



Flying Dutchman

Wide Spread

Spreaders



Manufactured by MOLINE PLOW CO., Moline, Ill.



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R. F. No. 16

Flying Dutchman Wide Spread Spreader

The *Flying Dutchman* is a practical, low down, endless apron wide spread spreader. It is low enough for easy loading, just high enough for clearance, runs easy and lasts long. *Flying Dutchman* Spreaders have given perfect satisfaction in all parts of the country with all kinds of manure.



Very little draft is added in operating the spiral beater, as it runs on roller bearings and does not have a retarding device of any kind to hold the manure, but acts on the manure when it is in motion and revolves in the same direction it is moving.

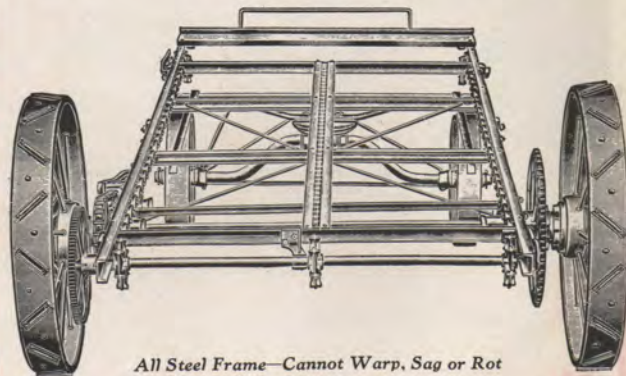
The even distribution and wide spread is a very great advantage when top dressing small grain or grass land.

Wide Spread

The wide spread feature is obtained by simply adding to our former *Flying Dutchman Spreader* a spiral beater, which is run at a very high rate of speed and is placed in proper position to receive the manure as it is delivered by the first beater. Thus the manure is subjected to a second handling, which pulverizes it much better than a single beater can possibly do; at the same time spreads the manure out wide instead of leaving it in streaks.

The spreader is driven over the clean ground each time instead of over the spread manure which increases the traction power of the spreader and avoids picking up the spread manure by the rear wheels.

When spreading on corn stubble or growing corn, it is not necessary to straddle every row, but every other row, and the manure is spread evenly crosswise of the spread.



All Steel Frame—Cannot Warp, Sag or Rot

Low Down Feature

The *Flying Dutchman* is the low down type. It is 42 inches from the ground to the top of the box at the rear wheel and 4 inches higher in front. It has ample clearance—18 inches between the apron and the ground. Certain other makes have but 12 inches.

Rear wheels are steel 40 inches high, with flanged tires, and riveted mud lugs. Front wheels are steel, 24 inches in height, with flanged tires.

You will note the perfect proportions of the machine. In designing this low down spreader, it was not necessary to place the rear axle behind the spreader, thus making a long, unwieldy, heavy draft machine with insufficient traction. We have not sacrificed any of the working qualities of the spreader and have secured the convenience of the low down feature, easy to load, together with the cut-under or short turn, light draft and plenty of traction.

General Construction

Frame is entirely of steel. The side sills, cross sills and center sills are of high carbon channel steel, riveted with $\frac{7}{16}$ -inch rivets. Front bolster and apron supports are heavy and thoroughly braced. There is no possibility of this frame rotting, warping, sagging or getting out of line. It is practically indestructible.

An especially valuable feature is our method of attaching the apron rollers to the side sills. These rollers are supported by malleable brackets riveted to the side sills, which allows a free movement of the roller—no bolts

to work loose. Note the apron is supported by three sets of rollers—insuring light draft—also prevents sagging of the slats.

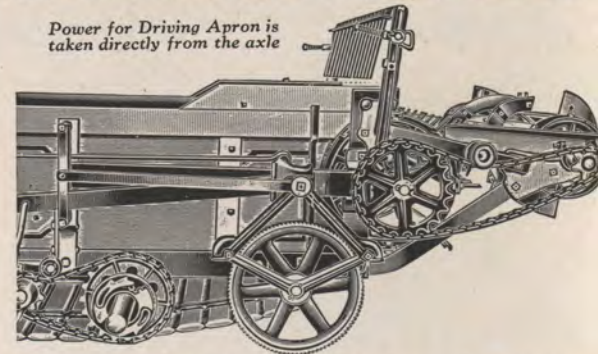
By reason of our steel frame construction we estimate 4500 pounds to be a perfectly safe load for our *Flying Dutchman Spreaders*.

The box sides are of panel construction, with bolts extending down through the side sills, thus uniting the strength of the frame with that of the side board throughout the entire length of machine. These side boards are prevented from spreading outward by the use of a heavy steel brace, bolted to the side sills.

