



WEBFOOTER EXTRA

August 2013

FARM IMPLEMENTS AND TRACTORS



WEBFOOTERS POST CARD CLUB

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HARNESSING THE PRAIRIE

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COVER PHOTO

The cover photo shows an Aultman Taylor steam tractor with a baler. The photographer's name is given on the back as J.H.C. Sorenson, Gresham, Oregon. The date of 1913 is written on the back. It is presumed to be a hay baling operation in East Multnomah County, Oregon.

A receipt from Chas. H. Dodd & Co. dated Sept. 27th, 1886. The receipt is for a bucket of nails, purchased from M. E. Griffith Hauling Co. The receipt includes the company name, address (Front, First and Vine Streets), and a list of products (Agricultural Implements, Hardware, Iron and Steel). The amount paid is \$2.80. The receipt is signed by J. M. Dodd. The receipt is dated Sept. 27th, 1886, and the amount is \$2.80.

This receipt dated Sept. 27th, 1886 for \$2.80 was for a bucket of nails.



HARNESSING THE PRAIRIE

Farm Implements and Tractors

Tillage implements prepare the soil for planting by loosening it and killing weeds or competing plants. The first agricultural implement used by prehistoric man, as shown by remains found in peat bogs of England, France and other countries, was a hooked stick, or sometimes a stag's horn, adapted to the work of digging and stirring the soil in planting seed.

This crude tool — it can scarcely be called an invention — developed in the course of time into something more like a plow: a forked stick with a long branch to which animals were hitched, and perhaps an artificial brace added to strengthen the other branch used as the share or "bottom."

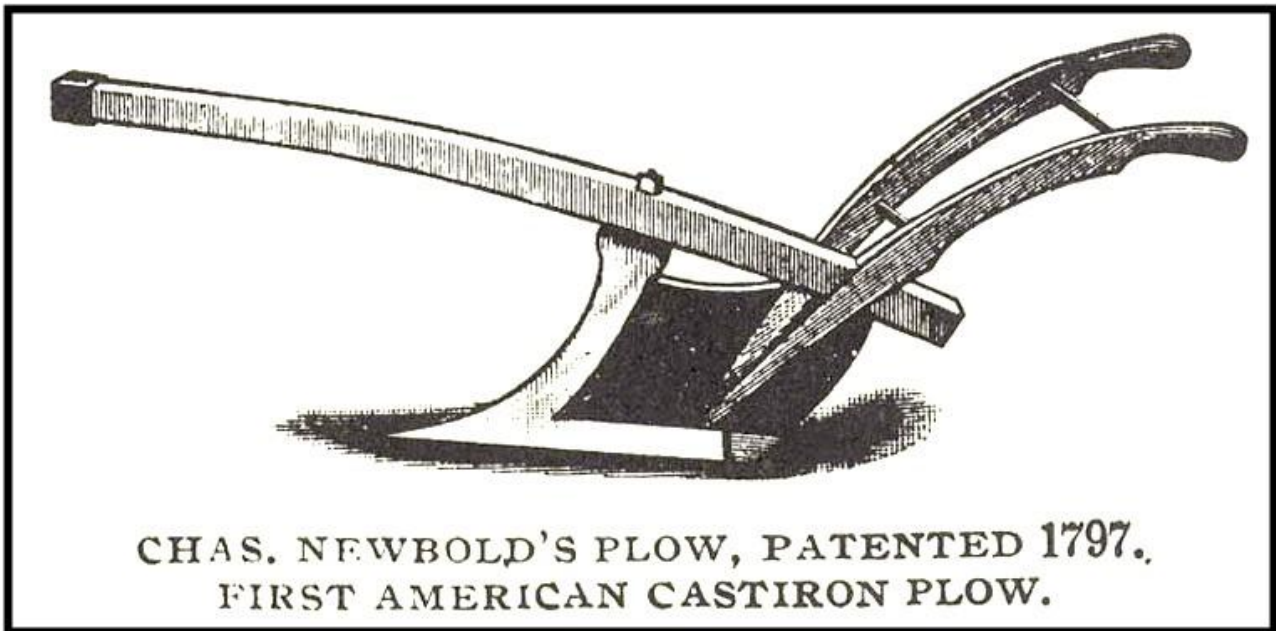
An illustration of this type of implement has been found on an ancient monument in Asia Minor. Its antiquity is demonstrated by the fact that the plow, as represented on Egyptian monuments more than 3000 years B.C., shows a slight improvement over it.



The Romans are also known to have used wooden plows of a very primitive type, with the added improvement of a handle, which allowed the plowman to hold the point more easily in the ground. Chinese historians say that the Emperor Shen Neng, who ascended the throne of China 2737 B.C., "first fashioned timber into plows and taught the people the art of husbandry."

Farming changed very little until about 1700. In the 1700's an agriculture revolution took place, which led to a large increase in the production of crops. These changes included the adoption of crops from the "new world" such as corn and potatoes, which produced a very large yield.

The first English patent granted on a plow was to Joseph Foljambe of Yorkshire in 1720. He made a number of improvements on a crude style of plow that had been brought from Holland. The bottom of Foljambe's plow was of wood, with a sheet-iron covering on the wearing parts and a point of iron plate. The coulter was, of course, made of iron. The point was conical in form, and the furrow was raised by it and then turned over by the mouldboard. The handles and beam were better proportioned than any that had been in use previously.



The first patent granted on a plow in America was to Charles Newbold, a New Jersey farmer, in 1797. His specification was as follows: "The subscriber, Chas. Newbold, of Burlington county, New Jersey, has invented an improvement in the art of plow making, as follows: The plow to be (excepting the handles and beam) of solid cast iron, consisting of a bar, sheath and mouldplate. The sheath serves a double purpose of coulter and sheath, and the mouldplate serves for share and mouldboard, that is, to cut and turn the furrow. The forms to be varied, retaining the same general principles, to meet the various uses, as well as inclinations of those who use them."

Although Newbold's plow worked well--far better than those in general use at that time, the farmers rejected it. Many of them thought that the cast iron "poisoned the land" and stimulated the growth of weeds. After spending \$30,000 trying to get it introduced, Newbold gave up the task in despair. During the twenty years following Newbold's invention, a number of patents on plows were issued, but nothing valuable was contributed to the art of plow-building, and the crude "bull" plow with its wooden mouldboard still ruled the realm.

In 1831 Cyrus Hall McCormick demonstrates his mechanical reaper at Steele's Tavern, Virginia. The reaper could cut 10 acres a day - as much as five men. He later added a self-raking feature that allowed one man to cut 40 acres in a day. He did not patent the reaper until 1834.

In 1842 Jerome Increase Case established Racine Threshing Machine Works in Racine, Wisconsin. Then in 1863, Jerome Case established J.I. Case and Company, taking on three partners: Messena Erskine, Robert Baker and Stephen Bull. They became known as "The Big Four."

In the 1850's, the industrial revolution spilled over to the farm with new mechanized methods that increased production rates, and farming methods took a great leap forward. Early on, the large changes were in the use of new farm implements. Most of these early implements were still powered by horses or oxen. These new implements, combined with crop rotation, manure and better soil preparation, led to a steady increase in crop yield. The advent of steam power and later gas-powered engines brought a whole new dimension to the production of crops.



International Harvester Company was founded on July 28, 1902 when Deering Harvester Company, Plano Manufacturing Company, the Champion Line and Milwaukee Harvester Company pooled their assets. International Harvester represented 90 percent of the grain binder business. The voting power was controlled by Cyrus McCormick, Jr., Charles Deering, George Perkins and J.P. Morgan, who arranged and financed the consolidation.

In 1905, the International Harvester Company introduced the first "friction drive" tractor using International Harvester's stationary gas engine and a Morton chassis. In 1910, International Harvester introduced the Titan tractor. The committee named the line "Titan" after the Greek mythological figure that was "of gigantic size and enormous strength." This was to signify the International Harvester tractor legacy: size and strength. In 1919, International Harvester developed the first commercial PTO (power takeoff).

