4}$ inches which is right for the slow motion, is used with the fast motion with an advance cut per stroke of but $1\frac{5}{8}$ inches, making a surplus cutting edge of the difference between $1\frac{5}{8}$ inches and $2\frac{3}{4}$ inches, which is $1\frac{1}{8}$ inches. This $1\frac{1}{8}$ inches is cutting stubble and grass the second time. This curse is also divided in double motioned machines for deception by making the sections too short for the slow motion, and not so much too long for the fast motion, which decreases the amount of the stubble and grass re-cut

with the fast motion, at the expense of pulling grass by the roots with the slow motion. From this it will be observed that for a double motioned machine—fast and slow—two complete cutting apparatus should be used with the lengths of guards and sections made to conform to the two motions.

These three erroneous ideas founded on extremes, as stated, always dangerous, are good enough in theory to deceive many not versed in mechanics and who jump too hastily at conclusions; but they are destructive in practice.

REQUIREMENTS OF A MOWING MACHINE.

The time is passed for saying that a mowing machine is good enough because it will cut grass and that nothing more is required.

Farmers have learned to consider, in addition to good work, safety, utility, convenience, durability and ease for the team, not only in mowing, but in backing and turning corners.

No implement, machine or device is good enough if it can be improved, or if competitors are superior. The latest improvements are demanded by all classes and in all fields of mechanism until perfection is attained.

The machine requiring the least care and skill in its use, either in adjustment or execution, is the most durable and will operate more perfectly. Especially is this true of a mowing ma-

chine to be used as a rule by persons who are not mechanics and who have not the tools and machinery required, either to build or to repair machinery. The automatic mechanical adjustment of our mower entirely dispenses with care and skill in those parts which require the most attention in all other mowers, and the automatic adaptability of our mower to the requirements of its use leaves nothing to be done requiring care or skill. Especially so with our **Automatic Pitman and Knife Connection**, the necessity for which is known by farmers as being common to all mowing machines. Here is where trouble begins in the use of any mower—first, lost motion, then breakage of pitmans and knives, followed by a big bill for repairs and an abandonment of the machine which, except for this defect is nearly as good as new. Our automatic Pitman and Knife Connection is as durable as the crank shaft, and it can be connected and disconnected instantly. See pages 24 and 25.

So our mower stands perfected and is by common consent placed at the head of the mowing machine family, by reason of the new features elsewhere described in this circular, which have no competition in any and in all other grass cutting implements.

By reading and understanding this circular the reader will learn of the present requirements of a mowing machine, among which are our flexible pole, rocking frame with an automatic balance, increased traction and driving

power, automatic raise of the finger bar in backing and turning, floating finger bar with both automatic and lever tilts, folding bar with automatic axle balance, perpetual automatic take-up and quick acting pitman and knife connection, automatic shear cut pitman, automatic take-up pitman and crank pin box connection, single take-up safety lifting and tilting lever and knife freer, adjustable track clearer, spring stop cushion and automatic joint tightener, shoe center draft connection, single shoe and frame joint with extreme flexibility, never changing line of the pitman and knife, compound alternately acting pawls, eccentric gear shifter, thimble clamp boxes separate from the frame, and other minor requirements which will be appreciated in actual use ; not only in principle, but in manufacture, including material and workmanship so important in the successful development of inventions.

Combined with these requirements is unparalleled simplicity and unique mechanical arrangement of parts, whereby the machine automatically and freely conforms to all surfaces and conditions, from prairie bogs to knolls and cobble stones, so that the driver instead of being constantly on the alert, need only drive the team and oil the machine without leaving the seat; as, with the lever he can raise the front end of the frame, thus bringing all boxes within convenient reach.

Nails, wire and other obstructions may also be removed from any of the guards or sections without leaving the seat, by folding the finger bar with the take-up lifting lever. See pages 17 and 18. **A person capable of appreciating perfection in an agricultural implement will find by a continued use of the Hopkins Automatic Mower that it meets all requirements.**

Each part of our mower is built for service, and this fact, combined with the spring stop cushion elsewhere described, so eases the strain when obstacles are met that the breakages are reduced to a minimum. From a record kept of over one thousand of our machines during six seasons' use, but one guard and one frame were broken, and the farmer said that the frame was broken by his neglect; and since that time we have greatly improved and strengthened the machine.

