

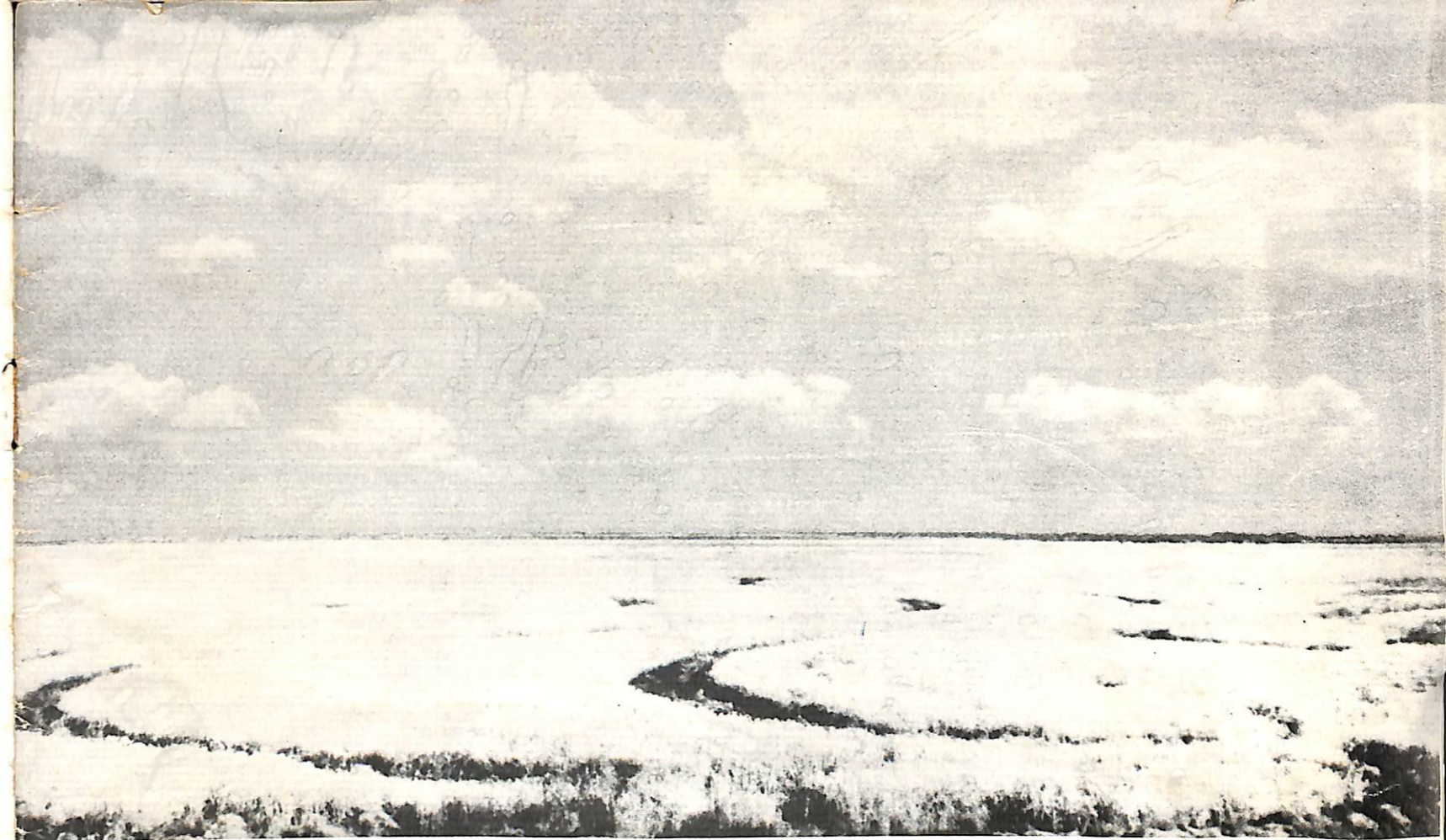
International Harvester's Geelong Works is situated at North Shore 45 miles from Melbourne. It is the manufacturing centre for a wide range of tractors and farm machines designed to ease the farmer's daily task and produce abundant food for Australia and overseas. It gives employment to 2,300 people



