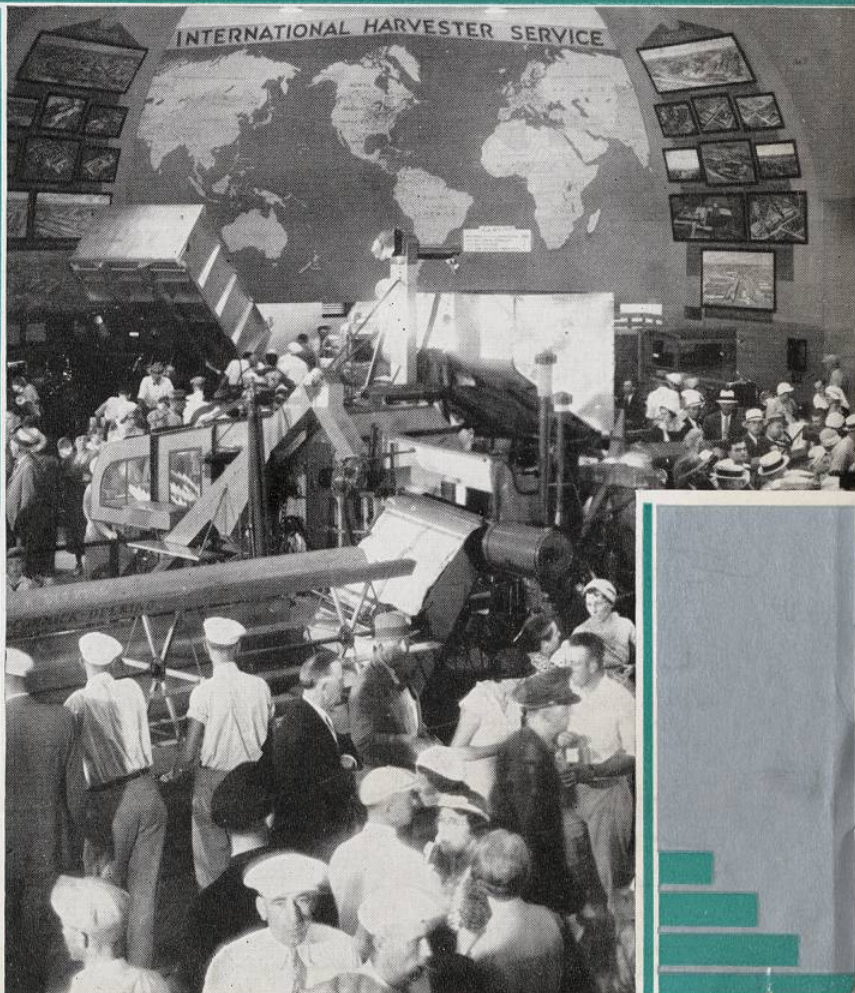


A CENTURY OF PROGRESS

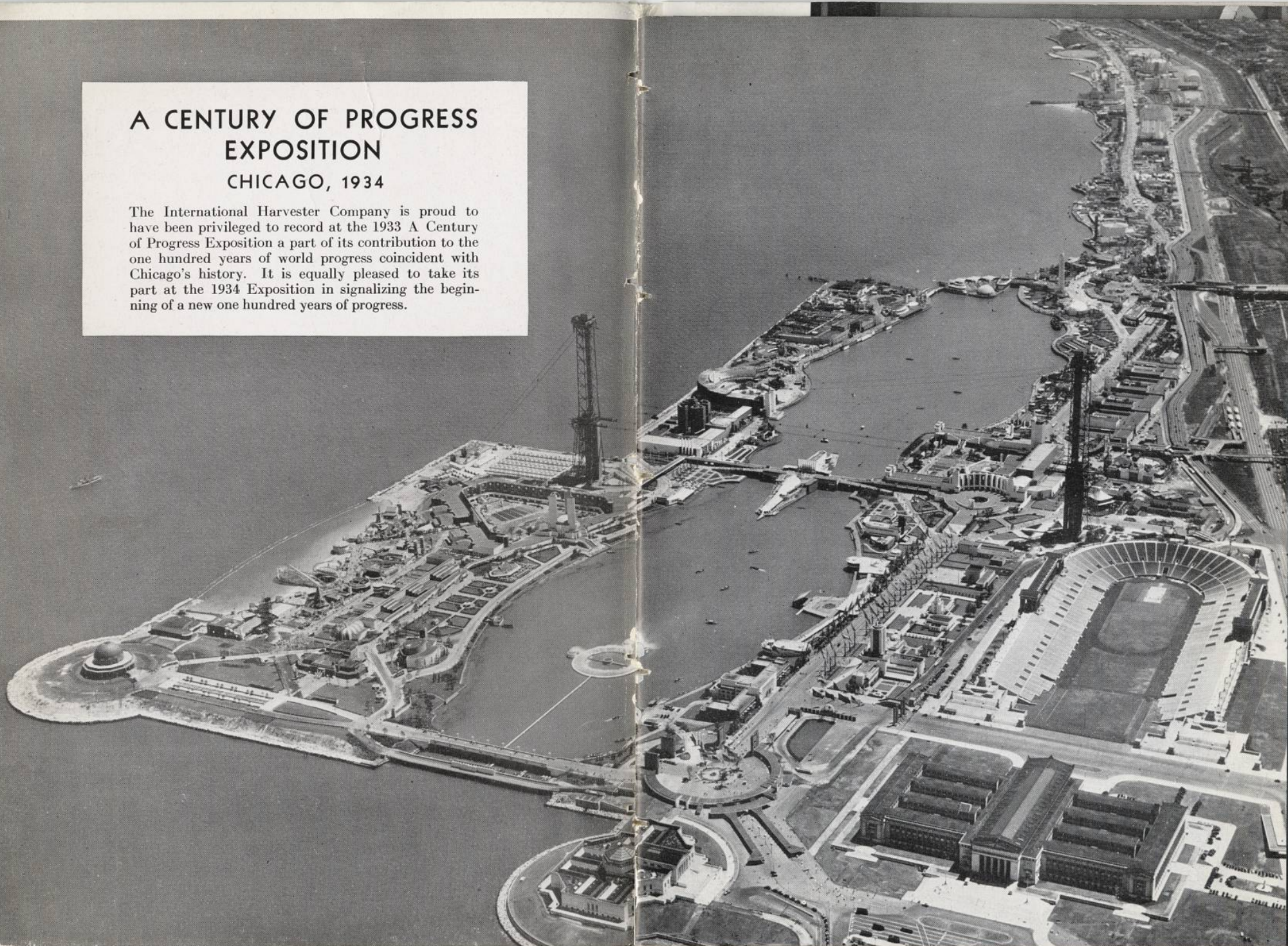
CHICAGO MAY 26TH TO OCT. 31ST 1934

INTERNATIONAL HARVESTER EXHIBITS



A CENTURY OF PROGRESS EXPOSITION CHICAGO, 1934

The International Harvester Company is proud to have been privileged to record at the 1933 A Century of Progress Exposition a part of its contribution to the one hundred years of world progress coincident with Chicago's history. It is equally pleased to take its part at the 1934 Exposition in signaling the beginning of a new one hundred years of progress.



Yesterday » » » » » » » »

Today and » » » » » » » »

Tomorrow » » » » » » » »

Is it possible to foresee what life will be like five, ten, twenty-five years from now?

This much we know:

Much of what is to happen can be foretold from what already has taken place.

At A Century of Progress Exposition, the Old is contrasted with the New, in art, architecture, and dress—in chemistry, physics, medicine, and electricity—in biology, botany, agriculture, and food—in education, music, amusements, and sports—in communication, transportation, manufacturing, tools, and machines—and in a myriad of other interests.

But much more, too, is accomplished. Here, to a degree never before attempted, historians, scientists, engineers, and architects have crystallized in stone and steel—in miniatures and life-size models—accomplishments of TODAY that constitute a reliable prophecy of much of the progress that may be expected in the future.

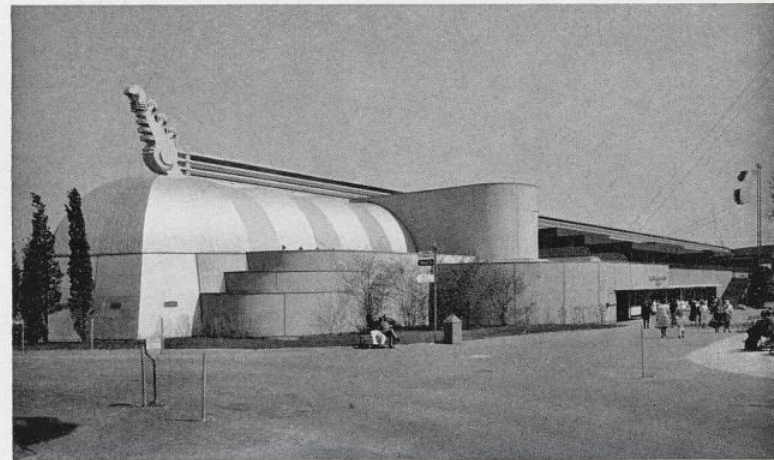
Where previous world's fairs derived their inspiration from history and looked backward, this exposition finds its inspiration in ACHIEVEMENT and looks forward. Minds young enough and bold enough are here able to find the pathway beyond the greatest frontier man has yet confronted—the frontier of inadequate conveniences, comforts, and luxuries. This fair points the way to the settlement of this frontier with

today's new materials, processes, methods, equipment, and technique of progress.

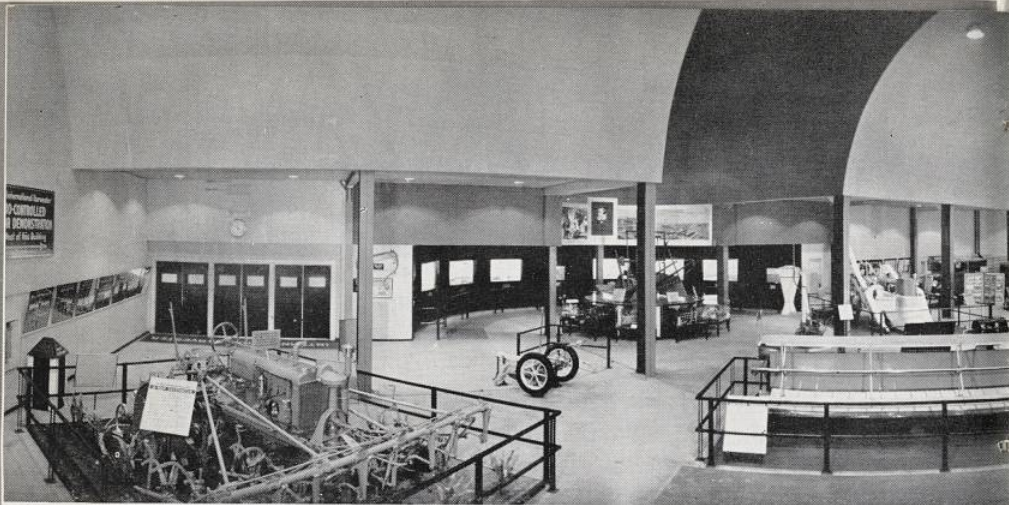
The century that started with the invention of the reaper and the birth of Chicago brought forth man's greatest progress in discovering and utilizing the resources of nature for his own purposes. The challenge of today is in the spreading of these benefits among the masses of the world's people. The 1934 Exposition is a partial answer to this challenge.

Only an exposition world-wide in scope and forward-looking in purpose can interpret this spirit adequately. It is fitting that Chicago, starting its second hundred years of progress, mistress of the inland empire, aggressive "I Will" metropolis of the Middle West, and itself the birthplace of many of the contributions to humanity's advancement, should be the interpreter of the progress that has been made and will continue to be made in the years to come.

INTERNATIONAL HARVESTER COMPANY
(INCORPORATED)
606 SO. MICHIGAN AVE. CHICAGO, ILL.



Foods and Agriculture Building at A Century of Progress, containing the main exhibit of the International Harvester Company.

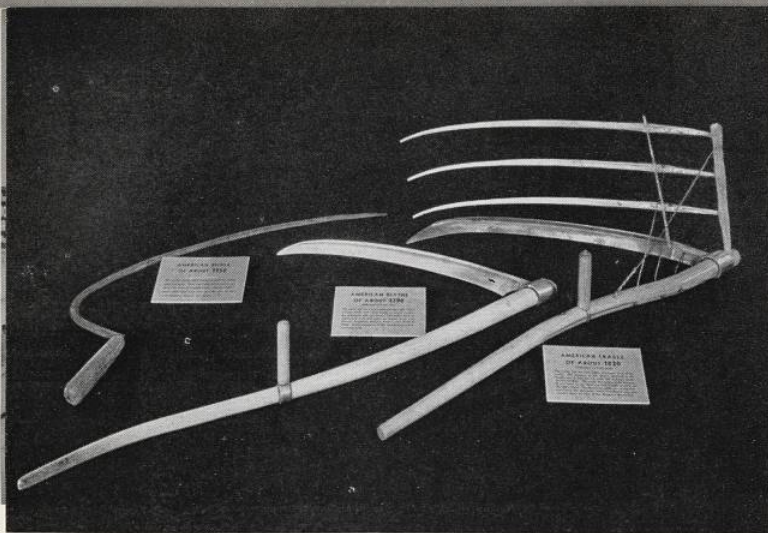


(Above) Panoramic view of the 1934 Century of Progress exhibit of the International Harvester Company, occupying all of Farm Machinery Hall in the Foods and Agriculture Building on Northerly Island. The wing at the left contains a replica of the 1831 McCormick Reaper, as well as models of the machines that succeeded it, and six dioramas (three-dimensional pictures) of the evolution in agriculture. Today's mighty monarch of the harvest fields, the harvester-thresher, is the center of the exhibit.



(Below) The north half of the exhibit space is occupied by new models of International trucks and by a forty-foot map of the world showing the location of IHC raw material properties, factories and sales branches. International Harvester also displays, in the Travel and Transport Building, the contrast between the old and the new in truck transportation and tractor development. A radio-controlled McCormick-Deering tractor is demonstrated daily just west of Farm Machinery Hall.





(Left) American Sickle of about 1750; (center) model of American Scythe of about 1790; (right) model of American Cradle of about 1830—displayed in International Harvester Century of Progress exhibit.

At the time of the invention of the McCormick Reaper in 1831, grain was harvested in much the same way practiced since earliest history. (International Harvester diorama at A Century of Progress.)



Before 1833--



Plowing—1833



Plowing—1875



Plowing—1880

SUPPOSE this were the year 1833 and you were living on a farm, as four out of five people in the United States were at that time. Tomorrow morning, after a night spent on a straw mattress, you would get up at an early hour, pull on moccasins and homespun clothes, start a wood fire to cook breakfast, carry in water from the well, and begin a day of dreary routine, the like of which few of us know anything about today. You would have almost no money to spend, for practically everything you could produce would be needed to feed, house, and clothe yourself and the family.

Besides ordinary housework as we know it today, the routine of the women of your household would include making the clothes, skimming the milk, churning the butter, baking, tending the chickens and the vegetable patch, dipping the candles, milking the cows, and sometimes helping the father with field work in case there were not enough sons.

