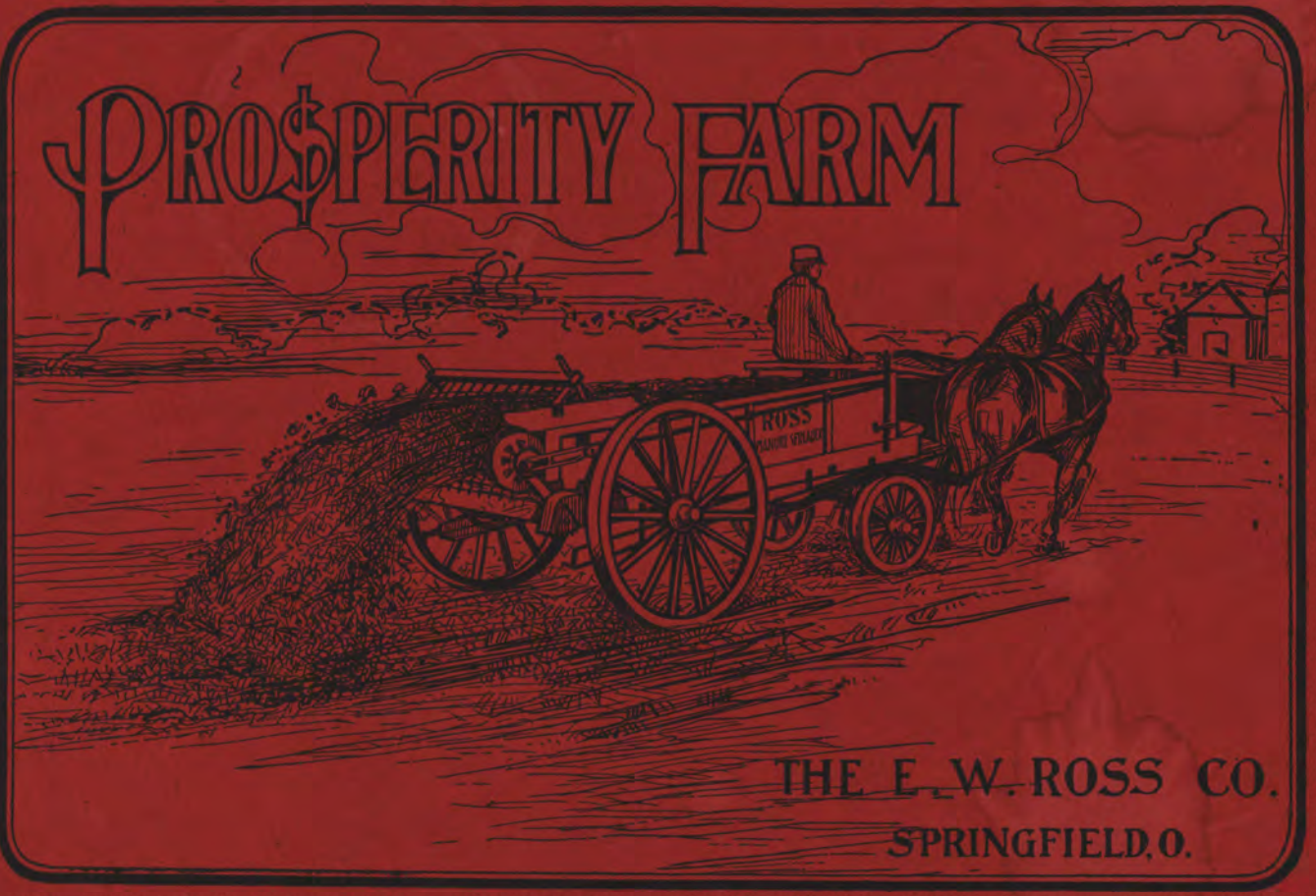
PRO$PERITY FARM



THE E. W. ROSS CO.

SPRINGFIELD, O.

ROSS MANURE SPREADER

MANUFACTURED BY

THE E. W. ROSS COMPANY

SPRINGFIELD, OHIO

Introduction

IN THE following pages it will be our earnest endeavor to give a clear and comprehensive description of the many good points which belong to the ROSS MANURE SPREADER. The Ross Spreader is the result of long and careful tests, and is built to do the work regularly every day without the always annoying and sometimes expensive delays due to breakage. A machine of this type is used largely during the winter months, and as breakage is more liable to occur in cold weather, we have guarded very carefully against this.

