

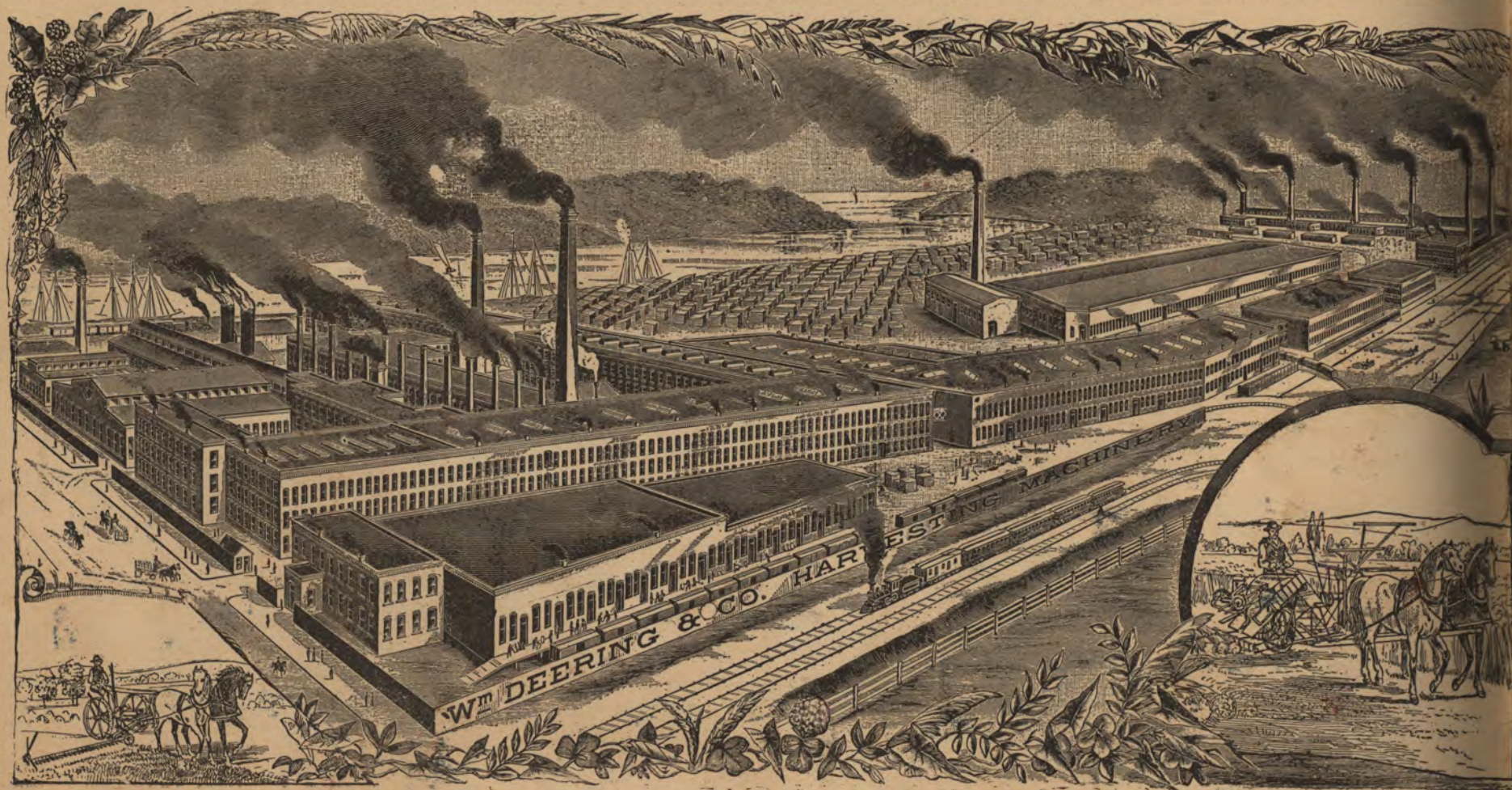
WM. DEERING & CO.

MANUFACTURERS OF Harvesting Machinery

CATALOGUE OF GRAIN CUTTING
MACHINERY.



CHICAGO · ILL · U · S · A ·



THE DEERING HARVESTER WORKS.

12103
1888 95-

THE Deering Machines for 1888 are described in two circulars—one devoted to **Grain-Cutting Machinery**, the other devoted to **Grass-Cutting Machinery**. This circular contains a full description of the Deering Grain-Cutting Machines and their Attachments, as follows:

The Deering All-Steel Twine Binder (5, 6 and 7-foot cut.) pages 2 to 29

ATTACHMENTS.

The Deering Steel Bundle-Carrier for any Deering Binder,	-	-	-	-	-	"	40 to 43
The Deering Carrier for Flax, Clover, Timothy, etc. (for any Deering Binder),	-	-	-	-	-	"	44
The Deering Truck for Transporting the Binder (for any Deering Binder),	-	-	-	-	-	"	45
The Deering Canvas Cover for protecting the Binder (for any Deering Binder),	-	-	-	-	-	"	46
The Deering Light Reaper with and without Folding Platform,	-	-	-	-	-	"	47 to 48
The Deering Binder Twine,	-	-	-	-	-	"	49

In the other circular devoted to Grass-Cutting Machines, will be found a description of all the other machines made in the Deering Works, which are: **The New Deering Mower, The Deering Front-Cut Giant Mower, The Deering One-Horse Mower, The Deering Attachment to Mowers for Cutting Weeds.**

This latter circular, and a circular comparing the merits of a 2 $\frac{1}{4}$ -inch and a 3-inch section Mower, can be obtained of any Deering Agent, or by writing to us.

It is a proud assertion, and one not to be lightly made, to say that the above list of machines and attachments is the most complete made by any manufacturer, and that each individual machine in this list is the best of its kind made anywhere in the world, yet this assertion we confidently make. There are no relics of past popularity and no experiments. It is not, we believe, too strong a statement to say that any agriculturist in want of any form of Grain or Grass-Cutting Machine can, without experiment or examination of others, select from the list of Deering machines the especial machine adapted to his wants, and be perfectly safe to have the machine that will do better work, require fewer repairs, and last longer than any other of its kind.

Twenty-seven years of experience and endeavor, enormous works, skilled mechanics and inventors, thousands of workmen, and thousands of Deering agents throughout the world, are all striving together in the great work of sustaining the Deering machines in their proud position of leading the world.

To the kind friends who in hundreds of thousands have bought and used the Deering machines, and whose favor we are determined to hold, we wish prosperity in the year 1888.

WM. DEERING & CO.,
CHICAGO, U. S. A.



THE DEERING ALL-STEEL TWINE BINDER WITH STEEL BUNDLE-CARRIER IN THE FIELD.

THE DEERING ALL-STEEL TWINE BINDER.

Cutting 5, 6 and 7 Feet.

IN India and Russia grain is still gathered with the reaping hook, and the ground is plowed with a wooden stick; but in America the industrial triumph of one generation is old-fashioned to the next. Whatever our children may have to say concerning the Deering All-Steel Twine Binder, there can be no doubt that to-day it embodies the best ideas of a perfect harvesting machine.

There are still to be found wooden harvesters, as there are wooden plows and reaping hooks, but they are the product of concerns living in the past, and represent simply the habit of some manufacturers of clinging to old machines and antiquated methods, and protesting that the world is not moving.

For several years we have foreseen that the age of steel would speedily and inevitably demand a steel harvester, and having prepared ourselves for the demand we put out in 1886 the All-Steel Harvester and Binder. Though we made an enormous number (far more than were made of any other kind of binder), we could not supply the demand. Never did a machine step so instantly into success and popularity.

In 1887 we made many thousands more of the All-Steel Deering than were ever made of any harvesting machine in any one year before, and yet we were short of the demand. The reason of this popularity it is not hard to find.

A party of trained mechanics, discussing among themselves the comparative length of life of the Wooden Binders formerly made in the Deering factory and the Deering All-Steel Binder, some of them were of opinion that the steel machine would last four times as long as the wooden machine, and no one put it as less than twice as long.

Years of practical experience has made the American farmer a mechanic, and he recognizes the above fact as plainly as a professional mechanic could do.

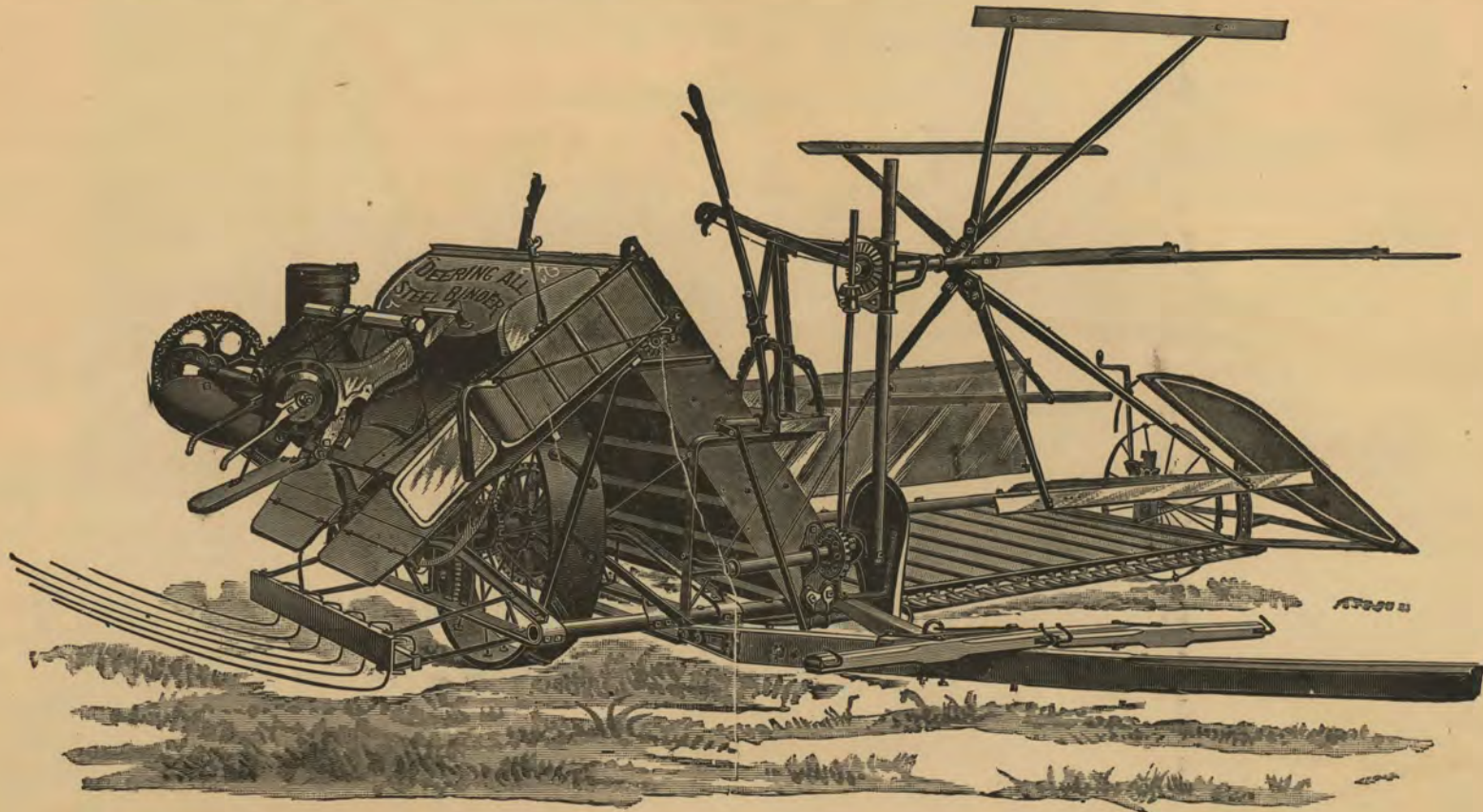
The wooden harvester has faded away before the Deering All-Steel Binder. No difference in price, short of practically giving the wooden machine away, will give it even a temporary standing in the harvest of 1888.

There are imitations of the Deering All-Steel Binder in the market, but none of them are fairly entitled to compete with the Deering. Some of them were seen in the harvest of 1887, where each showed itself in some essential point radically inferior to the Deering. Some will appear first in 1888, and then get their first harvest test. Some are practically the same old wooden machines, with a few pieces of steel and the name "Steel." Others contain more "steel," but none contain so much steel, or are at once so strong, so light and so simple, as the Deering All-Steel Twine Binder.

THE DEERING ALL-STEEL TWINE BINDER

(CUTTING 5, 6 AND 7 FEET)

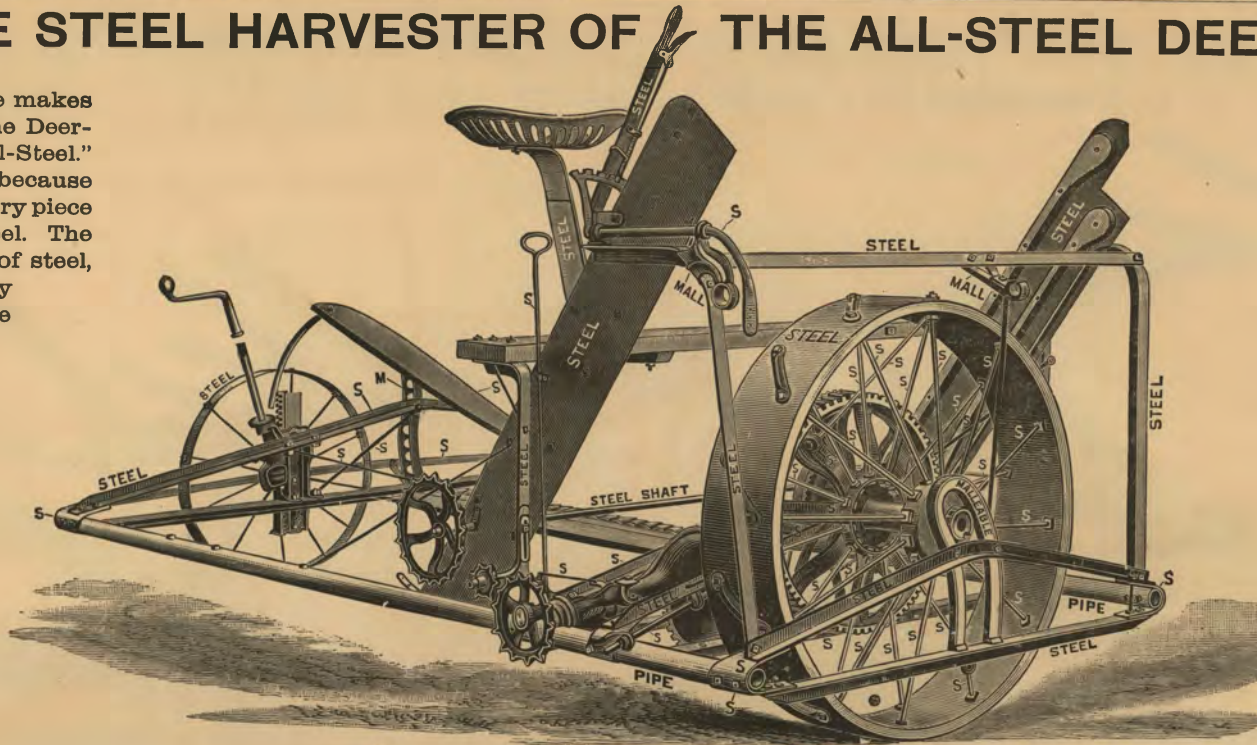
WITH THE DEERING STEEL BUNDLE-CARRIER.



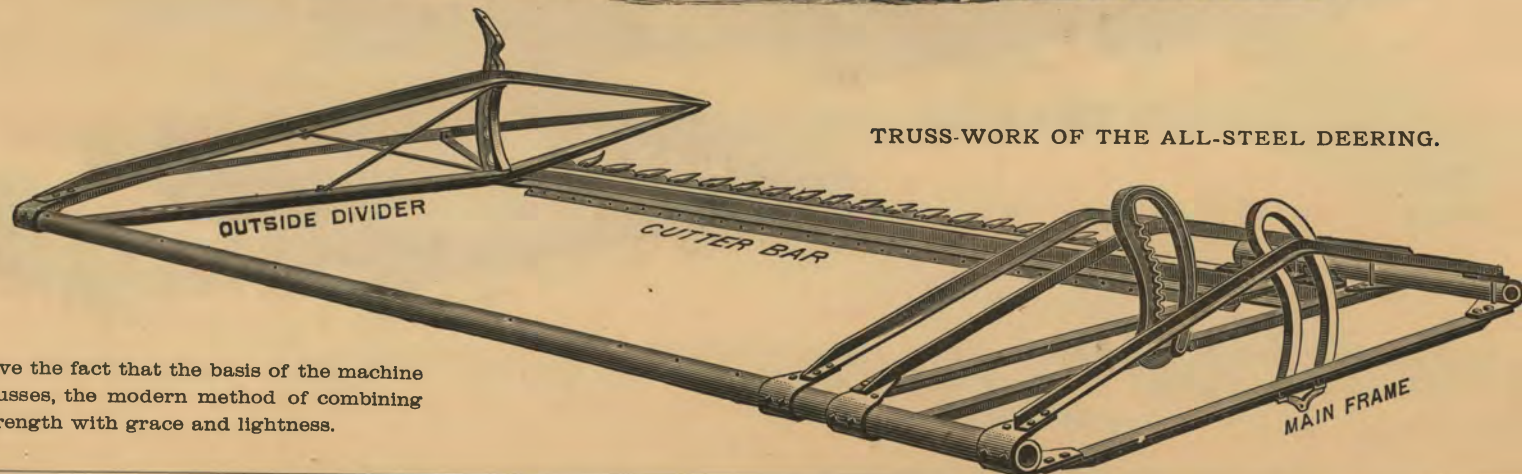
In this machine are embodied all the best devices that made the Deering Standard Binder and the Deering Junior Binder the most popular machines of their day, placed upon a framework and structure almost prepared to defy time and wear. Two harvest seasons have proved that as first made it was practically perfect.

THE STEEL HARVESTER OF THE ALL-STEEL DEERING.

This picture makes it plain why the Deering is called "All-Steel." It is so named because practically, every piece is made of Steel. The few pieces not of steel, are almost every one of malleable iron.



TRUSS-WORK OF THE ALL-STEEL DEERING.



Observe the fact that the basis of the machine is its trusses, the modern method of combining great strength with grace and lightness.

THE WAY OF MAKING A STRONG BACK-BONE

AS COMPARED WITH THE WAY OF MAKING A WEAK BACK-BONE.

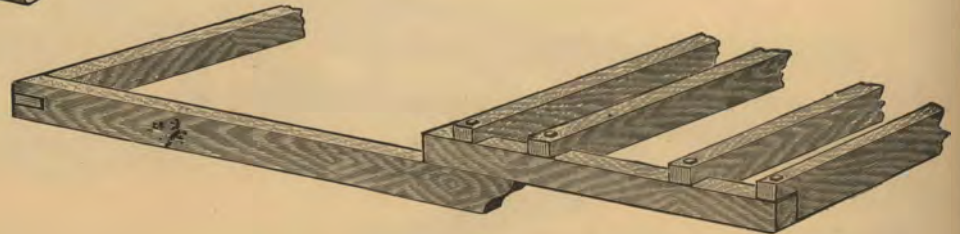


The foundation of the strength of the All-Steel Deering is the Tubular Back-bone, shown in the above picture. In it there is no joint to work, or spring, or wear. By it the entire structure of the machine is held together firmly as long as its life endures. Observe that the steel plates securing the trusses almost completely encircle the tubular frame.



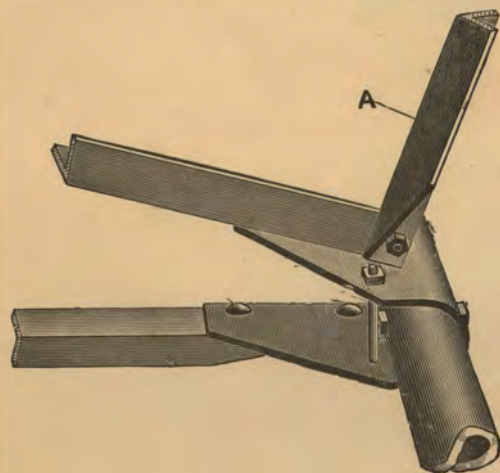
ONE PATCHED BACK-BONE.

ANOTHER PATCHED BACK-BONE.



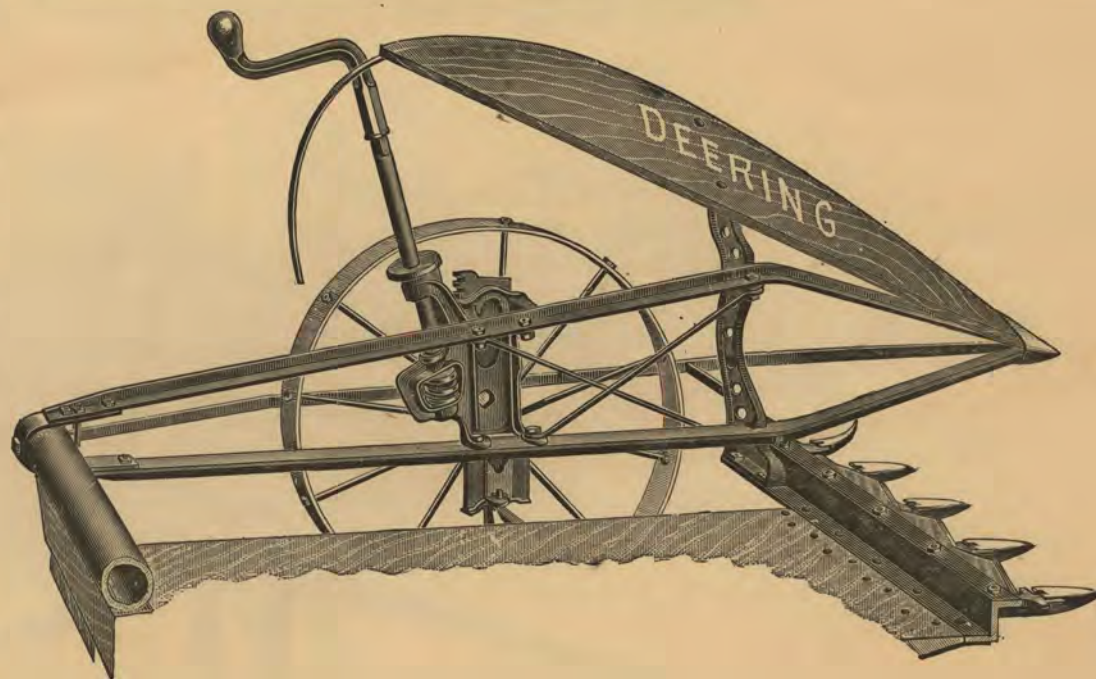
It would seem as though these two structures had been designed to permit of springing, twisting and wearing. They form the vital part of the machine. It cannot endure one day after they have collapsed or parted company. Observe that the cross sills touch the back-bone on but one side only.

