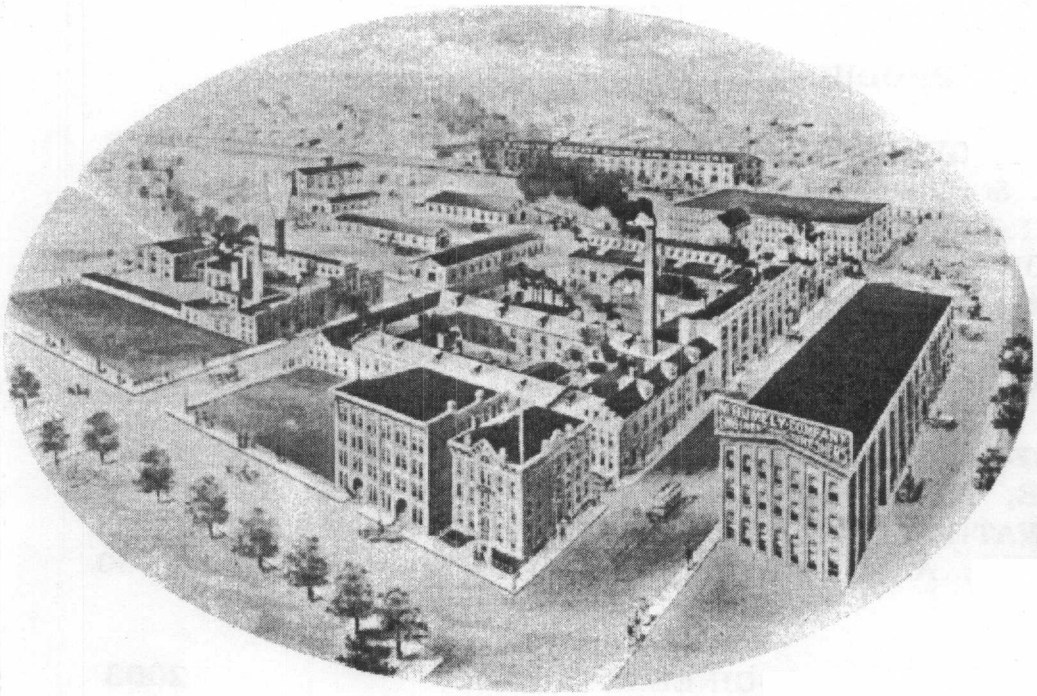
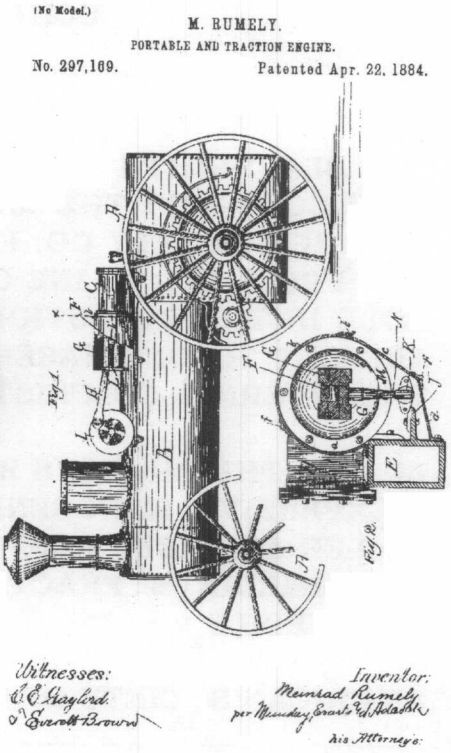
ASME International

THE RUMELY COMPANIES
AGRICULTURAL MACHINERY
1853-1931




(No Model.)

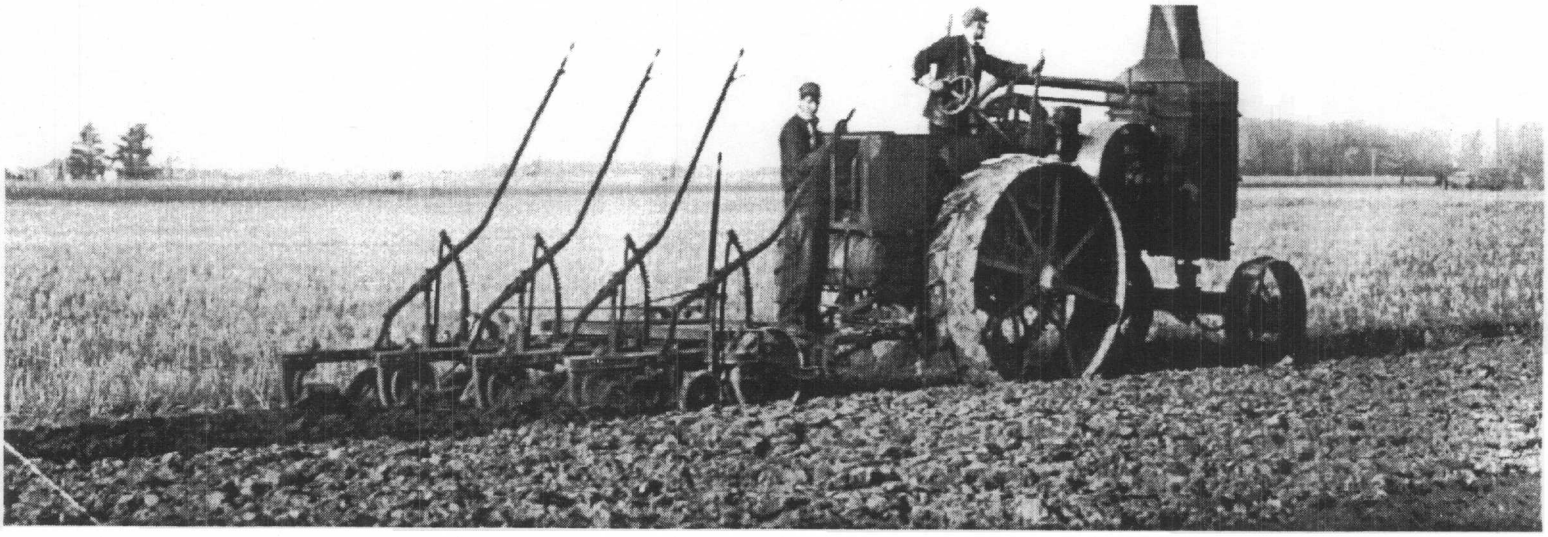
M. RUMELY.

