MOLINE CORN BINDER

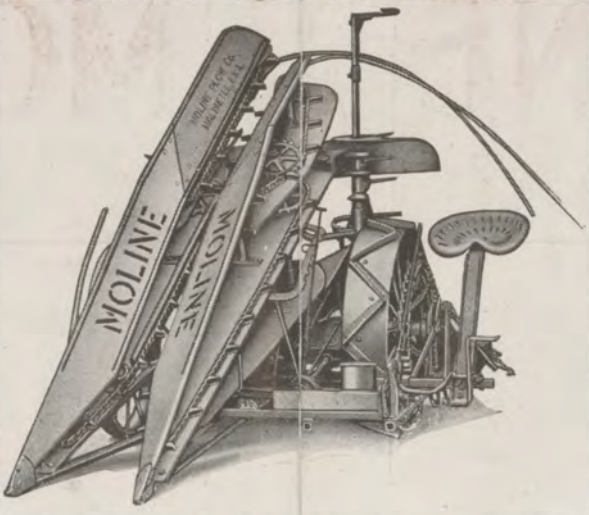
Manufactured by MOLINE PLOW CO., Moline, Ill.

R. F. No. 20

Moline Corn Binder

Corn frequently runs as high as 20 tons to the acre and often is down and badly tangled. To harvest such corn successfully a binder must be correct in every detail. The Moline Corn Binder has been remarkably successful in handling such corn, and has given entire satisfaction in all parts of the country under greatly varying conditions.

Success of the Moline Corn Binder is due to its correct design, perfect proportion, compactness, thorough construction and durability.



Driving Wheel

Sixteen continuous traction lugs are placed diagonally across the tire. The lugs form an even rim surface around the wheel, so it rolls smoothly over hard roads. The Moline wheel will not slip and it excels others in holding up on side hills.

The Moline Driving Wheel is the lightest running in use on any Corn Binder. All the carrying and driving friction is removed by ***roller bearings*** of the very best construction. Every particle of end thrust friction is removed by a positive three point support ***ball bearing*** at each end of the wheel hub—the only first class thrust bearing in use on any agricultural machine.

The Moline is a solid steel wheel and will stand up under all conditions.

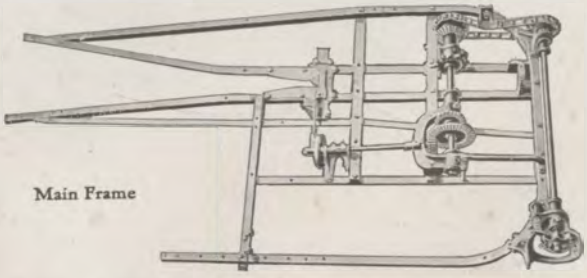
The corn wheel is the same height and in direct line with the drive wheel. This accounts for the perfect balance of the Moline, and enables the points of the gathering boards to be tilted quickly for down corn.

Hub and spokes are removable, and in case of accident may be easily and economically replaced.

Moline Corn Binders may be raised or lowered at either side by means of cranks secured by locking latches.

Main Frame

Main frame is solid steel construction and is trussed and braced in a manner to give the greatest possible rigidity. This frame is



Main Frame

practically indestructible and will always hold the working parts of the machine in proper position without binding or cramping any of the bearings.

The gathering arms, supporting the points of the gathering and chain boards, consist of four strong steel angle bars. They are in two sets, diverging back from the points and extending to the extreme rear of the frame.

Upon this firm, thoroughly secured foundation, the gearing, binding attachment, and support for all the upper work are most securely fixed.

Driving Mechanism

Anyone who has ever used a field machine of any kind, knows full well that a short driving chain will cause him more trouble, will make the machine draw harder, and will wear out more rapidly than a good long driving chain. For these reasons the Moline Driving Chain is longer than is used on any other machine. It is also placed outside of the driving wheel in the easiest possible position for a man to adjust the chain tightener or to remove a link when necessary. In machines with an inside drive it is necessary to have both chain sprockets inside of the driving wheel tire. This requires a smaller sprocket and a very short chain. This arrangement is very unsatisfactory as it is almost impossible to keep the chain at the proper tension and it is very inconvenient to adjust.