In that day there were no telephones, telegraph, radios, or cables. No electric lights, sewing machines, ice machines, pasteurization, safety razors, or modern plumbing. No steel plows or barbed-

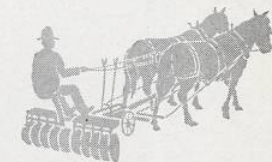
wire fences. No gasoline, gasoline engines, automobiles, or vulcanized rubber. No dynamos, steam hammers, dynamite, bandsaws, riveting machines, pile drivers, I-beams, steel castings made to pattern, case-hardening, acetylene, hydraulic presses, steam turbines, electric welding, or stainless steel. No passenger elevators, suspension bridges, or airplanes. No revolvers, cartridges, or machine guns. No steel pens, typewriters, carbon paper, shorthand, adding machines, dictaphones, or linotypes. No cameras, phonographs, or movies. No X-ray, anaesthetics, or dental bridge work.

The list could be prolonged. The point of importance is that *even if these commonplaces of today had been available a century ago, there would have been a very limited market for them.*

America in 1833 was at the crossroads. It was favored with millions of undeveloped fertile acres, unlimited natural resources, a variety of climates, and a hardy stock of pioneers whose free government suited their bold ambitions. Yet their pent-up hopes were chained to the soil. Urban population was confined chiefly to the seaboard. New York, Philadelphia, Baltimore, Boston, New Orleans, and Charleston were the only cities worthy of the name. The land beyond the Mississippi was largely undeveloped, uncharted—almost unknown.



Harrowing—1833



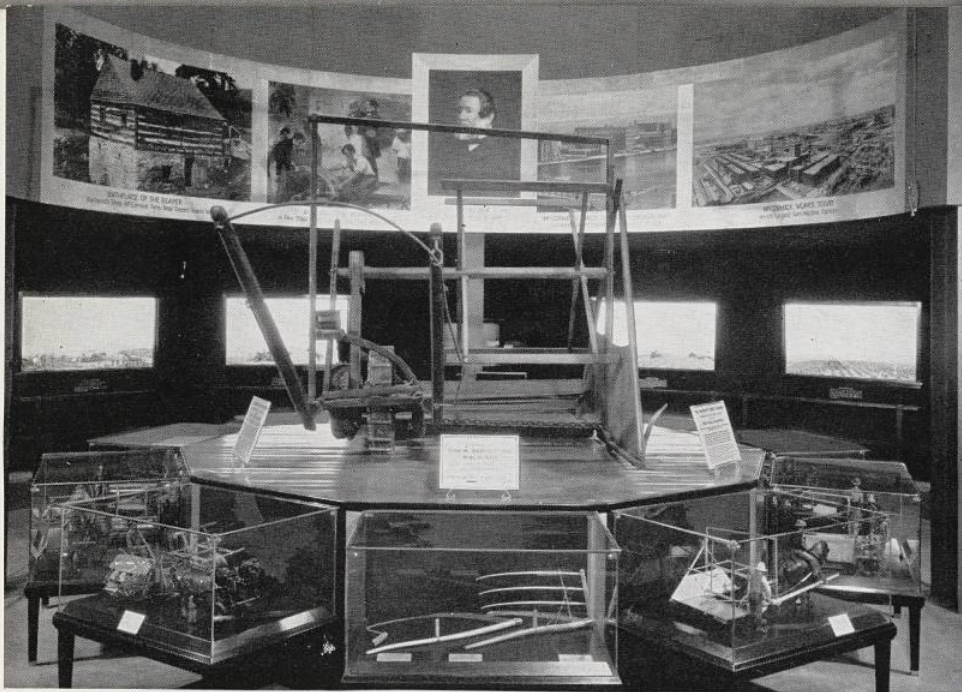
Disking—1880

The United States 1831 *when* Cyrus Hall McCormick *invented* the Reaper



Between the War of 1812 and the time when railway construction began on an extensive scale (about 1841), very few authentic maps of the United States were made. This map, prepared after considerable research and displayed at A Century of Progress, is available in colors, in a size 19 x 28½

inches, suitable for class-room use and similar purposes. Copies may be obtained free of charge from the International Harvester Company, Room 702, 606 South Michigan Avenue, Chicago, Illinois.



Replica of McCormick Reaper of 1831 as displayed at A Century of Progress. The show cases at the base of the Reaper contain models of the grain cutting machines that succeeded the Reaper. Portraying the Century of Progress in farming are six dioramas (three-dimensional pictures) and three motion picture screens recessed in the semi-circular wall surrounding the Reaper.

The Reaper--



Seeding—1833

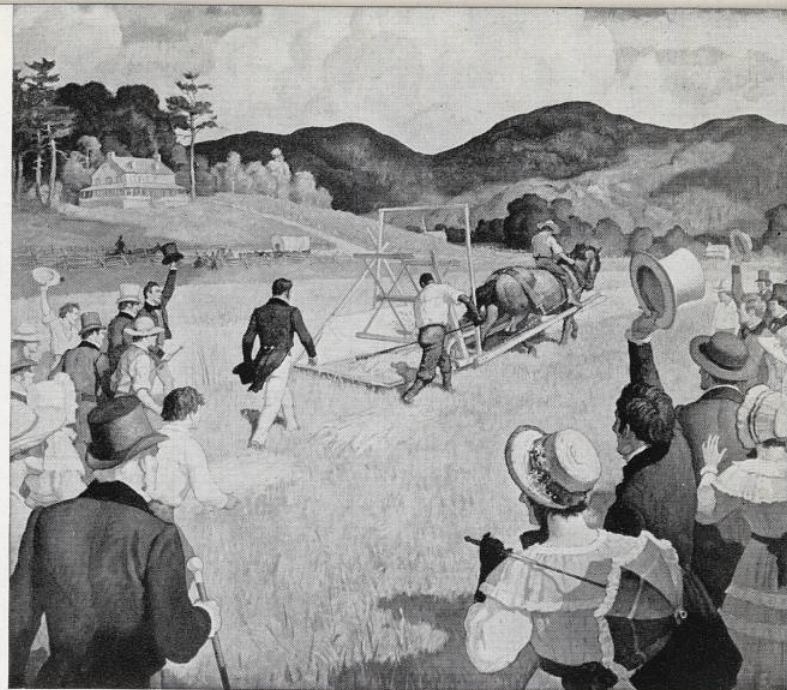


Seeding—1841

WHEAT must be cut when it is ready to cut—in a few weeks' time at the most. The amount of grain a farmer can produce depends upon the speed with which he can do his harvesting. Before 1831 the most wheat a man could cut in a day with a cradle, the most efficient harvesting equipment known, was about two acres. Hundreds of inventors had attempted to build a machine that would solve the problem. The files of the patent offices contained many detailed drawings of unsuccessful reaping machines.

Then, in July, 1831, a machine invented by Cyrus Hall McCormick moved down a Virginia field cutting a swath of wheat! In six momentous weeks, this 22-year old young man had built a machine that worked. It could cut only 8 or 10

First public test of the McCormick Reaper held near Steele's Tavern, Virginia, in July, 1831. A diorama of this scene appears at A Century of Progress.



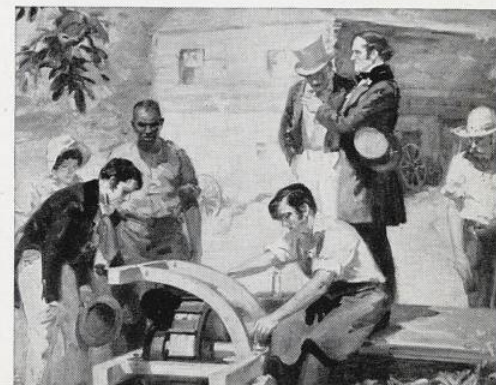
acres a day, but it established the basic principles which showed how a grain-cutting machine should be built. Today, the harvester-thresher, direct descendant of the McCormick reaper, cuts, threshes and cleans the grain from 40 to 50 acres a day—two men now doing in one day what would have required 160 to 200 men before 1831.

With quicker harvesting came larger farms. Larger acreage brought improvements in plowing, harrowing, and planting. The combination of these machines released men from farm labor to work in other industries. With more mouths to be fed in the cities came a need for greater production per farm—of both grain and meat. As the country-to-city trend increased, there came a procession of implements for all farm work.



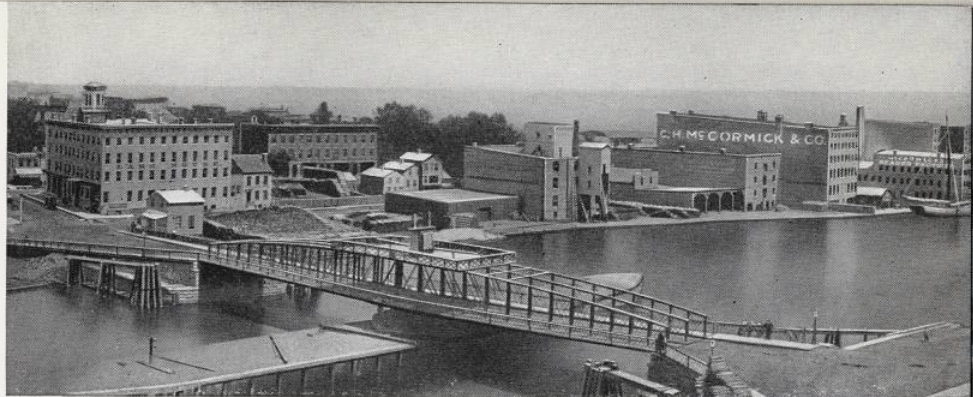
Seeding—1885

Reproduction of a painting showing young McCormick at work on his Reaper outside the farm forge shop on the old McCormick homestead, near Steele's Tavern, Rockbridge County, Virginia.





The forge shop on the McCormick farm as it appeared when Cyrus Hall McCormick invented the Reaper. The Reaper in its early stage can be seen in the foreground. This forge shop still stands.



McCormick's first factory, built in Chicago in 1847, just east of the present Michigan Boulevard bridge.

remained necessary for four out of five people to live on farms.

Viewed in retrospect, the past century demonstrates that progress depends, in large degree, upon a release from drudgery and routine tasks that require little mental activity. The people in 1831 needed a quicker, easier method of producing wheat, their main food requirement. When this was provided, greater progress resulted in a few years than previously had been possible in many centuries. Railroads were necessary to market wheat cheaply, iron was necessary for building reapers and railroads, cheaper paper and printing for the spread of information and education, the telegraph to expedite exchange, and other labor savers to give people necessary leisure. All were dependent upon one another. The startling thing is that the vast majority of them followed the others so closely after McCormick perfected the reaper. The world waited centuries for the progress of events that started with that memorable invention in 1831.



Cultivating—1833



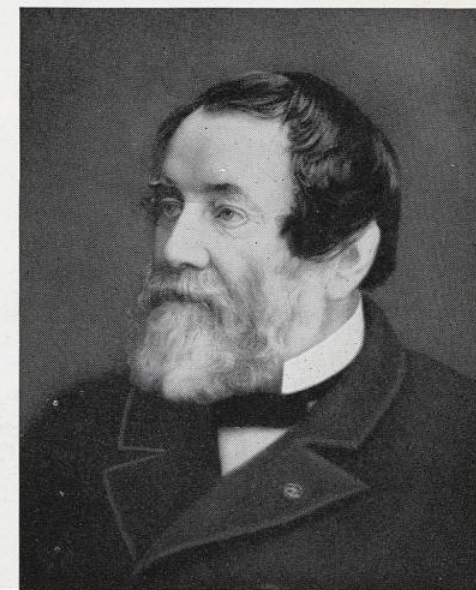
Planting—1833



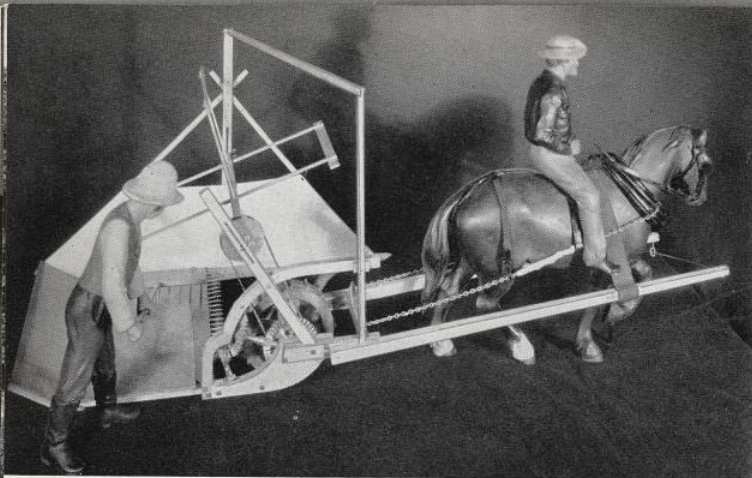
Planting—1853

The city people had to be fed and the farmers fed them—and received money for their labor that enabled them to buy the products of industry. This created a commerce that brought the railroads, banks, exchanges, and retail and wholesale trading that today supports two-thirds of the nation and keeps all the nation housed, heated, clothed, fed, and amused.

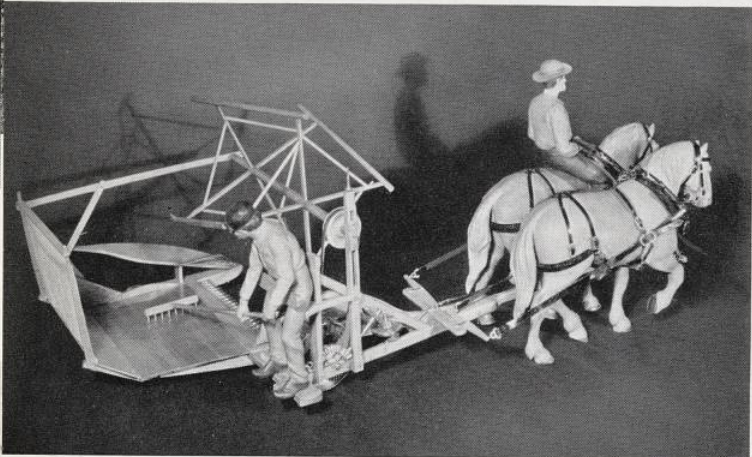
The United States could not have developed without the steamboat, the railroad, and the telegraph. It still would be largely a land of promise rather than fulfillment if it had not been for the genius of Whitney, Henry, Howe, Morse, Goodyear, Edison, and a host of other inventors who have emblazoned the path of modern civilization. Most of their efforts, however, would have borne little fruit had it not been for the release of men's thoughts, time, and labor through the medium of the reaper. In many instances the hopes and ambitions of the inventors themselves would not have been realized had it been necessary for them to spend most of their waking hours in back-breaking farm labor. And even if they had been able to perfect their inventions, little could have been accomplished in the way of manufacture and distribution if it had



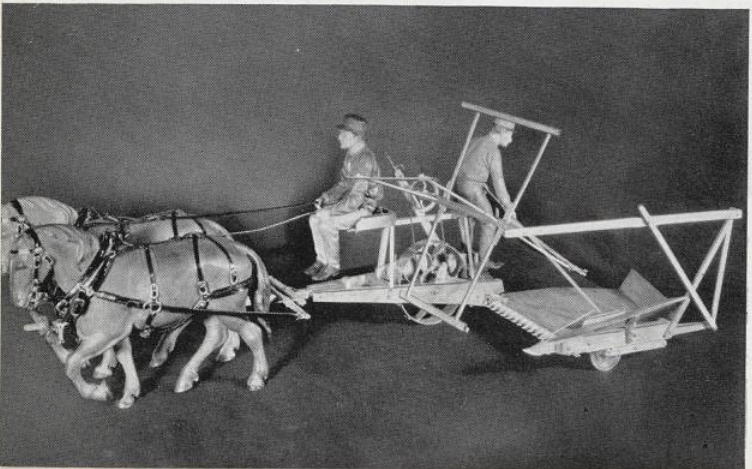
Cyrus Hall McCormick
1809-1884
Inventor of the Reaper



Model of McCormick Hand-Rake Reaper of 1831. This reaper contains seven basic principles still used on grain harvesting machines today—reciprocating knife with serrated edge, fingers or guards, revolving reel, platform, master wheel, side hitch, and divider.

