

**MINNIE
HARVESTING
MACHINES AND
GRASS**



MINNIE HARVESTER COMPANY
ST. PAUL, MINN., U. S. A.

**THE "MINNIE" BINDER and HARVESTER
THE "MINNIE" MOWER
THE "MINNIE" HAY RAKE**

AMERICAN GRASS BINDER TWINE



**Money-
Makers
Money-
Savers
for the
Farmer**

THIS little book is dedicated to the intelligent, thinking farmer who wants to get the most out of his farm, his work and his life.

It tells about good harvesting machines and good binder twine—the kind that make and save money for the farmer.

We claim that the "Minnie" Harvesting Machines will harvest a crop with less expense, less loss of time, less annoyance, less wear and tear on horse and temper, than any other harvester made.

And they will give twice the service, and last twice as long. The reasons for this are set forth in the following pages.

We appreciate the fact that it is the easiest thing in the world to make big claims—on paper. But you need not take our word for it—the machine does its own talking.

The machine and its actual work are the real test. Therefore we ask at the hands of the thinking farmer a fair investigation of the "Minnie" and its work. We are willing to leave the case in the farmer's hands.

Examine our machines. Note their strength and simplicity. Look into the details of their construction.

We know that the farmer who does this will agree with the thousands of farmers who are already using the "Minnie" line, that here are

**Money-Makers and Money-Savers
for the Farmer**

Minnie Harvester Company

ST. PAUL, MINN., U. S. A.

**Southwestern Branch
KANSAS CITY, MO.**

**Southeastern Branch
INDIANAPOLIS, IND.**



American Grass Binder Twine

**It makes a Better Tie than Sisal or Manila
and costs, yard for yard, one-third less**

AERICAN GRASS BINDER TWINE, made from the wire grass found in such profusion in the vast marsh lands of the West and Northwest, is rapidly revolutionizing American harvesting methods.

It makes a better, tighter and easier-to-handle bundle than any other twine and saves one-third the twine bill.



At that rate it doesn't take very long to pay for the binder.

It gives no trouble in threshing and is entirely harmless to cattle.

It does not rot and is not injured by weevils nor cut by insects.

One ball will last half a day and not miss a bundle if you use the "Minnie" Knotter.

And, not of least importance, it is the cheapest binder twine made.

No more 16-cent Binding Twine.

What It Is

This twine is manufactured by the American Grass

Twine Co., from the wire grass which grows in the marshes of the West and Northwest.

It is used for a variety of purposes, but especially for the manufacture of money-saving binder twine. It is becoming more popular every year, and without doubt will eventually drive other twines off the market. In the meantime the farmer who buys a "Minnie" Grass Twine Binder can use any old twine he likes—the one costing him the least money.

The grass for making binder twine is harvested during the summer by the company's own men—nearly 4,000 men and horses being employed in the different camps.

The grass is cut by reapers or self-binders, is stacked in sheds while it cures, and then is baled and stored in large warehouses until needed in the factory. The process of turning the bales of grass into twine is an intricate and interesting one.

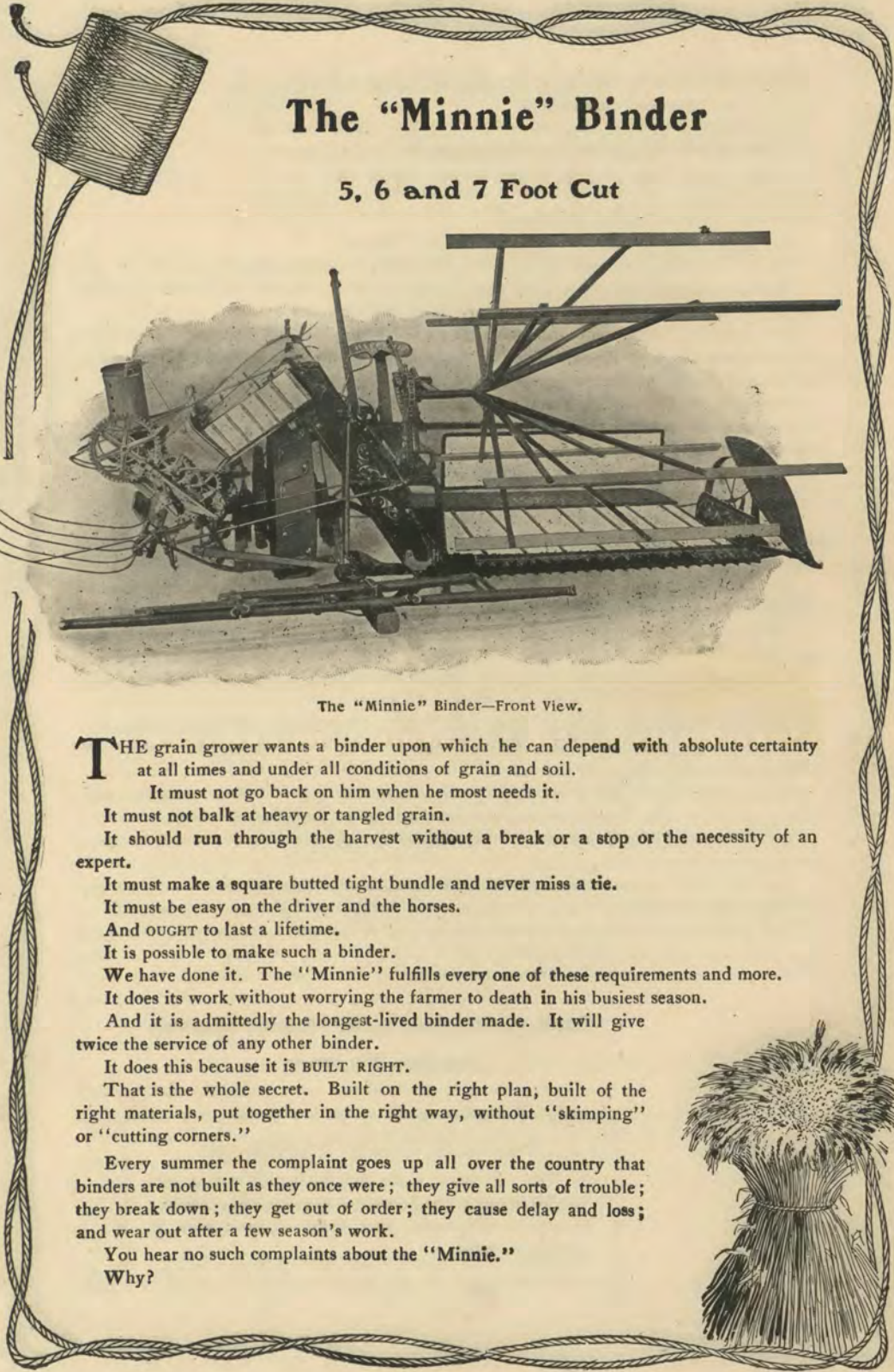
It would also be an expensive process were it not for the ingenious machinery, perfected after years of experiment, which does the greater part of the work almost automatically.

Every foot of twine used for binder purposes is thoroughly tested before winding. We send out no grass twine which will not do the work.

American grass twine has safely passed the experimental stage. It has come to stay. It has won its place and the right to stay in it, not simply because it is an American product, not because of the push back of it, not for any reason on earth excepting that it has demonstrated that it is a

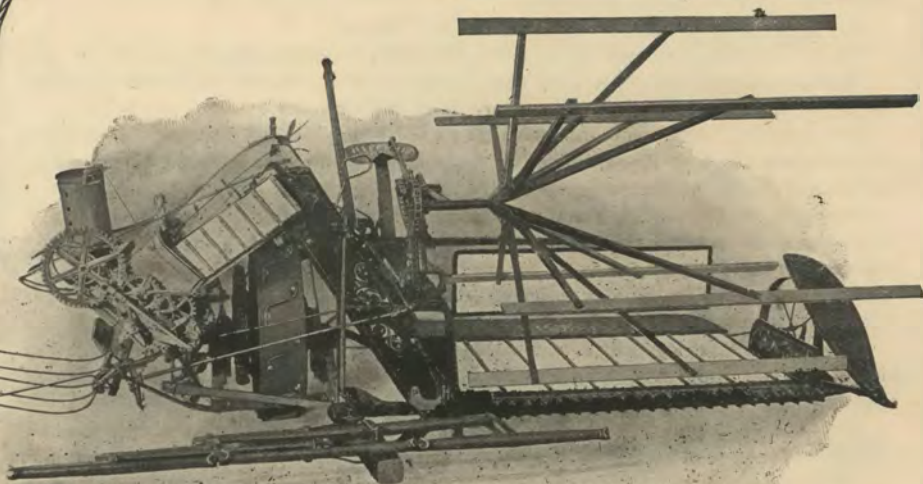
Money-Maker and a Money-Saver for the Farmer





The "Minnie" Binder

5, 6 and 7 Foot Cut



The "Minnie" Binder—Front View.

THE grain grower wants a binder upon which he can depend with absolute certainty at all times and under all conditions of grain and soil.

It must not go back on him when he most needs it.

It must not balk at heavy or tangled grain.

It should run through the harvest without a break or a stop or the necessity of an expert.

It must make a square butted tight bundle and never miss a tie.

It must be easy on the driver and the horses.

And OUGHT to last a lifetime.

It is possible to make such a binder.

We have done it. The "Minnie" fulfills every one of these requirements and more.

It does its work without worrying the farmer to death in his busiest season.

And it is admittedly the longest-lived binder made. It will give twice the service of any other binder.

It does this because it is BUILT RIGHT.

That is the whole secret. Built on the right plan, built of the right materials, put together in the right way, without "skimping" or "cutting corners."

Every summer the complaint goes up all over the country that binders are not built as they once were; they give all sorts of trouble; they break down; they get out of order; they cause delay and loss; and wear out after a few season's work.