The material used is of the Standard ROSS QUALITY and the workmanship is the same. Every part is carefully inspected before assembling, and the care which we exercise is a positive guarantee that the interests of our patrons will be rigidly safeguarded.

We feel sure that a thoughtful reading of the detailed descriptions to follow will clearly demonstrate the simplicity and effectiveness of the Ross Spreader. It is entirely automatic throughout, but there is no complicated mechanism and it can be operated by any one without previous training.

We wish to thank our many customers and friends for their liberal patronage in the past and shall hope that our efforts may merit a continuance of the same during the season to come.

Very respectfully,

THE E. W. ROSS COMPANY.

GUARANTEE

We guarantee every Spreader of our manufacture to be well made, of good material, and to do good work if properly set up and operated according to directions. If any part should prove defective we stand ready to replace same free of charge within one year from date of sale.

The Ross Manure Spreader

IT IS not our purpose to go into the details of the events in farming which led up to the general use of fertilizer, because they are too well known and understood. We therefore will take for granted that every farm, while differing one from another in the quality of the soil, is always benefited by the judicious use of tertilizers, and especially that in the form of barn-yard manure. It was to get at the problem of the economical distribution of this valuable fertilizer that the ROSS MANURE SPREADER took its beginning.

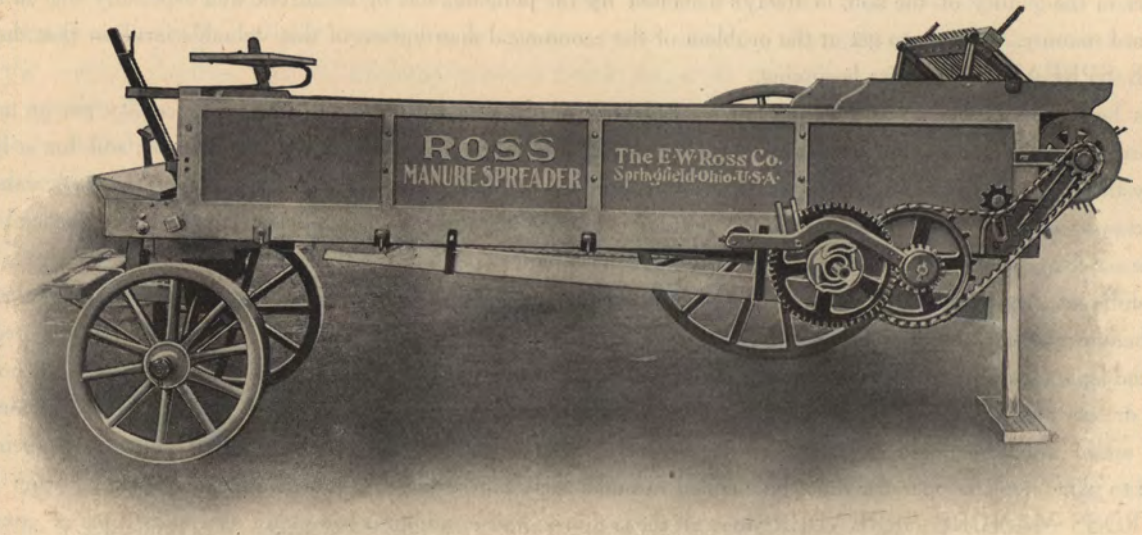
It has been proven by experience that manure thrown on the field with a dung-fork is of necessity put on unevenly, and besides, the large chunks not being broken up, much of its richness does not find its way into the soil for at least two or possibly three or four years. On this basis, tests carefully made, have developed positively that the cash value of the manure increases in proportion to the amount of pulverizing which it undergoes. In addition to this, the beneficial effect of the manure on the crop increases in proportion to the evenness with which it is distributed on the field.