CORNER JOINT OF MAIN FRAME.



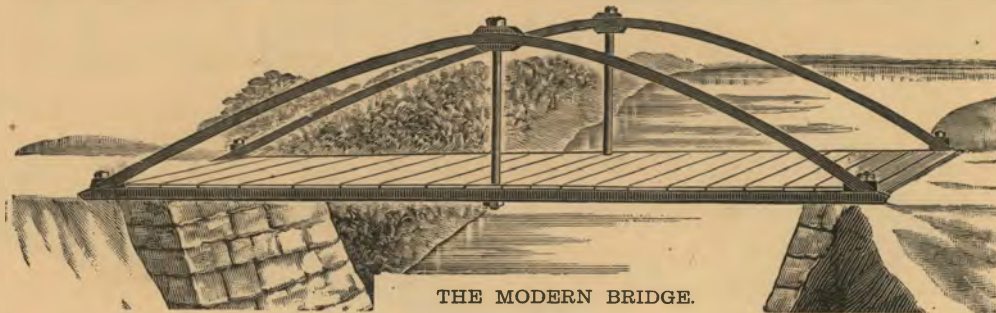
In this picture is shown more in detail the method of joining together the main frame, the tubular frame and the upright post A of the Harvester. Nothing could be firmer. Here is the strain and here the resistance.

THE OUTSIDE DIVIDER AND GRAIN WHEEL.

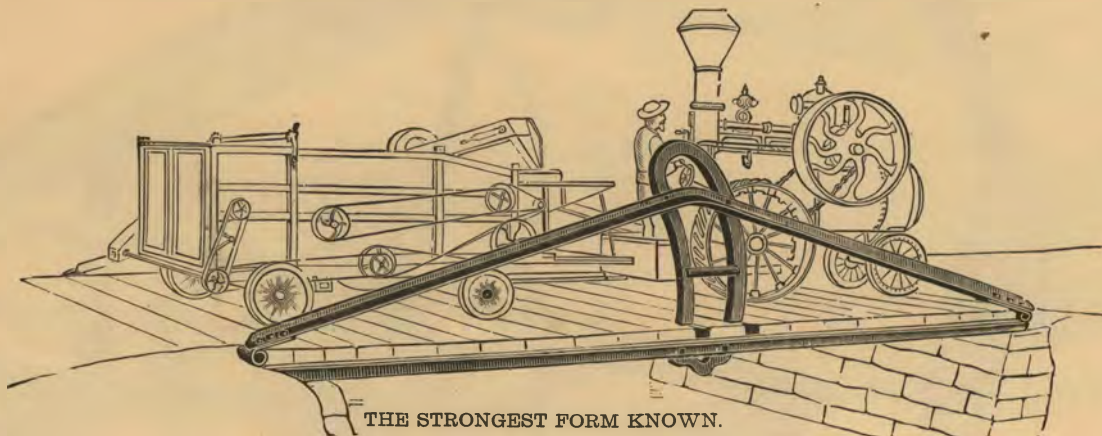


Observe, in this cut, the great strength of the outside divider and the simple and easily operated Raising Device.

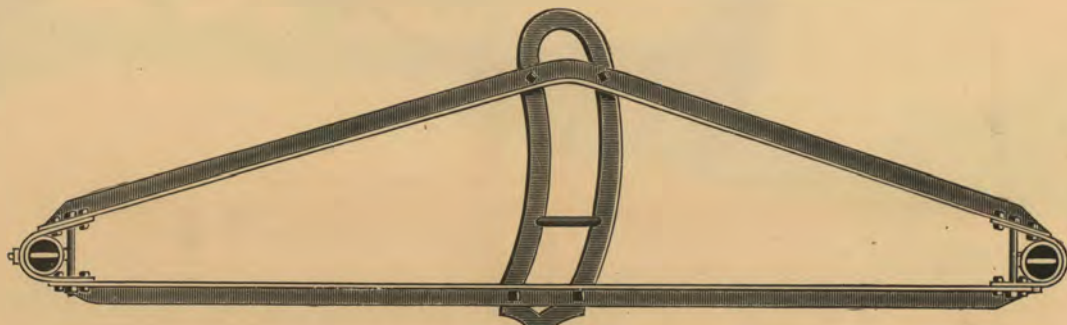
THE MODERN AND APPROVED METHOD OF OBTAINING STRENGTH AND RIGIDITY.



THE MODERN BRIDGE.



THE STRONGEST FORM KNOWN.

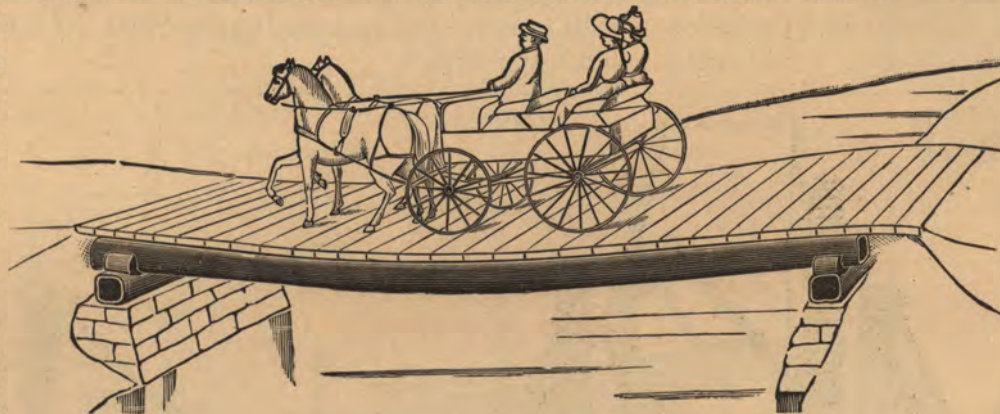


SHOWING THE VALUE OF A TRUSS AS UNIVERSALLY USED IN CONSTRUCTION.

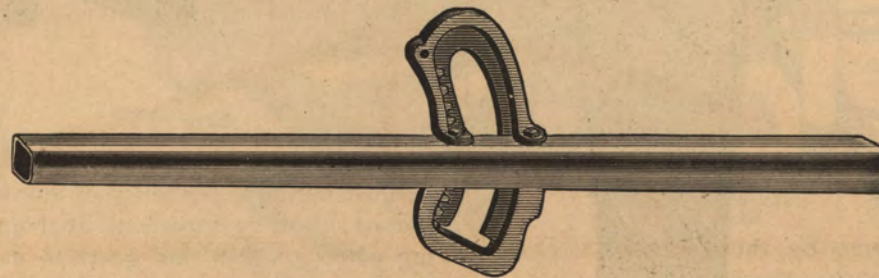
THE OLD-FASHIONED AND ABANDONED METHOD OF CONSTRUCTION.



THE OLD-FASHIONED BRIDGE.



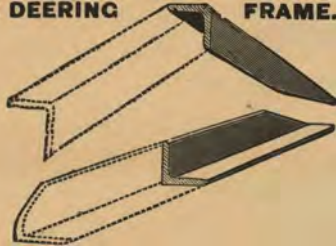
AS IMITATED IN A MODERN HARVESTER.



SHOWING THE INHERENT WEAKNESS OF AN UNSUPPORTED FRAME-WORK.

STRENGTH OF THE DEERING TRUSS COMPARED WITH OTHER HARVESTER FRAMES IN USE.

THE DEERING FRAME.



STRENGTH 18,000 POUNDS.

Using engineers' tables of strength as a basis, a single Deering Truss, constructed upon the principle shown in this cut, would sustain 18,000 pounds.

ONE COMPETITOR'S FRAME, ONE-SIXTH AS STRONG AS THE DEERING.

STRENGTH 1,800 LBS.



FIG. 1.



FIG. 2.

(See cut page 38.)

The strength of a Truss depends on the distance apart of the bars at the widest point. Suppose the angle bars were not separated (or trussed) at all, but were brought together (fig. 1). They would then bear only a weight of 1,800 pounds, when formed into a pipe as shown above (fig. 2). If this pipe were made two inches wide it would bear but 3,000 pounds' strain and would weigh $2\frac{1}{2}$ pounds more per foot than the Deering Truss. If made of iron it would bear even less.

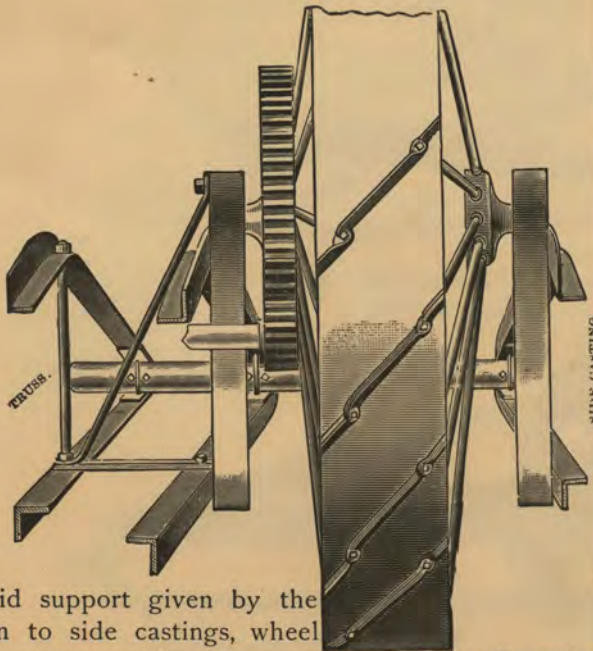
ANOTHER'S FRAME.



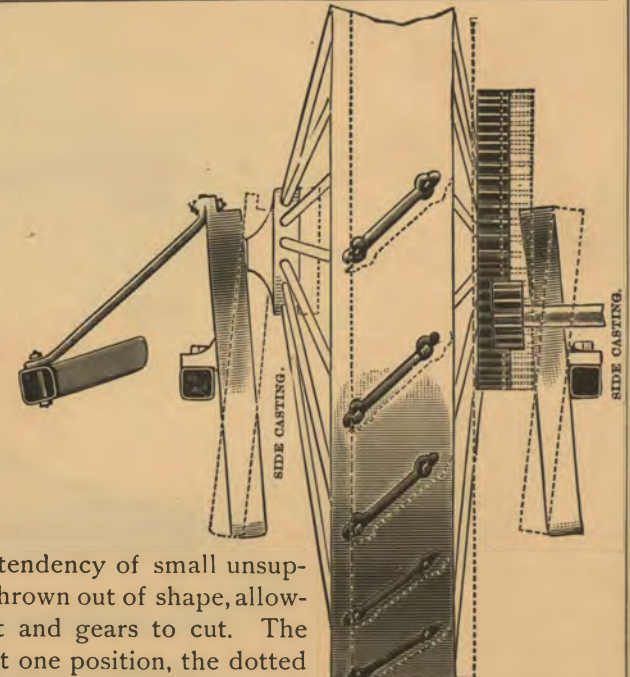
STRENGTH 1,120 LBS.

If all the parts of the Deering Truss were brought together into a solid bar, as shown above, their strength would be only 1,120 pounds.

(See cuts page 39.)



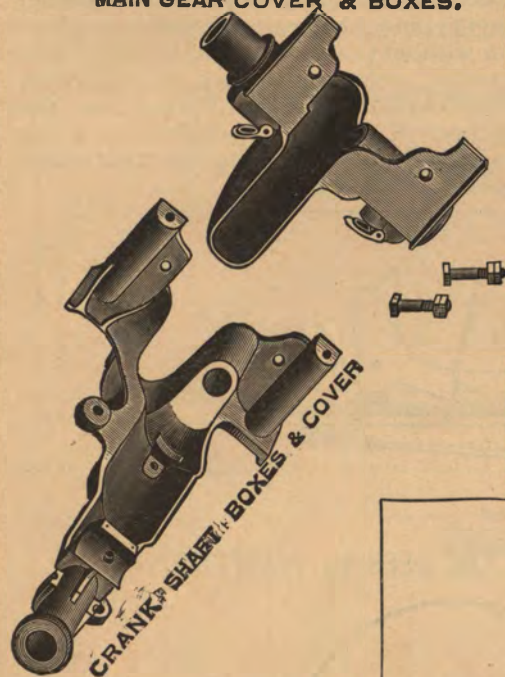
Showing the rigid support given by the trussed construction to side castings, wheel and gearing. There can be no cutting of gears and no tipping of wheel.



Illustrating the tendency of small unsupported sills to be thrown out of shape, allowing wheel to shift and gears to cut. The full lines represent one position, the dotted lines another, which the lack of stability allows the parts to assume.

Showing more in detail the combination Gear Frame and Gear Cover.

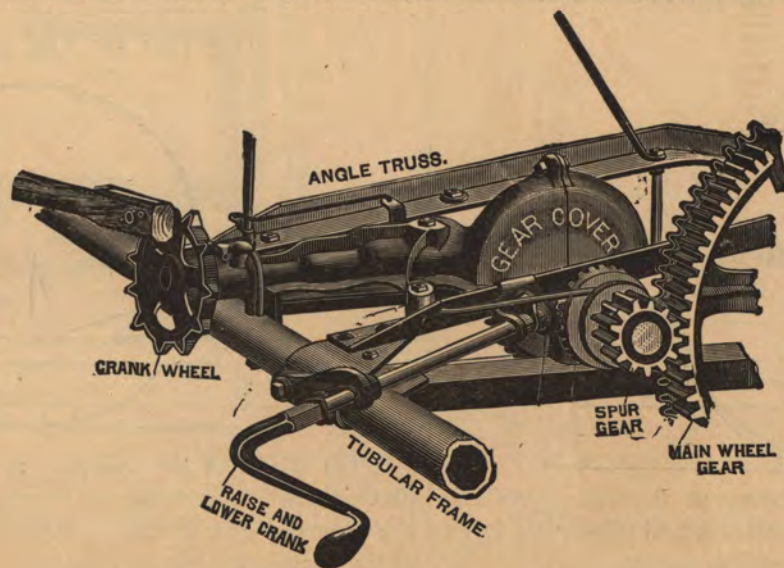
MAIN GEAR COVER & BOXES.



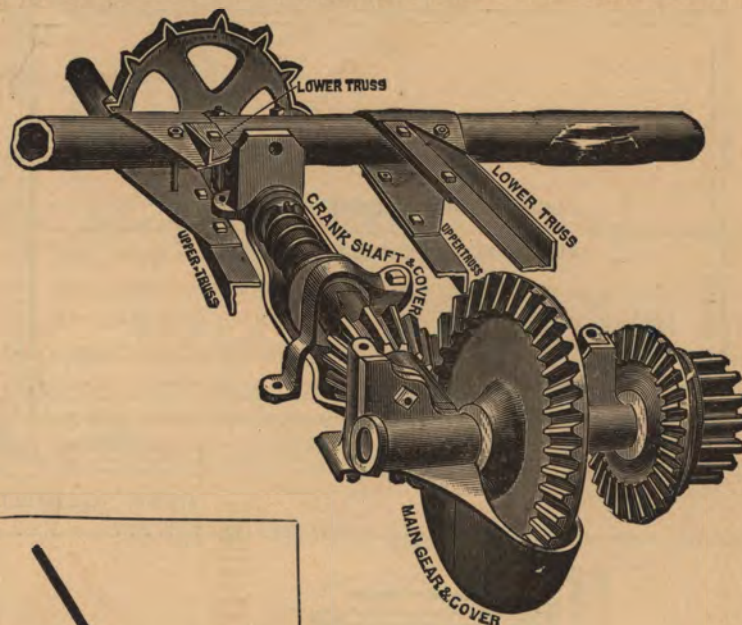
The bearings are very long and provided with well arranged oil holes. But the greatest feature is the ease with which, in case any bearing, by long usage, should wear, it can be replaced by simply procuring one-half of this simple and inexpensive frame.

MAIN GEAR AND FRAME.

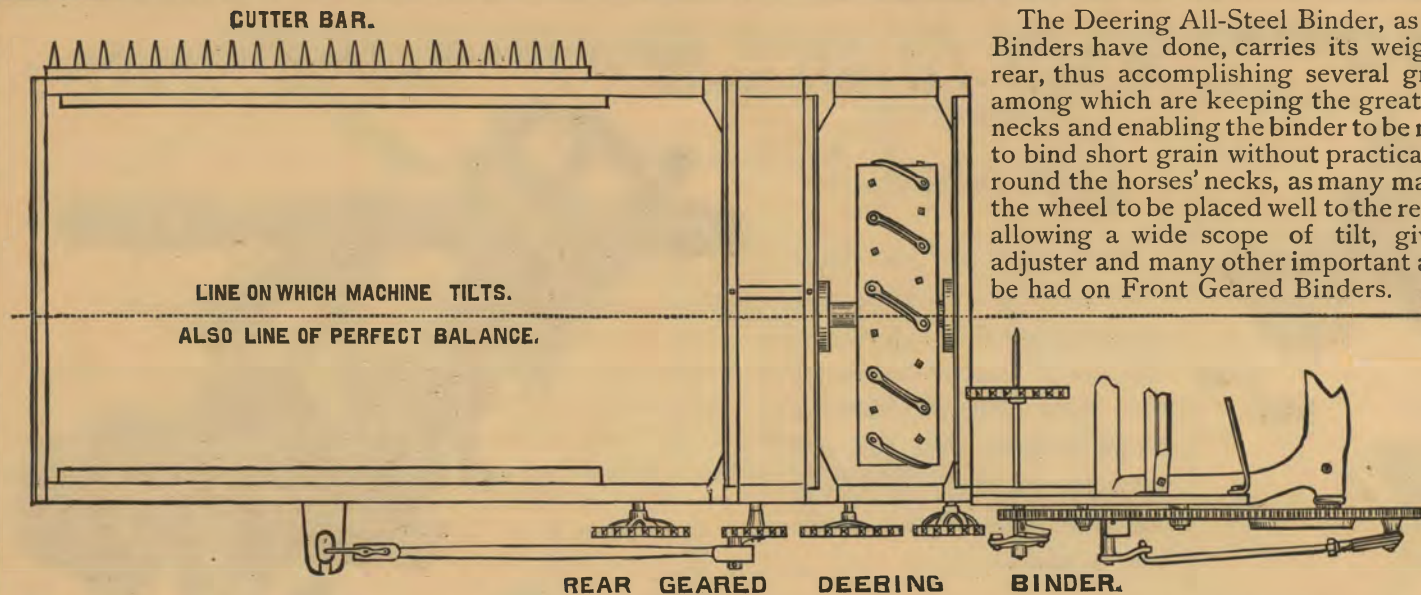
Here is shown the Main Gear and Gear Cover, with the details of its strength and the ingenious device by which the Gear Frame forms a cover to keep mud and dirt from the gearing. The Raising Device, quick, easy-working, is shown.



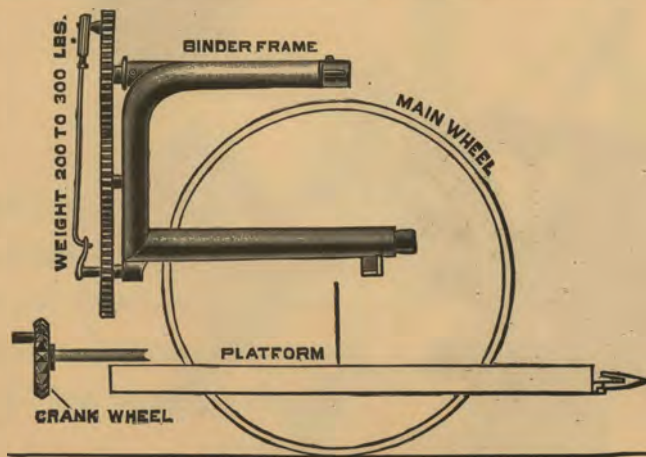
Enlarged (and Bottom) View of Gear and Frame.



In this picture the Gear and Gear Frame are represented as turned upside down, thus showing plainly and fully the details of this ingenious and valuable invention.

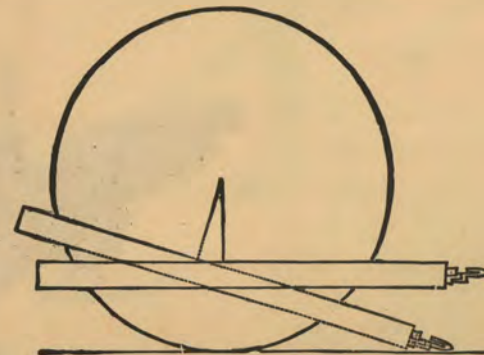


The Deering All-Steel Binder, as all the other Deering Binders have done, carries its weight and gearing at the rear, thus accomplishing several great advantages, chief among which are keeping the great weight off the horses' necks and enabling the binder to be moved well to the front to bind short grain without practically hanging the binder round the horses' necks, as many machines do; permitting the wheel to be placed well to the rear of the machine, thus allowing a wide scope of tilt, giving room for a long adjuster and many other important advantages that cannot be had on Front Geared Binders.