Main chain tightener automatically keeps the chain at the proper tension, and is provided with means for taking up the slack as the chain wears.

Shafts and Bearings

Every finished shaft is of cold rolled steel. The rear cross shaft, the gear driving shaft, and the upright chain driving shafts are all provided with our anti-friction roller bearings. All bear igns that would have the least tendency to cause hard running from springing of frame or shafts, are self-aligning so that the draft of the binder is light.

The gear driving shaft and crank shaft bearings are held in the same strong casting, making it impossible for the bevel gears to separate. The gears driving upright shafts are held in the same manner.

Gathering Arms

Gathering arms extend five and one-half feet in advance of the knife and the gathering chains run close to the points of the arms. The machine is perfectly balanced, and the points of the gatherers can be lowered to the ground instantly and easily so that they will get under down stalks.

From the moment the corn is cut the gatherers gradually deflect it toward the delivery side of the machine. An automatic retarding arm is placed at the rear end of the gatherers to support the tops of very tall corn while being bound.

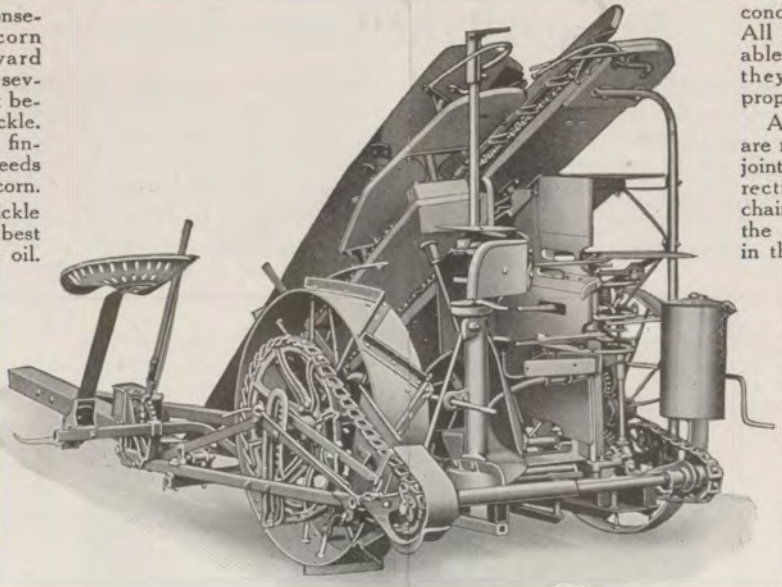
At the rear sprockets all of the conveyor and feeder chains pass between strippers which prevent corn leaves, vines or weeds from winding on the sprockets or around the shafts.

Cutting Device

In addition to the cutting sickle or knife, operated by a pitman there are two stationary side knives, across which the sickle works. These stationary knives are fastened to the frame so there is a knife on either side of the

stalk passage. Consequently as the corn binder moves forward most of the stalks are severed by a drawing cut before they reach the sickle. The sickle, however, finishes the work and cuts weeds or vines that may be in the corn.

Knives and the cutting sickle section are of the very best crucible steel, tempered in oil. The pitman driving the sickle has a bronze composition box with a reservoir for oil which is fed automatically by the action of the pitman.



Conveying Chains

To raise, straighten and deliver to the binder in good shape, corn which is blown down or tangled has always been a difficult problem. It is best solved by our long gatherers and three sets of chains of varying speeds and at different elevations.

Gathering chains catch near the butt any leaning corn lifted by the arms, and begin to raise the tops toward an upright position. These chains constantly secure a higher hold on the stalks, as the machine advances, and being speeded a little faster than the feeding chains, place the tops of the stalks within the grasp of the uppermost chains before the butt is grasped by the lower chains. The lower feeding chains extend forward of the knives, and the chain fingers support the stalks and move them to the knife.

