

THE Why's and Wherefore's

Compliments of
Win. Doering & Co.



By
Therefore Do So, Esq.



WHYS AND WHEREFORES.



OFFICE OF WILLIAM DEERING & CO. CHICAGO, U. S. A.

November 1st, 1890.

To Therefore Do So, Esq.,

Dear Sir:—Knowing that you have had a ripe experience in all those matters that interest an intelligent, observing and conscientious man, and knowing also your long settled belief that upon the farmers of the world depends the prosperity of the world, we have thought it wise, in the interests of our farmer friends, as well as for our own sake, to ask your aid in putting before the farmers of the world the facts to which it is our annual custom to call their attention.

Yours very truly,

WILLIAM DEERING & CO.

TOWN OF EXPERIENCE, STATE OF PROSPERITY,

January 1st, 1891.

Messrs. Wm. Deering & Co., Chicago, U. S. A.

Dear Sirs:—After giving a little consideration to your letter of November 1st, I readily made up my mind that you were calling me both to a duty and to a pleasure that I could not neglect. Having been a farmer, myself, I have long looked with regret at the vast amount of money and labor expended in putting before the farmers the long winded and dry circulars describing agricultural machines, of little interest to farmers and of little benefit to manufacturers.

I know your machinery well, and have studied carefully every kind of machine and implement used by farmers, and the statements I have made on the following pages in reference to your machines are facts and not fancies; and moreover the facts are important and not trivial ones.

I am sure that you and all our farmer friends will be pleased that I have taken a good part of the space that you have given me to tell them a few facts and answer a good many questions that have only an indirect bearing on your machines. For the wiser the farmers are the more they will want your improved and latest machines. The wiser they are the more prosperous they become, and with prosperity comes better ability not only to buy your machines but everything else that goes to make them happy and good citizens.

When my farmer friends have read all that I shall say to them in the following pages I am sure that every one of them will understand "The Whys and Wherefores" of the fact that a Deering Binder or a Deering Mower is the machine he wants to buy.

All I can add then is,

THEREFORE DO SO.



"Some old men, by continually praising the time of their youth, would almost persuade us that there were no fools in those days; but unluckily they are left themselves for examples." Old men and young men praise the Deering Binder.



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WHYS AND WHEREFORES.



"Every why hath a wherefore."

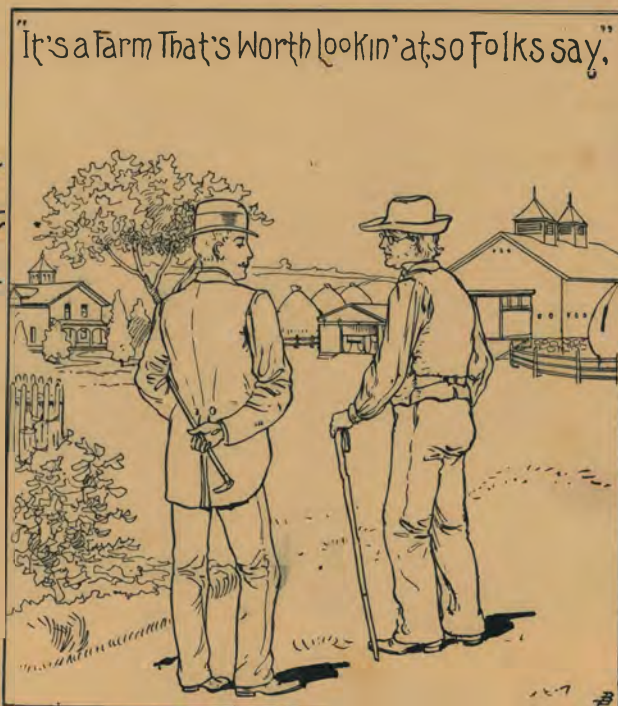
I. Are Farmers prosperous?

Yes and no. There are ten million farmers and farm laborers in this country, employing, it is estimated, a capital of sixteen billion dollars in lands, buildings, improvements, machinery, etc.

There are fewer failures and more moderate successes among the farming class than in any other occupation. More than ninety-three per cent. of the merchants fail of success, while we do not think it can be shown that five per cent. of the farmers fail disastrously so as to be compelled to abandon their farms.

There has been an immense development of new farming lands and increase in the number of farms since the close of the war; in the two decades, from 1860 to 1880, 1,901,800 new farms were opened. Since 1884 the increase has been less rapid.

Farming, in common with every other industry, has been in transition from hand labor to machine work. Railways have brought the remotest fertile lands into market, and their products into competition with the older parts of the country.



FARMER HODGE'S STORY.

I.

Look the farm over? Why certain you may
It's a farm that's wuth lookin' at, so folks say;
For there isn't a foot of it, east nor west,
But is kep' right up to its level best.
Fences tidy, an' buildin's neat,
Barns and granaries all complete;
An' a han'some house that was built you know
For folks to live in, and not for show.

II.

Orchards? Well, you should give us a call
And see them apple trees, 'long in the fall.
Grapes, and currants, an' garden stuff—
Seems like women can't git enough.
Old-fashioned posies, just to please
Mother and me and the bumble bees;
And a well of water, so deep and clear,
It hasn't once failed us in forty year.

"A man of words, and not of deeds,
Is like a garden full of weeds."
The New Deering Mower is known by its deeds.





THE DEERING JUNIOR STEEL BINDER.

A PICTURE of a world-famous man, with an account of his life and a description of his strong points of character, is always a source of interest to the reader, and should convey to his eye and to his mind a fairly good idea of how the great man looks and of what he has done.

At the same time, all are ready and anxious to supplement and complete the knowledge obtained from reading, by that knowledge to be obtained from actual sight of the famous man and by hearing what he has to say for himself.

And it is equally true, that, in these days when farmers have become such good judges of machinery intended for their use, a well drawn picture of the Deering Junior Steel Binder, with cuts and descriptions of its important working parts, should convey to the mind of an intelligent reader, a very fair understanding of the peculiar points of merit possessed by the machine.

The construction of the Deering Binder is so simple, and the points of strength, economy and convenience so obvious, that its superiority must be plain to all.

But, at the same time, a knowledge of this machine obtained from the pictures and brief descriptive matter contained on these pages, may well be supplemented and completed by a personal examination at the nearest Deering agency of the world-famous Deering Junior Steel Binder.

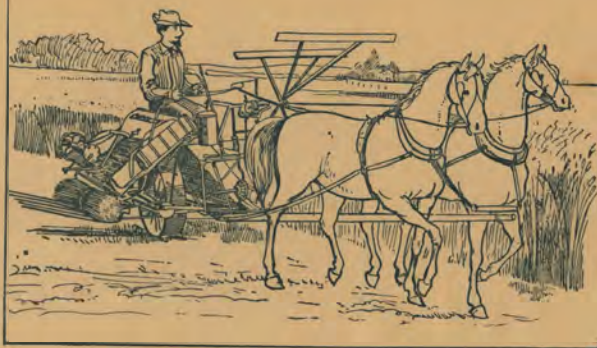
WHYS AND WHEREFORES.

It is not strange, in the immense stimulus given by the opening of so many new farms, the cheapening of methods by the invention of labor-saving farm implements and machinery, that production should have temporarily outrun demand. So we find that in the last fifty years while the population has increased 175 per cent., the number of farms has increased 260 per cent.—acres in corn 257, wheat 389 and oats 411 per cent. But this disparity has already begun to disappear, so that from 1880 to 1889, while population increased by 27 per cent., farms increased only 20 per cent., acres in corn 26, oats 70 and wheat only $\frac{4}{10}$ of one per cent., and that for the five years ending with 1889, population increased $3\frac{4}{10}$ per cent. faster than wheat produced in the five years ending with 1889. The crop of 1890 will show a still greater falling off. The tendency is now for population to gradually overtake production, which, when reached, will favorably affect farm land and farm products, and give increased value to both. This will bring a new and long era of success to the tillers of the soil. Meantime, the farmer has to accept unsatisfactory prices for his cattle, hogs and products, has to economize in expenses, study the best methods, apply intelligence, industry and economy to make the ends of the year a little more than meet, but he does it in most cases; and when he is not burdened with debts contracted in starting his farm during the time of inflated prices, he pays his way, lays away a little money, and is moderately prosperous.

There is much nonsense published as to the indebtedness and desperate condition of farmers, and the effect of farm mortgages. In a large portion of the country, the number of farm mortgages is decreasing, while the rate paid for money is much less than formerly. What the farmer has to sell brings less money, but this money buys more things he wants than formerly.

In an experience covering a considerable period, William Deering & Co. inform me that they find the farmers now entitled to as good credit, and as prompt to pay as any former period, except in limited sections of country that are sub-arid and uncertain of crops.

"But whenever I see that Binder run."



III.

Under them sheds, where the hay carts stand,
Are the very best farmin' machines in the land.
A Deering Binder that handles wheat—
In a fashion that all creation can't beat.
And a Deering Mower that walks along
With a mighty swath, like a giant strong;
A tossin' off work till it makes a man feel
Like pretty poor timber, compared with steel.

IV.

But, whenever I see that binder run
Stiddy an' swift, in the harvest sun,
Or the grass just droppin' in winrows green
At the tireless stroke of the mowin' machine,
I think of the days when I was young
Of the clumsy scythe and the cradle I swung;
An' the muscle I wasted, mornin' an' night,
A-grindin' an' whettin' to sharpen 'em right.

"A thimbleful of honey will catch more flies than a gallon of gall."
The Deering Giant Mower cuts more grass than two small mowers.



WHYS AND WHEREFORES.

THOSE who are familiar with the Deering machines, will notice each year some new appliances, contributing to the convenience of the operator or the better working of the machine. In the Deering Works, skillful inventors are constantly employed to originate such new devices, and special mechanics are always ready to make a practical success of each new idea; but before any new appliance is adopted it must pass through the severest tests, and prove an unqualified success in actual field work.

The Deering Junior Steel Binder for 1891 is the very latest result of all the experience and all the skill acquired in many years of unrivalled success in building self-binders.

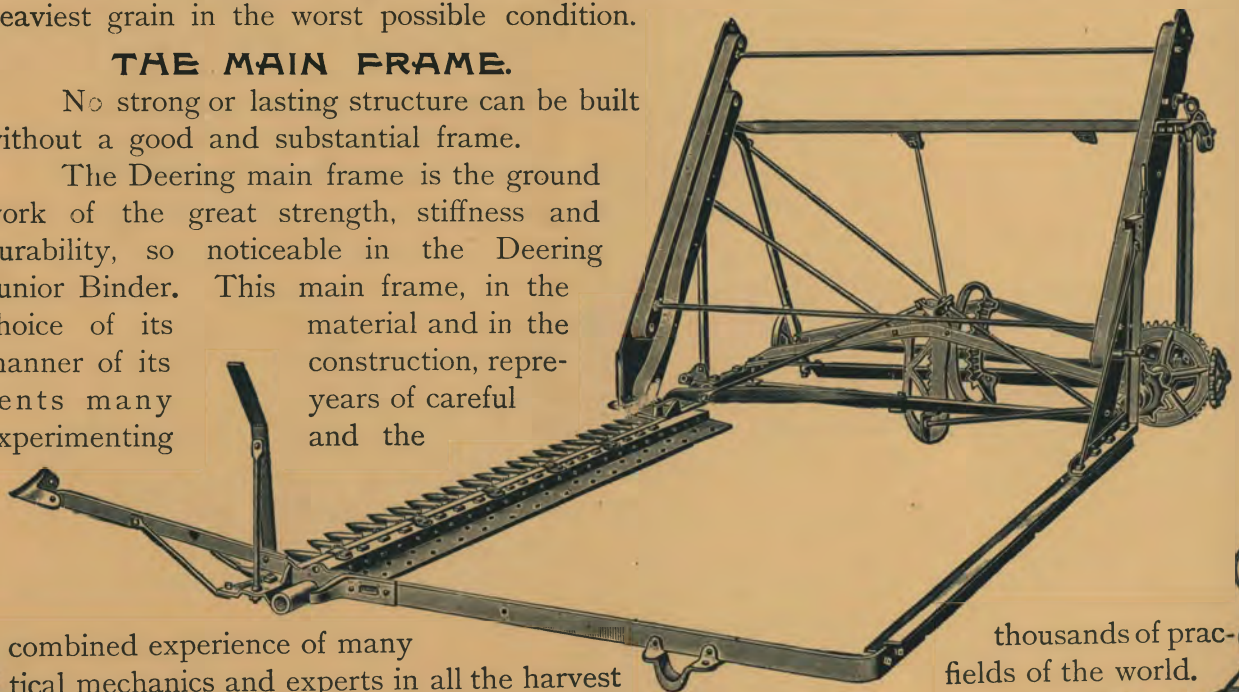
In examining the Deering Binder the perfect balance of the machine is one of the points that first attracts the attention of a practical farmer. A poorly balanced binder would be like a two-wheeled cart with the load badly placed, causing heavy draft or side draft, and throwing the weight on the horses' necks so as soon to make them unfit for work.