You hear no such complaints about the "Minnie."

Why?



Simply because it is built today with the same care that has always characterized "Minnie" construction.

The trouble is that too many manufacturers like "to lie back on their reputation." In order to meet competition the general tendency has been to cut down the cost of production, making the machine lighter and lighter, until its efficiency, except under the most favorable conditions, has been entirely destroyed.

We have not cheapened the construction of the "Minnie."

We are building it stronger and more durable than it was fifteen years ago.

We have not gone backward. All good features of the "Minnie" have been retained season after season because they are necessary to the best efficiency.

But we are not resting on past laurels. We are building for the future. We want to extend the reputation of the "Minnie." We want every machine we send out to sell a half dozen for us in the same neighborhood.

Therefore, we are building a strong, substantial harvester, with sufficient weight in all its parts to stand up under the rankest crop that grows, and to last the farmer until his youngest son is old enough to buy a "Minnie" of his own.

And furthermore, we build a machine which is cheaper to operate than any other harvester. It will, if you so desire, save one-third of your twine bill.

You can't haul sawlogs with a team of Shetland ponies. Neither can you harvest the kind of crop you would like to have with a light-weight, flimsy little machine, poorly constructed of cheap materials.

What the grain grower is chiefly concerned in is not the reputation of the manufacturer, nor the size of his factory, nor the number of machines sold, but this one question: "Which machine will give me the best service in the field at the least expense in the long run?"

We honestly believe that the "Minnie" Binder is the only machine which fills this condition.

We know thousands of farmers, who, after practical experience, are firmly convinced of the same fact. And we believe that any farmer who will examine the "Minnie" in detail will come to the same conclusion.

We can show only a few of its points of superiority on paper. Other manufacturers have access to the same dictionaries that we have and can use just as many words.

But the machine tells its own story. Examine it for yourself. Any "Minnie" agent will be glad to give you the privilege.

You will find, as have thousands of other farmers who have put the matter to the test, that it does its work in a perfect manner, that it does not get out of order, that it does not go back on you when you most need it, that it is, without exception, the most satisfactory harvester and binder made—a real

Money-Maker and Money-Saver for the Farmer

Worthy of Careful Investigation

The "Minnie" is the only Binder effecting a substantial saving in the harvesting of grain, since twenty-five years ago, when fiber twine replaced wire as binding material.





Special Features of "Minnie" Construction

A few of the things which make the "Minnie" a Money-Maker and a Money-Saver for the Farmer

A LONG-LIVED machine—we furnished extra parts last season for a "Minnie" which had been used twenty-two years.

We are building the "Minnie" today stronger and more durable than ever. It will last a lifetime, and outlast any other harvester two to one.

The largest and strongest drive wheel of any harvester made.

The strongest, firmest, all-steel jointless main frame.

A strong twelve-spoke grain wheel.

The largest reel, with great range of adjustment.

Roller and ball bearings throughout.

Greatest convenience of levers. The "handiest" machine built.

A stiffer platform than any other harvester.

A firmer and stronger reel and seat-plank support than is found on other machines.

A pitman which drives the sickle in more nearly a straight line than any other.

An elevator with largest capacity, largest rollers, and thoroughly braced so that it never gets "out of square."

A better made apron, with canvass from seven to ten pounds heavier than that used on any other binder.

A handier flag, with wider range of adjustment, capable of being swung forward or backward or raised vertically from the seat.

A self-adjusting wind-board, the tension of which may be changed instantly.

The handiest raising and lowering device, whereby the operator, without leaving the seat, can raise or lower both ends of the harvester simultaneously.

A wider cut than any other harvester of the same rated capacity. Our 6-foot "Minnie" will cut as wide a swath as the ordinary harvester rated at 6½ feet.

A strong, positive and easily adjusted butter.

A non-breakable binder, with stronger gearing and greater leverage for compressing and discharging than any other binder made.

A packer trip which absolutely prevents clogging and choking.

We furnish the "Minnie" with the original "Minnie" binder, which has always stood at the head of the procession as a sure tier and a twine-saver, or with the new "Minnie" knotter, which ties American Grass Twine, Manila or Sisal as desired.

An easily adjusted binder, which always places the band in the middle of the bundle.

A knoter which never fails to tie, and wastes less twine than any other knoter made.

A perfect self-adjusting spring chain-tightener, which keeps the main drive chain always at the right tension.

Larger and stronger drive sprocket wheels, chains and gears.

Better and stronger construction throughout. More good material, more careful workmanship is put into the "Minnie" than in any other binder. Examine it for yourself and see.

The simplest and most easily operated bundle carrier.

The simplest, handiest and strongest transport.

It is these things which make the "Minnie" a Money-Maker and a Money-Saver for the Farmer



A Powerful Machine

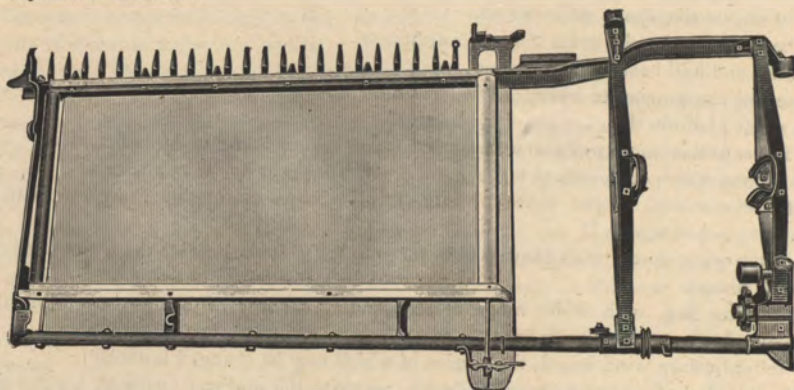
STRENGTH and utility—these are the watchwords of “Minnie” construction.

Every feature of the machine contributes to one or the other of these features.

Nothing has been sacrificed for mere economy's sake which added to the “Minnie's” strength or efficiency.

It is a large machine; it DOES cost a whole lot of money to build it, but there is not an ounce of metal in it, nor an inch of lumber, which does not serve some good and essential purpose.

We COULD lighten it—we COULD reduce the cost of manufacture, but it would be false economy, for it would be saving material at the expense of strength and saving labor at the expense of efficiency.



Main Frame and Platform.

The Main Frame

Take, as an example of “Minnie” construction, the main frame—the foundation of the machine.

With its tubular steel sill in the rear and its steel angle bar sill in front, it is the very embodiment of strength.

Both of these sills are jointless and extend across the entire machine.

They are connected by four angle cross bars securely braced and riveted, and forming the platform connection. The platform is made of a single plate of heavy sheet steel which is riveted and connected to the cutter bar and cross bars and rear sill so firmly that it is as strong as if these parts were all in one piece, making the strongest platform found on any harvester.

Our Platform is as Wide as All Platforms Used to be.

We have not narrowed it in recent years, as our competitors have done for two reasons:

- (a) To save money in manufacturing.
- (b) Because their machines haven't sufficient capacity to handle a full swath.

Our 6-foot machine, for instance, cuts from 6 to 8 inches wider swath than any of our competitors' and no matter how heavy the grain it is all elevated and all bound, for it is absolutely non-chokable. The great elevating capacity, the steep deck and the packer trip accomplish this.

The platform is kept from buckling by being turned up at the inside of the back sill, making it of the same resisting strength as an angle iron.

The inner bar is especially heavy, and is riveted to the platform, to both the rear and front sill, and to both the rear and front elevator





supports, binding all together in such a manner as to make the elevator practically a part of the main frame.

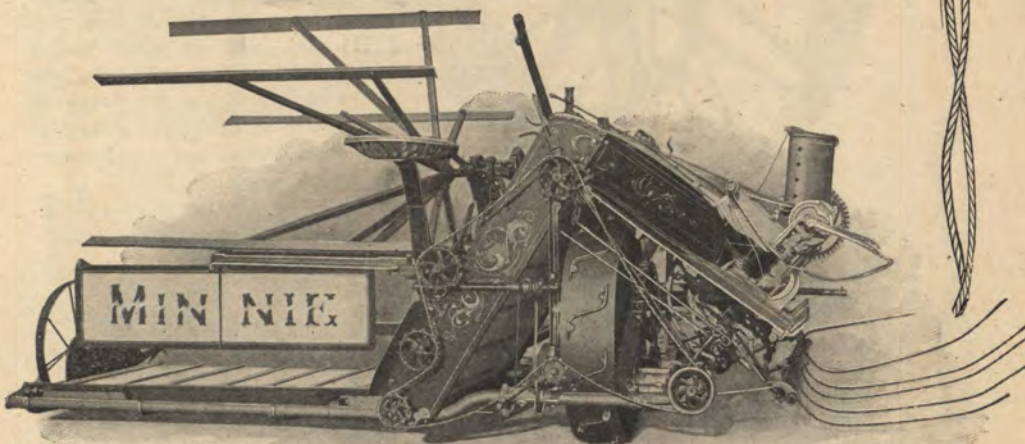
This gives the elevator a rigidity possessed by no other harvester, and insures its running absolutely true.

The draft-iron, to which the tongue is attached, is connected with the front sill and the inner truss so as to secure a continuous straight line draft from the tongue to the rear of the machine. This, together with the tongue brace and connections, obviates all tendency to side draft. Moreover, it insures a permanently straight running canvas as the rollers can not by any possibility get out of square.

The double trusses are made of special high carbon steel—of better quality than much which passes for spring steel. They are exceptionally strong, and are clamped to the sills by our “old trusty” truss fastener, the only clamps we have ever found which do not slip their grip.

The segments have open teeth ; they retain no dirt.

This is the construction of the “Minnie” main-frame.



The “Minnie”—Rear View.

