

# DEERE & COMPANY'S EARLY TRACTOR DEVELOPMENT

## Chapter 5 -- TWO-ROW MOTOR CULTIVATOR

By the middle of June, 1917, reports from the field on the 25 one-row Tractivators had pretty well established three important facts, which were:

- 1.. One-row motor cultivators probably would not be economically successful, for farmers were finding that they could cultivate just as much ground in a day with a team of horses.
2. Row crops could, however, be successfully cultivated with mechanical power.
3. Therefore the logical step would be to develop a two-row motor cultivator.

### Silver's First Cultivator

Using an Avery motor with friction transmission, and such other available parts as he could find, Walter Silver built a two-row motor cultivator in two weeks' time. A photograph taken June 30, 1917 (Figure 64), shows Mr. Silver cultivating corn at the Marseilles plant with his first experimental machine.

Silver's first cultivator had power-driven -- but not steerable -- cultivator wheels. A small rear wheel was steerable. The operator shifted the cultivator rigs laterally with his feet, and as a separate operation steered the outfit by means of a hand wheel which controlled the rear tractor wheel.

As with previous motor cultivators, it soon was evident that requiring the operator to perform two unrelated functions -- steer the tractor and manipulate the rigs -- was not satisfactory. How Silver solved this problem is recorded in Mr. Brown's diary under date of August 9, 1917: "Went with Dain and Clausen to see a new motor cultivator at the State Farm. It is a two-row machine built with power on the two wheels and these wheels are dirigible. There is a small wheel that can be steered to help in turning around. The drive chain was a log chain as it has to stand a twist."

This structure incorporated the principle of combining two functions -- steering the dirigible front cultivator wheels, and laterally shifting the cultivator rigs -- into one and the same operation by the tractor driver. The rear wheel was used only for sharp turns at row ends.

## Method is Patented

The earliest record of such a combination is shown in a sketch (marked A on Figure 67) dated January 30, 1917. An entry in Brown's diary of that date reads: "Gave Duffield (in charge of Deere & Co. Patent Department) a series of sketches showing all the different combinations I could think of for motor cultivators." A patent on this combination was applied for on March 23, 1917, and issued as patent No. 1,451,672.

On September 12, 1917, there is this entry in the minutes of the Board of Directors' meeting:

"Mr. Dain predicted that in five years there will not be half the horse-drawn implements that are sold today, unless they are adapted to tractors. We have got to have a motor cultivator to protect our cultivator trade. There will be 5,000 motor cultivators sold next year. There is not any chance for us to get any part of that business unless we have the right kind of motor cultivator."

Silver was directed to continue development of the two-row motor cultivator. His base of operations was moved to the Tenth Street factory in East Moline, where the first John Deere binders were built. Here during the fall and winter of 1917-18 a complete re-design of the motor cultivator took place. The first one built was photographed on April 15, 1918 (Figure 68), and sent to J. B. O'Donnell at Sheldon, Iowa, for a thorough try-out on his farm.

## O'Donnell also an Inventor

O'Donnell was a farmer with a mechanical turn of mind. It is probable that he was the first one to push a two-row cultivator with mechanical power. The photographs in Figures 78 and 79 indicate that O'Donnell connected a Bull tractor to a two-row horsedrawn pivotal wheel cultivator so that the tractor pushed the cultivator, and the operator steered the outfit by foot pedals. One difficulty that made the outfit impractical was that there was no provision for short turns at the end of the row.

Deere & Co. had come in contact with O'Donnell on patent matters, and had employed him from February, 1917, to November, 1917, to follow the 25 Tractivators in the field and to make daily reports on their performance.

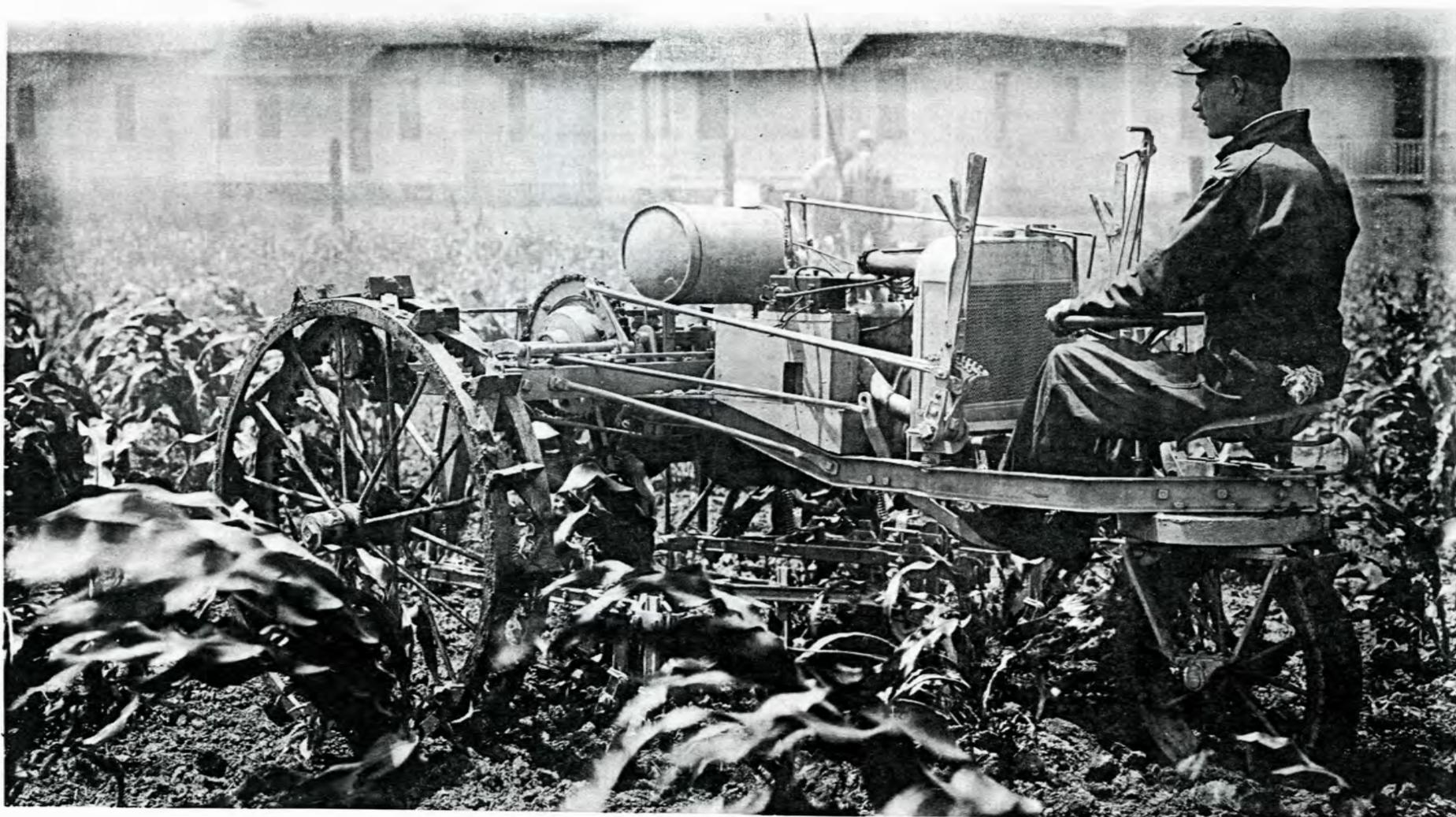


Figure 64

FIGURE 64 -- Walter Silver is shown operating the two-row motor cultivator which he constructed in about two weeks in June, 1917, when it became apparent that farmers were not overly interested in one-row motor cultivators.

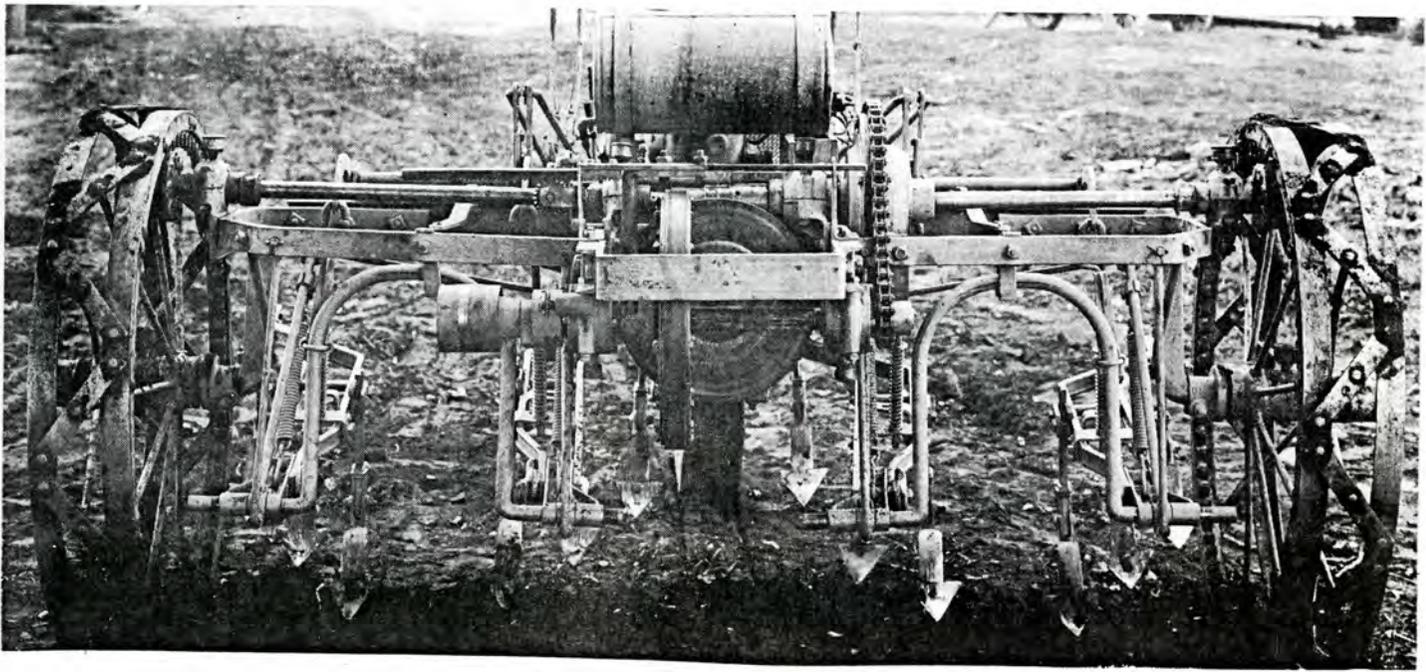


Figure 65

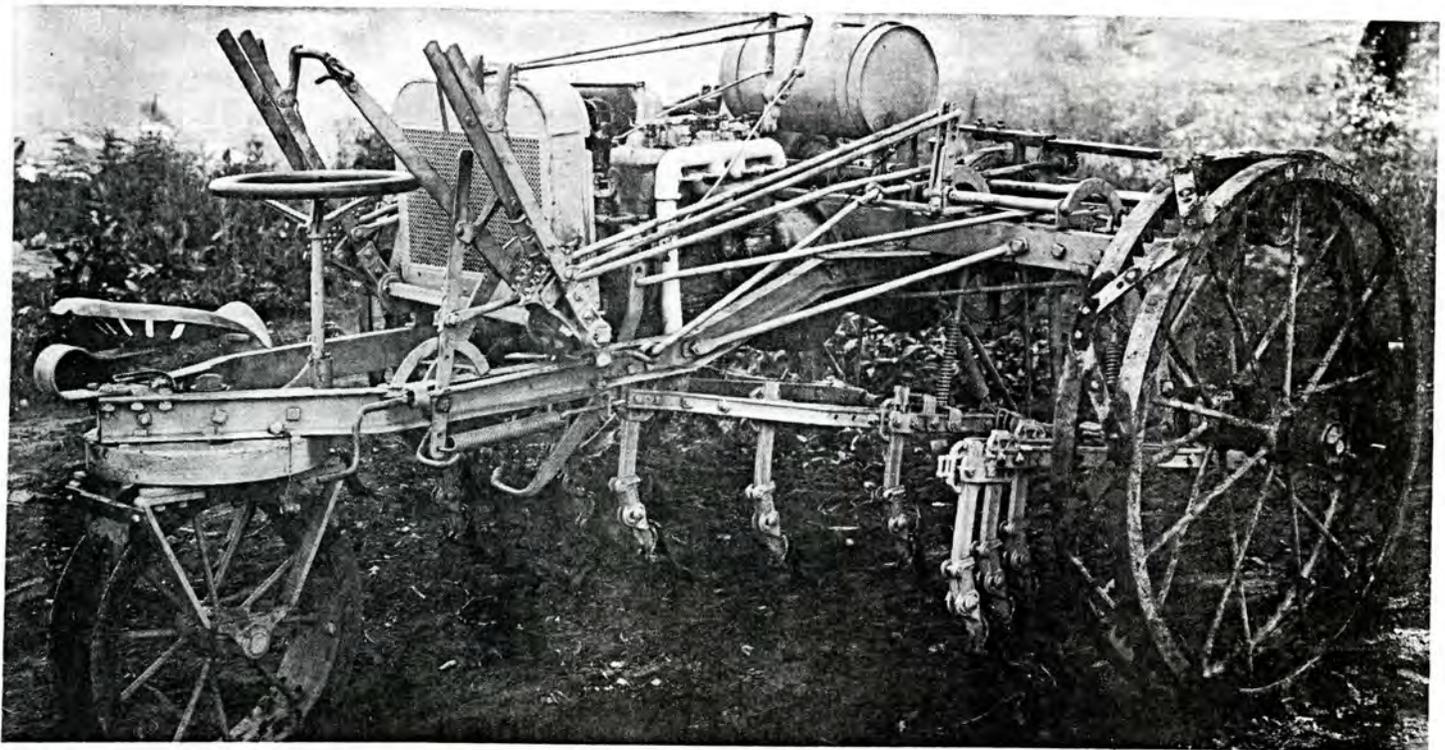


Figure 66

FIGURES 65 and 66 -- The Silver two-row motor cultivator had an Avery four-cylinder engine, friction transmission, and power-driven cultivator wheels. The operator shifted the cultivator rigs with his feet to dodge the corn, and steered the cultivator by means of a hand wheel which controlled the dirigible rear wheel -- again two distinctly separate operations.

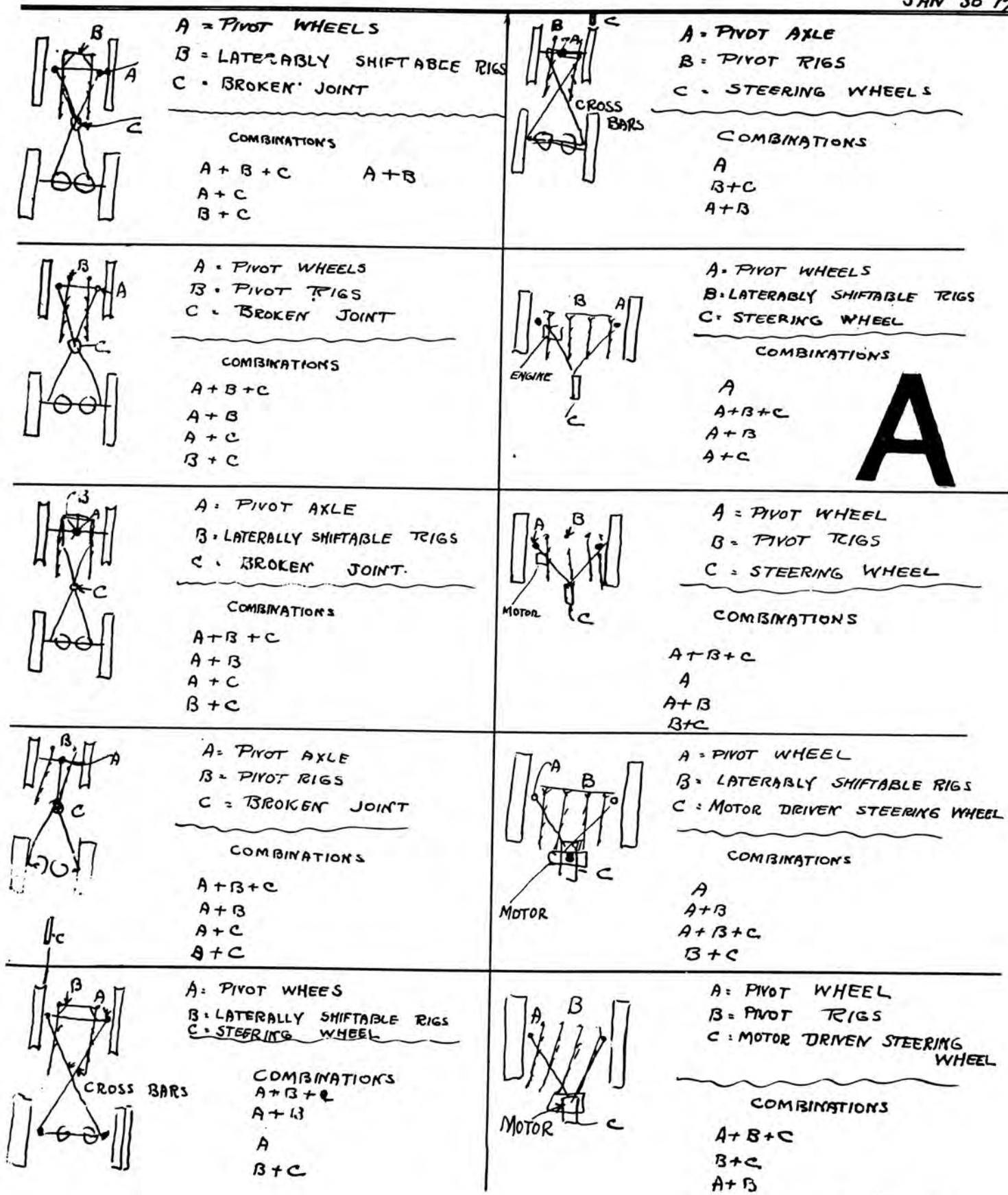


Figure 67

FIGURE 67 -- This series of sketches showing numerous combinations for motor cultivator construction included a structure (marked A) patented by Deere & Co., later used on a two-row cultivator built by Mr. Silver, and shown in succeeding figures.

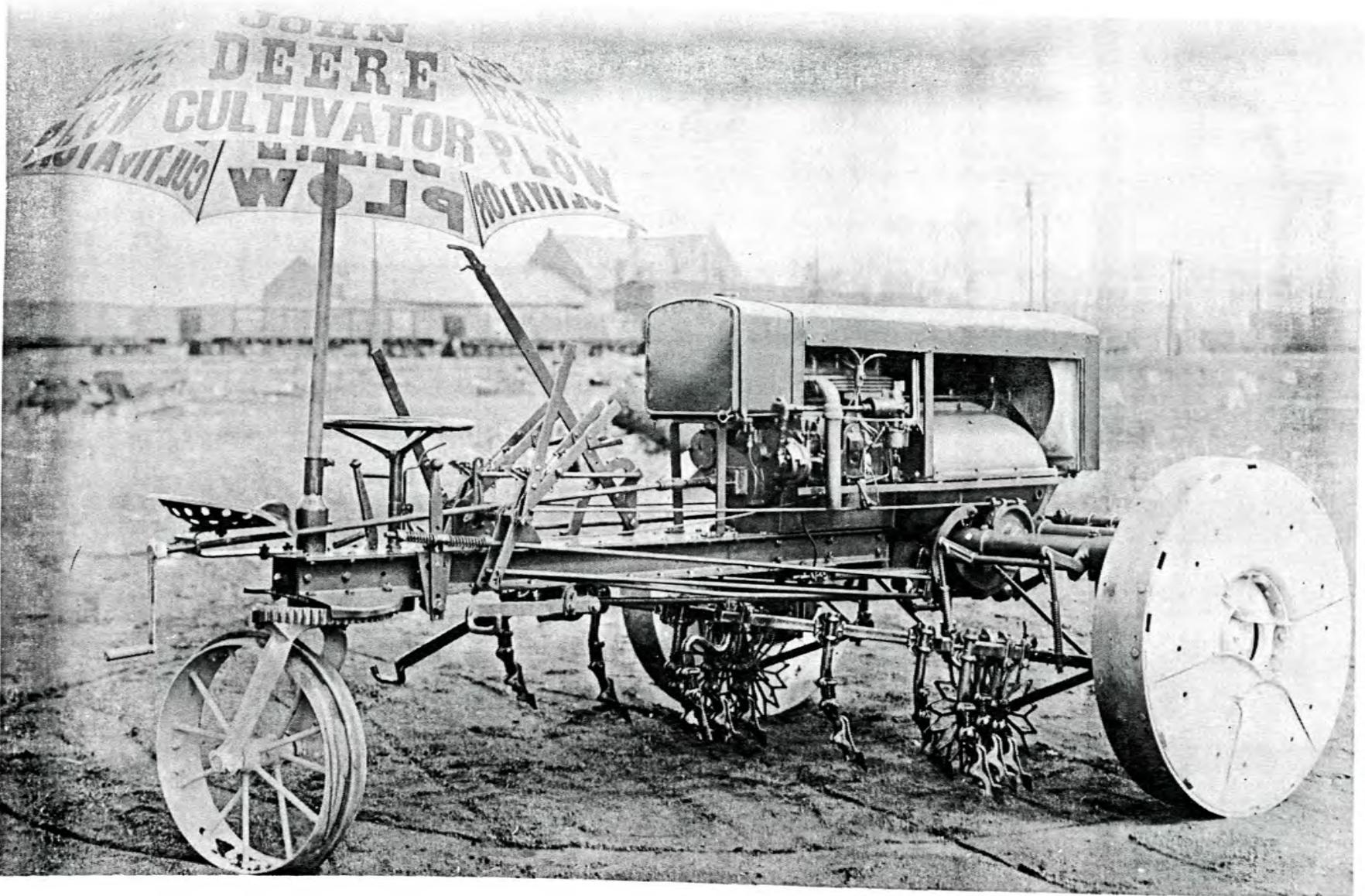


Figure 68

FIGURE 68 -- Silver's cultivator was completely redesigned during the winter of 1917-18, and the Model 3, shown here, was sent to J. C. O'Donnell of Sheldon, Ia., for trial.

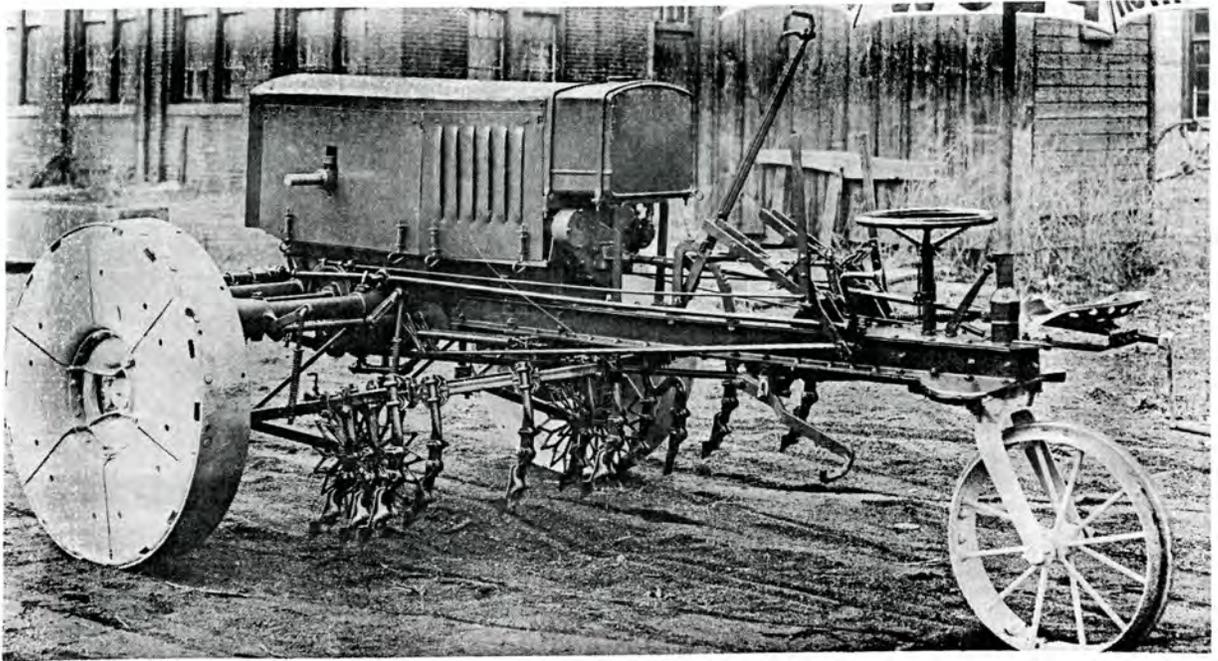


Figure 69

FIGURE 69 -- Another view of Silver's Model 3. The hand-controlled rear wheel was used for short turns at row ends; the powered front wheels were linked to the rigs, so that shifting the rigs also steered the outfit.

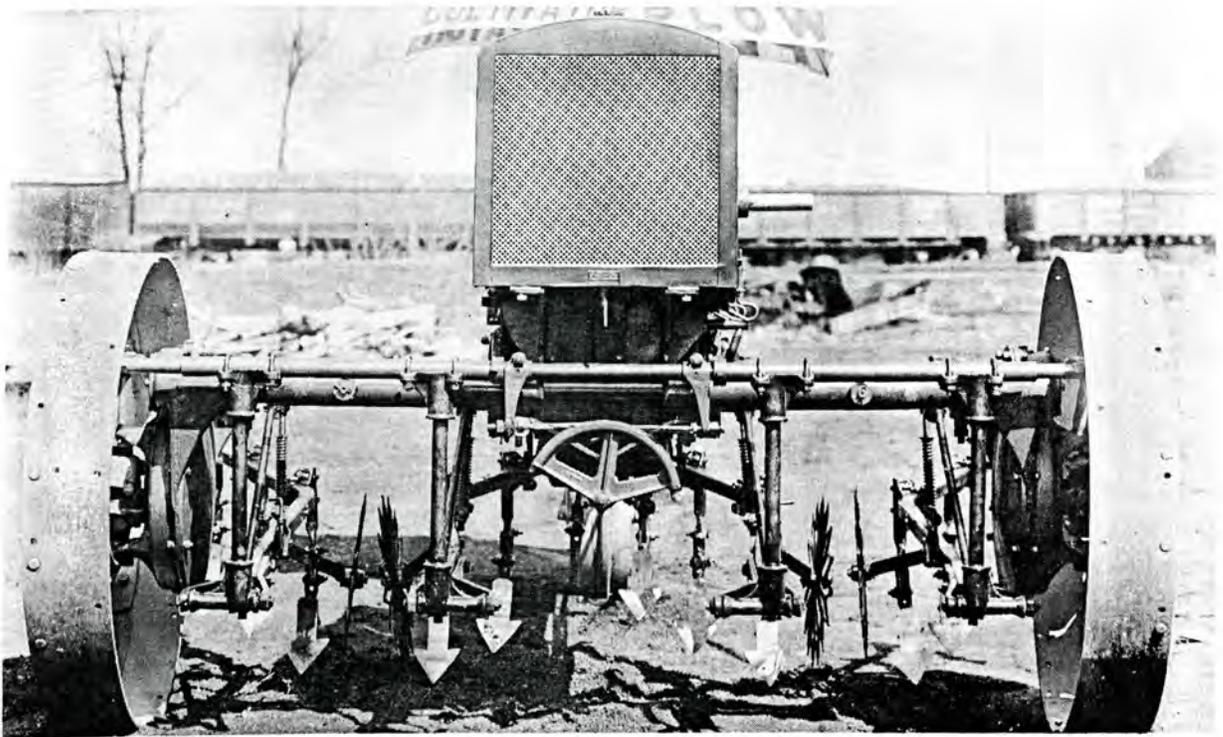


Figure 70

FIGURE 70 -- Front view of Silver's Model 3, which obviously offered the operator an unusually good view of his work.