The weight of the Deering Binder is so perfectly balanced over the large main wheel, that the draft is very light and even, and there is no weight on the horses' necks. At the same time every pound of weight is utilized to add to the traction of the main wheel, which constitutes the real working power of the machine. It is not too heavy for easy draft, and it is not so light as to prevent its handling crops of the heaviest grain in the worst possible condition.

THE MAIN FRAME.

No strong or lasting structure can be built without a good and substantial frame.

The Deering main frame is the ground work of the great strength, stiffness and durability, so noticeable in the Deering Junior Binder. This main frame, in the choice of its material and in the manner of its construction, represents many years of careful experimenting and the



combined experience of many
tical mechanics and experts in all the harvest

thousands of prac-
fields of the world.

"The want of care does more damage than the want of knowledge."
The Deering Junior Steel Binder is built with greatest care.

WHYS AND WHEREFORES.

I answer as I began. Yes, the farmer is moderately prosperous in most sections of the country, with a hopeful and brighter future.

No, he is not as prosperous as he deserves to be. He sells his product too low, and finds it hard to pay debts contracted when all values were on a higher plane.

The prosperity of the farmer is that of the whole country, and is at the foundation of national prosperity.

2. *What caused the rapid expansion of farming and the large increase in the number of new farms opened up from 1865 to 1885?*

The opening up to settlement of large areas of fertile public lands during that period, the building of one hundred thousand miles of new railway, the eagerness to obtain good land cheap while it was to be had, the influx of nearly 500,000 foreigners on a yearly average.

3. *Why have the prices for farm products declined within a few years?*

In consequence of overproduction.

4. *Has the cost of production declined in same proportion?*

Nearly so. Improved farm machinery has largely superseded hand labor, so that with the greatly increased production, the number of farm laborers has not greatly increased. The production is now relatively much greater than formerly in proportion to men employed; for instance, the Deering Twine Self-Binder does automatically the work that no later than 1879 and 1880 required six men, and other like savings in farming expenses are made in many other ways. It should also be remembered that interest rates for money are much lower, so that now an investment of say \$10,000 represents an interest cost of \$500 or \$600, as against \$1,000, more or less, of a few years ago, particularly is this true in the west, where highest rates formerly prevailed. While the reduced cost of production may not be quite equal to the decline in prices, the disparity, all things considered, is less than it is sometimes represented. There is less reason for discouragement than some people suppose.

"Could take a turn at the old-time way."



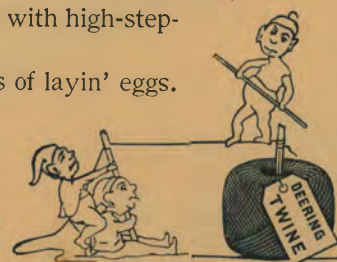
V.

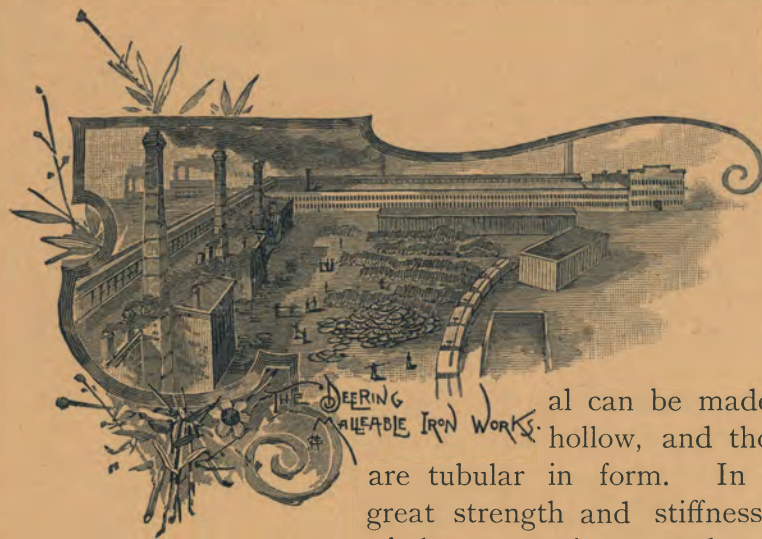
An' I kinder wish that the boys to-day
Could take a turn at the old-time way,
Enough to give 'em a taste, you know,
How hayin' an' harvest used to go;
To set 'em a-thinkin' of all that's made
Year after year in the farmers' aid:
Till they'd value the folks without whose skill
Things would be runnin' in that way still.

VI.

And then there's the poultry, flocks an' flocks,
Big bronze turkeys, and Plymouth Rocks,
Cochins, an' Brahmas, an' Spanish Blacks
An' Golden Pheasants, with mottled backs;
I had some doubts at first in my mind
Whether they'd equal the old-fashioned kind,
An' if such fine creatures, with high-step-
pin' legs
Could 'tend to the business of layin' eggs.

"Rashness brings success to few—misfortune to many." The New Deering Mower brings success to all.



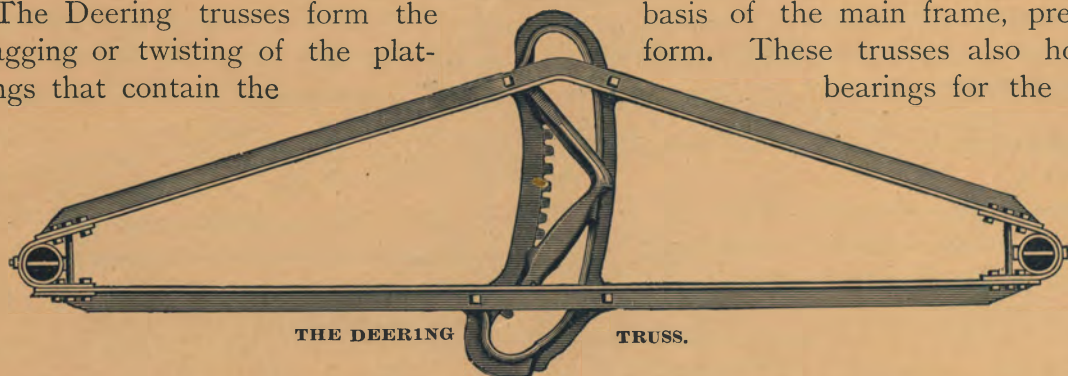


THERE is a sound mechanical and practical reason for the use of every form and shape of steel in the construction of this frame. Take for an example the tubular steel back bone. Engineers' tables of strength show conclusively that this is the very strongest shape into which a given weight of met-

al can be made. The bones of the body are all hollow, and those that bear the greatest strain are tubular in form. In structures requiring qualities of great strength and stiffness, mechanical engineers make use of the truss form, and, profiting by their experience, this form has been adopted, with excellent results, in building the Deering main frame.

The Deering trusses form the basis of the main frame, preventing all sagging or twisting of the plat-castings that contain the

bearings for the wheels.



THE DEERING TRUSS.

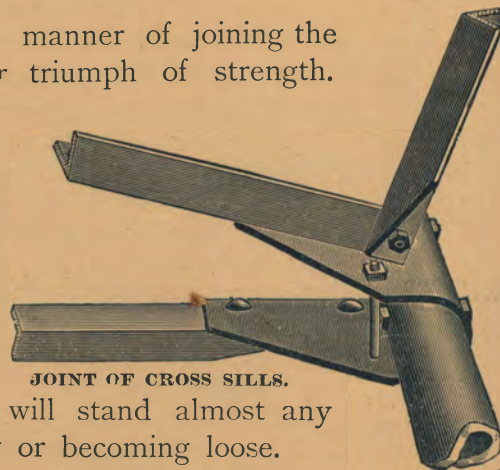
and support the whole weight of the binder. The manner of joining the ends of the trusses to the main sills is another triumph of strength.

The steel plates that form these joints are firmly bolted to the trusses, and completely encircle the tubular main sills, to which they are again strongly bolted. This form of joint makes a hold so strong and firm that it will stand almost any strain without giving way or becoming loose.



Illustrating the manner in which the cross sills are jointed on the Deering.

A VERY STRONG HOLD.



JOINT OF CROSS SILLS.

WHYS AND WHEREFORES.

5. *What is the area of arable land in the United States?*

About 1,500,000 square miles, exclusive of Alaska.

6. *How much of this is under the plow?*

About 330,000 square miles.

7. *How much of the entire area is best adapted to, or only suitable for, grass, grazing, etc.?*

About one-fourth.

8. *Is the demand for farm products likely to overtake production within the next few years?*

Yes.

9. *What are your reasons for the opinion?*

Our home requirements are increasing at the rate of nearly 10,000,000 bushels annually. The area planted to wheat reached its maximum in 1884, and has been less ever since.

Data show that 3 15-100 of an acre of land is needed for each person of our population for his bread, meat and other needs. Prior to 1885 this ratio was greatly exceeded by the opening of so many new lands, since which time there has been a rapid decline. It is claimed that population will overtake production at the present progress by 1894.

A population of 72,000,000 will require, at 3 15-100 acres per person

226,800,000 acres

Area now employed in growing such staple crops

211,000,000 "

Probable additions of new lands in next four years

12,000,000 "

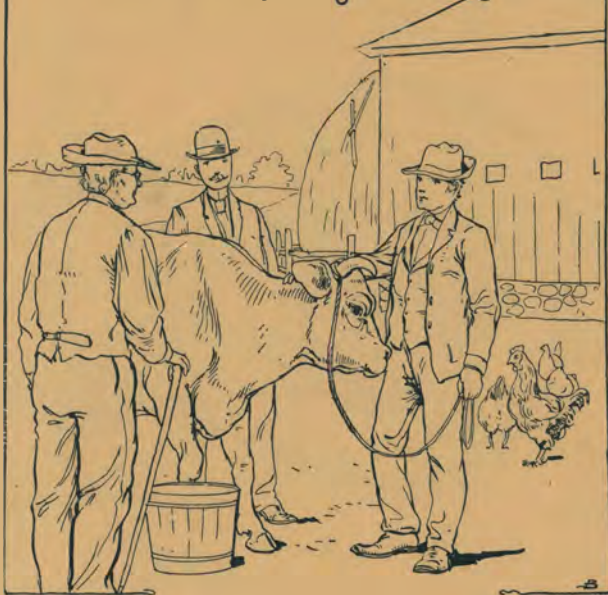
223,000,000 "

This indicates that the proportionate production of all cereals and farm crops will fall behind population before 1900; and it is even predicted by some that we shall be importers of wheat—a result that seems to me improbable. A recent careful and intelligent writer has published estimates showing that there remains only about 100,000,000 acres of tillable land in the United States, or the equivalent of 625,000 farms of 160 acres each.

10. *What results will follow?*

Better cultivation and larger returns per acre; a large increase in the value of farming lands; better prices for produce, consequent upon a better demand; and a day of substantial prosperity to the most meritorious class of society—the American farmer.

"He'll show ye the Jerseys an' take ye about."



VII.

But my! you'd just be astonished to hear
How the eggs count up in the spring o'the year;
Or see what a Spanish Black can do
At bein' han'some an' useful too.
Emmeline, she's a great woman for jokes,
Says the's fashions for chickens the same as for
So mebbey plain feathers has had their day [folks
Like coats an' breeches of homespun gray.

VIII.

Just wait a bit, stranger, 'till Horace comes out
He'll show ye the Jerseys, an' take ye about,
He's proud of his stock, fer his cattle ye know
They took the first premium down to the show;
Such prizes don't count much in dollars an' dimes
But they show that a farm keeps up to the times;
An' a bit o'blue ribbon, tied onto a steer
May mean better work in the county next
year.



"An angry man is again angry with himself when he returns to reason." No man need get angry with a New Deering Mower.

THE Deering Binder is not only strong, durable and light running, but the convenience and comfort of the operator have also been closely studied. As illustrations of the fact are the raising and lowering devices, easy method of removing the main chain, convenient arrangement of levers, simple manner of removing the knife, the adjustable gears, and many other points of no less importance readily seen upon an examination of the machine.