For different crops and different soils the right amount of manure per acre differs widely. A machine therefore to properly handle the barn-yard manure must be so arranged that the beater or pulverizer will completely disintegrate the material and spread it evenly upon the land. Provision must also be made to change the speed of the web, or bottom, so that more or less of the material can be distributed on a given piece of land as the crop and soil conditions require. This change of speed must be made to operate while the machine is in motion, because many fields will vary in their fertility from place to place and the operator must be enabled to make this change suddenly and without dismounting from his seat.

The ROSS MANURE SPREADER does all these things, and in addition has many special features of construction which go to make up a complete, practical, and above all, a profitable machine to own. This applies not only to those who own their own land, but also to renters who endeavor to make their efforts bear fruit the first year.

Manure put upon the land with the Ross Spreader will have its full effect on the bank account at the end of the first harvest.

The machine has broad tires, and is thus suited to pull without excessive draft on plowed ground. It can be used during the winter on corn land or in the spring for top dressing—in fact at any time and place as the demands of the farm require.

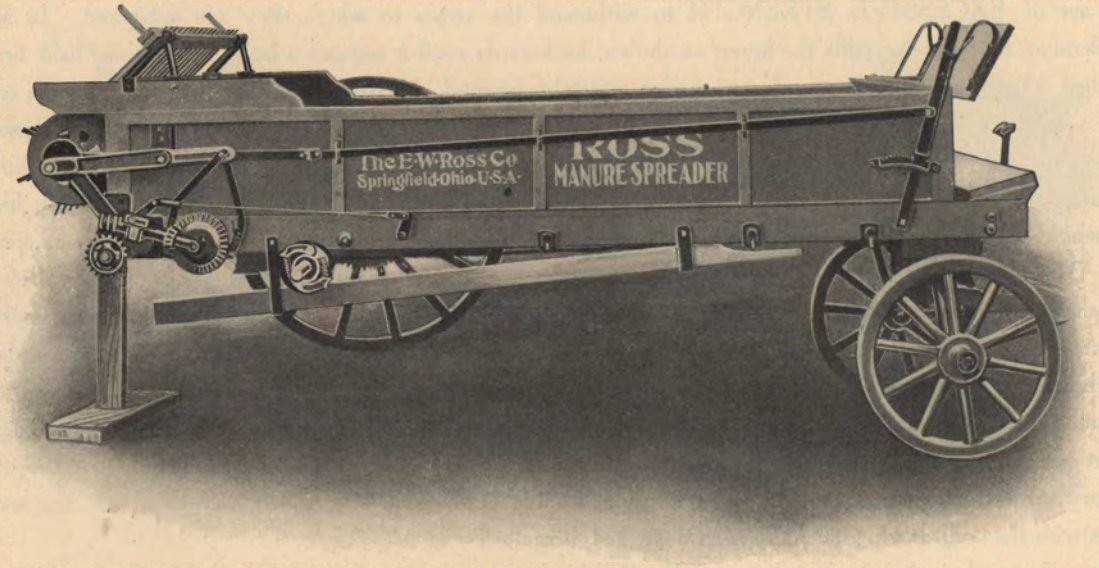


MAIN DRIVE SIDE.

Main Drive Side.

THE accompanying cut gives a clear view of the left side of the machine as the driver sits upon the seat. This shows the main drive mechanism and clutch together with the large clutch sprocket and heavy drive chain. All of these parts are of EXCESSIVE STRENGTH to withstand the strain to which they are subjected. In starting the driving mechanism the operator pulls the lever, as shown, backwards until it engages a latch. It is then held firmly ready to be unlatched when the web or bottom has moved completely arround, and the end traveling forward on the return strips has engaged a hand which is connected with the latch on the starting lever. This movement pulls the latch downward and the starting lever, by means of a coil spring, is thrown forward disconnecting the main clutch. In addition to this automatic latch, there is a hand clip connecting with the latch, which permits the operator, without changing his position, to stop the whole machine at will. The starting lever is connected with the cross or rock shaft by a strap as shown in cut. (page 10.) By means of a screw and cup on the end of the rock shaft, the main clutch arm is caused to move inward or outward as the starting lever is moved rearward or forward. The stud on which the clutch pinion and sprocket work is continued through to the center rail of the wagon bed as shown in cut. (page 10.) In addition this stud turns in two wide bearings both of which are easily oiled. Thus we gain great ridgity in construction and in addition the ease of oiling does away with all the trouble experienced on this account in many makes of machines. The bearing which carries the long stud is a part of the main axle bearing and the whole being one solid carting insures a perfect alignment of the gears which is so necessary for perfect operation. The rock shaft which operates the main clutch also extends across the wagon frame and connects with the web driving mechanism as described hereafter.