It is made strong—not only for durability's sake—not only to keep the “Minnie's” reputation of lasting a lifetime, but also for efficiency's sake.

It gives rigidity to the entire machine.

The “Minnie” rests on a firm foundation.

Its gears and bearings run true.

That means a saving of wear and tear and an economy of power, for a heavy machine, which runs true, is of lighter draft than a rickety, wobbly machine, the parts of which are always out of line.

And this is one of the ways in which the “Minnie” makes money and saves money for the farmer.

It saves time, it saves repairs, it saves grain, it saves temper, it saves horseflesh—and in all this saving it makes money for the farmer.



The Power of the "Minnie"

THE main wheel is the engine which runs the harvester.

If it is too light the whole machine will balk and stall when it strikes a hard place.

We therefore give the "Minnie" a main wheel high enough and

heavy enough to do the work.

We don't believe in trying to drive railroad spikes with a tack hammer.

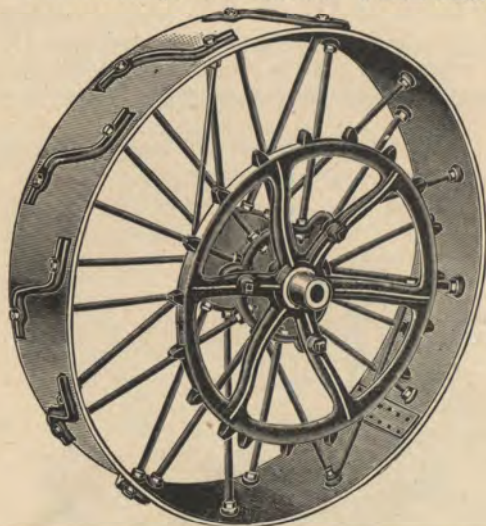
Large wheels move easier.

The "Minnie" main wheel is 38 inches high.

Scientific tests have demonstrated that a 38-inch wheel is required to drive the harvester's mechanism.

A 34-inch wheel or a 36-inch wheel would cost less money at the start, but it would cost more in the end, for mark you, a machine capable of doing the work is easier on the horses—is lighter in draft than a machine which chokes and clogs in heavy or lodged grain.

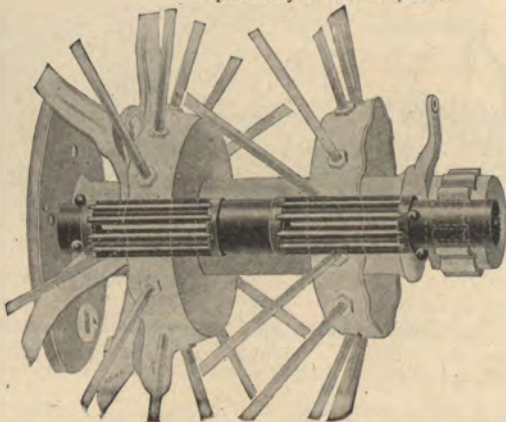
The "Minnie" wheel is exceptionally well-built, too.



The "Minnie" Main Wheel.

With its solid steel rim and heavy staggered spokes it will stand tons more of weight than is ever put upon it. Double-curved lugs on the rim prevent slipping, and insure the greatest ease of traction.

It revolves on a 1 ¹/₈-inch polished steel shaft in roller bearings with the ends of the hub resting against steel ball bearings, removing all friction and resistance.



Roller and Ball Bearings of Main Gear.

We call especial attention to these bearings.

They are not mere "talking points," but true friction reducers.

THE GRAIN WHEEL at the light end of the machine is also provided with roller bearings, and is made with twelve staggered spokes, amply strong to stand the twists and strains of turning corners and the strain of hillside work.

When You Buy a "Minnie"

You know you are getting your money's worth. It does its work every year, and will outlast the purchaser.

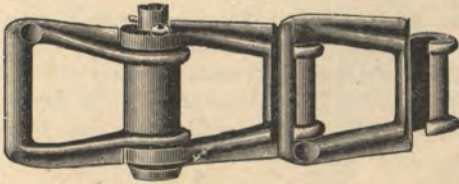


Distribution of Power

THE main wheel generates—so to speak—an abundance of power. We have made it our business to see that none of it is wasted in the distribution.

The sprocket wheels are larger and stronger than those of the ordinary binder.

The drive chain is composed of heavy ribbed links of easy running pattern. It is a good, durable chain which gives no trouble.

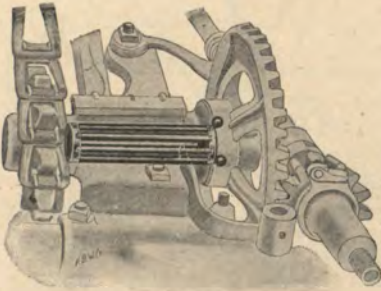


The "Minnie" Drive Chain. It pins on.

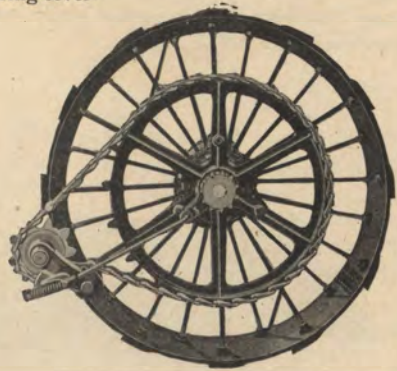
Our special adjustable spring chain tightener automatically keeps the tension of this chain always the same, taking up all slack instantly and preventing the chain from "climbing" the sprockets.

The chain may be instantly detached by the removal of a single pin between two of the links.

The main gear has a roller-bearing shaft with ball bearings to take up all end thrust. It is enclosed in a long bearing with long oil box, fully protected from dust and dirt by a spring cover.



The Main Gear of the "Minnie."



"Minnie" Chain Tightener.

The Pitman

The "Minnie" pitman is an extra long, low-hung connection of close-grained hard maple, oil-soaked. Properly oiled, it will outlast a steel pitman. Its length and position give it a direct thrust in a line almost straight with the sickle, so that there is no waste of power in its action and no guide friction.

We believe any farmer who will examine the mechanical construction of the "Minnie" will readily appreciate that it is built on the right plan for the greatest economy of power.

There are no "makeshifts" about it. It is built for business and it does the business in a way which makes it

**A Money-Maker and a Money-Saver
for the Farmer**



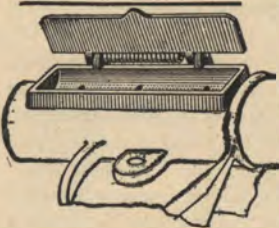
Cutting the Grain

THE "Minnie" glides down the side of a field of grain as though she enjoyed the work.

She does.

So does the man on the seat.

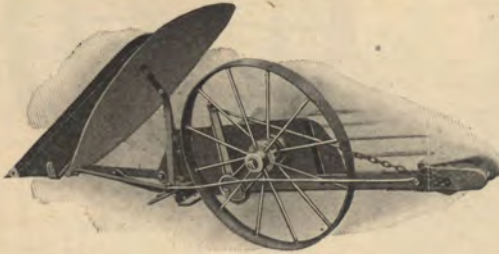
It moves along with the precision of clockwork.



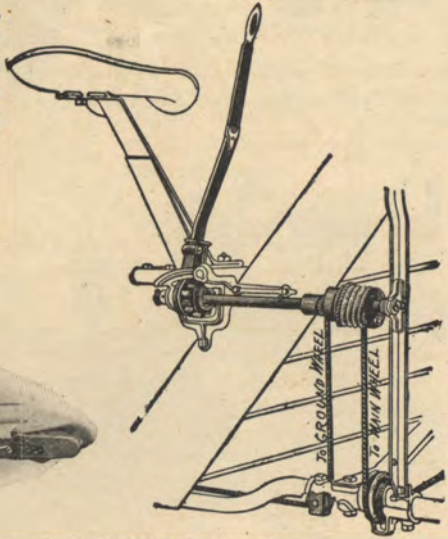
Largest Oilers.

And it's such a convenient machine; every lever close at hand, the twine box in plain sight and of easy access; the oilers large and readily reached; the lifting device operated from the seat, raising and lowering both ends of the machine simultaneously; the reel controlled by a single double-action lever; the flag adjustable in a variety of ways—and a dozen of other little conveniences which lessen labor and make the work a pleasure. And then the thing runs so smoothly and works to such a nicety!

It will not "run itself," but it is so simple that it comes nearer being a "fool-proof" machine than any other binder we have ever seen.



One Single Lever Lift raises or lowers the "Minnie," both ends at once.



It does its work so well, largely because it buckles right down to it.

There are no long-handled, kid-gloved, round-about, stand off and size-it-up methods about the "Minnie."

It is right there when you want it.

The reel, for example, on which, as every grain cutter knows, so much depends, is under the easy control of the operator. A single double-action lever is right at the driver's hand; a balance spring makes it lift and swing with perfect ease; the broad foundation of the heavy reel joint rests on the front angle steel frame and

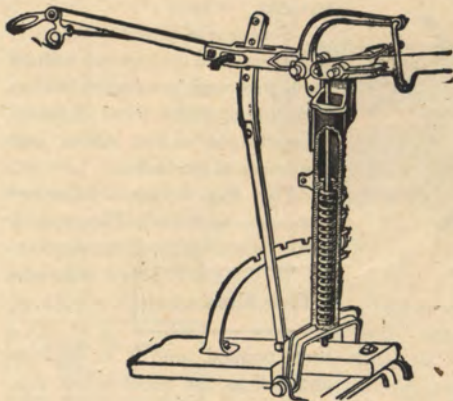


the seat plank so that it is held firmly, and the range of adjustment is such that the operator can get all the grain, no matter what its condition, nor how badly lodged and tangled.