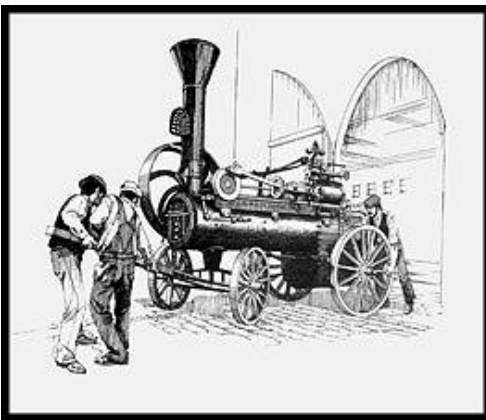


Instead of harvesting grain by hand with a sharp blade, wheeled machines cut a continuous swath. Instead of threshing the grain by beating it with sticks, threshing machines separated the seeds from the heads and stalks. After planting, other implements could be used to remove weeds from between rows, or to spread fertilizer and pesticides. Hay balers could be used to package grass or alfalfa into a storable form for the winter months.

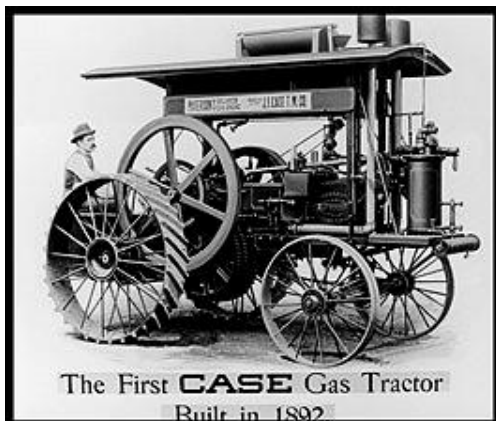


From May 1861 to March 26, 1881, a female bald eagle named "Old Abe" was the mascot of the 8th Wisconsin Volunteer Infantry Regiment in the American Civil War. Then in 1865, her image was adopted as the eagle appearing on a globe in Case Corporation's logo. The logo was retired in 1969. Old Abe was also adopted as the screaming eagle on the insignia of the U.S. Army's 101st Airborne Division.

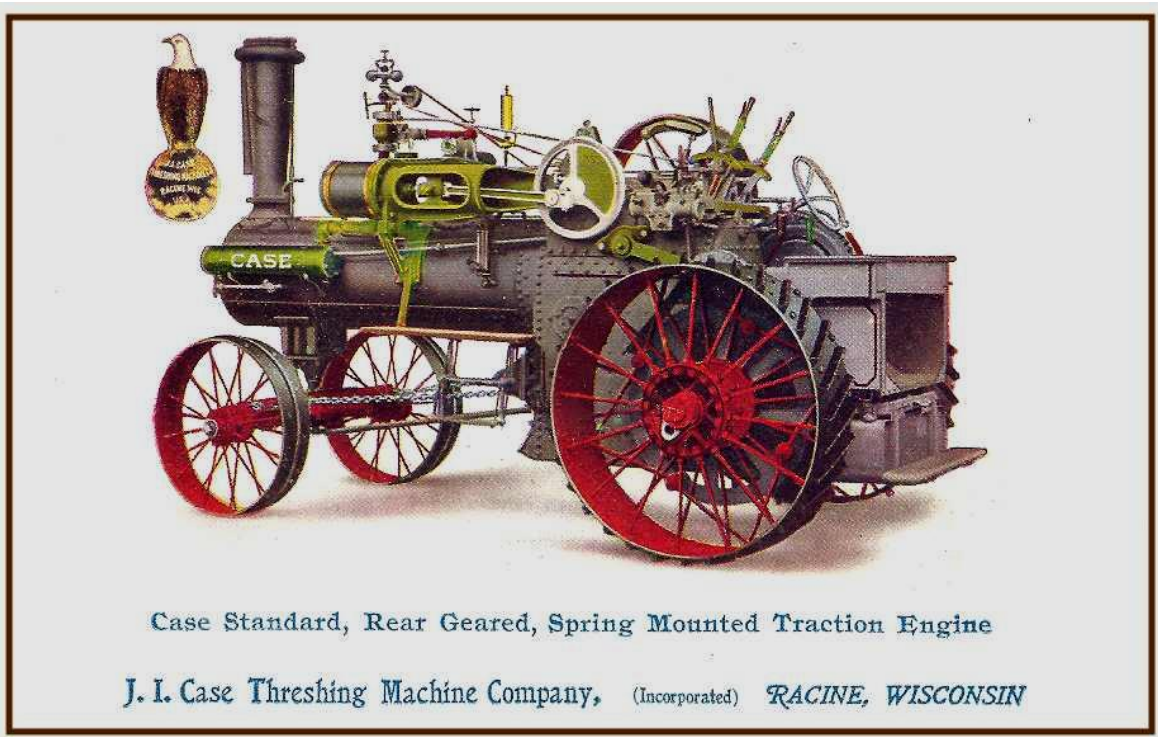
Power for agricultural machinery was originally supplied by horses or other domesticated animals such as oxen. With the invention of steam power came the portable engine, and later the traction engine, a multipurpose, mobile energy source that was the ground-crawling cousin to the steam locomotive. Agricultural steam engines took over the heavy pulling work of animals, and they were also equipped with a pulley that could power stationary machines via the use of a long belt. The steam-powered machines were low-powered by today's standards but, because of their size and their low gear ratios, they could provide a large drawbar pull. Their slow speed led farmers to comment that tractors had two speeds: "slow, and real slow."



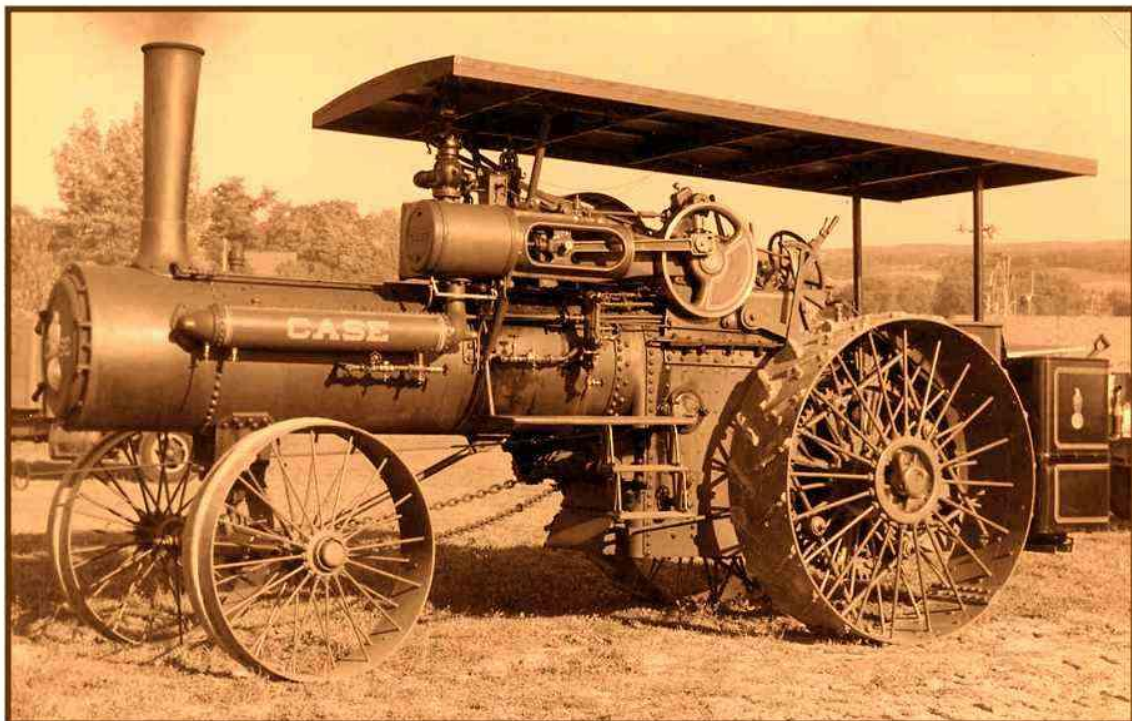
In 1869, J.I. Case and Company produced the first steam engine tractor. The Old No. 1 is on display at the Smithsonian Institution. The tractor is wheel-mounted but still drawn by horses and is used only for belt power. Then in 1876, Case built the first self-propelled traction steam engine. However, horses were still used to steer the engine. In 1880, J.I. Case Threshing Company was incorporated after "The Big Four" partnership was dissolved.