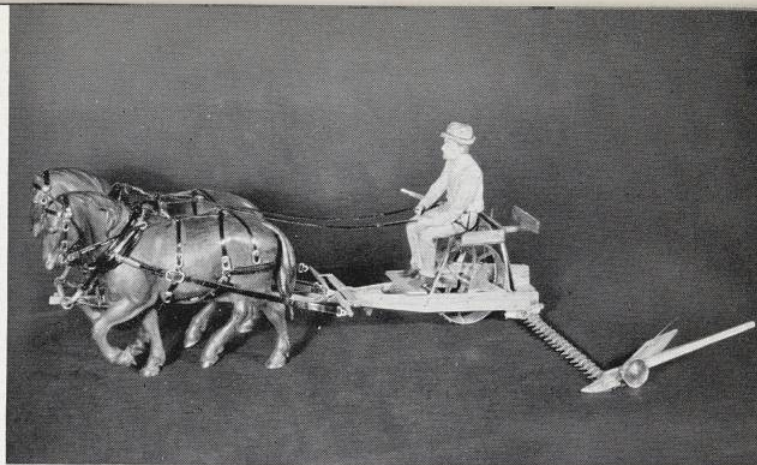


Model of McCormick Hand-Rake Reaper of 1847. Experimental stage, 1846. Commercial production, 1847-48. Notable improvements over the original reaper were the addition of a seat for the raker and improvements in the cutting apparatus, reel, divider, and platform.

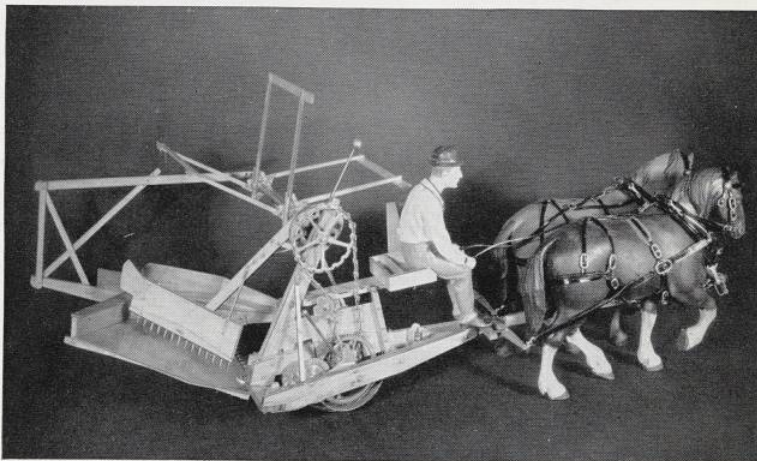


Model of McCormick Combined Reaping and Mowing Machine of 1857 (as a reaper). Commercial production, 1857-65. By 1849 a seat had been added for the driver, and in 1851 a sickle made in sections replaced the straight knife. The gearing was rearranged to balance the weight of the driver.

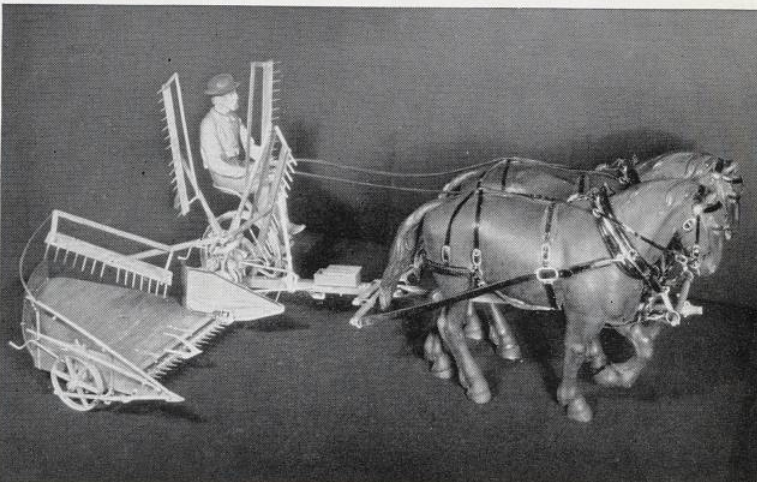
Model of McCormick Combined Reaping and Mowing Machine of 1860 (as a mower). Commercial production, 1857-65. To convert the reaper into a mower, the platform, reel, and reel supports were removed, and a special grass knife was substituted for the grain sickle.

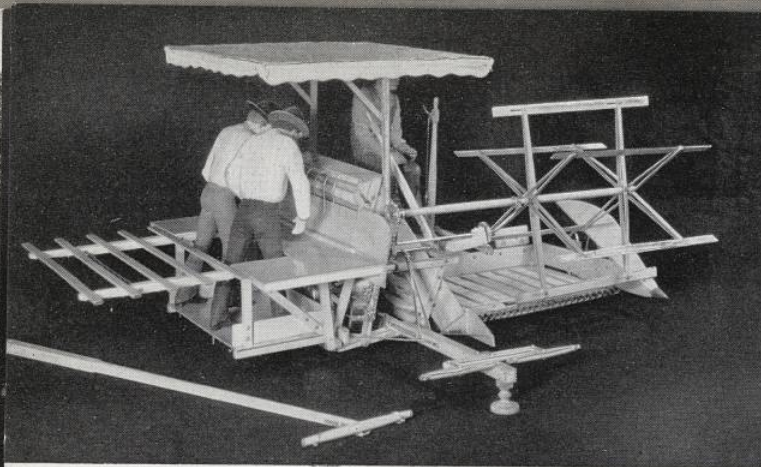


Model of McCormick "Old Reliable" Self-Rake Reaper of 1865. Experimental stage, 1858-61. Commercial production, 1862-73. A combined reaping and mowing machine with the patent automatic gavel delivery attachment of the McClintock-Young type.

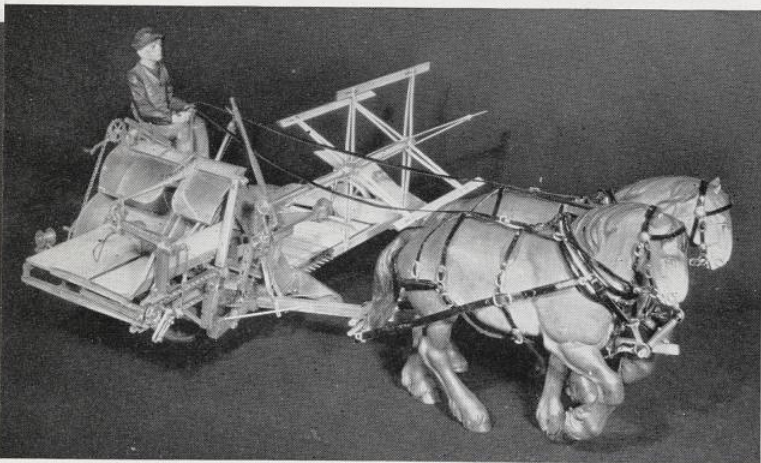


Model of McCormick "Daisy" Reaper of 1898. Experimental stage, 1881. Commercial production, 1882-1902. The rakes not only held the standing grain against the cutter bar but also raked the cut grain from the platform in any size gavel desired. The platform and rakes could be folded for passing through a gate.

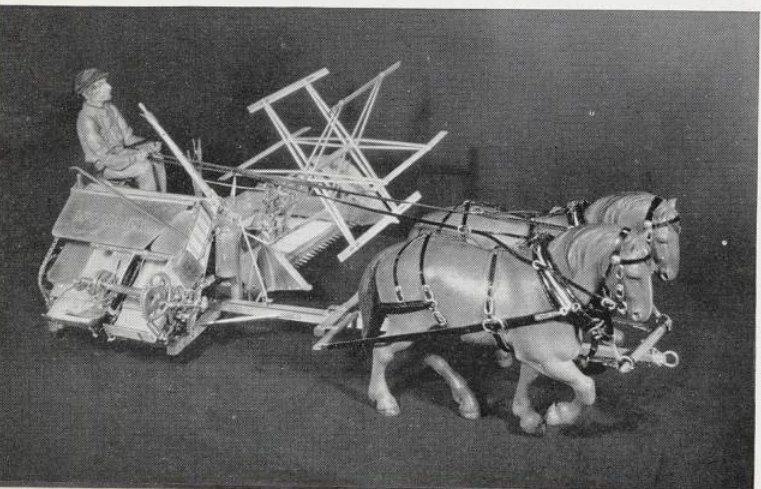




Model of McCormick Hand-Binding Harvester (Marsh Type) of 1878. Experimental stage, 1858-74. Commercial production, 1875-85. Consisted of the McCormick platform and cutting apparatus combined with the Marsh-type moving canvas elevators and hand-binding platform.



Model of McCormick Harvester and Wire Binder (Withington Type) of 1881. Experimental stage, 1872-76. Commercial production, 1877-82. Consisted of the McCormick Harvester with the automatic wire-binding attachment substituted for the hand-binding platform.



Model of McCormick Harvester and Twine Binder (Appleby-Gorham Type) of 1885, the prototype of today's binder. Experimental stage, 1875-80. Commercial production, 1881-85. Consisted of the McCormick Harvester with the automatic twine-binding attachment replacing the hand-binding platform.



Spinning and halling McCormick-Deering Binder Twine, as demonstrated at A Century of Progress. The spinner, baller, covering machine, and testing machine are attended by regular employees of McCormick Twine Mill in Chicago. Binding mechanism of a modern grain binder at the far end of the exhibit shows how the knot is tied. Seventeen colored transparency pictures on the wall show the process of binder twine manufacture from the young sisal plants on the International Harvester sisal plantation in Cuba to the finished product. Colored photographs of the six International Harvester twine mills are shown below the transparencies. Pillars of twine balls and samples of the fiber are at each side of the pictures.

Binder Twine--

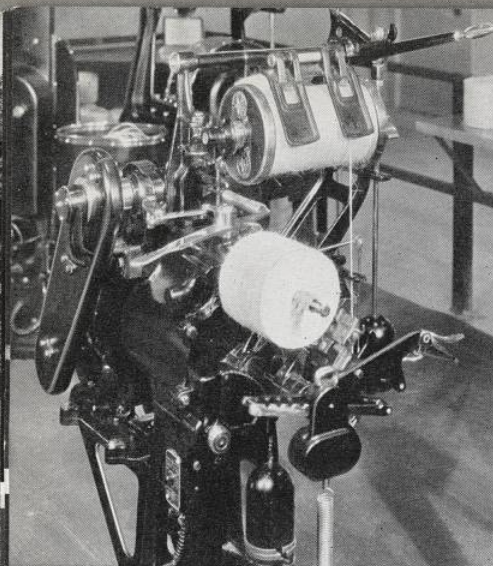
WHEN the twine binder was perfected in 1881, no manufacturer was equipped to produce twine in the quantities needed. Much money was lost experimenting with twine made of grass, hemp, straw, paper, and later of flax. Flax did a satisfactory job of binding but, unfortunately, was much relished by grasshoppers.

Finally, however, the making of twine became standardized. Today most of the fiber for International Harvester binder twine comes from the leaves of the henequen or sisal plant as it is commonly called, grown extensively in the state of Yucatan, Mexico, as well as in Cuba, East Africa, Java, and other tropical countries. The leaves of the sisal plant are very similar to those of the century plant, well known in this country.

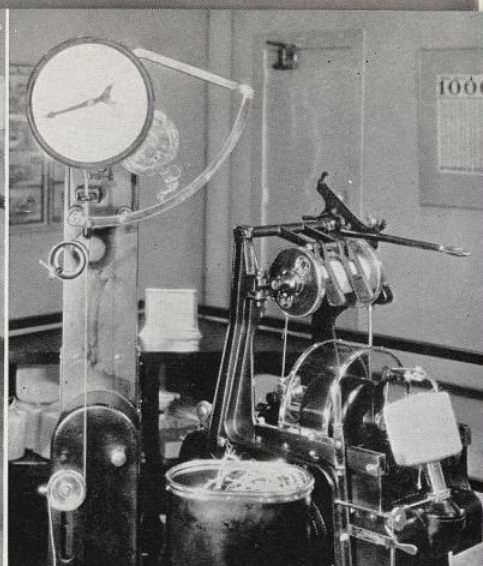
Manila fiber, also used extensively, is extracted



Binding—1833



International Harvester twine manufacture is almost completely automatic. This balling machine, for instance, displayed in slow motion at A Century of Progress, automatically stops winding when the ball attains its correct weight.



The machine at the right demonstrates in slow motion to visitors at A Century of Progress how the patented McCormick-Deering crisscross cover is put on McCormick-Deering twine balls. The machine at the left is a special breaking device that tests twine strength.

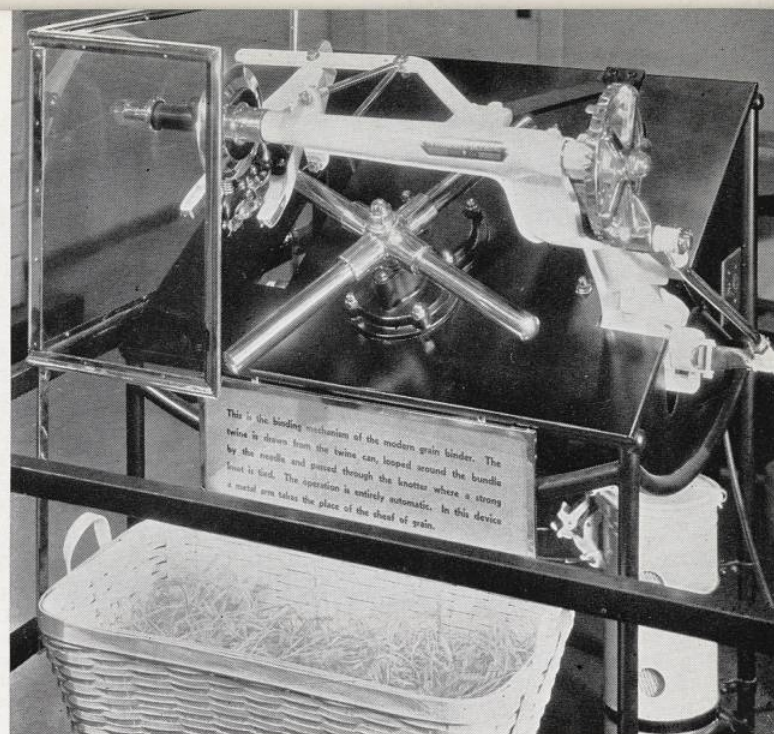
from the stalks of the manila plant, which resembles the banana tree and grows in the Philippines.