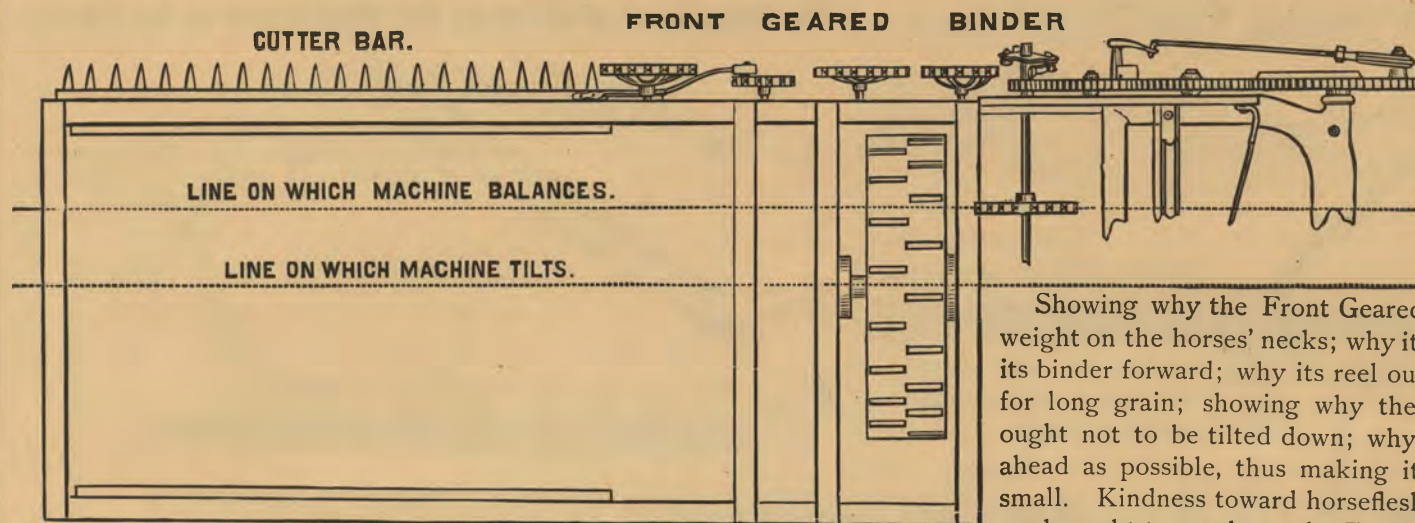


The Deering Binder Attachment being at the rear gives the entire machine a perfect and beautiful balance, and allows it a large scope of adjustment without discomfort to the horses.

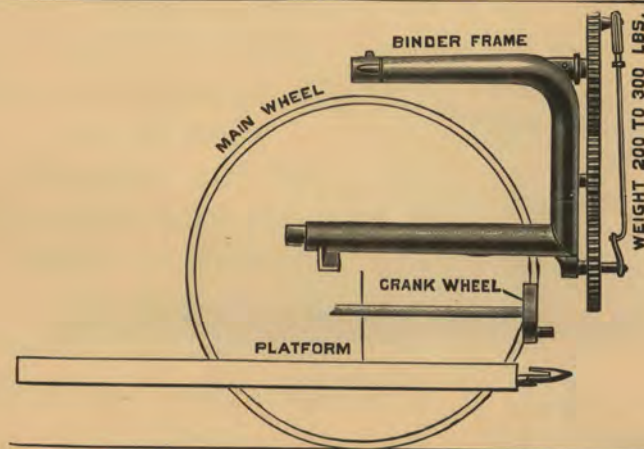
THE TILT OF THE DEERING PLATFORM.



The wheel of the Deering is well toward the rear, and as the platform in tilting swings on the axle of the wheel, the result is that the Deering guards can be tilted down without throwing the back of the platform high into the air.

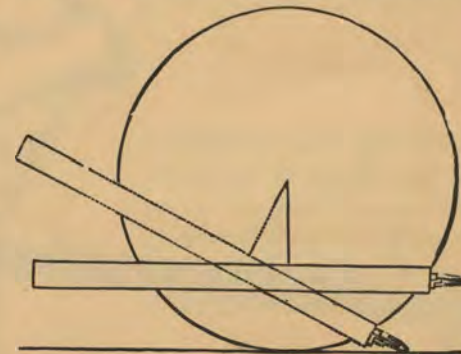


Showing why the Front Geared Binder throws heavy weight on the horses' necks; why it is not desirable to shift its binder forward; why its reel ought not to be set ahead for long grain; showing why the Front Geared Binder ought not to be tilted down; why its wheel is set as far ahead as possible, thus making its tilting capacity very small. Kindness toward horseflesh and a desire for good work ought to condemn the Front Geared Binder.



This cut illustrates very clearly the fact that the Front Geared Binder must inevitably throw a heavy weight on the horses' necks. When the binder is shifted forward this weight becomes even more oppressive. The Front Geared Binder is wrong in principle and practice.

THE TILT OF THE FRONT GEARED BINDER.



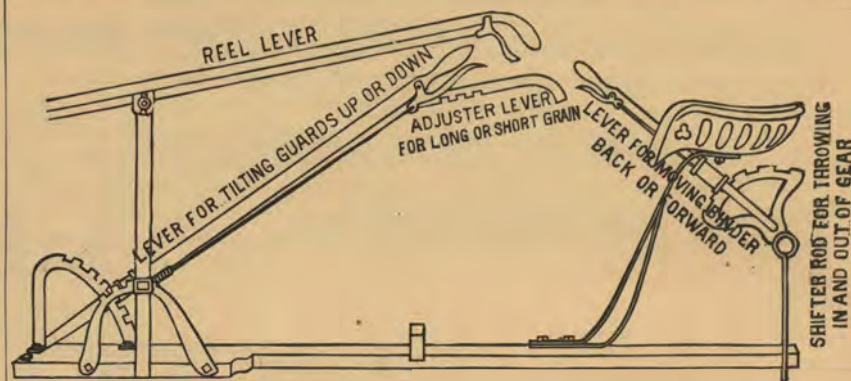
The wheel of some Front Geared Binders is so far forward that it is impossible to get much tilt. In any case, when the guards are tilted down, the back of the platform rises high in the air. The result is that the short grain which it is attempting to cut falls over the guards to the ground.

The Deering Rear Geared Binder.

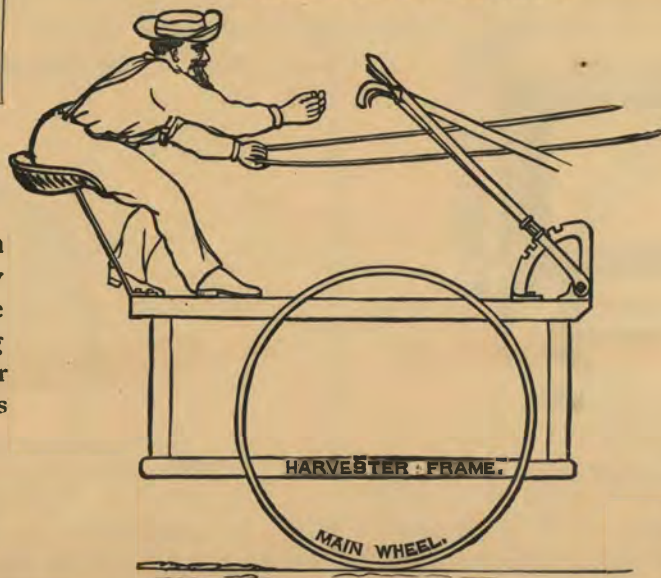


The wheel on the Deering All-Steel Binder being well to the rear, it is possible to put the driver's seat so far forward that he can use reins of ordinary length, and so that he can conveniently, and without leaving his seat, reach all the levers and adjustments of the machine.

The Convenience of all Levers and Adjustments on the Deering.



The Front Geared Binder.

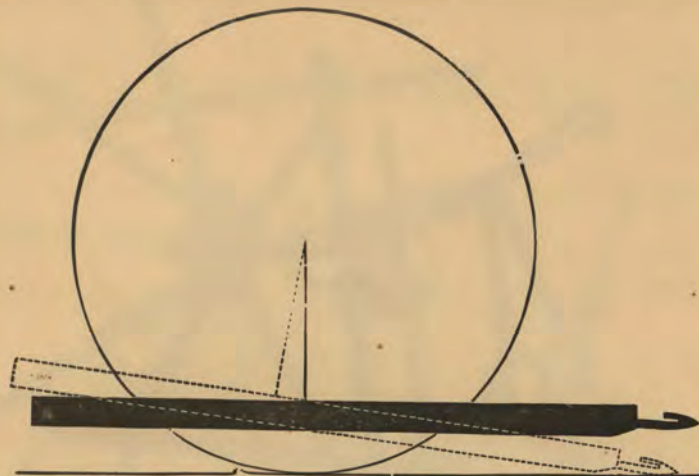


Here the wheel being away forward, in order to balance the weight of the heavy gearing at the extreme forward end of the machine, it is necessary to put everything possible away to the rear, among other things the driver. The inconvenience of his position is evident.

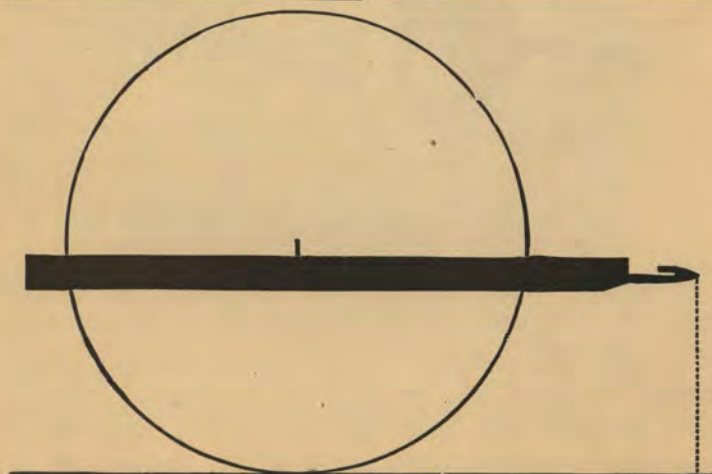
THERE IS NO MACHINE
IN THE FIELD
HAVING SO MANY ^{AND} SO SIMPLE
ADJUSTMENTS
AS THE DEERING.
NO CONDITION OF GRAIN OR
GROUND IS FOUND
TO WHICH
THE DRIVER CANNOT
INSTANTLY ^{AND} CONVENIENTLY
ADJUST IT.

THE DEERING ALL-STEEL BINDER IS THE ONLY MACHINE THAT IS ALWAYS FREE FROM NECK WEIGHT AND SIDE DRAFT. ITS BALANCE IS WONDERFUL. TEST IT.

THE DEERING.

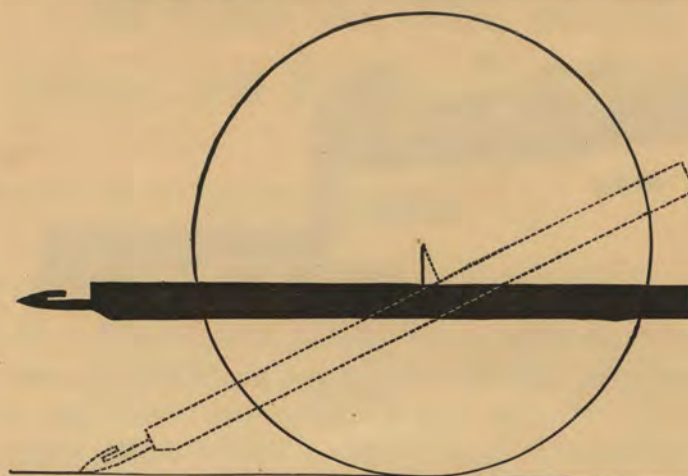


See here illustrated the fact that the Deering All-Steel can be lowered so as to CUT LEVEL almost on the ground, and by a gentle tilt can be made to take up the shortest or worst tangled grain.

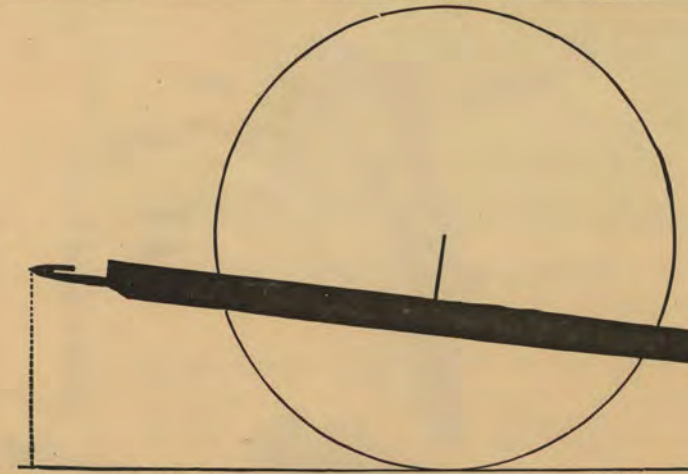


By moving the Deering directly up on the side castings it will, when *level*, cut as high as is ever desirable.

A MACHINE WITHOUT UP AND DOWN MOVEMENT.



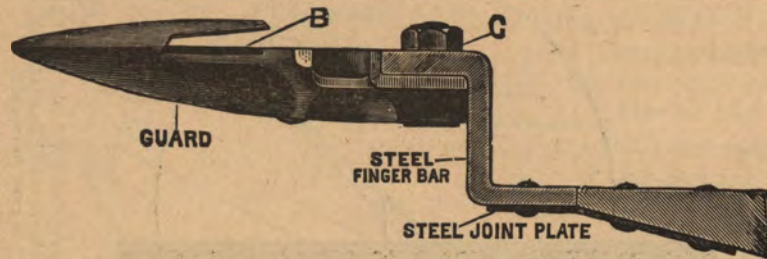
This picture shows the fact that a machine depending on tilt alone to take up short grain must run hard in sickle, canvas and gearing, and that it will (as it does) drop the very short grain that it is striving to handle over the points of the guards. When the guards run into the ground this machine must clog and stop.



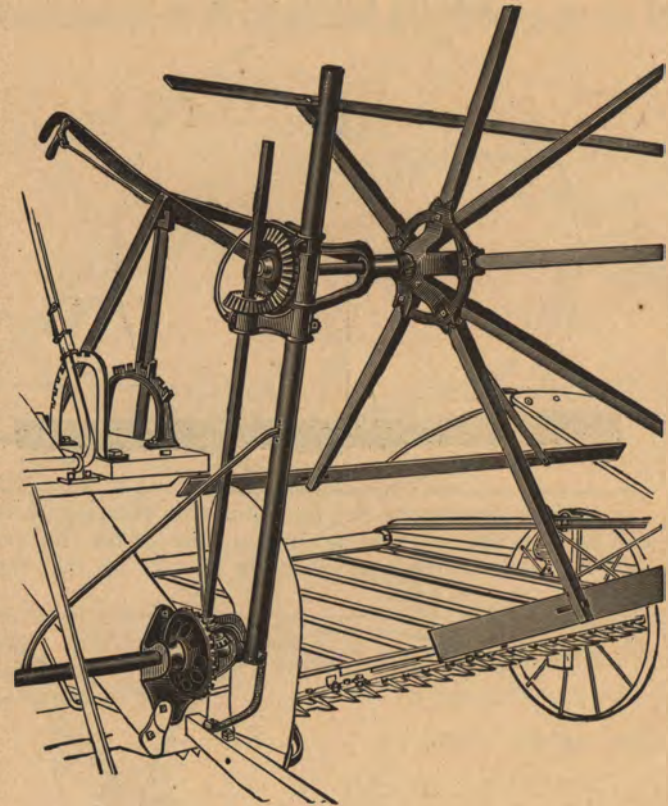
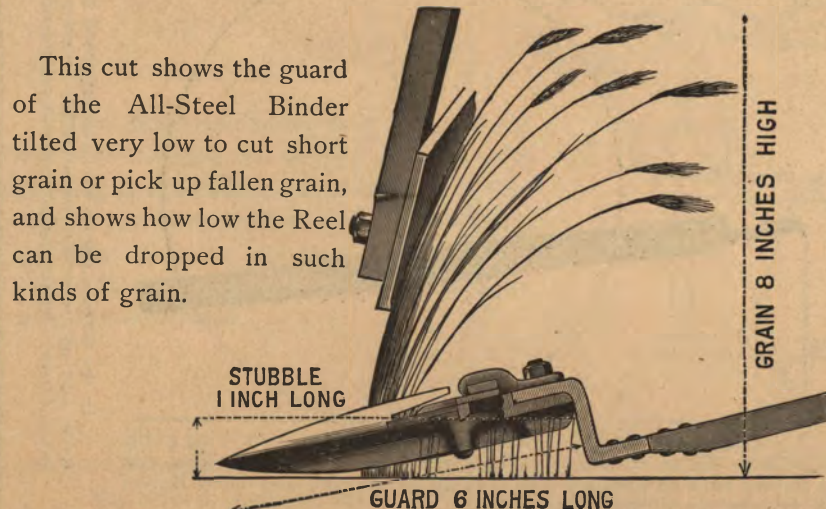
The machine depending on tilt alone, when placed to cut long grain, tilts back—the result is that the long grain which it wishes to deal with is thrown back on platform and goes up the elevator and out of Binder in the very place where not wanted.

In the picture above we have supposed that the machine without a direct movement up and down can have, and has, as much scope as the Deering. This is absurdly out of the question, and the Deering, as many farmers know, deals well and satisfactorily with grain that such a machine leaves in despair.

THE DEERING GUARD AND FINGER-BAR.



This cut shows some of the greatest beauties of the All-Steel Deering, viz.: The malleable iron guard with the steel ledger plate B, bolted by C to the Finger-bar, which has no wood in its construction, and the heavy steel Joint-plate firmly joining the Finger-bar to the Platform-boards, and at the same time presenting a firm resistance to any amount of rough usage. Observe how near the canvas can be brought to the sickle for handling short grain.

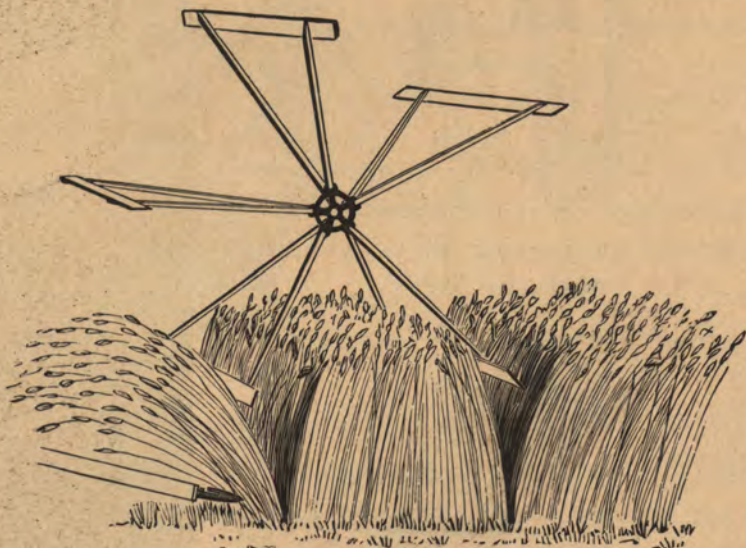


THE DEERING REEL.

This reel is free from all sagging or play common to other reels. It is hinged, not at the seat-board, as are other reels, but at the inside shoe of the platform, giving it an enormous sweep. It has a greater scope of movement upward, downward, forward and back than any other. It is moved in all these directions with but a single lever. Its construction does away with all chains, which run off, break and are constantly giving trouble. It is the finest reel in the world.

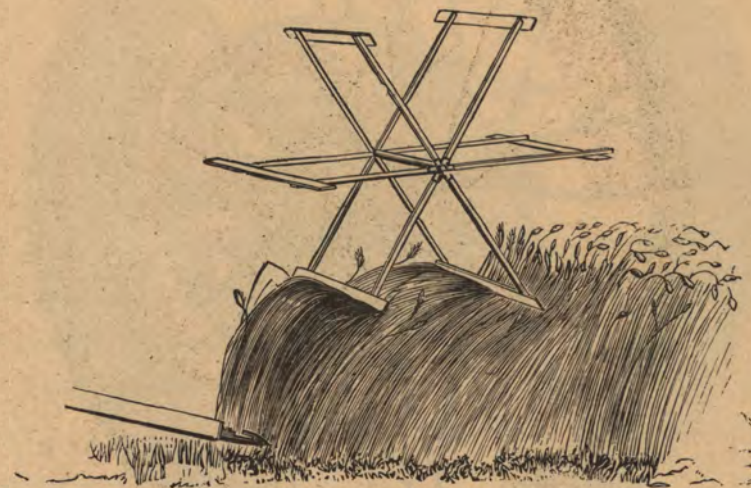
THE ADVANTAGES OF THE DEERING FIVE-ARM REEL

AS COMPARED WITH THE SIX-ARM REEL.



THE DEERING FIVE-ARM REEL.