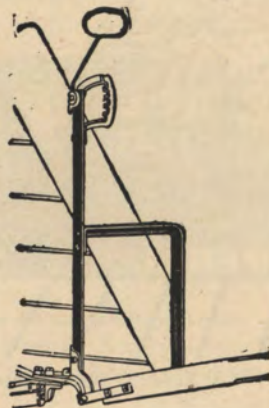
And the reel, properly manipulated, lays the grain on the canvas straight.

It has an unusually wide range of adjustment, giving the operator perfect control of the cutting.

Provision is made for leveling the reel shaft should it ever sag.



"Minnie's" Reel Spring.



Stanch Steel Front Support.

The Knife and Bar

There is not a better binder sickle made than that used on the "Minnie." It has a steel back and a malleable head. Note the ease with which it is entered and moved from position.

The finger bar is a stiff, steel angle bar; the guards are of malleable iron, and are armed with section-steel leger plates. They are mounted against the upright face of the finger bar in such a position as to cut an exceedingly close stubble if desired.

The outer end of the knife is a blank which prevents it from lifting and catching on obstructions.

The form of the "Minnie" platform and the position of the knife and reel are such that grain which leans from the machine is not pushed down, but is all cut.

The Dividers

The Dividers are another feature of the machine worthy of note. They assist greatly in making a clean and wide swath. The bottom of the inside divider is flanged so that it



"The Sickle is easily entered or removed."



pushes the grain over in front of the reel and prevents an uncut "combing."

The outside divider is light and strong, and is so placed that the grain wheel does not trail down uncut grain.

The "Minnie" makes a clean swath, no matter how lodged or tangled the grain.

It cuts from 6 to 8 inches wider than other machines of the same rated capacity.

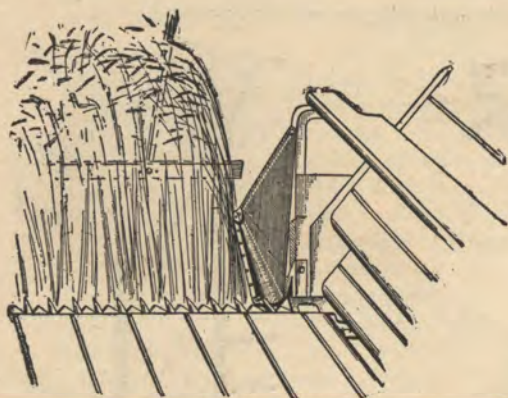
The grain falls on the canvas straight.

The canvas (and by the way, it is from 7 to 10 pounds heavier than that used on other binders and just so much more durable) runs straight on big rollers, and runs close to the knife.

The flag of the "Minnie" has unusual adjustability and is easily controlled from the seat.

The Elevator

The elevator, as has been pointed out is so securely attached to the main frame that



"Minnie's" Divider steers grain better.

it is really a part of it, and as solid as Gibraltar.

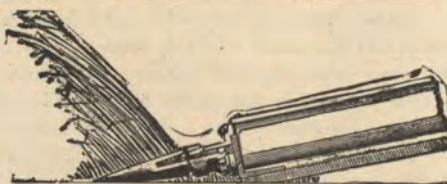
It is further strengthened by an oblique brace extending from the front elevator board to the truss hanger to prevent the elevator from "setting forward" as the constant jolting tends to make it do.

There is also a spreader held firm by an iron rod between the front and rear boards, which effectually prevents the boards from pinching the ends of the rollers.

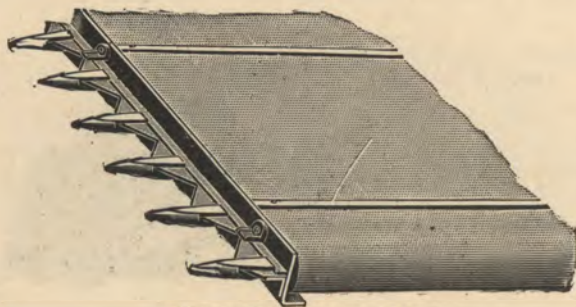
As a consequence the rollers RUN TRUE, and never bend nor BUCKLE.

The rollers are larger than those used on any other harvester.

They will carry a larger bulk of grain (we often allow a bound bundle to pass through the elevator); they never choke; and they are easier on the canvas—another "Minnie" money-saving feature.



"Minnie" catches leaning grain.



"Minnie's" canvas runs close.

Making the Bundle

THE "Minnie" makes an even, compact, square-butted bundle—the kind a man likes to handle.

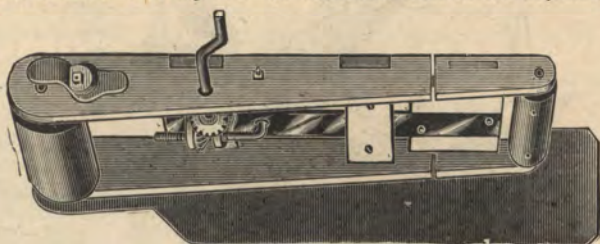
The Adjuster

The adjuster is a canvas butter with a sheet steel extension which holds the straw in a perfectly straight position and makes a square butt.

When we say square we mean square.

The endless band of canvas slides smoothly over the extensible sides of the adjuster, provided with guides which prevent all fraying of edges.

The adjuster is controlled by a handle in easy reach of the operator, by which it may be swung into any position. A stretching screw (see illustration) worked by a small crank



Adjuster with Canvas Stretcher.

The Wind Board

The rear wind shield is extra long and flexibly controls the heads of the tallest or shortest grain without difficulty by means of an adjustable spring at the top.

A Non-Chokable Binder

THE "Minnie" Binder does not choke.

It is built so that it is impossible for it to choke.

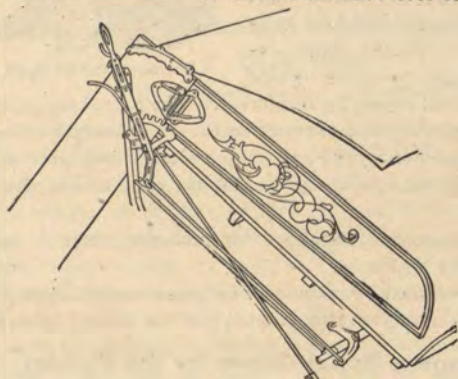
No irritating stops and waits.

In the first place the binding apparatus is large enough and heavy enough to do the work required of it.

Then it has sufficient power behind it to do the work.

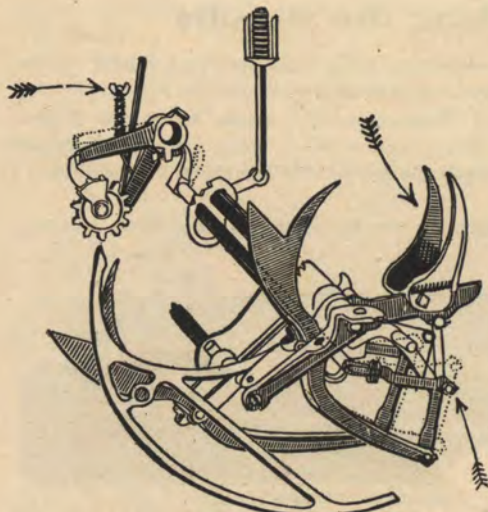
Packer Trip

The superiority of our packer trip over all other trips is one of the prominent reasons for the "Minnie's" popularity. Few pieces of mechanism have ever received more study. No other trip has been such a success. All other trips are located beyond the knotting mechanism, and



Binder Slide. Note extra long Wind Board.





"Minnie" Packer Trip.

to make them operate, the grain must be pushed forward against them. Frequently the grain becomes clogged before it reaches the trip, and can not then be pushed forward. The result is stoppage of the binder. With our packer trip this clogging is instantly relieved. The trip is operated directly from the packers themselves by means of links, the result being that when from any cause more than ordinary resistance is experienced by the packers the binder is automatically started. Clogging of the binder, which is the great difficulty experienced by all of our competitors, is unknown in the "Minnie." It can not possibly occur when the packers themselves automatically relieve the machine.

The Old "Minnie" Knotter

THE old "Minnie" Knotter has never been surpassed for general efficiency and economy of twine.

It is simple and compact.

It performs its work with a nicety and delicacy equaled by no other knotter.

It admittedly uses less twine than any other knotter made.

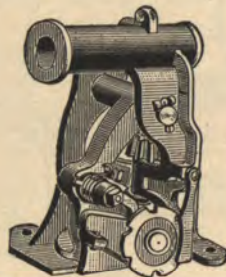
The knife arm strips off the knot; the disc is closer to the knotter bill than on other knotters. It cuts the twine closer to the knotter bill, and so wastes less twine, leaving an end in the disc only one-third as long as that left by others.

A guide holds the twine well up against the shank until the bill hook starts to revolve, and the knife arm is provided with a tucker which depresses the strand brought up by the needle in front of the knotter bill during its revolution. The part of the knife arm which does the stripping is so shaped that the two strands of twine are held closely together during the stripping process, which prevents the knot from running out toward the end of the strands and thus making a loose tie.

For general efficiency, for certainty, for economy, there is no knotter which equals the "Minnie."