At the twine mill the fiber is made flexible, treated with oil and insect repellent, and subjected to eight different combing operations. Then it passes to the spinners, one of which is displayed at A Century of Progress operating at about half the normal speed—twisting about 75 strands of fiber $14\frac{1}{2}$ times to the foot.

Also displayed operating in slow motion are a balling machine and a covering machine. The balling machine demonstrates how the winding stops automatically when the ball attains its correct weight. When the patented McCormick-Deering crisscross cover is added on the covering machine, the ball weighs eight pounds. This patented covering helps keep the ball in shape and prevents the twine from tangling as it is withdrawn from the ball.

Every operation in the manufacture of McCormick-Deering twine is inspected constantly. At McCormick Twine Mill in Chicago, for instance,

John Appleby whittled the first successful twine binding mechanism out of wood nearly sixty years ago. He would have difficulty recognizing this chromium-plated successor to his invention. It operates in slow motion, showing visitors at A Century of Progress how the modern grain binder loops the twine around a sheaf of grain and then ties the knot. The metal arms take the place of sheaves of grain.

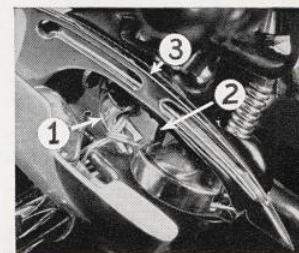


every day more than eighteen miles of finished twine is tested for strength on specially-built breaking machines equipped with a dial that records the pounds of pull required to break the twine. Similar tests are made to assure correct length, weight, and uniform spinning. One of the breaking machines is demonstrated at A Century of Progress.

It takes about one-sixth of a mile of twine to bind the grain crops consumed by the average American in a year. International Harvester's six twine mills have a capacity of more than 100,000 tons a year—McCormick Twine Mill, Chicago, 31,500 tons; New Orleans Mill, 18,500 tons; Hamilton, Canada, Mill, 15,000 tons; Croix, France, Mill, 24,000 tons; Neuss, Germany, Mill, 11,000 tons; Norrkoping, Sweden, Mill, 4,000 tons.

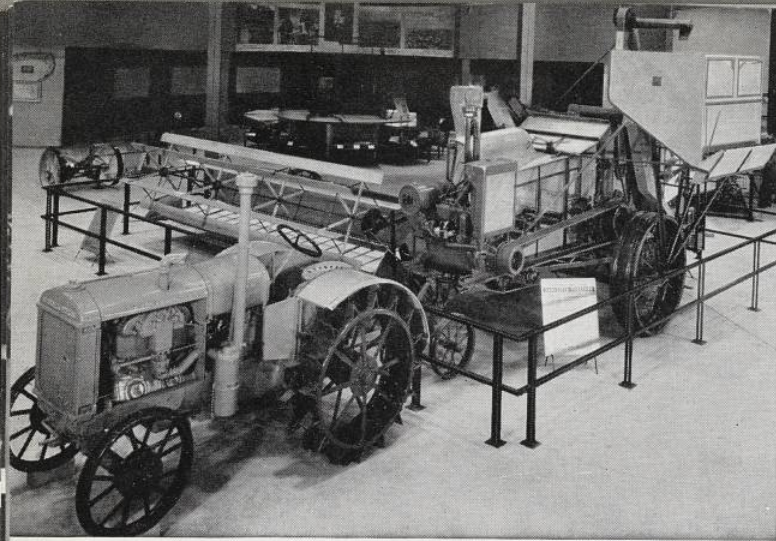
The modern version of the binding mechanism invented by John Appleby nearly sixty years ago—the invention responsible for the present tremendous size of the binder twine industry—is operated in slow motion at A Century of Progress.

The knottor hook (1), operating in slow motion for the benefit of World's Fair visitors, has just revolved and wound a double strand of twine around itself. The knottor jaws are just about to grasp the twine and form the loop. When the blade (2) cuts the twine the knot will be completed. The needle (3) loops the twine around the sheaf of grain.



Henequen plant displayed at the Fair. The leaves are about 4 feet long but only about 3 per cent of each leaf becomes usable sisal fiber from which binder twine is made.





McCormick-Deering W-30 Tractor and 16-foot Harvester-Thresher, as displayed at A Century of Progress. The threshing mechanism is exposed to view and is in operation. The reel, blade and canvas conveyor also are being operated and the entire cutting platform is raised and lowered automatically to show how the tractor operator, by means of tractor power, can adjust the machine to accommodate varying heights of grain.

Harvester-Thresher--

BEFORE the invention of the McCormick reaper a little more than a century ago, two men would have had to work hard for a hundred days to harvest and thresh as much grain (50 acres) as two men operating a modern 16-foot harvester-thresher now can harvest and thresh in one day.

Before 1831 it would have taken two men 25 days just to harvest 50 acres—one man cutting the crop with a grain cradle while the other bound it and set the bundles in "shocks" to keep them dry.

It then would have taken these two men a week or ten days to load the bundles with pitchforks onto a wagon, haul the crop to the barn, and unload it. And it would have taken them more than two months to beat the grain from the straw by means of flails and winnow the grain by tossing it in the air and fanning away the chaff.

With a modern harvester-thresher, two men now can cut, thresh, and clean the grain from 40 to 50 acres in a day. They can do more and better work in ten hours than they could in three months by the hand-labor methods of a century ago. The cost is less than half the expense of using binders and

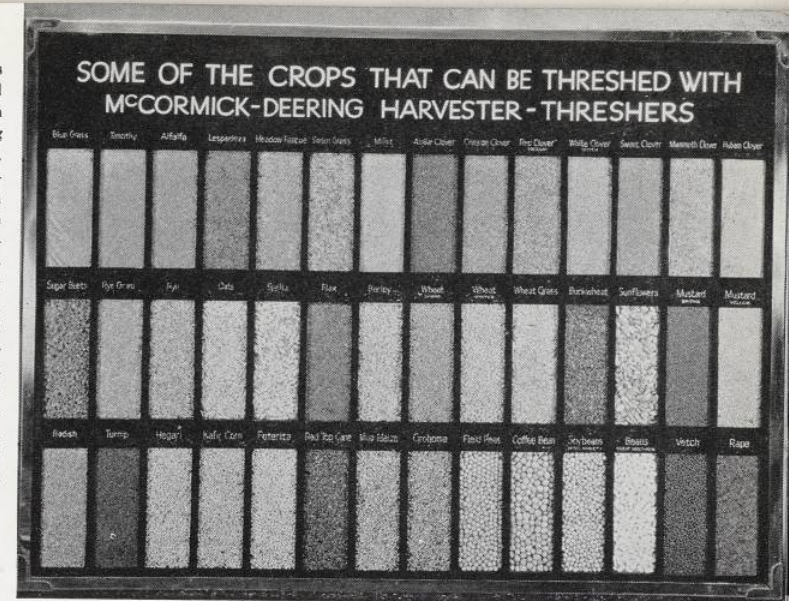


Cradling—1833



Binding—1833

Exhibit of crops that can be threshed successfully with McCormick-Deering harvester-threshers. Seeds for this collection came from all parts of the United States. Displayed near this exhibit is a cut-away threshing cylinder, with concave and grate—the mechanism in the front end of a modern harvester-thresher where 90 per cent of the separation of the grain kernels from the straw takes place.



threshers, and the yield usually is increased about 10 per cent because of the reduced loss from shattered grain.

McCormick-Deering harvester-threshers are made in 8, 10, 12, and 16-foot cutting widths. Under favorable conditions, both the harvester-thresher and the tractor displayed with it at A Century of Progress, can be operated by one man. The threshed grain is collected in a 45-bushel tank, from which it can be unloaded conveniently into a truck. A wagon loader or a bagging attachment can be used if desired. The straw is spread evenly on the ground behind the machine, thereby returning valuable plant food to the soil. When it is desired to save the straw, a straw-collecting attachment can be used, or the windrowed straw can be gathered with a hay loader. The cutting platform can be folded back alongside the machine for transporting on roads or through gates.

When equipped with a pick-up attachment, it will gather grain in the windrow—a method frequently followed where grain ripens unevenly or where green weeds are numerous.

A wide variety of special equipment is available for harvesting crops such as soybeans, sorghum grains, flax, peas, beans, alfalfa and clover.



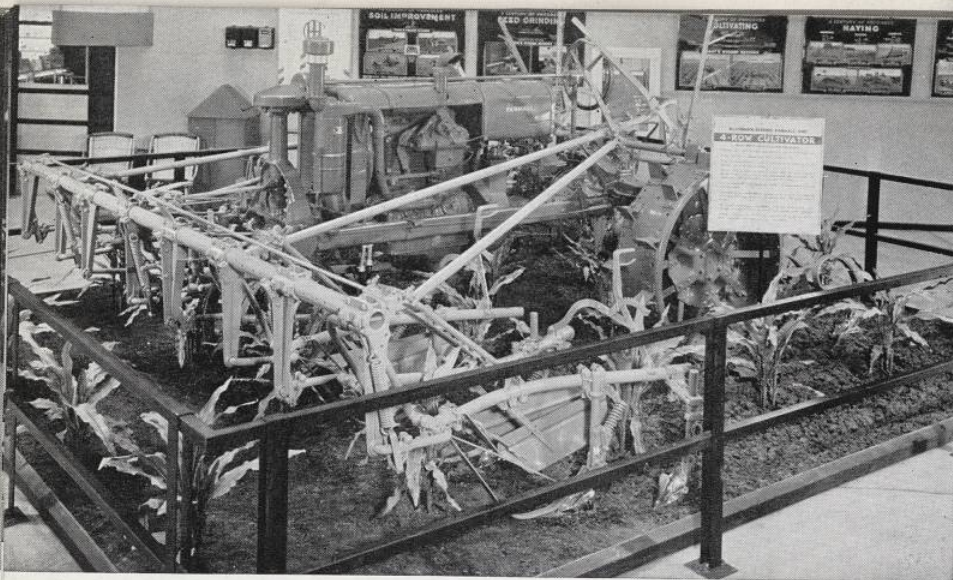
Bundle Hauling—1833



Flailing—1833



Winnowing—1833



McCormick-Deering Farmall and four-row Cultivator Model 407-A, with power-lift attachment, as displayed at A Century of Progress. Every few seconds the steering wheel automatically turns, shifting the shovels from side to side, demonstrating the "double-quick shift" in cultivating plants that are out of line. And every few seconds the shovels are raised, demonstrating how power from the tractor is utilized to lift the shovels at the ends of rows.

Farmall Cultivator--



Cultivating—1833



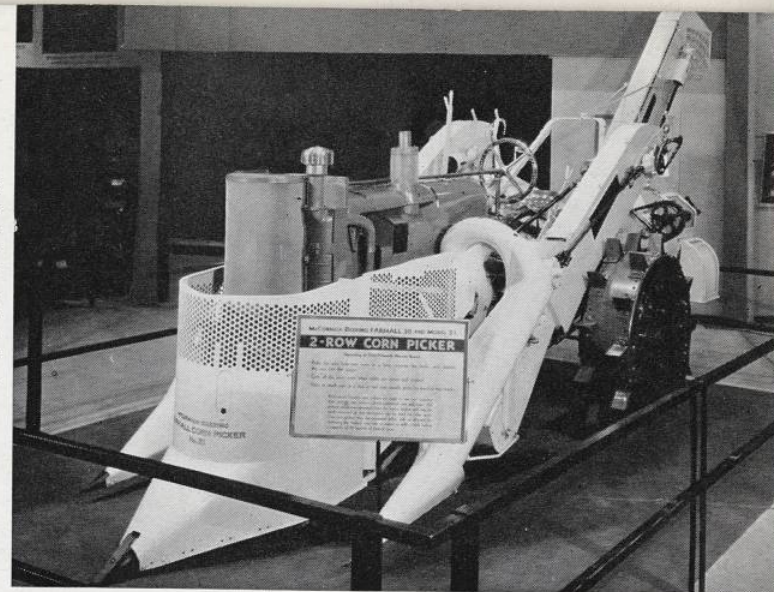
Cultivating—1856



Cultivating—1901

UNTIL a century ago the common method of killing weeds and stirring the soil between crops planted in rows was either to hoe the crop by hand or to drive a plow or similar implement between the rows. The "sulky" or riding cultivator that "straddled" a row, cultivating both sides at once, was a development of the 'fifties when the advantages of larger-scale farming became possible through the use of the reaper. The two-row horse-drawn cultivator first appeared on the market in the first year of the twentieth century.

The introduction of the Farmall tractor in 1922 made it possible, for the first time, to use tractor power for cultivating. With a Farmall four-row cultivator, one man can cultivate from 30 to 65 acres a day. He can do 15 to 20 times as much work as was possible with a one-horse cultivator of a century ago and do it much better. Two-row Farmall cultivators also are used extensively as well as four and six-row Farmall cultivators for beets, beans, and other narrow-row crops.



McCormick-Deering Farmall 30 and two-row Corn Picker, Model 21, as displayed at A Century of Progress. The picking and husking mechanism is exposed to view and is in operation.

Corn Picker--

THE perfecting of machines to harvest corn is an accomplishment of the present generation. Until recent years, the crop has been harvested almost entirely by hand in much the same way as when white men first learned about corn from the American Indians.

A corn picker of the type displayed at A Century of Progress picks the ears from two rows at a time, removes the husks, and elevates the ears into a wagon drawn behind the tractor. It gets all the corn, even when the stalks are down and tangled, and picks as much in one day as a man usually picks by hand in two weeks.

McCormick-Deering corn pickers are made in one and two-row sizes and in two styles—either direct-connected to a Farmall tractor or pulled behind a tractor. All McCormick-Deering pickers are power-operated from the tractor engine and can be removed easily so that the tractor can be used for other work. One-row pickers may be equipped either with an elevator for delivering the husked corn into a wagon or with a tank having a capacity of 25 bushels of husked corn.