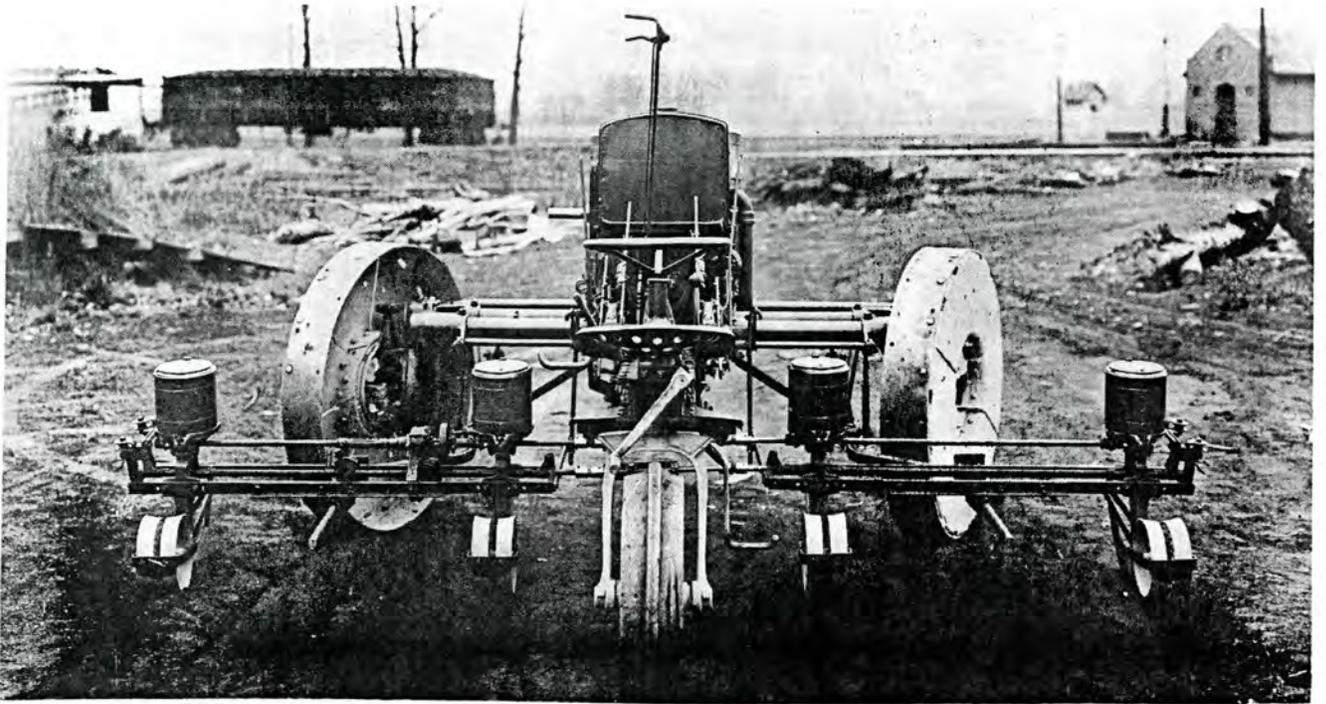


Figure 71

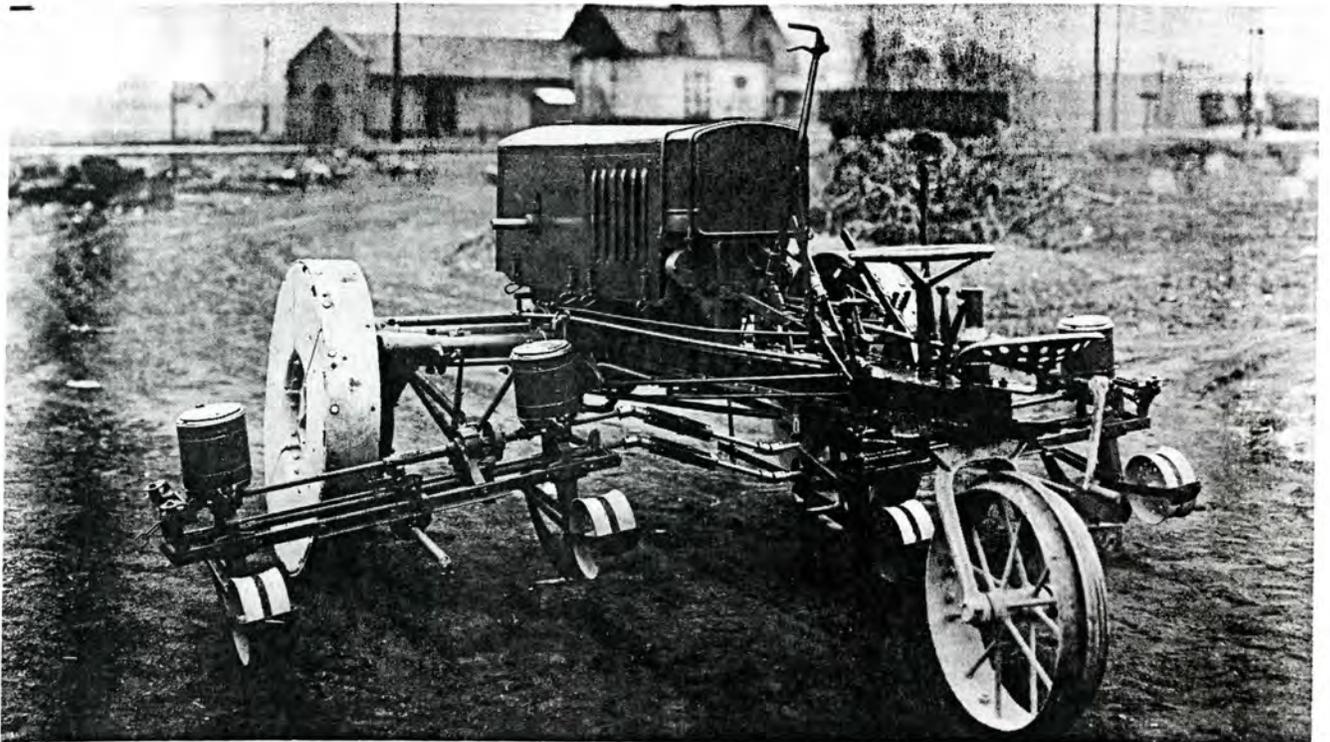


Figure 72

FIGURES 71 and 72 -- Silver's Model 3 equipped for planting. Note also, in Figure 71, how depressing the right foot pedal steered the powered front wheels to the right.

## Silver's No. 4 Motor Cultivator

After this first re-design had been sent to O'Donnell at Sheldon, Silver made a few further changes and five more outfits were built. Photographs of this No. 4 model were taken on June 7, 1918 (Figures 73 and 74) and then the outfits were sent to farmers for a work-out under field conditions.

On June 11, 1918, L. R. Clausen reported that "five two-row motor cultivators had been made and were now working in the field with very satisfactory results. It would appear that there was some real value in the machine."

Again on June 18, Mr. Clausen stated "that the five motor cultivators which had been designed by Mr. Silver were now operating in the fields, and were doing very satisfactory work. He considered that Mr. Silver had done a very fine job in designing these machines."

Again on August 13, Mr. Clausen said "that Mr. W. H. Silver, who has been handling the Motor Cultivators Works, has been assigned to the Plow Works as foreman of the Experimental Department. Mr. Silver will make a detailed report . . . at which time the motor cultivator situation will be brought up for discussion."

On August 15, 1918, Mr. O'Donnell reported on the performance of the motor cultivator as follows:

### "REPORT ON MOTOR CULTIVATOR

"By J. B. O'Donnell

"Disced 175 acres in 110 hours, using 96 gallons of gas, 5-1/2 gallons of oil (motor and transmission) and 6 gallons of water. This work was done on spring breaking bluegrass sod, pulling an eight-foot disc harrow with about 275 pounds weight on the disc, and running the tractor in low speed.

"Planted 130 acres of corn in 43 hours using 46 gallons of gas, 6-1/2 quarts of oil and 4 gallons of water. Thirty acres of this corn was checked in with good results. We got fairly good cross check and had no trouble cultivating both ways.

"Cultivated 200 acres of corn in 79 hours using 74 gallons of gas, 4 gallons of oil, and 5 gallons of water. Twenty acres of this corn was cultivated crossways the second time through, driving the tractor in low speed. It was run 14 hours using 16 gallons of gas, 2 quarts of oil, and one gallon of water. The remaining 180 acres was cultivated both first and second times through (this corn was as high when cultivated the first time as corn ordinarily is when cultivated the second time, and was laid by with the second cultivation), running the tractor in high speed. Run 65 hours and used 6-1/2 gallons of gas, 3-1/2 gallons of oil, and 5 gallons of water.

### 3 Miles an Hour on Binder

"Cutting grain pulling an eight-foot McCormick binder. Cut 30 acres in 15 hours using 15 gallons of gas, 2 quarts of oil and 2 gallons of water. The machine worked out very good on the binder, and by speeding up the motor we got a good working speed of about three miles an hour with the tractor in low gear. We were easily able to make a square turn with the binder by releasing the rear wheel lock and applying the brake. It was not necessary to stop or slow down for the corners. The grain we were cutting was lodged badly and it was necessary to make frequent stops with the binder.

"We also hitched the machine to a twenty-foot drag harrow and it worked out good, but we did not do very much work with it as our corn was on spring breaking and we did not drag it after the planter.

"We have done a good deal of work with this machine, and the machine worked out very successfully on each of the jobs mentioned above. We have had no trouble at all with the motor or transmission gears. The motor has never refused to run, or given any trouble in starting. In fact, it has required no special attention whatever; not even a spark plug has been removed. The whole machine is practically in as good condition now as when it left the factory.

## More Power Needed

"Our main drawback all the way through has been the lack of power.

"You will note that in discing we only averaged about 16 acres per 10-hour day, where if we had been able to pull a ten-foot disc harrow on high speed, we could do almost double that amount. In planting corn we pulled the planters on high speed practically all of the time, but occasionally would have to shift to low speed.

"In cultivating corn we did most of the cultivating on high speed, but did not cultivate quite so deep as we would like to have done had we the power to pull it.

"I called on J. A. Kroon, Pacific Junction, Iowa, some time ago. He was pulling two five-foot mowers and they worked out very good on our machine. He was very much pleased with the machine and said he was in the market for one as soon as it could be delivered to him.

"I also called on Mr. R. L. McPhersen at Tarkio, Mo. He had cultivated 69 acres of corn the second time through, running 43 hours and using 42 gallons of gas, 2 gallons of oil, and 25 gallons of water. Mr. McPhersen said the machine worked out fine in every way, and he had no trouble with it on level ground, but did not have enough power to work the hills.

## Design Considered Successful

"Our experience this season has proven our present design to be very successful, not only in cultivating corn, but in handling all farm implements so far as our experiments have gone.

"We have already used the machine on the disc harrow, drag harrow, road drag, corn planter, corn cultivator, mower and binder, and there is no reason why it will not work out just as well on the two-bottom plow, corn husker and other implements as it did on the above-mentioned tools, besides the many different jobs it will do on the belt.

"When I say it worked out on those implements, I mean that all of those implements worked out just as well on our machine as they do on any other tractor, and we can go into the field in competition with any other machine and prove the truth of these statements.

"Much More Practical..."

"After having spent the season in the field with this machine and also having had the opportunity to be in a field with several other tractors, such as the Fordson, Avery Motor Cultivator, International Motor Cultivator, Moline Universal and others, I feel confident that our design is right and that our machine is much more practical than any other machine on the market at the present time.

"We can plant corn and cultivate corn far better and do many other jobs just as well as any other tractor, and we do not have any complicated hitches for attaching the tractor to the implement we are using, nor do we have to have a special-built implement strong enough to carry the weight caused by the torque of the motor as this weight is always carried on the rear castor wheel. We must have at least 6-H.P. motor on this machine, and when the job is finished, the proper hitches worked out for the different implements, it will be in reality a universal machine.

## Farmers Wanted Light Tractor

"There are more farmers in the market today for this type of tractor than any other machine of its kind. I have talked to hundreds of farmers in the past two years who are interested in a light tractor, and I would seldom fail to ask a farmer what tractor he believes would be best adapted to his needs and the most practical for him to buy, and I believe I am safe in saying that 50% of them would mention a certain tractor that is advertised as a universal machine with a large number of different farm implements. I only mention this to show that the farmer is interested in and looking for a more universal type of tractor than he has been able to get so far, and it is not hard for anyone to understand why a machine that can be used practically every month in the year is more practical than one that is only used for a few jobs and must stand idle the rest of the time.

"In designing this machine, it should be remembered that it is not only a motor cultivator, but an all-purpose tractor, and that the farmer will have work for it to do practically every month in the year.

"For these reasons it should be built of the very best material and equipment this is practical for a machine of this kind. I believe we should have Hyatt roller bearings throughout, or some other anti-friction bearing equally as good.

### "\$1,000 a Fair Price"

"The farmer has had enough experience with a cheap tractor and if we can show him that the John Deere tractor will give good service as John Deere implements have always done, he will not hesitate to pay a fair price for the machine. I would consider \$1,000.00 a fair price for this machine under present conditions.

"Respectfully submitted,

"J. B. O'Donnell"

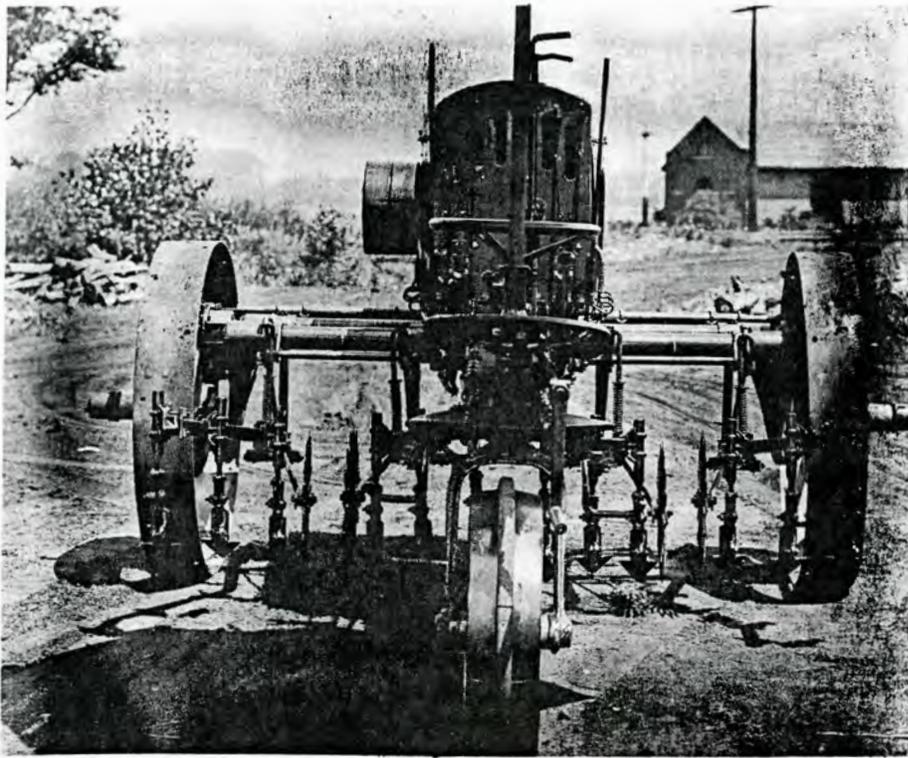


Figure 73

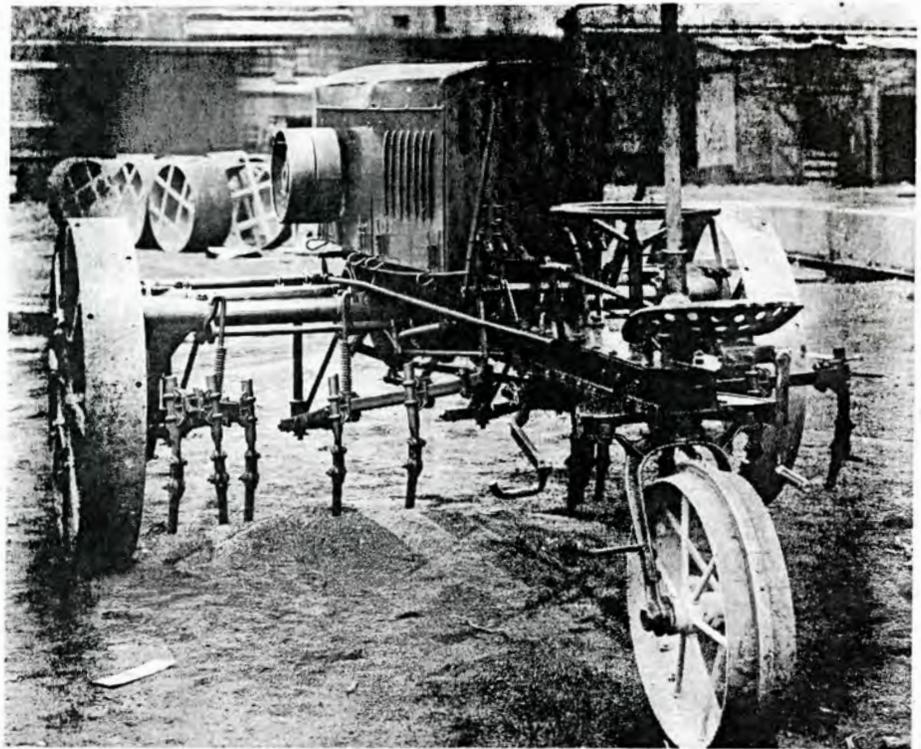


Figure 74

FIGURES 73 and 74 -- Barely had Silver's No. 3 been sent to O'Donnell for testing before Silver incorporated several improvements and modifications, particularly in design of the power-driven cultivator wheels, in his No. 4 (shown above), of which five were built and sent to various farmers for testing.

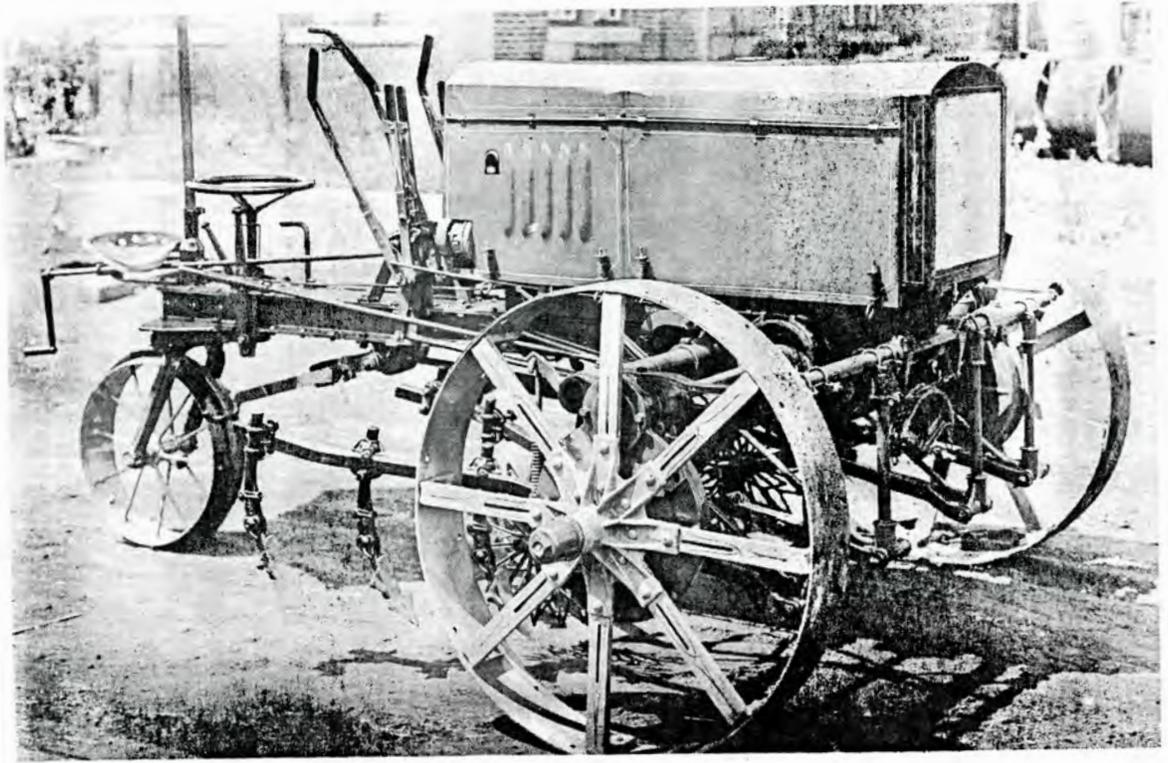


Figure 75

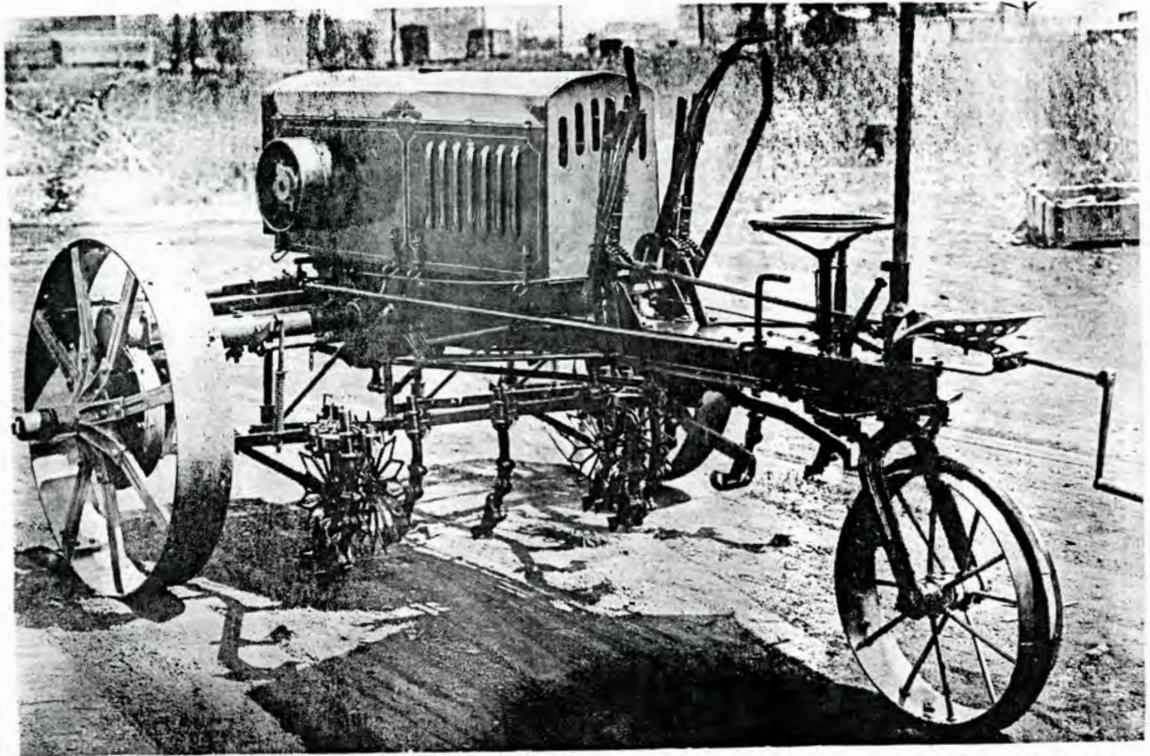


Figure 76

FIGURES 75 and 76 -- Two additional views of the Silver No. 4, of which five were made, and were reported on June 18, 1918, to be "doing very satisfactory work."

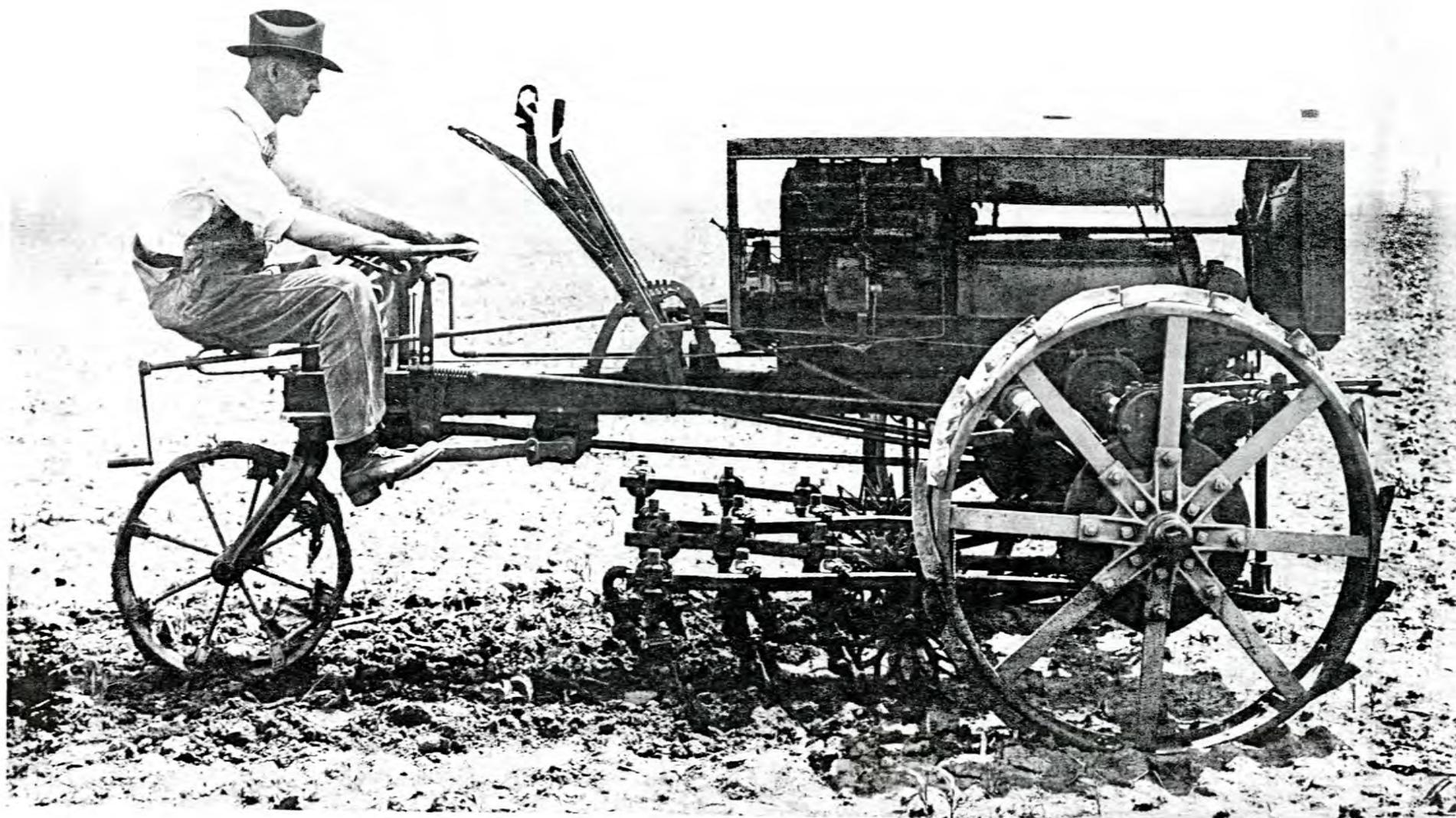


Figure 77

FIGURE 77 -- The Silver No. 4 at work. The hood has been removed, probably to allow motor heat to escape.