When cut, the stalks are held by all three sets of chains and are carried upright to the binder; the tops a little faster in order to keep the butts on the guiding floor and thus secure a square butted bundle.

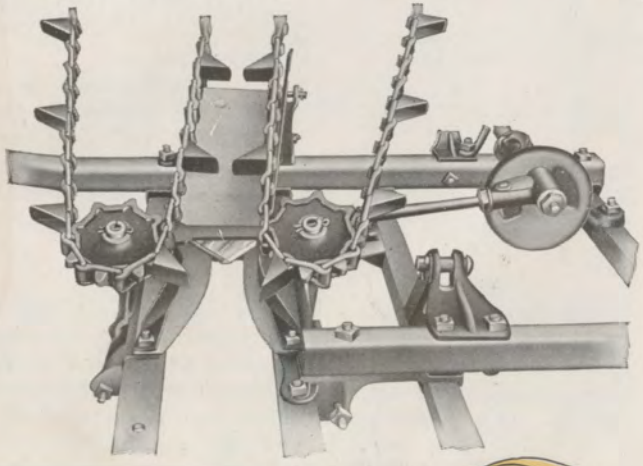
Upper chains are adjustable at the rear. so that the projecting fingers may be moved farther in or out of the corn passage, as conditions may require. All chains have adjustable tighteners so that they may be run with proper tension.

All conveying chain links are made with a connecting joint which locks in one direction. This prevents the chain from yielding away from the corn but leaves it flexible in the other direction to pass freely around the sprockets.

Each set of chains is operated with the projecting fingers opposite each other, and when these chain fingers get hold of a stalk of corn it cannot escape.

The corn is carried by holders which are inclined backward so that when the chain turns around the sprocket wheels the corn is easily released at the proper point for passing into the bundle. Do not fail to note that these Moline chains are run with the holders inclined backward. Under no circumstances should the position of these holders be reversed (which many people are tempted to do) as trouble will result.

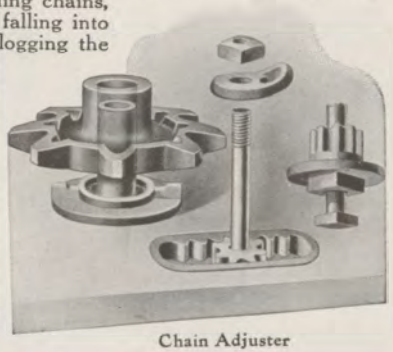
By loosening the nut on one bolt on the chain adjuster the sprocket and its carrier can be moved to tighten or loosen the chain and can be made fast by tightening the nut. This adjustment is simple and effective.



Cutting Device

Corn Supporting Springs

Steel springs extending from a point well in advance of the knife back to the packers, and projecting into the stalk passage just above the lower feeding chains, prevent short corn from falling into the stalk passage and clogging the machine. These springs, in connection with the method of feeding, enable short stalks to be delivered to the binder in an upright position and to cut and bind corn that will reach only a few inches above the knotter. When adjusted for short corn, the twine band is but twenty inches above the bottom of the stalk passage.

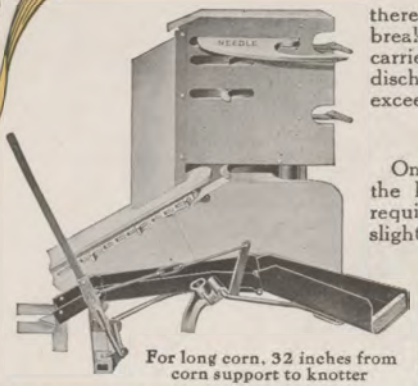


Chain Adjuster

Binding Attachment

The corn binding attachment is time tried and true, and is similar to that used on the Moline Grain Binder. It is placed vertically at the rear of the frame near the drive wheel, to secure the easiest and best delivery of the bundle. Three packers reach well into the stalk passage and compress the stalks against the compressor arms until enough have accumulated to form a bundle, which is then tied and discharged. Compressor arms may be adjusted to regulate the size of the bundle.