Accidents will happen, however, so repairs should be within convenient distance of the farmer, and to overcome this objection where we have no agent, we will at the request of the purchaser establish a depot for repairs in the county wherein the purchaser resides.

To aid us in so doing we invite purchasers to send us the names and Post Office address of hardware and implement dealers in their County seat and other places near by. Purchasers residing in or near villages may be willing to accept of this agency and perhaps the agency for the sale of our mowers also.

• • NOTICE • •

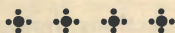
WE please our customers, as we depend on their praise to increase our business.

See price list on next page.

Read Testimonials, commencing page 39.

No machine ever gave such universal satisfaction as the Hopkins Mower, which we have greatly improved.

If we have no agent at your town, write us at below address, and you will have prompt attention.



Automatic Mower & Mfg. Co.

823 Rookery Building,

Chicago.

RETAIL PRICE LIST OF HOPKINS MOWER,

Subject to Change Without Notice.

4 feet 3 inches, or less,	-	-	-	-	\$50 00
5 " standard,	-	-	-	-	55 00
6 " - - - - -	-	-	-	-	60 00
7 " - - - - -	-	-	-	-	65 00

RETAIL PRICE LIST OF A COMPLETE CUTTING APPARATUS,

With Two Complete Knives.

4 feet 3 inches,	-	-	-	-	\$15 00
5 " standard,	-	-	-	-	18 00
6 " - - - - -	-	-	-	-	21 50
7 " - - - - -	-	-	-	-	25 00

RETAIL PRICE LIST OF COMPLETE KNIVES.

4 feet 3 inches, 17 sections,	-	-	-	\$3 50
5 " standard, 20 "	-	-	-	4 25
6 " 24 "	-	-	-	5 00
7 " 28 "	-	-	-	6 00

Retail price of sections, spring tempered with extra cutting wear, 12 cents; of malleable guards, with steel face, 30 cents each. A price list of all of the different parts of the machine will be found in the tool box.

Agents Wanted Everywhere.

TO FARMERS USING The Hopkins Automatic Mower.

Farmers having our Mowers with the pitman connected to the knife-head by a bolt passing through the ball, can have our new Automatic Pitman and Knife Connection attached by ordering two knife-heads, No. 582, and the new Pitman complete, No. 593. These will cost \$3.50, and will be expressed on receipt of price.

We will also furnish promptly, repairs for all Hopkins Mowers.

What Others Say.

H. WALTER WEBB of Burlington, Vt., says:

"My brother, Dr. W. S. Webb, and myself mowed for several days with your Hopkins Mower and the new Champion, changing machines and teams frequently. Your mower is very much easier for both the driver and team; in fact, so much easier for the team as to be at once noticed, with its four inches wider cut. When the team on the Champion would be sweating freely we would change teams, when the team on your mower would soon be dried off.

Your rocking frame combined with the spring balance, which carries most of the weight of the cutting apparatus upon the driving wheels, and which also causes it to be

raised from the ground automatically in backing and turning are improvements which horses, at least, can appreciate. Again, the knife in your bar is always free, so that no extra draft is required on account of its being bound, as are the knives in other mowers, and, too, your sections are held to a 'shear-cut,' with your novel pitman, which makes much cleaner and easier work, and saves at least half of the grinding, as the sections thus running closely against the steel plates are to a degree self-sharpened.

I find in the use of your mower that the new devices claimed for it are in the machine, and that each of them is required to perfect a mowing machine. I intended to test your mower fully, and did so on both rough and smooth ground, and in different kinds of grasses, and while I had a good opinion of it before using it, I became convinced by its use that I had never before known what a mower ought to do. Its cutting power is indeed remarkable, and no effort was required to cut through the most difficult places, one in particular, where the Champion could not be driven through.

I ought not to close this letter without speaking of the convenience of your mower for the operator, who by reason of the finger-bar being automatically raised, as stated, has but little to attend to. I know from experience that in truth 'it has no successful competitor.'