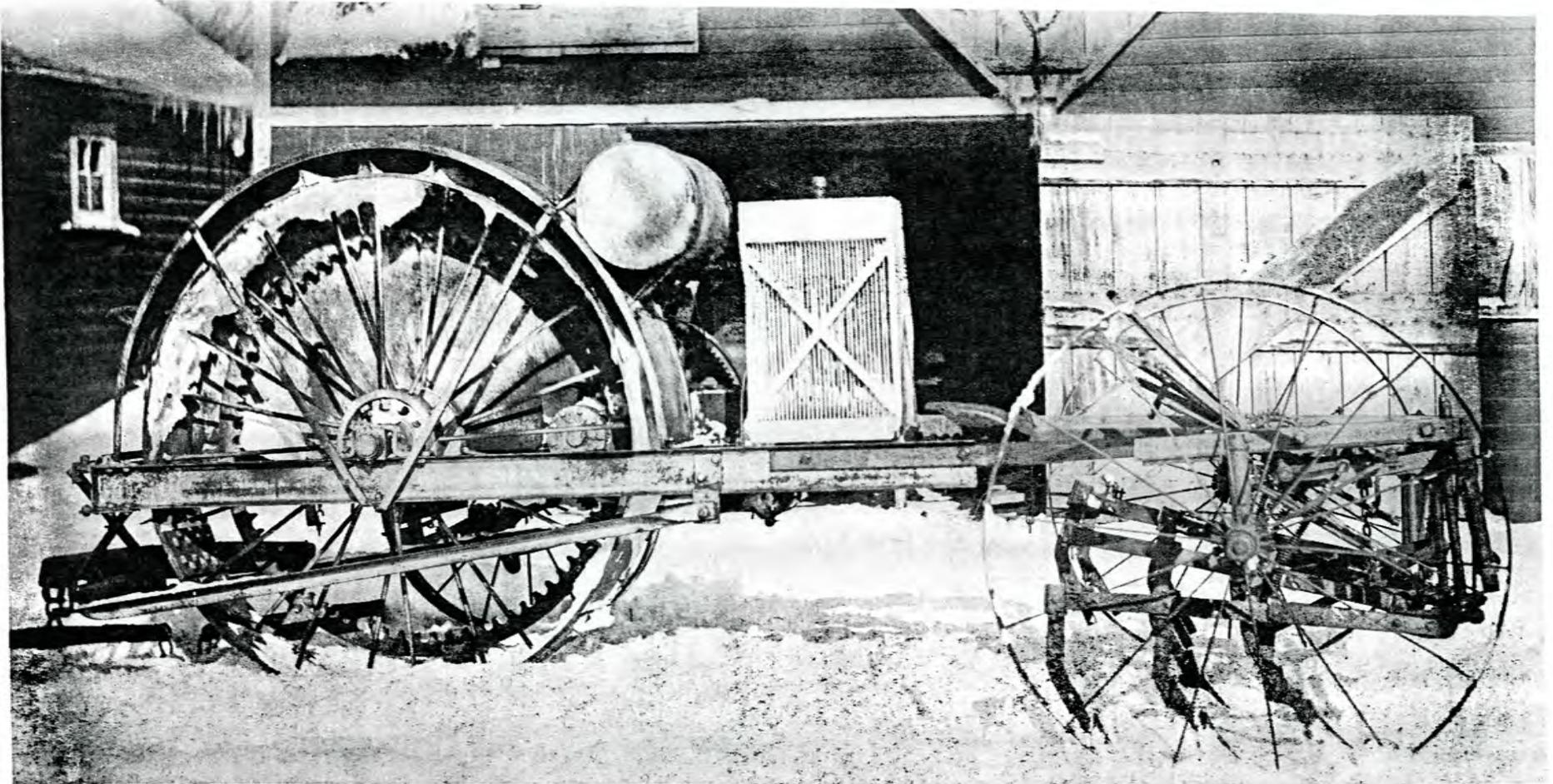


Figure 78

'FIGURE 78 -- J. B. O'Donnell of Sheldon, Ia., not only had been employed by Deere & Co. to check on field work of "Tractivators" and Silver's Model 3, but previously had done some tractor cultivator development of his own. In fact, this two-row cultivator, which he made by attaching a Bull tractor to a horsedrawn pivotal wheel cultivator, may well have been the first mechanically-powered two-row, push-type cultivator.

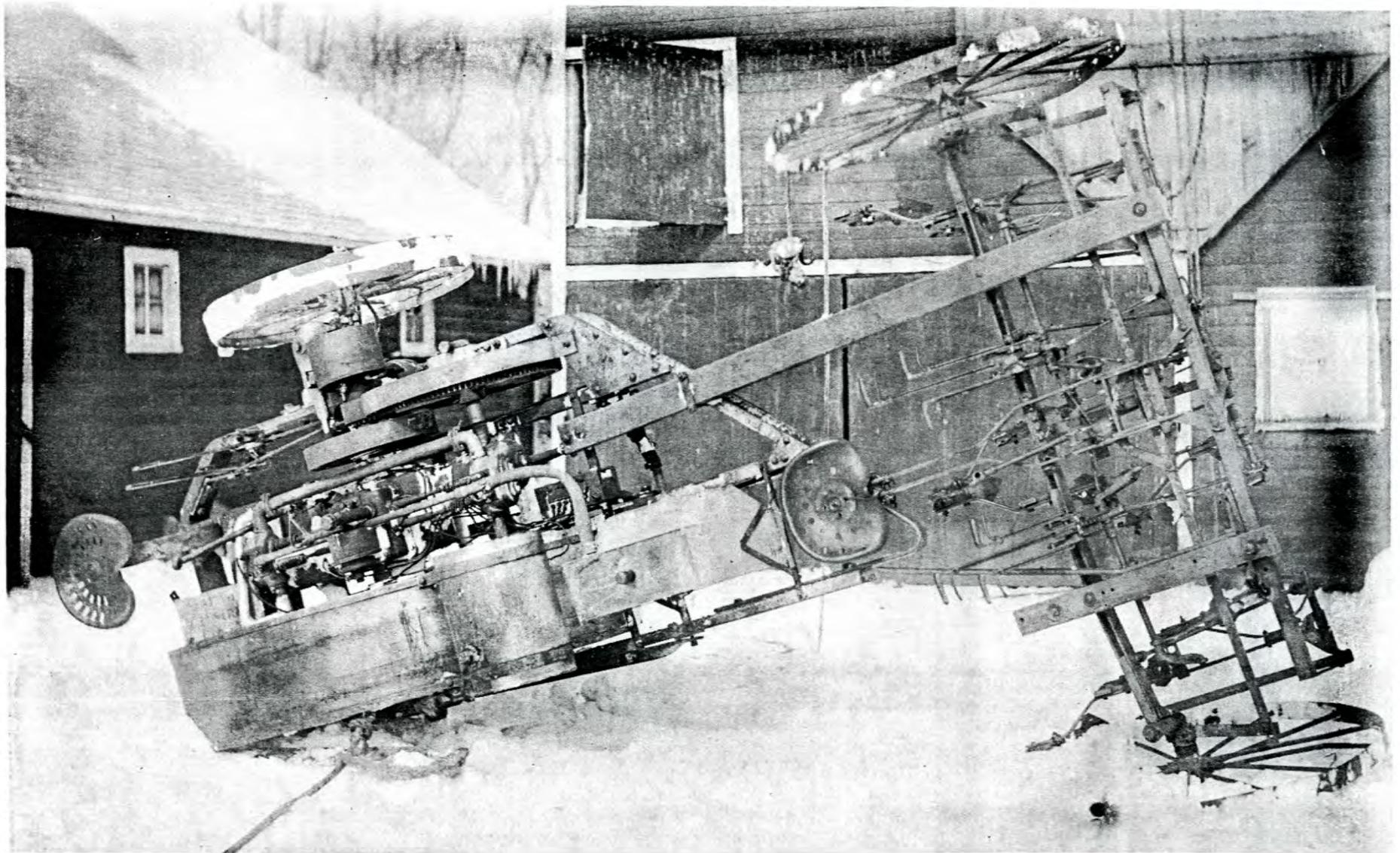


Figure 79

FIGURE 79 -- An overhead view of O'Donnell's two-row cultivator -- even showing the ropes used to pull the tractor cultivator over on its side so the photographer could get his "overhead" picture. A major difficulty with O'Donnell's cultivator was that it could not make short turns. It also apparently required two operators.

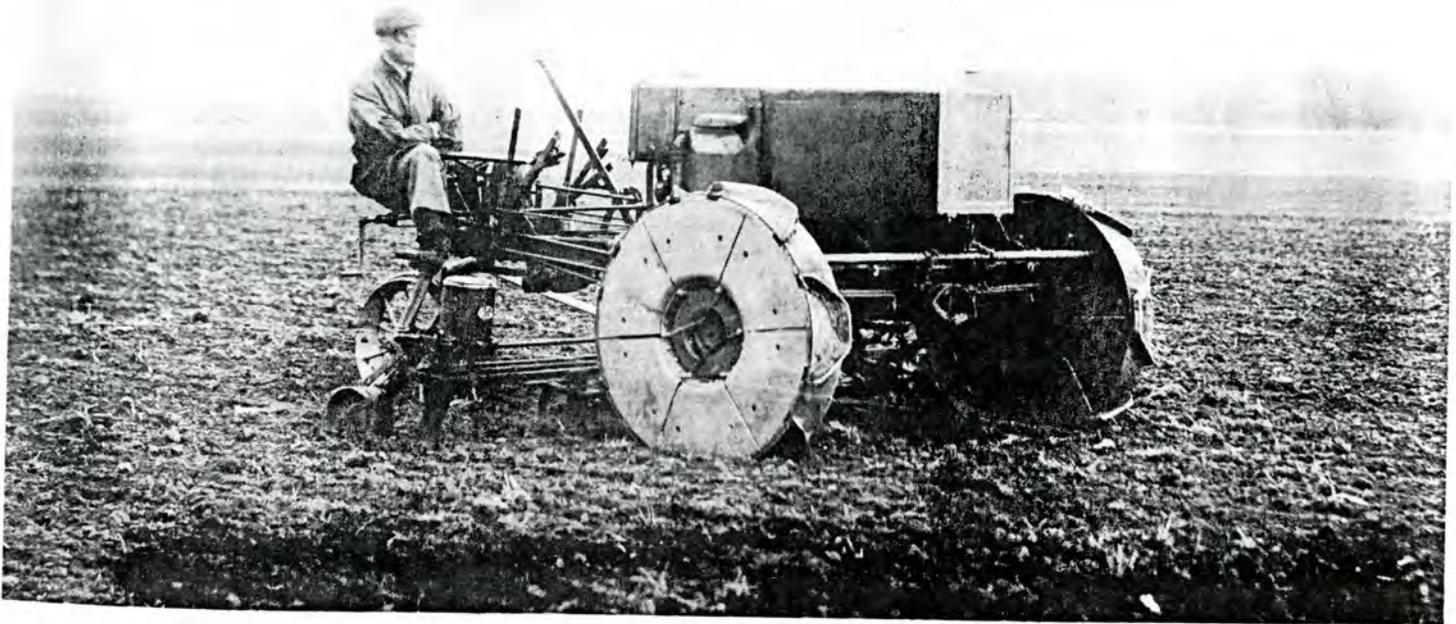


Figure 80

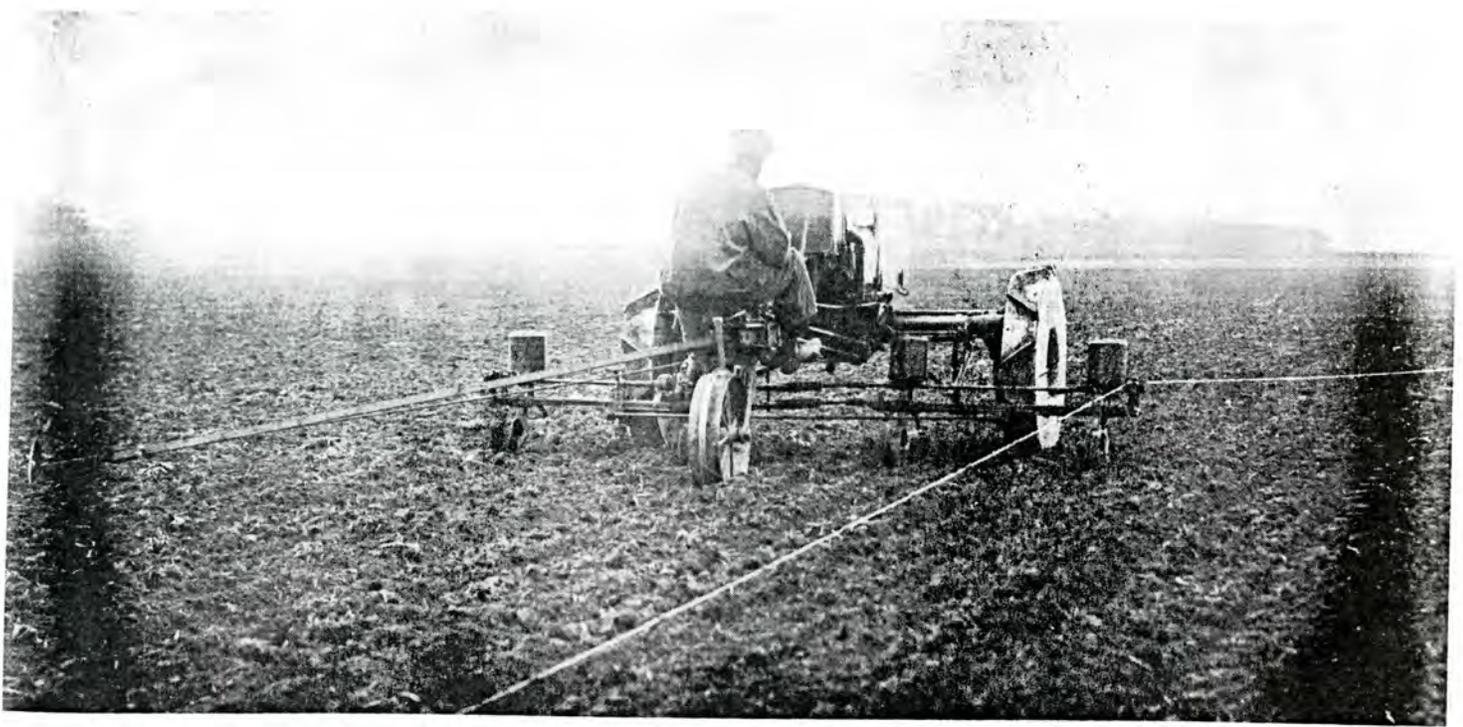


Figure 81

FIGURES 80 and 81 -- The Silver No. 3 check-planting corn on J. B. O'Donnell's farm at Sheldon, Ia. Of a total of 130 acres of corn planted in 43 hours with the No. 3, 30 acres were checked.

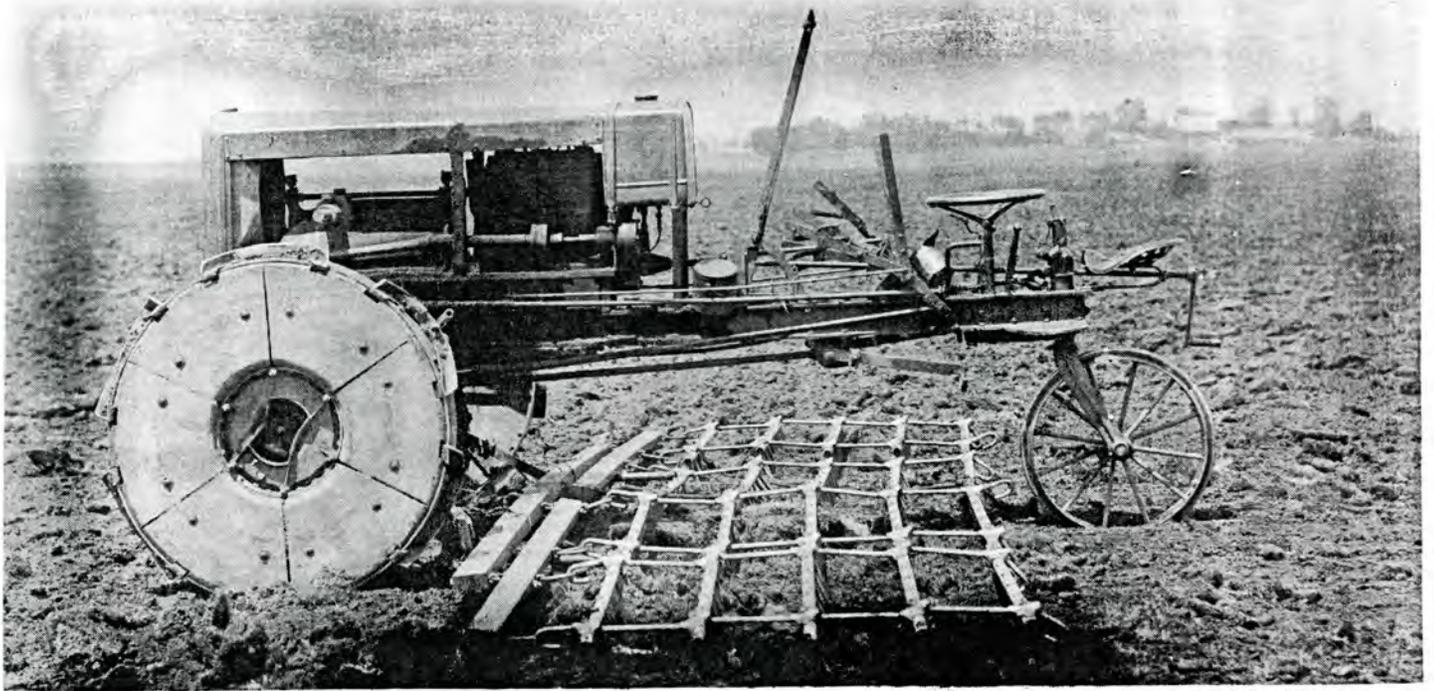


Figure 82

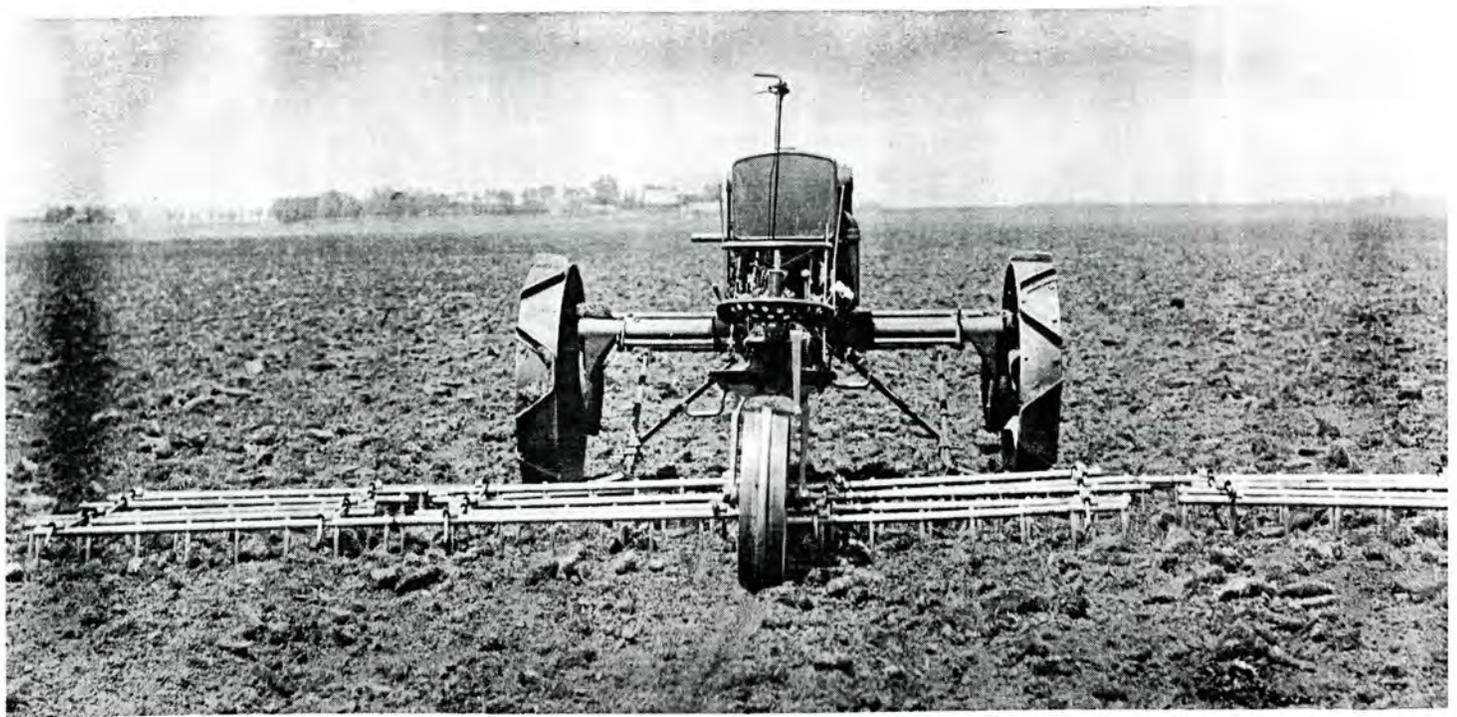


Figure 83

FIGURES 82 and 83 -- "We also hitched the machine (Silver No. 3) to a twenty-foot drag harrow and it worked out good," reported O'Donnell. "We have already used the machine on the disc harrow, drag harrow, road drag, corn planter, corn cultivator, mower, and binder."



Figure 84



Figure 85

FIGURES 84 and 85 -- Silver's No. 3 disking spring-plowed bluegrass sod on J. B. O'Donnell's farm. "Our main drawback . . . has been the lack of power . . . in disking we only averaged about 16 acres per 10-hour day, where if we had been able to pull a 10-foot disc harrow at high speed, we could do almost double that amount," reported O'Donnell.

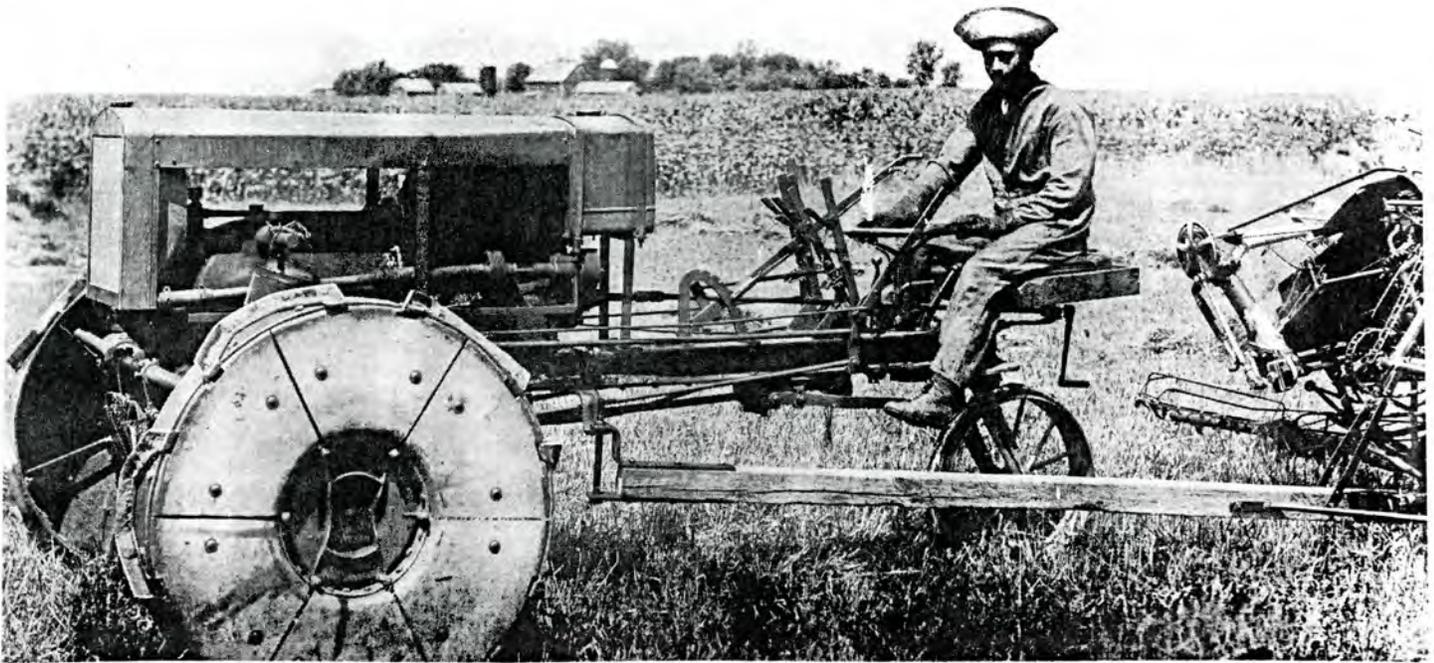


Figure 86

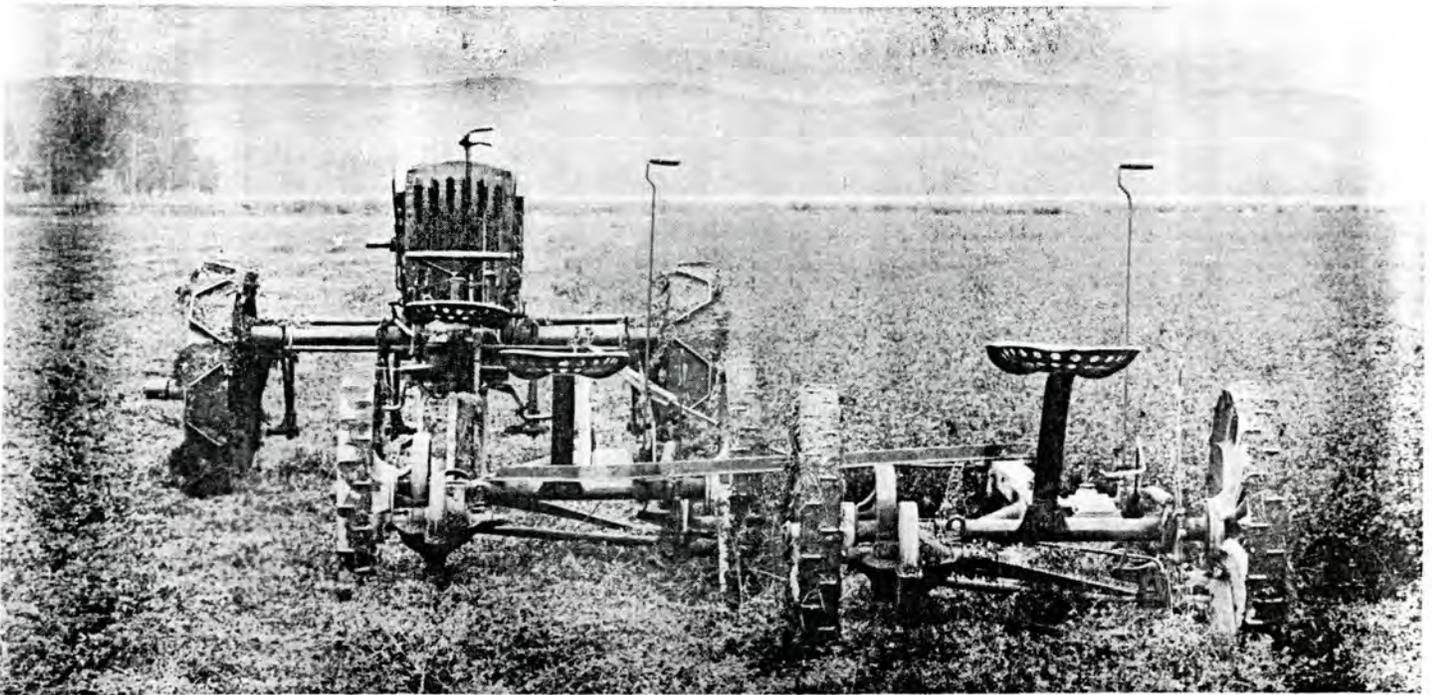


Figure 87

FIGURES 86 and 87 -- Mr. O'Donnell also used the Silver No. 3 on a 8-foot McCormick binder (Figure 86), and saw the Silver No. 4 doing a good job with two 5-foot mowers on the J. A. Kroon farm at Pacific Junction, Ia. (Figure 87).