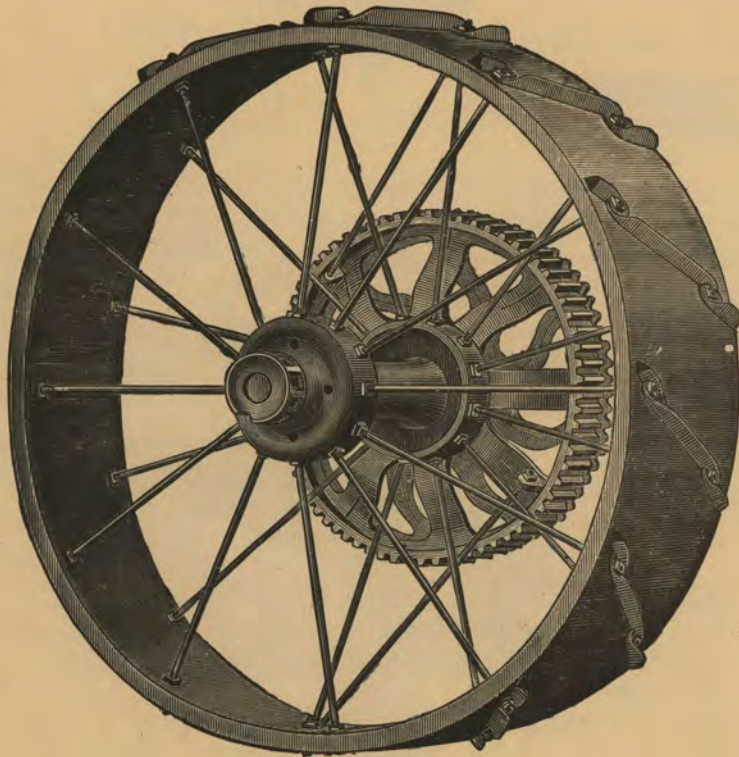
In this Reel the greater space between the arms gives each arm an opportunity to stretch over the grain and present it to the cutter. The advantages of this arrangement are apparent.



THE SIX-ARM REEL.

Having for years made a Reel of this pattern, we are prepared to speak of its disadvantages. They are clearly shown in the picture. One arm follows another so closely that they act more like a roller treading the grain down. After trying the Six-Arm Reel for years in long and short grain, we abandoned it, and make only the Five-Arm Reel.

THE DEERING MAIN WHEEL.



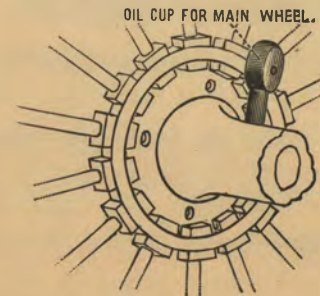
The Deering Main Wheel is made of steel IN EVERY PART except in its wooden felloe. Its strength and endurance are as great, if not greater, than that of any other part of the machine. It will stand any climate or ground. It will not pick up mud. It is very light. It is, we think, by all odds the best wheel in existence.

The Deering All-Steel Binder has a wheel 38 inches high and 9 inches wide, while many of its competitors have wheels but 32 to 34 inches high and 8 inches wide. The advantages of the Deering Wheel in draft and on soft ground are evident.

DEERING WHEEL,
9 IN. WIDE.

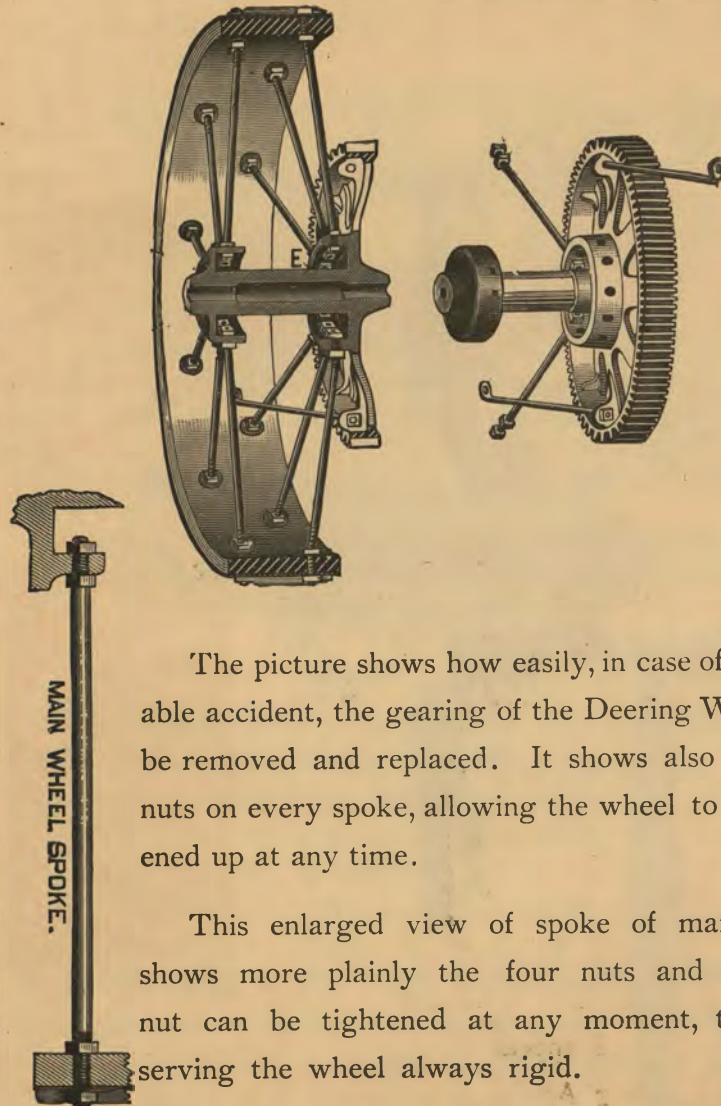


WHEEL, 8 IN. WIDE.



A PERFECT DEVICE FOR RECEIVING
AND RETAINING OIL.

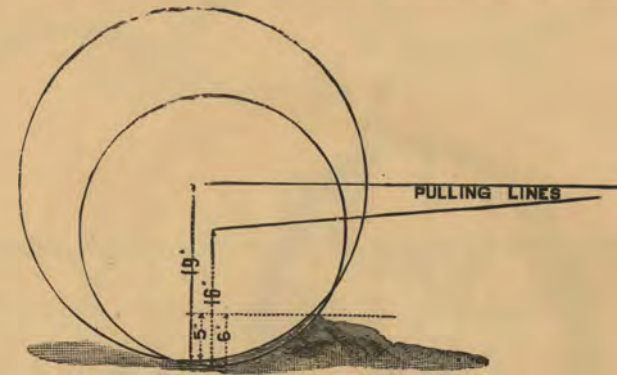
DETAIL VIEW OF MAIN WHEEL.



The picture shows how easily, in case of improbable accident, the gearing of the Deering Wheel can be removed and replaced. It shows also the four nuts on every spoke, allowing the wheel to be tightened up at any time.

This enlarged view of spoke of main wheel shows more plainly the four nuts and that any nut can be tightened at any moment, thus preserving the wheel always rigid.

COMPARISON OF LOW AND HIGH WHEEL.



This cut shows the wheel of the Deering All-Steel Binder, 38 inches high, in comparison with the low wheels that are shown on some of its competitors, one only 32 inches high having been shown on a harvester.

It is evident that, carrying the same load, the small wheels sink into the ground further than the large ones, especially in case of any unusual strain.

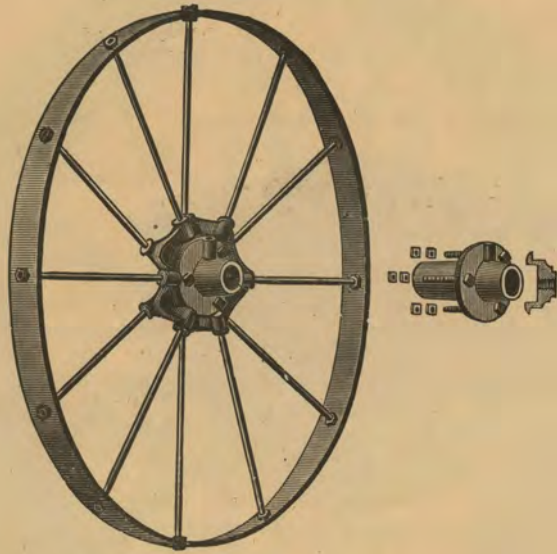
A 38-inch wheel, sinking into soft ground say 5 inches, or $\frac{5}{19}$ of half its diameter;

A 32-inch wheel will sink at least 6 inches, or $\frac{6}{16}$ of half its diameter;

The draft of the 32-inch wheel is therefore 45 per cent. heavier than that of a 38-inch wheel.

PERFECTION IN THE SMALLEST DETAILS.

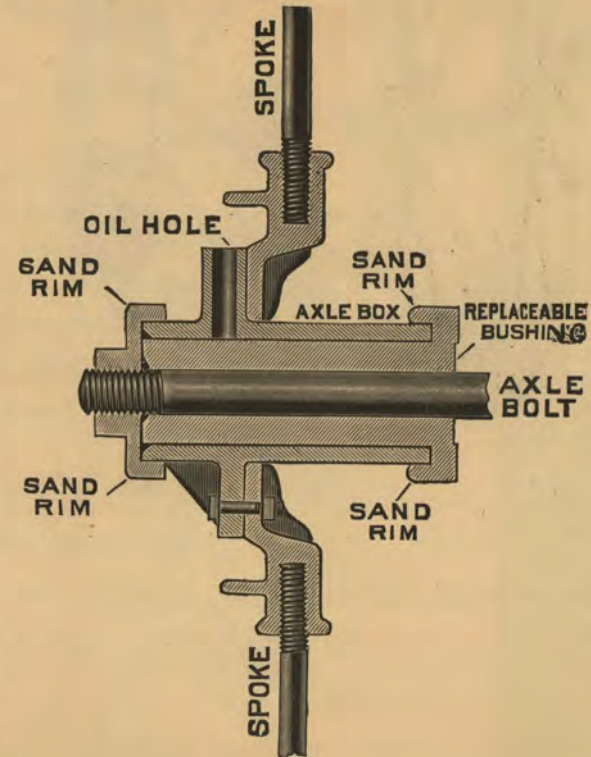
THE STEEL GRAIN WHEEL.



Here are shown the steel tire, the steel spokes, with a nut on each side of the tire, the easily replaceable axle bushing and the sand nut for protecting the bearing.

The only part of the wheel that can wear with any amount of rough usage is the axle bushing. This is very easily removed and replaced by another. This bushing is simple and inexpensive.

Details of Grain Wheel Construction.



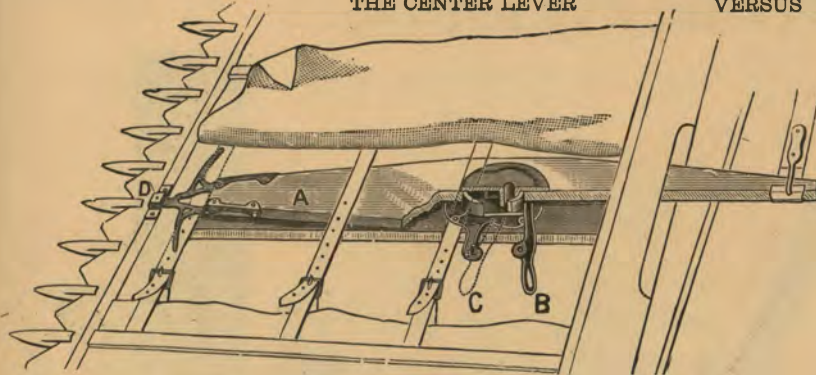
The above cut shows in detail the careful manner in which, what would appear at first, trivial details are cared for on the Deering All-Steel Binder.

THE PERFECT DEERING CENTER LEVER SICKLE-DRIVE.

THE CENTER LEVER

VERSUS

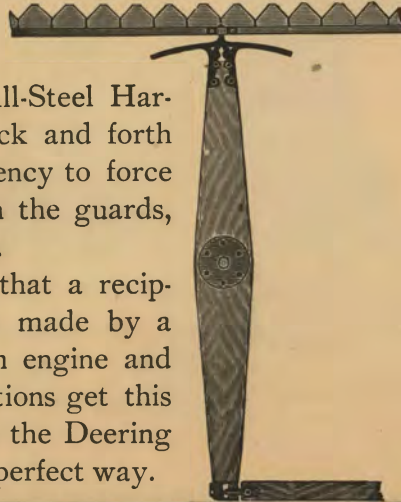
THE END DRIVE.



This is the most perfect device yet found for driving the sickle. It gives a direct, steady movement to the sickle, making the harvester draw light. It puts no strain on the sickle itself nor on the guards and clips, which do not, therefore, wear or break. Long and careful experiment has shown us that an end drive to sickle causes heavy draft and great wear and breakage.

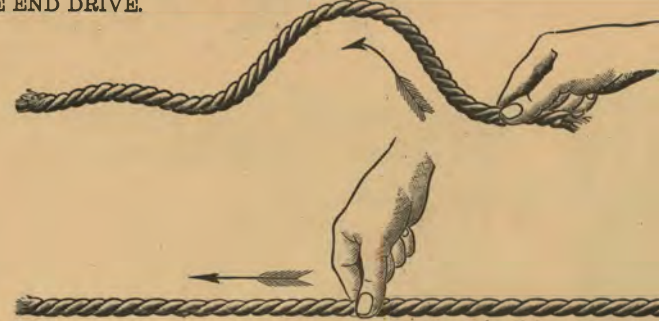
THE DEERING CENTER LEVER DRIVE NEVER BREAKS.

By moving back the lever B, the centre lever is freed from the sickle, which can then be easily removed.

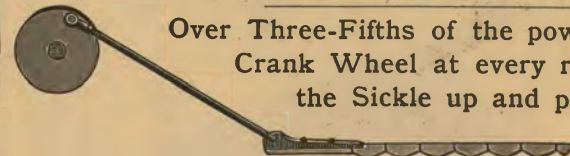


The Center Lever of the All-Steel Harvester moves with a steady back and forth movement. There is no tendency to force the sickle either up or down in the guards, no friction, no wear, no breaks.

All mechanics understand that a reciprocating movement should be made by a "parallel motion." The steam engine and other perfect mechanical inventions get this kind of motion exactly as does the Deering All-Steel Harvester—the only perfect way.



This cut illustrates some of the advantages of driving the sickle from the middle. While half of the sickle is pushed the other half is pulled. The sickle then has not so much strain to stand, is not so likely to break and can be made lighter. As it takes a great deal of power to run the sickle, the advantage of its being light and working easy is apparent. These facts are well illustrated by the tarred rope moved by the hand as shown above.

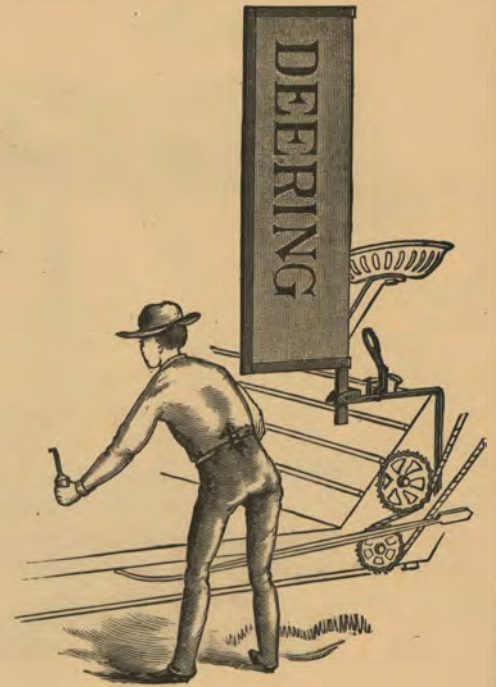
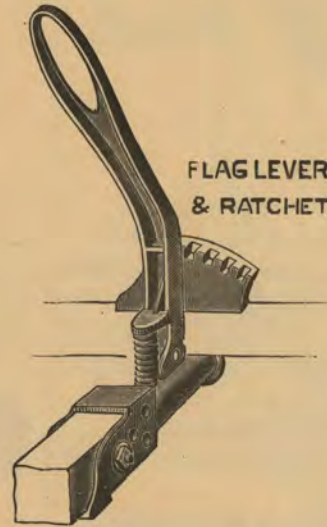
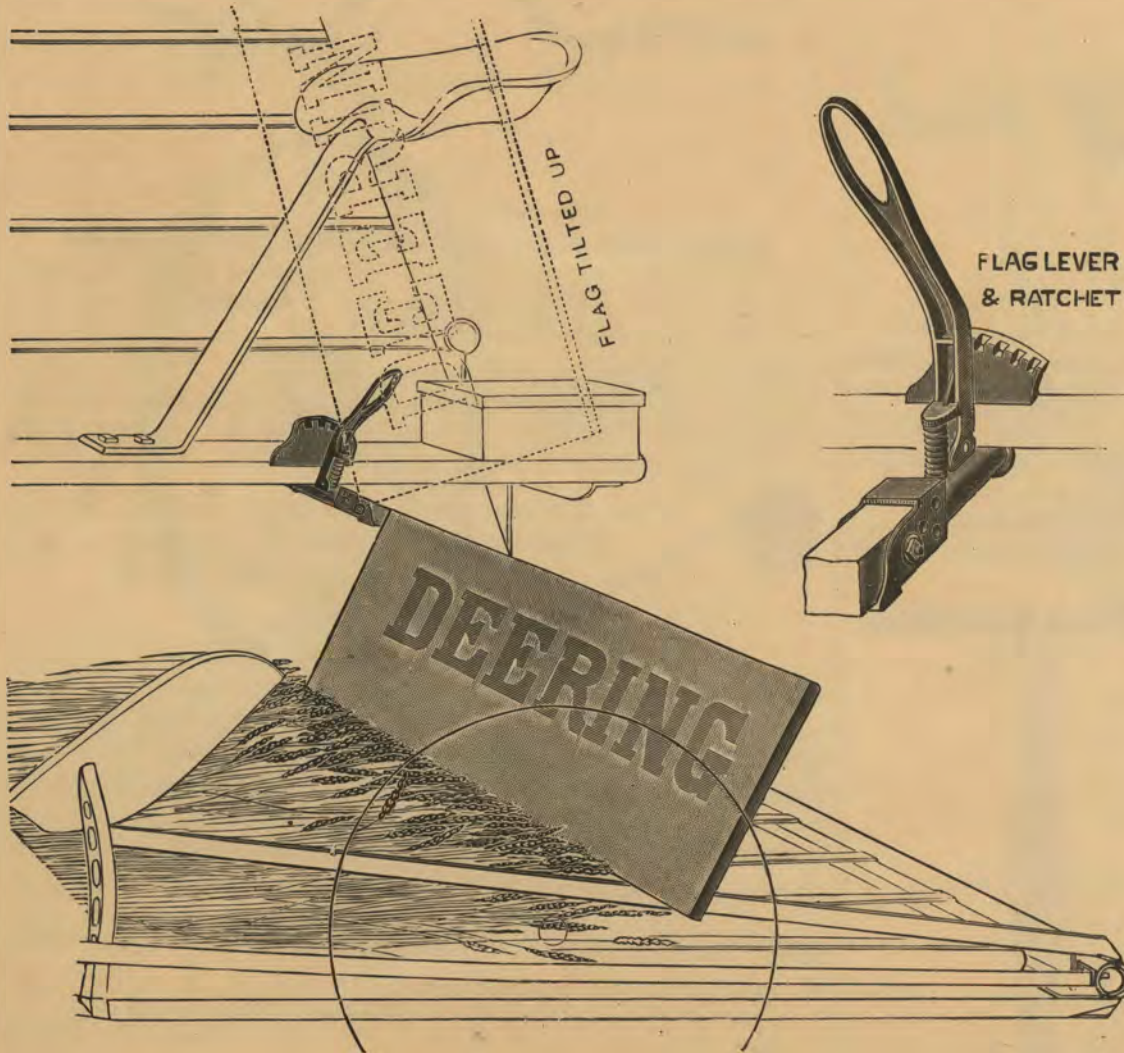


Over Three-Fifths of the power exerted by this Crank Wheel at every revolution is to pull the Sickle up and push it down.

Any mechanic familiar with such matters can easily figure out the fact that, as the crank wheel revolves, it at one moment pulls the sickle up against the top of the guards and clips and against the shoe, and at the next moment pushes the sickle down. The statement made above the picture is **EXACTLY CORRECT**. If the crank exerts one hundred pounds, sixty pounds of this is wasted and worse than wasted, for it is all used to wear out the parts. The more power the horses exert the more power the crank conveys. If the machine runs against an obstruction the pull-up on the sickle against the guards, etc., is often enough to break the sickle, which at a rivet hole will not stand a heavy strain.

There is on the end drive, consequently, great friction, wear and breakage (sickles, guards, sickle clips, etc.,) which do not occur with the Deering Drive.