The main drive chain being extra heavy (No. 072 binder chain) ,prevents entirely the breakage which occurs on other machines when heavy manure is being spread. The working of this driving mechanism in connection with the perfect placing of the rear axle, makes but very slight increased draft when the machine is in full operation.



RATCHET MECHANISM.

Ratchet Mechanism.

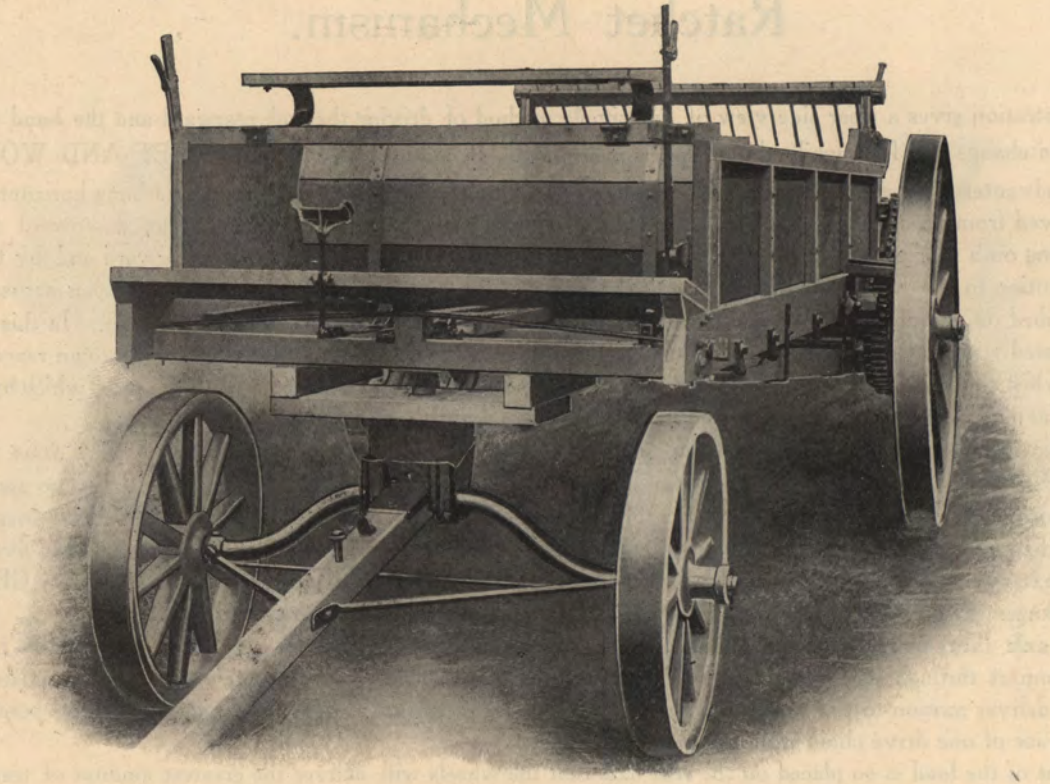
THIS illustration gives a clear side view of our simple method of driving the web rearward and the hand lever which is used to change the feed while the wagon is in motion. It is a combination RATCHET AND WORM having all the advantages of each with the disadvantages entirely eliminated. The rock arm is hung horizontally and its motion is received from an eccentric stud on the beater shaft. The two rods at the front end run downward and connect with pawls acting on a ratchet gear in the rear of the bevel as shown. A short shaft reaches rearward and by the use of a worm gives motion to the rear shaft and thense to the web or bottom. The rock shaft which reaches across the wagon body, as described on the previous page, is connected by a rod to a lifting device on this short shaft. In this manner the worm is connected with and disconnected from its engaging worm gear as the main starting lever is thrown rearward or forward. Thus when the load is entirely distributed, the ratchet mechanism is disconnected from the web, which by the use of the foot lever (as described on page 8), is pulled back to its normal position.