Figure 88

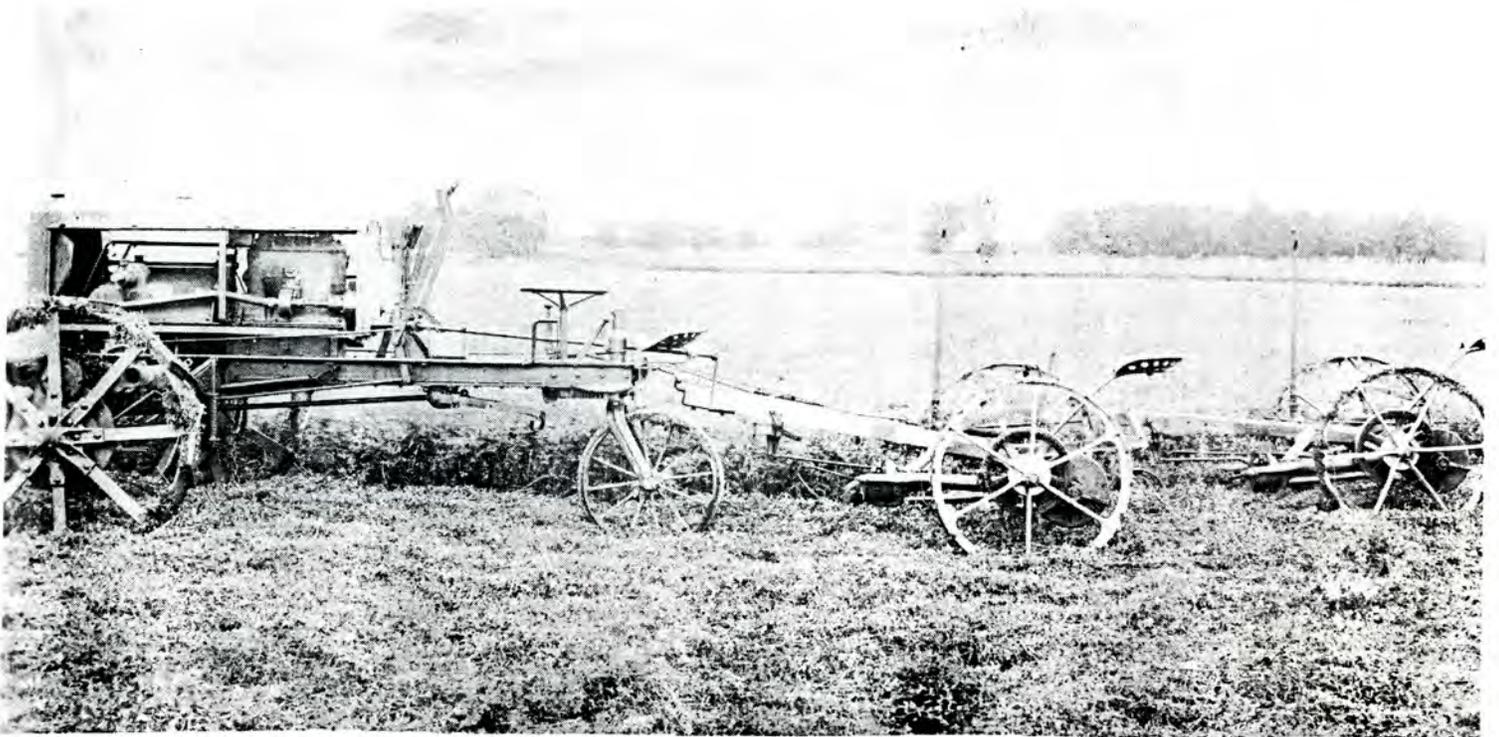


Figure 89

FIGURES 88 and 89 -- "I called on J. A. Kroon, Pacific Junction, Ia., some time ago," reported Mr. O'Donnell. "He was pulling two 5-foot mowers (with the Silver No. 4) and they worked out very good on our machine. He was very much pleased . . . "

On September 3, 1918, Mr. Clausen presented a detailed report of the operation of the five motor cultivators to the Board of Directors:

"These tractors have been in the field the past season and I recommend that the five machines in their experimental stage be used another year, with such modifications and changes as experience indicates advisable, under the continued charge of Mr. Silver."

On December 23, 1919, it was decided to transfer the motor cultivator development work to the Plow Works.

### Experimental One-Row Machine

During the spring of 1921, an experimental single row motor cultivator was built. In its construction it followed the ideas incorporated in the first two-row cultivator of 1917. The cultivator rigs were shifted laterally by foot pedals, and the tractor was steered by guiding the two rear caster wheels. Thus, there were two distinctly separate functions for the operator to perform. This double function idea was a step backwards. There are only three references to this project and they are found in Theo Brown's diaries, and are as follows:

"June 8, 1921. The single row motor cultivator went to the Einfeldt farm today. Weighs 1,359 lbs.

"June 9, 1921. The motor cultivator started working today. Mr. Butterworth saw it.

"June 13, 1921. George Mixter was here and went out to see the motor cultivator and new Waterloo tractor."

On October 25, 1921, Mr. Clausen presented some photographs of the motor cultivator and indicated there is some question whether or not any further money should be spent in the development of the same in 1922. It was the sentiment of the Board that we discontinue any further development of the motor cultivator for one year. Figures 90 through 94 show the photographs referred to in Mr. Clausen's report.

## Further Development Stopped

As result of action at the Deere & Co. Board of Directors' meeting in October, 1921, all further development on motor cultivators was stopped. There were several reasons for such an action.

1. The years 1921-22 were disastrous ones for the farm equipment industry. Every expenditure was scrutinized closely and only the most urgent was given any consideration.
2. While considerable experimental work was carried on, the Company's whole tractor effort was focused on the re-design of the Waterloo Boy tractor.
3. The two-row motor cultivator design was not adaptable for plowing. The wheel tread was too wide and not adjustable.

The time had arrived when the motor cultivator was expected to be a general purpose tractor, and, to be acceptable, had to be a plowing tractor too. The necessary flexibility was lacking in the design of the motor cultivator to make it satisfactory for plowing, although the tractor had performed other farm operations quite successfully.

## The General-Purpose Tractor

It may be of interest to trace the development of the general-purpose type of tractor of today. The general-purpose tricycle-type tractor is an outgrowth of the 2-row motor cultivator of 1920. At that time there were two schools of thought as to how a motor cultivator should be designed. One group believed the cultivator should be in front, the other was equally sure it should be behind. Figure 95 shows examples of the two types.

The front mounted cultivator with dirigible power driven cultivator wheels was easiest for the operator. The rear mounted cultivator gave the operator two functions to coordinate -- one to steer the tractor, the other to shift the cultivator rigs. This was not an easy task.

The next step, which came not long after, was to take a motor cultivator in which the cultivator was mounted at the rear (as in the Rock Island) and make two alterations. 1st: Take the cultivator rigs from the rear and attach them to the tractor some distance ahead of the rear wheels. 2nd: Make an adjustable rear axle tread. That, in essence, made the general purpose tractor as we know it today.



Figure 90

FIGURE 90 -- This experimental one-row motor cultivator, built early in 1921, turned out to be the final Deere & Co. experiment with motor cultivators as such.



Figure 91



Figure 92

FIGURES 91 and 92 -- Front and rear views of the 1921 one-row motor cultivator. This cultivator's field tests began June 9 of that year, and the above photographs, as well as those in Figures 90, 93, and 94, were taken June 10.

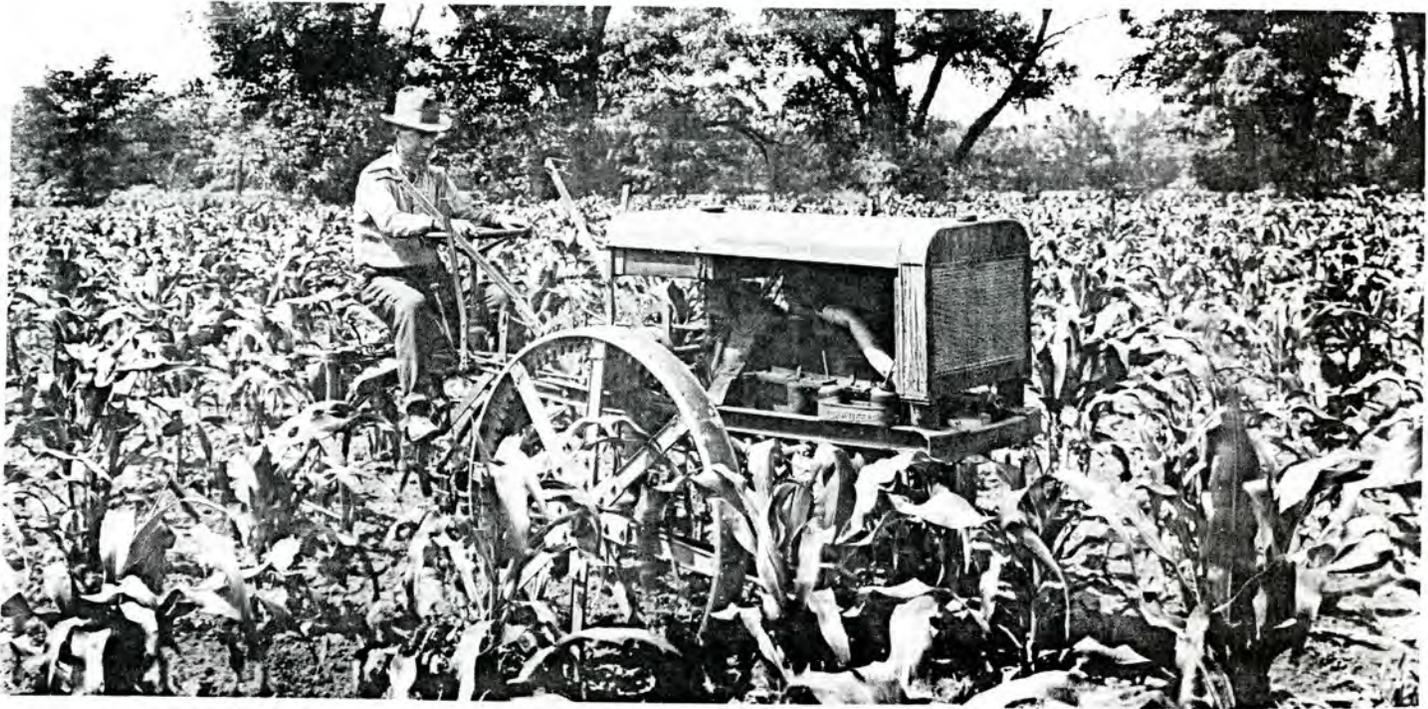


Figure 93

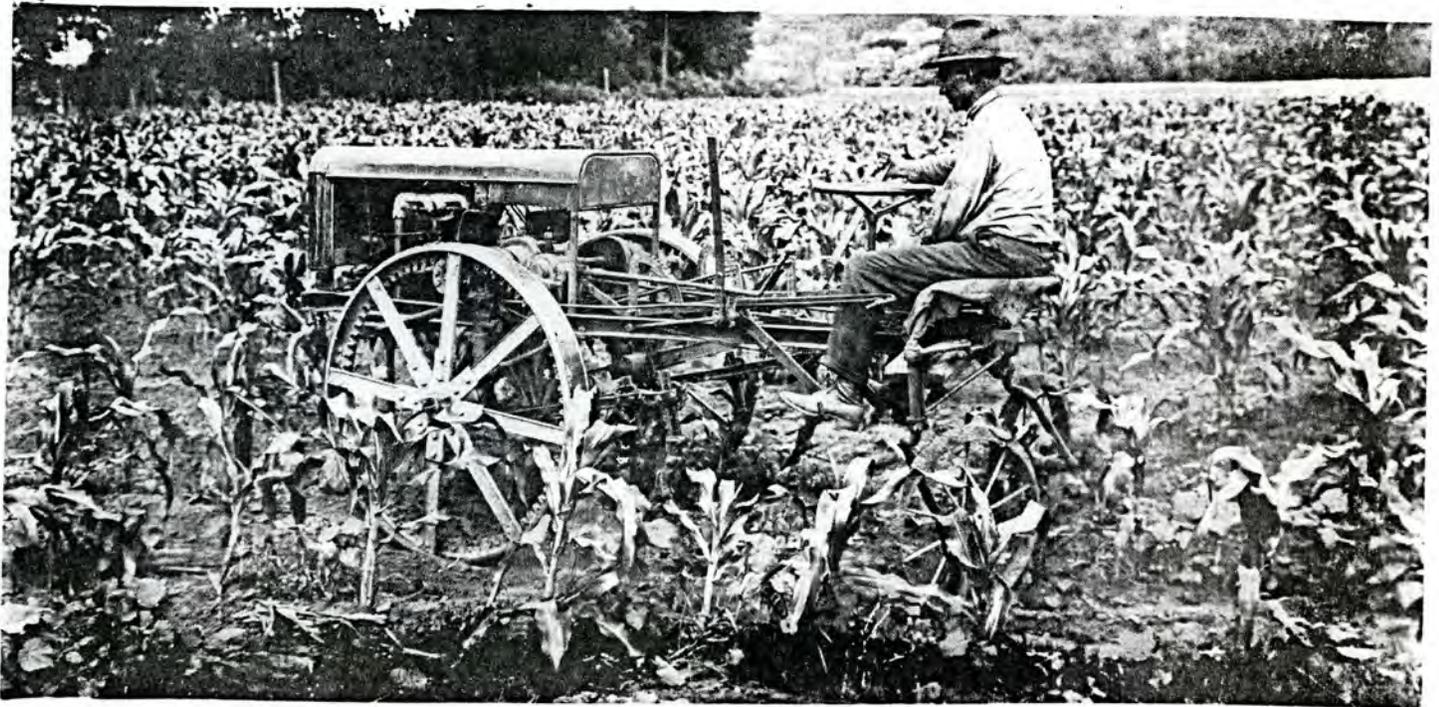
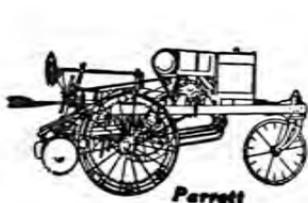


Figure 94

FIGURES 93 and 94 -- The 1921 one-row motor cultivator was steered by guiding the two rear castor wheels. The rigs were shifted by means of foot pedals. Thus the operator had two separate functions to perform.



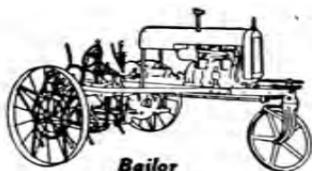
*Parrott*



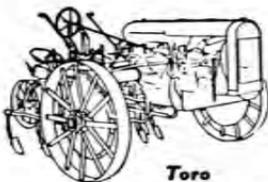
*Emerson-Brantingham*



*J. I. Case*



*Bailer*



*Toro*



*Rock Island*

FIGURE 95 -- Here are some examples of two-row motor cultivators of the 1920 period. Designers were divided on whether the cultivator rigs should be front-mounted or rear-mounted. Although the passing years proved that building a motor cultivator for the primary purpose of cultivating was not practical, the work of inventors and designers of motor cultivators left its unmistakable and valuable imprint on the over-all picture of tractor development.

# DEERE & COMPANY'S EARLY TRACTOR DEVELOPMENT

## Chapter 6 -- OTHER 1916 TRACTORS

On April 27, 1916, FARM IMPLEMENT NEWS published a "Farm Power Issue" of its magazine. Today that special issue is practically a collector's item.

Much of both editorial and advertising matter was devoted to tractors and farm power. It included a "tractor directory" showing and describing the many tractors available in 1916. That material is reproduced on the following pages as the sixth and final chapter of this report.

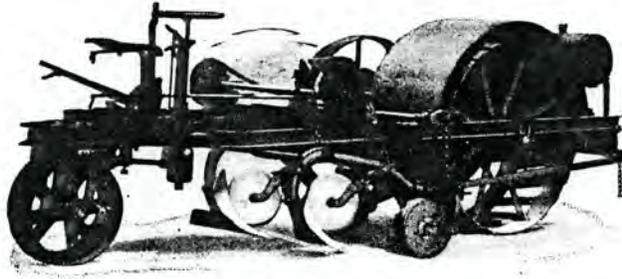
Admittedly, many of the early traction units look strange and crude beside our present versatile, powerful and neatly-styled tractors. But we must remember that farm implement engineers of that period did not have the benefit of our manufacturing and engineering knowledge and background.

We must remember that their problems and errors and successes were as real and vital to them as anything we are doing today is to us.

We must remember that they laid the foundation on which we are building.

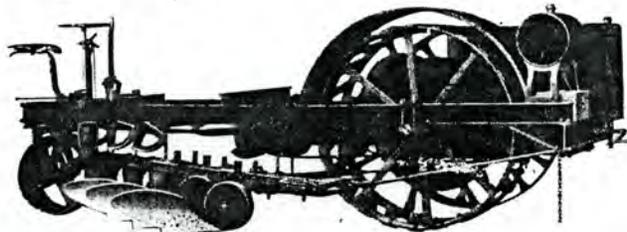
And the reason we must remember these things is that we hope the farm implement engineers and manufacturers of 1990 will remember them of us when they, in turn, look back over thirty-seven years to what we of 1953 call "modern".

**ADVANCE-RUMELY CO., LA PORTE, IND.  
ALL-PURPOSE.**



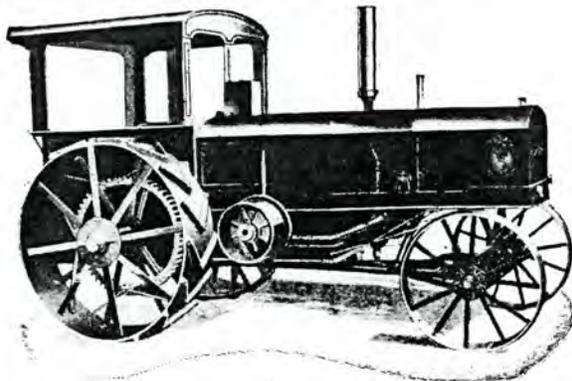
Rating, 8-16 h. p.; 8 d. b.; 16 b. h. p.; 4 cyl.; 3 wheels; 1 driver; speed 2.1; 850 r. p. m.; pulley 14x6½; driver 54x26; tank, gaso. 20; cooling, radiator; length 198¼; width 79; height 62; weight 6,700; price \$790; Hyatt bearings; distributing houses—Aberdeen, Battle Creek, Billings, Columbus, O., Dallas, Des Moines, Fargo, Indianapolis, Kansas City, Lincoln, Madison, Minneapolis, Peoria, New Orleans, Portland, Ore., San Francisco, Spokane, Wichita, Regina, Sask., Saskatoon, Sask., Winnipeg, Man.

**ADVANCE-RUMELY CO., LA PORTE, IND. . . . .  
ALL-PURPOSE.**



Rating, 12-24 h. p.; 12 d. b.; 24 b. h. p.; 4 cyl.; 3 wheels; 1 driver; speed 2¼; 750 r. p. m.; pulley 15x8; driver 64x26; tank, gasoline 25; cooling, radiator; length 217; width 96; height 71; weight 8,700; price \$975; Hyatt bearings; distributors, see above.

**ADVANCE-RUMELY CO., LA PORTE, IND.  
GASPULL.**



Rating 15-30 h. p.; 15 d. b.; 30 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 2 to 3; 500 r. p. m.; pulley 18x9; front wheels 39x8; drivers 61½x20; tank, gasoline 53; cooling, water; length 178; width 128; height 108; weight 11,673; price \$1,500; distributors as above.

**ADVANCE-RUMELY CO., LA PORTE, IND.  
OILPULL E.**

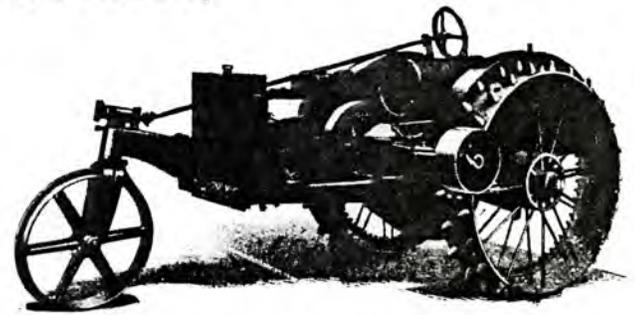
Rating 30-60; 30 d. b.; 60 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 2½; 375 r. p. m.; pulley 36x11; front wheels 44x16; drivers 80x30; tanks, gasoline 3, kero. 70; cooling, oil; length 228; width 116; height 132; weight 26,500; price \$2,550; distributors as above.

**ADVANCE-RUMELY CO., LA PORTE, IND.  
OILPULL F.**



Rating 15-30; 15 d. b.; 30 b. h. p.; 1 cyl.; 4 wheels; 2 drivers; speed 2 to 2¼; 375 r. p. m.; pulley 30x9½; front wheels 38x12; drivers 70x24; tanks, gasoline 3, kero. 35; cooling, oil; length 192; width 94; height 123½; weight 16,500; price \$1,850; distributors as above.

**ALLIS-CHALMERS MFG. CO., MILWAUKEE, WIS.  
ALLIS-CHALMERS.**

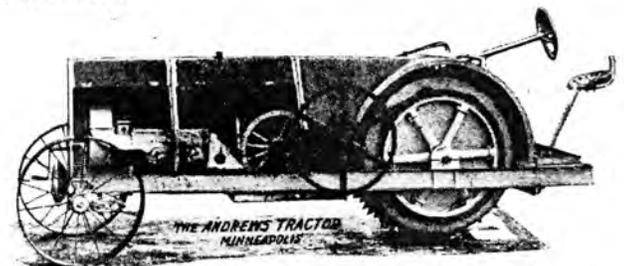


Rating 10-18 h. p.; 10 d. b.; 18 b. h. p.; 2 cyl.; 3 wheels; 2 drivers; speed 2.3; 720 r. p. m.; pulley 14x6½; front wheel 32x6; drivers 56x12; tank, gasoline, 17½; cooling, radiator; length 140; width 70; height 75; weight 4,800; price \$750; distributors—Murphy Mach'y & Equip. Co., St. Louis; Phillips-Palmer Tractor Co., Kansas City; Andersen & Co., Omaha; Baker Mach'y Co., Des Moines; S. J. Taber & Co., Fargo; Haviland & Gleeson, Minneapolis.

**AMERICAN TRACTOR CO., DES MOINES, IA.  
AMERICAN OIL.**

Rating 35 h. p.; 20 d. b.; 37 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 1¾ to 4; 700 r. p. m.; pulley 20x8½; front wheels 36x7; drivers 60x14; tanks, gasoline, 5, kero. 25; cooling, radiator; length 148; width 80; height 72; weight 6,500; price \$1,600.

**ANDREWS TRACTOR CO., MINNEAPOLIS, MINN.  
ANDREWS.**

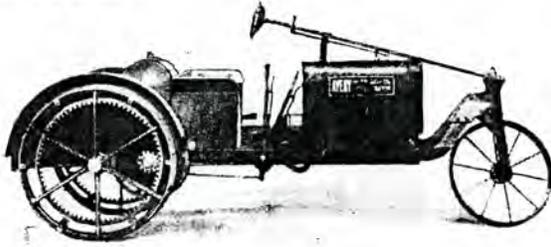


Rating 30 h. p.; 10 d. b.; 20 b. h. p.; 4 cyl.; 2 cycle; 3 wheels; 1 driver; speed 2½; 800 r. p. m.; pulley 12x7; front wheel 36x8; driver 48x30; tank, gasoline, 30; cooling, forced air; length 176; width 90; height 56; weight 5,000; price \$640.

**AULTMAN & TAYLOR MACH'Y CO., MANSFIELD, O.  
18-36.**

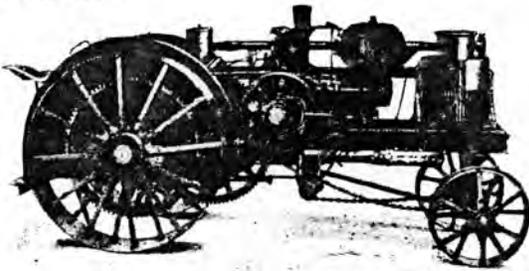
Rating 36 h. p.; 18 d. b.; 40 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2¼; 600 r. p. m.; pulley 20x10; front wheels 38x10; drivers 70x20; tanks, gasoline 10, kero. 35; cooling, radiator; length 178½; width 89¼; height 125; weight 13,700.

AVERY CO., PEORIA, ILL.  
AVERY 5-10.



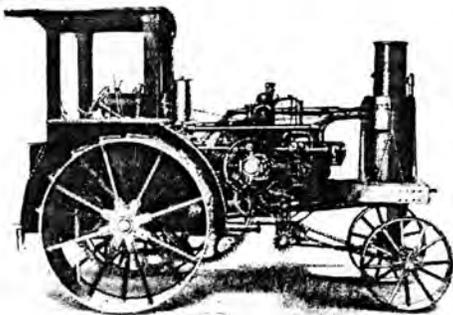
Rating 5-10 h. p.; 5 d. b.; 10 b. h. p.; 4 cyl.; 3 wheels; 2 drivers; speed  $1\frac{1}{4}$  to  $3\frac{1}{2}$ ; 1,200 r. p. m.; pulley  $4\frac{1}{4} \times 4$ ; front wheel 28x5; drivers 38x5; tank, gasoline 11; cooling, thermo-syphon; length 145; width 35; weight 1,700; price \$365; Hyatt and babbitt bearings; engine bore 3; stroke 4 in.; 4 cycle; friction and double drive spur gear transmission; Zephyr carbureter; Atwater-Kent ignition; pump and splash oiling system; distributing houses—Omaha, Des Moines, Kansas City, Minneapolis, Indianapolis, Grand Forks, Fargo, Billings, Aberdeen, Lincoln, Madison, Wichita; also Avery Co. of Texas, Dallas, Beaumont and Amarillo, Tex.

AVERY CO., PEORIA, ILL.  
AVERY 8-16.