RAISING AND LOWERING DEVICE.

One of the points of convenience that distinguish the Deering machine is the raising and lowering devices for regulating the height of the platform. A few turns of a crank at the main wheel end, and an equally simple arrangement at the other end of

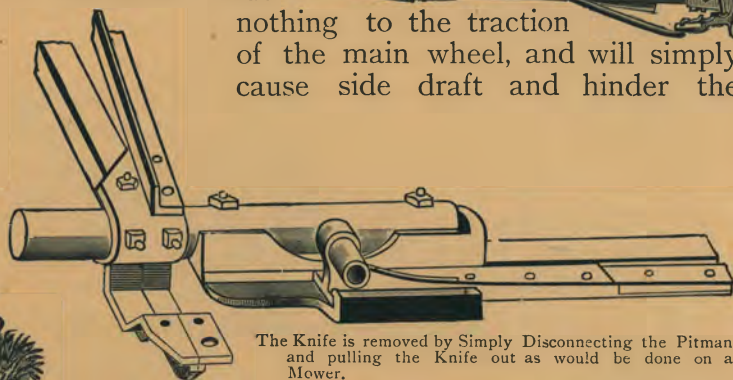
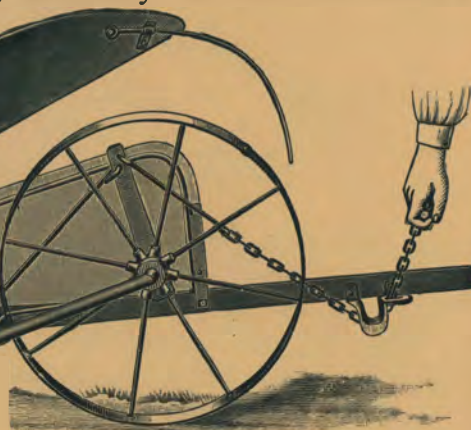
the platform, adjusts the height as desired. Either end of the platform can be raised or lowered independent of the other. In this connection attention is called to the simple arrangement for detaching the main chain. In order to do this, it is only necessary to raise the machine

by means of the crank, to its highest point when the main axle pinion will move back an inch or two, loosening the chain and allowing it to be easily removed and as easily replaced.

THE DIVIDER.

Weight at the grain wheel end of a harvester adds

nothing to the traction of the main wheel, and will simply cause side draft and hinder the



The Knife is removed by Simply Disconnecting the Pitman and pulling the Knife out as would be done on a Mower.

efficient working of the machine. With these facts in view, the Deering divider as well as the grain wheel, are made as light as possible without sacrificing strength.

WHYS AND WHEREFORES.

11. *How much wheat does Europe annually require, and where does she obtain it?*

Europe, with a population of 360,000,000, uses about 4 bushels per head annually, of which $\frac{1}{2}$ bushel is imported. Europe raises 1,200,000,000 bushels, and imports about 144,000,000 bushels. Russia, Roumania and Austria-Hungary produce a large surplus. The United States supplies 95,000,000 bushels, and India, Australia, New Zealand and South America the remainder. The average exportation from the United States to all foreign countries for nine years has been 128,525,100 bushels. Last year we exported about 110,000,000 bushels.

12. *What does it cost to raise wheat in India?*

Labor is about 8 or 10 cents per day. The most of the land is irrigated in a slow and painful way by raising water by the bucketful from deep wells by bullock power. The ploughing is done with a sharpened stick. The harvest is gathered with a reaping hook. The laborer (or ryot), waddling along on his knees, gathers about 1-12 of an acre per day. A Deering Self-Binder will do as much per day with a boy as 60 of these laborers. Most of the wheat lands are remote from seaports, and although there is a large area of wheat lands, the quantity of wheat subject to export is not very rapidly increasing. In the 11 months of 1890 a little over 31,000,000 bushels were exported from India, against about 40,000,000 in 1886.

13. *What is our average production of wheat per acre?*

About 12 1-10 bushels, one year with another. In 1889 it reached 12 9-10; for 1890 it does not seem likely to exceed 11 1-7 bushels per acre. Colorado has averaged for 10 years 19 6-10 bushels. Ontario, in Canada, averaged this year 20 6-10 bushels of winter wheat and 16 bushels of spring wheat.

14. *What is the average in England?*

About 24 bushels per acre. In France, with still higher cultivation, 33 bushels is reached, and on some of the best soils 43 to 48 bushels; and occasionally 55 $\frac{1}{2}$, and even 80, bushels is reached.



"So Horace has always kep' lookin' about."

IX.

And Horace, well sometimes the neighbors have thought,

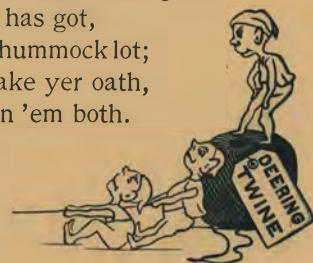
He takes to new ways ruther more than he ought
But Horace, he says, an' I reckon it's so,
The folks that git left are the ones that go slow;
If a man reads the papers, an' thinks as he reads,
He'll find out the things that are best for his needs;

An' a man that examines machines for himself
Won't buy old inventions that's laid on the shelf.

X.

So Horace has always kep' lookin' about
For the very best things that inventors bring out,
There's that Junior Binder he bought last year,
And the Deering Mower, with one-horse gear;
That's a contraption, he just has got,
For mowin' the yard, an' the hummock lot;
It won't be a year, you can take yer oath,
'Till his little Johnnie will run 'em both.

"To be content with what we possess, is the greatest, and most secure of riches." Buy the Deering Binder and you will be contented.



WHYS AND WHEREFORES.

DEERING MAIN WHEEL.

THE proper height for a main wheel is a subject for careful consideration, since it is the traction of this wheel that furnishes the whole working power of the machine.

Up to a certain point, the higher the wheels of a vehicle, the lighter the draft will be. The proper limit, however, must not be passed, or strength and lightness will be sacrificed.



Actual Size of
Link In Deering
Main
Chain.

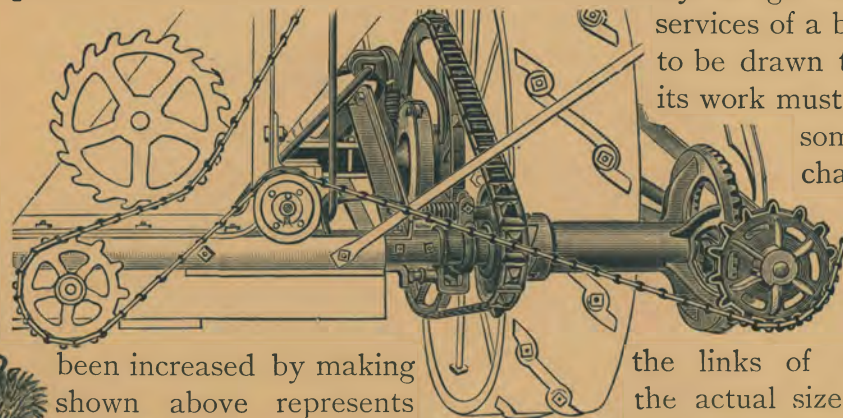
These points and many others have been carefully studied in making the Deering main wheel, resulting in a wheel perfectly adapted to its use.

The main wheel stands 38 inches high, and has a tire 9 inches wide. The spokes are steel, and attached to the hub and tire by means of two nuts at each end, which can be tightened when necessary, thus insuring a perfectly rigid wheel under all circumstances.

The Deering grain wheel is made throughout of steel, with special reference to lightness and strength. The steel spokes are joined to the hub and tire so firmly that they will never wear loose. The tire is broad and of oval shape, thus preventing the wheel from sinking into the ground.

THE DEERING CHAIN DRIVE.

The use of a chain drive to replace several sets of cog gears, increases the power, and reduces to a minimum the liability to get out of order and require the services of a blacksmith. A machine made to be drawn through the fields while doing its work must be light in weight and have some elasticity.



By the use of chain gearing this lightness and elasticity are obtained without danger of hard running and cutting gears. The strength of this chain has

been increased by making shown above represents

the links of very large size. The cut the actual size of one of these links.

WHYS AND WHEREFORES.

15. *What is good land capable of producing with the highest culture?*

By the combination of the selection of seeds, sowing in rows and proper manuring, production can be increased by 75 per cent. over the present, and with the use of the most improved machinery the cost per bushel will be relatively reduced.

16. *What does it cost per bushel to grow wheat?*

It varies largely in different parts of the country, and depends somewhat upon the method of computation. It depends also upon whether fertilizers are required, and the best farm machinery is used, upon the size of the farm, the cost of the land, and the general intelligence and competency of the farmer—and, above all, upon the climatic condition of the season. In California, where large tracts are farmed together in the largest and cheapest way, and where the conditions are favorable to the use of powerful machinery, in a good season wheat is produced at less than 40 cents per bushel. I saw a statement a few years ago of a California man who claimed to have raised his last crop at a cost of 11 cents per bushel, exclusive of land rents.

The Illinois Board of Agriculture, in a careful and elaborate report, makes the cost of raising wheat in the State to be \$9.81 per acre. Allowing an average yield of 12 1-10 bushels, this is equal to nearly 80 cents per bushel. If the average yield were 16 bushels, the cost would be only 61 cents.

The same authority makes the average cost of an

Acre of corn	-	-	\$8.71
" " oats	-	-	8.78
" " rye	-	-	9.32
" " barley	-	-	9.56
" " hay	-	-	7.67

The Agricultural Bureau of the State of Michigan found the cost to be about 62 cents per bushel for wheat, and Michigan is a fair representative of the older winter wheat States.

If wheat were as carefully cultivated as it should be, so that in a fair season the crop of the whole country would average not less than 16 bushels (it ought to reach 20), I do not believe that the cost, including interest on the investment, should exceed 45 cents, certainly it should not be so much as 50 cents.



XI.

I've heard a sight of election talk
From fellows that couldn't tell cheese from chalk,
Each one a-claimin' his party was best
An' bustin' the language, a-busin' the rest:
But high or low tariff, I tell ye now,
Free trade or protection, or any how,
If a man runs farmin' an' looks for gains,
As sure as you live he must use his brains.

XII.

Every one stands by his trade, you see,
But somehow or ruther it 'pears to me
As if watchin' the seasons come and go
And a-helpin' the Lord to make things grow,
A-studyin' natur's wonderful plan,
An' tryin' to foller it, near as you can,
Was bigger business than tendin' store
An' drew a man's feelin's up'ards more.

"Young folks tell what they do, old ones what they have done, and fools what they intend to do," and the New Deering Mower does the work.



WHYS AND WHEREFORES.

THE CUTTING APPARATUS.

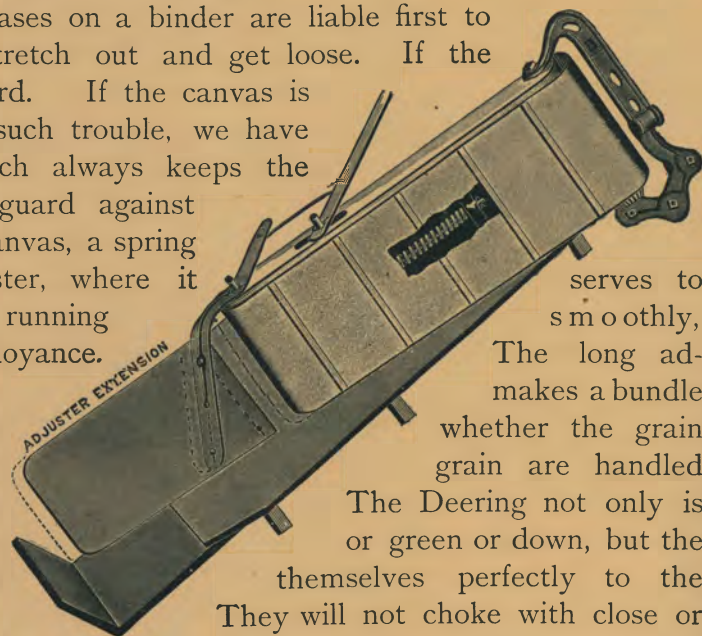
NO expense has been spared in perfecting this very important part of the Deering machine; and, as a result, a cutting apparatus has been produced that is well nigh perfect.

The knives are made in the Deering Knife Works, of the very best quality of crucible cast steel. The cutter-bar is so carefully fitted that the knives always run smoothly and close to the guards. The knife head guide is made of wrought steel, with a large bearing surface, and will not break or wear.