PORTABLE AND TRACTION ENGINE.

No. 297,169. Patented Apr. 22, 1884.

Witnesses:
C. E. Gaylord.
Everett Brown

Inventor:
Meinrad Rumely
per Munday, Evarts & Adcock
His Attorneys.



AN ASME HISTORIC MECHANICAL ENGINEERING SITE
LA PORTE, INDIANA
MARCH 15, 2003

The wording of the ASME plaque for the Historic Site is shown below. The plaque is located outdoors in front of La Porte Hospital at the corner of Lincolnway and Madison. Rumely archives are located in the La Porte County Historical Museum in the County Complex one block east.

MECHANICAL ENGINEERING HERITAGE SITE

THE AGRICULTURAL PRODUCTS OF THE RUMELY COMPANIES

THE BLACKSMITH SHOP OF GERMAN IMMIGRANT MEINRAD RUMELY BECAME, IN SUCCESSION: THE M. & J. RUMELY CO.; THE M. RUMELY CO.; AND THE ADVANCE RUMELY CO. FROM THE OUTSET THIS FAMILY OF FIRMS INVENTED AND PRODUCED A LINE OF AGRICULTURAL EQUIPMENT THAT PLAYED A VITAL ROLE IN THE EVOLUTION OF FARMING BASED ON THE MUSCLE OF MEN AND ANIMALS TO ONE BASED ON THE POWER OF THE STEAM, AND ULTIMATELY THE INTERNAL-COMBUSTION ENGINE.

IN 1909 THE RUMELYS BEGAN EXPERIMENTING WITH A TRACTOR, FUELED BY INEXPENSIVE KEROSENE, THAT DISPENSED WITH THE STEAM TRACTOR'S BOILER AND NEED FOR WATER AND SOLID FUEL. THE "RUMELY OILPULL" WAS AN IMMEDIATE PRACTICAL AND COMMERCIAL SUCCESS, NEARLY 60,000 BEING BUILT.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS 2003

Explanation of photos on front cover.

Upper Left – The M. Rumely Company around 1900.

Upper Right – Those familiar with patenting inventions will recognize this as Page 1 of Patent No. 297, 169 granted to Meinrad Rumely on April 22, 1884 for a "Portable and Traction Engine." Pages 2 & 3 are not included. While the drawing has the Traction Engine standing on its nose, even the draftsman in 1884 had to fit their objects to the paper for maximum view size. The stack indicates that this is a steam traction engine.

Bottom – Type F Rumely "OilPull" kerosene tractor pulling a 4-bottom plow, about 1915. These two boys are doing the work of four men and twelve horses.

The Rumely Companies 1853-1931
Agricultural Equipment

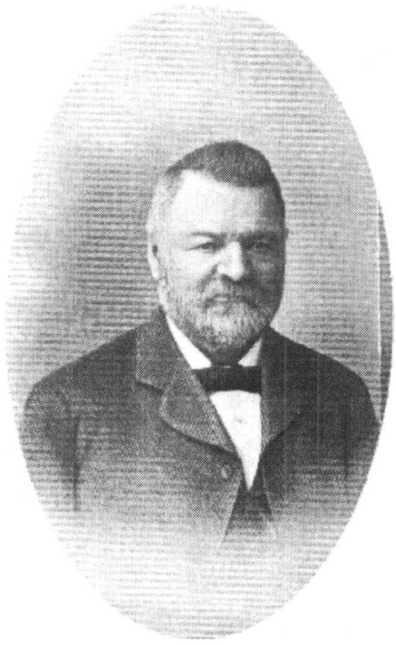
Introduction – In 1862 President Abraham Lincoln appointed Isaac Newton as the first Secretary of Agriculture. The following passage is excerpted from Secretary Newton's first report to the President:

> But notwithstanding our early difficulties in planting an empire in the wilderness, our wars, our want of a market, our vast territory, sparse population, cheap land, and ruinous system of exhausting a virgin soil, yet great and manifold progress has been made in agriculture. The cast-iron plough, first patented in New Jersey in 1797, has undergone various modifications, until it has, reached a high degree of perfection. The spade, the hoe, the hay fork, and the other common implements, tools, and vehicles of husbandry, are lighter, of better material and temper, and more adapted to the use of the farmer. A large number of our farmers now use mowers for cutting their grasses, and the vast wheat fields of the west and northwest could not be harvested without the use of the reaper, nor the wheat separated from the straw, and the corn from the cob, without threshing and shelling machines. So great is the demand for farm labor, so great the spirit of enterprise which urges our young men and adopted citizens to become freeholders, and so sure, so near, and so vast the market, that without mechanical appliances, and the use of horse and steam power in the cultivation of the soil, our vast fields of grain could not be harvested and made ready for food and shipment. . . . . In the use of improved agricultural implements a great change has everywhere taken place. It is common to see the best plough, rollers, cultivators, reapers, threshers, fanners, hay and cotton presses, sugar mills, horse and steam powers, and a thousand other labor saving machines, the results of skill and science.

In Midwest farm country in the 19th Century usually you could find a blacksmith shop within a 10-mile ride. It was a place where they shoed horses and fixed things. The blacksmith could also make simple things that you couldn't buy or order from a catalog. From this starting point, the mechanization of agriculture presented a great opportunity for those who had the ability to do more than work with their hands. Such a man was Meinrad Rumely who opened his blacksmith shop in La Porte, Indiana in 1853. Meinrad had been at work for ten years improving and creating farm machinery, advancing the mechanization of agriculture when Secretary of Agriculture Isaac Newton wrote his first report.

Key Individuals – There are five key people who guided engineering and product development at the Rumely Companies from 1853 to 1931. Meinrad Rumely (1823-1904), William N. Rumely (1858-1936), Dr. Edward A. Rumely (1882-1964), John A. Secor (1847-1935) and William H. C. Higgins, Jr.(1877-1968). These men were supported by a talented and creative staff of engineers.