Apron Driving Mechanism

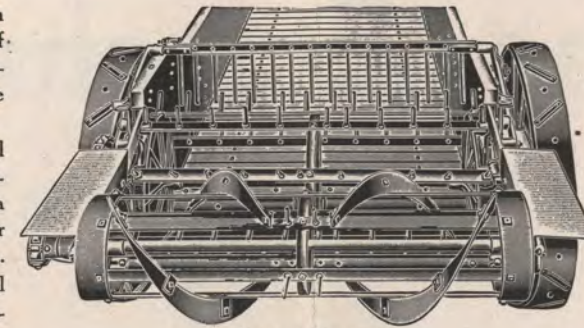
Power for driving the apron on the *Flying Dutchman Spreader* is taken directly from the axle instead of the beater, as is the case with certain other machines. Feed is of the double ratchet type, the only practical method of

Power for Driving Apron is taken directly from the axle



driving an endless apron machine, as it permits a greater variation in speed than any other device. The changes of speed in the travel of the apron are produced simply by moving the fulcrum and giving a longer or shorter stroke to the connecting beam. This increases the stroke of the ratchets and moves the ratchet wheel a greater or less distance. The ratchet wheel is keyed to the apron shaft. The entire device is positive, simple, with ample strength and works very smoothly.

The feed on the *Flying Dutchman Spreader* has a wide range of adjustment. This is a very important feature as it enables the operator to spread any desired amount from a thin coating to a heavy layer. In addition there is



Spiral Beater

a reserve speed which is only used for cleaning out the last remaining portion of the load. By throwing the lever forward, below the notches in the ratchet, the apron is given a speed of over forty loads to the acre, so that while traveling only a short distance the last remaining portion of the load is entirely cleaned out. This feature of the *Flying Dutchman Wide Spread Spreader* will be appreciated

by every user as it overcomes the common difficulty of leaving a part of the load in the box unspread.

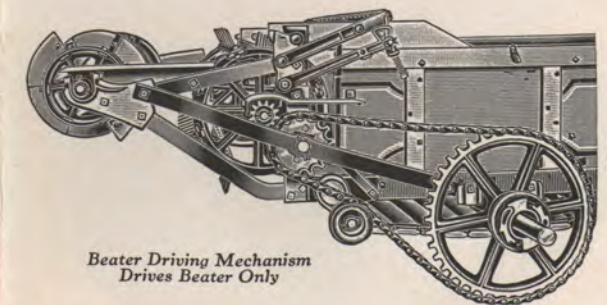
Beater Driving Mechanism

Without a durable, positive device for driving the beater a spreader is unsatisfactory. On the *Flying Dutchman Spreader* the beater driving mechanism drives the beaters only—the apron is driven from the opposite end of the axle. Both beater and apron are driven direct from the axle—which is in turn driven by both wheels—securing a direct, positive application of the power.

On other endless apron machines, the power is taken from the axle and applied to one end of the beater, through the beater shaft, and the apron is driven from the opposite end, which puts an undue strain on the beater and the device driving it.

On the *Flying Dutchman* the power is taken from the large sprocket on the axle and transmitted by a heavy chain. This chain runs only when the spreader is in motion. We secure the proper speed for the beater by graduation in size of sprockets and gears.

The driving gear is placed in front of and below the beater pinion and is braced down to the main axle.



Beater Driving Mechanism Drives Beater Only

Flying Dutchman Wide Spread Spreader

The Best for Man, Team and Land



STYLES AND SIZES

Wide Spread	Without Wide Spread	BODY			Weight	Equipment
		Width	Length	Depth		
No. 30	No. 10	42-in.	9-ft. 10½-in.	15½-in.	1900 lbs.	2-horse
No. 31	No. 11	54-in.	9-ft. 10½-in.	15½-in.	2050 lbs.	3-horse
No. 32	No. 12	54-in.	11-ft. 10½-in.	15½-in.	2150 lbs.	4-horse
No. 34	No. 14	54-in.	8-ft. 2½-in.	15½-in.	1967 lbs.	2-horse
No. 35	No. 15	54-in.	10-ft. 2½-in.	15½-in.	2170 lbs.	3-horse



Pulverizing Rake

This rake is entirely automatic, and requires no attention whatever from the operator. It is made wholly of steel and malleable and is practically indestructible. The rake teeth are high carbon steel riveted to an angle steel bar, while the arms are of malleable iron. There is no wood about it to decay or split.