THE CANVASES.

Experience shows that the canvases on a binder are liable first to shrink or draw up, and then to stretch out and get loose. If the canvas is too tight, the rollers run hard. If the canvas is too loose, it slips. To prevent all such trouble, we have placed a spring in the platform, which always keeps the canvas at the proper tension. To guard against the same difficulties in the adjuster canvas, a spring has also been placed in the adjuster, where it keeps the canvas always tight and running

juster on the Deering Binder always that is even and square at the ends, is long or short. Thin grain and heavy equally well by the Deering elevators. able to cut grain that is wet or heavy elevators are so constructed as to adjust quantity and condition of the grain. heavy grain, but will carry the grain up ing, or tearing the heads. The gently, instead of abruptly as on some machines.



Adjuster with Tightening Spring.

serves to smoothly, The long ad- makes a bundle whether the grain grain are handled The Deering not only is or green or down, but the themselves perfectly to the They will not choke with close or evenly, without shelling, or break-elevators are low and slope up



The Spring in the Platform always keeps the Canvas tight.

The convenient arrangement of the levers on the Deering machine is another point that commends itself to an intelligent observer. It is such seemingly small points as this that go far towards making modern harvesting a marvel of comfort, when compared with the old methods.

WHYS AND WHEREFORES.

17. *What two agencies have chiefly conduced to the phenomenal development of the farming industry during the last quarter century?*

Railroads and improved farm machinery.

18. *What was the railroad mileage in 1865, at the close of the Civil War, and what is it now?*

About 34,000 miles in 1865 or one mile for every 1000 of our people at that date, while in 1890 the mileage is 167,000 miles or one mile to each 384 of our present population.

19. *If all the land now under plow were placed on either side of one long railway, 167,000 miles long, how wide would it be?*

Nearly one mile on each side of the railway.

20. *What is the cost of moving farm produce and merchandise now as compared with 1865, and how has it affected land values?*

The reduction in freight rates has been equal to at least 60 per cent. Mr. Depew, President of the New York Central R. R., recently stated in a public address that freight rates have declined fully 50 per cent. in twenty years. The tonnage of our grain and meat crops exceeds 100,000,000, and the saving by these reduced rates is equal to many millions of dollars annually. It is this that makes the moving of our crops and the traffic of a large part of the country at all possible. It is this that has made the lands of the whole country advance in value at the rate of \$1,000,000,000 in a single decade. It is this that, according to a recent article of an eminent English publicist, controls and lessens the value of farm lands in England and Continental Europe, to our advantage and the loss of the Europeans.

21. *What does it cost to ship a bushel of wheat from New York to Liverpool?*

The advertised rate of several steamship companies on September 1st, 1890, was 2c. to 4c. per bushel; flour in sacks of 2,240 pounds, \$1.80 to \$2.40.

22. *What is the saving effected by the use of the Twine Binder over the Reaper used until 1876?*

From 6 to 10 per cent. on the gross cost of raising wheat, and at least 80 per cent. in harvesting it.

An' a man gets tired a-shovellin' snow:"



XIII.

Yer crop may fail, but you always know
It wasn't man's meanness made it so;
An' drouth may come, but you can't complain
That somebody's got up a corner on rain;
The winters are sometimes hard, you know,
An' a man gits tired a-shovelin' snow;
But he knows some feller with wheat on hand
Ain't runnin' the weather to spoil his land.

XIV.

Farmin's hard work; it's no use to deny it,
Folks that are lazy had better not try it;
And, do your best, there'll be years o' drouth
When the crop you've tugged for, just peters out;
But I've been in the world nigh seventy
year,
And from all that I ever could see or hear,
There's no escapin' from Adam's cuss,
Except by takin' to
suthin' wuss.

"The eye of the master sees more than four eyes of the servants."
Master and servant are pleased with the Deering Giant Mower.



THE DEERING KNOTTER.

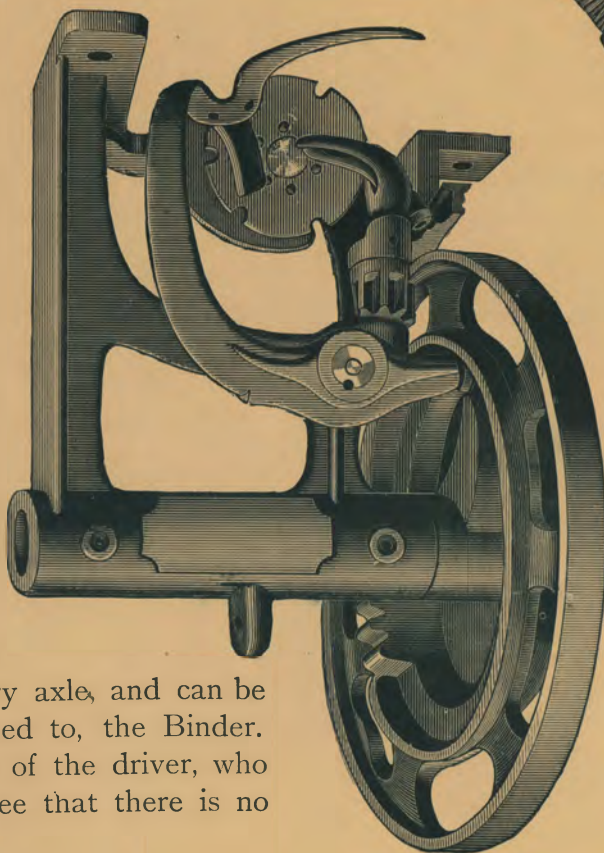
THIS small, but extremely important, part of a binder may well be called "its brains." No part of the Deering machine so well illustrates the great advances that have been made in the perfecting of details.

Since 1875, when the first successful binder was put into the field from the Deering shops, this knotter has, each succeeding year, been improved and simplified, until it now seems to have fairly reached perfection.

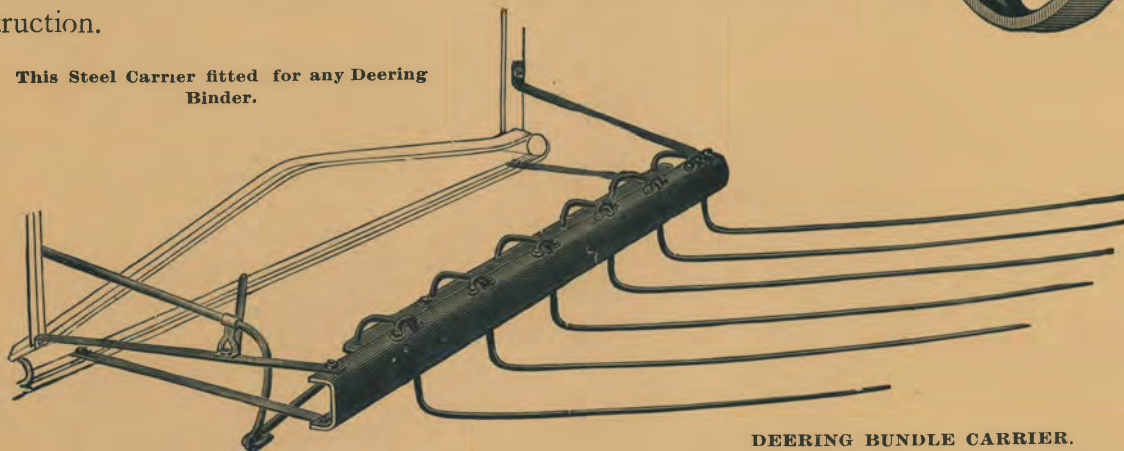
Its parts are few, and its construction extremely simple; it never misses a knot or gets out of order, and uses the smallest possible amount of twine.

The Deering Truck consists of a pair of strong wheels at the end of a stout hickory axle, and can be easily and quickly removed from, and attached to, the Binder.

The Twine Box is placed in full view of the driver, who can watch the twine as it comes out, and see that there is no obstruction.



This Steel Carrier fitted for any Deering Binder.



DEERING BUNDLE CARRIER.

The Deering Bundle Carrier is made entirely of steel. The fingers, being tempered, never bend, and, when necessary, can be folded back to pass an obstruction.

WHYS AND WHEREFORES.

23. *Who invented the first Twine Self-Binder successfully used?*

John F. Appleby, now a resident of Minneapolis, Minnesota.

24. *Where were they first made and put upon the market?*

By William Deering at his shops in 1879, under the personal supervision of Mr. Appleby, then in the employ of Mr. Deering. Mr. Appleby had been some years at it, but only succeeded after engaging with Mr. Deering.

25. *How many Self-Binders are made annually in the United States?*

From 100,000 to 125,000.

26. *How many Twine Binders are required to harvest the grain of the country?*

There were about 70,000,000 acres in grain in 1890. If 5-6 of these were harvested by Self-Binders, and each Binder cut 100 acres on an average, it required nearly 600,000 Binders.

27. *How many Mowers are made annually in the United States?*

Not definitely known, but not far from 175,000.

28. *How many Mowers were required to harvest the hay crop?*

If each Mower should average 40 acres, it required, to cut the 40,000,000 acres, 1,000,000 Mowers.

29. *Who makes the best Twine Binders and greatest variety of the best Mowers?*

William Deering & Co.

30. *How extensive are the shops of William Deering & Co.?*

They cover 41¼ acres of ground, and are doubtless the largest in the world now making this class of machinery.

31. *Who have since adopted nearly the same Binder?*

All the manufacturers of Reapers were compelled to do so or go out of business. Some adopted it in two years, and others after three or more years, subsequent to William Deering.



XV.

Seventy year is a pooty long track,
But it don't seem much when a man looks back.
And some of the things that's furthest, 'pear
Enough sight closer than them that's near.
Why, let me set on the porch to-day
And ketch one whiff of the fresh cut hay,
Or hear the medder lark's whistle and call,
And bob-white pipe from the paster wall.

XVI.

An' true as you live, my pulses run
To the very same tune as at twenty-one;
And my heart is as gay as it used to be
When I thought the world was a-waitin' for me.
Mother, she smiles to hear me go
Whistlin' a love song, kinder low;
But she looks at the ring on her dear
old hands
An' somehow, mother, she understands.

"The most useful is the greatest." The most useful and the greatest binder is the Deering Junior Steel Binder.



WHYS AND WHEREFORES.

DEERING TWINE.

HARVESTER manufacturers make the best binder twine, because they have the reputation of their machines at stake and cannot afford to furnish a poor quality.

Deering twine is made in the Deering Twine Works by means of the most improved machinery, operated by skillful workmen, and is so carefully spun as to the pound, consistent with the requisite strength. The point of length to the pound should be a very important consideration in deciding whether a certain brand of twine is really cheap or expensive. Twine bearing the Deering tag can always be relied on, as the strongest, longest, smoothest, and, considering the number of feet to the pound, the cheapest.

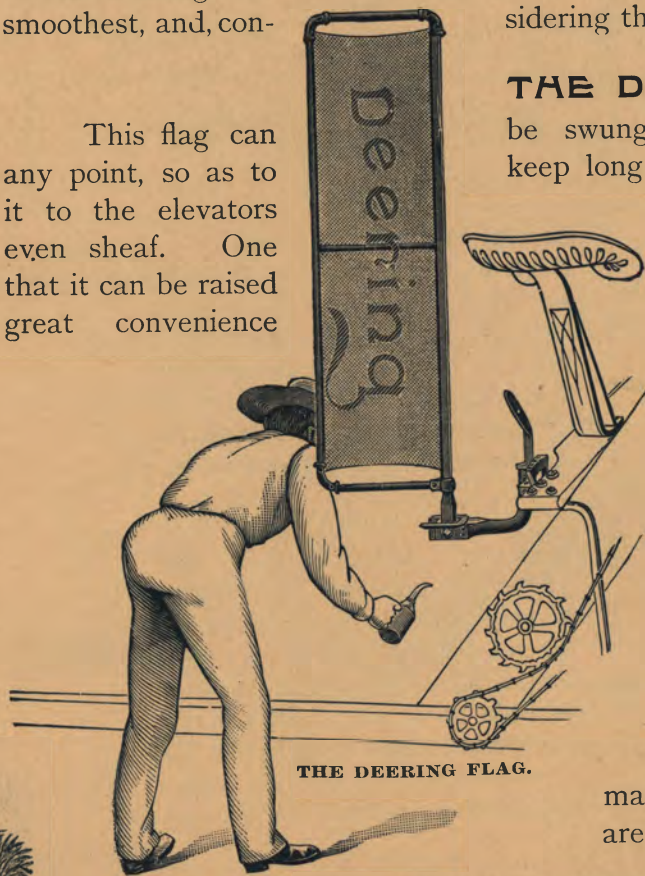
give the greatest number of feet site strength. The point of length to the pound should be a very important consideration in deciding whether a certain brand of twine is really cheap or expensive.