Meinrad Rumely was born in Germany in 1823. He learned the millwright trade in France. In 1848 he emigrated to the United States. He worked in the Midwest on all things mechanical before finally settling in La Porte in 1853 where, with his brother John, he opened a blacksmith shop. La Porte was selected because there was a new shop and yard being built at that time by the main railroad between New York City and Chicago. It was his initial expectation that ample work would come from the railroad. This was partially true until the railroad moved its facility to Elkhart in 1870.



Meinrad Rumely

Meinrad Rumely was no ordinary blacksmith. His innate understanding of things mechanical, along with his interest in making things better, led him to expand immediately into working on agricultural equipment. He also had the ability to visualize complex machines and their mechanisms. He could organize and manage people, materials, and processes. Being located in the agricultural Midwest it was only natural that his business changed focus to agricultural machinery of any type.

From the beginning Meinrad Rumely was repairing and building cornshellers and horsepowers and casting plowshares, in addition to making wheels for railroad cars. The M. & J. Rumely Company quickly grew to 15-20 employees and was pouring one ton of castings per day. In 1857 the first separator (threshing machine) was rolled out. This more complicated machine is an indicator of the manufacturing capabilities that Meinrad Rumely had the ability to develop. Two years later, in 1859, the M. & J. Rumely Co. won the first prize for threshing, over 12 competitors at the Illinois State Fair in Chicago.

A machine shop was added in 1860. The manufacture of stationary steam engines was begun in 1861 to power the threshing machines. Here Rumely was part of the advance to replace the horse and his own horsepowers with mechanization. In 1869 capitalization was $50,000, employees numbered 35, and sales were $50,000 per year.

Under Meinrad Rumely's continuing leadership a portable steam engine was added to the product line in 1872. By 1882 they were fully into building steam traction engines. By 1882 the company had won eight first prizes in threshing. In 1886 a new straw burning steam engine was introduced. A new foundry was brought on line in 1890. A thresher self-feeder was added in 1891. New boiler and blacksmith shops were added in 1892. A clover hulling machine was added in 1901.

At Meinrad Rumely's death in 1904, the M. Rumely Company had 300 employees. He was granted at least five U. S. patents related to agricultural equipment.

William N. Rumely succeeded his father, Meinrad, at his death 1904. He had joined the company at age 21 after pursuing mechanical studies at the Stevens Institute of Technology. He was named superintendent in 1881 at the age of 23. He was accepted as a member of the American Society of Mechanical Engineers in 1885. He was made an honorary member of the American Society of Agricultural Engineers. He was granted at least eight U.S. patents related to agricultural equipment.

William Rumely led the design and development of steam traction engines (tractors) and separators (threshers). He became vice president 1887 and president in 1904.

Dr. Edward A. Rumely was Meinrad Rumely's grandson. After studying medicine and earning a doctor's degree in Germany, he joined the M. Rumely Company in 1907. In spite of his young age of 25, he seemed to be a visionary. While he did not participate directly in engineering, he was a driving force behind the changes and growth that would take place between 1907 and 1912.

Both William and Edward Rumely could see the need for and the possibility of replacing the steam engine in the farm tractor with the rapidly developing internal-combustion engine. William had visited a man named John Secor in New York City, who was building these engines and Edward had become acquainted with Rudolph Diesel while studying in Europe. Edward was successful in bringing Secor to work for the Rumely Company in 1908.

Edward Rumely provided much of the vision and inspiration to increase capitalization for new and improved manufacturing capabilities to handle increased sales. More employees would be required along with their housing. Likewise, expansion of sales and distribution capabilities was needed. All of these factors resulted in an increase from 300 employees in 1904 to 3000 1912.

John A. Secor

John A. Secor had achieved many successes before arriving at Rumely in 1908. He started work in New York with his father, a builder of steam engines. In the late 19th century he proposed "explosion engines" of a revolutionary design to replace steam engines in ships. He had a premonition that using power from oil directly could bypass the inefficiencies of steam engines and eliminate the boiler and its need for massive amounts of coal and water. He operated the Secor Marine Propeller Company which was involved in building prototype boats using his revolutionary and patented propulsion method.

By 1899, John Secor had successfully developed an internal-combustion engine for use in his own shop that ran on kerosene. It had a governor and carburetion system that provided excellent speed control under varying loads. He manufactured stationary engines and engine-driven generators as the General Power Company. His development of internal-combustion engines from 1898 to 1901 is documented in U.S Patents 602,477, 623,567, 623,568, 640,710, 640,711, and 677,283.

To continue in his quest to produce power most directly and efficiently from oil, Secor chose to join the M. Rumely Company. Immediately upon his arrival in La

Porte in early 1908, he set to work on the task of designing a new tractor that would run on kerosene. He was supported by a team of engineers and draftsmen. The design work took eight months and an additional four months were required to build the tractor. On March 23, 1909 field trials were begun. On October 7, 1909 "Kerosene Annie," as she was and is so affectionately called, was declared ready for production.

Secor continued with the company and its successors almost until his death in 1935. He managed all of the engineering of an array of tractors and agricultural implements during that time. His most successful and varied career was spent pursuing the efficient generation of "Power from Oil." His friends included Peter Cooper, Thomas A. Edison, Henry Ford, and Theodore N. Vail.

John Secor held at least 25 U. S. Patents. Most are related to internal combustion engines and carburetion equipment that permitted using kerosene for fuel. He was a member of the American Society of Agricultural Engineers with a keen interest in standards for tractors.

William H. C. Higgins, Jr. was John Secor's nephew and working associate over many years. He collaborated on patents with John and held many of his own. Higgins moved to La Porte in 1909 to work with John Secor and the M. Rumely Company. He was head of the experimental department.

William Higgins holds at least 13 U. S. Patents for internal-combustion engines and carburetion equipment.