The change feed lever can be moved trom one notch to another which also moves the driving arms rearward or forward in the slot in the ratchet arm. When the lever is in the rear notch the ratchet will deliver no motion to the web. This is advantageous when driving over short spaces where no manure is desired and the driver does not care to throw the machine out of gear. The forward notch feeds twenty loads per acre. The intervening notches give a varation between these extremes in accordance with crop and soil conditions. NO CHANGING OR SHIFTING GEARS. No danger of breakage. Only one lever to do all the work. Think it over and compare it with others

The rear axle turns in its two bearing boxes by the direct action of both rear wheels. These wheels have ratchet hubs which connect through pawls to the axle. Thus we get full tractive power for the spreading mechanism and at the same time can deliver motion to the beater even when the machine is turning at the end of the field. This result is accomplished by the use of one drive chain from the axle to the beater.

The weight of the load is so placed on the rear axle that the wheels will deliver the greatest amount of traction power.

NOTICE the TILTING SEAT.



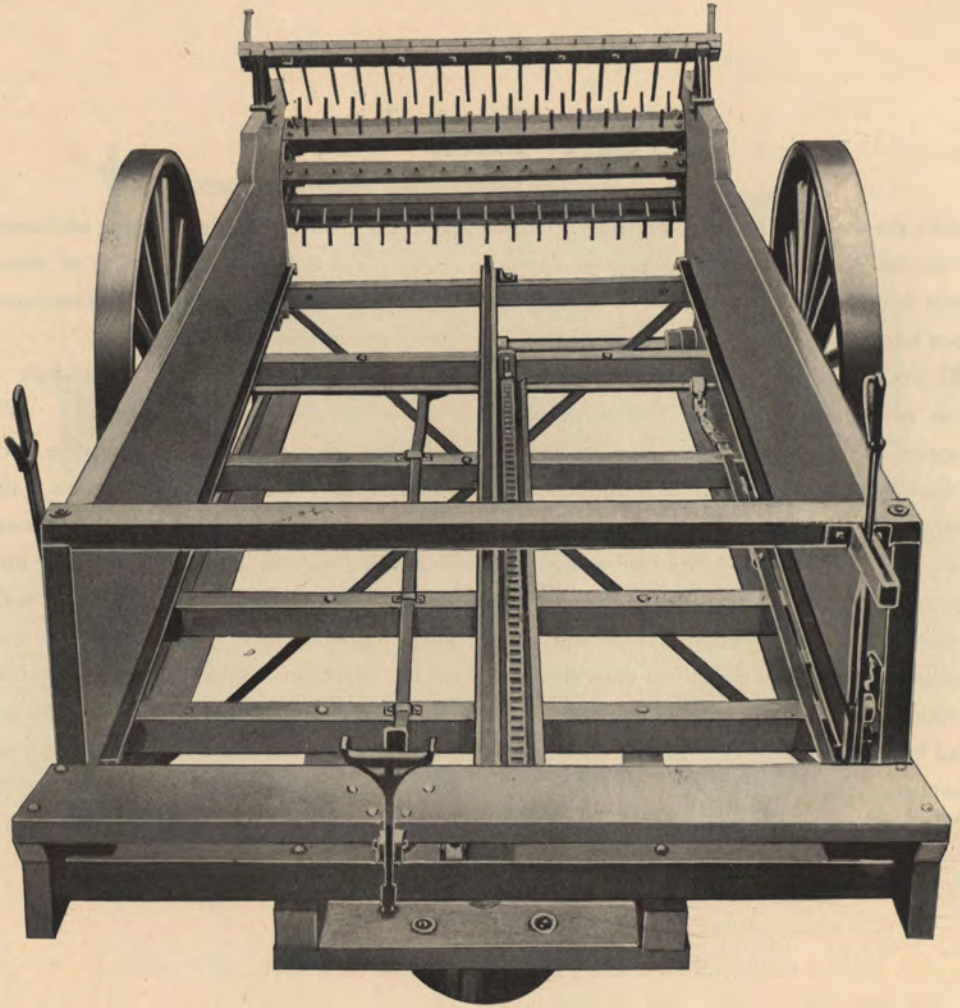
FRONT END VIEW.