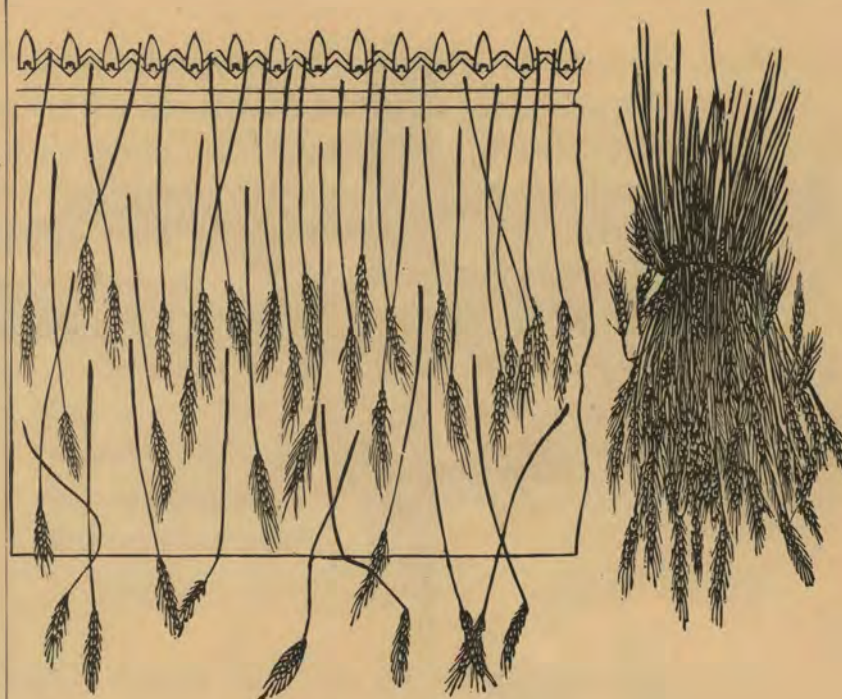
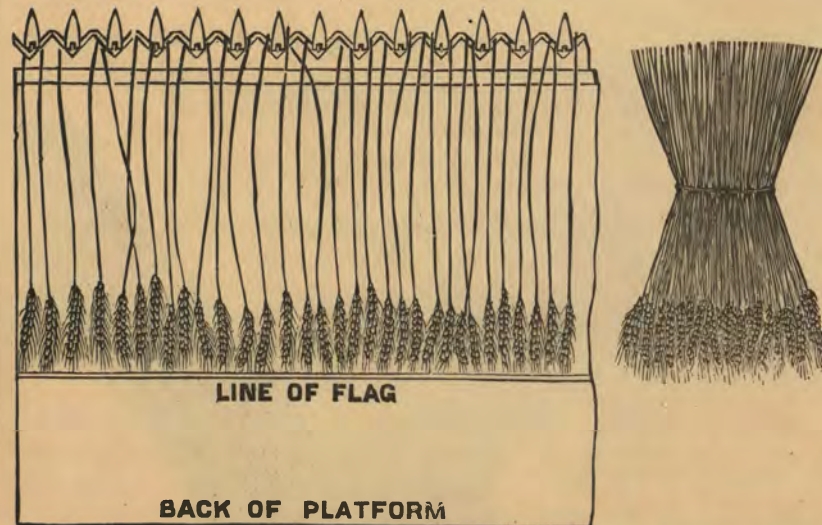
THE DEERING FLAG.



The Deering Flag can be swung forward or back (and locked in any position), and causes the grain to go to the elevator properly, whatever its condition. The great beauty of the Deering Flag is peculiar to it—it can be raised out of the way where it will securely remain, as shown by the picture on this page, until it is put in place again. This is a very great advantage, especially if anything has to be done to the platform or canvases.

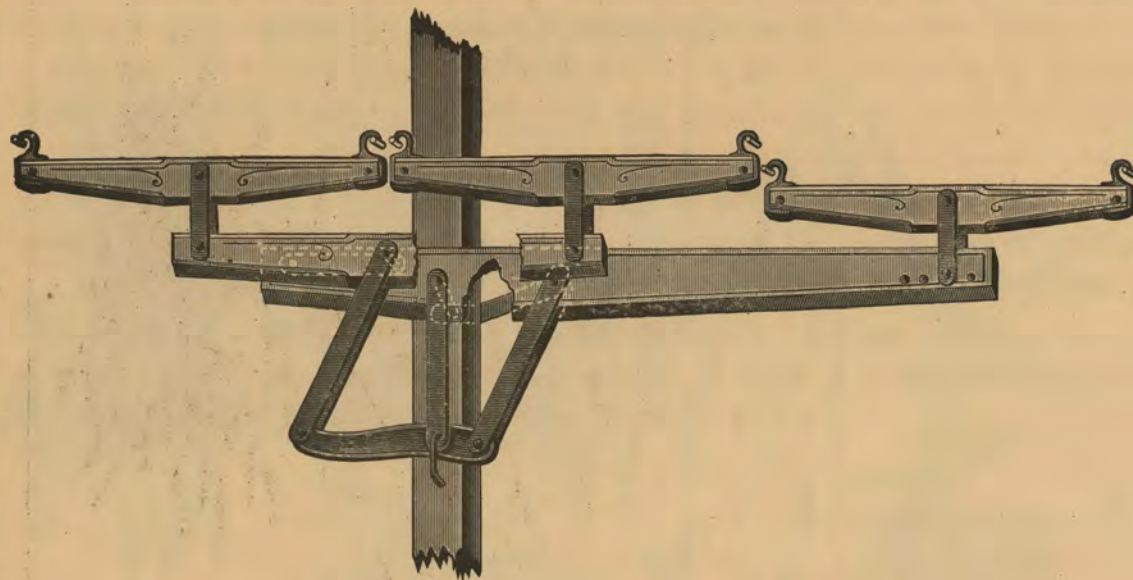
THE GOOD EFFECT OF A FLAG.

The Swinging Flag on the Deering All-Steel Binder, when set forward for short grain, keeps all the straws together, in which condition they go up the elevators and through the Binder, making a compact, square bundle.



The above picture shows the effect of having no Flag on a harvester in short grain. The action of the reel unavoidably throws many straws back on the canvas—many even up on the backboard, as shown in the picture. The straw naturally goes up the elevator and through the Binder in the same way, making a bundle something like that shown in this cut.

The Deering Three-Horse Equalizer—Absence of Side-Draft.

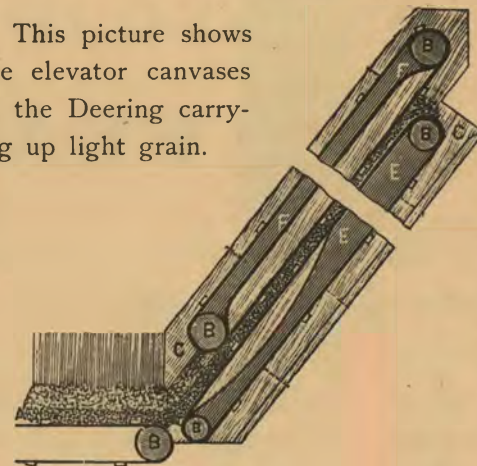


THE DEERING THREE-HORSE EQUALIZER is simple, never gets out of repair, and is a perfect equalizer. So popular has it become that it is constantly asked for for other purposes, for which, however, we cannot sell it.

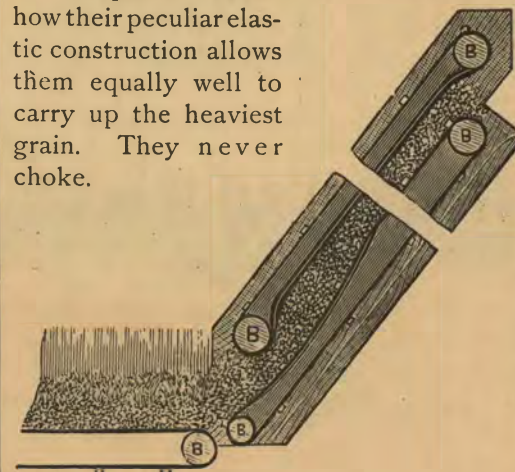
There has never been a Harvester and Binder on the market, not even excepting the famous Deering Standard and Deering Junior, so perfectly free from side draft as the Deering All-Steel Binder. Its tongue is located between the two wheels to a nicety. In this connection we may state that the balance of the tongue of the All-Steel Binder is so delicate and so perfect that it throws only enough weight on the horses' necks to balance the machine. Compare it with the front-gear Binders.

THE DEERING ELEVATORS.

This picture shows the elevator canvases of the Deering carrying up light grain.



This picture shows how their peculiar elastic construction allows them equally well to carry up the heaviest grain. They never choke.

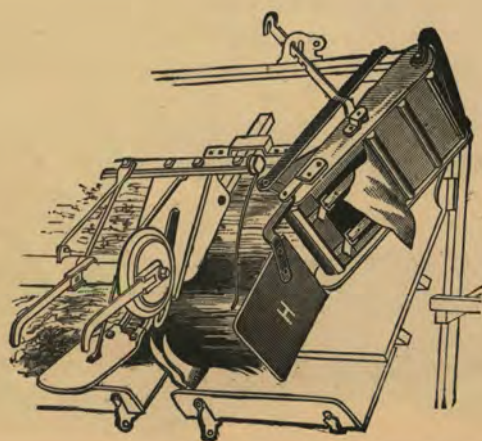


THE DEERING BINDER ATTACHMENT.

In the preceding pages we have described what we believe to be an ideally perfect Harvester. In the following pages we propose to show some of the features of merit of the Binding Attachment of the Deering All-Steel Twine Binder. A perfect Binding Attachment will be light in weight and easy-working. It will make tight, uniform bundles, square at the heads and butts and bound in the middle. It will not waste twine, and will never miss a knot, or choke. More than this is impossible—much less than this is the common rule with Binders. All this the Deering Binder does. It is the Simplest Binder, the Surest Binder, the Strongest Binder of all those presented for public favor. **It is a Rear-Gear Binder**, which fact gives the following among other advantages:

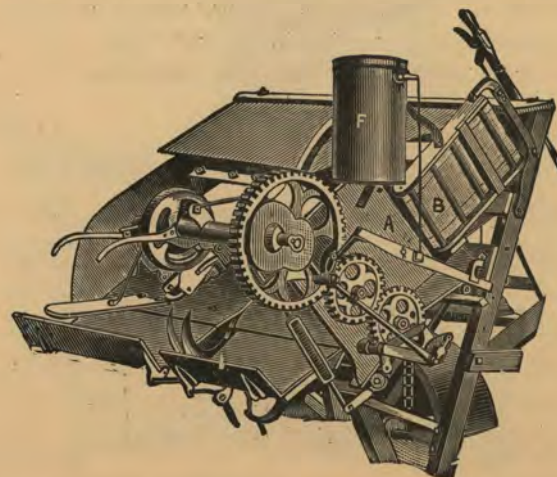
FIRST.—On the Rear-Geared Deering it is possible to add the Adjuster-Extension shown in the picture; the effect of this is shown in the picture on the following page.

THE DEERING ADJUSTER-EXTENSION.

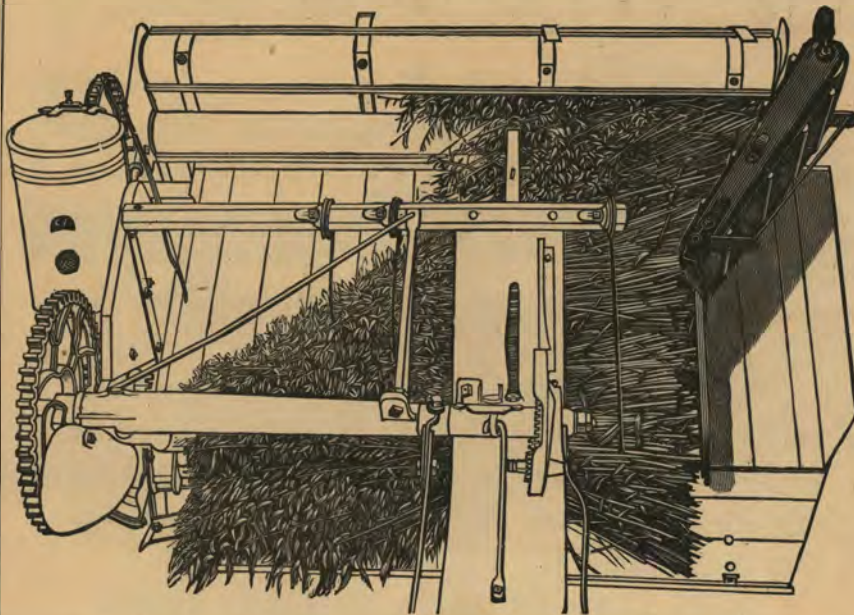


SECOND.—On Front-Geared Binders it is impossible to use a long adjuster, as the machinery shown in the cut is in the way. Short grain cannot, therefore, be easily and properly adjusted, nor can the Adjuster-Extension used on the Deering be attached.

SHORT ADJUSTER ON FRONT-GEARED BINDER.

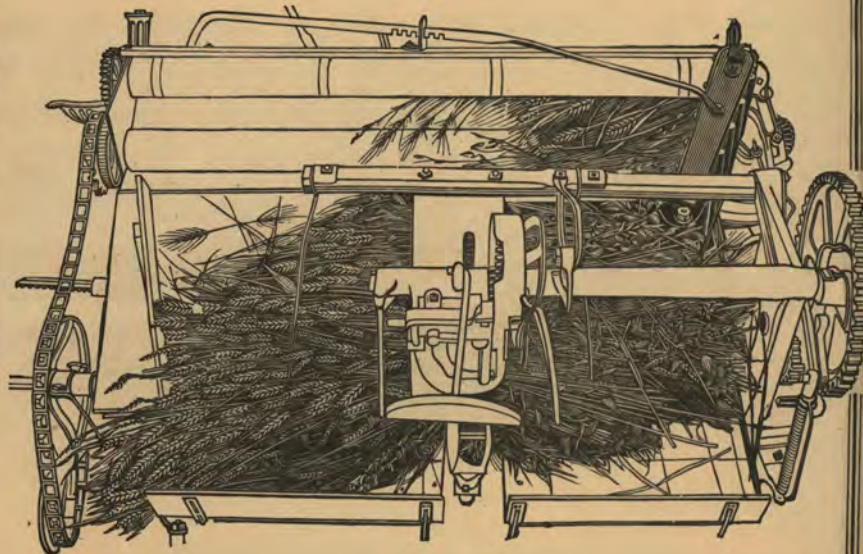
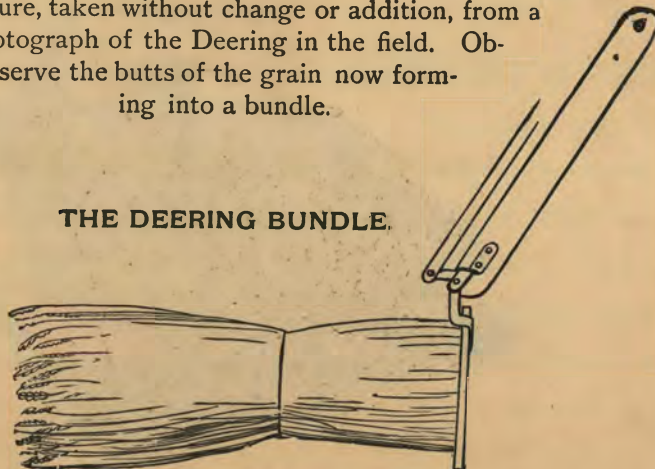


THE REAR AND THE FRONT-GEAR BINDER.



A picture, taken without change or addition, from a photograph of the Deering in the field. Observe the butts of the grain now forming into a bundle.

THE DEERING BUNDLE.



A picture, taken without change or addition, from a photograph of a Front-Gear competitor in the field. How will the bundle look?

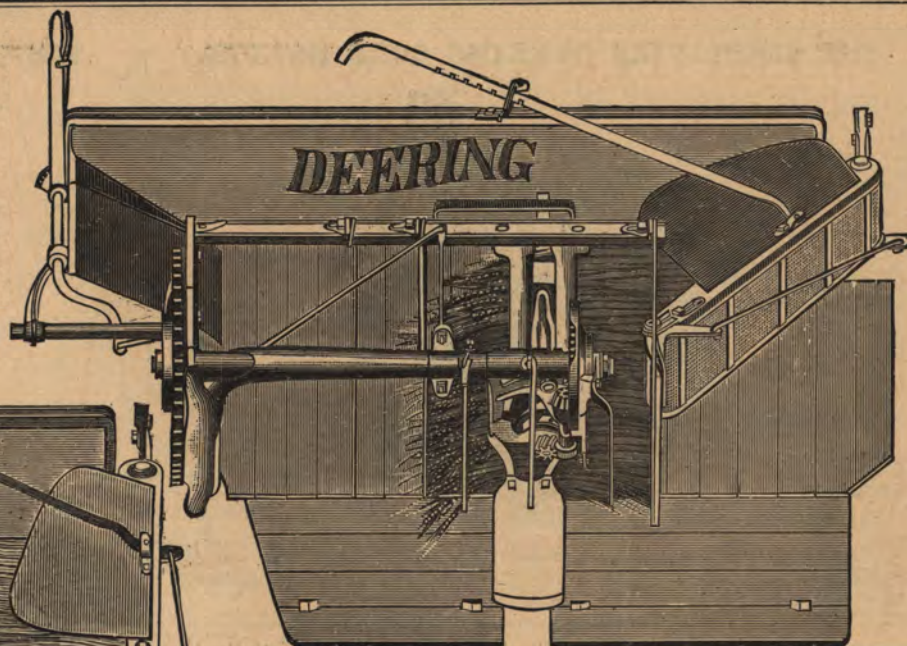
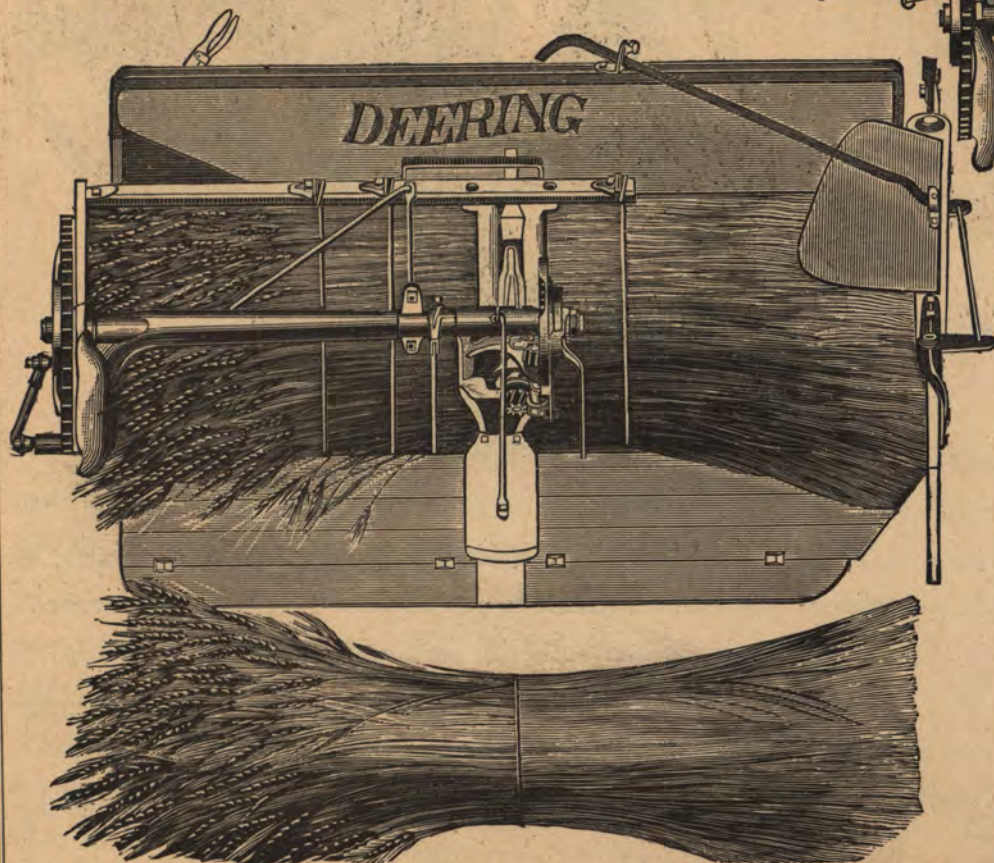
COMPETITOR'S BUNDLE.



CAPACITY OF THE DEERING FOR LONG GRAIN.

The Deering Binder Attachment is peculiarly well fitted to deal with long grain, as it can be moved away back out of the way of the heads as they come from the elevator.

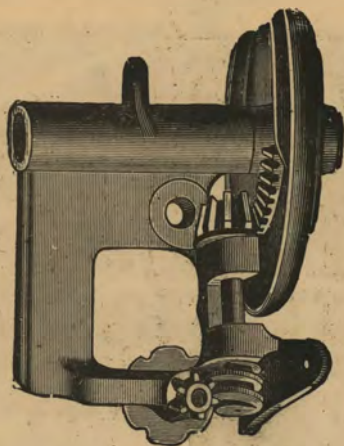
No Binder is more successful with long grain than the Deering.



CAPACITY OF THE DEERING FOR SHORT GRAIN.

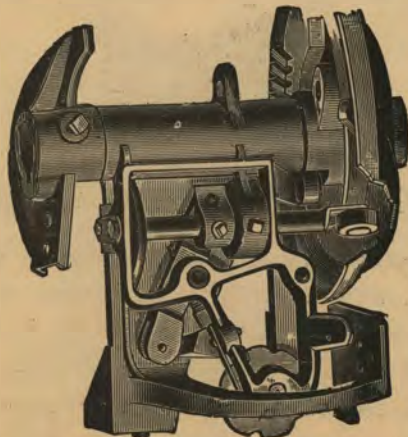
The extraordinary long sweep of the Deering Adjuster, with its Adjuster Extension, together with the fact that, its weight being at the rear, the binder can be moved very far forward, enables the Deering Binder to deal with very short grain more successfully than any other machine in the world. The flag on the harvester assists in this work.

THE SIMPLIFIED DEERING CORD HOLDER.