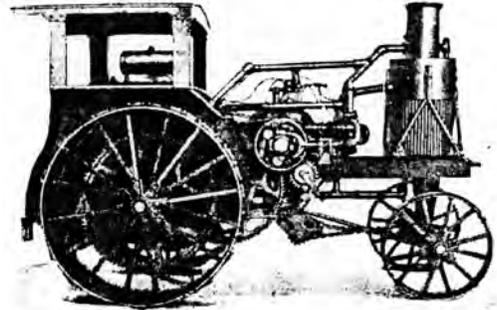
Rating 8-16 h. p.; 8 d. b.; 16 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed  $1\frac{1}{4}$  to 3; 600 r. p. m.; pulley  $19\frac{1}{2} \times 7$ ; front wheels 24x6; drivers 50x12; tank, gasoline or kero. 14; cooling, thermo-syphon; length 130; width 56; height 53; weight 4,900; price \$760 cash, \$800 time; engine bore  $5\frac{1}{2}$ ; stroke 6 in.; renewable inner cylinder walls; bearings babbitted; Kingston double carbureter; high tension ignition; oiling system, pump and splash; clutch, Avery steam engine type; spur gear transmission, revolving rear axle; distributors as above.

AVERY CO., PEORIA, ILL.  
AVERY 12-25.



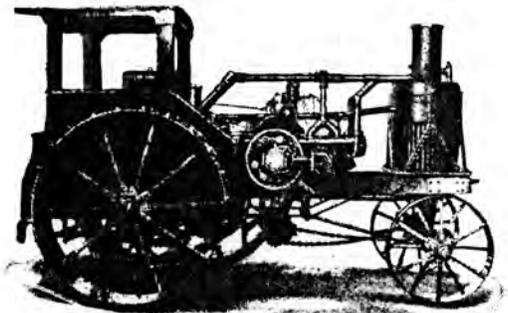
Rating 12-25 h. p.; 12 d. b.; 25 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed  $1\frac{1}{4}$  to  $2\frac{3}{4}$ ; 570 r. p. m.; pulley  $19\frac{1}{2} \times 7$ ; front wheels 30x8; drivers 56x20; tank, gasoline or kero. 21; cooling system, thermo-syphon; length 164; width 80; height 105; weight 7,500; price, \$1,195 cash, \$1,280 time; engine bore  $6\frac{1}{2}$ , stroke 7 in., with renewable inner cylinder walls; bearings babbitted; carbureter, double Kingston; ignition, high tension; oiling system, pump and splash; clutch, Avery steam engine type; transmission, sliding frame, 2-speed, double driven, spur gear, revolving rear axle; distributors as above.

AVERY CO., PEORIA, ILL.  
AVERY 18-36.



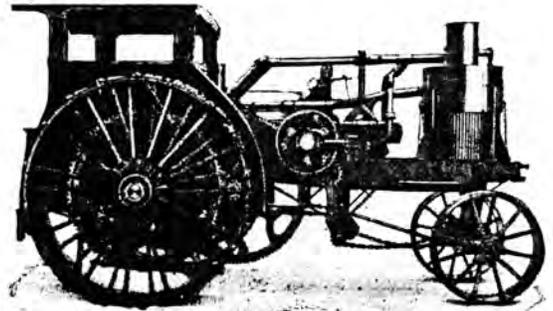
Rating 18-36 h. p.; 18 d. b.; 36 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2 to 3; 650 r. p. m.; pulley 18x8; front wheels 35x8; drivers 65x20; tank, gasoline or kero. 33; cooling, thermo-syphon; length 152; width 84; height 105; weight 9,250; price, \$1,775 cash, \$1,900 time; engine bore  $5\frac{1}{2}$ , stroke 6 in., with renewable inner cylinder walls; babbitted bearings; Kingston double carbureter; high tension ignition; pump and splash oiling system; clutch, Avery steam engine type; sliding frame, 2-speed, double drive, spur gear transmission with revolving rear axle; distributors as above.

AVERY CO., PEORIA, ILL.  
AVERY 25-50.



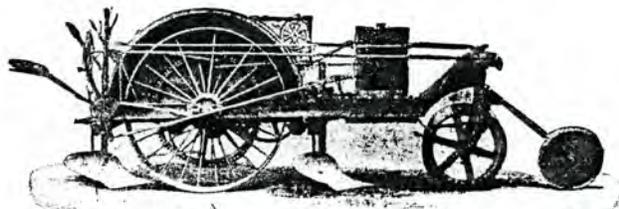
Rating 25-50 h. p.; 25 d. b.; 50 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2 to 3; 500 r. p. m.; pulley  $22 \times 8\frac{1}{2}$ ; drive wheels 69x20; tank, gasoline or kero, 33; cooling, thermo-syphon; length 176; width  $90\frac{1}{2}$ ; height 108; weight 12,500; price \$2,190 cash, \$2,350 time; engine bore  $6\frac{1}{2}$ , stroke 7 in., with renewable inner cylinder walls; babbitted bearings; Kingston double carbureter; high tension ignition; oiling system, pump and splash; clutch, Avery steam engine type; sliding frame, 2-speed, double drive, spur gear transmission with revolving rear axle; distributors as above.

AVERY CO., PEORIA, ILL.  
AVERY 40-80.



Rating 40-80 h. p.; 40 d. b.; 80 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $1\frac{1}{4}$  to  $2\frac{3}{4}$ ; 500 r. p. m.; pulley  $26 \times 10$ ; drive wheels  $87\frac{1}{2} \times 24$ ; tank, gasoline or kero. 50; cooling, thermo-syphon; length 215; width  $111\frac{1}{2}$ ; height 121; weight 22,000; price \$2,625 cash, \$2,800 time; engine bore  $7\frac{1}{2}$ , stroke 8 in., with renewable inner cylinder walls; babbitted bearings; Kingston double carbureter; high tension ignition; oiling system, pump and splash; clutch, Avery steam engine type; sliding frame, 2-speed, double drive, spur gear transmission with revolving rear axle; distributors as above.

**B. F. AVERY & SONS, INC., LOUISVILLE, KY.  
LOUISVILLE.**



Rating 10 d. b.; 20 b. h. p.; 2 cyl.; 3 wheels; 1 driver; speed  $2\frac{1}{2}$ ; pulley optional; tanks, gasoline 15, kero. 15; cooling, radiator; length 156; width 84; height 67; weight 5,000; distributors—Frank G. Robbins Co., New York City (New England); Keystone Farm Mach. Co., York, Pa. (Pa., N. J., Del., Md.); Acme Harvesting Mach. Co., Peoria (Ill., Wis., Ia., Neb.); Big Four Impt. Co., Kansas City (Kan., W. Mo.); B. F. Avery & Sons Plow Co., Oklahoma City (Okla.); B. F. Avery & Sons Plow Co., Dallas (Tex.)

**BATES TRACTOR CO., LANSING, MICH.  
BATES.**

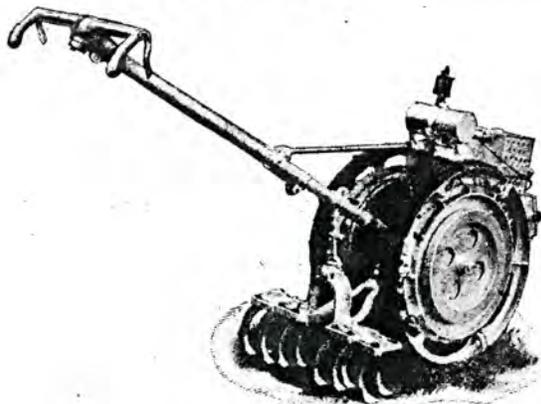
Rating 15 h. p.; 10 d. b.; 15 b. h. p.; 1 cyl.; 4 wheels; 2 drivers; speed  $1\frac{1}{2}$  to 3; 500 r. p. m.; pulley 16x8; front wheels 30x6; drivers 52x14; tanks, gasoline  $1\frac{1}{2}$ , kero. 8; weight 5,000; price \$975.

**BATES TRACTOR CO., LANSING, MICH.  
BATES.**



Rating 30 h. p.; 20 d. b.; 30 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed  $1\frac{1}{2}$  to 3; 500 r. p. m.; pulley 18x8; front wheel 38x8; drivers 60x18; tanks, gasoline 3, kero. 16; cooling system, radiator; weight 8,000; price \$1,650.

**BEEMAN GARDEN TRACTOR CO., MINNEAPOLIS.  
BEEMAN GARDEN TRACTOR.**



Rating 3 d. b.;  $1\frac{1}{4}$  b. h. p.; 1 cyl.; 2 drive wheels; speed  $\frac{3}{4}$  to 3; 230 to 2,200 r. p. m.; pulley 4x4; drive wheels 25x $3\frac{1}{2}$ ; gasoline tank 1; cooling, radiator; length 78; width 17; height 31; weight 449; price \$150.

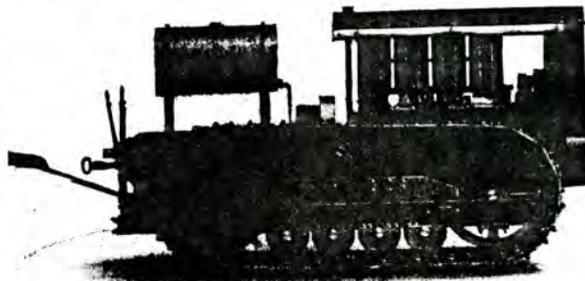
**C. L. BEST GAS TRACTION CO., OAKLAND, CAL.  
PONY.**

Rating 8-16 h. p.; 8 d. b.; 16 b. h. p.; 4 cyl.; 2 tracks; speed  $2\frac{1}{2}$ ; 650 r. p. m.; pulley 10x4; tank, distillate 15; cooling, radiator; length 96; width 48; height 48; price \$1,400.

**C. L. BEST GAS TRACTION CO., OAKLAND, CAL.  
TRACKLAYER.**

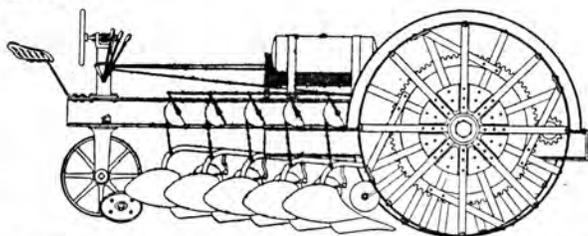
Rating 75 h. p.; 35-40 d. b.; 75 b. h. p.; 4 cyl.; 2 tracks; speed  $1\frac{1}{2}$  to  $2\frac{1}{2}$ ; 450 r. p. m.; pulley 18x10; tracks, 24 in. wide; tank, distillate 80; cooling, radiator; length 268; width 87; height 120; weight 28,000; price \$4,565.

**C. L. BEST GAS TRACTION CO., OAKLAND, CAL.  
30 H. P. MULEY.**



Rating 30 h. p.; 16 d. b.; 30 b. h. p.; 4 cyl.; 2 tracks; speed  $1\frac{1}{4}$  to  $2\frac{1}{2}$ ; 650 r. p. m.; pulley 12x8; front wheel 26x10; face of tracks 16; tanks, gasoline 4, distillate 25; cooling, radiator; length 126; width 76; height 62; weight 9,600; price \$2,400.

**BRILLION IRON WORKS, BRILLION, WIS.  
BRILLION.**



Rating 30 h. p.; 24 d. b.; 2 cyl.; 3 wheels; 2 drivers; speed 1 to 3; 400 r. p. m.; pulley 16x6; front wheel drivers 60x10; tank, gasoline 25; length 144; width 84; height 66; weight 5,200; price \$885.

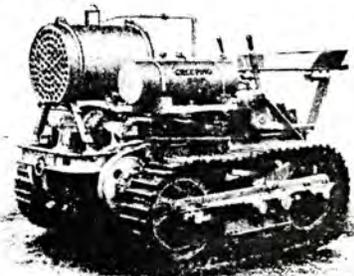
**BUCKEYE MFG. CO., ANDERSON, IND.  
BUCKEYE JR.**

Rating 16 h. p.; 8 d. b.; 30 b. h. p.; 4 cyl.; combination of 4 wheels or 2 wheels and track; speed 3; 850 r. p. m.; pulley 14x10; front wheels 30x6; drivers 36x8; gasoline tank 10; weight 4,000; price \$650; Dixie ignition.

**BUCKEYE MFG. CO., ANDERSON, IND.  
BUCKEYE C. T. 4.**

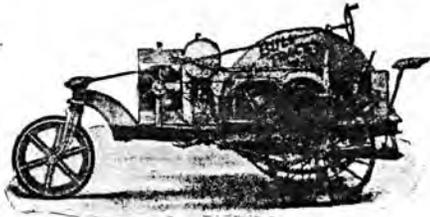
Rating 30 h. p.; 15 d. b.; 45 b. h. p.; 4 cyl.; 2 tracks; speed 3; 850 r. p. m.; pulley 14x12; tanks, gasoline 10, kero. 10; cooling, radiator; length 96; width 54; height 48; weight 4,500; price \$1,500; ignition, Dixie.

**BULLOCK TRACTOR CO., CHICAGO, ILL.  
CREEPING GRIP.**



Rating 20 h. p.; 12 d. b.; 20 b. h. p.; 2 cyl.; 2 tracks; speed 2¼; 750 r. p. m.; pulley 12x8; tracks 84 in. long, 12 in. face; fuel tank, 17½; cooling, radiator; length 108; width 81; height 90; weight 7,200; price \$1,250; ignition, magneto with impulse starter; distributors—Stubbins & Jackson, Kansas City; N. J. Doud, New Orleans; Pioneer Mach'y Co., New York City; Pocatello Eng. & Mach'y Co., Pocatello, Idaho; Knapp & Black, Los Angeles; J. A. Freeman & Son, Portland, Ore.; California Hydraulic Eng. & Supply Co., San Francisco; West Co., Salt Lake City.

**BULL TRACTOR CO., MINNEAPOLIS, MINN.  
BULL.**



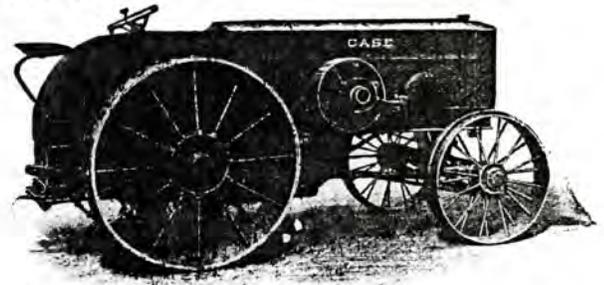
Rating 7-20 h. p.; 7 d. b.; 20 b. h. p.; 2 cyl.; 3 wheels; 1 driver; speed 2½ to 2¾; 700 r. p. m.; pulley 12x6½; front wheel 31x6; driver 60x14; tanks, gasoline 4¼, kero. 18½; cooling, radiator; length 163; width 75; height 72; weight 4,500; price \$645; bearings, Hyatt and plain; U. S. distributors—Brinly-Hardy Co., Louisville; Cameron Bull Tractor Co., Grand Forks; J. T. Clapper, Billings; Cooper Bull Tractor Co., Fargo; Farmers Hdw. Co., Charlestown, W. Va.; Gale-Hooper Co., Memphis, Tenn.; R. H. Green, Chicago; Hall Bros. & Reeves Motor Co., Kansas City; Hughson & Merton, inc., San Francisco, Los Angeles, Portland, Ore., Seattle and Spokane; Indiana Bull Tractor Co., Indianapolis; Iowa Bull Tractor Co., Des Moines; Edwards Motor Co., Milwaukee; C. W. Keith, Denver; King & Wright Co., Richmond, Va.; Mc-

Carthy Bull Tractor Co., Sioux Falls; Mabry Co., Birmingham, Ala.; Mallalieu & Conrey, Philadelphia; P. W. Myron & Co., Hettinger, N. D.; Nebraska Bull Tractor Co., Omaha; Ohio Bull Tractor Co., Lima; D. B. Reed & Co., Pittsburgh; C. L. Roeser, Saginaw, Mich.; Bodman & Co., Bement, Ill.; Sattley Bull Tractor Co., Dallas; Schibsy Bull Tractor Co., Minot, N. D.; Utah Impt.-Veh. Co., Salt Lake City; Weber Impt. & Auto. Co., St. Louis; Wonder Mfg. Co., Syracuse, N. Y.; Woodruff Mach'y Mfg. Co., Winder and Atlanta, Ga.; foreign representatives—Legler & Wilson, Inc., New York City; Cyrus Robinson & Co., Ltd., New York City and London; Benson Bros., Melbourne; Hardcastle & Co., Buenos Aires; DeElbano Spinetti, Caracas, Venezuela; Horacio Ellis & Co., Montevideo.

**J. I. CASE THRESHING MACHINE CO., RACINE, WIS.  
CASE 10-20.**

Rating 10-20 h. p.; 10 d. b.; 20 b. h. p.; 4 cyl.; 3 wheels; 2 drivers; speed 2; 800 r. p. m.; pulley 17x6½; front wheel 30x8; drive wheels 52 in. high, 22 and 10 in. face; tank, gasoline 20; cooling, radiator; length, 150; width 67; height 60; weight 4,700; price \$890; U. S. distributing houses—San Francisco; Denver; Atlanta; Chicago, Peoria and Freeport, Ill.; Indianapolis; Des Moines, Sioux City, Mason City and Waterloo, Ia.; Great Bend and Wichita, Kan.; Louisville and Lexington, Ky.; Lansing; Minneapolis, Duluth, Mankato and Fergus Falls, Minn.; Kansas City and St. Louis, Mo.; Billings, Great Falls, Lewistown and Glasgow, Mont.; Lincoln; Greensboro, N. C.; Fargo, Dickinson, Beach, Bismarck, Williston, Minot, Devil's Lake and Grand Forks, N. D.; New York and Syracuse, N. Y.; Columbus; Oklahoma City and Enid, Okla.; Portland, Ore.; Harrisburg, Pa.; Aberdeen, Sioux Falls, Watertown and Lemmon, S. D.; Nashville, Tenn.; Amarillo and Dallas, Tex.; Salt Lake City; Spokane; Madison and Oshkosh, Wis.; Canadian distributing houses—Calgary; Edmonton; Winnipeg; Brandon; Toronto; Regina; Saskatoon; foreign distributing houses—Odessa; Buenos Aires; Rosario; Bahia-Blanca; Montevideo; Paris; Bordeaux; foreign agencies at Manila, P. I.; Guadalajara and Monterey, Mexico; Valparaiso, Telcahuano, Santiago, Concepcion, Valdivia and Coquimbo, Chile; Budapest, Hungary; Widin, Bulgaria.

**J. I. CASE THRESHING MACHINE CO., RACINE, WIS.  
CASE 12-25.**

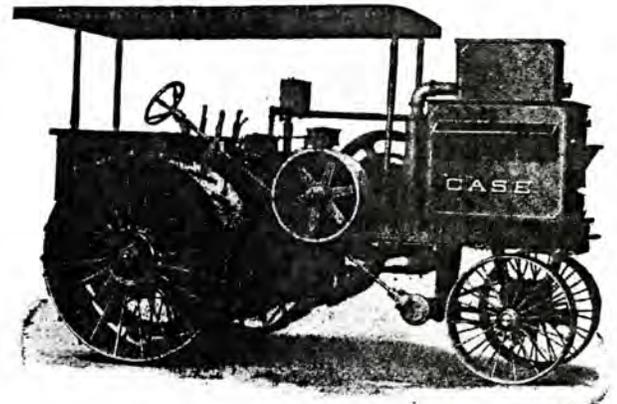


Rating 12-25 h. p.; 12 d. b.; 25 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 1¾ to 2 1-5; 600 r. p. m.; pulley 22x7½; front wheels 38x8; drive wheels 56x18; tank, gasoline 18; length 148¾; width 73; height 72; weight 9,100; price \$1,425; distributors as above.

**J. I. CASE THRESHING MACHINE CO., RACINE, WIS.  
CASE 20-40.**

Rating 20-40 h. p.; 20 d. b.; 40 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 2 to 3; 475 r. p. m.; pulley 24x8½; front wheels 40x10; drivers 66x20; tanks, gasoline 11, kero. 26; length 177; width 100; height 107; weight 14,000; price \$2,100; distributors as above.

**J. I. CASE THRESHING MACHINE CO., RACINE, WIS.  
CASE 30-60.**



Rating 30-60 h. p.; 30 d. b.; 60 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 2; 365 r. p. m.; pulley 32x12½; front wheels 42x12; drivers 72x24; tanks, gasoline 22, kero. 90; length 223; width 105; height 126; weight 25,800; price \$2,650; Sumter ignition; distributors as above.

**CHASE MOTOR TRUCK CO., SYRACUSE, N. Y.  
CHASE.**

Rating 10-15 h. p.; 8 d. b.; 30 b. h. p.; 4 cyl.; 3 wheels; 2 drivers; speed 1½ to 2; 1,200 r. p. m.; pulley 14x8; front wheel 36x34; drivers 48x22; tanks, gasoline 12, kero. 12; length 144; width 76; height 58; weight 4,500.

**CHASE MOTOR TRUCK CO., SYRACUSE, N. Y.  
CHASE.**

Rating 3 to 4 plow; 35 b. h. p.; 4 cyl.; 3 wheels; 2 drivers; speed 1½ to 3½; 500 r. p. m.; pulley 14x8; front wheel 36x35; drivers 36x32; tank, gasoline 25; cooling, radiator; length 114; width 102; height 59; weight 6,000; price \$1,750.

**CLEVELAND HORSELESS FARM MACH'Y CO.,  
CLEVELAND, O.  
BABY JOHNSON.**



Rating 34 h. p.; 27 d. b.; 30 b. h. p.; 4 cyl.; 1 wheel and 2 drums; 2 drivers; speed  $1\frac{1}{2}$  to 8; diam. pulley 6 in.; face front wheel 14; drums 36x24; length 140; width 74; height 58; weight 4,500; furnished with or without plows (3-bottom, two-way); orchard cultivators; wagon bed; dump box; drum covers for rolling; Continental motor. Will be ready for fall trade.

**C. O. D. TRACTOR CO., MINNEAPOLIS, MINN.  
C. O. D.**

Rating 13-25 h. p.; 13 d. b.; 27 b. h. p.; 2 cyl.; 4 wheel; 2 drivers; speed  $2\frac{1}{2}$ ; 600 r. p. m.; pulley 18x8; front wheels 34x8; drivers 70x12; tank, gasoline 16; length 156; width 78; height 76; weight 6,600; price \$785.

**COMMON SENSE GAS TRACTOR CO., MINNEAPOLIS.  
COMMON SENSE.**

Rating 15-25 h. p.; 15 d. b.; 25 b. h. p.; 4 cyl.; 3 wheels; 1 driver; speed  $1\frac{3}{4}$  to  $3\frac{1}{2}$ ; 960 r. p. m.; pulley 22x7; front wheels 36x6; driver 62x24; tank, gasoline 37; cooling, radiator; length 180; width 64; height 68; weight 6,000; bearings, Hyatt.

**COMMONWEALTH TRACTOR CO., KANSAS CITY, MO.  
NEVER-SLIP.**

Rating 20 h. p.; 12 d. b.; 24 b. h. p.; 2 cyl.; 2 tracks; speed  $2\frac{1}{2}$  to 3; 750 r. p. m.; pulley 10x8; tracks 12 in. face; tanks, gasoline 10, kero. 8; length 108; width 66; height 42; weight 5,000; price \$995; bearings, Hyatt; Dixie ignition.

**DAUCH MFG. CO., SANDUSKY, O.  
SANDUSKY.**

Rating 15-35; 15 d. b.; 35 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2 to  $5\frac{1}{2}$ ; 750 r. p. m.; pulley 14x10; front wheels 36x8; drivers 56x16 or 26; tank, gasoline 35; length 147; width 84; height 72; weight 8,994; distributing houses at Wichita, Dallas, Los Angeles, Sioux Falls, Lewistown, Mont., Omaha, Wabash, Ind.

**DAYTON-DICK CO., QUINCY, ILL.  
LEADER.**

Rating 12-18 h. p.; 12 d. b.; 18 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed  $2\frac{1}{2}$  to  $3\frac{1}{2}$ ; 750 r. p. m.; pulley 14x7; front wheels 38x6; drivers 54x16; tank, gasoline 18; cooling system, screen or enclosed; weight 5,000; price \$890.

**DENNING TRACTOR CO., CEDAR RAPIDS, IA.  
DENNING.**



Rating 18 h. p.; 10 d. b.; 20 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $1\frac{3}{4}$  to  $3\frac{1}{2}$ ; 1,000 r. p. m.; pulley 8x6; front wheels 30x5; drivers 46x10; tanks, gasoline 6, kero. 12; cooling, radiator; length 120; width 56; height 59; weight 3,600; price \$800; distributors—Owen Buxton Co., Chicago; E. E. Holland, Kansas City; G. H. Nichols, Fairfield, Neb.

**G. I. DILL TRACTOR MFG. CO., HARRISBURG, ARK.  
DILL.**

Rating 47 h. p.; 28 d. b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $1\frac{1}{4}$  to 5; 1,000 r. p. m.; front wheels 34x20; drivers 42x36; tank, gasoline 12; cooling, radiator; weight 4,400; price \$2,400.

**EAGLE MFG. CO., APPLETON, WIS.  
EAGLE.**

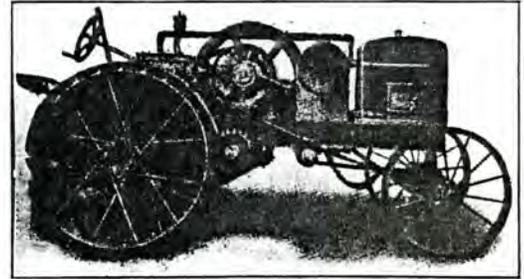
Rating 8-16 h. p.; 8 d. b.; 18 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 2; 400 r. p. m.; pulley 18x8; front wheels 28x8; drivers 44x12; tanks, gasoline  $3\frac{1}{4}$ , kero. 10; cooling, radiator; length 123; width 63; height 67; weight 4,850.

**EAGLE MFG. CO., APPLETON, WIS.  
EAGLE.**

Rating 15x30 h. p.; 16 d. b.; 32 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 2 to 3; 400 r. p. m.; pulley 24x10; front

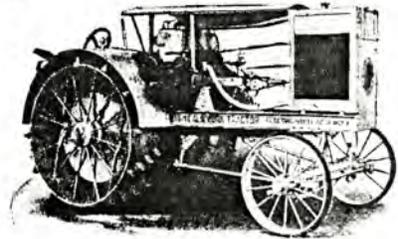
wheels 32x8; drivers 52x12; tanks, gasoline 4, kero. 14; cooling, radiator; length 135; width 72; height 72; weight 5,800.

**EAGLE MFG. CO., APPLETON, WIS.  
EAGLE.**



Rating 22 h. p.; 12 d. b.; 25 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 2 to  $2\frac{1}{2}$ ; 400 r. p. m.; pulley 20x8 $\frac{1}{2}$ ; front wheels 28x6; drivers 44x12; tanks, gasoline 4, kero. 12; cooling, radiator; length 123; width 67; height 67; weight 5,030; price \$1,000.

**ELECTRIC WHEEL CO., QUINCY, ILL.  
ALLWORK.**



Rating 12-25; 12 d. b.; 25 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $1\frac{3}{4}$  to 2.2-5; 750 r. p. m.; pulley 12x7; front wheels 32x6; drivers 48x16; tanks, gasoline 15, kero. 25; cooling, radiator; length 125; width 72; height 60; weight 5,000; price \$975; distributors—Graham-Stringfellow Co., St. Joseph, Mo.; John M. Brant Co., Bushnell, Ill.; A. L. Bishop & Son Co., Fargo; A. A. Doerr Merc. Co.; Larned, Kan.; A. G. Gleadall, Hutchinson, Kan.; Stimits & Janouch, Oklahoma City, Okla., and Pratt, Kan.; T. B. Hubbard, Beloit, Kan.; Weaver Hdw. Co., New Orleans.