In 1886, Case became the largest worldwide manufacturer of steam engines, and they built the first gasoline tractor, called the "Paterson Tractor," in 1892. Case was the first of the old-line harvester companies to build a gas tractor. However, it was not successful and Case did not build another gas tractor until the 30-60 debuted in 1911.



Here are two postcards showing examples of very similar Case Steam Tractors that were produced from 1910 to about 1920.

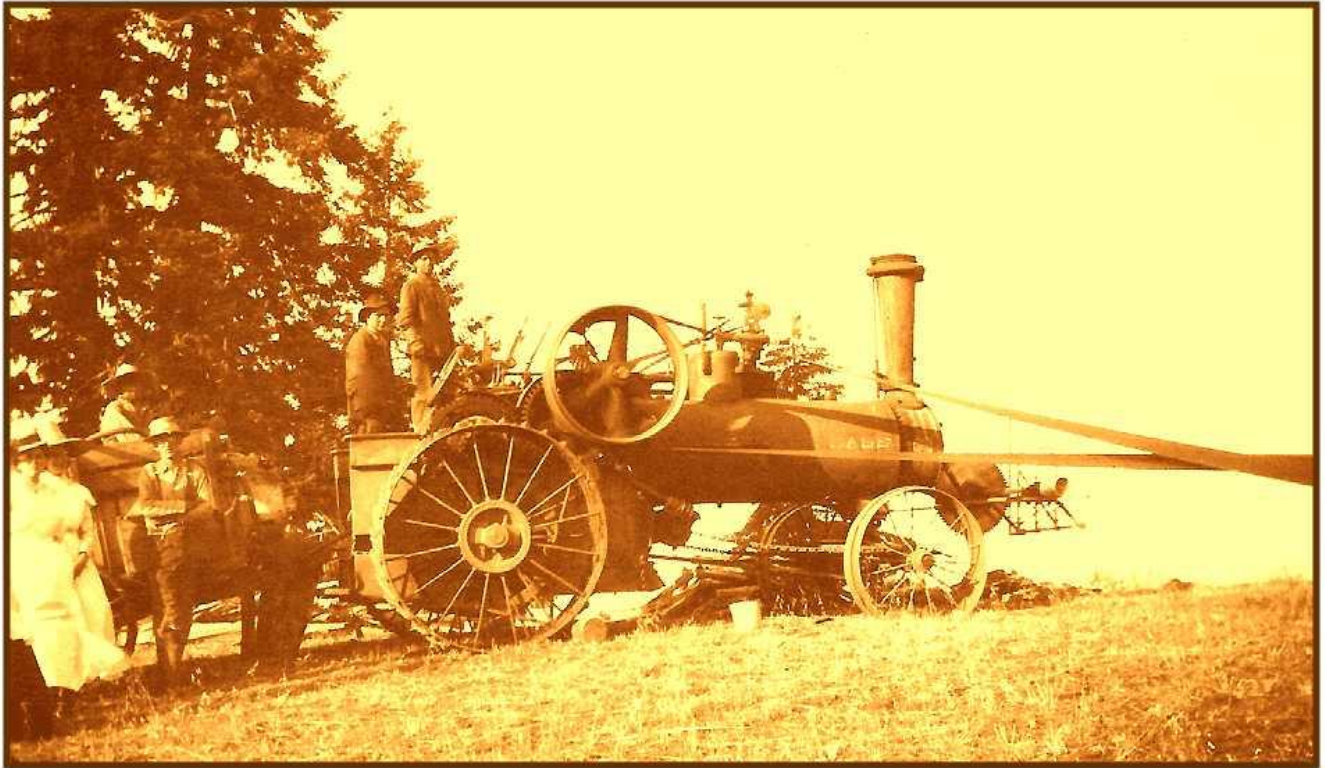


Tractors are very fascinating pieces of equipment. They are powerful, extremely versatile and they can be used for a multitude of tasks. The earliest tractors were steam engines on wheels, billowing sprays of water and warm steam and chugging smoke while the modern air-conditioned tractor of today can be a joy to operate. The tractors pull the farm implements such as plows, separators and balers, etc. and the tractor can provide power to make the implement operate.

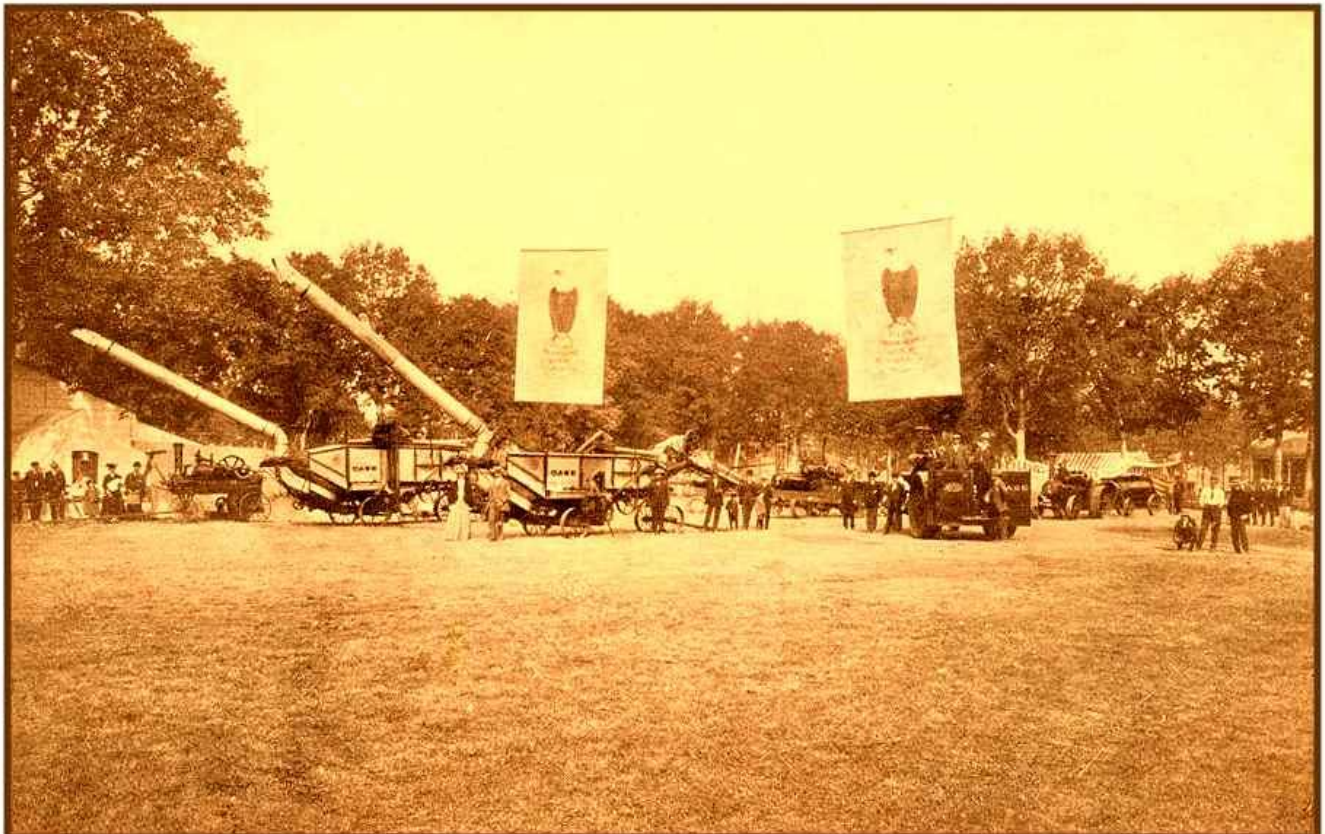


Case wanted to attract the buyers for steam engines and plows.