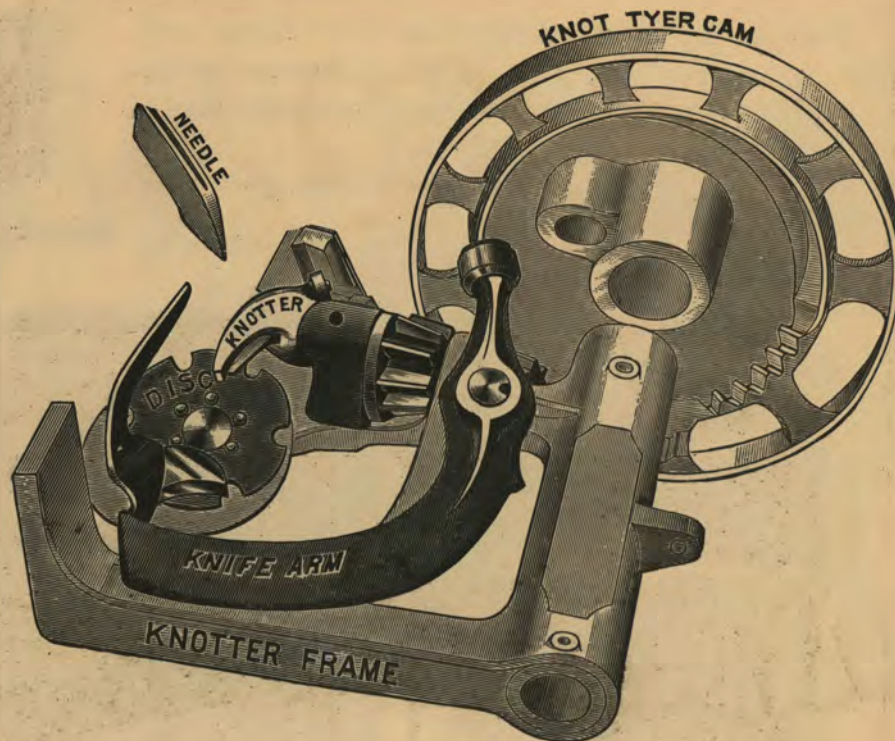
The simplified Deering Cord Holder is the safest, surest and simplest in the world. It cannot get out of adjustment and holds the twine always tight and sure.

THE COMPLICATED CORD HOLDER ON MANY BINDERS.



In marked contrast with the Simplified Deering Cord Holder is the one commonly used by its competitors. No wonder it gets out of order and makes delay and trouble.

SIMPLICITY OF THE DEERING KNOTTING DEVICE.

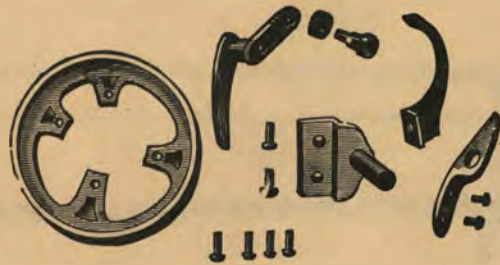


The Deering Simplified Knotting Device has fewer parts, is stronger, simpler, less liable to get out of adjustment and surer in tying the knot than any other on any machine.

Anyone can understand it. The great success of the Deering Binder has been due in no small measure to its Perfect Knotter.

The picture above shows all the parts constituting the Deering Knotter. Compare it with any other.

Parts of the Tucker used on many Binders.



STILL IN USE IN MANY OTHER BINDERS.

Parts formerly constituting the Deering Tucker.



DISCARDED FROM THE DEERING BINDER IN 1887.

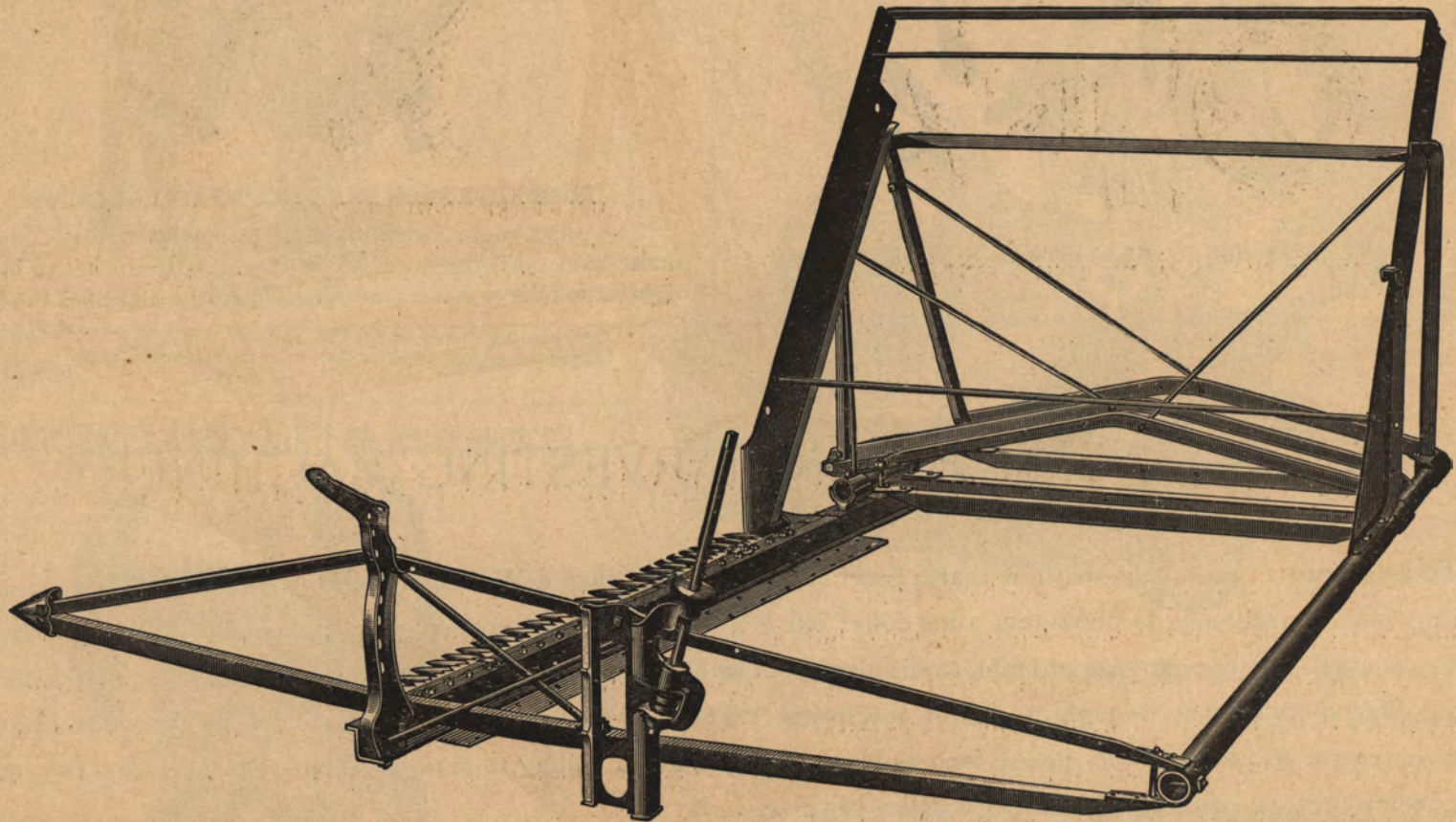
The great improvement of the Deering Binder, by completely doing away with the necessity of a tucker, enables it to bind the tightest bundle possible, and further greatly simplifies the binder.

STEEL AND WOOD IN HARVESTING MACHINERY.

To enter into an argument to show that a Steel Binder is better than a Wooden Binder, would be precisely similar to entering into an argument to show that a ten-dollar bill is a better piece of property than a five-dollar bill. The fact cannot be disputed, nor does anyone attempt to dispute it. The only contention made by the manufacturers of Wooden Harvesting Machinery, is that it ought to sell at *some* price. They say that there is still a place for the Wooden Harvester, which statement will be true only just so long as farmers can be found willing to take in exchange for a dollar, fifty cents of value, when they can with equal ease get a dollar of value.

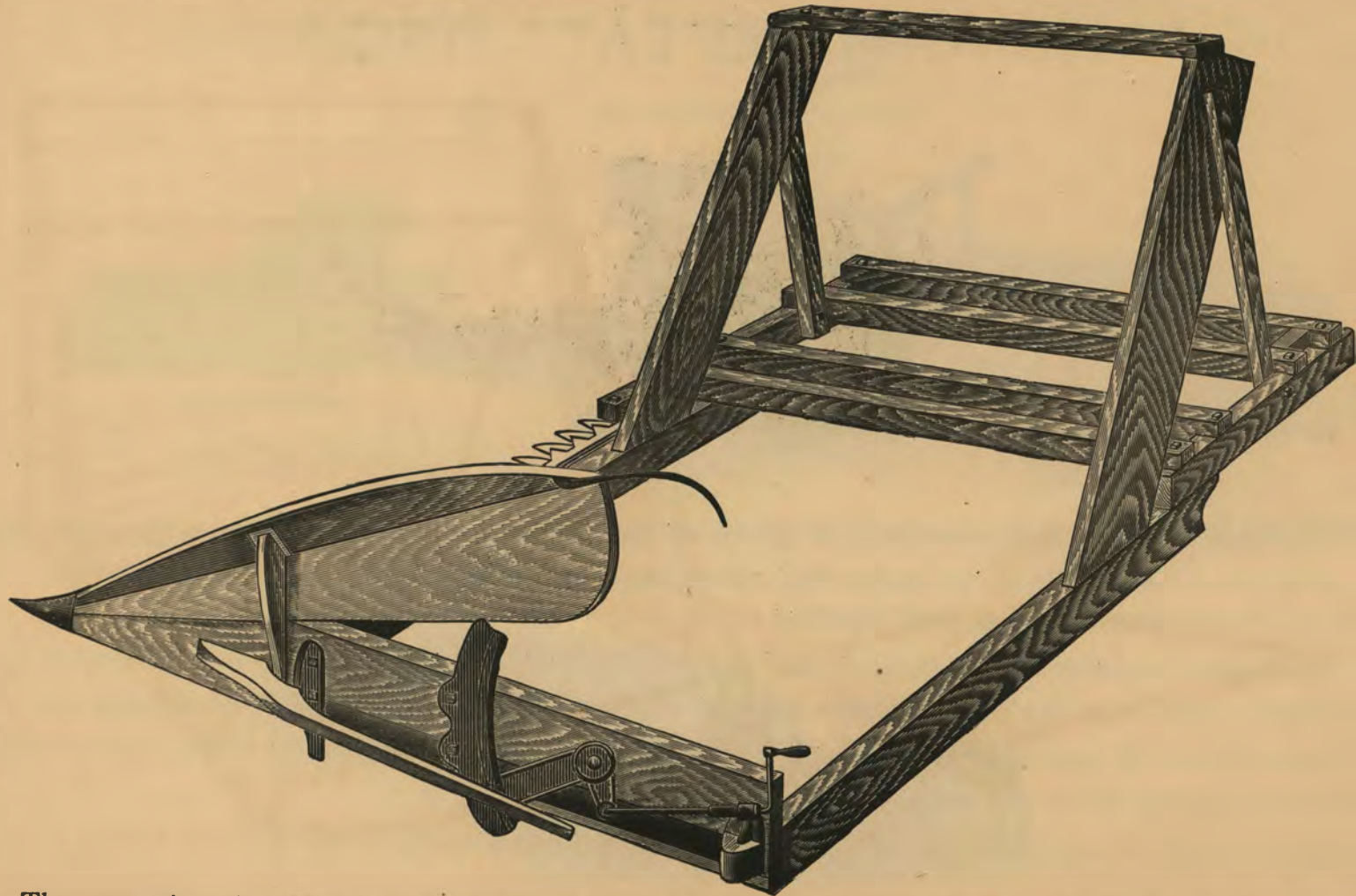
It is possible that two Wooden Harvesters will last as long as a Steel Harvester, though the cost of keeping them in repair would be considerably greater; but on any other basis of price, the purchaser of a Wooden Harvester will certainly have cause to regret his choice.

THE STEEL FRAME-WORK OF THE DEERING ALL-STEEL BINDER.



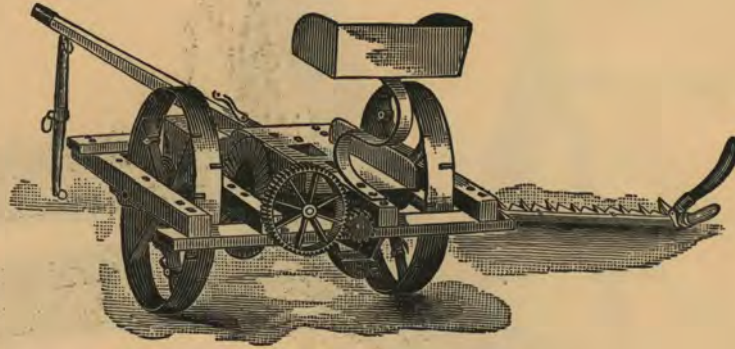
In this picture appears the reason why the Deering is called "All Steel." Here is the basis of an almost imperishable Harvester. Compare the Steel in this picture with the Steel in the so-called Steel Machines on pages 38 and 39. To understand the enormous strength and the lightness of the "All Steel" Machines compared with the Wooden Harvester, compare this picture with the one on the next page.

THE ANTIQUATED WOODEN HARVESTER.



The comparison shown between this picture and the one on the preceding page needs no words of comment. This structure, though still made and put on the market, is with the Wooden Mower on the following page, among the things that are "faded and gone."

HISTORY REPEATS ITSELF.



The picture above represents a wooden-frame agricultural machine that was a fine implement in its day, when judged by its predecessors. But the wood had to give way to metal, and this machine was already old-fashioned in 1860. The days of the Wooden Harvester are as surely numbered.

The Wooden Harvester and the so-called Steel Harvester, made chiefly of wood, are in the same position as the clumsy wooden bridge or the leaky wooden ship as compared with the modern steel bridge and the modern steel ship.

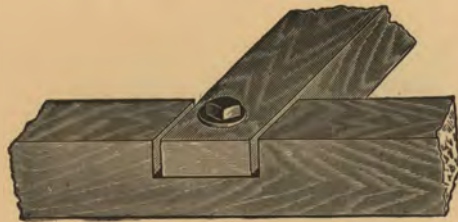
The first cost of the steel structure is greater, but it is so much cheaper in the end that the wooden structure finds no place, even for consideration, in this modern day.

And it is not for these purposes alone that steel is replacing wood, but every day brings some new substitution.

AND WHY IS IT THAT WOOD IS RAPIDLY BEING SUPERSEDED BY STEEL IN SHIP AND BRIDGE BUILDING AND FOR GENERAL CONSTRUCTION PURPOSES ? IT IS BECAUSE OF THE EXTREME PERISHABILITY OF WOOD.

BECAUSE WOOD SHRINKS

AS SEEN IN THE TWO EXAMPLES FOLLOWING:



SHRINKING.

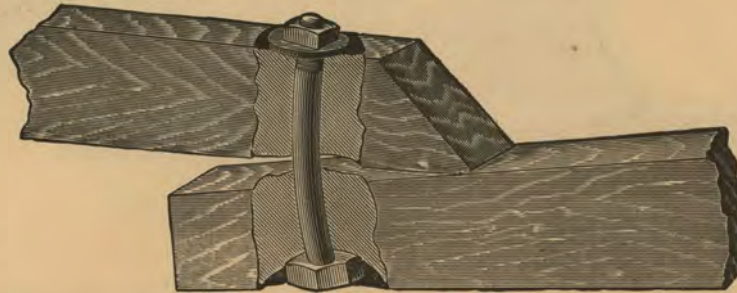
This joint was originally tight, but the wood has shrunk. Looseness and insecurity of the machine is the result.



SHRINKING.

The dotted lines show the original dimensions of the piece; also the tendency of wood to warp and twist.

BECAUSE BOLT HEADS AND NUTS WORK THEIR WAY INTO THE WOOD,
MAKING JOINTS INSECURE.



EATING IN OF BOLTS.

BECAUSE WHEN EXPOSED TO THE WEATHER WOOD ROTS.

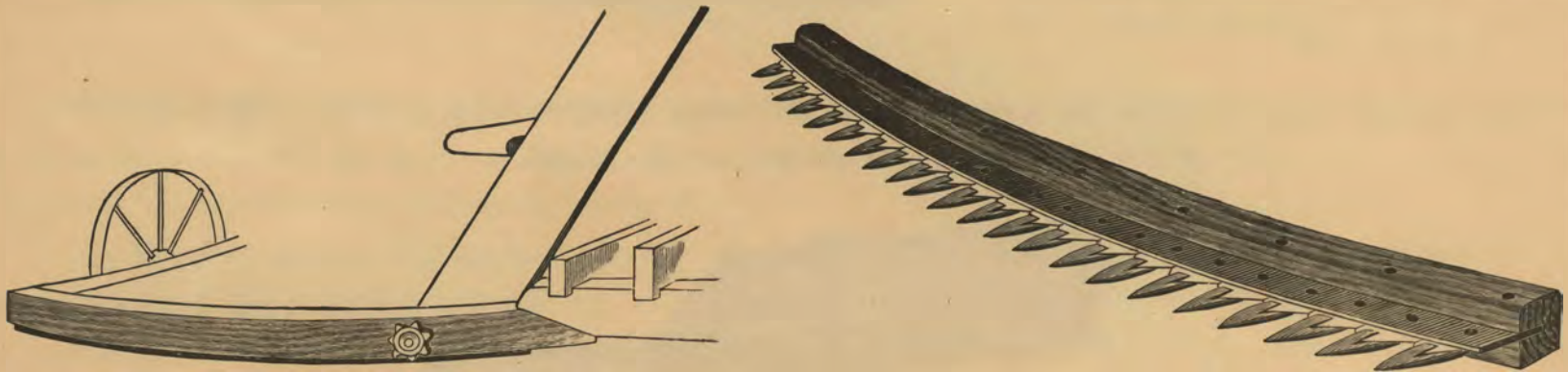


ROTTING.

A thing which is liable to happen eventually even with good care.

BECAUSE WOOD WARPS

AS THE TWO FOLLOWING PICTURES SHOW:

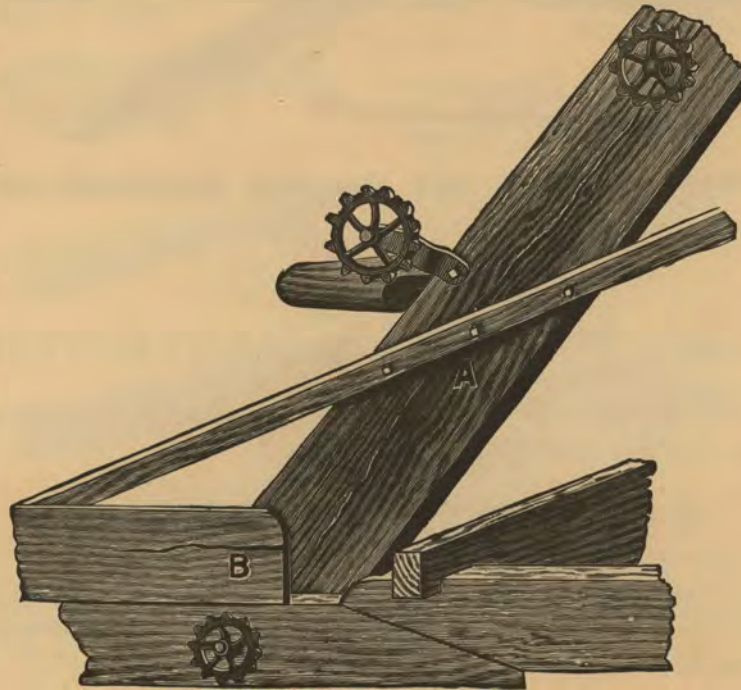


WARPING.

It will be readily seen how serious a matter this is when any bearing or working part depends on the warped piece. When a machine has a warped wooden piece in its cutter bar the sickle can never work properly, and will soon break or wear out and will always run hard.

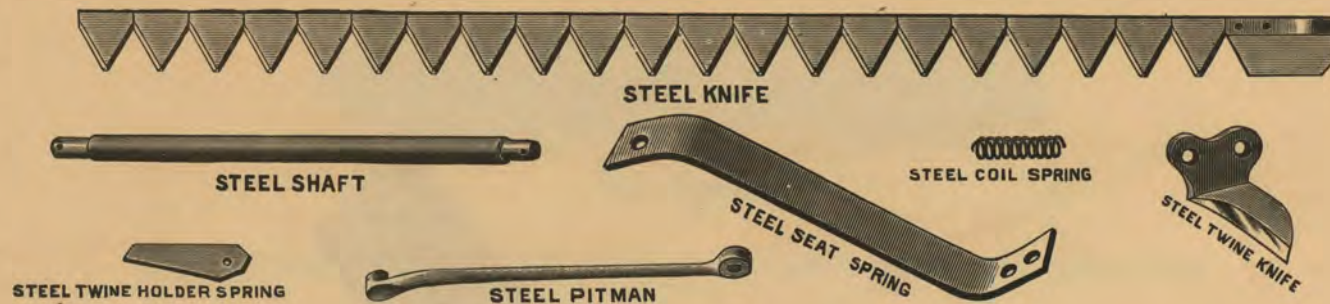
BECAUSE WOOD SPLITS,

BY WEATHER-CRACKS AND OTHERWISE.



IN CONTRAST TO WOOD, STEEL DOES NOT SHRINK, NOR ROT, NOR WARP, NOR SPLIT, NOR WEAR.

The importance and value of steel in a Harvester is shown by the fact that, even on the old-fashioned wooden machines still striving to remain in the market, the most important and responsible parts are made of steel, as seen in the picture below:



STEEL PARTS USED ON THE WOODEN MACHINES OF 1888.

If steel is strong and reliable here, why not use it everywhere?

HAS STEEL COME TO STAY IN HARVESTER BUILDING?

Treating this question, asked by the Wooden Harvesters, for the moment as though it could be serious, let us ask in reply if steel ships, and steel bridges, and steel nails have come to stay?