On the Moline Corn Binder the sole function of the packer crank is to drive the packers,



For long corn, 32 inches from corn support to knotter

therefore it is not liable to break. The knotter shaft carries an extra adjustable discharger arm for use in exceedingly tall corn.

Knotter

Only one adjustment on the knotter will ever be required and that is to slightly tighten the spring on the twine disc shoe after it has been in use a season or two.

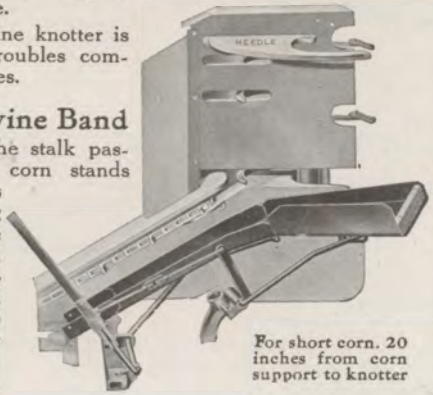
A cam and cam pinion positively drives the Moline twine holding disc, which insures the disc moving the proper distance and prevents backing up. The spring at the back of the twine holder shoe allows it to adapt itself to knots or variations in twine.

In forming the knot, the twine holding disc revolves toward the billhook, reducing to a minimum the amount drawn through the holder. When the knot is finished it is stripped from the hook by the stripper arm before the discharge arms act on the bundle, thus preventing the breaking of the band in discharge.

This positive Moline knotter is entirely free from troubles common to other machines.

Location of Twine Band

The bottom of the stalk passage on which the corn stands while being bound, is adjustable for varying the position of the band on the bundle. It may be moved up or down and placed from thirty-two to twenty inches below the knotter.



For short corn. 20 inches from corn support to knotter

Changes in adjustment may be quickly made by means of a lever convenient to the driver, providing different adjustments of the band.

Power Bundle Carrier

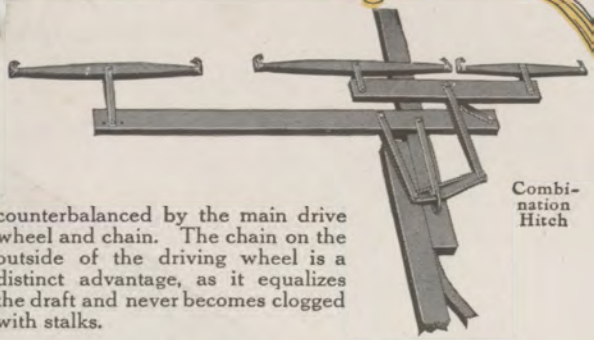
Bundles are discharged into a power bundle carrier. When a sufficient number have been deposited a revolving carrier is thrown into action by the operator's foot, and the bundles are quickly deposited to one side out of the way of the third horse on the next round. This feature will be appreciated by all users.

Moline-Universal Tractor Hitch

By means of a simple hitch which we can furnish, the Moline-Universal Tractor and Moline Corn Binder can be connected in one unit so that one man has entire control over both tractor and corn binder from the seat of the binder. This makes a splendid outfit for harvesting corn quickly and economically.

Tongue

On the Moline Corn Binder, the tongue is placed between the main drive chain and the working mechanism. This arrangement tends to overcome side draft. The power required to bind and cut the corn stalks is counterbalanced by the main drive wheel and chain. The chain on the outside of the driving wheel is a distinct advantage, as it equalizes the draft and never becomes clogged with stalks.



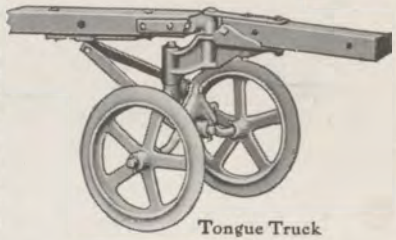
Combination Hitch

Combination 2 or 3-Horse Hitch

Moline Corn Binders are equipped with a combination evener which can be used for either two or three horses. In average cutting on fairly level land two horses successfully handle the Moline Corn Binder. The evener is easily and quickly changed from a two to three-horse and does the most satisfactory work as either style hitch.