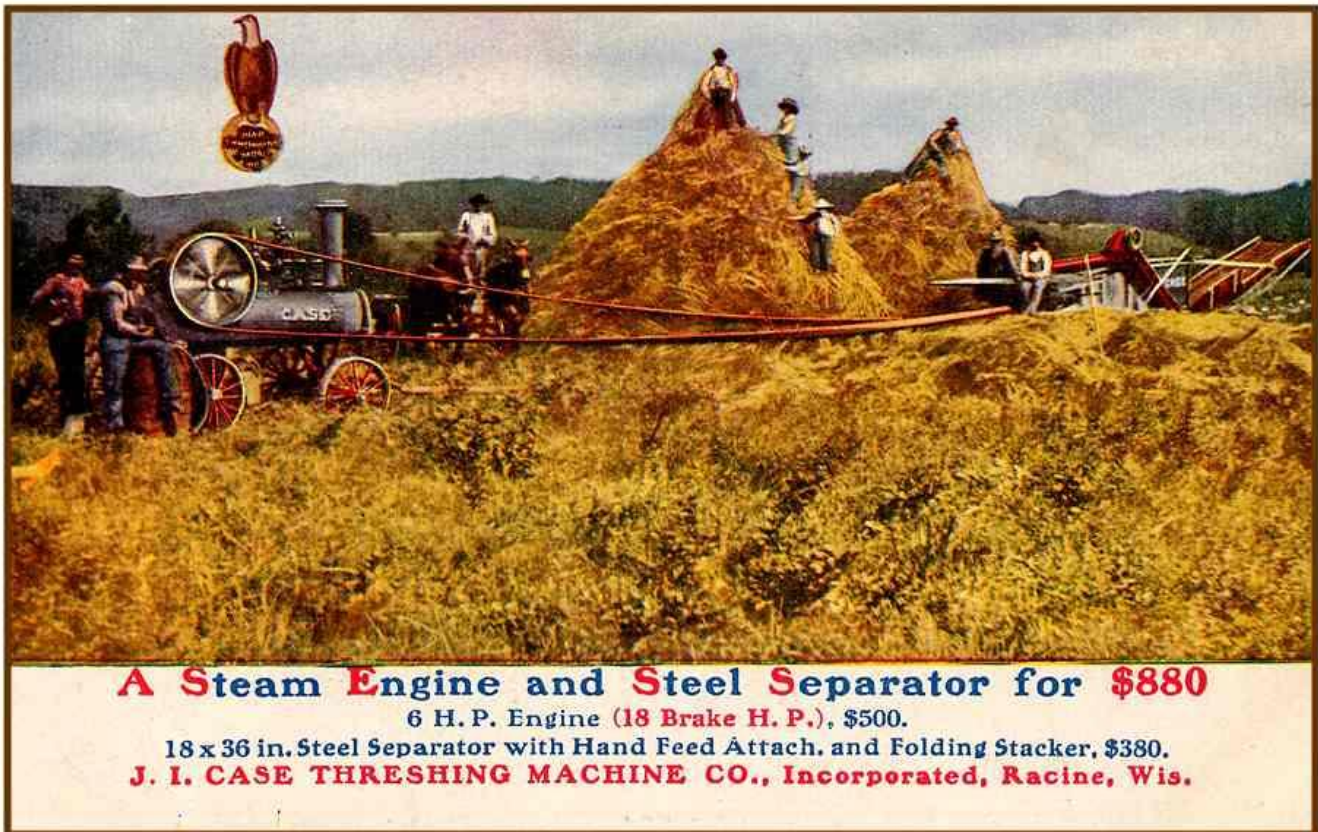




A Case steam tractor is at work in Turner, Oregon in 1907.



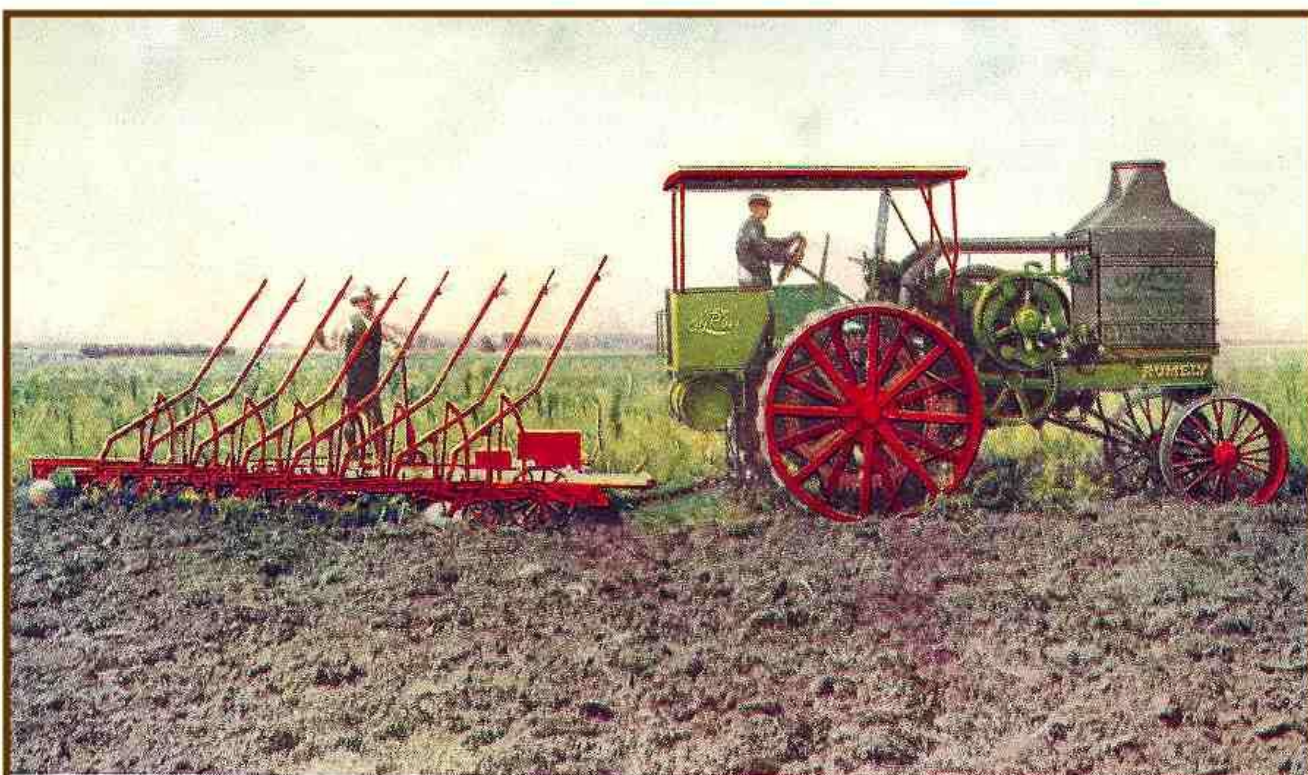
Case comes to the Oregon State Fair in 1910.



This circa 1910 postcard advertises the Case Engine for \$500 and the Steel Separator with the folding staker for \$380.



A Case Exhibit at the State Fair.