WM. W. EDGARTON of Bouckville, Madison County, N. Y., says:

"I have used the Hopkins Mower for six seasons, cutting fifty acres each year. My grass is very heavy, cutting each year not less than 140 tons of hay. Thirty acres is seeded to herd's grass and medium clover. The other twenty acres were never plowed nor seeded, and is natural grass. A stream of water runs through this lot that is very quick to rise and fall, and when it is high, is very roily. The lot is flat. At times in spring it is com-

pletely inundated, so the sediment is evenly deposited over the whole surface, causing the grass to grow very thick at the bottom, that the earth is entirely hidden from sight, and then grass grows tall enough to cut from three to four tons per acre. The reason I dwell on this twenty acres is to show you the difference I have experienced in this and other mowers, this being the only one that has ever been successful in mowing it. Now I will give you my ideas of special points in this mower that make it a success where others have failed. The spiral spring between the rear end of the pole and frame, which is hinged to the axle-tree, all the time lifts on front end of frame, where the cutting apparatus is attached, and I think raises three-fourths of the weight of it off the ground. The peculiar make of the pitman holds the sections or scythe down on the guard plates, making them cut almost like shears. That is why it cuts this very thick and fine bottomed grass where other mowers have failed. I think it has the advantage in other meadows, but not as visible, for any mower will cut under favorable circumstances. I am speaking of this as a hard test. The draft is light. My reasons why: First, the spiral spring taking nearly all the weight of the cutting apparatus, and the horses carrying nothing on their necks, of course, the wheels have got most all the weight, which, I think, is better than to drag or carry the entire weight of cutting fixtures on extra little wheels, and which gives more driving power. Then the pole being hinged to the frame, the horses' necks get no more weight when there is light or heavy draft, quite different from a rigid pole. Then the manner of holding the back part of the scythe down and the pitman as above stated, and the guards being cut away under the scythe back, and the very small portion of the sections running on the finger bar make it almost an entirely non-clogging scythe.

The track clearer, being lighter and adjustable, clears a very nice track and is a material help in side draft. I never have been jarred or started from the seat by striking

obstacles. The spring on the bar that connects the frame with shoe makes an easy stop when striking anything solid; have never seen one on any other mower. I have mowed the fifty acres every rod of it myself, am 64 years old, had no occasion for a cushion on the seat, mowed on an average one acre an hour or more, and have not paid out one dime for fixtures or repairs."

Rev. CHARLES HALL EVEREST of 1072 Broad Street, Newark, N. J., says:

"In the spring of '85 I purchased two of your mowers in Chicago, on the recommendation of a prominent gentleman of that city. The mowers have been doing admirable work on my farm in the Red River Valley. We have cut between one and two hundred tons each year, and whether in prairie or timothy grass, the machines gave equal satisfaction. It is a mower that promotes both mercy and morality, for it is light on the team, and by its perfect working, light on the temper of the driver. The various novel features that distinguish your mower from other machines, elicited the highest praise from all my men."

J. C. FERRIDAY of Helena Plantation, Concordia Parish, P. O. Vidalia, La., says:

"One of the greatest difficulties that our planters experience in the use of a mowing machine, is in cutting the peas that are planted on the oat patch after it is cut in the spring. They are generally so tangled and rank that no machine does first-class work in them, leaving so much uncut and occupying so much time in stopping to unchoke the machine, besides the terrible strain on the team, to avoid which some use four horses. I cut with the Hopkins front-cut mower a field of as fine and heavy pea vines as I ever saw, averaging about eight acres per day and never having to stop, except to oil and occasionally to untangle the vines that had wrapped around the end of the

blade. There was not a single piece of the machine broken, and I never changed my mules during the three days' cutting, and only used one pair. The field was on the side of the public road leading to the railway depot, and quite a number of our prominent planters stopped to examine the working of the machine, as they said they had never seen a machine do such work in pea vines before.

The lightness of the draft, the perfect balancing of the machine, thereby saving the mules' necks, the ease in riding while in motion, the speed in cutting, the adaptation of the machine to rough ground, durability and simplicity of construction, and its capability of being used when the grass is damp, make it the most desirable machine for our use that I have ever seen or handled."