Rumely Products (Agricultural Machinery) - The Rumely companies manufactured a broad line of agricultural equipment as follows:

Steam tractors	Hay bailers	Corn huskers	Trucks
Kerosene tractors	Threshing machines	Feed mills	Plows
Gasoline tractors	Clover & alfalfa hullers	Husker shredders	Feeders
Steam engines	Grain graders	Cream separators	Tank wagons
Kerosene engines	Pump jacks	Saw mills	Diaphragm pumps
Corn shellers	Combines	Silo fillers	

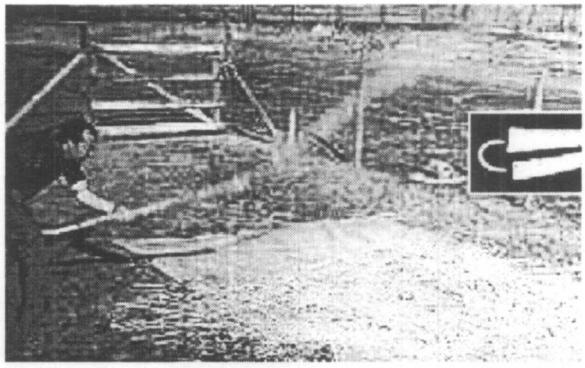
Four will be described here in detail.

Threshing Machines – Before mechanization, wheat was cut by hand with a cradle. Also by hand, it was beaten with a flail to dislodge the grains from the husks and stalks. Then it was pitched into the air with pitchforks for the wind to blow the chaff away from the falling grains. The grains were recovered for milling into flour. (Use of a cradle and flail are illustrated on the next page.)

Meinrad Rumely worked frequently on early mechanical separators or threshers. He knew they must be improved. He built his first separator in 1857. He and his son William spent the rest of their lives continuing to improve them. A separator is a machine design project subject to much trial and error. The wheat is placed in massive stacks bundled or unbundled. It must be dry. The object is to remove the

grains from the head and stalk cleanly, save 100% of the grain and dispose of the chaff.

Cutting wheat with a cradle



Separating wheat with a flail

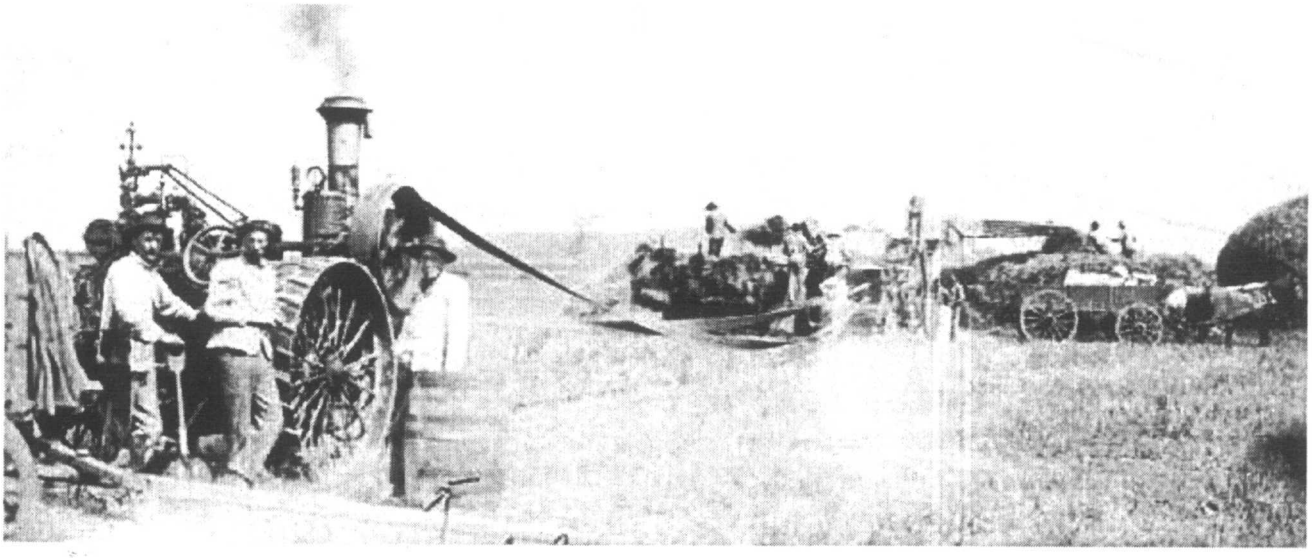
A separator has come to consist of three elements. The first is the combination of a rotating cylinder with teeth which is above a “concave”. The wheat is fed evenly between the two. The grain is ripped free of the head and the stalk is broken up. 90% of the grain drops into a grain pan. Beyond the cylinder is a four-winged beater, which frees the remaining 10%. The second element is the straw rack. Here the 10% is allowed to fall through and the stalks are further reduced to straw. The third element is the grain pan and cleaning shoe. An air blast removes any remaining chaff and the clean grain is directed toward a storage hopper.

Separators required other features. They were massive, specialized wagons with a tow-bar-steered front axle. They were towed from job to job by horses or a tractor. Apron or conveyor feeders were soon added. This eliminated one man from the threshing crew. Feeding the wheat evenly layered into the cylinder was essential. The cleaned grain needed to be positioned for discharge into an attending wagon or for bagging. A common attachment was a grain-weighing device. Another was a half bushel volumetric measuring device. The chaff was removed by a fan and discharge pipe, known as a wind stacker, onto a straw pile downwind.

Early separators used wood for grain containment. Galvanized steel separators became preferable around 1923. Separators could be modified to handle clover, peas, beans, soybeans, flax, timothy, and other seeds. The performance or rating of a separator was threefold: (1)How much grain could it produce per unit of time by weight or volume? (2)What percentage of the available grain was recovered? (3)Was the grain completely free of chaff and all other impurities? Rumely “Ideal” Separators were world renown as “grain savers”. (A separator is shown on the next page powered by a steam tractor.)

Steam Tractors – The threshing machines required power greater than could be supplied by man. The early “horsepower” was a device driven by horses that walked in a circle. It contained speed-increasing-gearing that provided rotating shaft or flat-belt drive to the thresher or other equipment. These were quickly replaced by stationary steam engines with a flat-belt pulley mounted on the

crankshaft. Meinrad Rumely built his first steam engine in 1861. Coal or wood (and later straw) was used for fuel. The need for a great number of horses was reduced.