It has long been regarded by manufacturers' agents—and, most of all, by grain growers—as a PERFECT knotter. It has always been a

Money-Maker and a Money-Saver for the Farmer



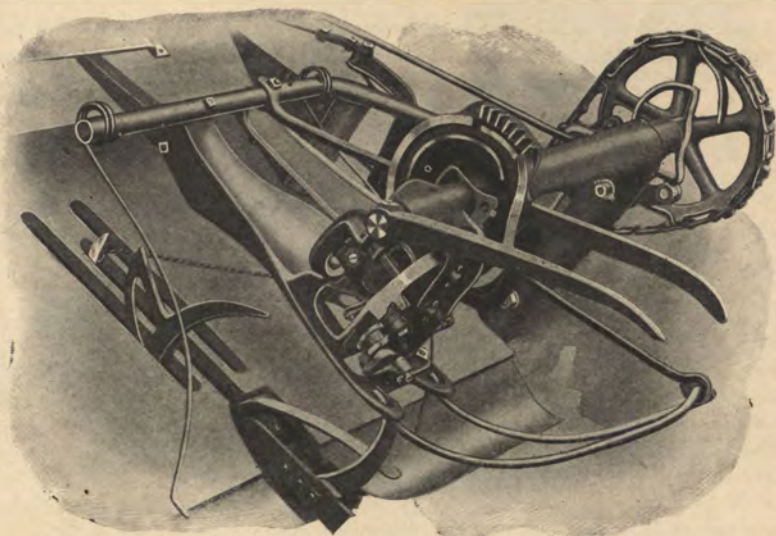
"Minnie" Knotter Head.





The "Minnie" Grass Twine Binder

OUR "Minnie" Grass Twine Binder, which is particularly adapted to use grass twine, has been designed and built with the greatest care. All unnecessary parts have been eliminated from it. It embodies the best and most scientific principles that mechanical skill and ingenuity can produce. It has been built only after years of study and experience in the



The "Minnie" Grass Twine Binder.

harvest field. With full confidence we offer the farmer this new binder as the smoothest and easiest running, the simplest in construction and the most reliable binder ever placed on the market. Examine it and note its excellent points and exclusive features.

Combination Packer and Deck Trip

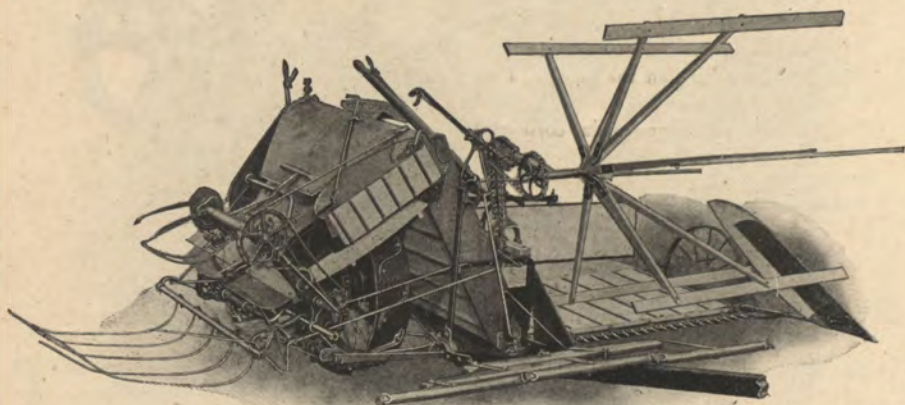
This binder is provided with a combination packer and deck trip which are so constructed that the packers can be stopped from acting as a trip, when so desired, by simply tightening a thumb screw. In heavy weeds, thistles or the like, which are apt to trip the binder into action by the packer trip, before a full bundle is packed into the binder, better results are obtained by using only the deck trip. For light, fluffy and soft grain the packer trip is the best that has ever been designed. That kind of grain does not pack down readily, and a deck or compressor trip sometimes fails to trip, before too much grain has been packed into the binder. This is the principal reason that



causes most of the binders to choke. As will be readily understood by any intelligent farmer or machine man, this combination packer and deck trip is the greatest improvement that has ever been invented for an automatic tripping device. This is a great step in advance of all competitors.

The compressing mechanism in this binder is so made that it puts no retarding or braking action on the operating wheel, which is the case with all other binders, and is one of the principal reasons why they work so hard. The compressor in the "Minnie" Grass Twine Binder is very strong, yet yielding, and moves up enough to give sufficient movement to compress the gavel from the outside. This is accomplished by means of an eccentric secured to the needle shaft, to which the compressor bar is hinged.

The old style binders had too much movement for the compressor, which wasted power. Many of the so-called modern binders have no upward movement at all for the compressor



The "Minnie" with Grass Twine Binder.

which is responsible to a great extent for their loose binding. Other details have been improved in our "Minnie" Grass Twine Binder. The packers have been given a better stroke and better shape; the needle, compressor and breastplate are so shaped that they make almost a true circle, when the bundle is being tied, and this, in connection with the new knoter, is the reason why it ties a rounder and tighter bundle than is possible on any other binder. In short, all the parts and movements have been designed with the greatest care, not only to get extreme simplicity and do the work perfectly, but also to produce a binder that will run easy and wear well.

Cheapness of manufacture has not been taken into consideration. Our aim has been to make a simple, efficient and perfect binder. It is well known by mechanics and farmers that the more parts that are put into a machine, the more liable it is to get out of order and wear out, besides taking more power to operate. All the adjustable parts are handier to get at. This binder has all the parts well proportioned. The frame is strong. The operating parts are free and very strong.

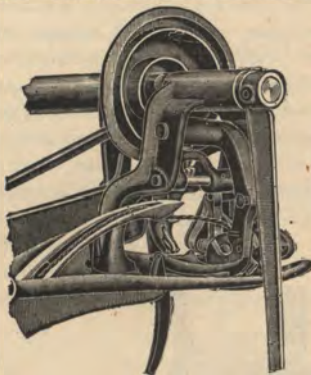
The shifting device on our Grass Twine Binder has a range of 12 inches. We furnish the "Minnie" Grass Twine Binder with an adjustable vibrating butter board.

The most important part of any self-binding harvester is the knoter.



Our "Minnie" Grass Twine Binder is equipped with a knotter, which is so constructed that it can make a sure tie, not only with Grass Twine but with any kind of binding twine. All the best and easiest movements in binder construction, that years of experience and observation have demonstrated to be the surest and easiest to

form a knot and strip it from the knotter-bill, have been embodied in this new knotter. To allow large knots to strip off easily, the breastplate has a semi-circular opening made large enough so the twine is not strained in forming the loop. As we do not depend upon any part of the breastplate to form the knot, and as we use a stripper and tucker, we are enabled to make a knot in such a manner that at no part of its operation is there a sudden or undue strain on the twine. The twine is held by a single notched disc having a shallow grooved hub or extension and a cord clamp or holder corresponding to the curved surface of the disc, whereby the twine is held securely without bending it too sharply, which is the cause of weakening or injuring the twine in many binders.



"Minnie" Grass Twine Knotter.

By this arrangement the twine is held tight enough for tight binding without a very strong tension on the cord-holder spring, and yet it can be left loose enough so that when the knotter-bill revolves to form the loop the twine will render enough slack between the disc and cord-holder to form the knot. The knotter-bill is mounted in a swinging frame, having its pivot directly above the needle and in front of the gear rack on the tyer cam wheel. It is swung backward by a cam surface on the same wheel, which operates all the parts of the knotter. Thus, as the knot is stripped off, the knotter-bill is withdrawn, pulling the ends through the loop without pulling the tight band sideways, as is done on all other knotters. When the knotter-bill swings backward the end of it points downward toward the bundle, making it very easy for the knot to be stripped off. To make it doubly sure that the knot gets off at the proper time, the knife arm is provided with a stripping part that fits closely to the side and underside of the knotter-bill, having a projection that travels in a groove on the underside of the knotter-bill. This stripping part swings in the opposite direction to the swinging knotter-bill as soon as the knot is formed.

The knife arm carries a pawl that operates the disc, a knife that severs the twine as soon as the knotter-bill closes on the ends of the twine, a stripper to strip the knot from the hook, and a tucker finger to depress the twine in front of the knotter-bill as it starts to form the loop. All these parts are operated from a single operating wheel, and is timed with mathematical precision and accuracy, and at no part of its revolution is there any sharp bend, nor is there any undue strain upon the twine.

Viewed from a mechanical standpoint and from the work it has done in the field, this knotter is an ideal one, and comes nearer perfection than anything that has ever been made in this line. This knotter will bind equally well with sisal, manila, hemp or any other twine. The knife cuts the twine against the edge of the disc, making a smooth and perfect shear cut. This binder, together with the American Grass Binding Twine, are the only important improvements that have been made in the last twenty years which accomplish any considerable saving to the farmer in harvesting his crop.

A valuable and indispensable adjunct to the binder and knotter is a twine can which will allow the twine to run out freely, and without



which the best binder in the world would not work satisfactorily. Our new twine can prevents snarls, knots, twists and kinks from forming in the twine. It consists of a can having a large opening on one side extending from top to bottom. Inside the can is placed a spool, for the ball of grass twine, which revolves freely in bearings at the top and bottom. The bottom and spring pressed cover of the spool are dished to fit the ends of the grass twine ball, so that in the process of unwinding, the twine is prevented from crossing over the ends of the balls. Against the outside of the bottom of the spool an eccentric block is mounted on a shank or stem of a slack arm which locks the spool from revolving, when no twine is being unwound. The operation of this unique and valuable invention is as follows:

After the ball is placed on the spool, the twine is led from the side next to the rear of the machine through an eye in the end of the slack arm, which is provided with a coiled spring and segment and the above mentioned locking block. All of these parts are so



Twine from Twine Can to Knotter.

placed and arranged that, as a pull on the twine is exerted, it will swing the slack arm outward from the can, releasing the lock from contact with the revolving spool. The spool

will then revolve freely to yield up twine, until a slack is given to the twine, when the arm will swing back again, owing to the tension of the spring, thereby taking up the slack in the unwound twine and locking the spool from further revolution until the twine is pulled again. This will let every inch unwind from the ball of grass twine without a kink or snarl. On the top of this twine can is a stem on which an extra ball of grass twine can be carried. For farmers who may desire to use sisal or manila twine, place the jacket inside the Grass Twine can and use the common tension on the top of the can.

We invite you to give this new binder and twine can a critical inspection, and we feel confident that after such inspection you will decide that here is the best Money-Maker and Money-Saver for the farmer that has ever been placed on the market.