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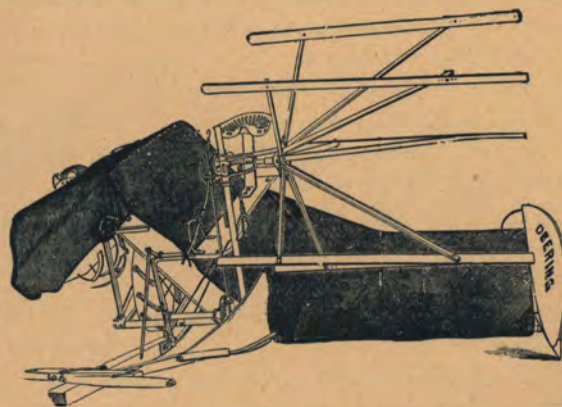
This flag can any point, so as to it to the elevators even sheaf. One that it can be raised great convenience

THE DEERING FLAG.

be swung backward or forward and adjusted to keep long or short grain from scattering, and send in good condition for making a compact, great advantage possessed by this flag is as shown in the picture. This is a point of when it is necessary to get at the platform.



THE DEERING FLAG.



Canvas Covers, for the protection of machines necessarily exposed to the weather, are furnished and paid for separately.

"They that will not be counseled cannot be helped; we give advice but we cannot give the wisdom to profit by it." You are advised to buy a Deering Binder, be wise and profit by this advice.

23. *How has Improved Farm Machinery kept step with the building of railways into the new country and assisted in the general development of new lands, and made it possible to supply Europe with grain from far-away Dakota and the great West?*

In every way. But for these inventions it would have been quite impossible. The substitution of sulky gang plows for the single walking plows, mowers for scythes, horse rakes for hand rakes, and grain drills and seeders for hand sowing, steam threshers for the flail, and so through the entire process of farming—the substitution of quick, cheap power machines for manual work.

If we were to go back to the hand sickle and scythe of 1840, it would require more than nine millions of men for ten days, to gather the cereal and hay crops of the country, and nearly as many more to take care of them. In fact, all that portion of our population who are accustomed to work at anything known as “gainful occupations,” would need to turn in at harvest time, to the neglect of every other occupation. Fifty years ago corn was shelled by scraping the ears upon the edge of a shovel—at the rate of one bushel per hour for one person. The corn sheller of to-day does the work of 150 or 200 men.

THE HAY CROP.

How much is the annual product of hay in the United States?

In 1880 it was 47,000,000 tons.

What is the average yield per acre?

For nine years, ending with 1888, 1 19-100 tons per acre.

Is the production on the increase?

Yes, especially in the Southern States, where formerly little was grown; and in the Rocky Mountain region, where extensive cattle ranches prevail; it being found necessary to provide a reserve for stock against the severe storms of ice and frost.

What is the economy of the use of the mower over the old-fashioned scythe?

It took a good man to cut two acres per day



XVII.

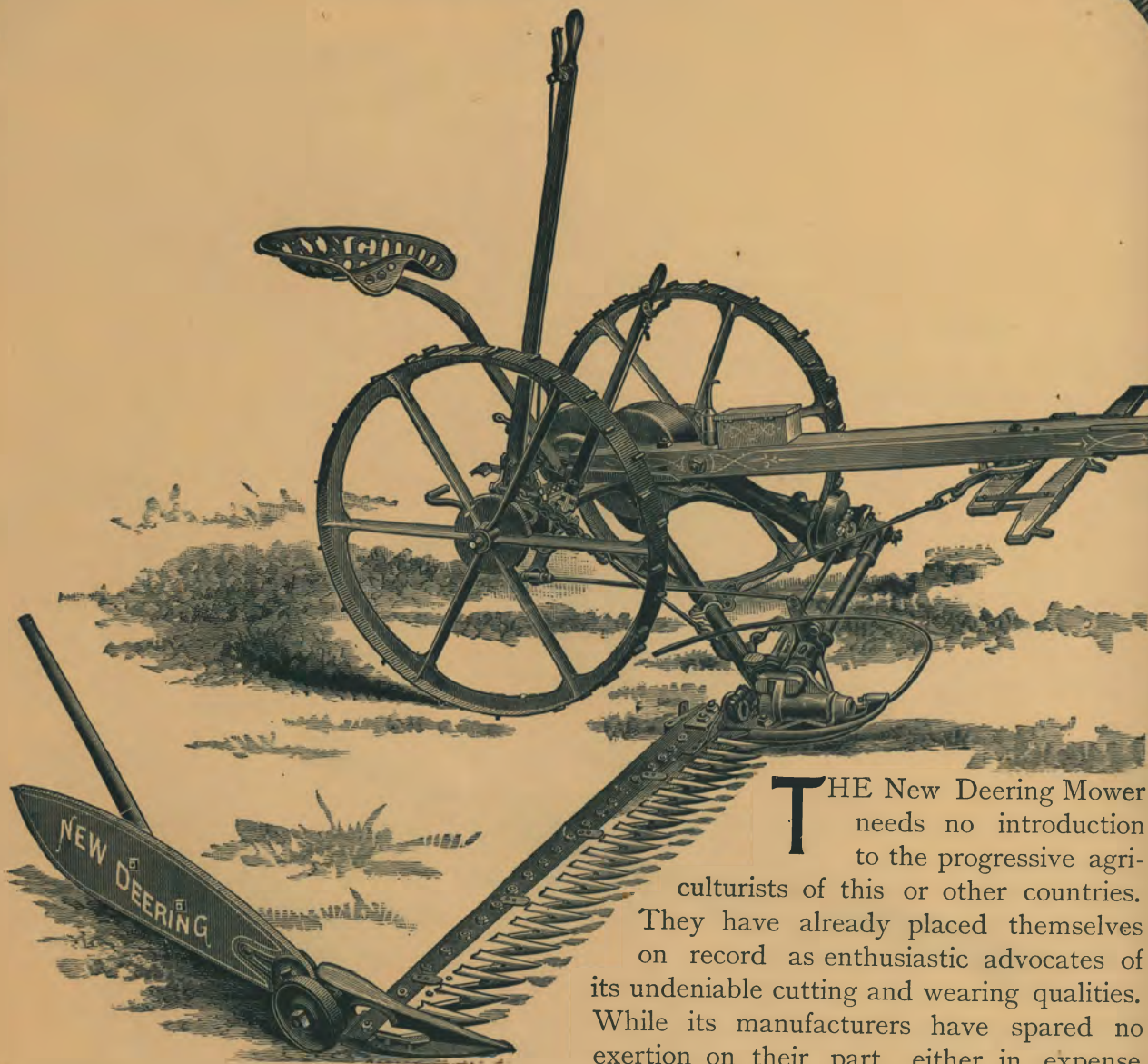
I reckon, mebbly, she sees once more
A big farm kitchen, with clean-scrubbed floor;
The cat curled up on a tall red chest,
And the clock a-tickin' like all possessed;
The hearth sweep' up, and the fire burned low,
The milk pans set in a shining row,
And a girl in the summer afternoon
Sewin' an' singin' that same old toon.

XVIII.

Or mebbly that girl she is thinkin' about
Is whirlin' her wheel, with her arm stretched out;
And a shy young feller, with face tanned brown,
A watchin' her walkin' up and down,
And wishin'—my soul, if he dast to tell
One half of the things he's a wishin'! Well,
That girl was a picter, jest to see,
But that was mother, and here we be



WHYS AND WHEREFORES.



THE New Deering Mower needs no introduction to the progressive agriculturists of this or other countries. They have already placed themselves on record as enthusiastic advocates of its undeniable cutting and wearing qualities. While its manufacturers have spared no exertion on their part, either in expense

or effort, to improve and perfect this mower, and each year have added to their productive capacity in order to supply the increasing demand, it is the farmers themselves who have placed this mower in the high place where it now stands, its enormous sale not only illustrating the enterprise of a great manufacturing industry, but serving also as a monument to the good judgment of the many thousands of farmers who are using the New Deering Mower in all the harvest fields of the world.

"Adversity is the true scale to weigh friends in." The Deering Binder will be your best friend.

WHYS AND WHEREFORES.

swinging a scythe. One man on the Deering Mower easily cuts an acre per hour, and does the work cleaner and better; and the Deering excels competing machines in that it cuts closer to the ground and has a sensitive floating bar, that adapts it to the conformation of the ground. It saves a considerable percentage of the grass over several of its best competitors.

How many mowers do William Deering & Co. make and sell?

They put over 30,000 on the market the past season, and were unable to fill 4,200 orders received before the close of the season. They expect to make a much larger number for the season of 1891.

Why?

Because in all kinds of grasses they generally work well and give the best of satisfaction; and in some, such as the difficult wild grasses of Colorado and Montana, they cut well and give satisfaction, when the very best of their competitors have absolutely failed—as they have hundreds of testimonials to show.



"And so when I heard folks talking."

ARID AND SUB-ARID LANDS IN THE UNITED STATES.

How extensive are these lands?

Prof. Powell of the Government Survey estimates them equal to two-fifths of all the arable lands in the country.

How much of this great area is likely to be made available for cultivation?

As much as the available water supply from mountain streams and artesian wells is sufficient to irrigate, Estimates vary all the way from 30,000,000 acres to that of Maj. Powell of the Government Survey of 120,000,000 acres. It is probably not safe to count on making available for the plough over 5 per cent. of this vast area.

What is the comparative wheat producing capacity of irrigated lands?

The average of the country for 1889 was 12 3-10 bushels per acre; the average of

XIX.

When we were married the times were bad,
And little of this world's goods we had;
The farm was poor and the house was small,
We kep' things goin' and that was all.
An' what with sickness, that's bound to cost,
And the corn cut off with an early frost,
I used to get so confounded blue
As much as ever I stuck it through.

XX.

And so when I heard folks talkin' about
A place, where the soil wan't all dreened out,
Smooth an' handsome, with just enough
Of good hard timber for fencin' stuff,
Miles upon miles they said it lay,
With only the government price to pay,
Why, 'twan't in human nature you see
Not to be thinkin' of what might be.

"Reveal not to a friend every secret that you possess, for how can you tell but what he may some day or other become your enemy?" The Deering Junior Steel Binder will always be your friend.



WHYS AND WHEREFORES.

IN making a successful mower there are many points to be observed, and many difficulties to be overcome.

In the first place, the construction must be very simple, the parts few and easily replaced.

At the same time capacity for adjustment must not be sacrificed for the sake of mere simplicity. A mower should be so built, and so capable of adjustment, that it will cut close to the ground under all conditions.

The draft must be light, the material of the best, and the whole construction a well-balanced combination of strength and lightness.

In the construction of the New Deering Mower, all these points have received careful consideration.

As for simplicity, a glance at the mower will show that this point has not been neglected, and a more careful examination will furnish still farther illustrations of this underlying principle. The parts are few, and, though firmly joined together, yet are easily separated in an emergency. The main frame, crank shaft box and lever sectors, are cast in separate pieces, so that, in the improbable event of a broken part, they may be easily and cheaply replaced.

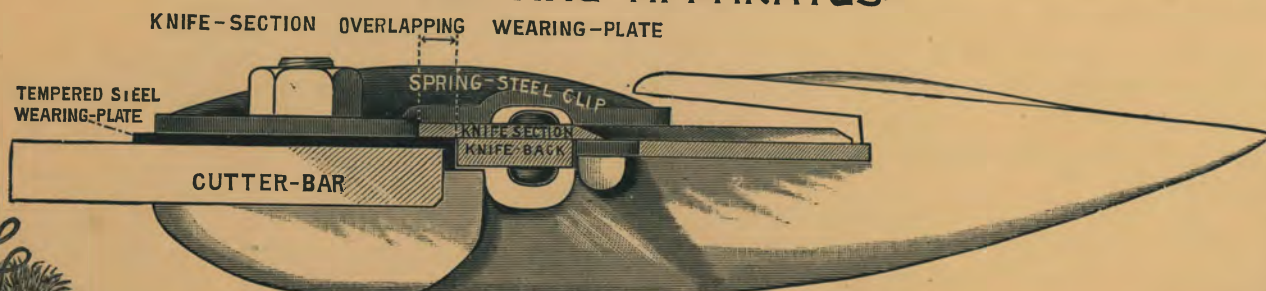
It is only necessary to notice the various adjustments of which the New Deering Mower is capable to be convinced that the important point of controllability has received careful attention. The most important adjustment is made automatically, and requires no attention from the driver.