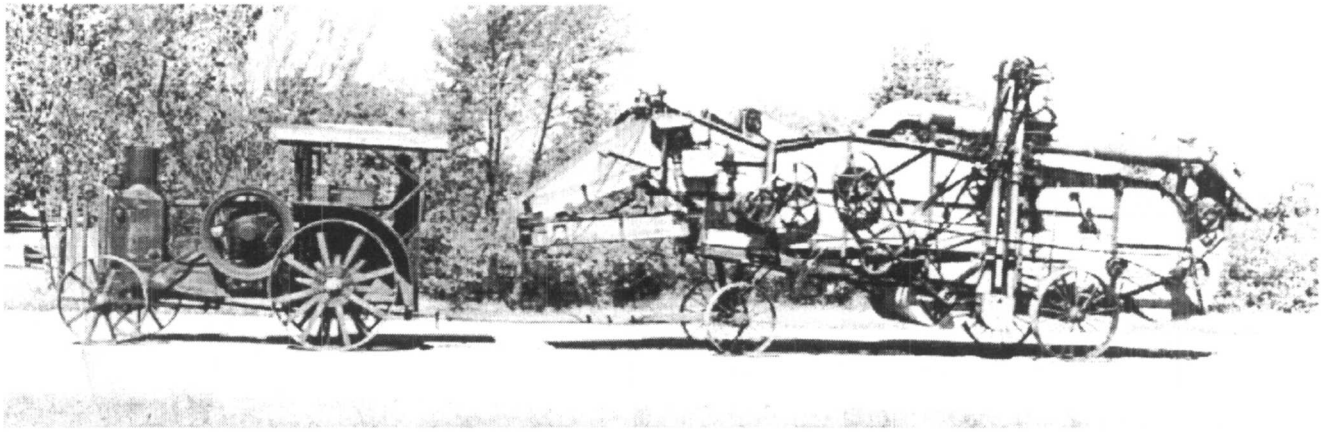
Threshing crew with steam tractor powering wood thresher

In 1872, the steam engine and boiler were mounted on wheels for portability, permitting movement from one location or farm to another. This wagon-mounted or portable steam engine had one fixed axle and one steerable axle with a drawbar. It was moved by a team of horses just like the threshing machine.

Finally, in 1882 the steam engine was modified further by providing a gear drive to the stationary axle to make the steam engine self-propelled. Meinrad Rumely was forward looking. He could see that if all elements of this machine were made sufficiently heavy, the result would be a tractor that could be used for field work such as plowing in addition to towing equipment and serving as a power plant for threshing machines.

The steam engine was a major advance in agricultural mechanization. It accelerated the reduction in manpower and horsepower. Increases in agricultural production were realized. While it was an improvement it had some drawbacks. In the beginning, coal and wood were used as fuel. As farming moved westward, straw was used for fuel when coal and wood were not available. Also, water was required in quantities not always available. And sparks from the fire box and exhaust stack presented a fire danger. Operating steam engines on the farm was more complicated than industrial or commercial settings.

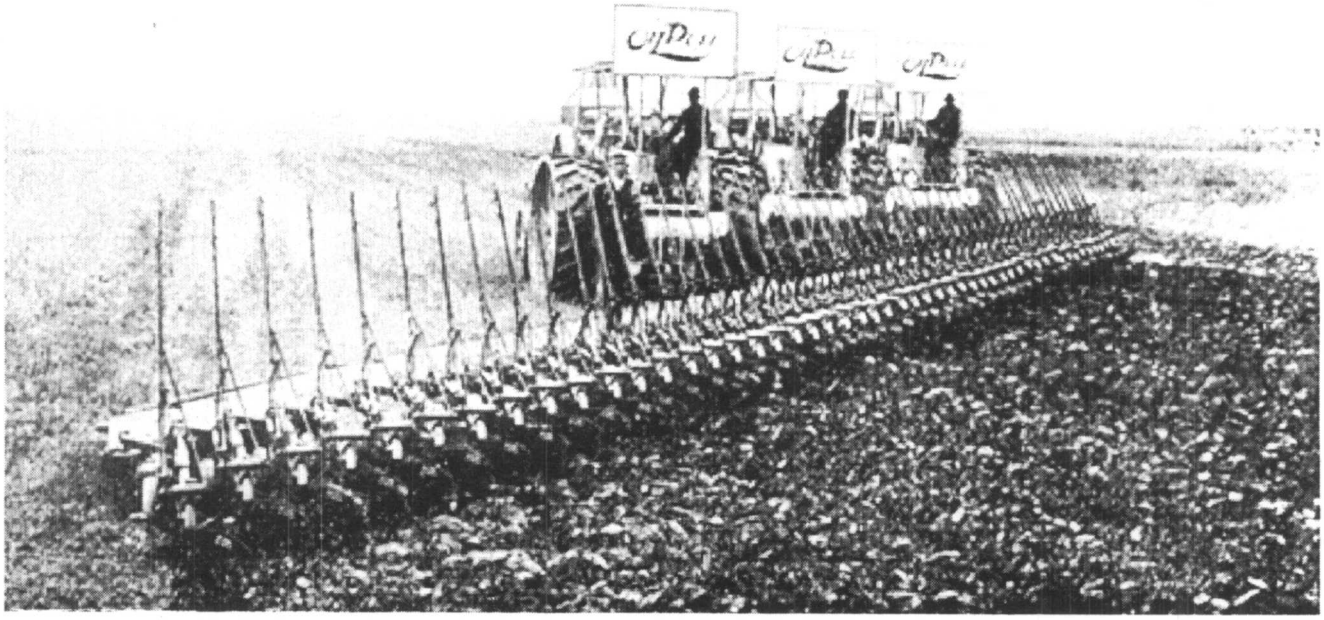
Kerosene Tractors – The application of the internal-combustion engine was as natural for farm power and tractors as it was for the automobile. Before his death in 1904, both Meinrad Rumely and his son William knew that internal-combustion engines eventually would replace steam. When John A. Secor joined Rumely in 1908 as chief engineer, he had been building stationary IC engines and generator



Rumely OilPull Tractor towing steel separator

sets for ten years. The Rumely OilPull tractor named “Kerosene Annie” was designed and tested in 1909. A new tractor assembly plant was built. The first tractors were assembled, tested, and shipped in early 1910. From 1910 to 1931 over 58,435 OilPull tractors of assorted sizes were built and shipped around the world.