TURNING EIGHT FOURTEEN-INCH FURROWS WITH RUMELY PLOWS AND A *Oil Pull*

This circa 1910 Rumely was an “Oil-Pull” engine and they burned kerosene.



Oil Pull TRACTOR DRIVING A RUMELY IDEAL SEPARATOR

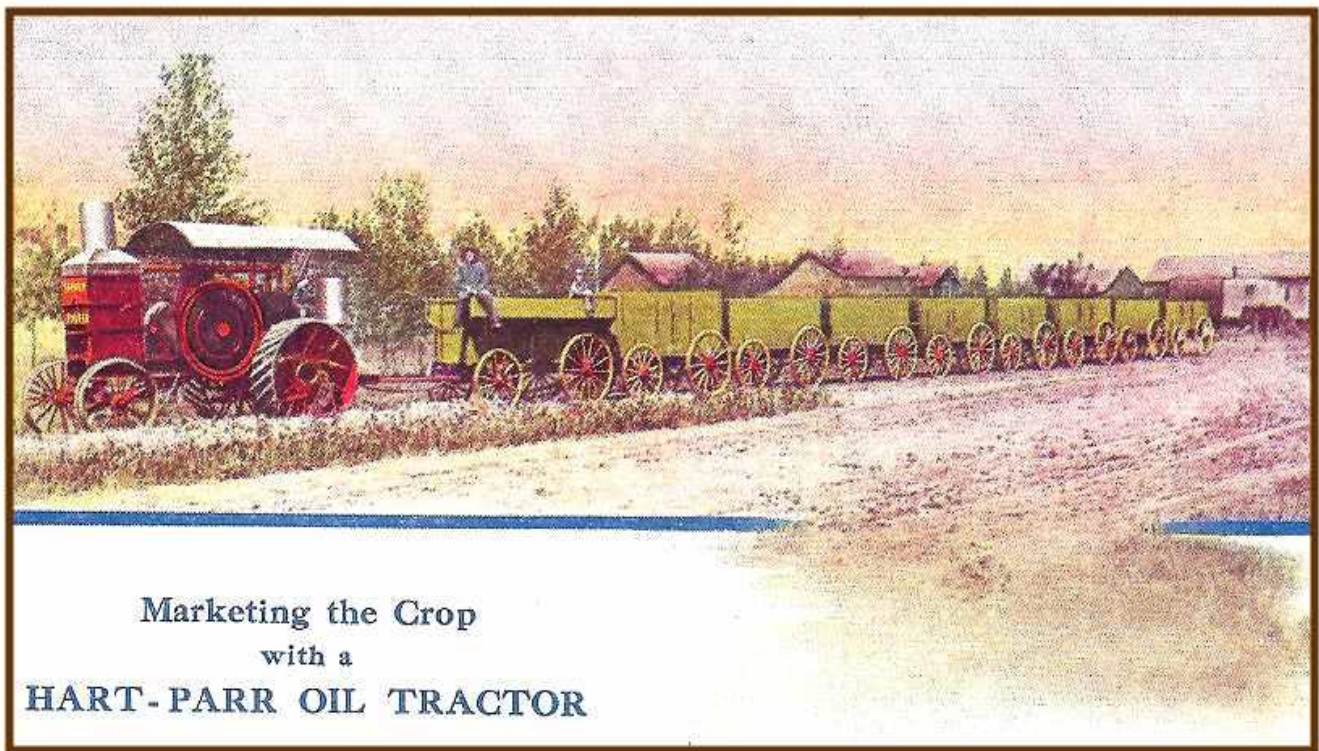


Hauling the wheat to market with a Rumely.

Meinrad Rumely emigrated from Germany in 1848 to join his brother John in the operation of a foundry in La Porte, Indiana. This basic operation gradually expanded by 1859 into the production of corn shellers and complete threshing machines powered by horses. In 1887, Meinrad bought out his brother and incorporated as the M. Rumely Company and in 1895 the line expanded to include steam-powered traction engines. Meinrad himself died in 1904, but his sons continued to manage the business.

The first internal combustion tractor at the company was the Oil-Pull, launched in 1910 and developed by Dr. Edward Rumely. The tractor was designed to operate on kerosene, which was cheaper than gasoline, but burned in a narrower temperature band. Rumely's solution was to cool the engine with oil. The Oil-Pulls feature a large cooling tower in the front, the exhaust vented through the tower to create airflow without a fan. In 1915, the company changed its name to the Advance-Rumely Company because of a 1911 merger with the Advance Thresher Company which was founded in 1881.

The massive Oil-Pull tractors were suited only for the largest farms or for threshing work. The Great Depression struck in 1929 and Rumely tried to switch production to smaller tractors with the DoAll and the 6A, but it was too late. Allis-Chalmers purchased Advance-Rumely in 1931, and stopped production of all models.



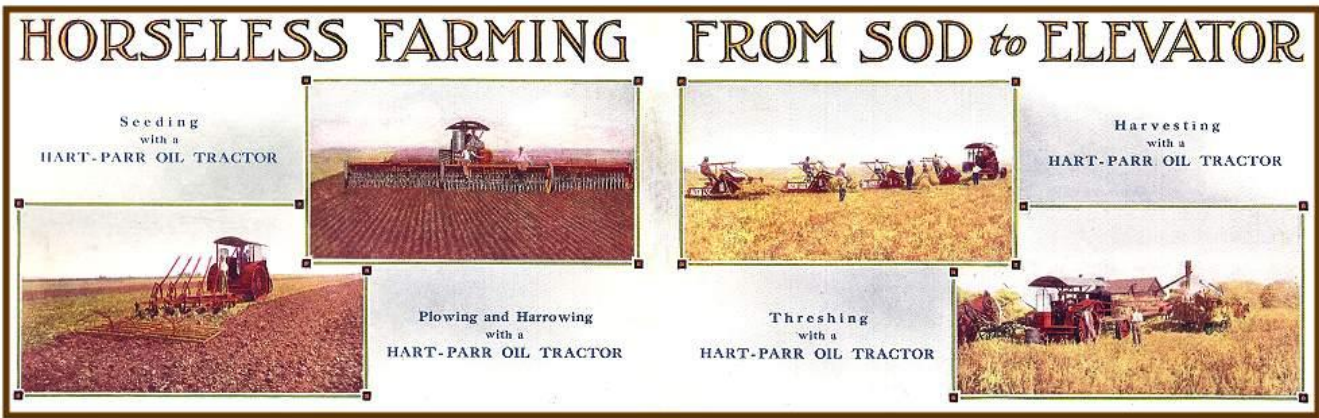
Transporting the crop to market with a Hart-Parr oil tractor.

In 1872, Charles Walter Hart was born at Charles City, Iowa. At the age of twenty, while studying at the University of Wisconsin–Madison, he met Charles H. Parr, and the two young men quickly became friends. Together they worked on their Special Honours Thesis and from that thesis they built three working internal combustion engines right there on the campus at Madison.