The New Deering Mower is perfectly balanced; the wheels high, with wide face and long axles.

These points, together with the smooth working of all the parts, contribute to make this mower of light and even draft, and at the same time give it great working power.

The small parts are of malleable iron, made in the Deering Malleable Works, thus insuring the use of no other than the best quality.

CUTTING APPARATUS.



COMPLETE SECTION OF DEERING CUTTING APPARATUS.

"All good government begins at home. It is useless to make good laws for bad people." The Deering Junior Steel Binder is the best machine made.

Colorado, Wyoming, Montana, Nevada, Utah and Idaho, on irrigated lands, was a little more than 18 bushels. The soil is deep and rich, and the water is artificially applied when, and in quantities needed. Irrigation is an important matter and is now deservedly receiving the attention of Congress and capitalists. Sooner or later, all or nearly all the lands west of the 100th meridian must be artificially watered in part, or abandoned for grain culture; and it would be a great thing for a large part of the country, if reservoirs of water, now running to waste, could be held in reserve for our too numerous drouths, and doubtless, some of the coming years will see this scheme realized to the great advantage of farmers and the increased certainty of good crops.

How many tons of binding twine are required for an average harvest in the United States?

There were about 70,000,000 acres in wheat, oats, barley, rye, etc., in 1890. It takes, perhaps, $1\frac{1}{2}$ pounds of twine to the acre. If five-sixths of this acreage was harvested with Twine Binders, and it had been an average harvest—which it was not—it would have required 45,000 tons. This twine averages to measure about 550 feet to the pound: this is equal to over 9,000,000 miles of string, which would girdle the globe more than 360 times.

From what are these twines made?

Manila, Sisal, New Zealand and American (or Kentucky) Hems, and India Jute.

What are these hemp fibres?

Manila is the fibre of a species of slow-growing Banana, and is imported from Manila, a port of the Phillipine Islands. 390,760 bales of 270 pounds each, were imported into the United States during 1889. (The importation for 1890 is much lighter.)

Sisal is a fibre from the Henequen plant, and is grown almost exclusively in Yucatan, Mexico. About 237,635 bales of a little more than 350 pounds each, were raised last year, of this 233,440 bales were used in the United States for twine and cordage, etc.

New Zealand Hemp is a kind of grass fibre from New Zealand, as its name indicates.

"Let's go out west"



XXI.

Well, one wet night, when Jennie and I
Set out in the kitchen with nobody nigh,
She a-knittin' and lookin' sweet
And I by the fireplace toastin' my feet,
An' sort of plannin' the farm all over,
Where was the likeliest place for clover,
An' where the barley would do the best,
Says I to Jennie, "Le's go out west."

XXII.

That, you may say, was the very first gun,
But, once it was fired, why the war was begun,
An' up to that minute I didn't know
I was reely so sot in my mind to go;
There was things I hated to leave, but then
Such changes are harder for women than
men,
An' I never blamed Jennie that first along
She stood up ag'inst it middlin' strong.



WHYS AND WHEREFORES.

It is needless to state that the cutting apparatus is a very important part of a mower, and that not only the good work, but also the light draft, of the machine depends to a large extent on the quality and mechanical perfection of the mechanism that does the cutting.

In the first place William Deering & Company have their own Knife Works, in which are made all the knives and sickles used on the Deering machines.

The very best quality the material used, and a tempering it to the very toughness. Therefore, are guaranteed to stand with the assurance that and cause an expensive vest, with the nearest The manner in which the together is as important cutting cannot be done unless the two cutting surfaces are brought close together like a pair of shears.



of crucible cast steel is special study is made of limit of hardness and when the Deering knives all reasonable usage, it is the knives will not break delay in the midst of har- repair station miles away. cutting apparatus is put as the material. Good

Loosen the screw at the joint of a pair of shears, and they won't work; but when the screw is tightened again, bringing the blades close together, they will do good cutting (that is, if the shears are good ones to begin with).

The cutter bar is so carefully fitted that the knives always run smoothly and close to the steel cutting plates on the guards. The plates are as carefully tempered as the knives, and with them form a perfect shear cut.



SPRING STEEL CLIP,

The cutter-bar is protected from wearing, under the friction of the knife sections and knife back, by means of wearing plates of tempered steel. When these plates become worn they can be cheaply replaced, thus avoiding the annoyance caused by a worn cutter-bar, or the expense of a new one.

The openings in the plates allow the escape of any dirt or sand that may have lodged between the cutter-bar and knife back, thus further protecting these parts from wear.



TEMPERED STEEL WEARING PLATES,

The guards are made of the best Deering malleable iron, and of such shape that they will not dig into the ground, no matter how low the bar is tilted.

Tempered spring steel clips hold the two cutting surfaces closely and firmly together.

"Confidence is a thing not to be produced by compulsion; men cannot be forced into trust." There is no need of compulsion to produce confidence in the Deering Binder.

WHYS AND WHEREFORES.

Several thousand tons were exported last year, of which only a part came to this country.

Kentucky Hemp is a domestic production, the use of which as Twine, has been stimulated by the high prices of other fibres. About 6000 tons were used for Binder Twine in 1890. But for the removal of the duty upon foreign hems, this hemp was destined to be largely grown throughout the West, and would soon have forced foreign fibres out, or else down to low prices. It was successfully grown in Illinois and Minnesota in 1890, and can be grown successfully in all of the Western States, contrary to a prevailing belief. An acre of well cultivated fibre should produce upwards of 1000 pounds of cleaned fibre. William Deering & Co. have successfully raised several hundred acres of this hemp during the season of 1890, in Cook County, Ills., some of it within three miles of their factory, and within the city limits of Chicago. It remains to be seen whether this hemp can hold its own against the importation of free fibres and nearly free twines. I think it will, to the advantage and profit of the American farmer.

I advise our farmers to encourage the home grower, by trying some of the American Hemp Binder Twine. If well made it will satisfy you.

JUTE OR INDIAN HEMP.

This hemp is extensively grown in India. The crop is about 2,000,000 bales annually. It could be easily raised in the United States, as has been actually demonstrated in the State of Mississippi, and elsewhere. This is, however, the poorest of the fibres used for Binder Twines, and is only likely to be considerably used when other fibres are high priced.

How do these fibres stand relatively as to value and price, and in what order?

Manila, Sisal, New Zealand and Jute, of the foreign fibres in the order given. American Hemp is not equal, perhaps, to Manila, but is quite as good or better than each of the other kinds.

Are there not other fibres that can be utilized for Binder Twine?

It is to be hoped that the fibre of the flax plant, so extensively grown for seed, will be soon success-

"For the little brown house with the elms before"



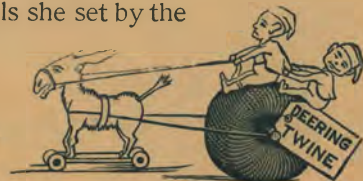
XXIII.

You mustn't forget that movin' away
Meant a good deal more than it does to-day,
For you left behind you everything dear
And couldn't be certain of anything here;
An' there was the old folks—well you must grow
Old yourself, sir, before you can know
How awful homesick a body can be
For a sight of a face he's been used to see.

XXIV.

Queer now, ain't it, how love will cling
To some little, no-account foolish thing,
In spite of the best you can do or say;
But women-folks 'pear to be made that way,
An' I'll bet that mother would swop this minute
This big new house, with the things all in it,
For the little brown house with the elms before
And laylocks an' snowballs she set by the
door.

"Any man may make a mistake, but none but a fool will stick to it." In buying a New Deering Mower you will make no mistake.

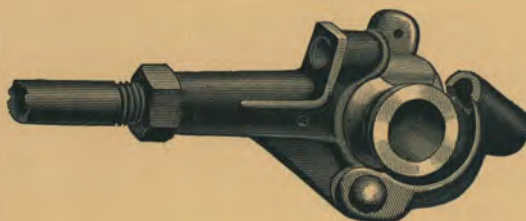


WHYS AND WHEREFORES.

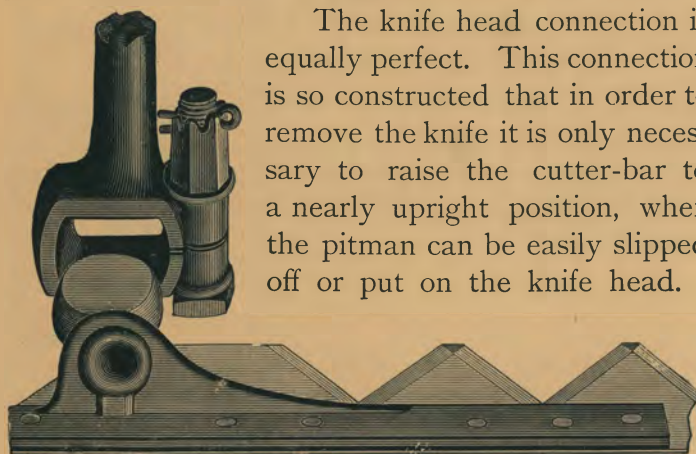
THE DEERING PITMAN AND CONNECTIONS.

THE connections between the cutter-bar and the power, and the means by which the power is transmitted to the knife, are no less perfect than the cutting mechanism. The pitman is a solid steel rod, working in a direct line with the knife, and has a perfect and lasting method of connection with the crank through the strong, yet flexible pitman-box, which is so made that it can never become cramped in any position.

The knife head connection is equally perfect. This connection is so constructed that in order to remove the knife it is only necessary to raise the cutter-bar to a nearly upright position, when the pitman can be easily slipped off or put on the knife head.



CRANK AND PITMAN BOX.



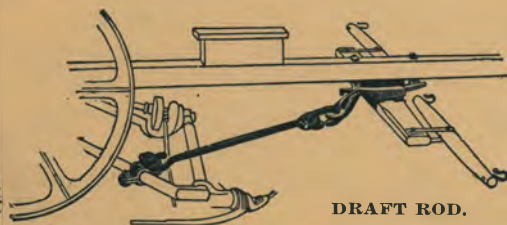
KNIFE HEAD AND KNIFE CONNECTIONS.

The heavy steel push and drag bar is made in one piece, giving great strength and solidity. The push bar runs from a point near the inner shoe diagonally back to the rear of the

main frame directly beneath the heaviest part of the mower. The position of this bar removes all tendency to lift either drive wheel, no matter how heavy the cutting may be. The drag bar also forms a perfect protection to the pitman, which runs behind it.

The lead wheel on the outer end of the cutter bar can be raised to adapt it to any height of cut, while the inner end of the bar can also be adjusted for very high cutting by means of the supplemental inside shoe.

The draft rod connects the push bar directly with the whiffletrees, which are placed under the tongue, thus applying the drawing power where it can be of greatest aid to the cutting apparatus,



DRAFT ROD.



PITMAN PROTECTION.

"A good name will wear out, a bad one may be turned; a nickname lasts forever," and so does the Deering Junior Steel Binder.

WHYS AND WHEREFORES.

fully utilized. The difficulties do not seem to be insurmountable, and if the operation of the new tariff in which hemsps are put on the free list, and twines practically so, does not prevent, there is but little doubt that flax will soon be extensively used, to the great advantage of the American farmers. It would create a new use, and encourage an extensive production. William Deering & Co. are experimenting extensively with this fibre, with considerable prospect of utilizing the flax straw, from which the flax seed has previously been harvested, and hope to be able to tell the American farmers, before very long, that they have succeeded..

There are many other fibrous plants and shrubs, such as the Okra, Ramie, and plants of the Agave family. Fair fibre can be extracted from the stalks of Sun-flowers, Burdock, and many other plants and grasses. But none of these are yet commercially on the market for twine.

What should Binder Twine measure to the pound?

Pure Manila not less than 600, nor over 700 feet.

Pure Sisal 500 to 525 feet.

New Zealand 500 to 550 feet.

Jute the same.

Kentucky Hemsps 600 feet.

Flax will spin evenly 700 to 900 feet.

Mixtures are made of Manila, Sisal, New Zealand, and should measure proportionately.

None of these fibres will spin evenly and satisfactorily for Binder Twine, to longer lengths than those named here.