Front End View.

HERE is shown the front of the Ross Spreader. The lever on the right is used for starting and stopping the machine. The lever on the left is used for changing the speed of the web and regulating the amount of manure per acre while the wagon is in motion. The seat and foot board are roomy and arranged for the convenience of the operator. Attached to the foot board is the foot lever which is used to return the web after unloading.

RETURNING DEVICE. This consists of a chain extending from the rear axle to the front shaft, On the rear axle is a clutch which is connected by a strap to the foot lever in front (as shown in cut, page 10.) When this clutch is thrown in by the action of the foot lever, the front shaft turns, and acting on the chain which connects both ends of the web PULLS the web forward. Other machines connect from the axle to the rear shaft and its action is to PUSH the web back up hill. The advantage of pulling over pushing the web is readily appreciated—especially by those who have used the pushing device. Another Great Advantage gained in our returning mechanism is also readily understood. If, on account of slippery ground or any other reason, the cylander should be chocked down, the operator without dismounting from the seat can throw out the main starting lever and by the use of the foot lever pull the web backward a few inches. By doing this the manure is drawn away from the cylander which can now run free. The main lever is again thrown in and the whole operation is completed in its few seconds. Think this over carefully and compare it with others.

When the head board comes forward to a normal position it engages a hand on the foot lever strap and throws out the the returning mechanism. AUTOMATIC throughout and the work done is POSITIVE and SURE. NO CRANKING BACK BY HAND. The web returns quickly and the operation is completed while the wagon moves forward twenty-five yards.



FRAME CONSTRUCTION.

WE HERE show the interior view of the frame work on the Ross Spreader in order to give a clear understanding of the care which has been exercised in its construction. The two outside sills are of ample strength to sustain the great strain put upon them by a load of heavy manure. These sills are joined together by substantial cross girts perfectly fitted and joint bolted. Upon these girts rests the center-bearing for the web.

In addition, the sills and girts are HELD SQUARE by a pair of METAL CROSS BRACES which are so VERY NECESSARY in substantial framing.

The web or bottom of the wagon is carried on three pieces of angle iron as shown. The web chain being fitted with rollers. This is a great improvement in spreader construction as will be readily appreciated by comparison with others.

The rear axle is of heavy cold rolled steel and passes through strong iron bearings fitted with ample oil recesses and bolted to the bottom of the sills,

The chain connecting the axle and the web-returning mechanism is clearly shown. The rock shaft is a continuation of the starting lever and connects with the lifter in the web-driving mechanism, as mentioned on page 7,

The rake above the cylinder is loosely fastened to the heavy rod extending across the wagon body and is equipped with two pressure springs which tend to hold it in its normal position, but will at the same time permit it to rise when occasion requires.

It is so perfectly placed that it acts as a comb and prevents large, hard chunks being thrown out whole by the cylinder.

All of the shafts are so fitted that there can be no binding when the wagon is drawn over rough ground.

It will be clearly seen that the construction throughout is thoroughly substantial in every respect.

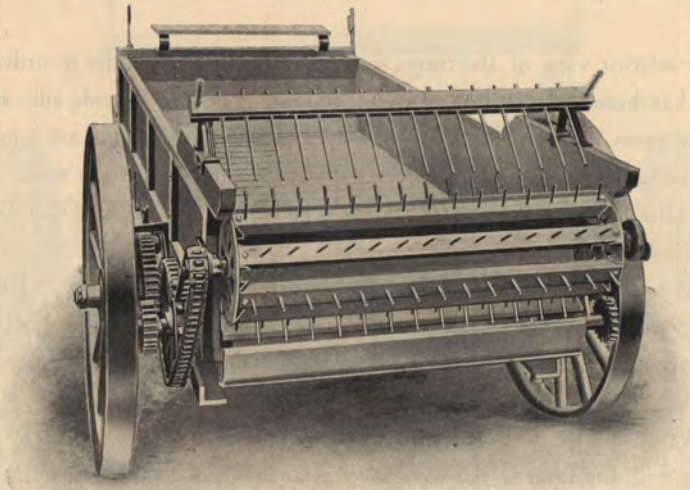
Front Axle and Bolster

The construction of our front axle (cut on page 8) is on the bridge principle, and, in addition to its great strength, has the advantage of being light in weight.