Tongue Truck

The Tongue Truck used on the Moline Corn Binder is of the quick turn style, strongly built, and very efficient in the field. It is not part of the regular equipment, but is very desirable under certain conditions. With this truck the machine can be turned easily at the corners, without pulling the horses to a position at right angles with the machine, as the truck turns faster than the team. It also obviates all neck weight and side draft, does away with pole lashing on rough land, so that the team works more easily and rests better when standing. It adds to the comfort of the operator by guiding the machine more steadily, and makes it easier to hitch and unhitch the team.

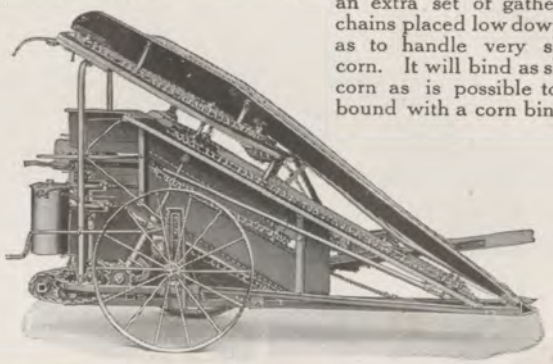


Tongue Truck

Axle is pivoted on center so that either wheel passes over an obstruction without straining the pole.

Moline Junior Corn Binder

The Moline Junior Corn Binder is of the same general construction as the regular Moline corn binder, but is provided with an extra set of gathering chains placed low down so as to handle very short corn. It will bind as short corn as is possible to be bound with a corn binder.



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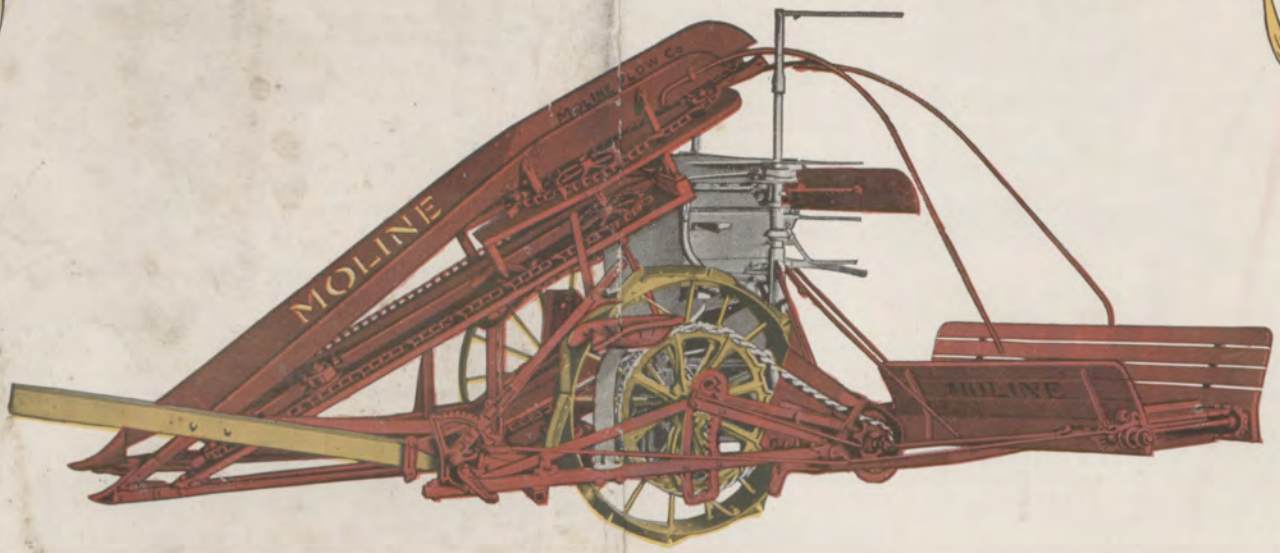

Reasons Why the Moline Corn Binder Runs So Easy and Does Such Good Work

1. Lightest running main wheel in the world. Roller bearings remove all friction of carrying and driving load. Ball bearings remove all end thrust friction at both ends of hub.