Cutting—1833



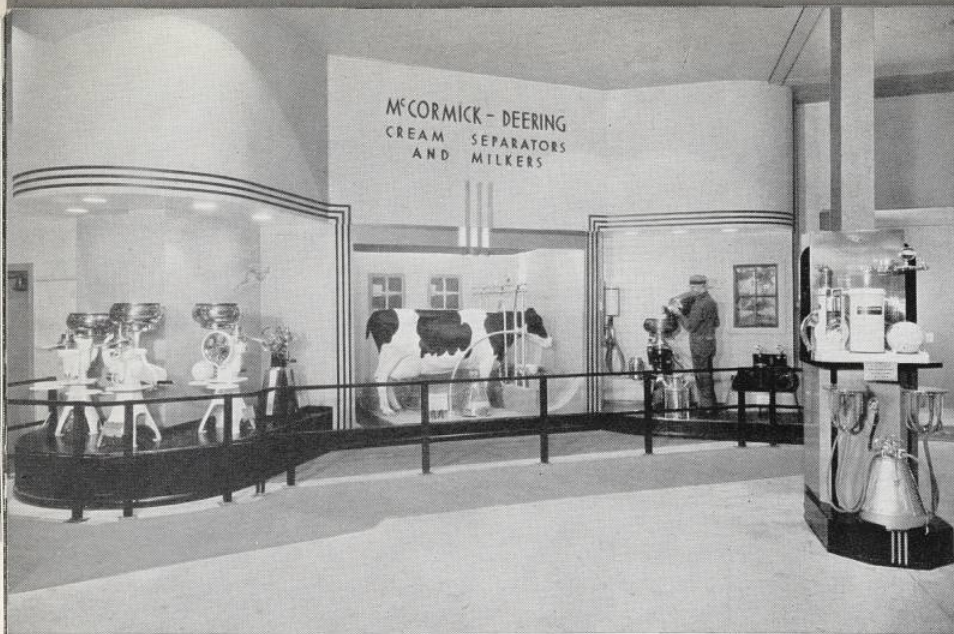
Binding—1893

INTERNATIONAL HARVESTER SERVICE



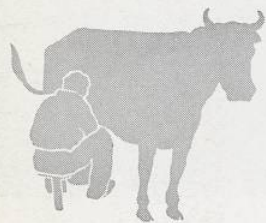
This forty-foot map of the world, one of the largest world maps ever constructed, is painted on the wall of the half dome at the north end of the International Harvester exhibit in the Agricultural Building. The areas served by the International Harvester organization are colored in orange (shown in gray in this illustration). The location of 527 IHC and jobber branch houses are studded in these areas by crystal rods extending through the wall and illuminated by means of floodlights behind the map. The loca-

tions of International Harvester factories and raw material properties are identified by red and green electric bulbs. Large pictures of International Harvester factories in natural colors are grouped at each side of the map. Below the factory paintings are two automatic stereopticon machines, one of them showing seventy colored pictures of International Harvester properties and the other showing pictures of seventy different International Harvester products.



The McCormick-Deering Dairy Exhibit at A Century of Progress.

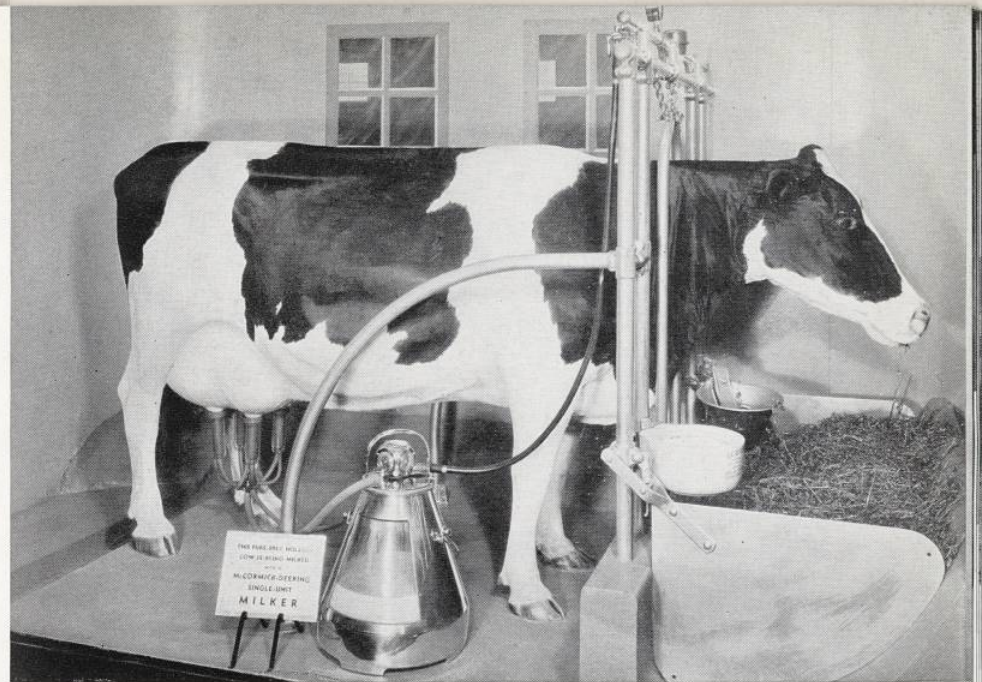
Dairy Equipment--



Milking—1833

Up to the last quarter of the nineteenth century, cream was separated from milk by letting the milk stand for several hours until the cream rose to the surface. The cream then was skimmed off painstakingly with a skimmer or spoon. Today the centrifugal force of a cream separator bowl, turning about 8,300 revolutions a minute, does the job in short order and enables the farmer to obtain practically 100 per cent of the cream contained in the whole milk. The cream is more sanitary. There are fewer vessels to store and keep clean and the skim milk can be fed, while still warm, to hogs, calves, and other animals on the farm.

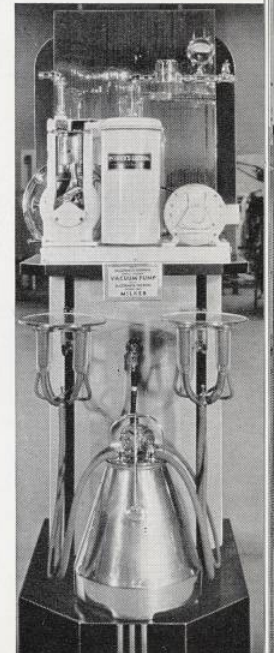
The use of a milking machine is a more recent development. With this machine it is possible for a farmer to milk more than twice as many cows as could formerly be milked by hand in the same time, and the work is very much easier. In

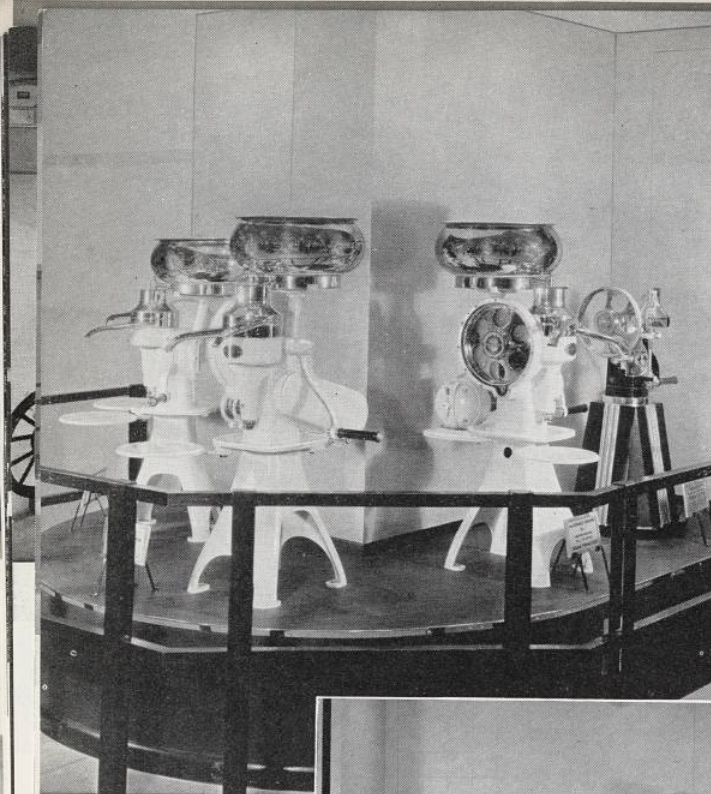


This accurately-reproduced pure-bred Holstein cow demonstrates at A Century of Progress how a McCormick-Deering Milker operates. Gears, cams, and extension arms inside the cow enable the animal to chew its cud, blink its eyes, move its head and ears, switch its tail, breathe, moo, and give milk which can be seen through a window on the milker pail.

addition, a milker frequently results in a greater production of milk per cow, due to the cows always being milked in the same way, with the same steady manipulation, and always being milked thoroughly. Rubber-lined cups placed over the teats of the cow pulsate at intervals by means of suction created by a vacuum pump and controlled by a pulsating device located on the milk-pail cover. The alternate suction and release, giving a gentle, stimulating, massaging action is very similar to the natural suckling of a calf. The milk at no time comes in contact with human hands or the air of the barn and the dust, odors, and insects most stables contain. McCormick-Deering milkers are either of single or double-unit variety, depending on whether it is desired to milk one or two cows at the same time.

(Above) McCormick-Deering single-cylinder Vacuum Pump and (below) McCormick-Deering double-unit Milker, as displayed at A Century of Progress.



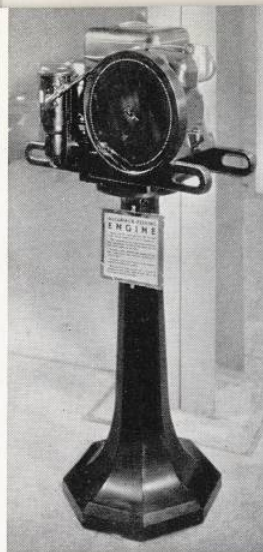


At the left of the cow three different sizes of Cream Separators are displayed as well as a cream separator with the interior mechanism exposed to view. The discs of McCormick-Deering Cream Separators are of stainless steel.

At the right of the cow is this wax man in a dairy room fully equipped with a McCormick-Deering Cream Separator, a milker Power Unit, and a Solution Rack for keeping the rubber parts of McCormick-Deering Milkers sterilized between milkings.

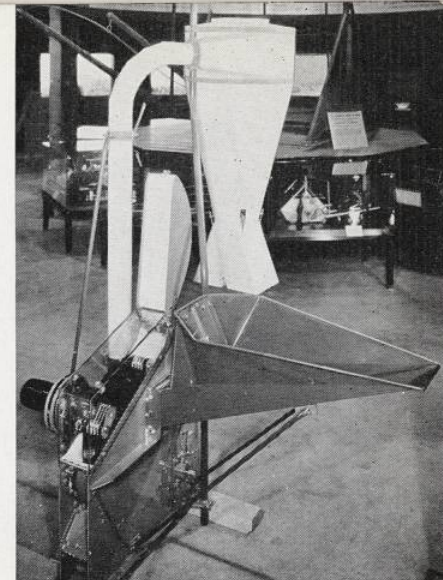


Separating—1833



(Left) McCormick-Deering Engine as displayed at A Century of Progress. The power range is adjustable between $1\frac{1}{2}$ and $2\frac{1}{2}$ horsepower.

(Right) McCormick-Deering No. 1-B Hammer Mill as displayed at A Century of Progress.



THE Hammer Mill (No. 1-B) displayed at A Century of Progress is used for grinding wheat, oats, barley, rye, shelled corn, ear corn, Kafir corn, milo maize, hegari, feterita, cornstalks, hay, alfalfa, beans, peas, and grain sorghums, both headed and in the bundle. Operated by belt connection to a tractor, it enables a tractor owner to do this work at a big saving compared with what it would cost him to hire it done. Various sizes of McCormick-Deering mills are available.

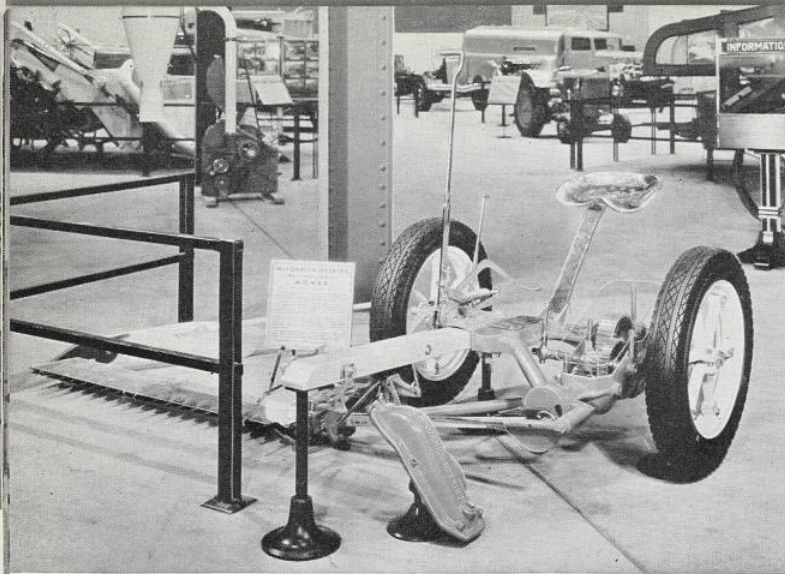


Grinding—1833

THE small engine displayed at A Century of Progress further exemplifies the progress that has been made since motors displaced muscles as the source of power on American farms. The speed can be regulated between 600 to 1000 revolutions per minute. This regulates the power between $1\frac{1}{2}$ and $2\frac{1}{2}$ horsepower. This adjustable power range assures minimum fuel consumption on each of the many jobs for which this engine can be used. The engine is fully enclosed and protected from dirt. Lubrication is the automatic splash (automotive) type. A special quick-action impulse in the magneto assures unusually easy starting. McCormick-Deering engines of 3, 6, and 10 horsepower also are available.



Grinding—1853



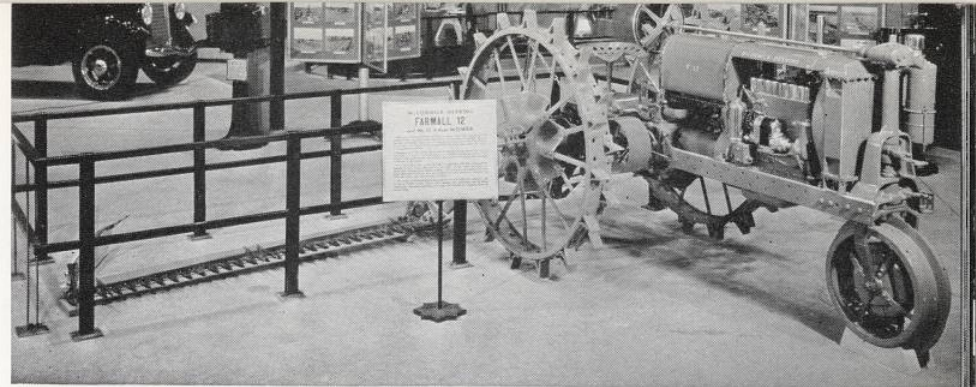
McCormick-Deering No. 7 Enclosed-Gear, 5-foot Mower as displayed at A Century of Progress.

Enclosed Gear Mower--



Mowing—1833

ALTHOUGH the mower is an outgrowth of the reaper, and its design changed and improved during the first 75 years of its history, few important changes in mower design occurred during the 25 years immediately preceding 1932. The enclosed-gear mower (No. 7) displayed at A Century of Progress is an example of the many improvements in farm-machine construction made possible in recent years by new methods of manufacture. The gears, countershaft, clutch, and differential of this two-horse mower are grouped together compactly in a dust-tight case filled with oil. This mower sets a new standard for durability and quiet operation. One filling of oil usually is sufficient for an entire season. The wheels are keyed solidly to the axle—no wobble or end play. The two-piece main axle revolves in roller bearings which are oiled automatically from the main oil supply. This mower is made in 4½, 5, 6, and 7-foot cutting widths, and is available either with pneumatic tires or iron-rim wheels.