The fifth wheel is 10 inches in diameter and gives ample bearing surface for short turns.

All of our wheels are well made and have extra heavy spokes to stand the strain to which they are subjected.

ROSS MACHINES ARE ALWAYS WELL MADE.



THE accompanying cut gives a view of the rear of the wagon together with the cylinder and movable bottom. This web is fitted with a CIRCULAR head board which insures an even distribution of all the manure. As the web travels rearwards and the rear end turns back underneath the bed it is supported by return strips which hold it rigidly in position and prevents its swinging loose. (See cuts, pages 4 and 6.) This is a great feature as to permit the web to hang on one chain means great strain on the web links and eventual trouble on account of breakage.

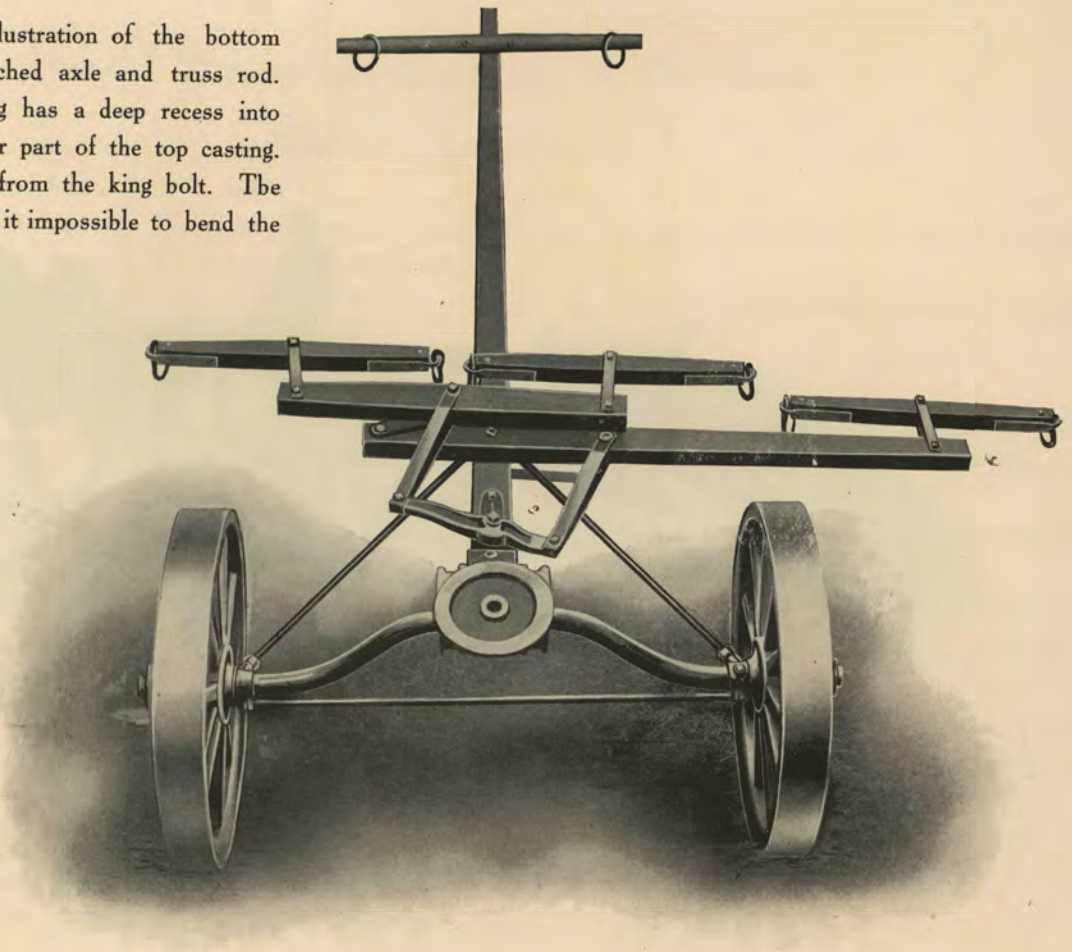
The Ross web is composed of seasoned lags securely rivited to three strands of Malleable ROLLER CHAIN. As indicated on the previous page the use of this roller chain running on three angle iron tracks makes a perfectly even motion and the power required is little or nothing. The old style method with separate rollers does not give an even surface for the web links to travel on. Thus the lag joints will bend down between the rollers and consume a great amount of power, especially when the wagon is loaded with heavy manure.