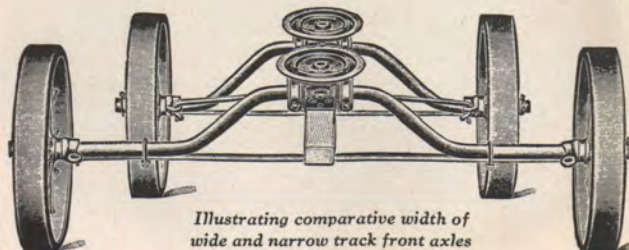
Its arrangement is such that when the rake is in its forward or lower position, it is locked in a way to prevent the manure from being loaded against the beater; thus the beater is left free to start when the machine is thrown into gear.

When the spreader is thrown into gear, the pressure of the load against the rake will automatically raise it to an upright position. When in this position, the rake is unlocked to allow the head to act against the springs and the teeth are held down by spring pressure; there is no choking or clogging, and large lumps of foreign material will be discharged without damage to the beater. When the load is discharged, the rake will drop back to its original position. The raising movement is very easy, because of the fact that it is not lifted against spring pressure. Then, too, when the rake is dropped, the teeth extend further in the box than on any other rake on the market.

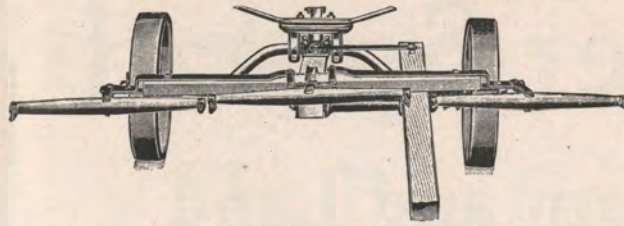
One Lever

The entire machine is operated with but one lever. No difference how inexperienced the operator may be, he cannot manipulate this lever in such a manner as to injure the machine.

When the lever is raised up to the rear end of the ratchet, the machine is securely locked out of gear. When it is advanced forward to the first notch on the ratchet, the beater is thrown into gear, but not the apron. This gives the beater a chance to free itself before the load is fed against it. As the lever is advanced further forward the apron is started and the speed of the apron gradually increased. When the lever is placed in the forward notch, the machine will spread 24 loads per acre.



Illustrating comparative width of wide and narrow track front axles



Three-Horse Hitch and Set-Over Pole

The space from the forward notch to the bottom of the ratchet is to be used only in cleaning out the last portion of the load, as previously explained.

Roller Bearings

Spreader is fully equipped with roller bearings. They are used on both ends of the beater, both ends of the main axle and on the driving gear, also both ends of the spiral beater.

Apron

The apron is of the endless type, provided with three chains extending through its entire length. The slats are riveted to the chains, thus eliminating the trouble caused by loose bolts. However, three of the slats at the connecting point are put on with bolts, making it possible to remove one or two of the slats for the purpose of creating an opening in the apron to dump out any manure that might accumulate between the folds of the apron.

Light Draft

An especially important item in any spreader is that of draft. It is a known fact that the further you hitch from the load the heavier the draft. In a spreader, power is taken from the rear axle and transmitted to the beater and apron at the extreme end of the machine. The hitch then should be as close as possible to the rear axle.

You will note that the *Flying Dutchman Spreader* has a very short wheel base. This means convenience in turning and a sufficient amount of weight on the rear axle to secure the proper traction. Observe how much closer the team is hitched to the rear axle on these machines than on other types.

Ample power to drive the *Flying Dutchman Spreader* under any condition is secured from wheels having the ordinary mud lugs riveted flat to the tires; that is, the height of the lugs is but the thickness of the plate.

Hitch

The medium size or No. 31 *Flying Dutchman Spreader* (the size more generally sold) is equipped with a three-

horse hitch and a set-over pole. The set-over pole arrangement is the best method of hitching three horses to a spreader. Horses are placed immediately in front of the machine, and there is no side draft. The three-horse eveners is substantially made, the wood parts are hickory. Single-tree hooks are the same as used on our wagons. The rear end of the long pole is connected directly to the main axle and is also substantially bracketed to the stub pole. Should the operator desire to use but two horses, the long pole can be placed in the center.

Wheels

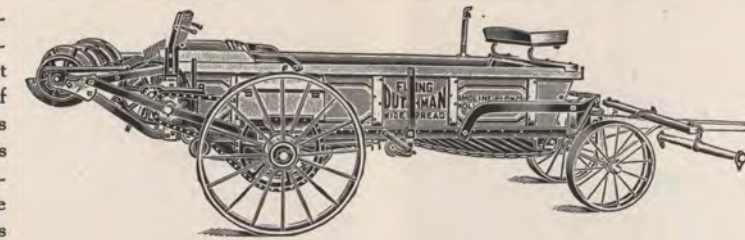
We use steel wheels with flanged tires. These steel wheels have proven the most satisfactory for use on a spreader. The front wheels are provided with removable boxes. You will note from illustration the comparative width of our wide and narrow track front axles. We furnish either style as desired.