Mowing Hay



Raking Hay (foreground) and Baling Hay (background)

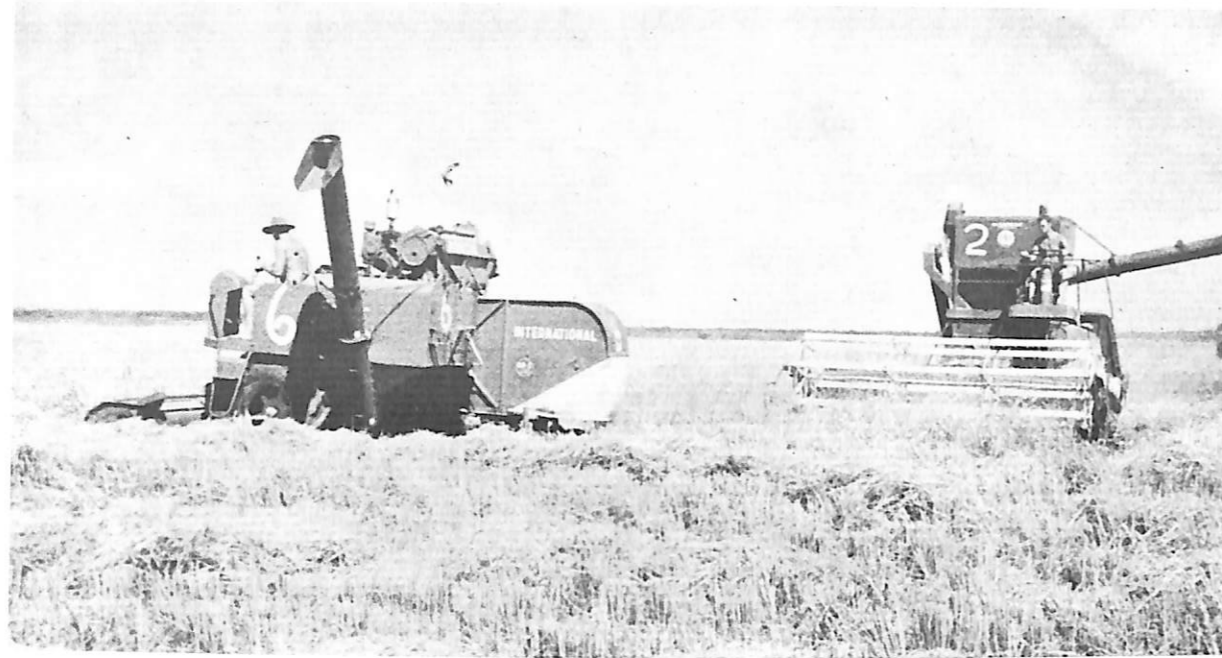


Rice Fields near Darwin

FARM MACHINERY and AUSTRALIAN AGRICULTURE



Baling Hay in Victoria



Harvesting rice at Humpty Doo near Darwin, Northern Territory

FATHER of Farm Mechanization



Cyrus Hall McCormick 1809-1884

“WHOEVER wishes to understand the making of the United States must read the life of Cyrus Hall McCormick. No other man so truly represents the dawn of the industrial era—the grapple of the pioneer with the crudities of the country, the replacing of muscle with machinery and the establishment of better ways and better times in farm and city life.”

This statement by author Herbert N. Casson in the introduction to his book “Cyrus Hall McCormick—his Life and Work”, is but one of the many tributes that have been paid to this man down through the years since 1831.