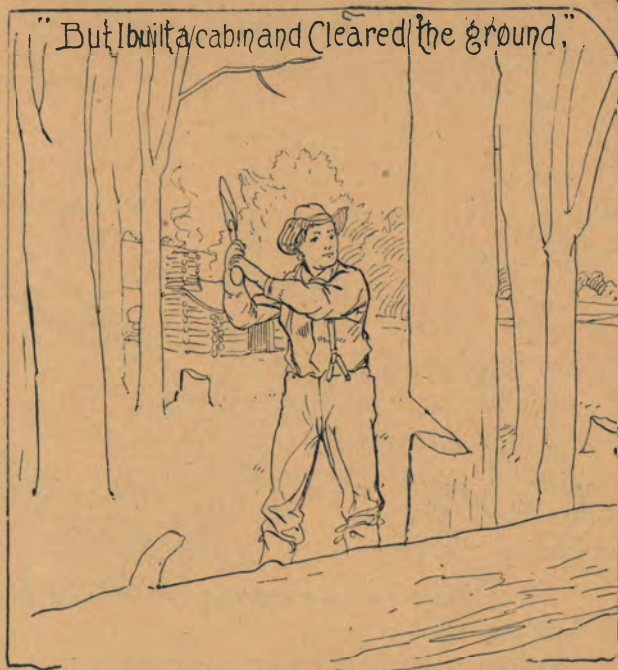
Are Twines honestly labeled?

Not always. Mixtures are sold for pure twines, and so branded by many manufacturers and dealers.

How can pure Twines be told from the adulterated?

It is not easy to tell when mixed; but examine the length, the evenness of thread, and, above all, rely most upon the name and character of the maker and dealer.

"But I built a cabin and cleared the ground."



XXV.

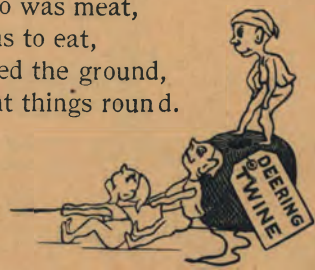
And there was the meetin'-house up on the hill
I reckon that house is a standin' there still
With the honey-locus' trees round it growin'—
My, but 'twas sweet when them trees was
a-blowin';

Why, sometimes, if I just listen a spell,
I could reely fancy I hear the bell,
And the neighbors passin' a Sunday greetin'
As the folks go joggin' along to meetin'.

XXVI.

Well, we come out, and I didn't find
Everything just exact to my mind;
Seemed rather awk'ard at first to go
A dozen long miles to a store, you know,
Neighbors was scurse, and so was meat,
An' cattle a sight too precious to eat,
But I built a cabin and cleared the ground,
An' little by little we brought things round.

"A sluggard takes an hundred steps, because he would not take one in due time." Use the Deering Bundle-Carrier and save many steps.



DEERING
TWINE

WHYS AND WHEREFORES.

IT is in the matter of adjustments that the great economic value of the New Deering Mower is best shown.

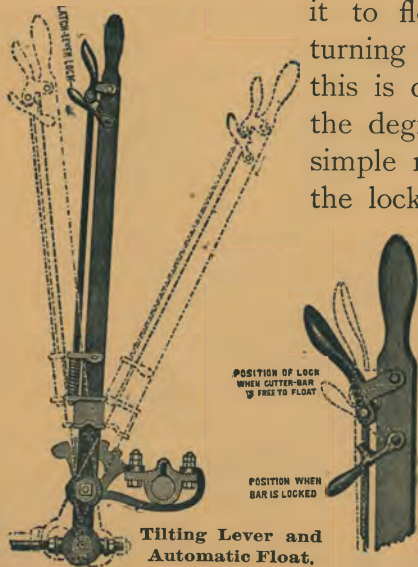
Every unnecessary inch of stubble that a mower leaves on the ground means a loss of a certain part of the crop. Every time the cutter bar skips across the top of a hollow, instead of going down one side and up the other, it means the loss of a certain amount of grass that should go to feed the stock or be profitably marketed.

The numerous adjustments of which the New Deering Mower is capable guard against any such waste.

Foremost among these appliances is that by means of which the cutter-bar floats automatically. Without any attention from the driver, the bar tilts down to cut one side of a hollow, and tilts up to cut the other. Whether the ground is level or slopes in either direction, the cutter-bar floats close to the ground, leaving a uniformly short stubble.

Whenever it is desired to make the cutter-bar rigid instead of allowing it to float, the change can be made in a moment, by simply turning down the lock on the handle of the tilting lever. When this is done the bar is held rigidly in any desired position, and the degree of tilt regulated by means of the lever. Another simple movement of the hand is all that is necessary to turn the lock up again and leave the bar free to float automatically.

It should also be noticed that the range of tilt can be increased or diminished by means of lengthening or shortening the connecting rod. The arrangement for folding the cutter-bar for travelling on the road or passing into the next field, acts automatically and very simply. It is only necessary to raise the bar to an upright position where it is firmly held by means of a catch, and can easily be released again by throwing the lifting lever forward, and touching the catch with the foot.



"A man too busy to take care of his health is like a mechanic too busy to take care of his tools." Take good care of your Deering Binder, and it will take good care of you.

DEERING
TWINE

WHYS AND WHEREFORES.

Who made and sold more twine to farmers than any others in 1890?

William Deering & Co. They distributed nearly 10,000 tons.

Why?

Because the twine they have sold from the beginning has generally been of the best quality, and has gained the reputation of being the best and most reliable. They also now make the larger part of the twine they sell, and are determined to make none but the best.

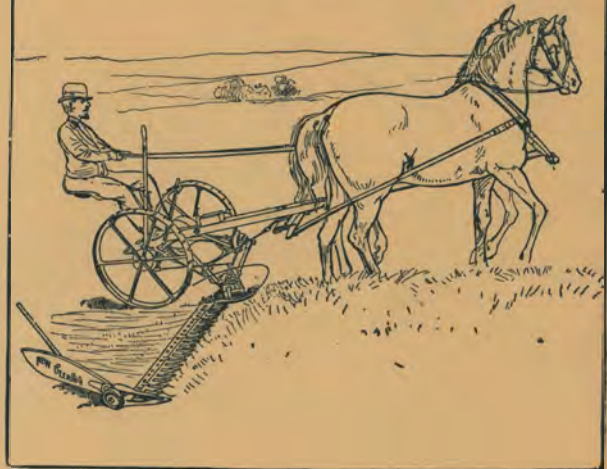
Are the high prices for Twine prevailing in 1888, 1889, 1890 likely to continue?

No. All fibres have been declining in price for several months past, and now the duty of twenty dollars per ton on Manila Hemp, fifteen dollars on Sisal and New Zealand, and other hems, is removed, and twine itself is to be admitted at a duty of ⁷⁻¹⁰ ~~seven~~ cents per pound, so that it can be imported from any foreign country almost free. Everything combines to make twine cheaper for the future, but there will still be a considerable margin between good honest twines and a poor article. It is cheapest to use the best.

Happy are they who have lost their relish for tumultuous pleasure, and are content with the soothing quiet of innocence and retirement! Happy are they whose amusement is knowledge, and whose supreme delight is the cultivation of the mind. Wherever they shall be driven by the persecution of Fortune, the means of enjoyment are still with them; and that weary littleness which renders life unsupportable to the voluptuous and the lazy, is unknown to those who can enjoy themselves by reading.

The father of the family should exert himself to plan home amusements for the children during the long winter evenings; if the children are not amused at home, they will avail themselves of every opportunity to get away from home to seek amusements where they can find them; and very likely

"Or a Deering Mower to help me along."



XXVII.

But just to think what I might have done,
If I'd had a Deering Binder to run,
Or a Deering Mower to help me along,
In the days when I was hearty and strong.
Why, ridin' a mower's nothin' but play
Compared to swingin' a scythe all day,
And it seems a pity that, somehow or ruther,
Things wa'n't fixed so fer me an' mother.

XXVIII.

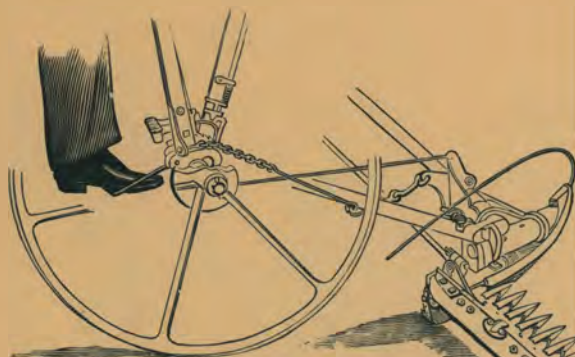
Yes, it's all paid for, every cent,
I earned my money before it was spent
And mother and I, we both set out
What couldn't be paid for we'd go without,
For if ever the devil started in
To play for a soul with a chance to win
I'll warrant he'd try it with some such hand
As clappin' a mor'gage onto the land.

"A failure establishes this only, that our determination to succeed was not strong enough." The New Deering Mower never fails.

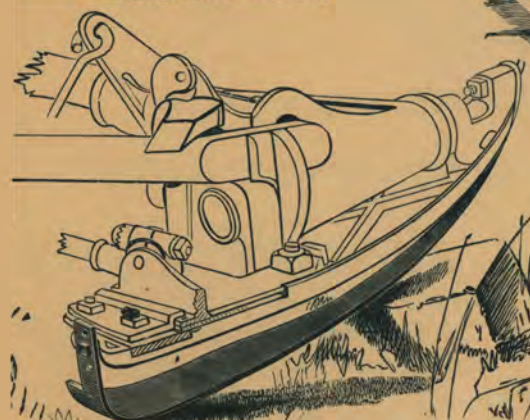


WHYS AND WHEREFORES.

THE foot lever permits the driver to raise the cutter-bar without even removing his eyes from the horses, and leaves both hands free to drive. A slight touch of the foot raises the bar, another slight touch lowers it. The same adjustment may be made by means of the hand lever, or both foot and hand may be used. In raising the cutter-bar by means of either the foot or hand lever, the outer end of the bar begins to rise as soon as the inner end, and rises even higher, allowing the bar to pass over a very high obstruction at the outer end.



THE FOOT LEVER.



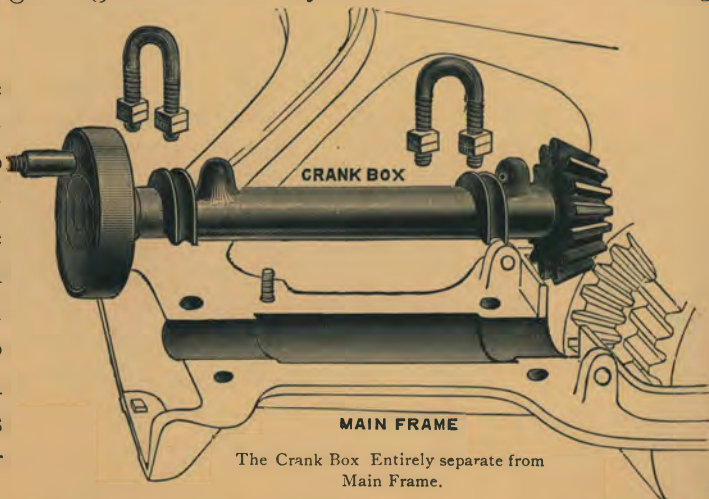
SUPPLEMENTAL SHOE ON THE DEERING MOWER.

bearings of the main shaft, of the wheels and of the crank shaft also illustrate this policy, and all contribute to increase the strength and wearing qualities of the New Deering Mowers. The many other points of merit possessed by the New Deering Mower which there has not here been found space to mention, must be left to be discovered in that careful examination of this mower that we hope every farmer will make at the first opportunity.

Wherever desirable, the important parts of the New Deering Mowers have been made of the largest size possible without sac-

rificing the necessary degree of lightness. As examples of this good policy may be mentioned the large and perfect, yet light gearing, the high wheels with broad face, and the wide tread, not

only giving great traction power, but also raising the gearing out of the way of obstructions. The long



The Crank Box Entirely separate from Main Frame.

"If you would know the value of money, go and try to borrow some, for he that goes a-borrowing goes a-sorrowing." The man who owns a Deering Binder need never borrow.

WHYS AND WHEREFORES.

they will join with those who will lead them into places where the amusements are not of a high order. No one has better opportunities to make his home a happy one than the farmer.

Stormy days should be improved by repairing farm implements, thus having them ready when the busy season commences. The lazy and shiftless farmer never thinks of repairing an implement until he is ready to use it; but the industrious, wide awake farmer does everything he can in the winter to prevent any delay when the busy season comes. Keep the wagons and all farm implements well painted to increase their durability and improve their looks.