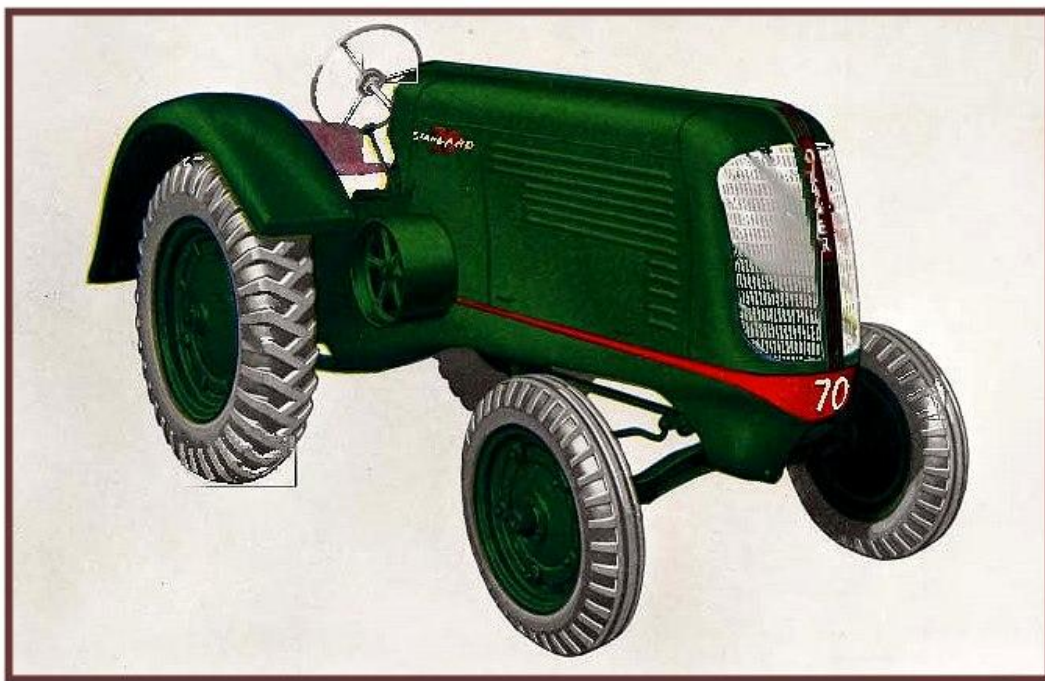
Following their graduation from the University of Wisconsin in 1897, Hart and Parr gathered \$3000 in capital and formed the Hart-Parr Gasoline Engine Company. Towards the end of 1899, Charles Hart paid a visit to his parents in Charles City, Iowa. He complained to his father that development funds could not be found for his tractor project. They then found another investor in Charles D. Ellis, a local attorney, who invested \$50,000 in additional capital.

In 1900, as the engine business expanded, Hart and Parr decided to move their company from Madison to Charles City. The Hart-Parr Company was organized on June 12, 1901 at Charles City, Iowa. Ground was broken for the new factory on July 5 that year. By the following December, the Hart-Parr Company was now ready to do business, and had an authorized capitalization of \$100,000.00.

Hart-Parr number 1 was completed in 1902, but sales were slow to take off, but some of the first tractors delivered were gaining a reputation of usefulness that far surpassed that of the steamers. In 1906, sales manager W.H. Williams decided the words "traction engine" were vague and too long to be used in press releases, so he coined the word "tractor", a combination of the words traction and power. Hart-Parr was given the title of "Founders of the Tractor Industry".



This circa 1909 double sized postcard showed Hart-Parr oil tractors seeding, plowing, harvesting and threshing.



The Oliver Farm Equipment Company was formed as a result of a 1929 merger of four struggling companies: the American Seeding Machine Company of Richmond, Indiana, Oliver Chilled Plow Works of South Bend, Indiana, Hart-Parr Tractor Company of Charles City, Iowa, and Nichols and Shepard Company of Battle Creek, Michigan.

James Oliver first settled in Mishawaka, Indiana in 1836, where he worked in a local foundry business. Later he purchased a small foundry in South Bend, Indiana. In 1853, Oliver established the Oliver Chilled Plow Works. On July 22, 1868, the business was incorporated as the South Bend Iron Works. In 1871, the company sold 1,500 plows. By 1874 this figure had increased to 17,000 plows a year.

Upon the death of his father in 1908, Joseph D. Oliver, the only son of James and Susan (Doty) Oliver, took over the management of the company. The name was changed back to the Oliver Chilled Plow Works. By 1910, the company was manufacturing a wide variety of farm tillage implements in addition to the chilled plow. In 1960, Oliver was purchased by the White Motor Corporation. White subsequently purchased Cockshutt in 1962 and Minneapolis-Moline in 1963.



The story of John Deere, who developed the first commercially successful, self-scouring steel plow, closely paralleled the settlement and development of the Midwestern United States. Deere was born in Rutland, Vermont, on February 7, 1804, the third son of William Rinold Deere and Sarah Yates Deere.

In 1805, the family moved to Middlebury, Vermont. In 1808, William boarded a boat for England in the hopes of claiming an inheritance and making a more comfortable life for his family. He was never heard from again and is presumed to have died at sea. Raised by his mother on a meager income, John Deere apprenticed himself at the age of 17 and learned the trade of blacksmithing, which he practiced at various places in Vermont.

In 1836, facing depressed business conditions in Vermont and with a young family to care for, Deere traveled alone to Grand Detour, Illinois, to make a fresh start. Resourceful and hardworking, his skills as a blacksmith were immediately in demand.

The new pioneer farmers struggled to turn heavy, sticky prairie soil with cast iron plows designed for the light, sandy soil of New England. Deere was convinced that a plow that was highly polished and properly shaped could scour itself as it cut furrows. In 1837, he created such a plow, using a broken saw blade.

By 1841, he was producing 100 of the plows a year. In 1843, he entered a partnership with Leonard Andrus to produce more plows to meet increasing demand. In 1848, Deere dissolved his partnership with Andrus and moved the business to Moline, Illinois, which offered advantages of water-power, coal and cheaper transportation than could be found in Grand Detour. In 1850, approximately 1600 plows were made, and the company was soon producing other tools to complement its steel plow.

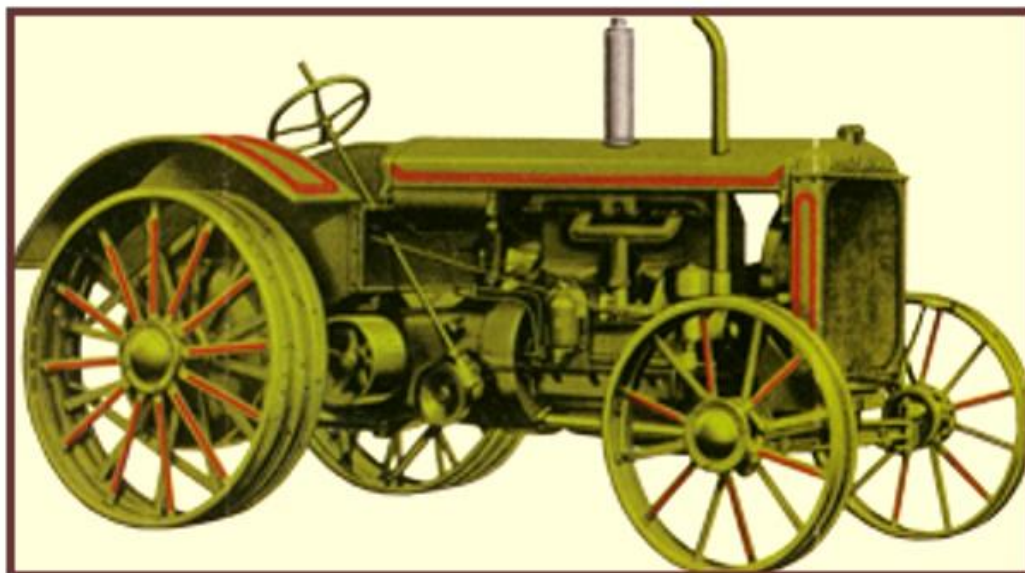
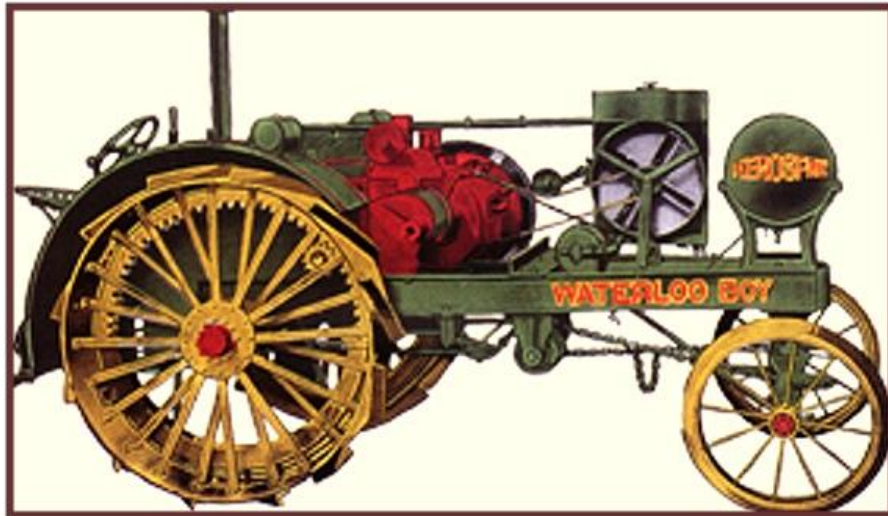
In 1858, Deere transferred leadership of the company to his son, Charles, who served as its vice president. John Deere retained the title of president of the company, but now turned his attention to civic and political activities.