Young McCormick started life in 1809 on his father’s farm in Rockbridge county, Virginia, U.S.A., at a time when almost the whole civilized world was in a state of turmoil. He was not born of poor parentage. His father Robert in his most prosperous days owned four farms, two grist-mills, two saw-mills, a smelting furnace, a distillery and a blacksmith shop. He did more than till the soil; he was a craftsman in iron and wood as well as being an inventor of farm machinery. His greatest ambition was to invent a reaper but he failed, and it was left to his son Cyrus to fulfil his dream.

Cyrus studied the reasons for his father’s failure and worked out a new plan of construction. After a good deal of hard work he produced what has since been accepted as the first practical reaper in the history of the world.

It was a clumsy contraption but its significance in

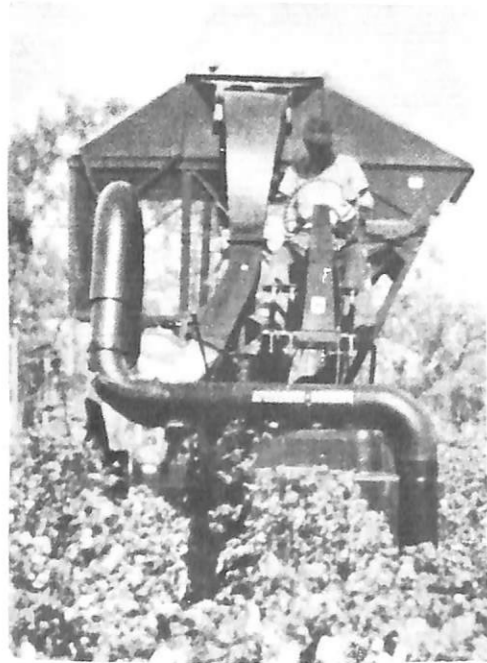
agricultural history was that, for the first time, here was a machine that incorporated all the basic principles that are still being used in modern grain harvesting machines today.

McCormick nearly missed the 1831 harvest but a small patch of wheat was left standing at his request. With only his family present, Cyrus put a horse between the shafts of his reaper and drove against the yellow grain. The reaper worked. The golden grain fell in a shimmering swath on to the platform and was raked off by a

FOR YOUR SCHOOL PROJECT

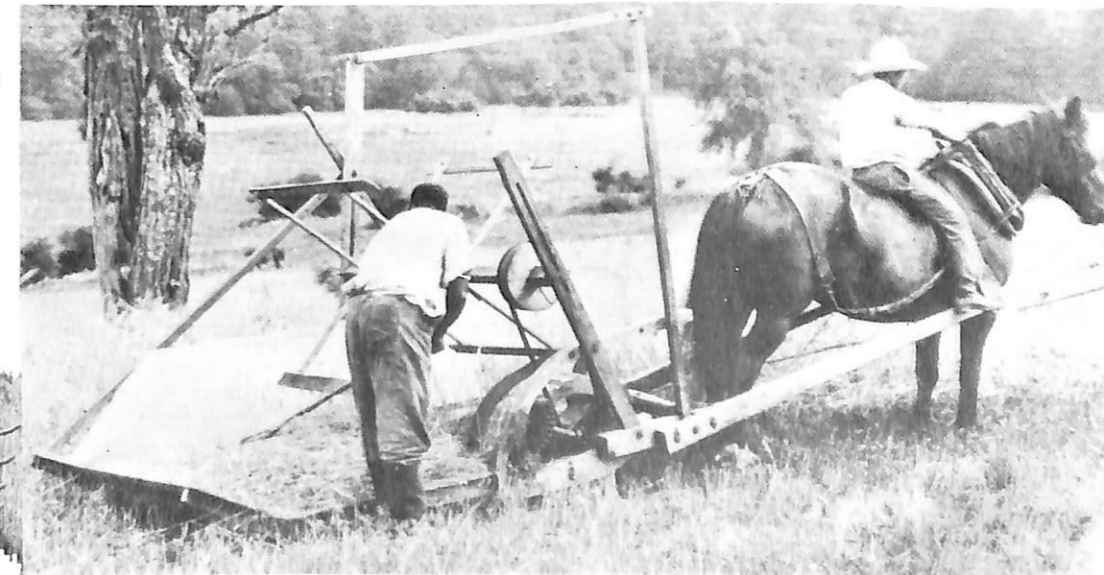
This booklet has been specially prepared for use by school students. It gives a brief history of the life of Cyrus Hall McCormick who invented the world’s first successful reaper. There is also a brief history of the development of the wheat industry in Australia during the past 100 years. A number of other aspects of modern agriculture are also covered pictorially for your benefit.