A notable event involving early OilPull tractors occurred on October 2, 1911. A special plowing demonstration was held at Purdue University. Three tractors were connected to a specially built, fifty-bottom plow that cut a 60-foot-wide furrowed path. A record was set for plowing fourteen acres per hour on that day.



Three OilPull tractors pulling special fifty- bottom plow at Purdue University (October 2, 1911)

One of the most interesting aspects of the OilPull tractor was the selection of fuel and the carburetor design that made it possible. Gasoline in 1910 was the fuel of choice for automobiles with a market price of 25 cents per gallon. Kerosene was an abundant by-product of the refining process and selling at five cents per gallon. If kerosene could be made to work reliably it would result in substantial savings.

John Secor and his associate William H. C. Higgins utilized their "Secor-Higgins" carburetor which was based on an initial 1898 US patent and improved continually until 1931. The device frequently produced "best fuel economy" in tractor testing.

The following story, from *America's Classic Farm Tractors*, illustrates the OilPull involvement in tractor building during the 1920s:

> Wilmot F. Crozier purchased a Minneapolis Ford Model B and barely got it back to his farm before it broke down. It never worked as advertised and he parked it in a corner of his field. Crozier then bought a secondhand Rumely OilPull, which far exceeded its claims. He began to wonder how many other unreliable machines were out there and how he could force the makers to be more honest.
>
> With the help of L. W. Chase, former head of agricultural engineering at the University of Nebraska, Crozier authored a bill (The Nebraska Tractor Test Law) he presented to the Nebraska House in 1919. By midyear, it was law, and companies with nothing to fear applauded it nearly as loudly as did the farmers. To sell a tractor in Nebraska, a firm had to have a sample tested in various prescribed ways.

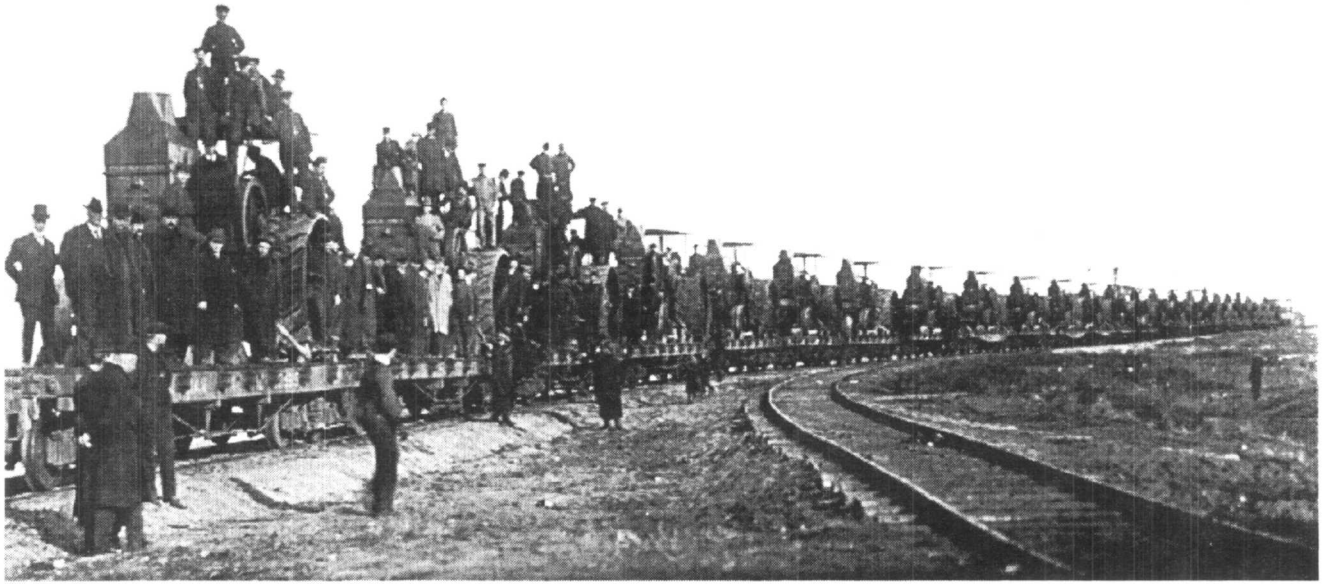
The following table gives details on OilPull tractor sizes, production, ratings and test results under the "Nebraska Tractor Test Law":

Model *****	Act HP#	No. Cyls.	Bore/Stroke	Max. RPM	Weight(lbs.)	No. Mfd.
Exper. *		2	9-1/2"x12"	375		1
B 25-40	NA	2	9-1/2"x12"	375	23,800	937
E 30-60	50-76	2	10"x12"	375	26,000	8235
F18-35**	NA	1	10"x12"	375	16,000	3,856
G 20-40	30-46	2	8"x10"	450	11,000	8,066
H 16-30***	23-30	2	7"x8- 1 / 2"	530	9,500	13,074
K 12-20	15-26	2	6"x8"	560	6,638	7,792
L 15-25	16-30.5	2	5- 13/ 16"x7"	730	6,050	4,855
M 20-35	27.5-43	2	6-13/16"x8-1/2"	635	8,750	3,671
R 25-45	27.5-56	2	7-13/16"x9-1/2"	540	13,205	661
S 30-60	40-70	2	9"x11"	470	17,500	514
W 20-30	24.9-35.3	2	5-13/ 16"x7"	825	6,776	3,913
X 25-45	37.8-50.26	2	6-13/ 16"x8-1/2"	700	9,440	2,401
Y 30-50	44.5-63.32	2		610	13,025	245
Z 40-60****	NA	2	9"x11"	460	17,500	215
					Total	58,435

*	"Kerosene Annie"
**	Initially rated 15-30 in 1911.
***	Initially rated 14-28 in 1917.
****	Last of the so-called "BIG" tractors.
*****	Hyphenated Number, first two digits = drawbar hp, last two digits = belt hp
#	Actual HP numbers determined by the State of Nebraska during its tractor testing

Combines - The Advance Rumely Company began producing combines in 1925 in great numbers. In a combine, both reaping and separation are combined and performed on a platform while moving through the field. The undercarriage has to withstand continuous movement often on uneven terrain. A three-wheel undercarriage was selected for the separating unit. The single, front wheel also served as the tow bar for the tractor or a sizable team of horses or mules. The conventional separator had to be reconfigured to adapt to the three-wheel

undercarriage. Since the tractor (more common than horses) could not drive the separator with the flat belt while under tow, a separate four-cylinder internal-combustion engine was adapted to the combine frame to provide power.