John Deere was active in public life throughout his career in Moline. Among other roles, he was a founder and president of the National Bank of Moline, was an active member of the First Congregational Church, and served as the city's mayor for two years. John Deere died on May 17, 1886, at his home in Moline.

The Waterloo Gasoline Traction Engine Company was the first company to manufacture and sell gasoline powered farm tractors. Based in Waterloo, Iowa, the company was created by thresherman John Froelich and a group of Iowa businessmen in 1893. The new company was given the opportunity to manufacture and sell the tractor Froelich had designed in 1892. Unfortunately, the tractor was not successful commercially. In 1895, the company was sold to John W. Miller and renamed the Waterloo Gasoline Engine Company. Miller decided to stop producing tractors and instead focus on building plain gasoline engines.

Following several years of research and development, the Waterloo Gasoline Engine Company once again began to manufacture tractors in 1911, but sales didn't take off until 1913, when twenty "Waterloo Boy" tractors were produced. In 1914, the company introduced the Model R Waterloo Boy. This tractor proved immensely popular, and over eight thousand were sold before the line was discontinued in 1918.

In March 1918 Deere & Company decided to continue its foray into the tractor business by purchasing the Waterloo Gasoline Engine Company which manufactured the popular Waterloo Boy Tractor at its facilities in Waterloo, Iowa. Deere & Company continued to sell tractors under the Waterloo Boy name until 1923 when production switched to John Deere models.



Allis-Chalmers model 20-35 which was introduced in the 1920's.

In 1860, entrepreneur Edward P. Allis bought the bankrupt Reliance Works of Milwaukee, Wisconsin at a sheriff's auction. Reliance had been owned by James Decker and Charles Seville. Decker & Seville were millwrights who made equipment for flour milling. Under Allis's management, the firm was reinvigorated and began producing steam engines and other mill equipment just at the time when many sawmills and flour mills were converting to steam power.

Allis died in 1889, but under his sons, Charles Allis and William Allis, and the other principals, the firm continued to prosper. By 1900 it had grown to become one of America's largest steam engine builders.

Thomas Chalmers was a Scottish immigrant to America who came to the U.S. about 1842. By 1844 he was at Chicago, Illinois and had found work with P.W. Gates, whose foundry and blacksmithing shops produced plows, wagons, and flour-milling equipment. The Gates firm built the first steam-operated sawmill in the country at a time when Chicago was the leading producer of milled lumber in the country.

In 1872, Chalmers founded the Fraser & Chalmers firm to manufacture mining machinery, boilers and pumps. By 1880 steam engines were part of the product line. In May 1901, the Allis-Chalmers Company was formed when the principals of the Edward P. Allis, Fraser & Chalmers, and Gates firms decided to merge their companies.

Due to financial problems in 1912, the Allis-Chalmers Company was reorganized and renamed the Allis-Chalmers Manufacturing Company. Otto Falk, a former Brigadier General of the Wisconsin National Guard, was appointed to turn it around. Falk pushed for new products and new or expanded markets. He saw great growth potential in the mechanization of agriculture. Allis-Chalmers' first farm tractors, the 10-18, the Model 6-12, and the Model 15-30, were developed and marketed between 1912 and 1919, and the farm implement line was expanded.

More models were introduced in the 1920's and Falk hired Harry Merritt to manage the Allis-Chalmers tractor division. Allis-Chalmers acquired several related businesses and achieved steady growth. In 1929, Merritt was in California when the bright orange California poppy blossoms inspired him to think about the use of bright colors in marketing. Brightly colored things that can be seen from far away had potential in farm equipment marketing.

Merritt soon changed the paint color of Allis-Chalmers' tractors to Persian Orange, the available paint color that he felt most closely resembled the California poppy's color. Thus began the tradition of orange Allis-Chalmers tractors.

Various competitors would follow suit over the next decade, as International Harvester switched to all red in 1936. In the late 1930's, Minneapolis-Moline switched to Prairie Gold and Case switched to Flambeau Red. John Deere already had a distinctive color scheme with its bright green and yellow.





In the mid 1940's Allis Chalmers introduced a "Roto-Baler" that produced round bales.

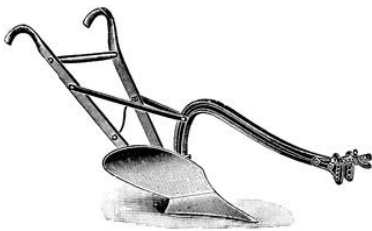


The Allis Chalmers Model B was introduced in 1937 and it became popular on smaller farms.

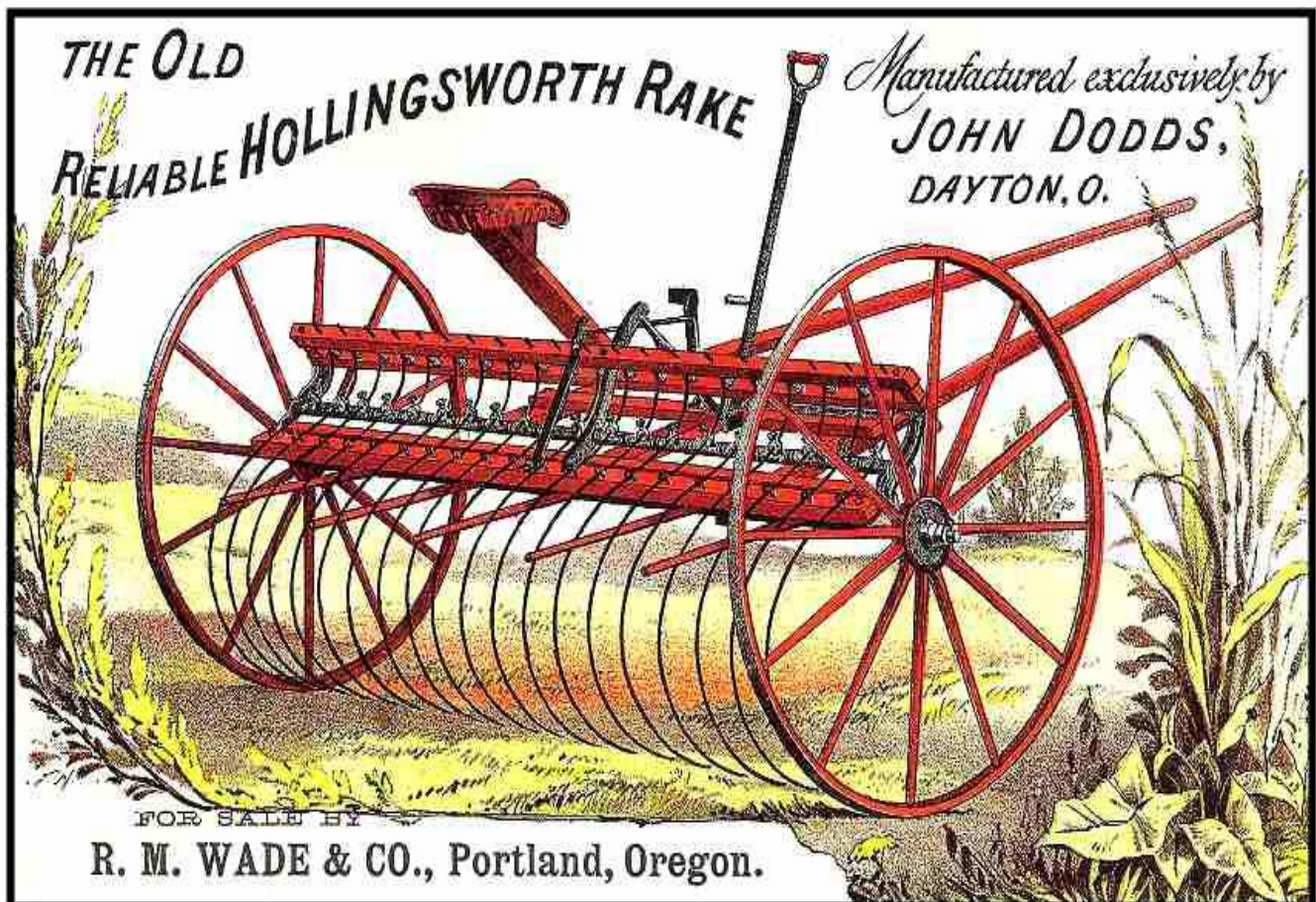
Farming and farm machinery have continued to evolve. The threshing machine has given way to the combine, usually a self-propelled unit that either picks up windrowed grain or cuts and threshes it in one step. The grain binder has been replaced by the swather, which cuts the grain and lays it on the ground in windrows, allowing it to dry before being harvested by a combine.