**G. W. ELLIOTT & CO., DE SMET, S. D.  
DAKOTA NO. 1.**

Rating 7-10 h. p.; 7 d. b.; 10 b. h. p.; 4 cyl.; 3 wheels; 1 driver; speed  $2\frac{1}{2}$  to 5; 1,000 r. p. m.; pulley 7x5; front wheels 30x5; driver 36 high by 48 wide; tank, gasoline 12; cooling, radiator; length 132; width 70; height 66; weight 2,700; price \$935.

**G. W. ELLIOTT & CO., DE SMET, S. D.  
DAKOTA NO. 2.**

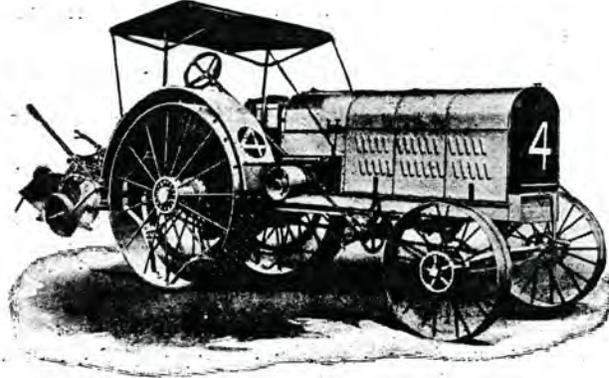
Rating 14-18 h. p.; 14 d. b.; 18 b. h. p.; 4 cyl.; 3 wheel; 1 driver; speed  $2\frac{1}{2}$  to 5; 1,000 r. p. m.; pulley 14x7; front wheels 34x6; driver 42 high by 60 wide; tank, gasoline 18; cooling, radiator; length 156; width 79; height 78; weight 4,300; price \$1,500.

**EMERSON-BRANTINGHAM IMP. CO., ROCKFORD.  
EMERSON MODEL L.**



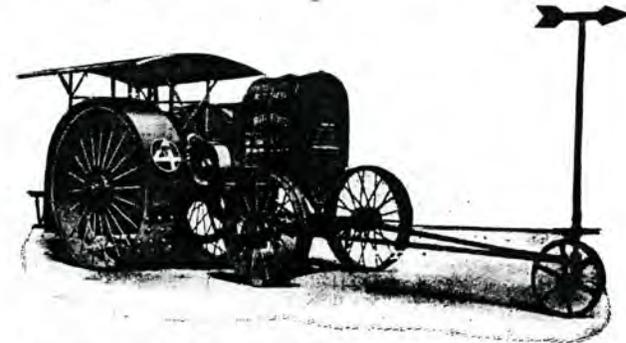
Rating 12-20 h. p.; 12 d. b.; 20 b. h. p.; 4 cyl.; 3 wheels; 1 driver; speed  $1\frac{3}{4}$  to  $2\frac{1}{2}$ ; 800 r. p. m.; pulley 12 $\frac{1}{2}$ x7; front wheels 40x8; driver 60x24; tanks, gasoline 5, kero. 20; cooling, radiator; length 180; width 96; height 72; weight 5,425; price \$1,100; bearings, Hyatt; branch and distributing houses—Billings, Dallas, Des Moines, Fargo, Indianapolis, Kansas City, Minneapolis, Omaha, Peoria, Waynesboro, Pa.; Miller-Cahoon Co., Murray, Utah and Idaho Falls, Idaho.

**EMERSON-BRANTINGHAM IMP. CO., ROCKFORD.  
BIG FOUR 20-D.**



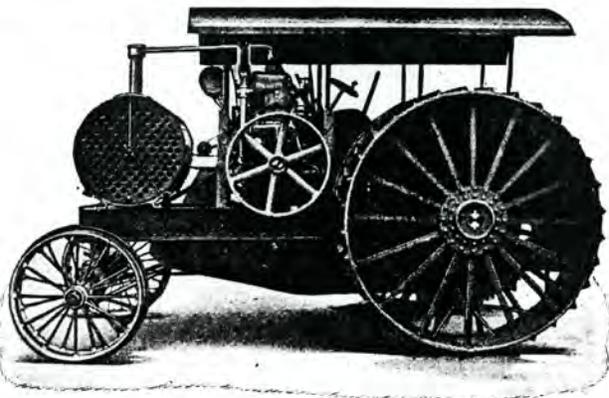
Rating 20-35 h. p.; 20 d. b.; 35 b. h. p.; 4 cyl.; 4 wheel;  
2 drivers; speed 1½ to 2½; 700 r. p. m.; pulley 12½x9;  
front wheels 42x8; drivers 72x16; tanks, gasoline 5, kero.  
35; cooling, radiator; length 196; width 76; weight 9,800;  
price \$1,900; bearings, Hyatt; distributors as above.

**EMERSON-BRANTINGHAM IMP. CO., ROCKFORD.  
BIG FOUR 30-F.**



Rating 30-55 h. p.; 30 d. b.; 55 b. h. p.; 4 cyl.; 4 wheels;  
2 drivers; speed 1½ to 3 1-5; 650 r. p. m.; pulley 24x9;  
front wheels 58x10; drivers 99x30; tanks, gasoline 10,  
kero. 110; cooling, radiator; weight 22,725; price \$2,800;  
distributors as above.

**EMERSON-BRANTINGHAM IMP. CO., ROCKFORD.  
REEVES 40.**



Rating 40-65 h. p.; 40 d. b.; 65 b. h. p.; 4 cyl.; 4 wheels;  
2 drivers; speed 2 1-7; 500 r. p. m.; pulley 22x12; front  
wheels 44x10; drivers 90x24 or 36; tanks, gasoline 5,  
kero. 63; cooling, radiator; weight 22,750; price \$3,200;  
distributors as above.

**FAIRMONT GAS ENG. & RY. MOTOR CAR CO.,  
FAIRMONT, MINN.**

**FAIRMONT.**

Rating 24 h. p.; 16 d. b.; 26 b. h. p.; 1 cyl.; 2 cycle;  
4 wheels; 2 drivers; speed 1¾ to 3; 500 r. p. m.; pulley  
24x6½; front wheels 30x6; drivers 44x14; tank, gasoline  
12; length 137; width 62; height 60; weight 4,800.

**FAMOUS MFG. CO., EAST CHICAGO, IND.  
CHAMPION.**

Rating 16 h. p.; 10 d. b.; 20 b. h. p.; 4 cyl.; 2 wheels  
and 1 crawler; speed 2 to 3½; 750 r. p. m.; pulley 8x6;  
front wheels 24x4; crawler 12 in. face; tanks, gasoline  
5, kero. 10; length 84; width 60; height 42; weight 2,650;  
price \$575.

**FARM HORSE TRACTION WORKS, HARTFORD, S. D.  
FARM HORSE.**

Rating 26 h. p.; 15 d. b.; 38 b. h. p.; 4 cyl.; 4 wheels;  
2 drivers; speed 2½ to 3½; 750 r. p. m.; pulley 14x7;  
front wheels 32x8; drivers 48x24; tanks, gasoline 20,  
kero. 20; cooling, radiator; weight 4,800; price \$895.

**FOUR DRIVE TRACTOR CO., BIG RAPIDS, MICH.  
FITCH.**

Rating 35 h. p.; 25 d. b.; 40 b. h. p.; 4 cyl.; 4 wheels;  
4 drivers; speed 7; 800 r. p. m.; pulley 15x6; front drive  
wheels 36x12; rear drive wheels 42x12; tanks, gasoline 2,  
kero. 20; cooling, radiator; length 130; width 68; height  
58; weight 3,000; price \$1,000; distributors—Logan &  
Painter, Quenemo, Kan. (Kansas, Missouri, Nebraska,  
Oklahoma, Texas); John Jenkins, address care of com-  
pany (Minnesota, North and South Dakota, Iowa, Illi-  
nois).

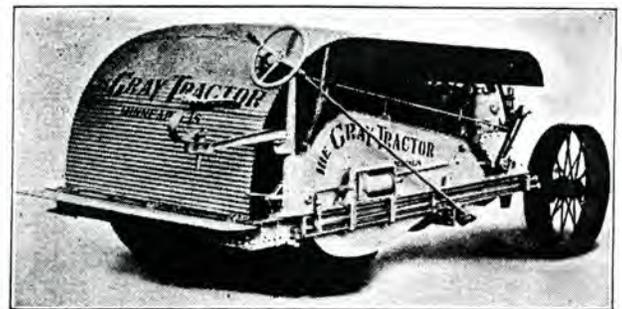
**FOUR WHEEL DRIVE TRACTOR CO., CLINTON-  
VILLE, WIS.  
STEWART.**

Rating 60 h. p.; 40 d. b. h. p.; 4 cyl.; 4 wheels; 4 driv-  
ers; speed 2½ to 7½; 900 r. p. m.; pulley, optional; all  
4 drivers 42x12; tanks, gasoline 5, kero. 25; length 144;  
width 78; height 60; weight 5,500; price \$1,600.

**GRAY TRACTOR MFG. CO., MINNEAPOLIS, MINN.  
GRAY A.**

Rating 20-35 h. p.; 20 d. b.; 35 b. h. p.; 4 cyl.; 2  
wheels, 1 drum driver; speed 1.6 to 2.3; 850 r. p. m.;  
pulley 12x9; front wheels 44x10; driving drum 60x60;  
tank, gasoline 40; length 203; width 96; height 72; weight  
8,000; price \$2,150; bearings, Hyatt; motor, Waukesha;  
special equipment, extension harrow arms.

**GRAY TRACTOR MFG. CO., MINNEAPOLIS, MINN.  
GRAY B.**

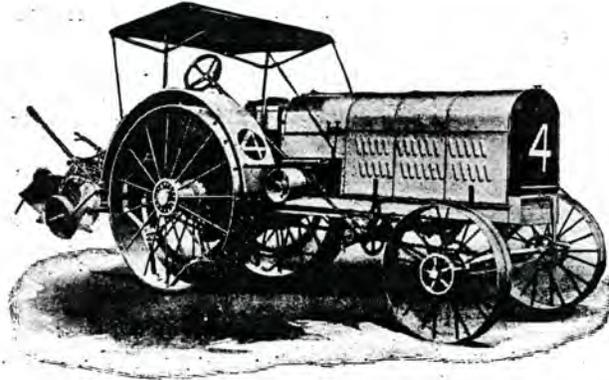


Rating 15-25 h. p.; 15 d. b.; 25 b. h. p.; 4 cyl.; 2  
wheels, 1 drum driver; speed 2 to 2½; 850 r. p. m.; pulley  
11x7; front wheels 39x8; driving drum 55x48; tank, gaso-  
line 30; length 174; width 76; height 60; weight 5,500;  
price \$1,650; bearings, Hyatt; motor, Waukesha; special  
equipment, extension harrow arms.

**HACKNEY MFG. CO., ST. PAUL, MINN.  
HACKNEY AUTO-PLOW.**

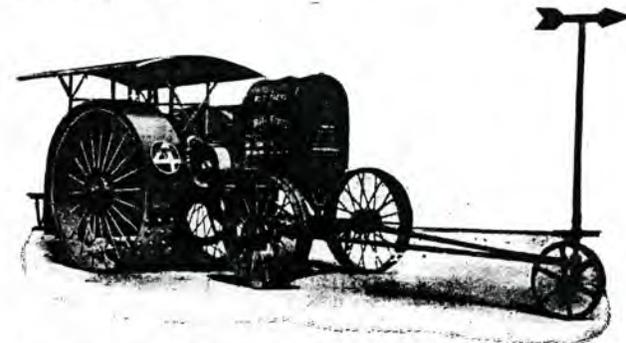
Rating 20 d. b.; 25 b. h. p.; 4 cyl.; 3 wheels; 2 drivers;  
speed 2¼ to 3¾; 750 r. p. m.; pulley 34x8; front drive  
wheels 66x14; tanks, gasoline 25, kero. 25; length 174;  
width 78; height 76; weight 7,800; price \$1,450; plows  
carried under tractor frame.

**EMERSON-BRANTINGHAM IMP. CO., ROCKFORD.  
BIG FOUR 20-D.**



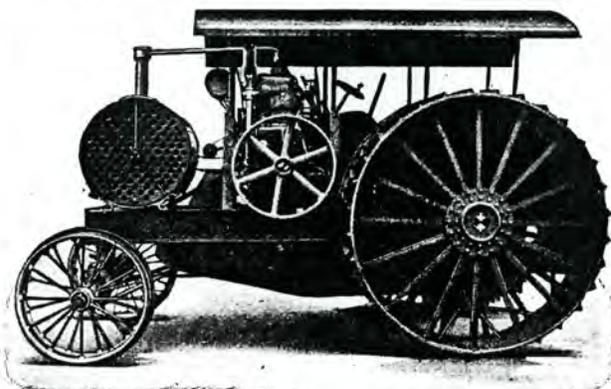
Rating 20-35 h. p.; 20 d. b.; 35 b. h. p.; 4 cyl.; 4 wheel; 2 drivers; speed 1½ to 2½; 700 r. p. m.; pulley 12½x9; front wheels 42x8; drivers 72x16; tanks, gasoline 5, kero. 35; cooling, radiator; length 196; width 76; weight 9,800; price \$1,900; bearings, Hyatt; distributors as above.

**EMERSON-BRANTINGHAM IMP. CO., ROCKFORD.  
BIG FOUR 30-F.**



Rating 30-55 h. p.; 30 d. b.; 55 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 1½ to 3 1-5; 650 r. p. m.; pulley 24x9; front wheels 58x10; drivers 99x30; tanks, gasoline 10, kero. 110; cooling, radiator; weight 22,725; price \$2,800; distributors as above.

**EMERSON-BRANTINGHAM IMP. CO., ROCKFORD.  
REEVES 40.**



Rating 40-65 h. p.; 40 d. b.; 65 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2 1-7; 500 r. p. m.; pulley 22x12; front wheels 44x10; drivers 90x24 or 36; tanks, gasoline 5, kero. 63; cooling, radiator; weight 22,750; price \$3,200; distributors as above.

**FAIRMONT GAS ENG. & RY. MOTOR CAR CO.,  
FAIRMONT, MINN.**

**FAIRMONT.**

Rating 24 h. p.; 16 d. b.; 26 b. h. p.; 1 cyl.; 2 cycle; 4 wheels; 2 drivers; speed 1¾ to 3; 500 r. p. m.; pulley 24x6½; front wheels 30x6; drivers 44x14; tank, gasoline 12; length 137; width 62; height 60; weight 4,800.

**FAMOUS MFG. CO., EAST CHICAGO, IND.  
CHAMPION.**

Rating 16 h. p.; 10 d. b.; 20 b. h. p.; 4 cyl.; 2 wheels and 1 crawler; speed 2 to 3½; 750 r. p. m.; pulley 8x6; front wheels 24x4; crawler 12 in. face; tanks, gasoline 5, kero. 10; length 84; width 60; height 42; weight 2,650; price \$575.

**FARM HORSE TRACTION WORKS, HARTFORD, S. D.  
FARM HORSE.**

Rating 26 h. p.; 15 d. b.; 38 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2½ to 3½; 750 r. p. m.; pulley 14x7; front wheels 32x8; drivers 48x24; tanks, gasoline 20, kero. 20; cooling, radiator; weight 4,800; price \$895.

**FOUR DRIVE TRACTOR CO., BIG RAPIDS, MICH.  
FITCH.**

Rating 35 h. p.; 25 d. b.; 40 b. h. p.; 4 cyl.; 4 wheels; 4 drivers; speed 7; 800 r. p. m.; pulley 15x6; front drive wheels 36x12; rear drive wheels 42x12; tanks, gasoline 2, kero. 20; cooling, radiator; length 130; width 68; height 58; weight 3,000; price \$1,000; distributors—Logan & Painter, Quenemo, Kan. (Kansas, Missouri, Nebraska, Oklahoma, Texas); John Jenkins, address care of company (Minnesota, North and South Dakota, Iowa, Illinois).

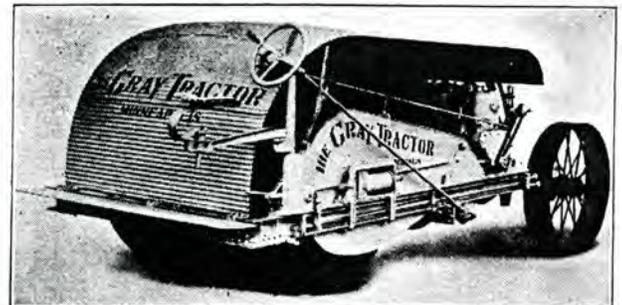
**FOUR WHEEL DRIVE TRACTOR CO., CLINTON-  
VILLE, WIS.  
STEWART.**

Rating 60 h. p.; 40 d. b. h. p.; 4 cyl.; 4 wheels; 4 drivers; speed 2½ to 7½; 900 r. p. m.; pulley, optional; all 4 drivers 42x12; tanks, gasoline 5, kero. 25; length 144; width 78; height 60; weight 5,500; price \$1,600.

**GRAY TRACTOR MFG. CO., MINNEAPOLIS, MINN.  
GRAY A.**

Rating 20-35 h. p.; 20 d. b.; 35 b. h. p.; 4 cyl.; 2 wheels, 1 drum driver; speed 1.6 to 2.3; 850 r. p. m.; pulley 12x9; front wheels 44x10; driving drum 60x60; tank, gasoline 40; length 203; width 96; height 72; weight 8,000; price \$2,150; bearings, Hyatt; motor, Waukesha; special equipment, extension harrow arms.

**GRAY TRACTOR MFG. CO., MINNEAPOLIS, MINN.  
GRAY B.**

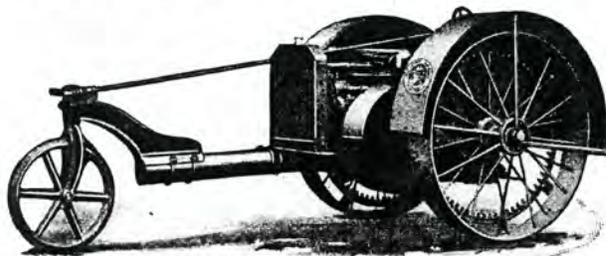


Rating 15-25 h. p.; 15 d. b.; 25 b. h. p.; 4 cyl.; 2 wheels, 1 drum driver; speed 2 to 2½; 850 r. p. m.; pulley 11x7; front wheels 39x8; driving drum 55x48; tank, gasoline 30; length 174; width 76; height 60; weight 5,500; price \$1,650; bearings, Hyatt; motor, Waukesha; special equipment, extension harrow arms.

**HACKNEY MFG. CO., ST. PAUL, MINN.  
HACKNEY AUTO-PLOW.**

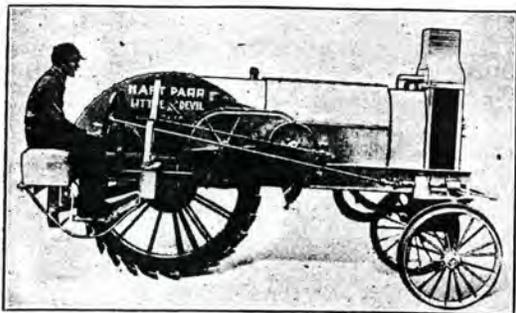
Rating 20 d. b.; 25 b. h. p.; 4 cyl.; 3 wheels; 2 drivers; speed 2¼ to 3¾; 750 r. p. m.; pulley 34x8; front drive wheels 66x14; tanks, gasoline 25, kero. 25; length 174; width 78; height 76; weight 7,800; price \$1,450; plows carried under tractor frame.

**HAPPY FARMER TRACTOR CO., MINNEAPOLIS.  
HAPPY FARMER.**



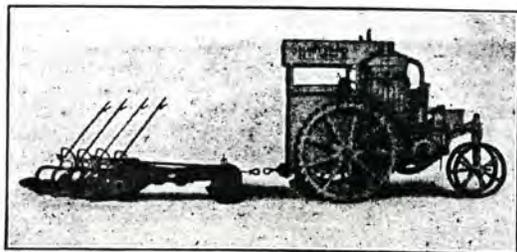
Rating 8-16 h. p.; 8 d. b.; 16 b. h. p.; 2 cyl.; 3 wheels; 2 drivers; speed 2½; 750 r. p. m.; pulley 11x6; front wheel 31x5; drivers 56x10; tank, gasoline 9; cooling, radiator; length 156; width 72; height 66; weight 3,100; price \$550; distributors—Griffin Motor Co., Sheldon, Ia.; Happy Farmer Tractor Co. of Fargo, Fargo; Brown Mfg. Co., Zanesville, O.; Meadows Mfg. Co., Pontiac, Ill.; Murphy Mach'y & Equip. Co., St. Louis; T. G. Northwall Co., Omaha; Leslie Stinson, Grand Forks, N. D.; Southwest Motor Co., Kansas City; South Dakota Tractor Co., Watertown; Montana Tractor Co., Miles City; J. J. Dyes Mach. Co., Minster, O.; others in Texas and western states.

**HART-PARR CO., CHARLES CITY, IA.  
LITTLE DEVIL.**



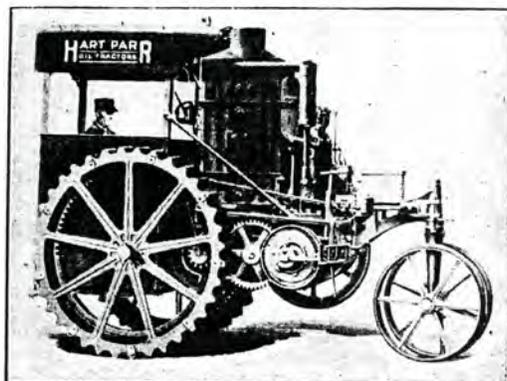
Rating 22 h. p.; 12 d. b.; 22 b. h. p.; 2 cyl.; 2 cycle; 3 wheels; 1 driver; speed 3½; 600 r. p. m.; pulley 16x7; front wheels 33x10; driver 64x26; tank, kero. 23¾; length 152; width 90; height 66; weight 6,647; branch and distributing houses—Aberdeen, S. D., Denver, Grand Forks, Lincoln, Minneapolis, Peoria, Des Moines, Wichita, Great Falls, Mont., Houston, Portage la Prairie, Man., Regina and Saskatoon, Sask.; Sidney Stevens Impt. Co., Ogden, Utah; More Bros., Fargo; A. F. George Co., Los Angeles; Chapin Co., Calgary, Alta.; More Bros., Wimbledom, N. D.; Quayle Johnson Co., Eugene, Ore.; Reid Hardware & Impt. Co., Lincolnton, N. C.; San Antonio Mach. & Supply Co., San Antonio, Tex.; Herf-Brooks Motor Sales Co., St. Joseph, Mo.

**HART-PARR CO., CHARLES CITY, IA.  
CROP MAKER 27.**



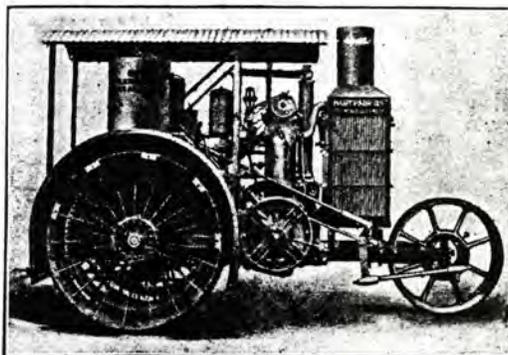
Rating 27 h. p.; 18 d. b.; 27 b. h. p.; 1 cyl.; 4 wheels; 2 drivers; speed 1¾ to 2½; 500 r. p. m.; pulley 22x7; front wheels 40x8; drivers 74x12½; tank, kero. 30; cooling, oil; length 107¾; width 72; height 125; weight 11,400; distributors as above.

**HART-PARR CO., CHARLES CITY, IA.  
OIL KING.**



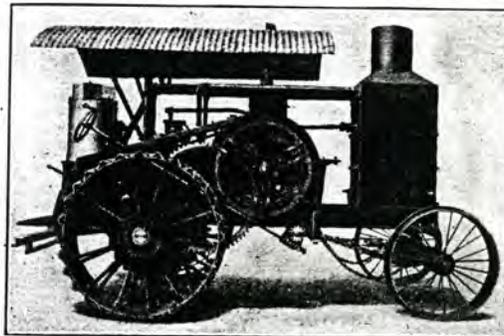
Rating 35 h. p.; 23 d. b.; 35 b. h. p.; 1 cyl.; 4 wheels; 2 drivers; speed 1.4-5 to 2.3-5; 500 r. p. m.; pulley 23½x9; front wheels 40x8; drivers 74x12½; tank, kero. 30; cooling, oil; length 107¾; width 72; height 125; weight 12,000; distributors as above.

**HART-PARR CO., CHARLES CITY, IA.  
STEEL KING.**



Rating 40 h. p.; 27 d. b.; 40 b. h. p.; 2 cyl.; 3 wheels; 2 drivers; speed 2.1-5 to 4; 400 r. p. m.; pulley 30x9; drivers 73x20; tank, kero. 50; cooling, oil; length 191; width 95; weight 15,870; distributors as above.

**HART-PARR CO., CHARLES CITY, IA.  
OLD RELIABLE.**



Rating 60 h. p.; 40 d. b.; 60 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 2.3; 300 r. p. m.; pulley 40x12; front wheels 44x12; drivers 66x24; tanks, gasoline 12, kero. 50; length 200; width 106; height 148; weight 20,100; distributors as above.

**A. T. HARROW TRACTOR CO., DETROIT, MICH.  
MICHIGAN.**

Rating 40 h. p.; 4 cyl.; 3 wheels, all drivers; speed 2½ to 4; 800 r. p. m.; pulley 10x7; front driver 32x12; rear drivers 52x12; tank, gasoline 20; length 132; width 96; height 60; weight 4,800; price \$950.

**HOKE TRACTOR CO., SOUTH BEND, IND.  
HOKE.**

Rating 22 h. p.; 11 d. b.; 22 b. h. p.; 4 cyl.; 3 wheels; 2 drivers; speed 2 to 4; 900 r. p. m.; pulley 10x8; front drivers 60x10; tank, gasoline 18; length 158; width 60; weight 4,000; Waukesha motor; special equipment, plows, etc.

**HOLT MFG. CO., PEORIA, ILL. AND STOCKTON, CAL. CATERPILLAR.**

Rating 45-25; 25 d. b.; 45 b. h. p.; 4 cyl.; 2 caterpillar tracks; speed 1½ to 3½; 600 r. p. m.; pulley 14x9; track face 13 or 30; tank, gasoline 47; length 144; width 74; height 72; weight 13,300; bearings, Hyatt.

**HOLT MFG. CO., PEORIA, ILL. AND STOCKTON, CAL. CATERPILLAR.**

Rating 50-75 h. p.; 50 d. b.; 75 b. h. p.; 4 cyl.; 1 wheel; 2 caterpillar tracks; speed 2¼ to 3; 550 r. p. m.; pulley 22x14; tank, gasoline 74; length 240; width 104; height 120; weight 23,600; bearings, Hyatt.

**HUBER MFG. CO., MARION. O. HUBER.**

Rating 15-30 h. p.; 15 d. b.; 30 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 1¾ to 2½; 550 r. p. m.; pulley 15x8; front wheels 34x8; drivers 54x16; tanks, gasoline 23, kero. 15; length 156; width 78; height 84; weight 7,900.