This booklet is presented to you with the compliments of International Harvester Company of Australia Pty. Ltd., manufacturers of a wide range of tractors, farm equipment, motor trucks and construction equipment here in Australia.



Harvesting cotton in Queensland

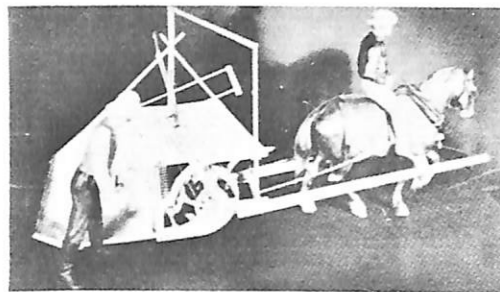
The 1831 reaper with its two-man crew could cut as much in a day as four or five men with cradles, or 12 to 16 men with sickles. Two acres cut with the cradle (below) was considered a good day’s work.



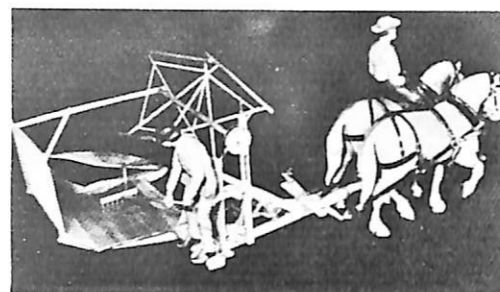
Harvesting wheat in Victoria



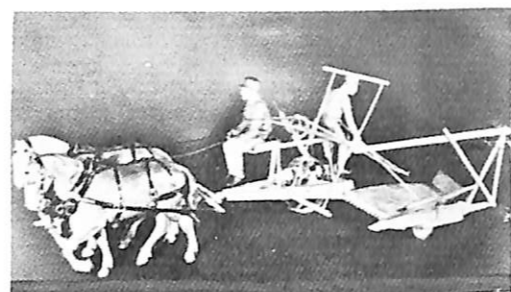
Sowing grain in Western Australia



McCormick hand-rake reaper, 1831.



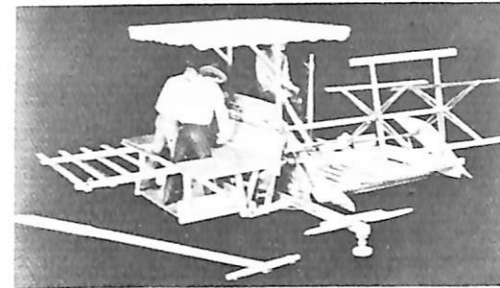
Improved reaper, 1847-48.



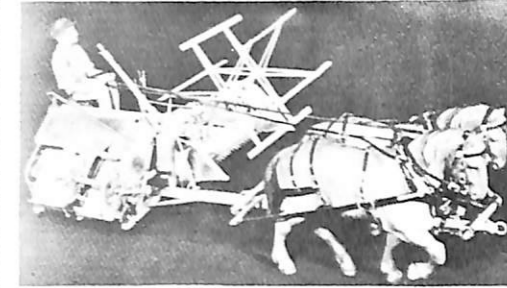
Combined reaper and mower, 1857.



"Old Reliable" self-rake reaper, 1865.



Hand-binding reaper, 1878.