**IN 1877 THERE WERE 1,118 TONS OF STEEL SHIPS.
IN 1881 THERE WERE 71,538 TONS OF STEEL SHIPS.**

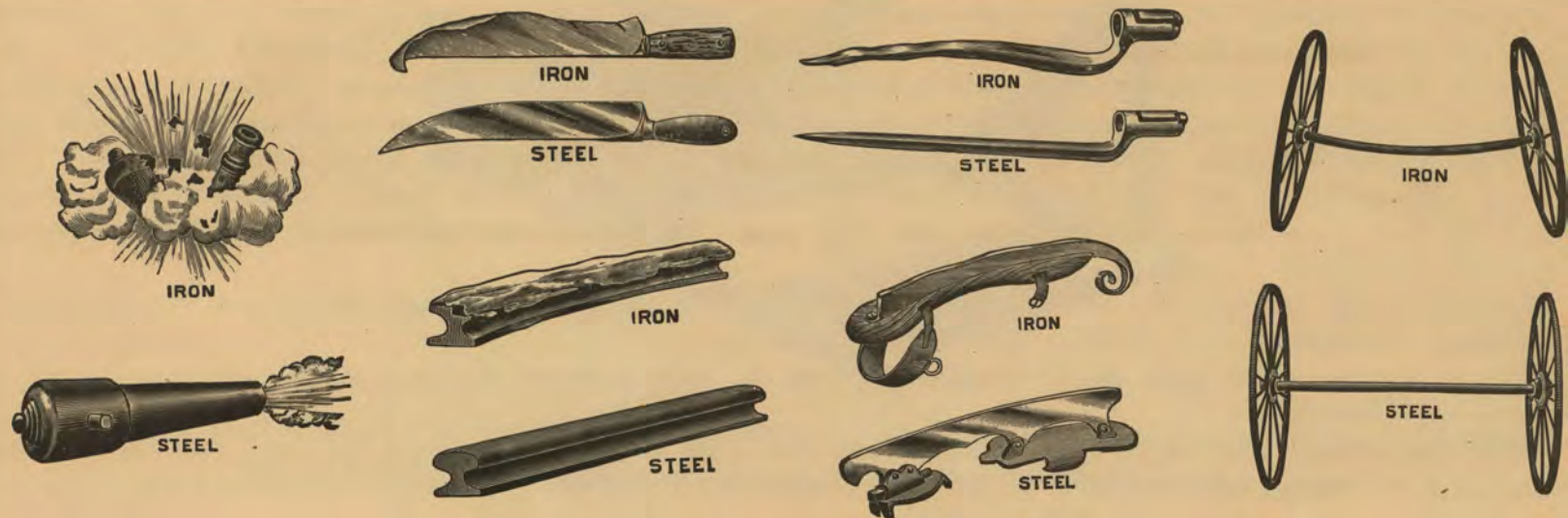
In 1863 the total production of steel in this country was 9,044 tons. In 1872 it was 160,108 tons.

The production of rolled iron steadily diminished from 1872 to 1878 in this country. Let us see how it was with steel, the production of which is given below:

**In 1873, 222,852 Tons.
In 1875, - - - 436,575 Tons.
In 1878, - - - 819,814 Tons.
While in 1882 it was - - 1,945,095 Tons.**

Never in the history of this country was so much steel used as was made in the year 1887. Does this look as though the use of steel were a passing fashion?

SOME OF THE USES IN WHICH STEEL HAS REPLACED IRON WHICH WILL REQUIRE NO WORDS OF EXPLANATION OR COMMENT ARE SHOWN IN THE PICTURE BELOW:



It does not take long to show the reason of this. Careful experiments by GAUTIER, of Paris, France, show the relative value, for purposes of construction, of soft steel (such as is used in the Deering Machines) and common iron to be:

SOFT STEEL, 700.

COMMON IRON, 105.

THAT IS, SOFT STEEL IS NEARLY SEVEN TIMES AS GOOD AS IRON.

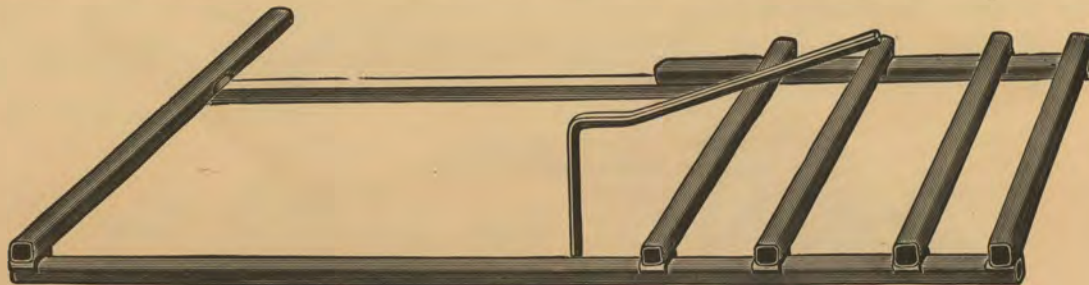
THE DEERING ALL-STEEL TWINE BINDER, AND ITS IMITATORS.

It is said that imitation is the sincerest compliment. Certainly there are no people more competent to judge of the merits of a machine than those who have to meet it in the competition of the market and the field. To-day the competitors of the "ALL-STEEL DEERING," are straining every nerve to produce machines that shall be as close an imitation of it as possible. They have had no difficulty whatever in appropriating its name, and as there is hardly a machine in which there are not one or more pieces of steel somewhere, there is therefore hardly a harvester that has not in some shape attached the word "steel" to its name, and even the old-fashioned wooden harvesters are advertised as the "Steel-Wheel Binder," or by some term intended to admit that they are not ignorant of the existence and merit of steel, and the fact that the demand of the day is for steel, and for durability and honesty in manufacture.

Nevertheless the DEERING ALL-STEEL TWINE BINDER is to-day exactly what it was when it was first introduced, THE ONLY GENUINE ALL-STEEL BINDER in existence.

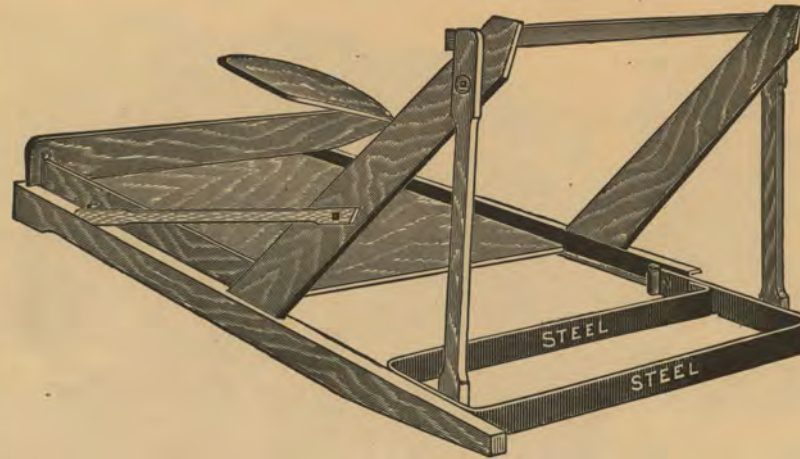
No other machine has so much steel in its construction and no other in structure, design and material, is so strong, so light or so little affected by wear.

There is no absolute safety against annoyance and loss but in the DEERING ALL-STEEL BINDER. The desire to reap the advantages of the reputation earned by the ALL-STEEL DEERING is exhibited by the illustrations of machines on this and the following page, which are *so-called Steel Machines*.



A "Steel" Machine made throughout its frame-work of Iron Gas Pipe.

ANOTHER SO-CALLED STEEL MACHINE.



In this case the basis of the claim to the name of Steel is hardly well founded. The basis of the claim can be easily separated from its Wooden foundation



And is seen in the above cut.

THE DEERING STEEL BUNDLE-CARRIER.

(FITTED FOR ANY DEERING BINDER.)

THERE is probably no implement or machine used upon the farm that renders so great a service in comparison to its cost as the Deering Bundle-Carrier. It saves more than the work of one man in every day of the harvest; and perhaps even better than this is, it removes the only hard and disagreeable work remaining in the harvest field since the introduction of the self-binder.

It adds very little to the labor of operating a self-binder, and adds so little to its cost, that there is scarcely a case in which the owner of a self-binder can afford to be without one. We cannot refrain from urging the wisdom of this investment, because, valuable as the Deering All-Steel Binder is, under any circumstances, its value is much enhanced by the addition of the Deering Bundle-Carrier.

The Deering Bundle-Carrier shown attached to the Binder on this page and on pages 2 and 4 is made, every piece, of steel, and is the strongest, lightest and most enduring Bundle-Carrier made. The fingers are made of the best quality of tempered steel, and will never bend under strain.

These fingers project out under the binder, and are easily held in position by the foot of the operator. They are far enough below the Binder to allow the bundles to be placed



THE DEERING STEEL BUNDLE-CARRIER FOLDED FOR PASSING AN OBSTRUCTION

easily upon them, and not so far below as by the fall to cause the shelling and loss of ripe grain, as is the case with some Binders.

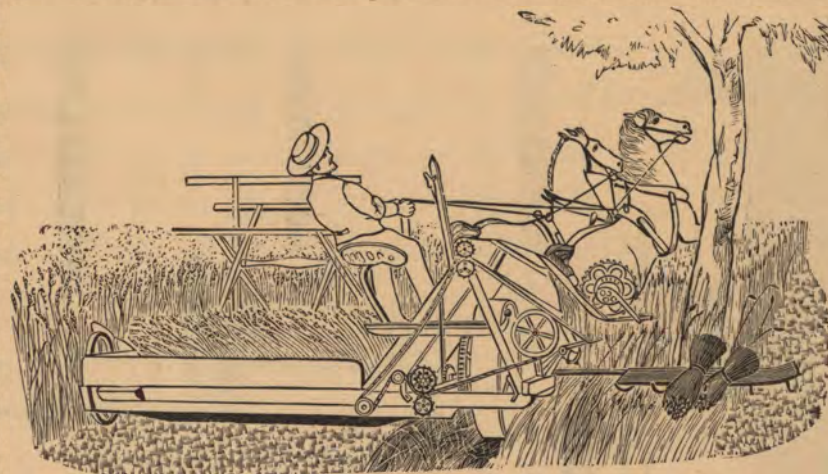
The bundles as bound fall gently on the carrier, until four or five, or even six, have accumulated, when, by removing the pressure of his foot from the treadle, the operator dumps the carrier, and the bundles are deposited easily on the ground. There is no harsh or quick motion, and no throw to cause the shelling of grain. The empty fingers are then brought back to place ready for the next bundle. Thus the operation goes on until, when the entire field is cut, the bundles are found to be lying in perfect windrows, from which they are easily and quickly gathered into the shock.

The picture on the previous page, representing the Deering All-Steel Twine Binder with the Deering Steel Bundle-Carrier, represents clearly a great advantage presented by the Deering Bundle-Carrier.

When it is desirable, the fingers of the Deering Carrier can be instantly folded back so that a tree, stone, stump, or any other obstruction in the field can be passed as easily as though there were no Bundle-Carrier on the machine. To this is added a feature found on no other Bundle-Carrier: When the fingers are folded back in this position they are held loosely in their sockets, and in case any one or more of them strikes a stone or other obstruction, it yields at once, and is thrown up out of the way of damage, thus preventing breakage or straining of the Carrier.

This capacity for folding out of the way is at all times a great advantage of the Deering Carrier, not only in the cases just mentioned, but in traveling on the road, passing through gates, over bridges, or in storing the machine. Also in case, for any reason, the operator wishes to get at the binding

apparatus, it is never necessary to remove the Deering Bundle-Carrier from the machine.

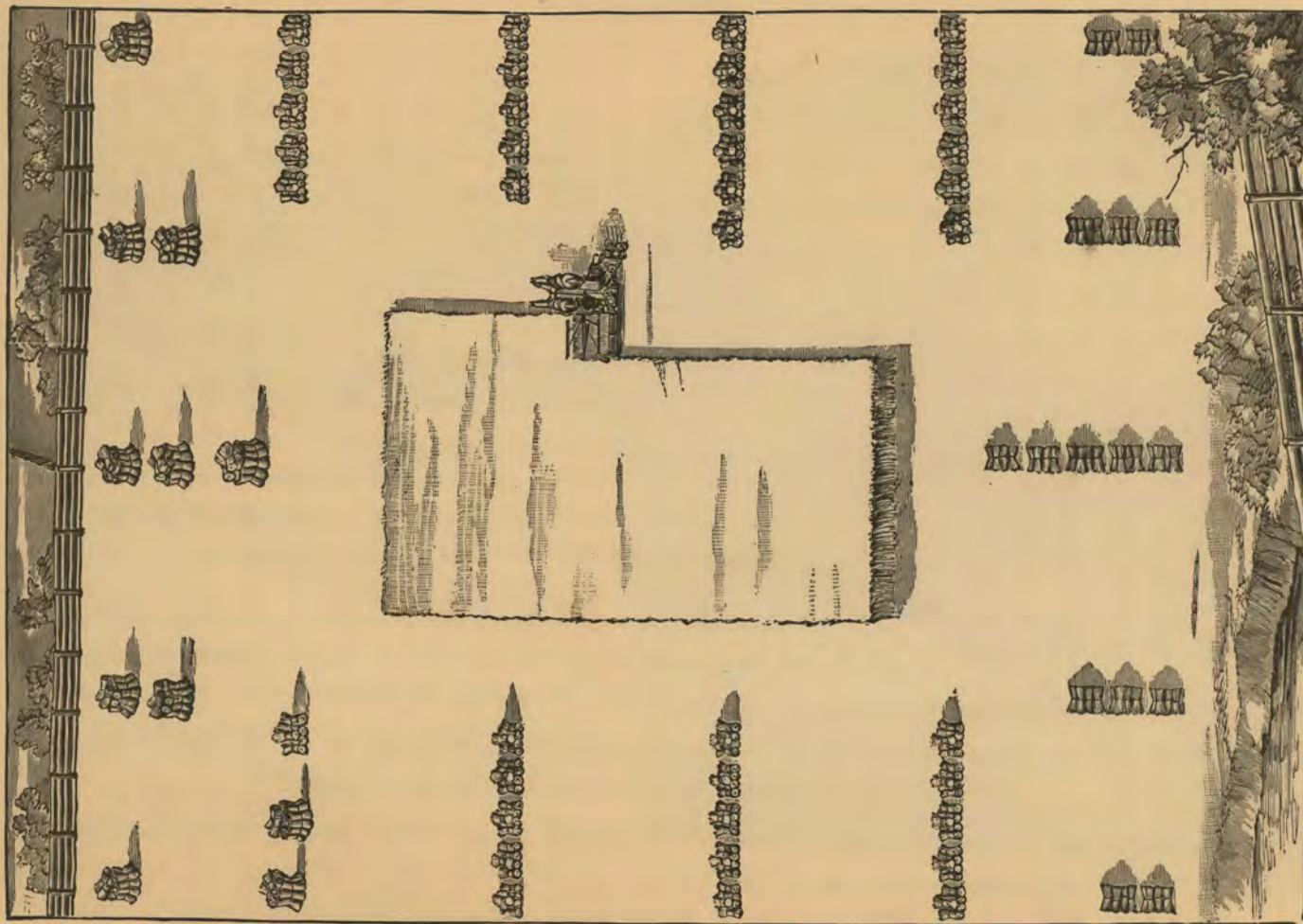


The picture on this page represents a type of Bundle-Carrier used, with various modifications, on several Binders. It is open to the objection that it cannot be folded out of the way, making it necessary to go around any obstruction, leaving the grain uncut, and it forms an ever-present obstruction for gateways, bridges, etc., etc. The operator shown has not pulled out far enough to miss the tree, and must now back up and go around his obstruction.

The Deering Bundle-Carrier is not furnished with the machine, but must be ordered separately.

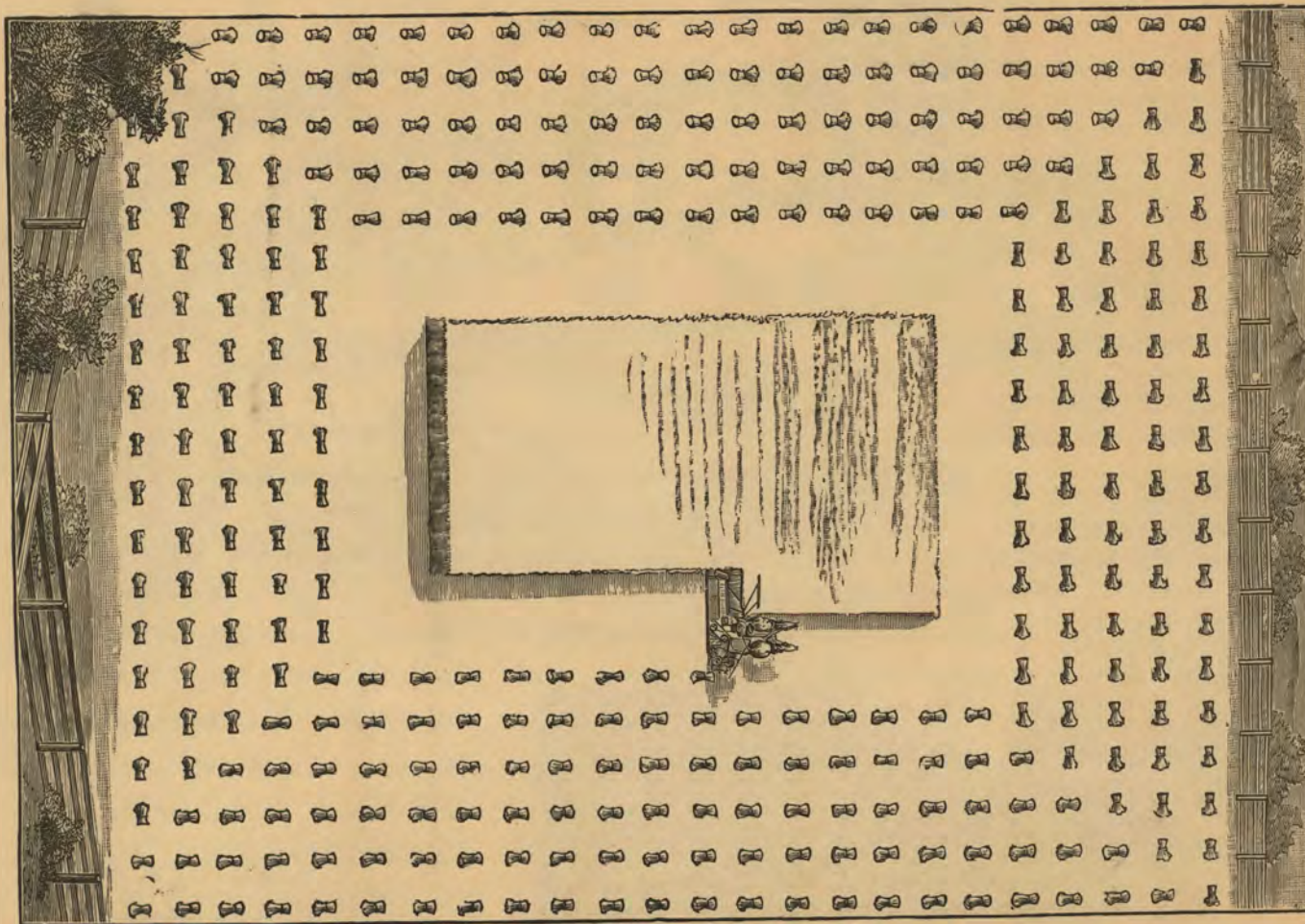
In ordering be sure to state exactly what machine it is required for.

The economy of owning a Deering Bundle-Carrier is well illustrated by the pictures on the two following pages.



A field of grain cut
by the Deering All-
Steel Binder with
Deering Steel Bun-
dle-Carrier. It saves
the wages of one man
every day of harvest.

A field of grain cut
by a machine without
Bundle-Carrier. All
these bundles have to
be gathered by hand
before shocking.



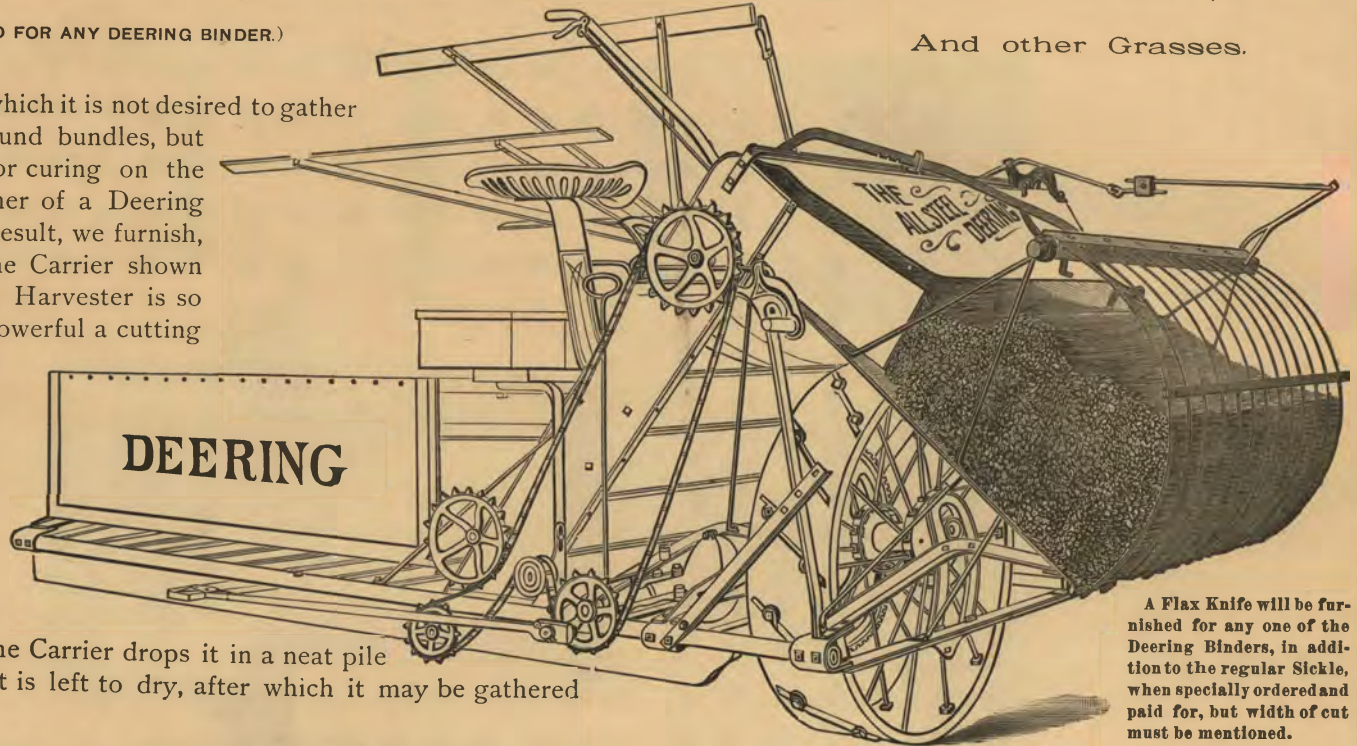
THE DEERING STEEL CARRIER FOR FLAX, CLOVER, TIMOTHY,

(FITTED FOR ANY DEERING BINDER.)