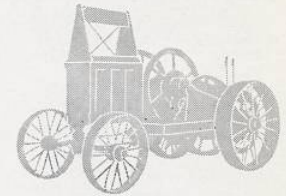
The new low-priced Farmall 12, smallest of the three McCormick-Deering Farmalls, displayed with a 7-foot direct-connected mower at A Century of Progress.

McCormick-Deering Tractors

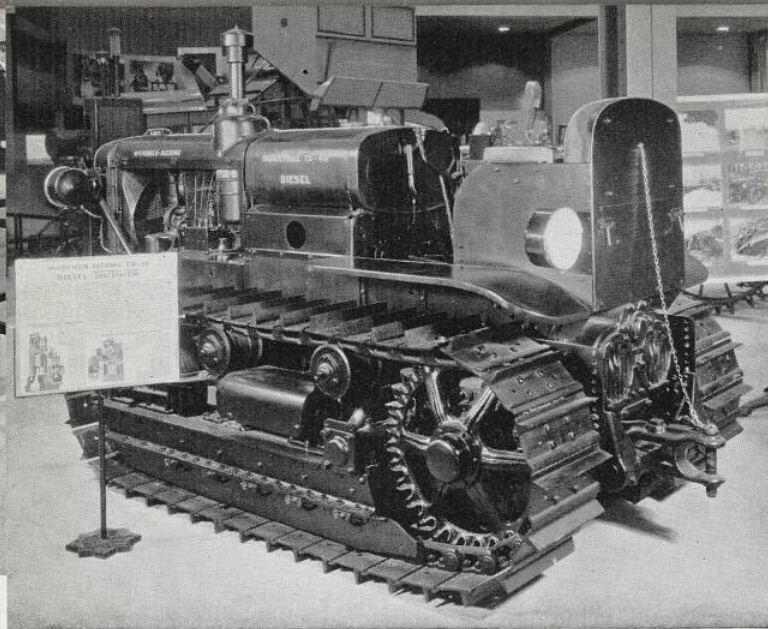
INTERNATIONAL HARVESTER experience with internal-combustion engines dates back nearly two score years. It was a natural evolution for builders of farm machines, with many years of experience behind them, to pioneer the development of the new motive power which the invention of the gas engine provided.

International Harvester developed a tractor for plowing as early as 1906. It pioneered the development of the two-plow and three-plow types of four-wheel tractor that played an important part in maintaining adequate food supplies during the World-War period. It introduced a successful "power take-off" for utilizing the power of the tractor engine in driving the mechanism of pulled machines. It perfected the Farmall type of tractor with regulation-size rear wheels, small front wheels close together, and a high axle clearance, to enable it to straddle the rows of growing crops—the tractor that does all farm power work from plowing, planting, and cultivating to harvesting and the operation of silo fillers, feed grinders, and other belt-driven machines.

Since the introduction of the Farmall tractor eleven years ago, thousands of American farmers have dispensed with horses entirely. Besides doing their work more quickly and saving money on hired labor, they have rid themselves of the onerous routine of being on the job every day, morning and



1906

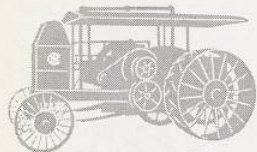


McCormick-Deering TD-40 Diesel Tractor displayed at A Century of Progress. This tractor, most powerful in the McCormick-Deering line, operates as a conventional gasoline engine for starting, and, after about a minute of operation, shifts automatically to the low-cost Diesel fuel.

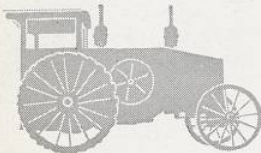
night, to feed, bed, and water their motive power. They feed their tractors only on the days they are at work. They house their tractors in a small fraction of the space the former power and its feed required. The time they save enables them to increase greatly the volume of work the same amount of labor can accomplish—by farming more acres or conducting increased livestock enterprises.

In 1850, at about the time the McCormick reaper began to be used extensively, the farms of the United States possessed a primary power plant of about 6½ million horsepower. By 1900 this had grown to 23½ million through an increase in the number of work animals. In 1930, because of the extended use of tractors, this had grown to 65 million horsepower. Since 1924, largely because of the Farmall tractor, the increase has been at the rate of about 3½ million horsepower a year—more than ten times as fast as during the last half of the nineteenth century. Agriculture in America today possesses more power than all the nation's factories.

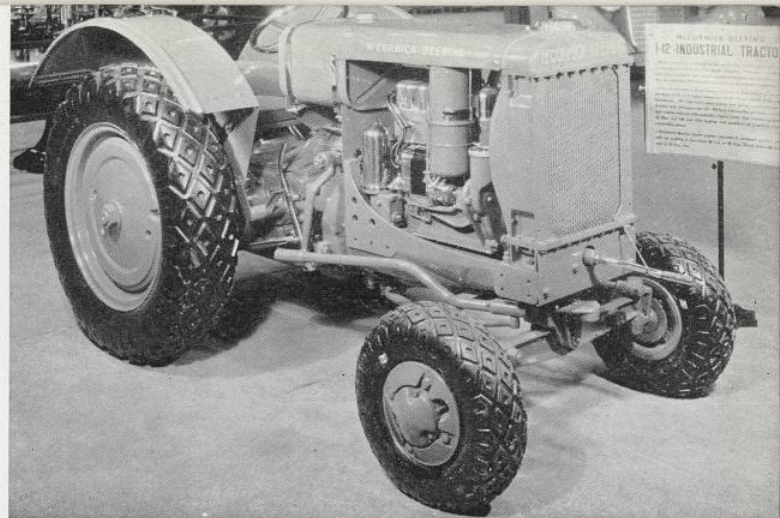
Eight of the sixteen models of tractors manufactured at the present time by the International Harvester Company are displayed at the 1934 Century of Progress Exposition. In Farm Machinery Hall, the new 4-wheel type of farm tractor



1911



1913



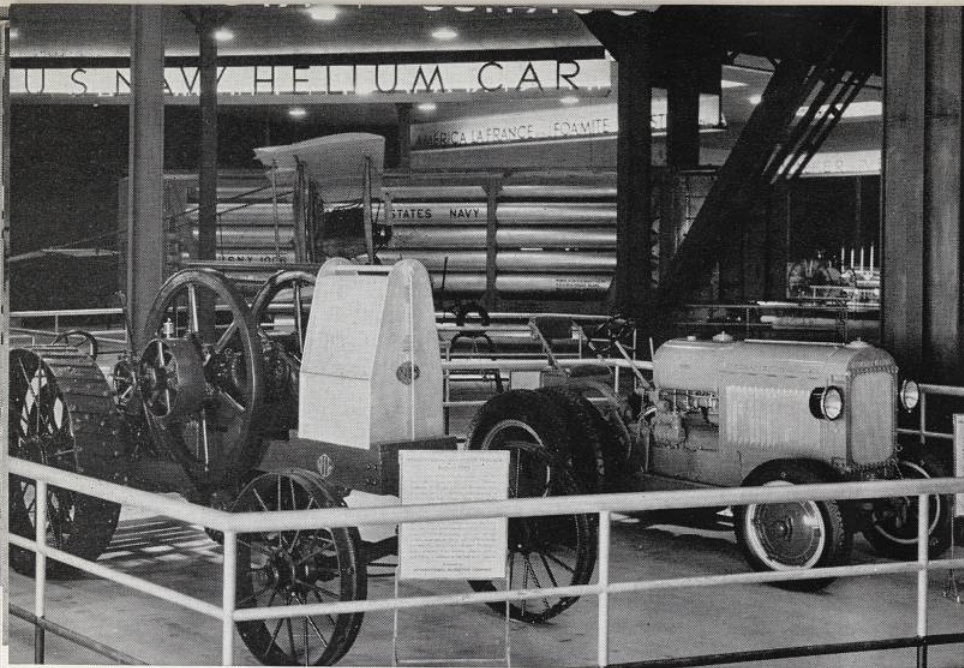
The new I-12 Industrial Tractor, smallest of the four sizes of McCormick-Deering wheel-type industrial tractors, as displayed at A Century of Progress.

is displayed with the 16-foot harvester-thresher, the large-size Farmall (F-30) with the corn picker, the new medium-size Farmall (F-20) with the 4-row cultivator, and the new, small, low-priced Farmall (F-12) with a 7-foot mower. Also in Farm Machinery Hall are displayed the new small pneumatic-tired Industrial tractor (I-12), and the new Diesel Tractor that develops 52 horsepower and operates on low-cost fuel. A larger industrial tractor (Model I-30) is displayed in the Travel and Transport Building, and the new model pneumatic-tired orchard tractor (O-12), specially equipped with a small, compact radio receiving set, demonstrates the possibilities of radio control of tractor steering.

The radio-controlled tractor demonstration area, fenced in, just west of Farm Machinery Hall, is 150 by 80 feet. A mechanical man in farming clothes, seated comfortably on the front porch of a small farmhouse in this area, converses with the spectators by means of an invisible loud speaker, and apparently directs every movement of the tractor. Broadcasting equipment, carefully concealed in the house, speaks for the farmer, and, by means of small electric switches, starts and stops the tractor and steers it in any direction desired. When the demonstration is completed, the tractor disappears through mechanically-operated garage doors at the rear of the farmhouse.

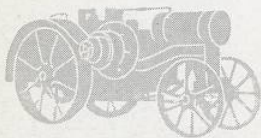
(Below) Farmall 12 engine block at A Century of Progress showing the removable cylinders which are a money-saving feature of all McCormick-Deering Tractors, heavy-duty International Trucks and McCormick-Deering Power Units, and of many of the McCormick-Deering stationary Engines.





International Harvester Tractors exhibited in Travel and Transport Building. The 1906 model on the left was used continuously for sixteen years. The modern Model I-30 industrial tractor on the right, although smaller in size, develops nearly four times as much power and has removable cylinders, a thermostatically-controlled cooling system, impulse starter, enclosed gears, one-piece main frame, and 27 ball and roller bearings.

Will the farmer of the future be able to sit on his front porch while directing all his farm work? Will it be possible to sit in an office in Chicago or New York and direct the operation of fleets of tractors throughout the world? Will it be possible by these methods to operate farm properties in both hemispheres and gather harvests in practically every month of the year? What are the possibilities of radio control in housework, industrial work, transportation, and especially in warfare? These are a few of the unanswerable questions with which the wierd spectacle of a driverless, yet perfectly controlled tractor, excites the imagination. The only approach to an answer that can be made is that in 1831 two men operating a machine that cut, threshed and cleaned the grain from 50 acres a day—doing the work of 200 men—would have been quite as much of a spectacle as the new field of possibilities opened by the International Harvester radio-controlled tractor of 1934 is today.



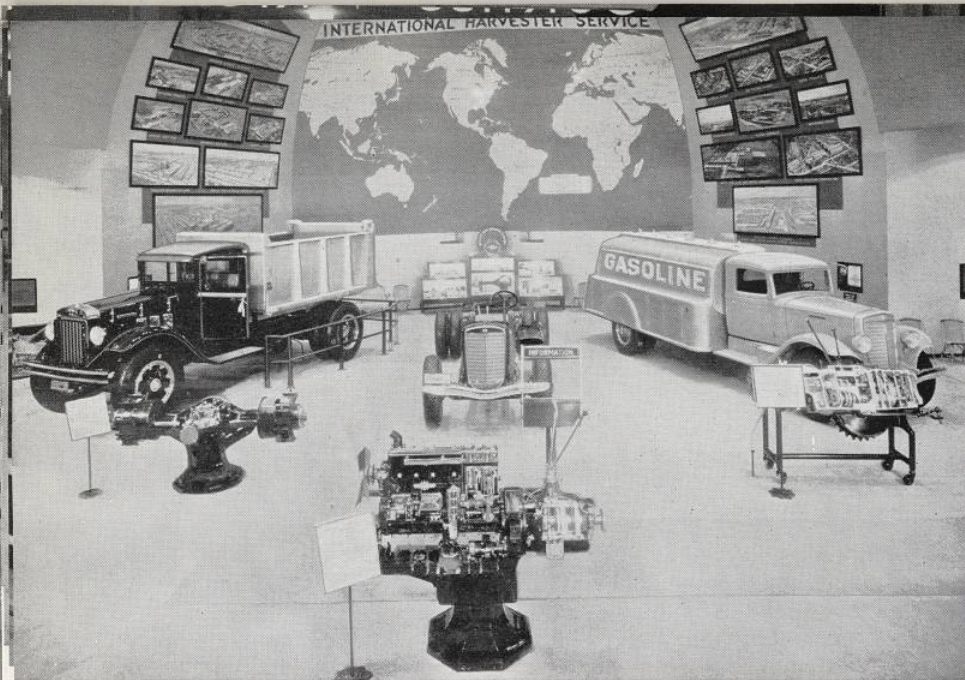
1915



Rufus Dawes (left), president of A Century of Progress, and A. E. McKinstry (right), president of International Harvester Company, examine the International Harvester radio-controlled tractor while the mechanical farmer on the front porch proudly looks on.

On the fourth anniversary of their daily broadcasts, Clara, Lu 'n' Em, veterans of the air, greet a prominent new arrival to radio, the International Harvester radio-controlled tractor. Directly behind the switch at which Clara is pointing is a small electric motor. The slender perpendicular rod just in front of Lu is the aerial.

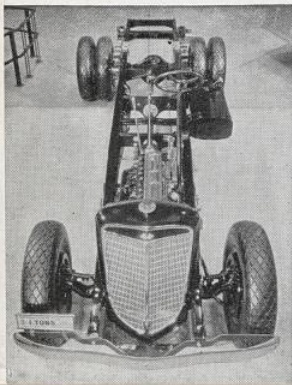




A section of the International Truck exhibit at A Century of Progress. The dump truck on the left has a special aluminum body of 10-yard capacity. The body is raised and lowered automatically while on display. The streamlined gasoline truck on the right is the new International Model C-60 with a capacity of 1800 gallons. The cut-away displays in the foreground are (left to right) International heavy-duty rear axle, 6-cylinder engine used in the 3 to 4-ton International and a track drive of a McCormick-Deering TracTractor. These cut-away displays operate continuously in slow motion. A new International Model C-55 chassis occupies the center background, just in front of show cases containing International Truck parts.

International Trucks--

International 3½ to 4½-ton truck chassis.

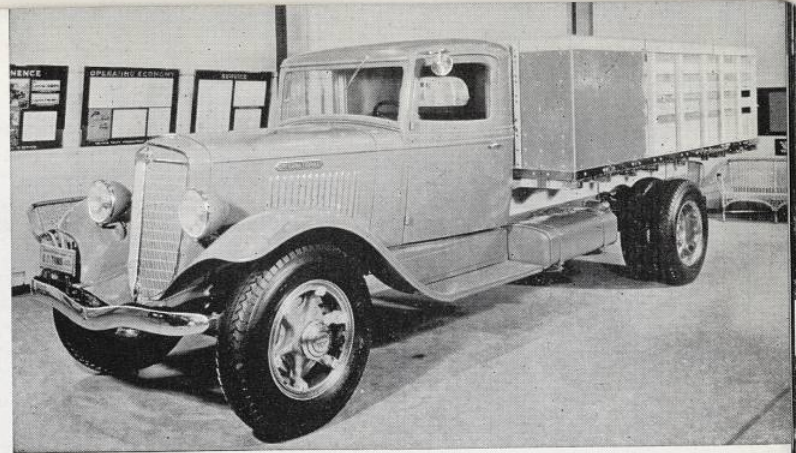


THE HARVESTER COMPANY began its work as an automotive pioneer in 1899. Even then it had had nearly seventy years of experience with heavy-duty machine manufacture. It had already contributed much to the greatness of America when the internal-combustion engine was born.