How do you spend your evenings? Do you sit in the easy chair and sleep, or do you sit on the end of a flour barrel at the corner grocery and gossip about your neighbors? Or do you, like a sensible man, stay at home and make an effort to make it pleasant for your family and for yourself? Try to make every member of the household feel that home is the brightest, happiest spot on earth.

Lazy farmers don't like weeds, yet they grow more of them in their gardens than any one else. They cultivate just often enough to keep the weeds in good condition. The industrious farmer spends but little time killing weeds and keeping his land clean, because he begins in season and cultivates while the weeds are small.

If your expenses last year were more than you expected, and the balance sheet not quite satisfactory, get a daybook, and keep an exact account of your expenses this year; you will then have for examination a record of all your foolish as well as your wise expenditures.

Life is the best thing we can possibly make it. It is dull and dismal and heavy if a man loses his temper; it is glowing with promise and satisfaction if he is not ashamed of his emotions.

"A big Farm-wagon just Painted bright."



XXIX.

Trouble? why yes, we have had our share,
And plenty of worry and work and care;
But take it all round, and I reckon we've had
Rather more good in our lives than bad;
And whether 'twas sunshine or stormy weather
We took what come and we pulled together,
For mother she ain't the woman, you know,
To hector a feller with, "*Told ye so.*"

XXX.

How did we travel? Why, bless your heart,
We made our trip in a mover's cart,
A big farm-wagon, just painted bright,
An' a canvas cover stretched smooth and tight
Over beds, an' blankets, an' household gear,
Just the things that we reely must have here;
And a brave little woman that, mile after mile,
Set huggin' the baby, and
tryin' to smile.

"While we deliberate it is already too late to begin." Buy a Deering Giant Mower before it is too late.



WHYS AND WHEREFORES.

THE DEERING GIANT MOWER.

Cutting 5, 6 or 7 feet,



THE DEERING GIANT MOWER.

MANY so-called wide-cut mowers are made by simply adding a wide cutter-bar to the same, or substantially the same, mower on which the ordinary cutter-bar is used. This is as absurd as attempting to make a man out of a boy by putting on him a pair of man's trousers.

When a longer cutter-bar is put on a mower intended for narrow cutting, one of two things is certainly true. Either this mower is too heavy and cumbersome for a light, narrow cut mower, or it is too light and frail for a wide cut mower, and will run hard in draft, fail to work in difficult cutting, break and wear out speedily.

In order to furnish the requisite increase of traction to drive easily the long cutter-bar, and to supply the necessary strength to do the increased amount of work, all the parts of the Deering Giant Mower have been made proportionately large and strong. This mower is indeed a giant, possessing all the advantages and adjustments of the New Deering, with a capacity for nearly twice the work.

By reason of the perfect balance, the large, high wheels, and the manner in which the weight of the cutting apparatus is thrown directly on the wheels, the Deering Giant Mower is little, if any, heavier in draft than the New Deering Mower, and on large farms it is, without doubt, the most economical mower that can be used.

"A countryman between two lawyers is like a fish between two cats." Buy the Deering Binder and you will have no use for lawyers.

WHYS AND WHEREFORES.

A smiling countenance and pleasant words are wonderful helps on the farm among the workmen, as well as in the dwelling-house among the members of the household; frowns and cross words not only destroy the happiness of him who dispenses them, but they cause misery to all who observe and listen to them.

When we ourselves least kindly are,
We deem the world unkind;
Dark hearts, in flowers where honey lies
Only the poison find.

Have as few bills as possible. A better way is to pay for all goods when delivered.

Don't run up a long bill and then wait to be dunned for it.

Thou canst not joke an enemy into a friend, but thou mayst a friend into an enemy.

He that pays for work before it's done, has but a penny's worth for two pence.

Learn of the skillful. He that teaches himself hath a fool for a master.

Blessed is he that expects nothing, for he will never be disappointed.

He that falls in love with himself will have no rivals.

Pay what you owe and you'll know what is your own.

An old young man will be a young old man.

None are deceived but they that confide.

Diligence is the mother of good luck.

An empty bag cannot stand upright.

'Tis easy to see, hard to foresee.

"So mother an me just sit her."



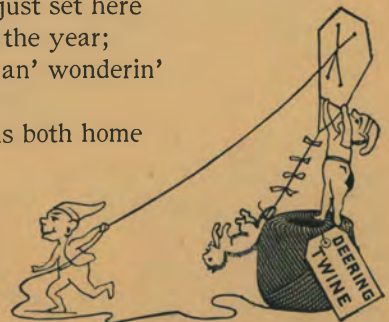
XXXI

Well, well, them days is a long way past,
We've got a nice meetin'-house here at last;
The town's built up, and I hear folks say
They're gradin' a railroad out this way.
The children are stiddy, we've fetched up seven
An' the Lord took one little feller to heaven.
Most of 'em married and moved away,
But Horace an' Reuben, they're plannin' to stay.

XXXII.

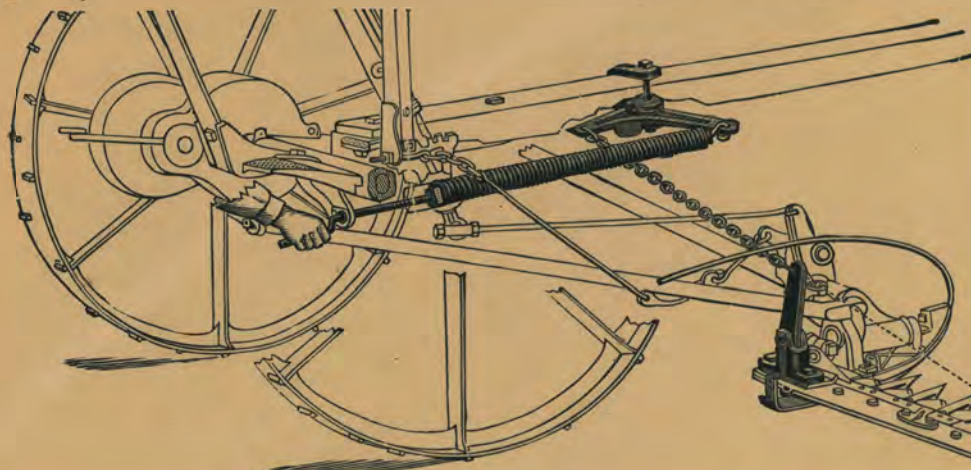
Horace, he's taken the farm to run,
I've had my day, an' my work is done;
And Emmeline, well, there's no use denyin'
Sh'd manage an army without half tryin';
So mother an' me we just set here
A-havin' a holiday all the year;
A-readin' an' nappin' an' wonderin'
whether
The Lord won't take us both home
together.

"Nothing is more simple than greatness; indeed, to be simple is to be great." The Deering Junior Steel Binder is marvelously simple.



WHYS AND WHEREFORES.

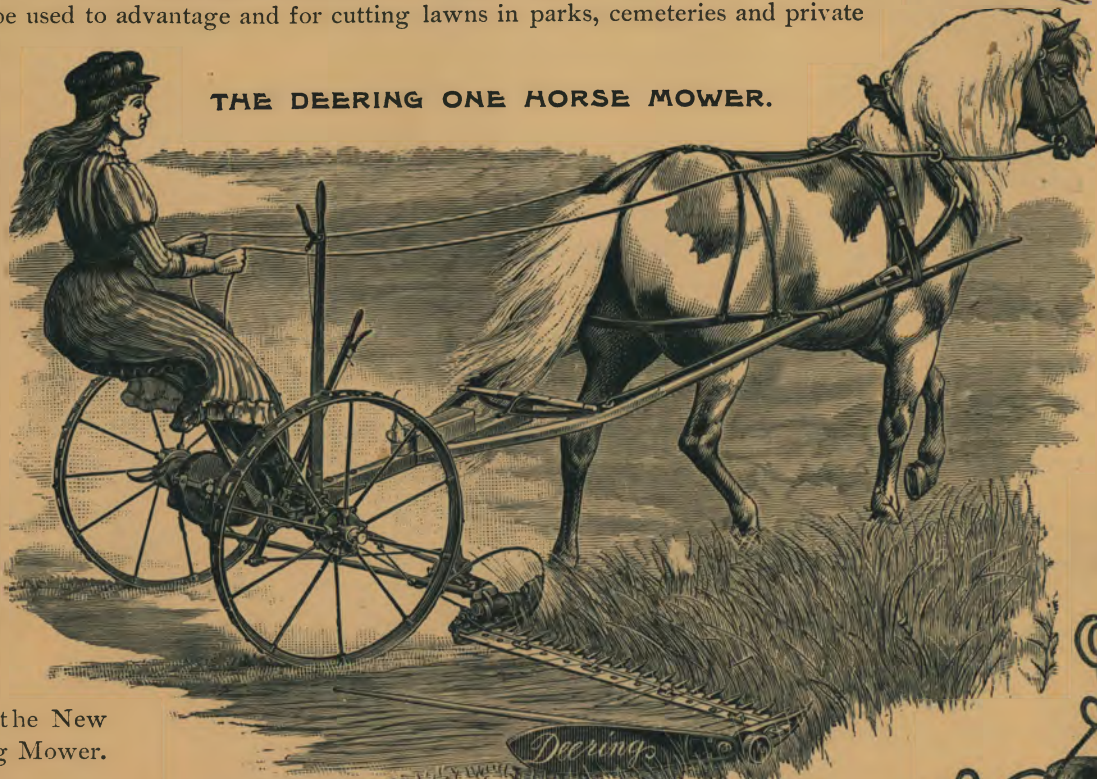
THE manner in which the weight of the cutter-bar is carried by the wheels, is illustrated by the accompanying picture. Notice that the lifting power of this spring is so regulated by the system of levers to which it is attached that the point at which it is applied to the cutter-bar is at the center of gravity of the bar, as shown by the dotted line. This causes the cutter-bar to be lifted equally throughout its length, removing all friction of the bar upon the ground. The power of the spring can be increased or diminished by a few turns of the rod, as shown in the cut.



LIFTING SPRING ON DEERING GIANT MOWER.

THIS small Mower is especially adapted to stony, stumpy land where two horses cannot be used to advantage and for cutting lawns in parks, cemeteries and private grounds. It is not like many so called one-horse mowers that are merely mowers of ordinary size and weight supplied with a short cutter-bar, but the Deering One Horse is perfectly proportioned in all its parts and will do as perfect work and possesses all the advantages of the New Deering Mower.

THE DEERING ONE HORSE MOWER.



"In life it is difficult to say who do the most mischief—enemies with the worst intentions, or friends with the best." It is not difficult to say that the New Deering Mower does the best cutting.



THE DEERING LIGHT REAPER.

FOR cutting all kinds of grain or flax where a Binder is not desired this Reaper is found to be a thoroughly successful machine,

The draft is very light and even, because the machine is carefully balanced and is drawn from the center.

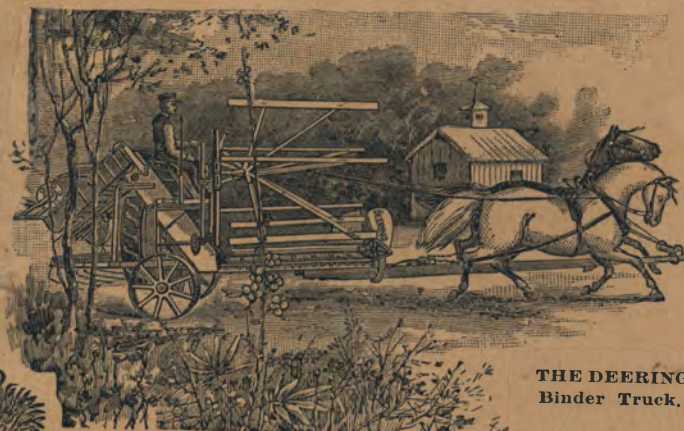
The main frame is cast in one piece, which completely encircles the main wheel and the gearing, making a perfect protection to the working parts, and giving the machine great strength and stiffness.

The rake arms are quickly and easily adjusted by means of a foot treadle, so that one, two, three or four arms will rake.

Thus the grain can be dropped from the platform in such quantity as to make bundles of any desired size.

A lever within convenient reach of the operator raises or lowers the platform to suit any kind of cutting, and the guards can be tilted very low to pick up the worse tangled grain.

The cutting apparatus like that on all Deering machines is perfect both in material and in workmanship.



THE DEERING Binder Truck.



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