2. More self aligning and anti-friction bearings than is found on any other corn binder.

3. Grain wheel in line with the main wheel gives perfect balance.

4. Steel springs prevent short stalks from clogging the passage.

5. Stalk passage easily adjusted for long or short corn.

6. Automatic chain tightener keeps chain at even tension when raising or lowering machine.

7. Shafts of cold rolled steel have anti-friction and self-aligning roller bearings.

8. Cutting device is reliable and durable.

9. Chains easily adjusted by patent adjusters.

10. Gathering boards extend 5½ feet in advance of the knife. Will straighten up down corn before cutting it off.

11. Three sets of conveying chains at different speeds and elevations deliver corn to the binding attachment in perfect order.

12. Binding attachment is time tried and true.

13. Longest drive chain used on any corn binder. Will drive easier, last longer and cause less trouble than others.

14. Shields protect running parts from dust and dirt, and prevent winding.

15. Power Bundle Carrier delivers bundles out of the way; thrown into action by operator's foot.

16. Tongue is so placed that side draft is greatly overcome.

17. Hitch easily adjusted for two or three horses.

18. Tongue truck turns binder quickly at corners; relieves neck weight and prevents lashing of the pole.

Save *All* the Corn Crop

Forty per cent of the feeding value of the corn crop is contained in the stalks and sixty per cent in the ears. A large percentage of the corn stalks are not utilized at the present time for feed. This means that the only benefit from a large part of the corn crop is the fertility which is returned to the soil when the stalks are turned under, and even this is lost when they are burned. It also means that more expensive feeds are used which corn stalks could replace.

It is estimated by good authority that the waste of corn stalks amounts to 500,000,000 dollars annually.

In view of the scarcity of feed and the high price of lands anyone who fails to utilize his corn stalks is overlooking an easy source of profit.

Notice near the white X the face of a man over 6 feet tall, standing on the extreme top of the machine behind the bundle being bound

Shredded Corn Fodder is Valuable

Good clean shredded corn fodder is nearly as good for feeding purposes as timothy hay. When cut while the stalks still contain all their nutritive juices, just before the ears begin to glaze, an ideal roughage is secured which is relished by all live stock. Shredded corn fodder also makes excellent bedding, as it readily absorbs liquid manure. Liquid manure is worth $7 a ton, and under ordinary conditions this is lost. You can increase the fertility of your soil by applying this manure.

Silage Makes Cheap Feed

The silo has made possible a more economical use of the corn crop. When the corn crop is fed in the form of silage, practically every bit of it is utilized to the best possible advantage.

Silage has almost the same composition as grass which makes it the ideal winter feed. Dairy cows fed a liberal allowance of silage do not drop off in their milk flow when taken off of pasture. Beef cattle make economical gains on silage. One acre of silage is equal in its feeding value to six acres of pasture.

Aside from its feeding value, silage is succulent and stimulating, which makes it especially valuable for feeding purposes.

Cost of harvesting, feeding and storing the corn crop in the form of silage is much less than the ordinary methods.

Thus utilizing the whole crop in the form of silage means more feed at less cost; more stock; more manure; more profit.

Use a Corn Binder

The whole crop can be saved by using a good corn binder which will pay for itself by the time saved over the hand method of harvesting. No farmer would think of harvesting his grain with a cradle; harvesting corn by hand is just as impractical.

At silo filling time a corn binder is essential. Cutting the corn and binding it into bundles, which are easily handled and hauled to the silage cutter is the only practical, labor saving method of putting up silage.

Moline Corn Binders are Best

Moline Corn Binders have many years of "make good" behind them. They were the first corn binders to successfully handle long, short or tangled corn. Every mechanical detail has been developed to perfection. They are constructed for years of hard service and for saving effort on the part of both man and team.

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