The cylinder has long spikes which in connection with the speed at which it revolves, makes it practically clog proof, even under the most difficult conditions.

We give here an illustration of the bottom fifth wheel and the arched axle and truss rod. This fifth wheel casting has a deep recess into which projects a counter part of the top casting. Thus all strain is taken from the king bolt. Tbe truss rod below makes it impossible to bend the arcled axle.

THREE-HORSE EQUALIZER

Attached to the pole is our combination two and three-horse equalizer. It is constructed on the latest approved principle and the side draft is eliminated. It can be easily removed or attached as desired and will be found entirely satisfactory where more than two horses are required.



MACHINE COMPLETE.

Special Points and Features of The Ross Manure Spreader

ENTIRELY AUTOMATIC— By this we mean the entire movement of the web both ways is limited by automatic stops and all the driver has to do is sit on the seat and drive.

STRENGTH—The entire construction is especially strong and is designed to withstand any strain which can be put upon it. This is absolutely necessary in a successful spreader.

SIMPLICITY—A striking feature which the reading of the previous pages will clearly show.

LIGHT DRAFT—The perfect placing of both the rear axle and the distributing cylinder in connection with the roller chain web makes the Ross the lighest draft spreader now on the market. The proof of this will be demonstrated by actual test.

RETURNING MECHANISM—The most perfect construction. Don't forget about its use to relieve a clogged cylinder on icy ground as well as its quick action.

RATCHET AND WORM DRIVE—All the advantages of both styles with their disadvantages entirely eliminated.

CYLINDER AND RAKE—The proper placing and construction of these parts determines their efficiency in pulverizing and even distribution. The proof of this also will be determined by actual test.

ROLLER CHAIN—A great stride in perfect manure spreader construction and a great aid in reducing draft.

METAL CROSS BRACES—These braces hold frame absolutely square while the frame may bend to conform to the unevenness ot the ground. No straining of the frame or breakage resulting therefrom.

STRONG WHEELS—The heavy loads carried must be well supported. A wagon is no better than its wheels.

TILTING SEAT—A great convenience in loading: The seat stays clean.

TO SUM UP—The machine is built to be put to work and stay put. It is guaranteed.

Instructions

THE Ross Manure Spreader is furnished in the following sizes, the size in each instance being regulated by the capacity in bushels: 50, 70 and 100 bushels. All spreaders are 52 inches wide and 15¾ inches deep in the wagon bed, and the length is in proportion to the capacity. Lengths—50 bushel, 9 feet 2 inches; 70 bushel, 10 feet 10 inches; 100 bushel, 12 feet 6 inches.

The first two sizes have 4-inch tires on rear and front wheels.

The 100-bushel size has 5-inch tires on tbe rear wheels.

Rear wheels 52-inches diameter. Front wheels 30-inches diameter.

The 50-bushel size is intended for use on small farms or in hilly country where the draft must be carefully considered.

The 70-bushel size is perhaps the most profitable general purpose machine, and is intended for use on the ordinary farm.

We furnish the 100-bushel size to fill the requirements for an extra large capacity machine which can be used to advantage on large farms where the land is comparatively level, and where three or more horses are available as the occasion requires.

We are also prepared to furnish, in addition to the regular machine, the following extra attachments, for which a reasonable extra charge will be made.

Drill attachment for distributing manure in rows.

Wind Brake for use with lime and for windy weather.

Three-Horse Equalizer for pole in place of two-horse evener.

Lugs per set of 28 to bolt to rear tires, (seldom if ever needed on the Ross Spreader).

5 or 6-inch rear tires in place of regular 4-inch on 50 and 70-bushel sizes.

Whiffletrees, neck-yoke and two-horse evener, no extra charge.


ROSS
LITTLE GIANT IMPLEMENTS