Today International Harvester ranks first among all full-line truck manufacturers. Its service to transportation extends far beyond the agriculture it first served. Three-fourths of its annual truck output is absorbed by commerce and industry.

In the ten years from 1919 to 1929 International truck production increased sevenfold, while the

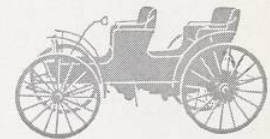
New, restyled International Model C-40 2 to 3-ton truck with stake body as displayed at A Century of Progress.



total production of the truck industry was only doubled. In subsequent years International Harvester's share of yearly volume in trucks has risen steadily.

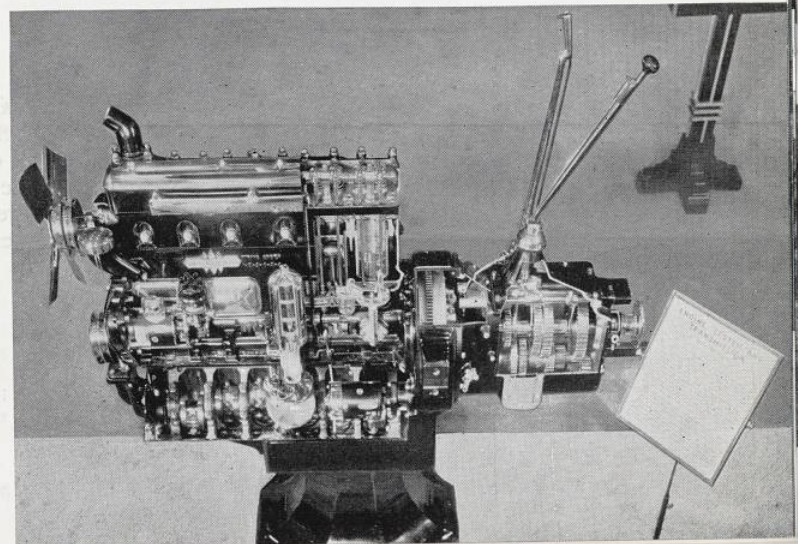
The long life and dependable, low-cost performance of International trucks are the result of constant effort to do a difficult thing well. The International product is all truck—truck from the ground up.

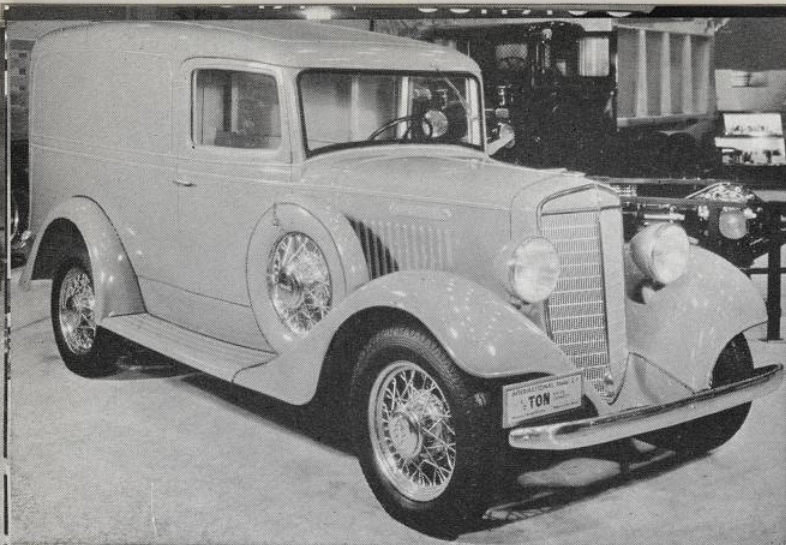
No engine builder in the world has done more in the development of fuel carburetion and in the refinements of proper engine operation than International Harvester. No manufacturer has contributed more to the application of modern metallurgical science. The laboratory research and experi-



1906

Power plant for the 3 to 4-ton International Truck as displayed at A Century of Progress. The 6-cylinder engine, clutch and transmission are cut away to show the operation of the various parts. Removable cylinders, hardened exhaust-valve seat inserts, 7-bearing crankshaft—important features of this engine—are shown clearly.



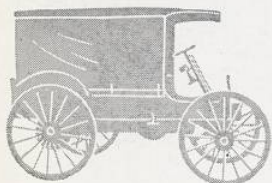


New International Model C-1 half-ton truck with panel body as displayed at A Century of Progress.

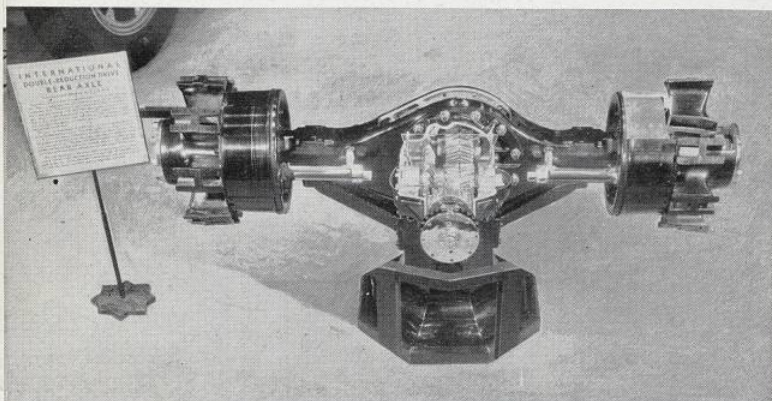
mental work of this Company have been a most important factor in the progress of transportation.

Supplementing its advanced engineering and modern methods of quality manufacture, the Harvester Company has established a tradition of service to the truck user that has been a significant contributing reason for the present high reputation of International trucks. More than twenty years ago the International Harvester Company conceived an ideal of motor truck guardianship, the full meaning of which was entirely new to the automotive industry of that early date. Even then generations of experience had taught the Company the importance of service to its own development and to the welfare of the customer.

Today International Harvester maintains the largest Company-owned branch organization in



1907

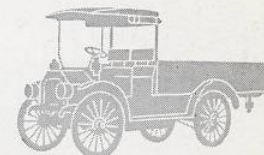


International double-reduction drive rear axle. The gears and bearings are exposed and are in continuous operation.



The following quality features of International Trucks, described in detail by cards, are displayed in these show cases at A Century of Progress: replaceable cylinder, piston and connecting rod assembly showing replaceable-shell bearings, chrome-nickel steel counterbalanced crankshaft, camshaft with integral round-contoured cams, exhaust-valve seat inserts, oil-type air cleaner, downdraft carburetor showing uniform manifolding, cylinder head, self-aligning propeller shaft bearing, cam-and-lever steering gear, rear axle with straddle-mounted pinion, silico-manganese steel spring leaf with replaceable bronze bushing, positively-supported rear spring front bracket, frame side members, cylinder head showing overhead valves and water passages, replaceable-shell main and connecting-rod bearings.

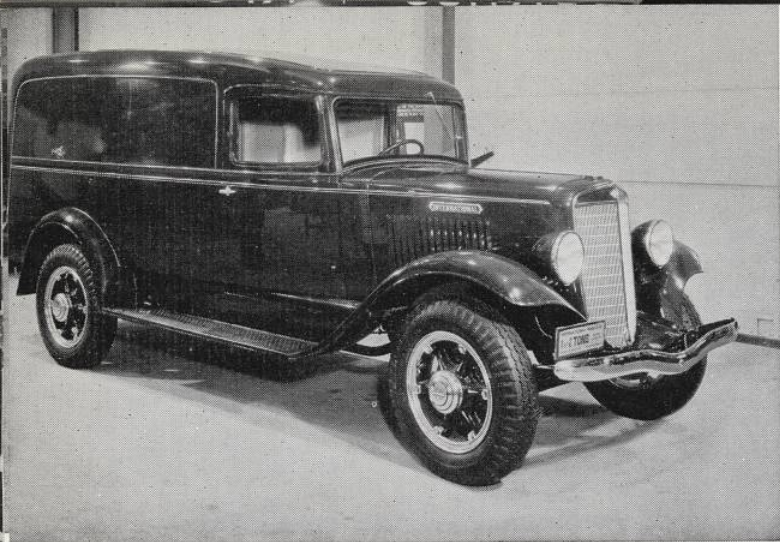
the world to safeguard truck owners, to reduce truck upkeep to a minimum, and to keep Internationals everywhere profitably on the job. In each of these branches the International truck user finds the same modern methods, tools and equipment; the same work benches; the same alert and orderly operation; the same service apparel on a uniformly high type of skilled personnel.



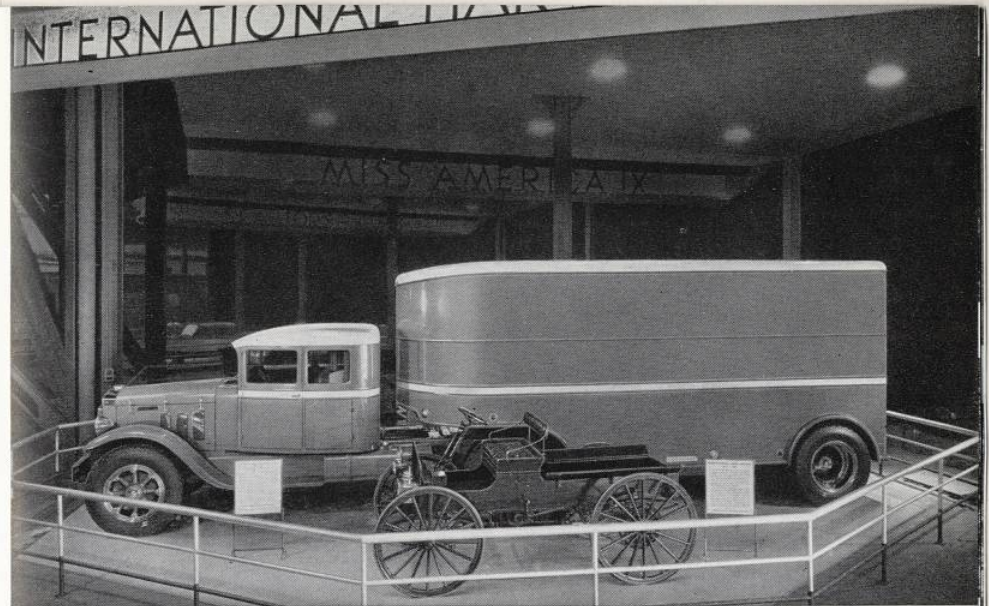
1912



New International Model C-1 Station Wagon at A Century of Progress display.



New, restyled International Model C-35, 1½ to 2-ton truck with panel body. The new Internationals can be identified by the sloping radiator lines.



International Trucks exhibited in Travel and Transport Building. The Tractor Truck (Model A-8) with semi-trailer van has a pay-load capacity of 12 tons. The cab has a sleeping compartment. The small truck is a half-ton International Auto Wagon built in 1907. It has a right-hand drive; a 2-cylinder, air-cooled engine; dry-cell batteries; and a chain drive. International truck experience dates from 1899.



1915

Truck owners know that when they operate Internationals over a wide territory it is not necessary to tie up a large investment in stocks of truck parts or to maintain their own stations to get prompt, adequate, and economical service. Every owner, large and small, benefits from the International standardization of service. It is a vital and natural factor in the low cost of operation demonstrated by an army of International users.



This International Auto Buggy of 1907 is used in "Wings of a Century," the Century of Progress pageant of transportation presented daily on the lake front near the Travel and Transport Building. An International Auto Wagon of 1907 and a modern International A-8 truck with a 12-ton capacity semi-trailer van also are used in this pageant.

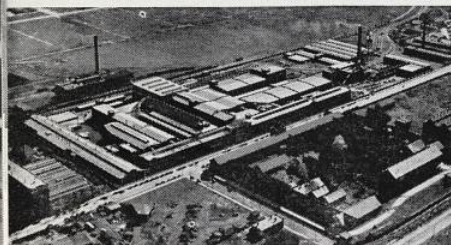


The International Auto Buggy of 1907 (on the left) takes its place in the "Court of Honor" in the dome of the Travel and Transport Building, along with a "Louis McLane" (Railway Express Agency) stage coach built in 1860 (center), and a pioneer wagon (right) built near Philadelphia in 1797 and driven to Ohio in 1805.



McCormick Works, Chicago, world's largest farm machine factory. Grain binders, mowers, rakes, corn binders and shredders, manure spreaders, ensilage cutters, feed grinders, hammer mills, binder twine.

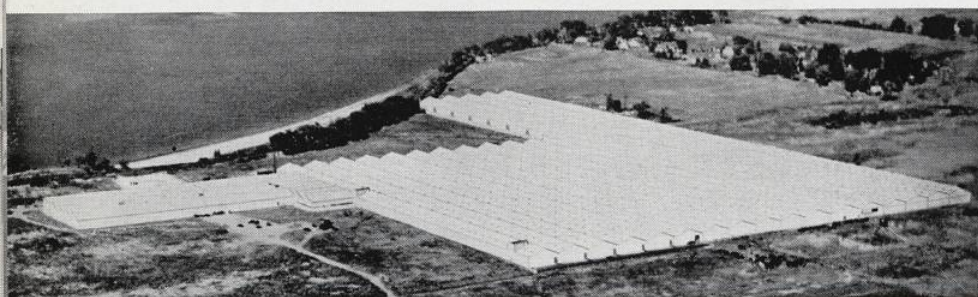
International Harvester Service



West Pullman Works, Chicago. Threshers, magnetos, roller bearings, carburetors, gears.



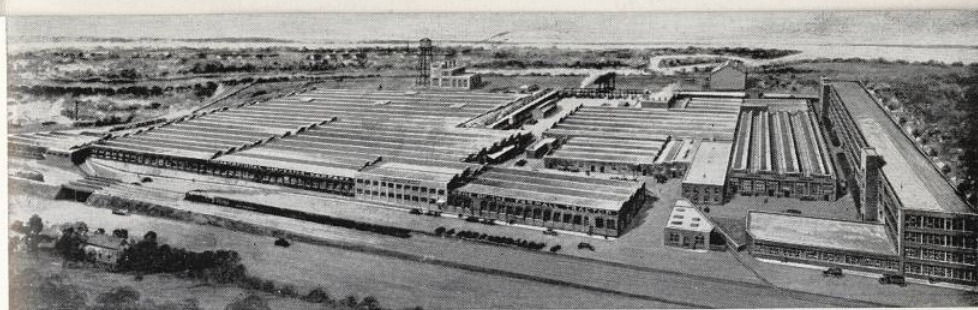
Rock Falls (Ill.) Works. Shellers, harrows, hay tools.