Wind Shield

This shield prevents the manure from being thrown high and will insure a better job of spreading in windy weather when light manure or lime is being distributed. It is simply a sheet iron cover extending from the large beater to the spiral beater and guides the manure from one beater to the other. It is easily attached. Furnished as an extra at small additional cost.

Flying Dutchman Wide Spread Spreader No. 34

The *Flying Dutchman Wide Spread Spreader* No. 34 is designed especially to meet the requirements of the dairy farmer. It differs from our famous *Flying Dutchman* only in the position of the front wheels, which are placed in front of the body instead of under it, thus carrying the body level and the addition of an automatic tailboard and stationary pulverizing rake. This construction is especially advantageous for the dairy farmer, in that the spreader body is always level, and this, with the automatic tailboard, prevents thin material from running out the rear end when driving



Flying Dutchman Wide Spread No. 34

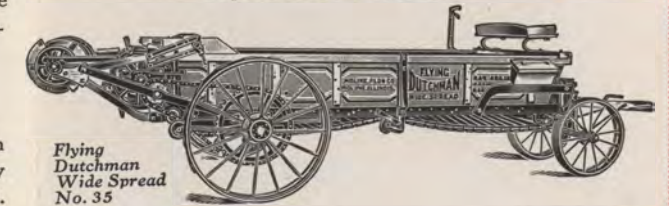
to the field. The tail-board is a distinct improvement over any in use as it is automatic in its movements and requires no attention from the operator. It is so arranged that it does its work perfectly and when the machine is thrown into

gear the added pressure of the load will raise it to the upward position and allow it to float on top of the load, where it acts as a retarding device. As soon as the load is discharged, the tail-board automatically falls into place.

Tight Bottom Spreader

The No. 30 *Flying Dutchman Spreader* can be equipped with a tight bottom, when so desired. This type is preferred by some dairymen, especially for winter use.

Flying Dutchman Wide Spread Spreader No. 35



Flying Dutchman Wide Spread No. 35

This spreader has a level body similar to the No. 34, but does not have the tail-gate. Other than this it is constructed identically the same as the regular style of *Flying Dutchman Wide Spread*.

Flying Dutchman Spreaders Nos. 10, 11 and 12

The Nos. 10, 11 and 12 *Flying Dutchman Spreaders* differ from the regular wide spread in that they do not have the wide spread feature.



Flying Dutchman Spreader No. 11



Keep Your Land Fertile

Keeping the soil fertile and productive is the big problem in every agricultural country and on every farm. It is an easy matter to grow large crops on fertile soil under favorable conditions; but the fertility removed by such crops must be returned to the soil, or soon the richest land will be exhausted. It has happened innumerable times that during one generation fertile, virgin soil has been left in an exhausted, barren condition, simply through continuous cropping or systematic soil robbery. To restore such land to its original productiveness is a long, slow task. The logical, profitable, easiest way is to return to the soil plant food equal to that removed by crops.

Barnyard manure is the best fertilizer obtainable. One ton of manure is worth about \$2.50 for the phosphorous, nitrogen and potassium, essential elements of plant food it contains. It is equally valuable for the organic matter it contains; commercial fertilizer is usually lacking in organic matter. Organic matter improves the physical condition of the soil; makes it light and easy to work; increases the moisture holding capacity; prevents soils from washing and running together; increases the temperature; aids bacterial action and supplies plant food.

Every farm has some manure. A horse will produce in one year manure worth \$25; a cow will produce \$20 worth. Every bit should be utilized as it is too valuable to waste. It should be returned to the land as soon as it is made, or stored in a place built especially for that pur-

pose. The first method is usually the cheapest and best. Manure is best when it is first produced. When dumped in a pile and exposed to the weather it soon deteriorates. For this reason it is well to spread it on the land fresh, so that none of its strength will be lost.

Manure may be used for top dressing growing crops; it may be used to good advantage on pasture land; or it may be plowed under. Very beneficial and quick results are obtained from manure by using it as a top dressing for corn or wheat. It must be spread in a finely divided condition and for this purpose the *Flying Dutchman Spreader* will be found indispensable.

A Spreader Pays for Itself

A good manure spreader is the best method for spreading manure. It will pay for itself in the time saved over the hand method. It takes twenty minutes to spread a load of manure by hand, while a machine will do the work much better in three. Ten tons of manure spread over fifty acres will return a larger profit than ten tons spread over ten acres. The amount of manure spread with a *Flying Dutchman Spreader* can easily be regulated, while it is impossible to spread a small amount of manure evenly over a large area by hand.

By having the spreader near the barn, the manure can be dumped into the spreader and immediately hauled to the field. This avoids handling the manure twice, and gets it out on the ground where it will do the most good.