**HUME MFG. CO., HUME, ILL. HUME JR.**

Rating 12-18 h. p.; 12 d. b.; 18 b. h. p.; 4 cyl.; 3 wheels; 2 drivers; speed 2¾; 1,200 r. p. m.; pulley 9x6; front wheel 24x8; drivers 66x16; tank, gasoline 25; length 144; width 66½; height 84; weight 4,200; price \$885; motor, Waukesha; bearings, Hyatt.

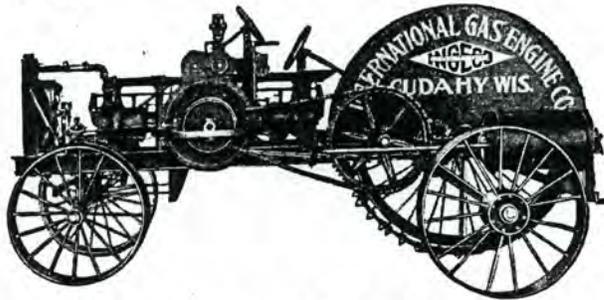
**HUME MFG. CO., HUME, ILL. HUME.**

Rating 20-30 h. p.; 20 d. b.; 30 b. h. p.; 4 cyl.; 3 wheels; 2 drivers; speed 2¼; 900 r. p. m.; pulley 10 or 12x7; front wheel 24x10; drivers 72x16; tanks, gasoline 25, kero. 25; length 150; width 74; height 84; weight 7,000; price \$1,350; motor Waukesha.

**IMPERIAL MACH'Y CO., MINNEAPOLIS, MINN. IMPERIAL 40.**

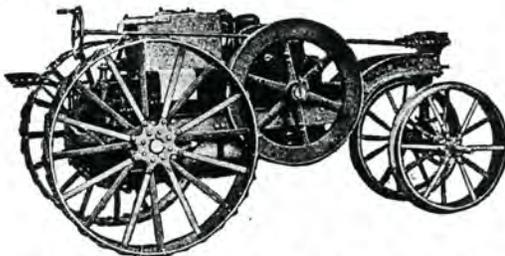
Rating 40 h. p.; 40 d. b.; 70 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 1½ to 2¼; 400 r. p. m.; pulley 30x12; front wheels 60x15; drivers 96x30; tank, gasoline 70; cooling, radiator; length 215; width 110; height 135; weight 20,800; price \$3,000.

**INTERNATIONAL GAS ENGINE CO., CUDAHY, WIS. INGECO.**



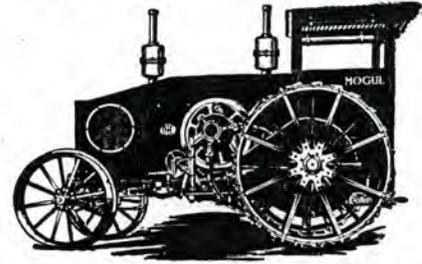
Rating 20 h. p.; 10 d. b.; 20 b. h. p.; 2 cyl.; 4 wheels; 1 driver; speed 2½; 800 r. p. m.; pulley 14x8; front wheels 36x6; driver 69x16; tanks, gasoline 5, kero. 20; cooling, radiator; length 168; width 72; height 72; weight 5,000; price \$700; ignition, Dixie.

**INTERNATIONAL HARVESTER CO. OF AMERICA, CHICAGO. MOGUL 8-16.**



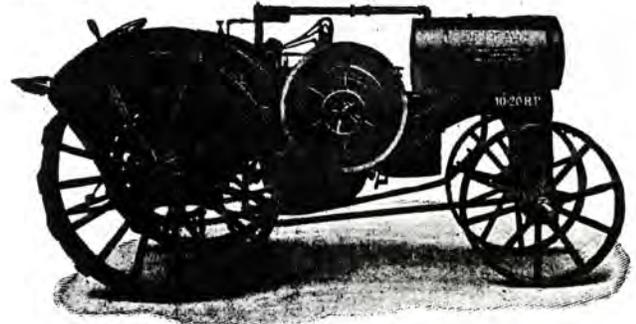
Rating 8-16 h. p.; 8 d. b.; 16 b. h. p.; 1 cyl.; 4 wheels; 2 drivers; speed 2; 400 r. p. m.; pulley 20x10; front wheels 36x6; drivers 54x10; tank, kero. 19; length 135; width 56; height 61; weight 5,000; price \$725; distributing houses in all leading cities.

**INTERNATIONAL HARVESTER CO. OF AMERICA, CHICAGO. MOGUL 12-25.**



Rating 12-25 h. p.; 12 d. b.; 25 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 2 to 3; 550 r. p. m.; pulley 18x9; front wheels 40x6; drivers 60x12; tanks, gasoline 5, kero. 30; length 162; width 81; height 100; weight 9,580.

**INTERNATIONAL HARVESTER CO. OF AMERICA, CHICAGO. TITAN.**



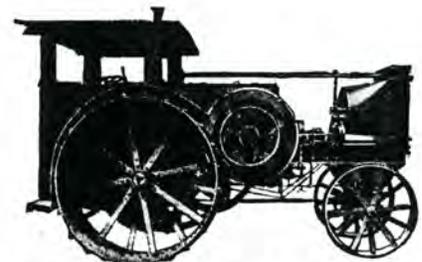
Rating 10-20 h. p.; 10 d. b.; 20 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 2¼; 500 r. p. m.; pulley 20x8½; front wheels 36x6; drivers 54x10; tanks, gasoline 1 cup, kero. 16; length 147; width 60; height 66½; weight 5,225.

**INTERNATIONAL HARVESTER CO. OF AMERICA, CHICAGO. TITAN.**



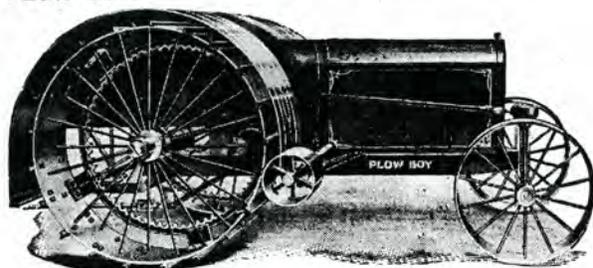
Rating 15-30 h. p.; 15 d. b.; 30 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2.2-5; 575 r. p. m.; pulley 22x8; front wheels 40x7; drivers 66x14; tanks, gasoline 6, kero. 29; length 140½; width 85½; height 118; weight 9,580.

**INTERNATIONAL HARVESTER CO. OF AMERICA, CHICAGO. TITAN.**



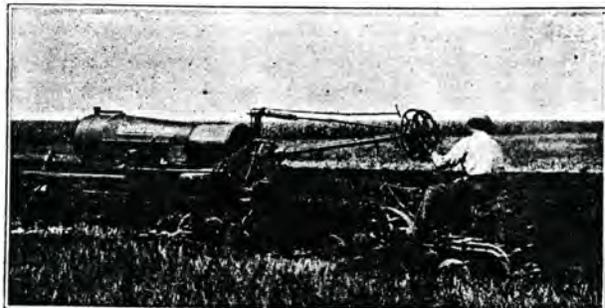
Rating 30-60 h. p.; 30 d. b.; 60 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 2; 375 r. p. m.; pulley 30x10½; front wheels 44x10; drivers 72x24; tanks, gasoline 26½, kero. 47; length 202; width 105; height 132; weight 20,830.

**INTER-STATE ENG. & TRACTOR CO., WATERLOO.  
PLOW BOY.**



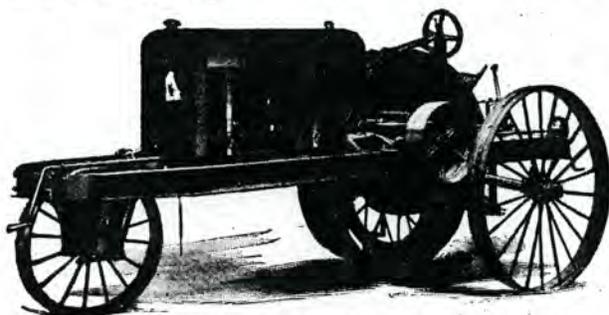
Rating 10 h. p.; 10 d. b.; 24 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $2\frac{1}{2}$ ; 900 r. p. m.; pulley 12x6; front wheels 36x5; drivers 60x10; tanks, gasoline 3, kero. 12; cooling, radiator; length 150; width 60; height 70; weight 3,800; Waukesha motor; bearings, Hyatt; ignition, Dixie, with impulse starter.

**JOLIET OIL TRACTOR CO., JOLIET, ILL.  
BATES STEEL MULE.**



Rating 30 h. p.; 13 d. b.; 30 b. h. p.; 4 cyl.; 2 wheels; 1 driving crawler; speed  $2\frac{1}{4}$  to  $3\frac{1}{2}$ ; 900 r. p. m.; pulley 8x8 $\frac{1}{2}$ ; front wheels 30x7; face of crawler 15; tanks, gasoline 6, kero. 24; height 68; weight 5,600; price \$895; motor, Waukesha; ignition, Dixie.

**KANSAS CITY HAY PRESS CO., KANSAS CITY, MO.  
K. C. PRAIRIE DOG.**



Rating 25 h. p.; 12 d. b.; 25 b. h. p.; 4 cyl.; 3 wheels; 1 driver; speed  $2\frac{1}{2}$  to 5; 800 r. p. m.; pulley 22x8; front wheel 36x8; driver 60x18; tank, gasoline 22; length 110; width 73; weight 5,500; price \$1,000; motor, Waukesha; bearings, Hyatt.

**KENNEY-COLWELL CO., NORFOLK, NEB.  
K. C.**

Rating 20 h. p.; 10 d. b.; 28 b. h. p.; 4 cyl.; 3 wheels; 2 drivers; speed  $2\frac{3}{4}$ ; 800 r. p. m.; pulley 10x8; front wheel 30x6; drivers 62x10; tank, gasoline 15; length 144; width 96; height 84; weight 4,800; price \$1,085.

**KILLEN-STRAIT MFG. CO., APPLETON, WIS.  
STRAIT'S MODEL 3.**

Rating 15-25; 15 d. b.; 25 b. h. p.; 4 cyl.; 2 crawlers, 1 supporting wheel; 1 driving crawler; speed  $1\frac{1}{2}$  to  $3\frac{1}{2}$ ; 900 r. p. m.; pulley 10x7; tank, gasoline 12; length 134; width 70; weight 6,000.

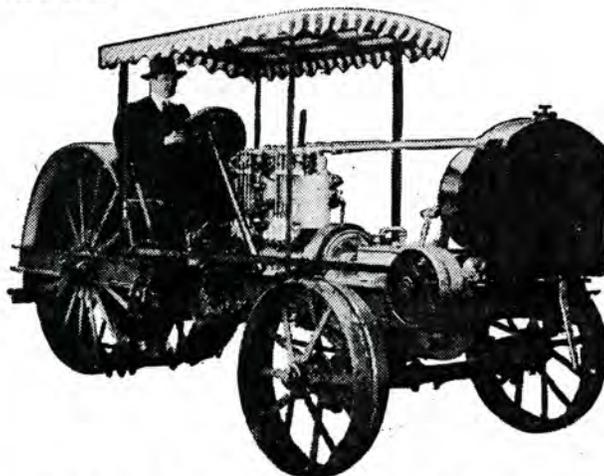
**KILLEN-STRAIT MFG. CO., APPLETON, WIS.  
STRAIT'S TRACTOR.**

Rating 50 h. p.; 30 d. b.; 45 b. h. p.; 4 cyl.; 3 tracks, 2 driving; speed 2 to 3; 900 r. p. m.; pulley 10x7 $\frac{1}{2}$ ; tank, gasoline 30; cooling, radiator; length 156; width 72; height 100; weight 9,500.

**KINKHEAD TRACTOR CO., MINNEAPOLIS, MINN.  
K. T.**

Rating 24 h. p.; 12 d. b.; 24 b. h. p.; 4 cyl.; 3 wheels; 1 driver; speed  $2\frac{1}{4}$  to 3; 850 r. p. m.; pulley 12x6 $\frac{1}{2}$ ; front wheel 36x8; driver 60x24; tank, gasoline 20; cooling, radiator; length 150; width 84; height 65; weight 5,000; price \$850.

**KINNARD-HAINES CO., MINNEAPOLIS, MINN.  
KINNARD.**



Rating 15-25 h. p.; 15 d. b.; 25 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $2\frac{1}{2}$  to 4; 800 r. p. m.; pulley 14x8; front wheels 42x8; drivers 60x16; weight 7,900; price \$1,250.

**KINNARD-HAINES CO., MINNEAPOLIS, MINN.  
FLOUR CITY.**

Rating 20-35 h. p.; 20 d. b.; 35 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $2\frac{1}{4}$ ; 700 r. p. m.; pulley 26x8; front wheels 42x8; drivers 72x16; weight 9,500; price \$1,595.

**KINNARD-HAINES CO., MINNEAPOLIS, MINN.  
FLOUR CITY.**

Rating 30-50 h. p.; 30 d. b.; 50 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2; 600 r. p. m.; pulley 32x9; front wheels 42x8; drivers 84x18 or 24; length 132; width 96; weight 13,500.

**KLUMB ENG. & MACH. CO., SHEBOYGAN, WIS.  
KLUMB.**

Rating 8-15 h. p.; 8 d. b.; 15 b. h. p.; 1 cyl.; 4 wheels; 2 drivers; speed  $1\frac{1}{2}$  to 4; 350 r. p. m.; pulley 24x9; front wheels 31x7; drivers 54x12; tank, kero. 12; length 144; width 64 $\frac{1}{2}$ ; height 69; weight 4,900; price \$725.

**JOHN LAUSON MFG. CO., NEW HOLSTEIN, WIS.  
LAUSON.**



Rating 15-25 h. p.; 15 d. b.; 25 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $1\frac{1}{4}$  to  $2\frac{1}{2}$ ; pulley 14x8; front wheels 32x6; drivers 54x12; tank, gasoline 20; cooling, radiator; length 133; width 74; height 91; weight 5,300; bearings, Hyatt; ignition, Dixie.

**JOHN LAUSON MFG. CO., NEW HOLSTEIN, WIS.  
LAUSON.**

Rating 20-35 h. p.; 20 d. b.; 35 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $1\frac{1}{4}$  to  $2\frac{1}{2}$ ; 700 r. p. m.; pulley 20x8; front wheels 40x8; drivers 60x16; tank, gasoline 20; cooling, radiator; length 161; width 84; height 102; weight 7,000; bearings, Hyatt; ignition, Dixie.

**LAWTER TRACTOR CO., ST. MARYS, O.  
LAWTER.**

Rating 38-40 h. p.; 18-20 d. b.; 33 b. h. p.; 4 cyl.; 3 wheels; 2 drivers; speed 2½ to 3; 700 r. p. m.; pulley 20x8; drive wheels 48x12; tank, gasoline 25; length 165; width 88½; height 70; weight 6,500; price \$1,750.

**LION TRACTOR CO., MINNEAPOLIS, MINN.  
LION.**

Rating 8-16 h. p.; 8 d. b.; 16 b. h. p.; 2 cyl.; 3 wheels; 2 drivers; speed 2½; 750 r. p. m.; pulley 12x6; front wheel 28x10; drivers 60x10; tank, gasoline 12; length 123; width 78; height 65; weight 3,600; price \$565.

**McINTYRE MFG. CO., COLUMBUS, O.  
FARMER BOY.**

Rating 30 h. p.; 10 d. b.; 25 b. h. p.; 4 cyl.; 3 wheel; 1 driver; speed 2 to 2½; 1,000 r. p. m.; pulley 12x6; front wheel 22½x6; driver 50x12; tank, gasoline 15; length 136; width 52; height 54; weight 2,900; price \$750; distributors—Kenney Mach'y Co., Indianapolis (Indiana); Rochford & Co., Chicago (Illinois); L. K. Godman, Omaha (Nebraska); E. E. McCartney, Youngstown, O. (N. E. Ohio).

**MAYER BROS. CO., MANKATO, MINN.  
LITTLE GIANT B.**

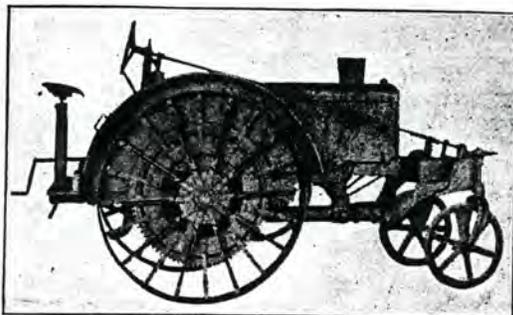


Rating 22 h. p.; 16 d. b.; 26 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 1½ to 6; 900 r. p. m.; pulley 9x7; front wheels 30x5; drivers 54x14; tanks, gasoline 25, kero. 25; cooling, radiator; length 87; width 52; height 60; weight 5,000; price \$1,250; bearings, Hyatt.

**MAYER BROS. CO., MANKATO, MINN.  
LITTLE GIANT A.**

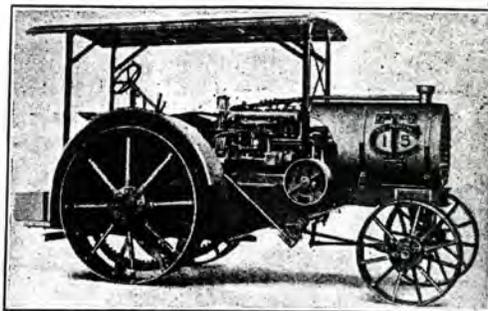
Rating 35 h. p.; 26 d. b.; 40 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 1½ to 6; 750 r. p. m.; pulley 13x9; front wheels 36x9; drivers 66x20; tanks, gasoline 30, kero. 30; cooling, radiator; length 102; width 75; height 72; weight 8,400; price \$2,000; bearings, Hyatt.

**MAYTAG CO., NEWTON, IA.  
MAYTAG.**



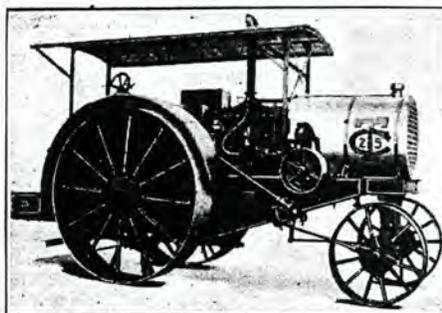
Rating 25 h. p.; 12 d. b.; 30 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2½ to 3; 1,000 r. p. m.; pulley 22x8½; front wheels 30x5; drivers 66x10; tank, gasoline 15; length 78; width 68; height 71; weight 5,000; price \$900; motor, Waukesha; branch distributing houses—Indianapolis, Madison, Minneapolis, Fargo, Lincoln, Portland, Ore., Winnipeg, Kansas City.

**MINNEAPOLIS STEEL & M'CH'Y CO., MINNEAPOLIS.  
TWIN CITY 15.**



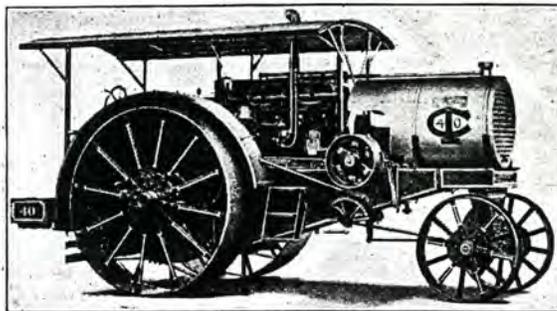
Rating 15-30 h. p.; 15 d. b.; 30 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 1¾ to 2½; 650 r. p. m.; pulley 16x7; front wheels 36x8; drivers 60x14; tanks, gasoline 12, kero. 32; length 178; width 64; height 87; weight 8,450; branch distributing houses and jobbers; Minneapolis, Salt Lake City, Spokane, Denver, Helena, Des Moines, Wichita, Fargo, Winnipeg; R. H. Green, Chicago; Indiana Bull Tractor Co., Indianapolis; Murphy Mach'y & Equip. Co., St. Louis; R. B. George, Houston; Corpus Christi Hdw. Co., Corpus Christi, Tex.; Sells Mach'y Co., Spokane; Wood Bros. Thresher Co., Des Moines and Lincoln; Deere & Co., Moline (export); Cyrus Robinson & Co., New York City (export); Richardson & Orr, New York City (export to Australia).

**MINNEAPOLIS STEEL & M'CH'Y CO., MINNEAPOLIS.  
TWIN CITY 25.**



Rating 25-45 h. p.; 25 d. b.; 45 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 1¾ to 2½; 600 r. p. m.; pulley 20x8½; front wheels 42x10; drivers 84x20; tank, kero. 66; length 208; width 80; height 125¼; weight 15,500; distributors as above.

**MINNEAPOLIS STEEL & M'CH'Y CO., MINNEAPOLIS.  
TWIN CITY 40.**

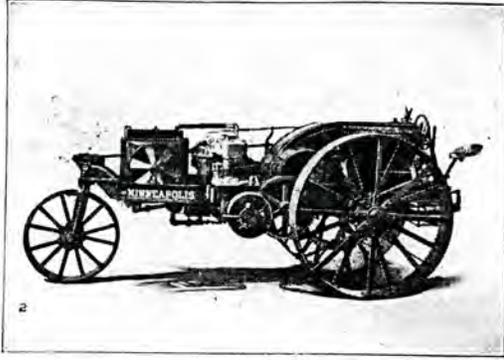


Rating 40-65 h. p.; 40 d. b.; 65 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2; 500 r. p. m.; pulley 23¼x10½; front wheels 42x12; drivers 84x24; tank, kero. 86; length 238½; width 98¼; height 122; weight 23,300; distributors as above.

**MINNEAPOLIS STEEL & M'CH'Y CO., MINNEAPOLIS.  
TWIN CITY 60.**

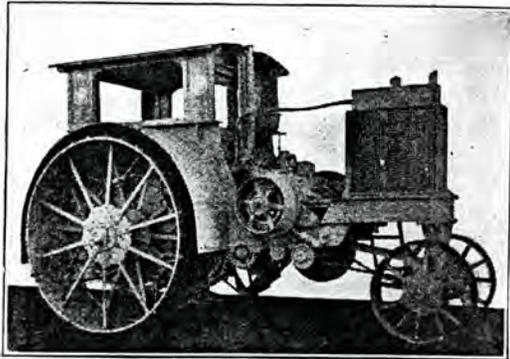
Rating 60-110 h. p.; 60 d. b.; 110 b. h. p.; 6 cyl.; 4 wheels; 2 drivers; speed 2; 500 r. p. m.; pulley 23¼x10½; front wheels 42x12; drivers 84x30; tank, kero. 86; length 262½; width 110¼; height 122; weight 27,100; distributors as above.

MINNEAPOLIS THRESH. M'CH. CO., HOPKINS, MINN.  
MINNEAPOLIS 15.



Rating 15 h. p.; 2 cyl.; 3 wheels; 2 drivers; speed 2¼ to 3; 750 r. p. m.; pulley 15x6½; front wheel 32x8; drivers 56x20 and 56x10; tank, gasoline 13½; length 168; width 72; weight 5,600; price \$1,000; branch distributing houses and jobbers—Aberdeen, S. D., Billings, Columbus, O., Eau Claire, Wis., Fargo, Fond du Lac, Wis., Grand Forks, Kansas City, Lincoln, Mankato, Minn., Mason City, Ia., Minneapolis, Montevideo Minn., Peoria, Regina, Sask., St. Cloud, Minn., Sioux Falls, Spokane, Wichita, Winnipeg; Southern Minneapolis Farm Power Co., Dallas; W. S. Cooper Co., Calgary; H. S. Bowden, Edmonton, Alta.; Martens, Leary Co., Bloomington, Ill.; Sachse, Bunn Co., Cherokee and Sioux City, Ia.; Weber Impt. & Auto. Co., St. Louis, Mo. and Stuttgart, Ark.; J. J. Dues Mach. Co., Minster, O.; John M. Brant Co., Bushnell, Ill.; Barrett Bros., Albany, Ore.; S. Peterson & Co., Salt Lake City.

MINNEAPOLIS THRESH. M'CH. CO., HOPKINS, MINN.  
MINNEAPOLIS 40.



Rating 40 h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2 to 2½; 500 r. p. m.; pulley 24x10½; front wheels 40x14; drivers 85x30; tank, gasoline 80; cooling, radiator; length 206; width 108; height 136; weight 22,500; distributors as above.

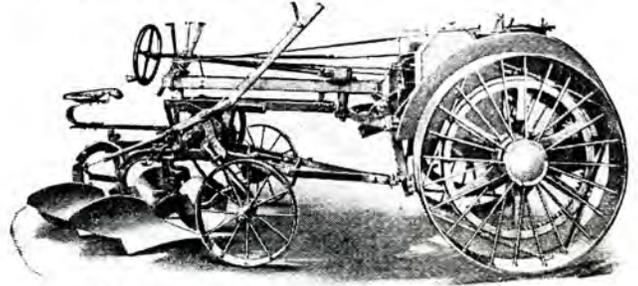
MINNEAPOLIS THRESH. M'CH. CO., HOPKINS, MINN.  
MINNEAPOLIS 20.

Rating 20 h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2 to 2½; 600 r. p. m.; pulley 20x10; front wheels 38x8; drivers 62x20; tank, gasoline 30; length 167; width 96; height 110; weight 12,000; price, \$2,000; distributors as above.

MINNEAPOLIS THRESH. M'CH. CO., HOPKINS, MINN.  
MINNEAPOLIS 25.

Rating 25 h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2½; 550 r. p. m.; pulley 28x10; front wheels 40x12; drivers 85x24; cooling, radiator; weight 17,000; distributors as above.

MOLINE PLOW CO., MOLINE, ILL.  
MOLINE UNIVERSAL.



Rating 10-12 h. p.; 5-6 d. b.; 16-18 b. h. p.; 2 cyl.; 2 wheels; 2 drivers; speed 0 to 4; 200 to 2,000 r. p. m.; pulley 8x6; drivers 52x9; tank, gasoline 6; cooling, radiator; length 152; width 54; height 62; weight 2,800; price, including 2-bottom 14 in. gang, \$790; 2-bottom 14 in. tractor gang only, \$90; rear carrying truck only, \$35; branch distributing houses—Kansas City, Omaha, Sioux Falls, Minneapolis, Dallas, St. Louis, Bloomington, Ill., Columbus, O., Stockton, Cal., Portland, Ore., Salt Lake City, Denver, Atlanta, Oklahoma City, Poughkeepsie.

MORTON TRUCK & TRACT. CO., HARRISBURG, PA.  
MORTON.

Rating 60 h. p.; 30 d. b.; 80 b. h. p.; 4 cyl.; 4 wheel; 4 drivers; speed 8; 800 r. p. m.; pulley optional; wheels 50x12; tank, gasoline 30; length 228; width 78; height 84; weight 14,000; price \$5,400.

NATIONAL PULLEY & MFG. CO., CHICAGO.  
PARAMOUNT.

Rating 20 h. p.; 10 d. b.; 24 b. h. p.; 4 cyl.; 3 wheels; 1 driver; speed 2¼; 850 r. p. m.; pulley 7x7; front wheels 30x6; driver 54x24; tanks, gasoline 15, kero. 15; length 144; width 78; height 60; weight 3,900; price \$785; motor, Waukesha; bearings, Hyatt; ignition, Dixie.

NILSON FARM MACHINE CO., MINNEAPOLIS, MINN.  
NILSON.