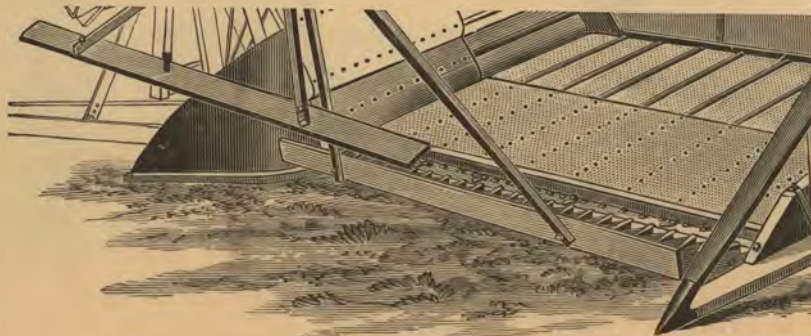
And other Grasses.

There are many cases in which it is not desired to gather the crop to be cut into bound bundles, but rather to allow it to lie for curing on the ground. To allow the owner of a Deering Binder to accomplish this result, we furnish, when specially ordered, the Carrier shown on this page. The Deering Harvester is so strongly made, and has so powerful a cutting apparatus, that it has none of the difficulties encountered by some machines in cutting and elevating Flax and the grasses above mentioned.

The Deering Carrier for these crops is designed to hold them until a sufficient amount is collected, when the Carrier drops it in a neat pile beside the machine, where it is left to dry, after which it may be gathered up with a barley fork.



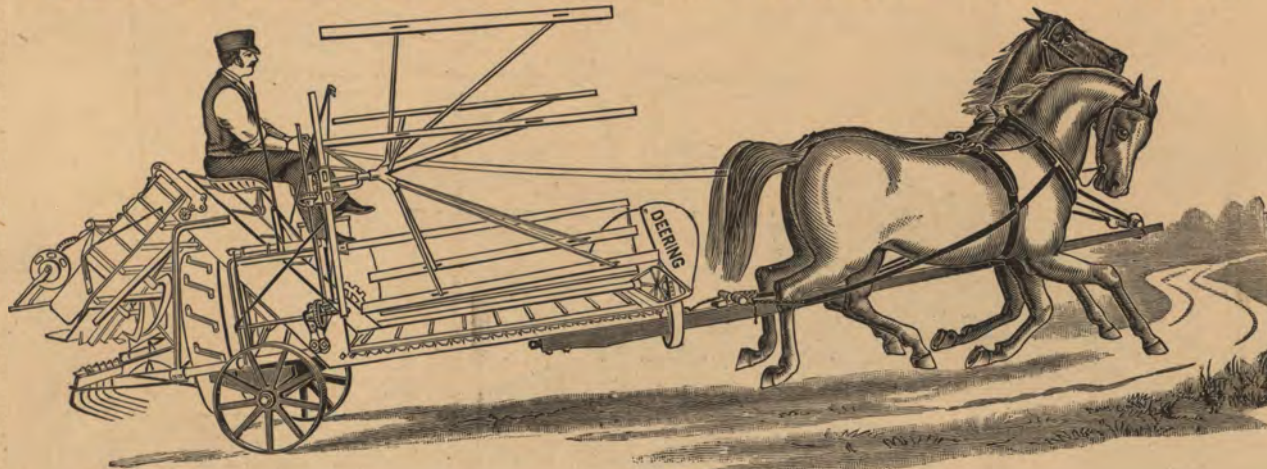
A Flax Knife will be furnished for any one of the Deering Binders, in addition to the regular Sickle, when specially ordered and paid for, but width of cut must be mentioned.



CUT SHOWING CANVASES MUFFLED.

To prevent Flax from combing out and accumulating on the ends of the Canvas slats, it is well to muffle the Canvases. This can be done by tacking or sewing strips of cloth, about two feet wide, over the front ends of the Canvases, as shown in the picture. This work can be easily done by the owner of the machine, or, if desired, muffled Canvases, or the cloth for muffling, will be furnished at small extra cost.

THE DEERING BINDER TRUCK.



THE DEERING ALL-STEEL BINDER ON THE ROAD, MOUNTED ON THE DEERING TRUCK.

We recognized very early the necessity of having, in many localities, a Truck for transporting the HARVESTER and BINDER through lanes, over bridges and narrow roadways, as well as for carrying it when long distances are to be traveled, and introduced the DEERING TRUCKS to meet this demand.

The extreme simplicity of the Deering Trucks, and the ease and speed with which they can be removed and attached to the machine, have made them very popular.

They are specially made for each one of the DEERING SELF-BINDERS. They can be quickly put in place, and are so fitted to each machine that no amount of jarring or motion can unseat the machine in the slightest degree.

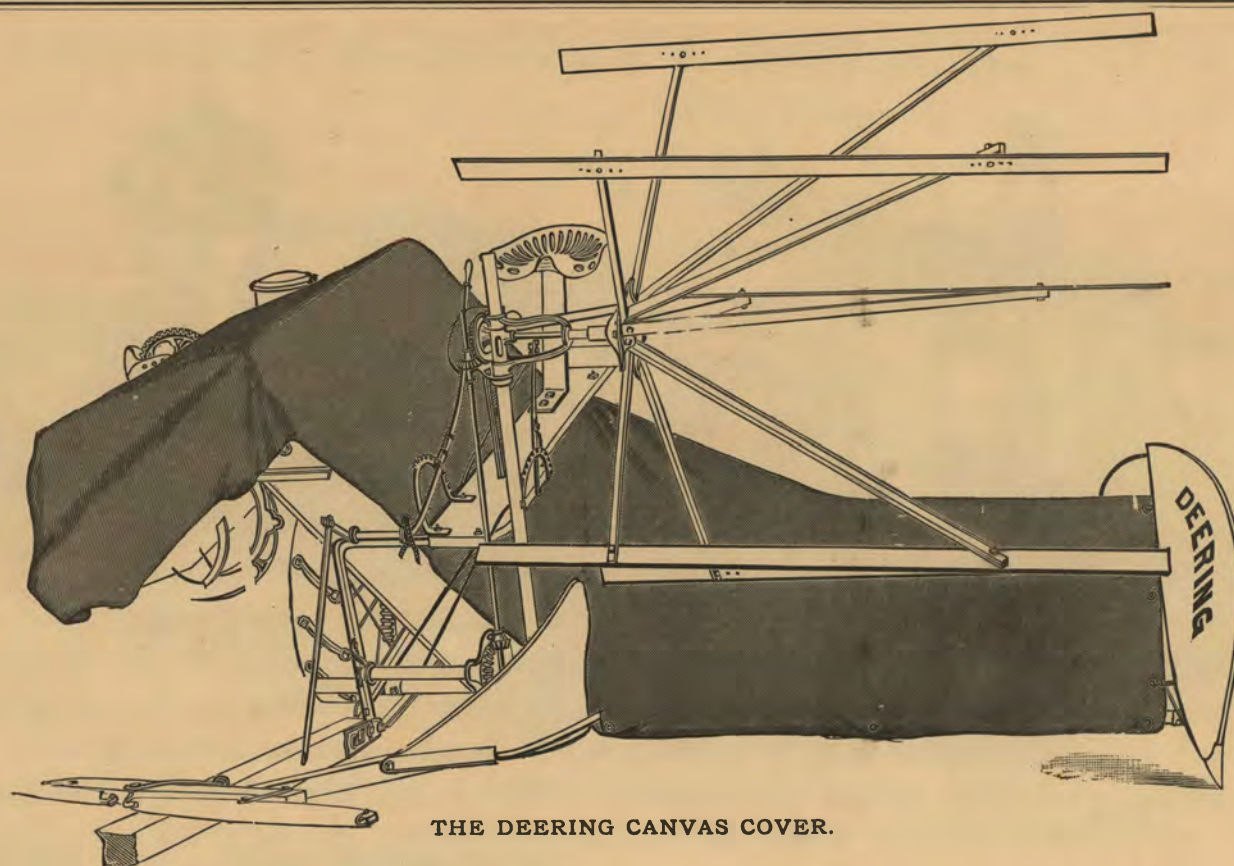
The TRUCK consists of a pair of heavy and strong wheels,

In ordering Trucks be sure to state exactly what Machine they are wanted for, and the width of Elevator of the Machine.

at the end of a stout hickory axle, with well-made skeins, and of appliances for attaching the pole to the platform of the HARVESTER. The pole of the HARVESTER is used for drawing the machine when on the TRUCK.

When in use, the axle is placed under the main frame of the HARVESTER; the pole is attached to the grain wheel end of the HARVESTER, and the TRUCK is ready for use.

The Axle may be left fastened to the HARVESTER if it is not desired to cut very low. In this case it only becomes a matter of slipping the Truck Wheels on the Axle and fastening the pole to Grain Wheel end of Machine, which can be done in a few seconds. The Deering Truck is the simplest and most convenient Truck ever furnished for a Harvester.



THE DEERING CANVAS COVER.

Every prudent farmer recognizes the necessity of taking good care of his Self-Binder. Many, however, are so pressed for time during harvest, that, although they dislike to do so, they are often forced to leave their machines over night, and sometimes during rainy days, without protection to the Canvas Aprons, the Knives and delicate parts of the machine. To enable owners of the Deering Machines to avoid this unfortunate exposure we provide the DEERING CANVAS COVERS. They are of two kinds, according to the weight of Duck

used, 10 oz. Covers and 8 oz. Covers. They are of the BEST QUALITY, and are guaranteed to be as good as any in the market. They are made to fit the machine closely, so that there is no place where water can be held.

Be sure to state whether 10 oz. or 8 oz. are wanted, and exactly what machine the Cover is wanted for, giving its name, width of cut and width of elevator.

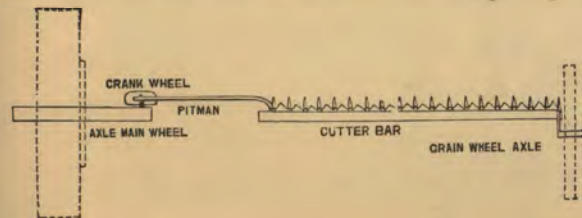
The Canvas Covers are not furnished with machines, but must be ordered and paid for separately.



THE DEERING LIGHT REAPER.

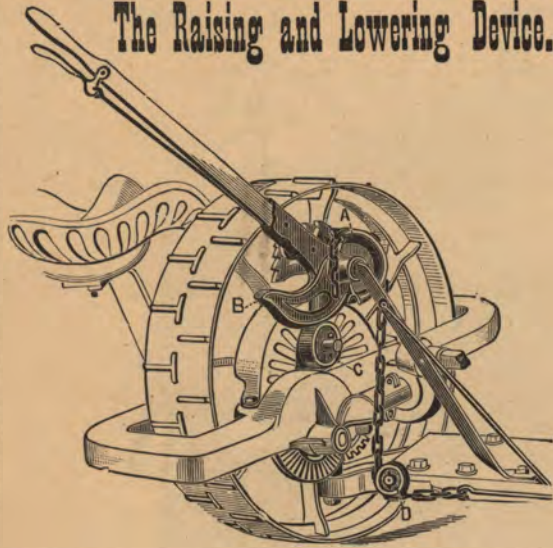
(MADE WITH AND WITHOUT FOLDING PLATFORM.)

There is perhaps no machine that will go out of the Deering Works in 1888 with greater confidence on our part that it will do perfectly everything expected of it than the Deering Light Reaper. There is not a light Reaper on the market of lighter draft or greater strength, nor is there one probably that will last so long as this. It is not made with a weak, overhanging junk of cast iron for a frame, but has a neat and strong frame, completely encircling the wheel, causing the machine to have strength and rigidity after many other light Reapers will have gone to pieces. To this solid frame work are attached the boxes, causing them to last and the machine to run light.



It is a Center-Cut Reaper, as shown by the cut on this page.

The Raising and Lowering Device.



The adjustability of the Deering Light Reaper is greater than that of any other Reaper that we know. By the lever shown in the above picture, the entire Reaper can be instantly and easily raised or lowered. By another lever, it can be quickly tilted. The Rake is the most thoroughly and quickly adjustable of any in the market.

The Deering Light Reaper is guaranteed to do satisfactorily the most difficult Flax cutting. It is a satisfactory machine to own, and by reason of its strength, long life and good work, will prove a very good investment.

The Automatically Adjustable Rake.



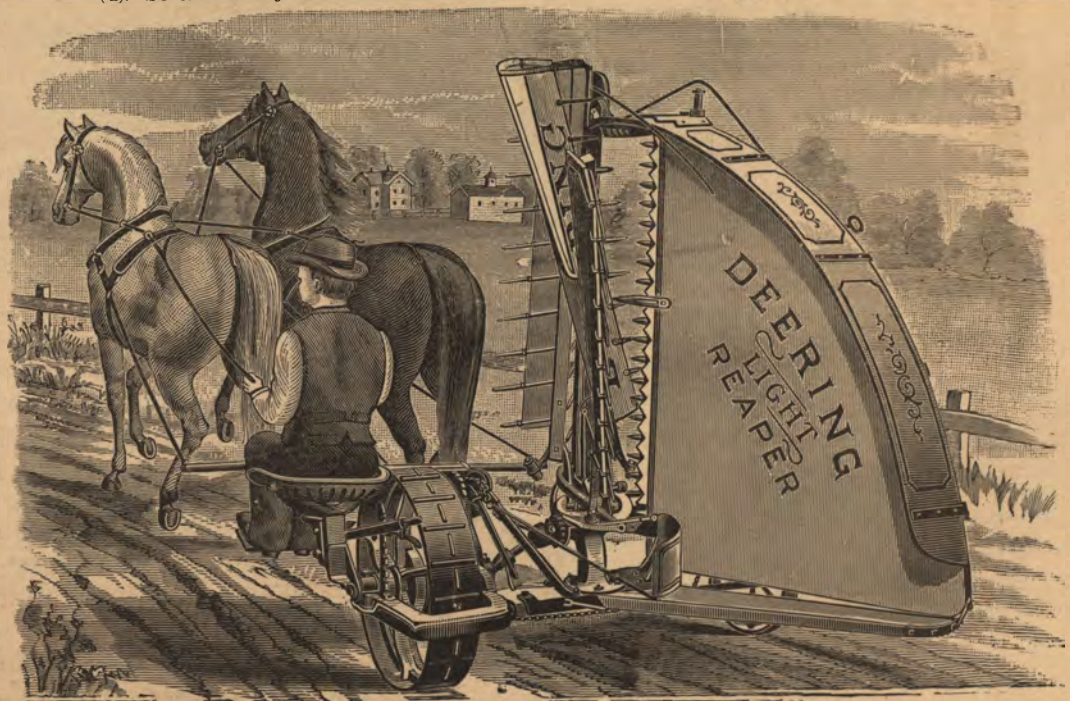
ANY RAKE ACTS.
AT WILL OF DRIVER



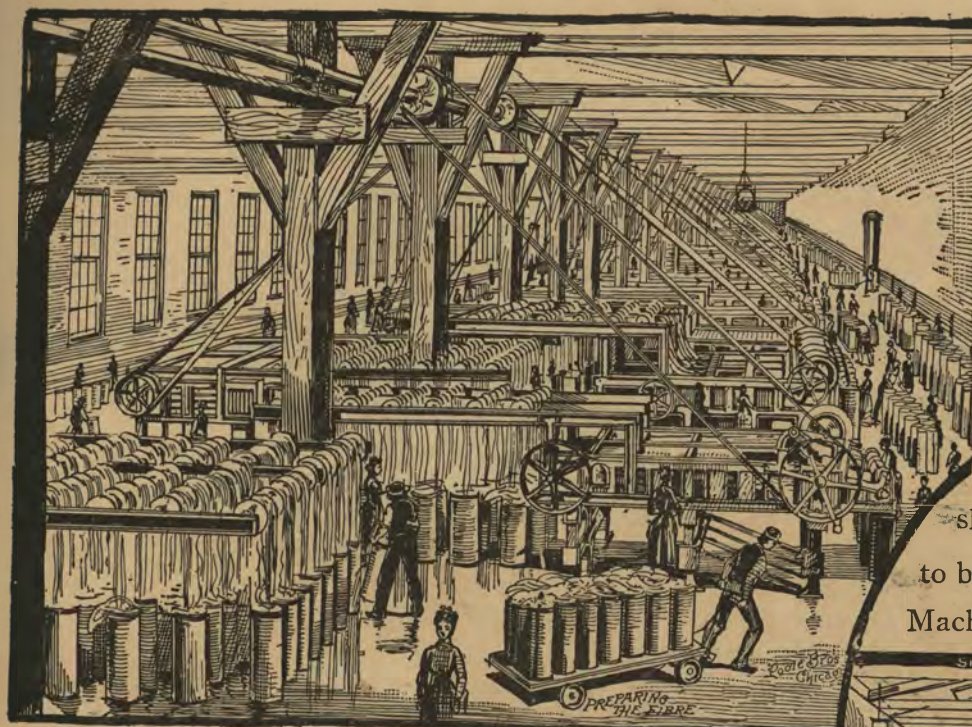
EVERY 4TH RAKE ACTS.
EVERY 2ND RAKE ACTS.
EVERY RAKE ACTS.

The driver can set the Rake in any one of four positions:

- (1). So that any Arm he wishes will rake.
- (2). So that every 4th Arm will rake.
- (3). So that every 2d Arm will rake.
- (4). So that every Arm will rake.



THE DEERING LIGHT REAPER FOLDED FOR TRAVEL.

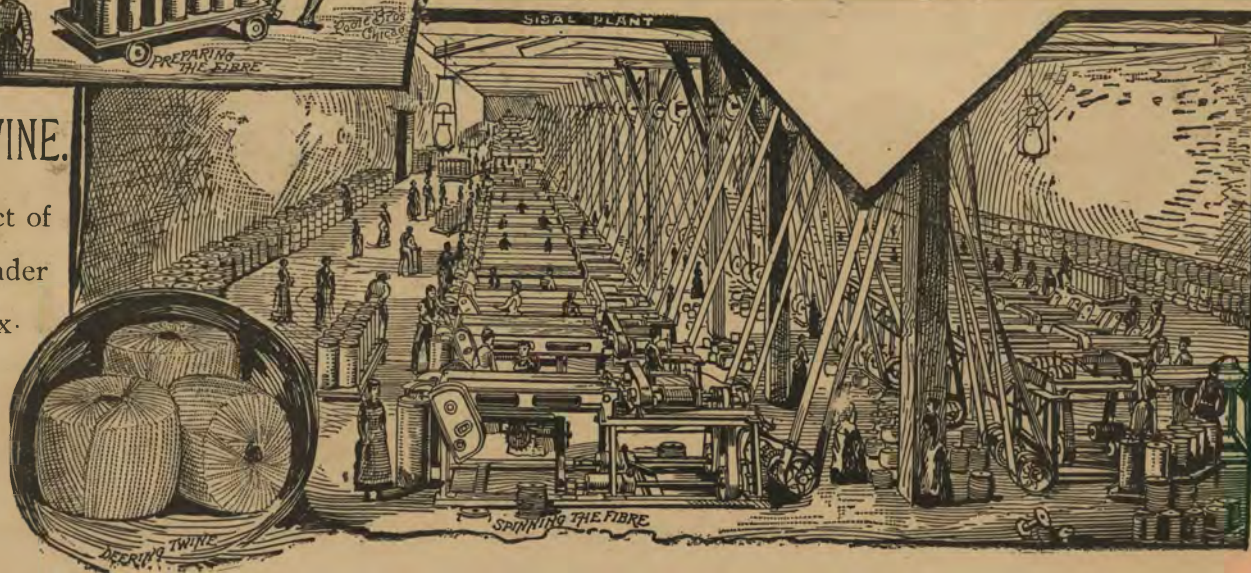


THE DEERING BINDER TWINE.

The importance of the subject of Twine to the owner of a Binder cannot be exaggerated. The experience of thousands of farmers in the harvest of 1887 was that it was impossible to get good twine with which to bind

their grain, and in many cases it was difficult to get any at all. Many manufacturers of binders not only do not manufacture twine but do not even provide their agents any, leaving twine to be furnished by irresponsible parties who have no interest in the machine.

A part of the immense Deering Works is given up to the manufacture of twine, and it is there made with the most modern machinery and the greatest skill. The name Deering on a ball of twine has come to be a guarantee of its quality. Purchasers of Deering Machines are warned against using any other.



THE DEERING TWINE WORKS.



FOR SALE BY
BUELL & SPRING,
Union City, Mich.