Not the least attractive feature about it is the fact that the "Minnie" Grass Twine Knotter will—if the owner so desires—save one-third of the twine bill. It does it by using American Grass Binder twine, costing, bundle for bundle, acre for acre, one-third less than other good twines.

What Will You Do?

You may continue to pay a high price for twine.

You may continue to spend a good round percentage of your profit from your crop for the string that goes around the bundle.

Or you may save 33½ per cent of your twine bill, and add just so much to your profit.

If you think you are making too much money, you will continue in the old way.

If you want to add to your profits you'll investigate this

Money-Maker and Money-Saver for the Farmer

What will you do?





The "Minnie" Bundle Carrier

THE "Minnie" Bundle Carrier is a convenience which is greatly appreciated by every one who has used it.

The "Minnie" Bundle Carrier is exceedingly simple in construction. It is made of the best material and is the easiest operated bundle carrier on the market. It will dump the bundles even and better than any other carrier of the same type, by reason of the fingers dropping directly to the ground and then swinging backward.

It is easily controlled by the operator. You can dump your bundles wherever you like, either on hillside or on level. You can keep the corners clear and avoid tramping bundles by the team.

It always dumps when you are ready.

It folds either back or up and swings aside automatically when it encounters any obstacles.



The "Minnie" Transport

THE "Minnie" Transport consists of an axle and two strong traveling wheels easily and quickly attached to the front and rear sills, lifting the main wheel free from the ground. The pole is shifted to the grain end of the machine and you are ready for a spin down the big road and across the field, over bridge or through gates.

It is a good, dependable transport; convenient and labor-saving.



The "Minnie" Flax Attachment

THIS attachment transforms the "Minnie" into a Clover Seed and Flax Seed Harvester. It is readily substituted for the binder portion of the "Minnie" and has been doing most satisfactory work for years.



The "Minnie" Flax Attachment.



Simplicity

THE "Minnie" is so simple in construction, so direct in action, so strongly built, that it almost "runs itself." The services of an "expert" are not needed. Thousands of farmers have gone through the entire harvest with the "Minnie" without a stop for repairs or adjustment. It will not do the impossible, but it does not need nursing and coddling and doctoring. It is a help — not a hindrance to the work of harvest time. It is in every way a Money-Maker and a Money-Saver for the Farmer.

Two Testimonials

FROM A DEALER

AMERICAN GRASS TWINE CO., ST. PAUL, MINN.

PIESTONE, MINN., July 26, 1901.

GENTLEMEN:—Herewith check for \$1,031.96 for one car of "Minnie" Binders. Machines are all running O. K. When properly set up they need no more experting than lumber wagons.

Yours truly, (Signed) W. B. BROWN.

FROM A FARMER

MINNIE HARVESTER CO., INDIANAPOLIS, IND.

CABERY, ILL., June 7, 1902.

DEAR SIR:—This is to certify that I have a "MINNIE BINDER" that I bought twenty-two (22) years ago. It has cut from thirty (30) to two hundred (200) acres each year since. I have never spent five dollars for repairs in all this time. It cuts, elevates and binds better than any other machine in my vicinity. I can recommend the "MINNIE" to my brother farmers all over the world. I have repeatedly went through my harvest without missing a bundle.

(Signed) P. CONTHURST.

Time Is Money

IT will pay the grain-grower to look into the advantages offered by the "Minnie." At harvest time every second counts. A light weight, complicated machine never fails to give trouble throughout the harvest. It necessitates trips to town for repairs, or long waits for an "expert" to find out what has caused the trouble.

The "Minnie" is so strongly built and so simple in every part that it next to runs itself.

And it has the reputation of outlasting any machine made.

In addition to all this, it saves one-third the twine bill.

Isn't it worth looking into?

Any "Minnie" agent will be glad to show you and let you decide for yourself.

When You Buy a "Minnie"

You have a machine with a reputation behind it.

You have a machine which stands up to any work you may require.

You have a machine which does not choke or clog.

You have a machine which will last you the rest of your life.

You have a machine which is in reality a Money-Maker and a Money-Saver for the Farmer.



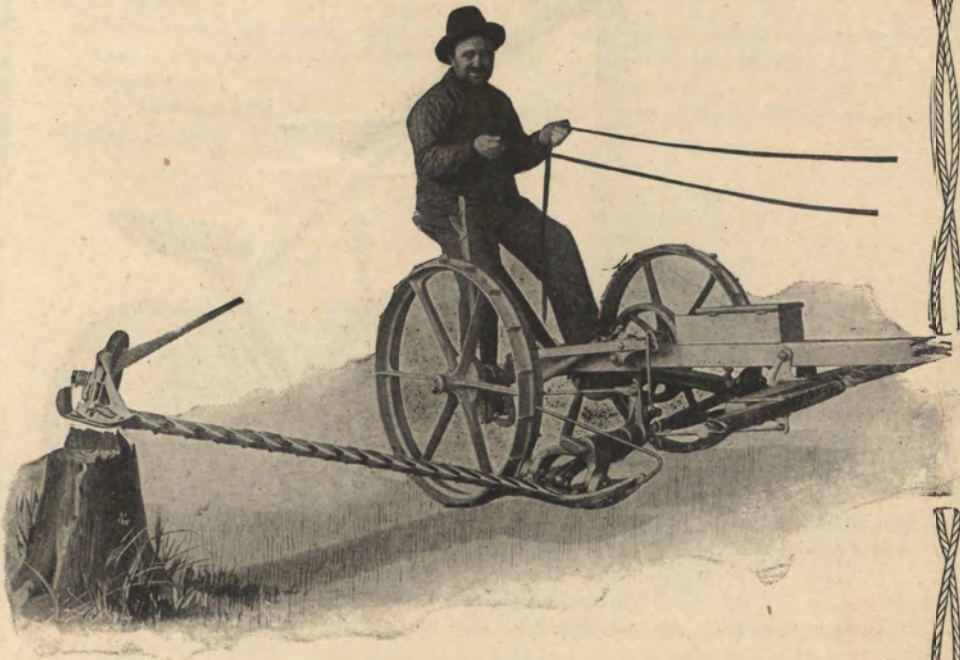
The "Minnie" Mower

4½, 5 and 6 Foot Cut

WE guarantee the "Minnie" Mower to have fewer parts, greater strength, larger capacity, and to be simpler in construction, lighter in draft, easier in operation for both man and team, and more durable than any other mower on the market.

Just look her over.

She tells her own story.



The "Minnie" Mower.

WHEN we designed the "Minnie" Mower we started out to build the BEST grass-cutting machine that American skill and ingenuity could produce.

We honestly believe that we have done it.

We haven't been able to find a single particular in which the "Minnie" could be improved.

It's such a simple machine, of so light draft, so handy and convenient for the operator, and does such good and satisfactory work under such a variety of conditions that we feel justified in making the broadest possible claims for it.

And the machine backs up every claim we make.

In the first place it's an extremely simple machine. Few parts—that means little friction—economy of power—less wear and tear.



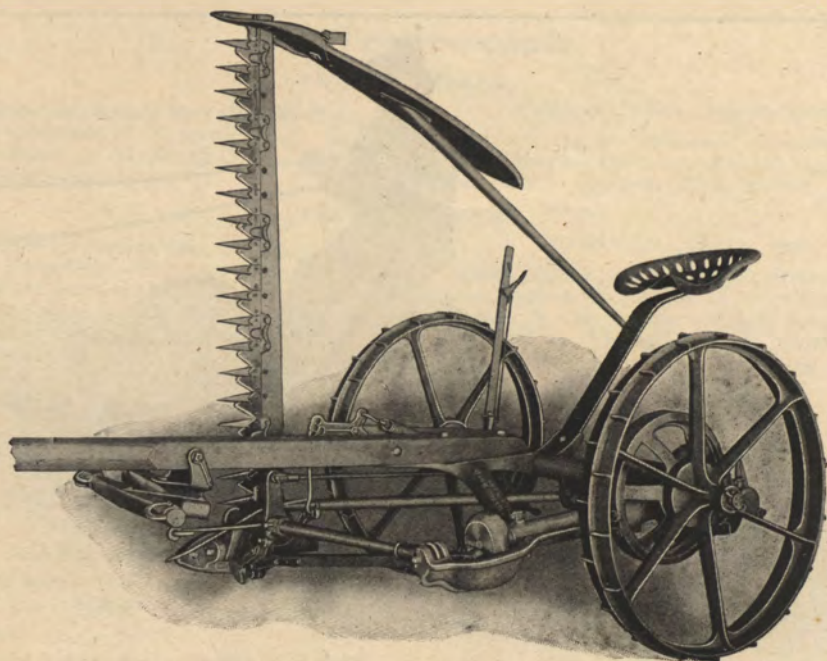
And it's put together in such a scientific manner that if you're fifty feet away from it you hardly know whether it's working or not.

It's practically a noiseless mower—certainly an innovation in grass-cutting machinery.

That's the first thing you notice when you go into a meadow where a "Minnie" is at work.

Then you are struck by the smooth, even stubble and the nice swath the "Minnie" leaves.

The swaths are not bunched nor dragged, because the wheels of the "Minnie" are high and have wide tread. A high wheel for power—the "Minnie" cuts the rankest grass



that grows—and it straddles the swath, with no depending gears nor chains nor bars to catch the cut grass.

The stubble is smooth and even in the hollows, on the ridges, on hillsides and level ground, because the knife bar moves along at a uniform distance from the ground. The joints of the hanger and shoe are so flexible that the inner shoe can pass over a higher obstruction than any other machine without lifting the outer shoe from the ground.