E. C. PENWELL of Bonham, Texas, says:

"I am pleased with the two Hopkins Mowers I have and want another just like them."

W. S. HAMILTON of Lincoln. Neb., says:

"I like your Hopkins Mower exceedingly well. Please send me the name of your State Agent."

JOSEPH R. DAVIS of Long Plain, Mass., says:

"I cut all of my grass with your mower myself, and now from experience I can write you that it is all you claimed it to be. It will not clog, however wet the grasses. The finger-bar raises automatically in backing and turning. The pitman is always tight at both crank and knife, and the knife is held to a shear-cut by it. The frame is wholly independent of the pole, which is not needed in straight mowing. The spring-stop cushion prevents sudden stops against obstructions, all of the new points in fact are as represented, and combine to make the most acceptable and perfect mower ever used in my country. You

do not sufficiently emphasize the easy ride of your mower, nor the value of its automatic movements. There are several of your mowers in use about here, and I never knew of a breakage or stoppage by being out of order. A team of 900 pound horses will run your mower all summer with greatest ease in our two and three tons per acre grasses."

WHISTLER, PICKETT & Co. of Sac and Fox Agency, Indian Territory, say:

"We sold six Hopkins Mowers, which were used in this vicinity, and they gave perfect satisfaction. The Hopkins excels as a light running, clean cutting machine, free from side draft; never chokes, and its simplicity renders it easy to handle. Our Indian customers used them successfully."

CHAS. A. POLLARD of La Bonte, Wyoming, says:

"I think your Hopkins Automatic mower is the machine, and the simplest affair I have ever used. The draft is perfection, and all the main parts seem to be an improvement on all other machines I have used, and I have used nearly all kinds."

WM. P. KEITH of Mayview, Mo., says:

"Mr. Ridings of this place wants one of your mowers. He has borrowed a Hopkins Automatic Mower for several years to cut his grass and he likes it so well that he will not buy any other."

A. B. CURTIS of Wheaton, Ill., says:

"Hopkins Mower is a good machine. I have had one on my farm for several years and it did as good work this last season as ever. Its adaptability to all conditions of grounds and grass is most complete. My neighbors having Hopkins Automatic Mowers give them high endorsements."

DAVID CARLL of Deer Park, Suffolk County, N. Y., says:

"I have used mowing machines for over thirty years and never had one that I was so well pleased with in every particular as the Hopkins Mower."

F. W. NYE of Opolis, Kan., says:

"I want a pair of knives and a set of steel guard plates for a Hopkins Mower, which I have used for seven seasons without any repairs; cutting 100 acres per year. I ought to have a premium for cutting over 700 acres with one pair of knives and no repairs. I will run it several years more with the above repairs."

S. McCORD of Benton Harbor, Mich., says:

"Hopkins Mower gives good satisfaction in this community. I prefer it to any mowing machine in the field."

J. P. RITTER of Ritters, O., says:

"I have used quite extensively Hopkins Mower, and I have sold a number to my neighbors. No agricultural implement was ever introduced in this community that has a better record, or which gives better satisfaction."

OSCAR WELLMAN of Blunt, Dak., says:

"There is no mower that runs any better than your Hopkins Mower."

B. I. SHARROCK of Patton, Mo., says:

"The Hopkins New Mower has done all that is claimed for it. I have tested it thoroughly and find it to be the best that I have ever tried. My neighbors also acknowledge it superior to all others. One man said it ought to have a break on, as it crowds the team a little too hard on a down slant."

J. W. JEFFERSON of Memphis, Tenn., says:

“The Hopkins Mower does all that I expected of it, after having read the circular advertising it.”

PHILLIP PARKER of Schapsville, Ill., says:

“I have sold fourteen Hopkins Mowers and all of the purchasers speak highly of them. I used one of your mowers myself on some very rough land, trodden full of holes by stock running on it when wet, and there were many ant hills. The mower, being a self tilter, passed over the ant hills and rough places where other mowers would bring the horses up standing. I prefer the Hopkins to any mower I ever handled.”