A trainload of OilPull tractors arrive in Regina, Saskatchewan, Canada.

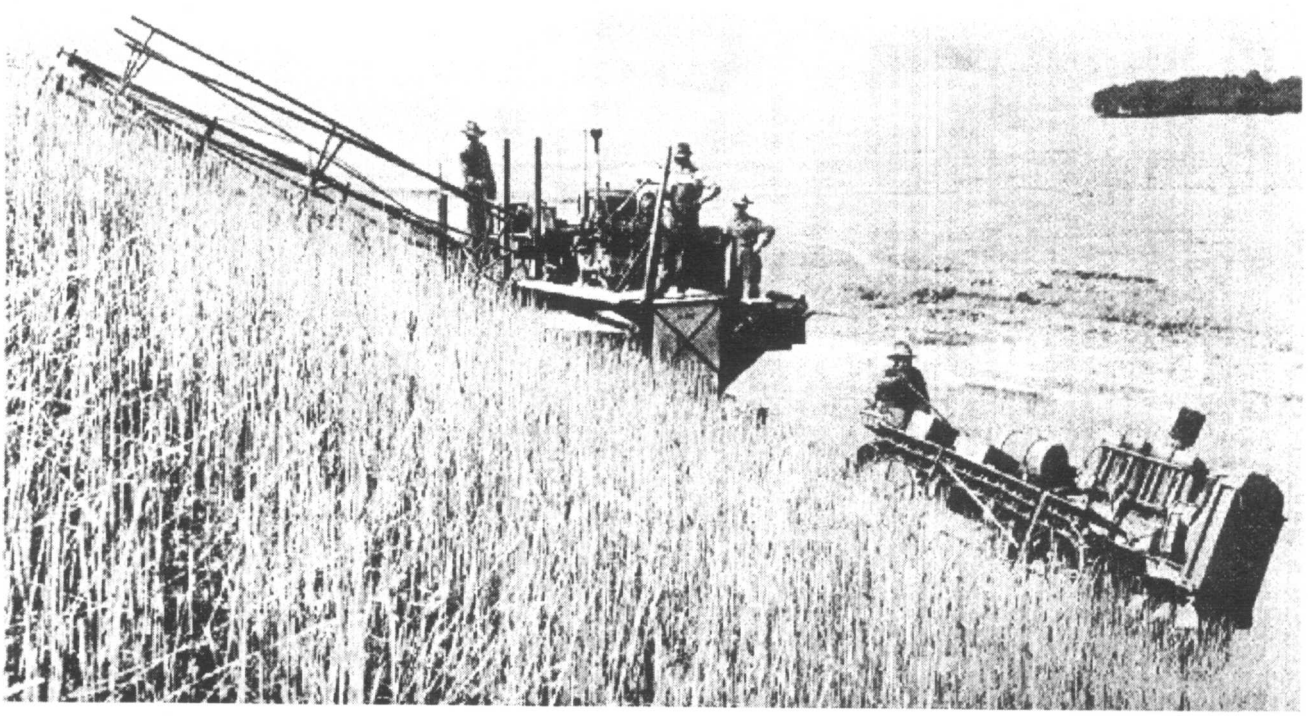
All fields were not flat. All grain production requirements were not the same. The machinery had to adapt to varying terrain. Also, the length of the cutting machinery or "header" needed to be available in different lengths to balance different grain production requirements with machine cost. And it needed to be adjustable to suit the particular grade on hillsides.

For flat terrain or prairie there were two high production combines, one with a ten-foot cut and the other with a sixteen-foot cut. A third, smaller machine was available with a seven-foot cut. This smaller version required only a tractor driver whereas the two larger machines required a tractor driver and a combine tender.

For work on hilly ground there were two designs. The smaller machine had a ten-foot header and could work on a 40% grade. The larger had a sixteen-foot header and handle a 60% grade. The outboard end of the header was supported by a single wheel. The combine undercarriage conformed to the grade or hillside while the grain separation machinery remained horizontal.

The introduction of these combines began to signal the end of heretofore traditional threshing operations.

Other Products and Services – From the product listing on page 4 it will be observed that the M. Rumely Company from 1853 to 1904 - during Meinrad Rumely's lifetime - had become a leading, full-line producer of agricultural machinery. Also, the market had been expanded from local to US nationwide and Canada.



Hillside combine working in a wheat field

Beginning in 1907, when Dr. Edward A. Rumely joined the company, the groundwork was laid for massive expansion. New facilities in La Porte included main office, an OilPull tractor assembly plant, a foundry, a warehouse and a pattern shop. By 1912 the La Porte work force was increased ten-fold to 3000 employees.

Additional sales offices were added in the US and Canada. Sales to South America, Europe, and Asia were growing rapidly. “The Power Farming School” was developed as an educational and sales tool both in La Porte and major sales offices to train farmers in the use of the wide array of new farm machinery.

The M. Rumely Co. also grew through acquisition. Gaar, Scott & Co. of Richmond, Indiana and the Advance Thresher Co. of Battle Creek, Michigan were purchased in 1911. American Abell of Toronto and the Northwest Thresher Co. of Stillwater, Minnesota were added in 1912. Rumely employment worldwide had reached 6000 employees.