Then the ease of operation is at once apparent. It is manifested both by the team and the driver. The draft is light, because there are no friction-producing, useless parts—because no power is wasted, every ounce of the team's strength going to cut grass—because the "Minnie" is more thoroughly equipped with roller and ball bearings than any other mower made, and because the power is applied where it will do the most good, and there is absolutely no side draft.





That's why the "Minnie" is easy on the team.

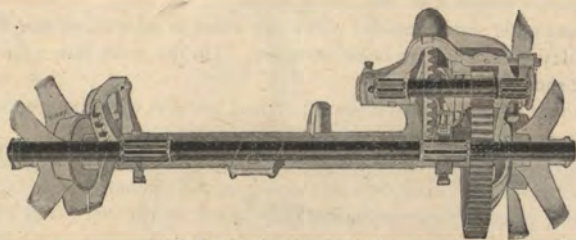
It is easy on the driver because it is simpler and handier than any other mower. It never chokes nor clogs; the three quick-acting pawls on each wheel enable the machine to stop or start instantly in the heaviest grass, the knife coming into instant action the very moment the team starts.

The foot lever has greater leverage than that of any other mower and is supplemented by a stronger spring. A boy of ten years can raise the bar with one foot. The bar need never be touched by the hand. It is not necessary to take space here to describe in detail the construction of the "Minnie" Mower.

It has a well deserved reputation of being another Money-Maker and Money-Saver for the Farmer.

The farmer can best appreciate its good points by an examination of the machine itself. That is what we urge—not what we SAY about it, but what the machine really is. Look it over.

Note its simplicity—its few parts (fewer than any other mower on the market)—its strong, symmetrical frame, cast in one piece.



Main Shaft of "Minnie" Mower.

Note its full equipment of roller and ball bearings, all fully protected from dust and dirt.

Its large drive wheels of ample height to give greatest power, with the widest face of rim and the widest tread of any mower, giving abundance of room for straddling swath and insuring steady running in heavy grass.

Long bearings on axle, causing smooth and steady running.

Three strong, quick-acting pawls on each wheel, enabling the machine to be stopped or started in heavy grass.

The main gear strongly built, frictionless and so perfect in its construction that it runs without noise.

The steel shaft with roller bearings at both ends of the main frame, and ball bearings at end of cross shaft to take up the end thrust.

The clutch may be shifted in and out of the gear without moving gear out of mesh.

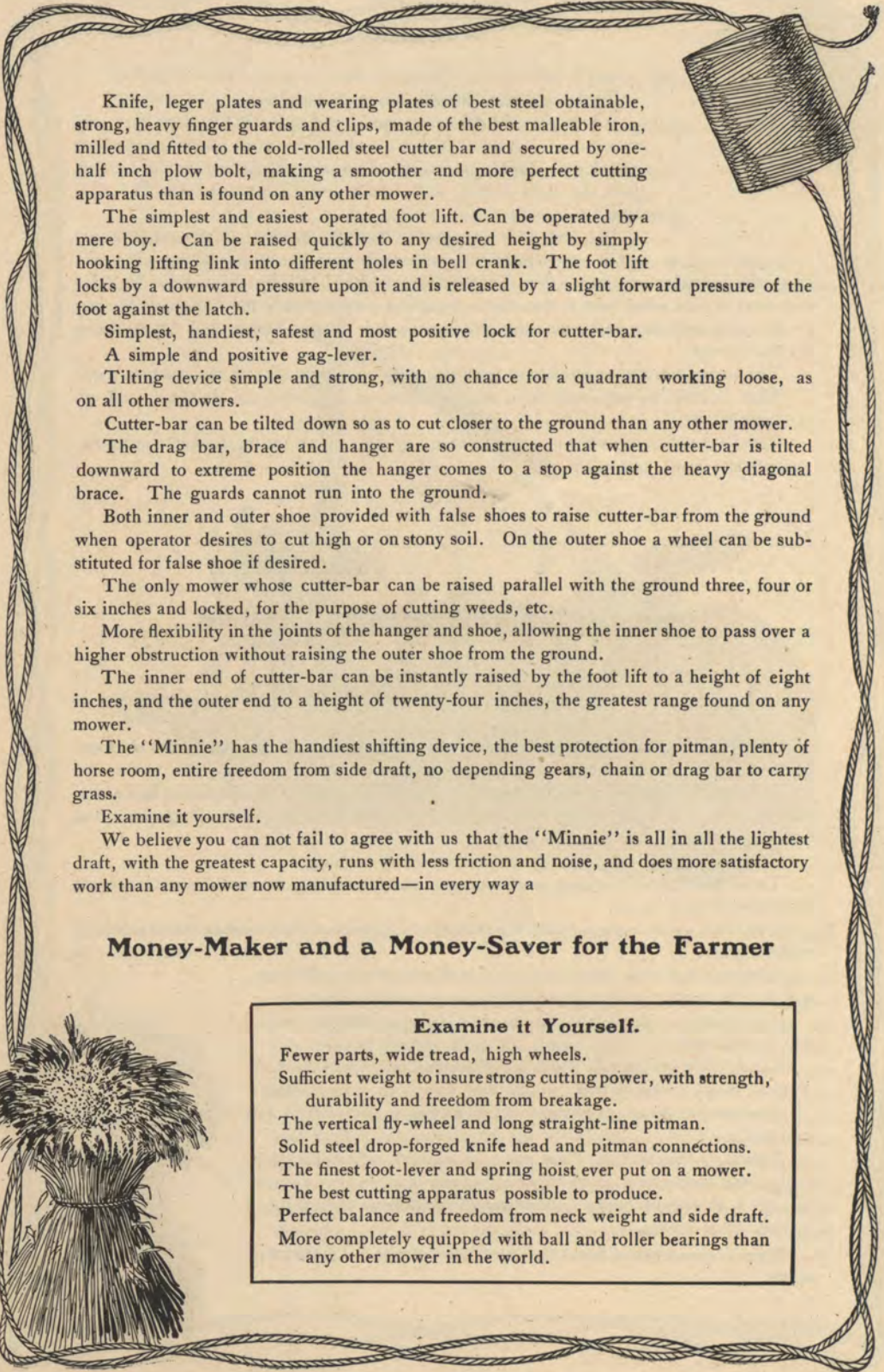
Crank shaft horizontal, obviating all serpentine vibration of the pitman, which causes so much trouble with knives on other machines.

Gears and all bearings enclosed and thoroughly protected from dust and dirt.

Pitman of best hickory, long and strong, with adjustable drop-forged steel connections, drop-forged steel knife-head and brass crank-pin box. A stronger, lighter and more durable pitman than is found on any other mower.

Pitman moves with direct, positive thrust, giving the knife a full stroke.





Knife, leger plates and wearing plates of best steel obtainable, strong, heavy finger guards and clips, made of the best malleable iron, milled and fitted to the cold-rolled steel cutter bar and secured by one-half inch plow bolt, making a smoother and more perfect cutting apparatus than is found on any other mower.

The simplest and easiest operated foot lift. Can be operated by a mere boy. Can be raised quickly to any desired height by simply hooking lifting link into different holes in bell crank. The foot lift locks by a downward pressure upon it and is released by a slight forward pressure of the foot against the latch.

Simplest, handiest, safest and most positive lock for cutter-bar.

A simple and positive gag-lever.

Tilting device simple and strong, with no chance for a quadrant working loose, as on all other mowers.

Cutter-bar can be tilted down so as to cut closer to the ground than any other mower.

The drag bar, brace and hanger are so constructed that when cutter-bar is tilted downward to extreme position the hanger comes to a stop against the heavy diagonal brace. The guards cannot run into the ground.

Both inner and outer shoe provided with false shoes to raise cutter-bar from the ground when operator desires to cut high or on stony soil. On the outer shoe a wheel can be substituted for false shoe if desired.

The only mower whose cutter-bar can be raised parallel with the ground three, four or six inches and locked, for the purpose of cutting weeds, etc.

More flexibility in the joints of the hanger and shoe, allowing the inner shoe to pass over a higher obstruction without raising the outer shoe from the ground.

The inner end of cutter-bar can be instantly raised by the foot lift to a height of eight inches, and the outer end to a height of twenty-four inches, the greatest range found on any mower.

The "Minnie" has the handiest shifting device, the best protection for pitman, plenty of horse room, entire freedom from side draft, no depending gears, chain or drag bar to carry grass.

Examine it yourself.

We believe you can not fail to agree with us that the "Minnie" is all in all the lightest draft, with the greatest capacity, runs with less friction and noise, and does more satisfactory work than any mower now manufactured—in every way a

Money-Maker and a Money-Saver for the Farmer

Examine it Yourself.

Fewer parts, wide tread, high wheels.

Sufficient weight to insure strong cutting power, with strength, durability and freedom from breakage.

The vertical fly-wheel and long straight-line pitman.

Solid steel drop-forged knife head and pitman connections.

The finest foot-lever and spring hoist ever put on a mower.

The best cutting apparatus possible to produce.

Perfect balance and freedom from neck weight and side draft.

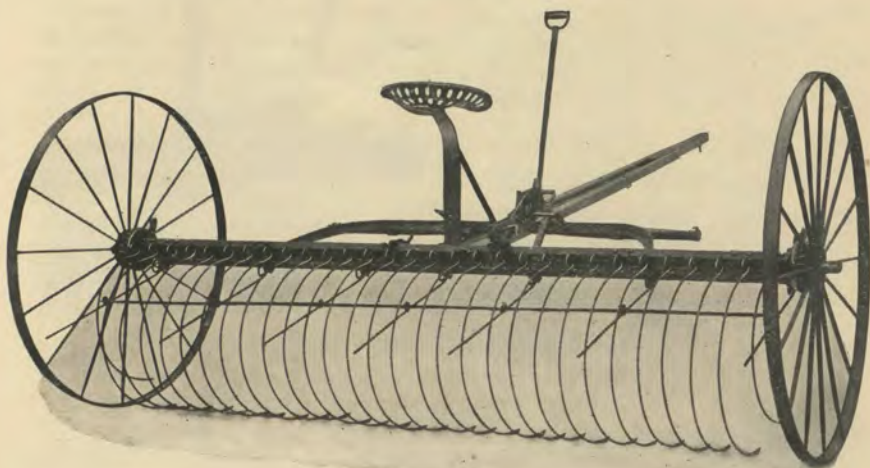
More completely equipped with ball and roller bearings than any other mower in the world.