WILLIAM NEILL of Bismarck, Ia., says:

“After waiting and watching the work and merits of different mowing machines for two years, I consented to allow your agent, Mr. August F. Myer of Farmersburg, to try your new front-cut mower in a very heavy piece of lodged clover with many gopher hills and thistles to obstruct its progress, and it shaved it nicely without any jar to driver or team. I told him he could leave it. I have tested it severely during the cutting season, cutting through bogs and sloughs. Among the advantages I value the sickle's freedom of action through obstructions and wet grass, lightness of draft, ease of adjustability, ease to the driver, simplicity and strength combined with lightness of construction. I can cheerfully recommend it to the public patronage.”

M. HELBREG of Blue Island, Ill., says:

“I have sold over fifty of the Hopkins Mowers in this vicinity and they have made a clean sweep. These mowers were sold in 1884, and no mowing machine was ever introduced in this locality that has stood the tests and given the satisfaction of these machines.”

E. PROVENCIO of Paso del Norte, Mexico, says:

"It is with pleasure that I give you my opinion of the Hopkins Mower. I am well pleased with it, and I recommend it as being the best agricultural implement adapted for its use that is manufactured."

M. H. BENDER, Fall River, Wis., says:

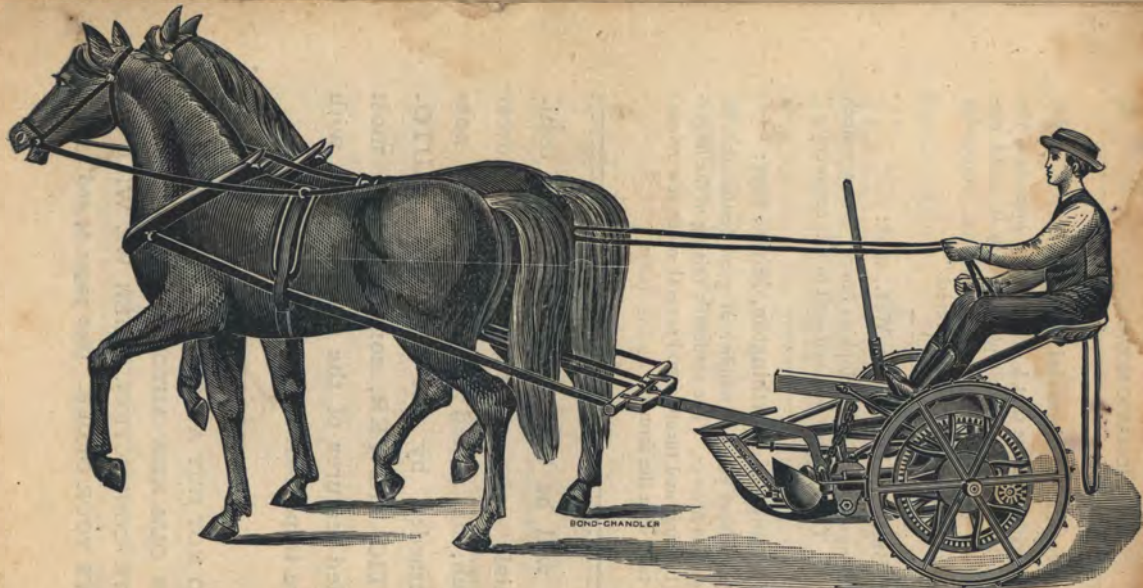
"The new points in the Hopkins Mower are very much admired. The machine will sell well in this community."

AZOM FORBES of Worthington, Minn., says:

"Can furnish you any number of good testimonials for the Hopkins Mower. The automatic raising of the finger-bar in backing and turning, and several other new advantages, take with the farmers."

It will be seen that the above testimonials refer to the Hopkins Mower which, as stated on page one, is now superseded by the HOPKINS AUTOMATIC MOWER, combining the most valued features of the old machine, with more important new inventions.

DO NOT BUY A MOWER UNTIL YOU HAVE SEEN OUR NEW AUTOMATIC PITMAN AND KNIFE CONNECTION, WHEN WE WILL RECEIVE YOUR ORDER. [See pages 24 and 25.]



Engraving No. 1. Automatic Balance—No Pole Required in Mowing, Except in Backing and Turning Square Corners. . [See page 8.]