Plows are not used nearly as extensively as before. The disk harrow today is more often used after harvesting to cut up the grain stubble left in the field and to conserve the moisture in the soil. Although seed drills are still used, the air seeder is becoming more popular with farmers. Today's farm machinery allows farmers to cultivate many more acres of land than the machines of yesterday.

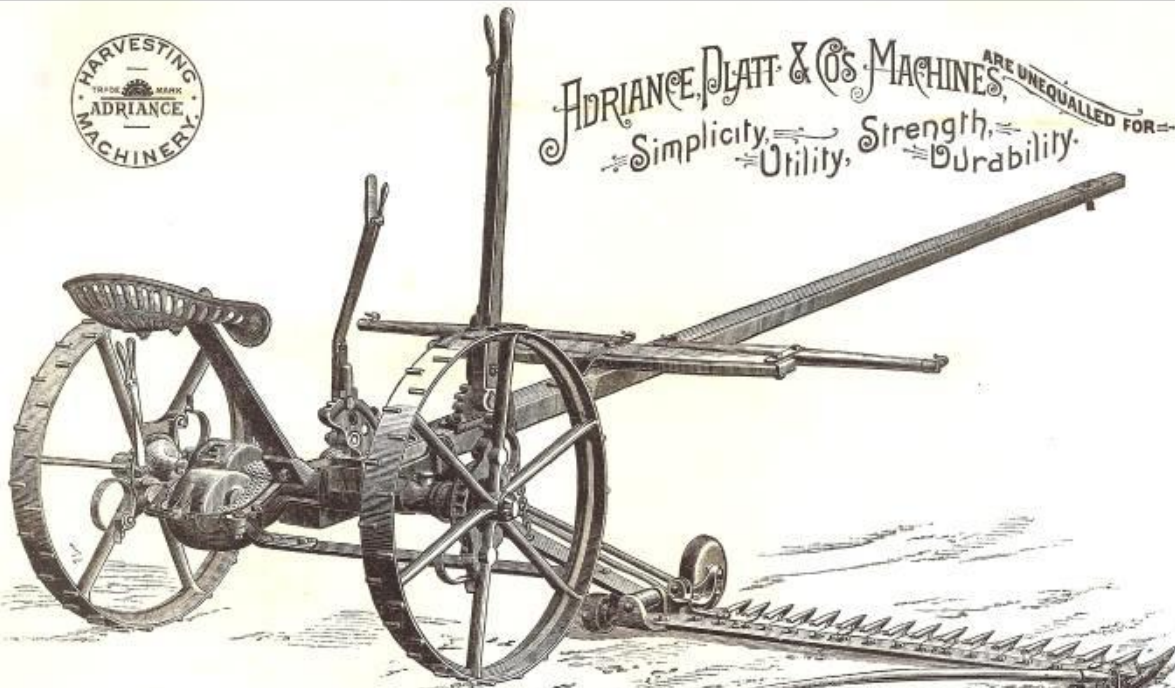
Combines might have taken the harvesting job away from tractors, but tractors still do the majority of work on a modern farm. They are used to pull implements and machines that till the ground, plant seed, and perform many other tasks.



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R.M. Wade sold horse-drawn implements in Portland.

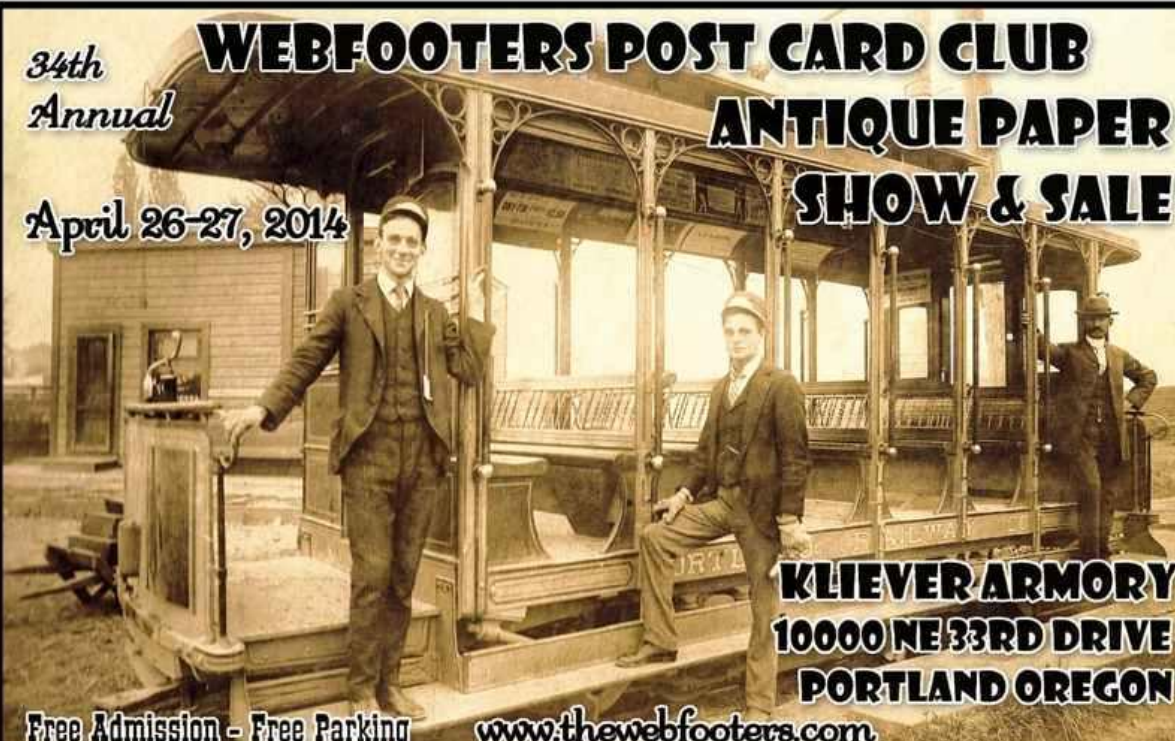


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Portland Railway Company streetcar near 16th & Thurman streets circa 1915.