The "Minnie" Hay Rake

9 feet — 26 teeth 10 feet — 30 teeth
12 feet — 36 teeth

THE "Minnie" all-steel hay rake—another of our Money-Makers and Money-Savers for the Farmer—is offered to the hay-making public as the strongest, most effective and most durable hay rake manufactured.



The "Minnie" Hay Rake.

There is a great difference in rakes. Some of them are labor-savers. More of them are trouble-makers.

The "Minnie" has every feature which a good rake ought to have.

It is strong and rigid.

It is easily operated—a boy or girl can use it all day, if he or she can sit on a seat and drive a horse.

It does not roll up the hay, nor get it tangled in the spokes.

And it does not go to pieces after a season's use.

It's a good, all-round rake—the kind that saves and makes money for the farmer.

The steel-rolled angle head is the strongest and stiffest on any rake. This head is not weakened by a large number of holes for the teeth, the teeth being held by castings bolted to the head.

The hound is stronger and wider than that on most rakes. It very materially strengthens the rake head, and being so wide throws the weight of the driver and draft of the horses upon the wheels rather than on the middle of the head.



The weight of the driver is so placed that it greatly assists in raising the teeth when dumping.

The teeth—and note, please, that they are close enough together to catch all fine hay—are made of the best obtainable coiled steel, diamond chisel pointed and given just the curve which will do the most effective work in the field.

The wheels are extra heavy with broad concave tires which do not dig up the ground. They are wheels built to last and they do last indefinitely.

The steel axles are large in diameter, with doubly bolted end castings—put on to stay.

The rake head is high, giving great capacity, particularly in bunching windrows.

The dump is either hand, foot, horse or automatic. The hand raising lever is detachable and works independently of the trip device.

The ratchets are on the inside of the hub; they work simultaneously, insuring steady motion of the rake teeth, with no danger of breakage. The ratchets are enclosed by a strong, light shield which prevents hay catching in them.



End of Rake Head showing operation of ratchet.

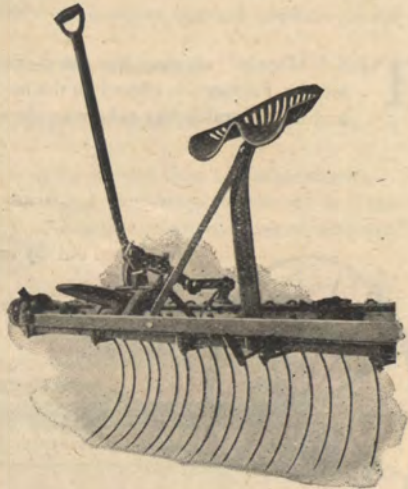
The stripper fingers are of coiled steel united by a strap to insure greater strength.

Guard-cleaner teeth at either end prevent hay from entangling in the spokes of the wheels.

The foot-locking device is positive in action and has the minimum of vertical motion.

The "Minnie" is adapted to one or two horses, the shafts being adjustable.

It's a rake we can recommend and guarantee in every way—simple, efficient, durable—



Hand Raising Lever and Connection.

A Money-Maker and a Money-Saver for the Farmer.

It Will Pay You

It will not take a great deal of your time to call upon a "Minnie" agent and examine the lines of machines we offer.

All we ask is a fair investigation of their merits.

Every farmer has had more or less trouble with harvesting machines. If there is anything better, he wants it.

In fact, he owes it to himself to get it.

Isn't it worth your while to find out about these things for yourself?

Examine the "Minnie" line. We are willing to abide by your decision.





Extra Parts and Repairs

THE department for supplying repair pieces is probably unequaled for system, capacity and expedition.

The bins are filled with pieces for all our machines, however old, and are continually replenished from the many great shops which comprise the factory. Many cars of extra parts, for many railroads, can be loaded at once.

We make for our machines the only pieces that are perfect.

Why?

FIRST—We want to protect the reputation of our machines. Makers of spurious pieces do not have this incentive to excel in the quality of the pieces.

SECOND—We alone have suitable shop machinery. Ours is invented, constructed and patented by ourselves—each machine for its specific job—an expense not undertaken by spurious makers, because of their limited demand for any piece of a given pattern, while each of our pieces is turned out by us in large quantities, all pieces of a given kind perfect and exactly alike.

THIRD—We alone know the details which contribute to the perfect practical operation of each machine. Being without our experience with our machines, spurious piece manufacturers cannot know this.

In warning the public against the use of spurious pieces, we would particularly emphasize our genuine

SECTIONS AND GUARD PLATES.—Our special tempering.

GUARD AND GUARD BOLTS.—Milled bar-seat—tight bolts and nuts.

SCYTHES AND SICKLES.—Special tempering—steel back-piece.

MOWER BOXING.—Anti-friction—very superior.

PITMAN'S KNIFE-HEADS AND SICKLE-HOLDERS.—Steel—steel—steel.

INNER AND OUTER SHOES.—Malleable, non-breaking.

The genuine pieces will save machine, money, crops, time and trouble.

Like everything else turned out in the "Minnie" factory, they have proved themselves to be

Money-Makers and Money-Savers for the Farmer.

Investigate

We don't ask you to take our word alone for the good things we say about the "Minnie" line.

Investigate for yourself.

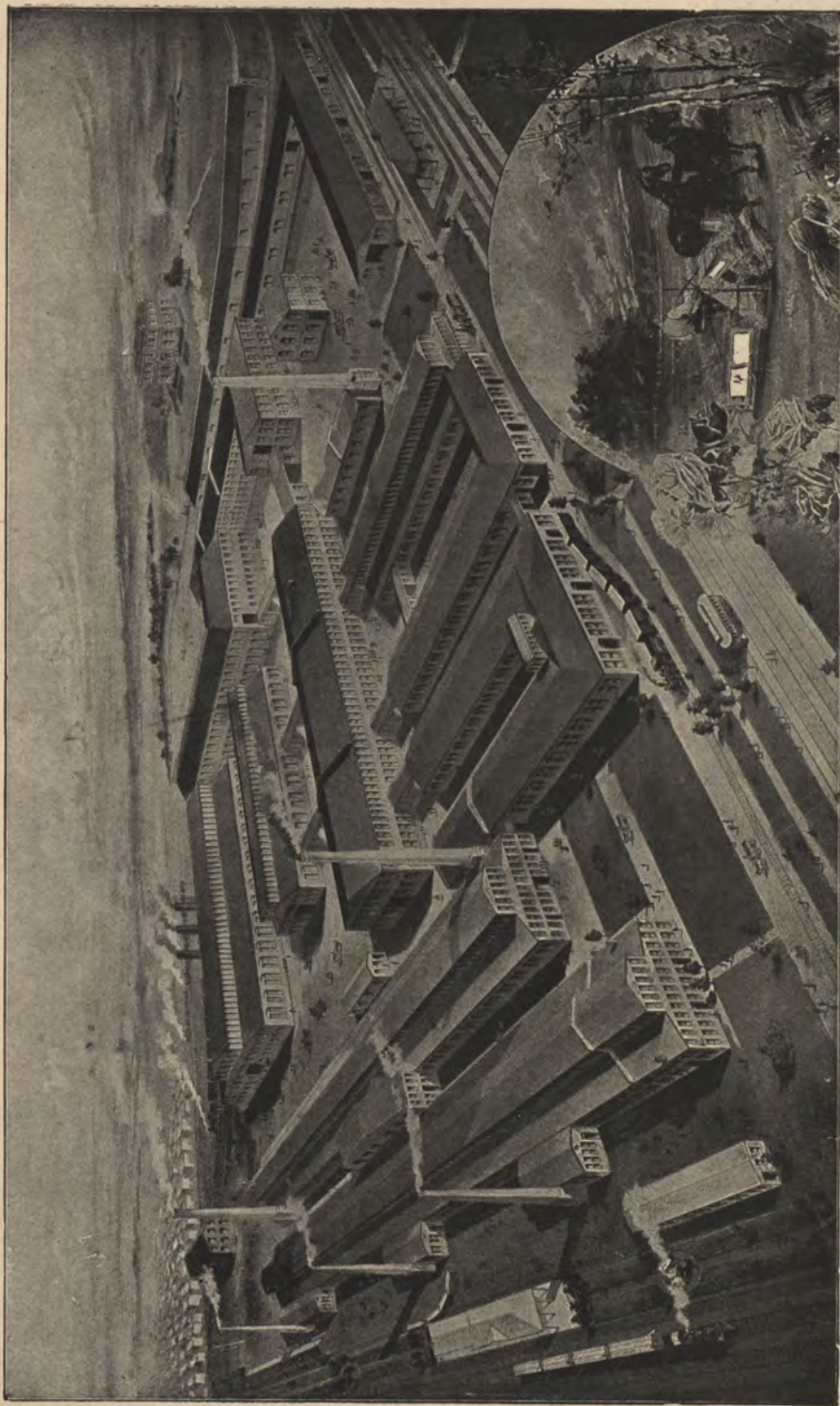
Call at a "Minnie" agency, and examine the machine.

Ask any farmer who has ever used a "Minnie."

You want the best. You ought to investigate.

We are not afraid of any test to which you can put any machine we make.





Where the Famous "Minnie" Harvesters are Made.



J. A. Pappenfus,

St. Cloud,

Minn.