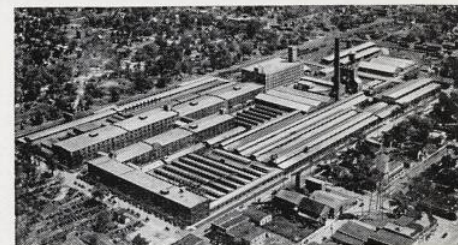
East Moline (Ill.) Works—a new, modern factory containing more than 27 acres of floor space. Harvester-threshers, threshers, corn pickers.

THE manufacture and sale of the many diversified lines of International Harvester products have developed, through the years, one of the largest commercial organizations in history. International Harvester manufacturing is carried on in twenty large factories that have a combined ground area of more than a thousand acres. If these factories could be situated side by side in an area half a city block wide, they would extend for more than twenty-five miles. Fourteen of these factories are in the United States, two in Canada, and four in Europe.

These extensive manufacturing activities have made it possible for the



Farmall Works, Rock Island, Ill. Tractors.



Canton (Ill.) Works. Plows, tillage implements, planters, listers, cultivators, beet pullers.

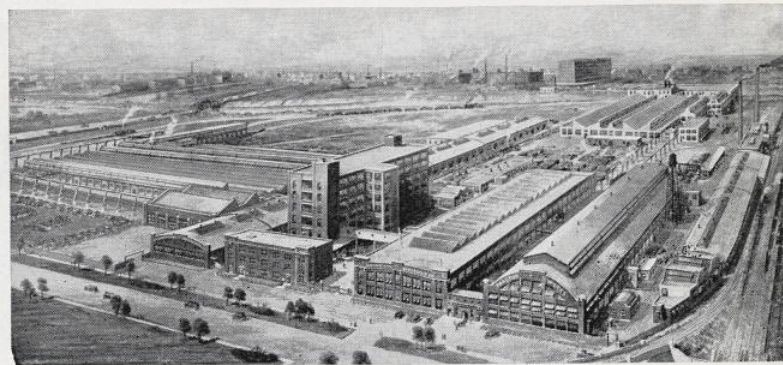


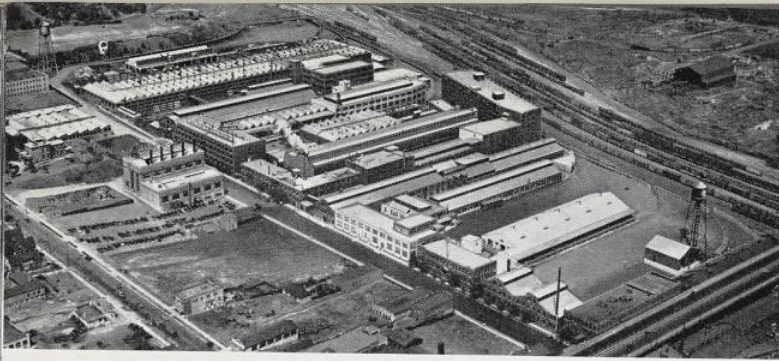
Richmond (Ind.) Works. Seeding machines, planters.

Company to own many of its sources of raw materials, thereby assuring dependable supply at uniform prices. Company-owned steamships transport iron ore from Company-owned iron mines in the Mesabi Range in Minnesota to a large Company-owned steel mill in South Chicago, Illinois. Coking coal is obtained from Company-owned coal mines in Harlan County, Kentucky. Extensive Company-owned timber properties are located in Mississippi, Missouri, and British Columbia.

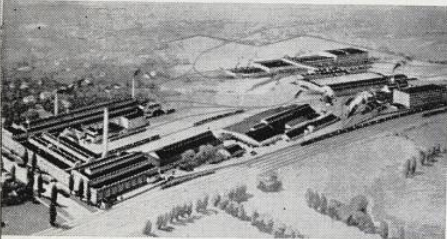
Sales offices are located throughout the civilized world. In the United States and Canada the Company maintains more than a hundred "general line" branch houses where farm machines and large stocks of repair parts

Tractor Works, Chicago. Farm and industrial tractors, TracTracTors.

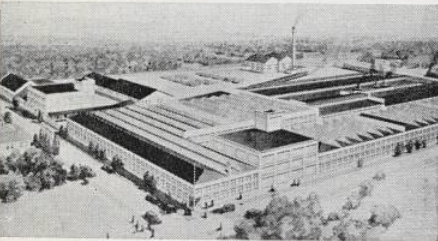




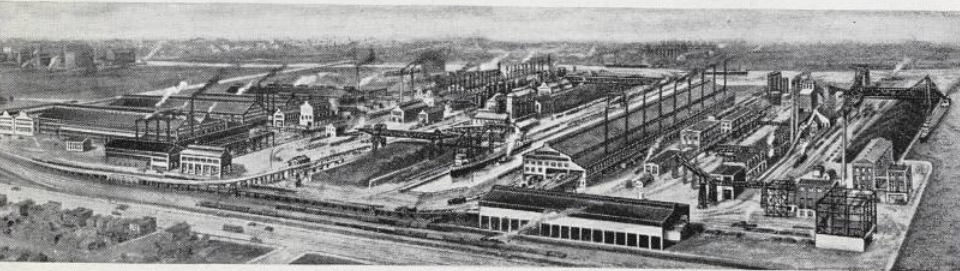
Milwaukee (Wis.) Works. Farm and industrial tractors, gasoline engines, cream separators, milking machines.



Auburn (N. Y.) Works. Tillage implements, hay presses, potato machines.



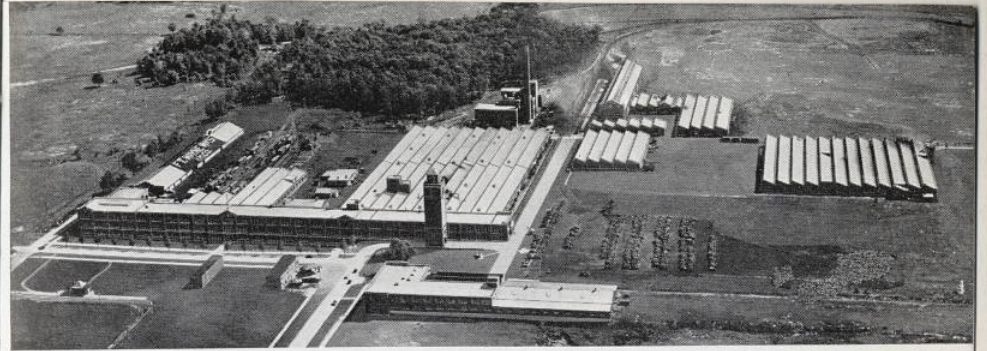
Chattanooga (Tenn.) Works. Plows, cane mills, fertilizer distributors.



Wisconsin Steel Works, Chicago.

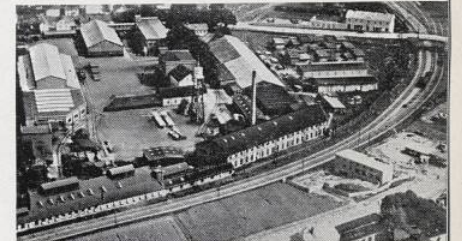
are stored in readiness for the farmer. The branch house sales and service organizations maintain intimate contact with the activities of each of the Company's several thousand dealers and with the changing needs and problems of local agriculture. Truck sales in the United States and Canada are conducted through 201 Company-owned branches and service stations, supplemented by many thousands of dealers whose service facilities are approved by the Company. The inter-city user of an International truck usually will find extensive Company-operated service facilities at both ends of his trip.

Since the day when Cyrus Hall McCormick startled the business world by *guaranteeing* the quality of his product, the tradition of quality has been

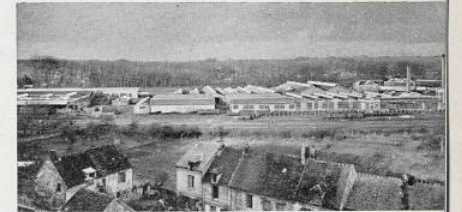


Fort Wayne (Ind.) Motor Truck Plant.

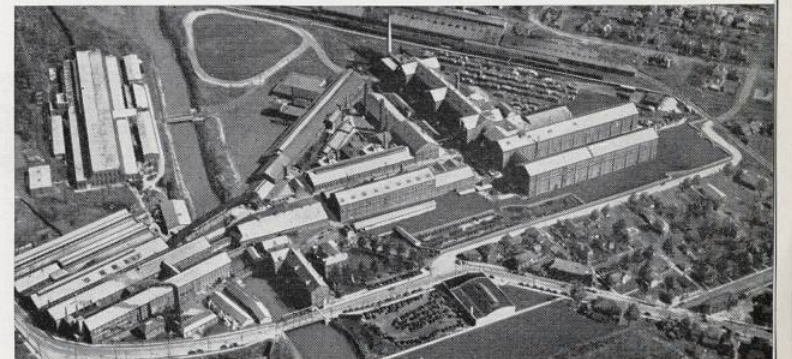
given first consideration in the design and manufacture of all International Harvester products. Even today conspicuously-displayed posters throughout International Harvester factories constantly remind the workmen that "Quality is the Foundation of Our Business." But as every farmer and every truck user knows, no matter how fine a machine may be when it leaves the factory, the length of its useful life depends in large degree upon the skill with which it is kept in repair. A century of machine-manufacturing experience has taught the Harvester Company the vital importance of after-sale service. Many farmers who purchased International Harvester machines twenty years and in some cases



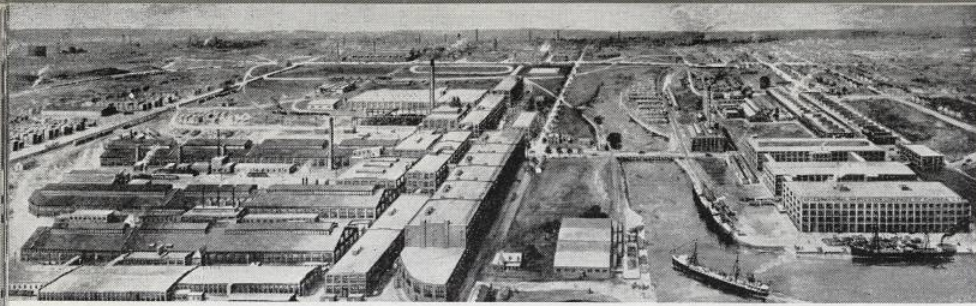
Norrkoping (Sweden) Works. Mowers, rakes, drills, binder twine.



Montataire (France) Works. Rakes, tillage implements, plows.



Springfield (Ohio) Motor Truck Plant.

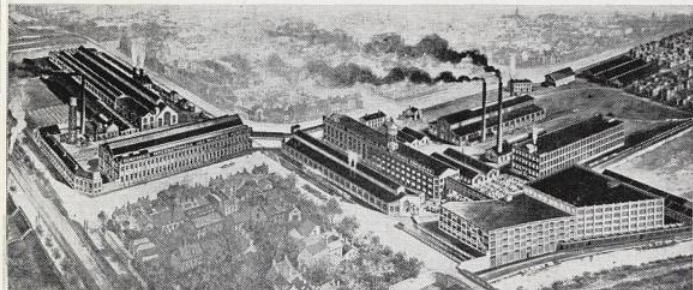


Hamilton (Ont., Canada) Works, largest farm machine factory outside United States. Harvesting and seeding machines, tillage implements, plows, threshers, binder twine.

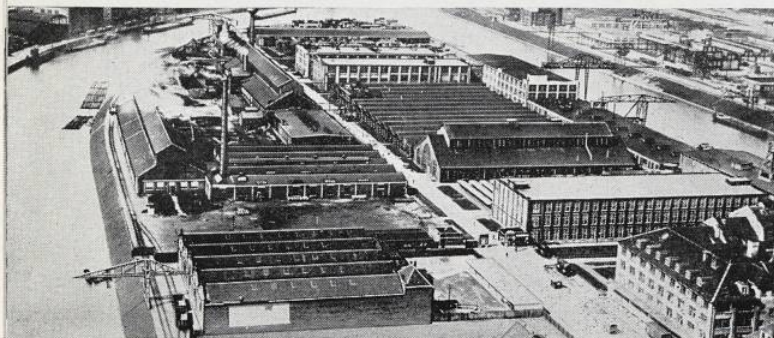


Chatham (Ont., Canada) Works. Wagons, motor trucks, sleighs.

thirty or more years ago still are able to keep their machines in working order because of the continuous repairs service they are able to obtain. The International Harvester Company is proud of this achievement.



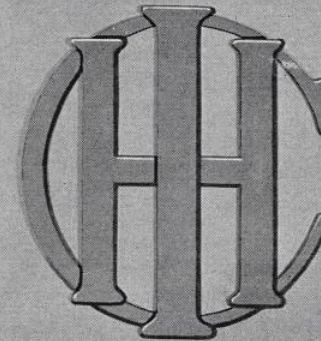
Croix (France) Works. Harvesting machines, seeding machines, binder twine.



Neuss (Germany) Works. Harvesting machines, hay machines, binder twine.

THE INTERNATIONAL HARVESTER LINE

For Farm and Industrial Use



GRAIN HARVESTING MACHINES

- Binders
- Tractor Binders
- Rice Binders
- Push Binders
- Harvester-Threshers
- Windrow-Harvesters
- Pick-Up Attachments
- Headers
- Reapers
- Threshers
- Rice Threshers

HAYING MACHINES

- Mowers
- Side Rakes and Tedders
- Rakes
- Loaders
- Sweep Rakes
- Stackers
- Tedders
- Baling Presses
- Alfalfa Threshers
- Clover Threshers

TILLAGE IMPLEMENTS

- Tractor Plows
- Riding Plows
- Walking Plows
- Disk Harrows
- Tractor Harrows
- Orchard Harrows
- Harrow-Plows
- Spring-Tooth Harrows
- Peg-Tooth Harrows
- Ridge Busters
- Field Cultivators
- Rod Weeders
- Rotary Hoes
- Cultivators
- Soil Pulverizers
- Land Packers
- Plow Packers

CORN MACHINES

- Planters
- Listers
- Cultivators
- Lister Cultivators
- Binders
- Ensilage Cutters
- Ensilage Harvesters
- Ensilage Blowers
- Pickers
- Huskers and Shredders
- Shellers

SEEDING MACHINES

- Grain Drills
- Broadcast Seeders
- Endgate Seeders
- Alfalfa and Grass Drills

BEEET TOOLS

- Seeders
- Cultivators
- Pullers

OTHER FARM EQUIPMENT

- Cream Separators
- Milkers
- Manure Spreaders
- Feed Grinders
- Hammer Mills
- Stone Burr Mills
- Potato Planters
- Potato Diggers
- Farm Wagons and Trucks
- Sleighs
- Lime Spreaders
- Lime Sowers
- Fertilizer Distributors
- Cane Mills
- Knife Grinders
- Binder Twine
- Replacement Parts

MOTOR-POWER UNITS

- Motor Trucks
- Farm Tractors
- Industrial Tractors
- Crawler Tractors
- Diesel Tractors
- Golf Course Tractors
- Power Units
- Engines

COTTON MACHINES

- Planters
- Listers
- Middle Busters
- Cultivators
- Dusters
- Strippers
- Stalk Cutters
- Choppers



North Wing, Foods and Agriculture Building



IHC Radio-Controlled Tractor



Travel & Transport Building

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