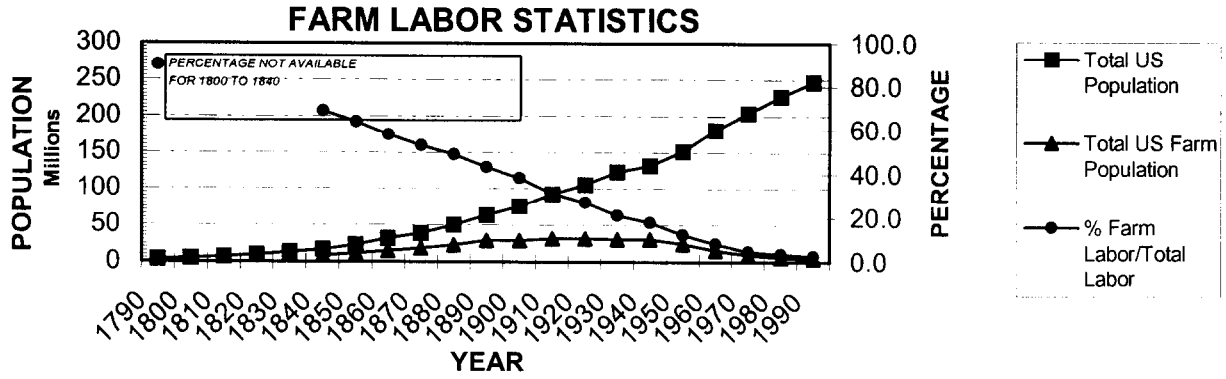
Timeline – The following dates are evidence of the of the broad scope of products developed and manufactured by the Rumely Companies from 1853 through 1931:

1853 – Meinrad Rumely opened blacksmith shop in La Porte, Indiana.
1853 – M. & J. Rumely Co. formed.
1853 – Early work included cornshellers, horsepowers (a power device powered by horses walking in a circle) and plowshares.
1854 – Work began on separators (threshing machines).
1857 – Built first complete thresher.

1859-1882 – M. & J. Rumely Company won Chicago Threshing Competition eight times.
1861 – Built stationary steam engine to power threshers.
1861 – Won medal for best horsepower at Chicago Threshing Competition.
1872 – Built portable (wagon mounted) steam engine.
1881 – New Rumely thresher was perfected.
1882 – Meinrad Rumely bought out his brother John's interest in the company. Son William N. Rumely was named Vice President and Superintendent.
1882 (approx.) – Built steam traction engine (tractor).
1886 – Produced straw burning steam engine.
1887 – The name was changed to the M. Rumely Company.
1891 – Self-feeder was added to threshers.
1901 – Clover huller was added to product line.
1904 – Meinrad Rumely died. His son William N. Rumely succeeded him as President.
1907 – M. Rumely Company builds largest steam traction engine (30 HP).
1907 – Edward A. Rumely (Meinrad's grandson) joined company.
1908 – John A. Secor (prominent inventor) joined company.
1909 – William H. C. Higgins (John Secor's nephew) joined company.
1909 – New kerosene engine tractor built and tested under direction of John A. Secor.
1910 – Shipment of new "OilPull" tractors began.
1911 – Three "OilPull" tractors pulling 50 plows set plowing record of 14 acres/ hour at Purdue University demonstration.
1911 – M. Rumely Co. acquired Gaar Scott Company and Advance Thresher Co.
1911 – Aloysius J. Rumely was named president.
1912 – M. Rumely Co. acquired American-Abel Company.
1912 – M. Rumely Co. listed on New York Stock Exchange. Over 6000 employees Worldwide.
1913 – Clarence S. Funk named new president.
1913 – M. Rumely Co. experimented with road roller, grader, and ten-gang plow.
1915 – M. Rumely Co. filed bankruptcy.
1915 - 1916 – M. Rumely Co. reorganized as Advance Rumely Co. with Finley Mount as president.
1917 – All OilPull tractors were being equipped with starting devices.
1920 – OilPull tractor won economy competition.
1920 – Advance Rumely Co. to start truck factory in Chicago.
1923 – Advance Rumely Co. introduced steel threshing machine and silo filler.
1923 – Advance Rumely acquired Aultman-Taylor.
1925 – Combine harvester was successful in Kansas (see Photo Page 10).
1928 – "Do-All" tractor was announced.
1931 – Advance Rumely Co. acquired by Allis Chalmers.

The Significance of this ASME Heritage Site – The 19th and 20th Centuries will be remembered as the age of mechanization. The engineering work of the Rumely Companies was a major contributor to agricultural mechanization.

This helped free men and women from hard, physical labor on the farm. Farm production increased simultaneously. Not only do we feed America's growing population, but we also help feed the world. Two hundred years of data illustrates this in the chart below:



Total US and Farm Population is shown on the left. After reaching a high of 32 million in 1910, the farm population dropped to 4.5 million in 1990. The most interesting curve is US farm labor as a percentage of total US labor. This is shown on the right. In 1790, 90% of the total US labor force was involved in farming. In 1990 that percentage has dropped to 2.6%. In 1790 we were feeding only ourselves. In 1990 we were also exporting to much of the rest of the world. These statistics vividly illustrate the results of agricultural mechanization and the engineering advances contributed by the Rumely Companies.

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The History and Heritage Program of ASME International

The History and Heritage Landmarks Program of ASME International (the American Society of Mechanical Engineers) began in 1971. To implement and achieve its goals, ASME formed a History and Heritage Committee initially composed of mechanical engineers, historians of technology and the curator (now emeritus) of mechanical engineering at the Smithsonian Institution, Washington, D.C. The History and Heritage Committee provides a public service by examining, noting, recording and acknowledging mechanical engineering achievements of particular significance. This Committee is part of ASME's Council on Public Affairs and Board on Public Information. For further information, please contact Public Information at ASME International, Three Park Avenue, New York, NY 10016-5990, 1-212-591-7740.

Designation

Since the History and Heritage Program began in 1971, 224 landmarks have been designated as historic mechanical engineering landmarks, heritage collections or heritage sites. Each represents a progressive step in the evolution of mechanical engineering and its significance to society in general. Site designations note an event or development of clear historic importance to mechanical engineers. Collections mark the contributions of a number of objects with special significance to the historical development of mechanical engineering.

The Landmarks Program illuminates our technological heritage and encourages the preservation of the physical remains of historically important works. It provides an annotated roster for engineers, students, educators, historians and travelers. It helps establish persistent reminders of where we have been and where we are going along the divergent paths of discovery.

The 125,000-member ASME International is a worldwide engineering society focused on technical, educational and research issues. ASME conducts one of the world's largest publishing operations, holds some 30 technical conferences and 200 professional development courses each year, and sets many industrial and manufacturing standards.

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