Rating 40 h. p.; 20 d. b.; 35 b. h. p.; 4 cyl.; 3 or 5 wheels; 1 or 3 drivers; speed 2¾ to 5¾; 800 r. p. m.; pulley 20x8; front wheels 36x6; driver 52x23; tank, gasoline 25; cooling, radiator; length 160; width 89; height 69; weight 5,250; price \$1,485; motor, Waukesha; bearings, Hyatt.

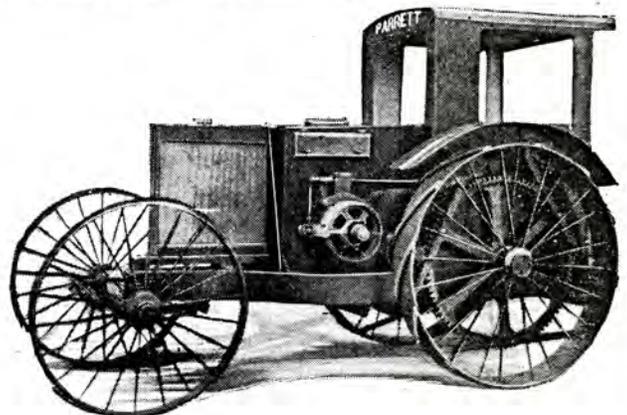
OLIN GAS ENGINE CO., BUFFALO, N. Y.  
OLIN.

Rating 13 d. b.; 25 h. b. p.; 4 cyl.; 2 wheels and driving crawler; speed 1½ to 3; 650 r. p. m.; pulley 13x10; tank, gasoline or kero. 20; cooling, radiator; length 132; width 72; height 63; weight 4,800; price \$1,200; bearings, Hyatt.

PARKER MOTOR PLOW CO., RICHMOND, VA.  
PARKER MOTOR PLOW.

Rating 10 h. p.; 3 d. b.; 2 cyl.; 1 driving wheel; speed 2 to 4; 1,000 r. p. m.; pulley 6x3½; driver 26x12; tanks, gasoline 3, kero. 3; length 72; width 25; height 38; weight 1,000; price, including plow, cultivator, disk harrow and cart attachments, \$375.

PARRETT TRACTOR CO., CHICAGO.  
PARRETT ALL PURPOSE.



Rating 10-20 h. p.; 10 d. b.; 20 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2 $\frac{3}{4}$  to 4; 900 r. p. m.; pulley 15x7; front wheels 46x4; drivers 60x10; fuel tank 18; weight 5,000; price \$1,075; distributors—Weber-Damme Wagon Co.,

St. Louis; Machinery Sales Co., Oklahoma City; Coates, Kaufman, Parrett Co., Kansas City; Parrett Machine Co., Wenona, Ill. (central Illinois).

**PEORIA TRACTOR CO., PEORIA, ILL.  
PEORIA.**

Rating 30 h. p.; 8 d. b.; 20 b. h. p.; 4 cyl.; 3 wheels; 1 driver; speed 2 to 3; 900 r. p. m.; pulley 10x7; front wheel 30x5; driver 60x18; tanks, gasoline 12, kero. 12; length 156; width 84; height 60; weight 3,800; price \$685; distributors—Yoder Tractor Co., Dallas; Benton & Ives, Kiowa, Kan.; Peoria Tractor Co., Wichita; C. A. Wood, Kansas City; Leonard Sales Co., St. Louis; Orgill Bros. & Co., Memphis, Tenn.; Deck Tractor Co., Toledo; Geo. E. Duis Co., Grand Forks; Standard Motor Car Co., Omaha; Matthews Auto & Tire Co., Des Moines; Wm. Saighman, Denver; David S. Hays, New York City (export).

**PIONEER TRACTOR MFG. CO., WINONA, MINN.  
PIONEER PONY.**



Rating 15-30 h. p.; 15 d. b.; 35 b. h. p.; 4 cyl.; 4 wheels; 1 driver; speed 2 to 3; 625 r. p. m.; pulley 12x7; front wheels 34x4; driver 60x24; tank, gasoline 40; cooling, radiator; length 137; width 87; height 64; weight 5,500; price \$765; distributors—W. A. Neal & Son, Atlanta, Ga.; Jas. T. Code, Springfield, Mo.; C. J. Wheelock, Cascade, Mont.

**PIONEER TRACTOR MFG. CO., WINONA, MINN.  
PIONEER JR.**

Rating 20-45 h. p.; 20 d. b.; 45 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2 to 5; 650 r. p. m.; pulley 14x10; front wheels 40x8; drivers 72x20; tank, gasoline 75; cooling, radiator; length 176; width 78; height 102; weight 11,000; price \$1,750; distributors as above.

**PIONEER TRACTOR MFG. CO., WINONA, MINN.  
PIONEER 30.**

Rating 30-60 h. p.; 40 d. b.; 75 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2 to 6; 625 r. p. m.; pulley 17 $\frac{1}{2}$ x14; front wheels 60x12; drivers 96x24; tanks, gasoline 30, kero. 70; cooling, radiator; length 237; width 120; height 126; weight 22,600; price \$2,850; distributors as above.

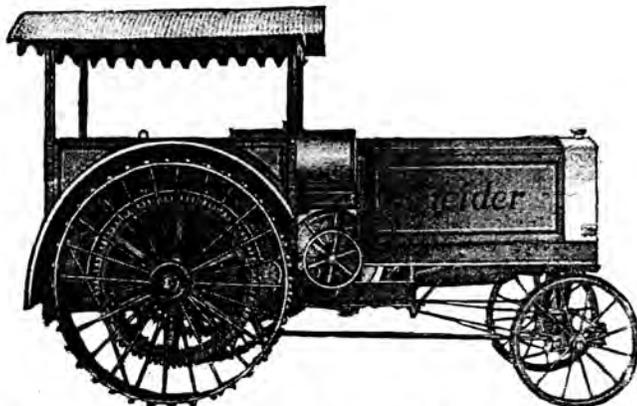
**QUINCY ENGINE CO., QUINCY, PA.  
QUINCY.**

Rating 20 h. p.; 10 d. b.; 23 b. h. p.; 1 cyl.; 4 wheels; 2 drivers; speed 2 to 4; 300 r. p. m.; pulley 34x10; front wheels 36x10; drivers 55x20; tank, gasoline 25; length 156; width 90; height 108; weight 10,000; price \$1,200.

**REED FDRY. & MACH. CO., KALAMAZOO, MICH.  
REED.**

Rating 25 h. p.; 25 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2 $\frac{1}{2}$ ; 1,200 r. p. m.; pulley 10x8; front wheels 36x5; drivers 60x10; tanks, gasoline 5, kero. 30; length 144; width 68; height 60; weight 4,000; price \$1,000.

**ROCK ISLAND PLOW CO., ROCK ISLAND, ILL.  
HEIDER.**

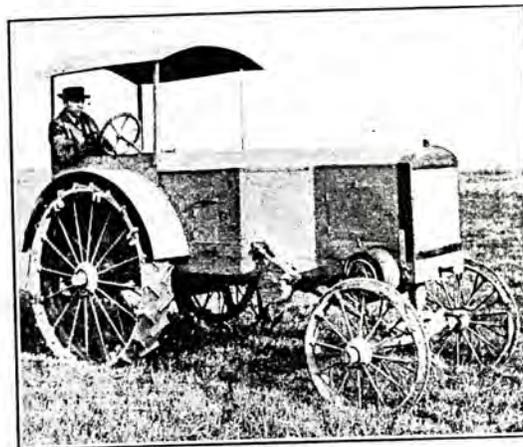


Rating 20 h. p.; 10 d. b.; 20 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 2 $\frac{1}{4}$  to 4; 750 r. p. m.; pulley 14x7; front wheels 30x5; drivers 57x10; tanks, gasoline 6, kero. 13; cooling, radiator; length 144; width 74; height 96; weight 5,800; price \$995; branch distributing and jobbing houses—Omaha, Sioux Falls, Dallas, Kansas City, Oklahoma City, Minneapolis, Indianapolis; R. M. Wade & Co., Portland, Ore.; Weber Impt. & Auto. Co., St. Louis; David S. Hays, New York City.

**LEO RUMELY TRACTOR CO., LA PORTE, IND.  
HOOSIER.**

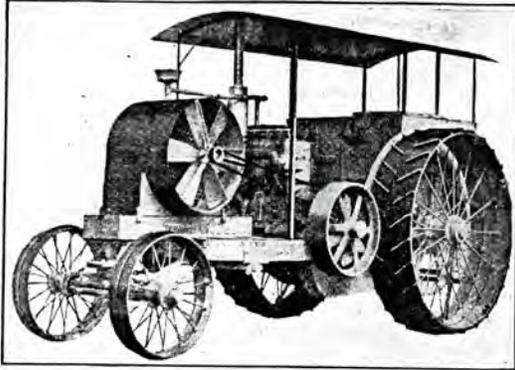
Rating 8-18 h. p.; 18 b. h. p.; 4 cyl.; 3 wheels; 1 driver; speed 1 $\frac{1}{4}$  to 2 $\frac{1}{2}$ ; 1,050 r. p. m.; pulley 20x8; front wheel 30x10; driver 54x24; tank, gasoline 30; weight 3,900; price \$850; motor, Waukesha.

**THE RUSSELL & CO., MASSILLON, O.  
RUSSELL.**



Rating 12-24 h. p.; 12 d. b.; 24 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 1 $\frac{1}{2}$  to 3 $\frac{3}{4}$ ; 950 r. p. m.; pulley 12 $\frac{1}{2}$ x7; front wheels 30x6; drivers 53x10; tanks, gasoline 3, kero. 20; length 139; width 67; height 96; weight 5,500; distributing houses—Massillon Eng. & Thresher Co., Chattanooga; A. H. Averill Mach'y Co., Portland, Ore.; Geo. A. Richardson Mach'y Co., St. Joseph, Mo.; Clark Impt. Co., Council Bluffs; F. P. Harbaugh Co., St. Paul; Ar-buckle-Ryan Co., Toledo; Lindsay Bros., Milwaukee; The Russell & Co., Peoria and Indianapolis.

THE RUSSELL & CO., MASSILLON, O.  
RUSSELL.



Rating 30-60 h. p.; 30 d. b.; 60 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $1\frac{1}{4}$  to  $4\frac{1}{2}$ ; 400 r. p. m.; pulley 24x10; front wheels 42x10; drivers 88x22; length 223; width 108; height 130; weight 22,000; distributors as above.

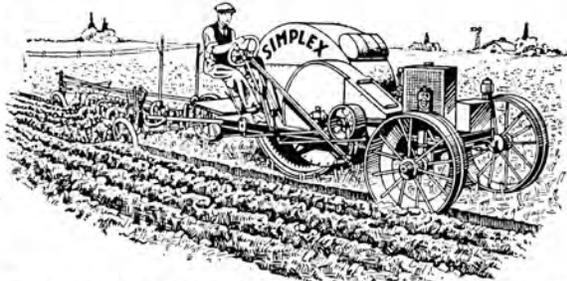
ST. PAUL MACH'Y MFG. CO., ST. PAUL, MINN.  
ST. PAUL.

Rating 40-20 h. p.; 20 d. b.; 40 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $2\frac{1}{4}$ ; 650 r. p. m.; pulley 20x8; front wheels 42x10; drivers 66x16; tanks, gasoline 20, kero. 35; width 88; height 80; weight 10,000; price \$2,000.

SAMSON IRON WORKS, STOCKTON, CAL.  
SAMSON SIEVE GRIP.

Rating 10 d. b.; 25 b. h. p.; 4 cyl.; 3 wheels; 2 sieve type drivers; speed  $2\frac{1}{4}$  to  $3\frac{1}{2}$ ; 650 r. p. m.; pulley 14x8; drivers 44x18; tank, kero. 24; cooling, radiator; length 138; width 52; height 48; weight 5,000; price \$1,250.

SIMPLEX TRACTOR CO., MINNEAPOLIS, MINN.  
SIMPLEX.



Rating 15 d. b.; 30 b. h. p.; 4 cyl.; 3 wheels; 1 driver; speed  $1\frac{1}{2}$  to  $2\frac{1}{2}$ ; 750 r. p. m.; pulley 14x9; front wheels 36x8; driver 60x26; tank, gasoline 25; cooling, radiator; length 144; width 87; height 66; weight 5,500; price \$950; bearings, Hyatt.

STANDARD DETROIT TRACTOR CO., DETROIT.  
STANDARD DETROIT.

Rating 10-20 h. p.; 15 d. b.; 25 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $2\frac{1}{2}$  to 3; 1,000 r. p. m.; pulley 10x7; front wheels 24x8; drivers 45x24; tank, gasoline 20; cooling, radiator; length 173; width 74; height 69; weight 4,000; price \$1,065; bearings, Hyatt; ignition, Dixie.

STRITE TRACTOR CO., MINNEAPOLIS, MINN.  
STRITE.

Rating 35 h. p.; 12 d. b.; 25 b. h. p.; 4 cyl.; 3 wheels; 1 driver; speed  $1\frac{1}{4}$  to 4; 800 r. p. m.; pulley 12x6; front wheels 36x5; driver 60x20; tanks, gasoline 25, kero. 25; length 168; width 36; height 96; weight 4,200; price \$1,185; motor, Waukesha; ignition, Dixie.

SULLIVAN TRACTOR CO., OAKLAND, CAL.  
SULLIVAN.

Rating 28 h. p.; 10 d. b.; 28 b. h. p.; 4 cyl.; 2 driving tracks; speed 2; 800 r. p. m.; pulley 10x4; track face 12; tanks, gasoline 5, kero. 20; cooling, radiator; length 108; width 58; height 50; weight 4,200; price \$1,375.

SWEENEY TRACTOR CO., KANSAS CITY, MO.  
SWEENEY'S IRON HORSE.

Rating 15-25 h. p.; 15 d. b.; 25 b. h. p.; 6 cyl.; 1 wheel; 1 drum driver; speed  $2\frac{1}{2}$  to  $3\frac{1}{4}$ ; 1,000 r. p. m.; pulley 10x10; front wheel 24x12; driving drum 48x54; tank, gasoline 25; cooling, radiator; length 144; width 68; height 54; weight 5,000; price \$985.

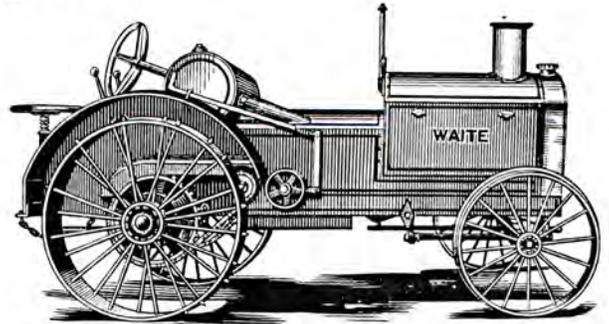
TOM THUMB TRACTOR CO., MINNEAPOLIS.  
TOM THUMB.

Rating 12-20 h. p.; 12 d. b.; 25 b. h. p.; 4 cyl.; 2 wheels; 1 driving track; speed 2 to  $2\frac{3}{4}$ ; 800 r. p. m.; pulley 16x7; front wheels 42x8; track face 16; tanks, gasoline 5, kero. 15; cooling, radiator; length 128; width 88; height 66; weight 4,500; price \$1,000; motor, Waukesha; bearings, Hyatt; ignition, Dixie, with impulse starter.

TURNER MFG. CO., PORT WASHINGTON, WIS.  
SIMPLICITY.

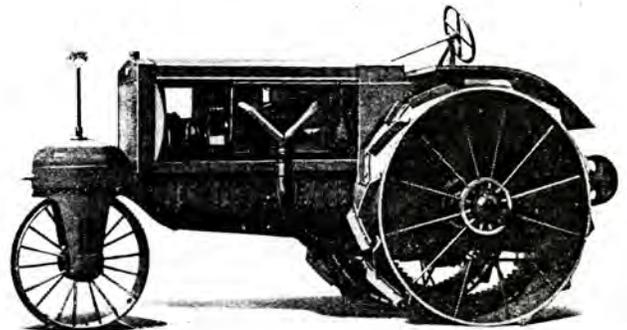
Rating 25 h. p.; 12 d. b.; 30 b. h. p.; 2 cyl.; 3 wheels; 1 driver; speed  $1\frac{1}{2}$  to 3; 575 r. p. m.; pulley 18x8; front wheel 36x6; driver 60x24; tank, kero. 25; cooling, radiator; length 156; width 78; height 66.

WAITE TRACTOR SALES CO., CHICAGO.  
WAITE.



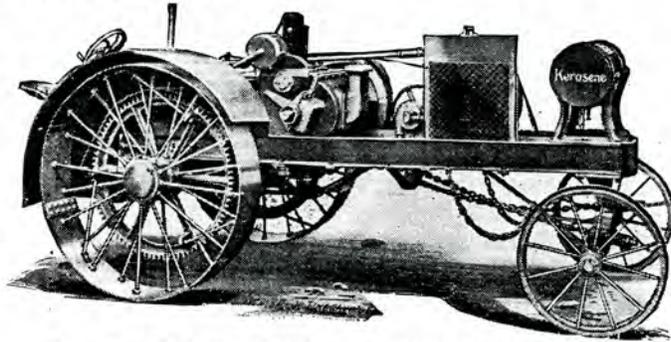
Rating 16 h. p.; 8 d. b.; 22 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed 0 to 12; 800 r. p. m.; pulley 8x7; front wheels 30x4; drivers 42x8; tank, gasoline 18; cooling, radiator; length 128; width 54; height 68; weight 2,700; price \$800; motor, Waukesha; ignition, Dixie; distributors—Jack Jones, Oklahoma City; Mallalieu & Conrey, Philadelphia; W. A. C. Pettitt, Fredericks Hall, Va.; Tractor Sales & Supply Co., Rochester, N. Y.; A. T. Stewart, Eustis, Fla.

WALLIS TRACTOR CO., RACINE, WIS.  
WALLIS CUB.



Rating 26 d. b.; 44.2 b. h. p.; 4 cyl.; 3 wheel; 2 drivers; speed 2.2-5 to  $3\frac{1}{2}$ ; 650 r. p. m.; pulley 14x9; front wheel 34x14; drivers 60x20; tank, gasoline or kero. 33; length 102; width 74; height 87; weight 8,365; price \$1,850; distributors: J. I. Case Plow Works, Minneapolis, Omaha, St. Louis, Kansas City, Dallas, Indianapolis.

**WATERLOO GASOLINE ENG. CO., WATERLOO, IA.  
WATERLOO BOY.**



Rating 12-24 h. p.; 12 d. b.; 24 b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed  $2\frac{1}{4}$  to 3; 750 r. p. m.; pulley 14x8; front wheels 28x4 $\frac{3}{4}$ ; drivers 52x10; tanks, gasoline 1, kero. 20; cooling, radiator; length 132; width 72; height 62; weight 4,800; price \$750; distributors—P. J. Downes Co., Minneapolis and Kansas City; Waterloo Boy Tractor Co., Dallas; W. L. Cleveland Co., Los Angeles; Woodin & Little, San Francisco; Reiersen Mach'y Co., Portland; Waterloo Boy Kerosene Tractor Co., Chicago; W. R. Holmes, St. Louis; Arbuckle-Ryan Co., Toledo; United Engine Co., Lansing, Mich.; J. T. Search, Philadelphia; Horace L. Smith & Co., Petersburg, Va.

**TOWNSEND MFG. CO., JANESVILLE, WIS.  
BOWER CITY.**

Rating 20 h. p.; 10 d. b. h. p.; 2 cyl.; 4 wheels; 2 drivers; speed 2 to  $2\frac{1}{2}$ ; 450 r. p. m.; pulley 20x8; front wheels 32x8; drivers 56x18; tank, kero. 18; cooling, radiator; length 140; width 78; height 78; weight 5,500.

**UNION TOOL CO., TORRANCE, CAL.  
IDEAL.**

Rating 20 h. p.; 10 d. b.; 24 b. h. p.; 2 cyl.; 2 wheels; 1 driving track; speed 2; 650 r. p. m.; pulley 12x6; front wheel 28x7; track face 18; tanks, gasoline  $3\frac{1}{2}$ , kero.  $13\frac{1}{2}$ ; length 157; width 79; height 48; weight 5,100; price \$1,000.

**WARD TRACTOR COMPANY, LINCOLN, NEB.  
WARD.**

Rating 25 h. p.; 15 d. b.; 25 b. h. p.; 2 cyl.; 2 cycle; 4 wheels; 2 drivers; speed  $2\frac{1}{4}$  to 3; 600 r. p. m.; pulley 16x8; front wheels 34x7; drivers 60x14; tank, gasoline 20; length 144; width 81; height 114; weight 7,000; price \$1,500.

**WILLMAR TRACTOR MFG. CO., WILLMAR, MINN.  
OAK.**

Rating 45-50 h. p.; 22-25 d. b.; 45-50 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $2\frac{1}{4}$  to 4; 600 r. p. m.; pulley 28x9; front wheels 38x6 or 8; drivers 69x14; tank, gasoline 50; length 151; width 91 $\frac{1}{2}$ ; height 84; weight 9,000; price \$1,400.

**WOLVERINE CAR & TRACTOR CO., DETROIT.  
WOLVERINE.**

Rating 35 h. p.; 17 d. b.; 35 b. h. p.; 4 cyl.; 4 wheels; 2 drivers; speed  $2\frac{1}{4}$  to  $3\frac{1}{2}$ ; 1,200 r. p. m.; pulley 24x6; front wheels 30x7; drivers 40x12; tank, gasoline 25; cooling, radiator; length 144; width 51; height 48; weight 4,400; price \$975.

**YUBA CONSTRUCTION CO., MARYSVILLE, CAL.  
YUBA BALL TREAD.**

Rating 18 d. b.; 25 b. h. p.; 4 cyl.; 2 driving tracks; speed  $2\frac{1}{4}$  to  $3\frac{1}{2}$ ; 650 r. p. m.; pulley 18x6 $\frac{1}{2}$ ; tanks, gasoline  $5\frac{1}{2}$ , kero. 27; length 181; width 73; height 61; weight 8,900.

## EDITOR'S NOTE

We who have helped with minor details of assembling his book believe we should tell you something about the author--as proof that it is particularly appropriate that Theo Brown should have prepared this record of events preceding and pertinent to the entry by Deere & Co. into the manufacture of tractors.

In October of 1952, following more than 51 years of active participation in the manufacturing industry--including 41 years with the John Deere organization--Mr. Brown asked that he be relieved of his heavier responsibilities. At that time Charles Deere Wiman, president of Deere & Co., issued a company bulletin which said, in part:

"Mr. Brown early discerned that the impact of the tractor upon our products was such that it was imperative to develop greater coordination and correlation of the design work between all John Deere factories. To an increasing extent he devoted himself to...that problem to the point where he finally...devoted full time to the broader aspects of design.

"His achievements in the engineering field won for him the Cyrus Hall McCormick Medal in 1935, an award made annually by the American Society of Agricultural Engineers...the first year in which the award was made to an individual connected with industry. At that time there had been granted to him 100 patents. At this writing that number has increased to more than 150 patents, which include many important and basic items.

"While the company has acceded to Mr. Brown's request that he be relieved of his present responsibilities, nevertheless he has agreed to remain...as a consultant so that his abundant store of knowledge on engineering research will continue to be available."

Mr. Brown was superintendent of the Marseilles Co. (a subsidiary of Deere & Co. which developed into the present John Deere Spreader Works) from 1912 until he became head of the John Deere Plow Works experimental department in 1916. First elected to the Board of Directors of Deere & Co. in 1923, he that year also broadened his activities into more general research work, and he was supervisor of the Deere & Co. experimental department for many years previous to October, 1952.

It should also be noted that Mr. Brown's devotion to provable fact and its infinite value inspired him, early in his life, to begin a meticulous diary which he has continued to this day. Containing a very wealth of data concerning activities in which he participated or which he observed--and therefore also the growth and development of Deere & Co.--Mr. Brown's diary is an indisputable source of much of the information this book contains.

## APPENDIX

Bischoff, Gus	Farmer at Deere & Co. Experimental Farm (where Molette addition to Moline now is located).
Bliss, H. H.	Deere & Co. patent consultant in Washington, D. C.
Butterworth, William	President of Deere & Co. 1907-28; Chairman of Board, 1928-36.
Clausen, L. R.	Deere & Co. Vice President in charge of manufacturing 1919-24 (succeeding George W. Mixter); in 1924 elected President of J. I. Case Co.
Dain, Joseph Sr.	Founder of Dain Manufacturing Co., which became a part of Deere & Co. by merger in 1911; thereafter Vice President and member of Board of Directors of Deere & Co.; died in 1917.
Dain, Joseph	Now Assistant Secretary of Deere & Co.
Dinneen, Harold B.	Manager of John Deere Plow Works until 1919; Vice President of Minneapolis-Moline Co. from 1919 until his death in 1937.
Hornburgh, C. H.	Division Sales Manager and later Sales Manager (upon retirement of George P. Schutz) of Deere & Webber Co.
Johnston, E. A.	Manager of Experimental Department, International Harvester Co.
Kirby, Fred	Superintendent of Marseilles Co. (now John Deere Spreader Works). Now retired.
Lesser, Nathan	Engineer in Deere & Co. Engineering Department; later succeeded Max Sklovsky as Chief Engineer of Deere & Co.
Livesay, R. C.	Experimental Department, John Deere Harvester Works.
Lourie, R. B.	Manager, John Deere Plow Co. of Moline. Member of Board of Directors of Deere & Co. Now retired.
McCormick, Elmer	Worked with Mr. Dain on Dain tractor; later Chief Engineer of John Deere Waterloo Tractor Works until his death.
Melvin, C. H.	In John Deere Plow Works Experimental Department until transferred to Deere & Co. to design tractor. Died in 1917.

Mixter, George W.	Member of Deere & Co. Board of Directors, 1905-42; Vice President in charge of manufacturing, 1907-19. Great grandson of John Deere.
Molstad, John	Territory Salesman, later Sales Manager, of Deere & Webber Co. Died in 1953.
Morgan, W. R.	Manager of John Deere Harvester Works; member of Board of Directors of Deere & Co. from 1912 until his death in 1923.
McVicker	Consulting engineer located in Minneapolis, Minn.
Neighbour, L. B.	Then and now Manager of Experimental Department of John Deere Spreader Works (then Marseilles Co.).
O'Donnell, J. B.	Farmer at Sheldon, Ia.
Pearce, George	Engineer in Mr. Sklovsky's department.
Ronning & Ronning	Inventors living in Minneapolis, not connected with any implement company. Adolph Ronning invented the "Roll-O-Matic" front wheel construction used on modern John Deere Tractors.
Schutz, George P.	Sales Manager, Deere & Webber Co., until retirement.
Silver, Walter	Engineer in (now Manager of) John Deere Plow Works Experimental Department.
Sklovsky, Max	Chief Engineer of Deere & Co. Now retired.
Taylor, Dr. W. E.	Head of Deere & Co. Soil Culture Department 1910-35.
Todd, F. R.	Formerly with Kemp & Burpee Manufacturing Co., which became part of Deere & Co. by merger in 1911; Vice President of Deere & Co.; member of Board of Directors of Deere & Co., 1911-33.
Velie, C. D.	Vice President of Deere & Webber Co.; member of Board of Directors of Deere & Co. 1911-29. Grandson of John Deere.
Velie, S. H.	Manager of John Deere Plow Co. of Kansas City; member of Board of Directors of Deere & Co. 1911-19. Grandson of John Deere.
Webber, C. C.	Vice President and member of Board of Directors of Deere & Co. 1911-44; President and Manager of Deere & Webber Co. Grandson of John Deere.
Wiggin, E. R.	Engineer in Mr. Sklovsky's department.



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