Harvester and twine binder, 1885.

The forge shop on the McCormick farm, "Walnut Grove", near Steele's Tavern, Virginia. (Below) William McCormick, brother of Cyrus, stops to watch the inventor at work on his first reaper.



labourer. This was the first successful reaper demonstration in history.

A few days after his first trial McCormick had made a few improvements and was ready for a public demonstration at the nearby village of Steele's Tavern. Here with two horses he cut six acres of oats in an afternoon—a feat which seemed incredible at the time. It was equal to the work of six labourers with scythes, or 24 peasants with sickles.

Cyrus Hall McCormick was far from being the first to invent a reaper. Between 1786 and 1831 no fewer than 58 types of harvesting machines were recorded but until the advent of McCormick's reaper none had proved successful.

His first reaper advertisement, offering the machine for 50 dollars, appeared in 1833 but nothing came of it. Cyrus saw that as a means of making money his reaper was temporarily a failure, and for the next few years he turned his activities to the manufacture of iron. After several successful years the price of iron fell and he turned his efforts back to the reaper. He suffered further setbacks until 1842 when he became a salesman for his own machines and raised the price to 100 dollars. He was now on the road to success, for he sold seven machines in 1842, 29 in 1843 and 50 in 1844. At last after 13 years of struggle and defeat he had succeeded. By 1844 he had many converts and one of these achieved the world's record by cutting 175 acres of wheat in less than eight days.

He moved his operations to Chicago in 1847, one of the master strokes of his career, and became one of the city's biggest manufacturers with plans to sell 500 reapers in 1848. He introduced a new and revolutionary idea—a written guarantee with each machine.

The first American reapers reached Australia in 1852 and in 1856 a McCormick reaper won a prize in this country.

The great Chicago fire of 1871 reduced 2,000 acres of that city to ruins, along with McCormick's factory which at the time was producing 10,000 machines a year. However, before the cinders were cool he had started to rebuild a factory bigger than the old one. In 1874 the McCormick factory began manufacturing the wire grain binder, a machine which tied the grain into bundles and tossed it to the ground.

All went well with McCormick until 1880 when, like a bolt from the blue, came the news that William Deering had made and sold 3,000 twine self binders, and that

farmers had become prejudiced against the use of wire. Complaints came from everywhere. "The wire gets mixed with the straw and kills the cattle; it causes trouble in flour mills; it cuts hands and clutters up barn yards. We must have twine."

In a flash William Deering the newcomer became McCormick's toughest competitor. McCormick, whose policy was to give the farmers what they wanted, turned to manufacturing the twine self binder with excellent results. Sales in 1880 totalled 60,000 of all kinds of machines, but in 1885 the figure rose to 250,000.

There were 100 manufacturers of binders in the field before the appearance of the twine binder. The success of this machine reduced the number to 22. Even McCormick lost heavily at first but he was determined not to be beaten. At the age of 70 he entered into a trade war with Deering, a battle which did not end until the two organizations combined with other manufacturers in 1902 to form International Harvester Company of America.

Modern harvesting machines like this McCormick International A8-1 Header Harvester will crop 95 acres in a ten-hour day.

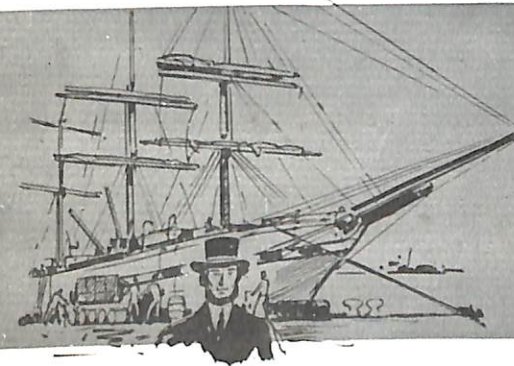


This 70-year-old Deering binder is still at work at South Burnie, Tasmania. Last season it cut more than 150 tons of sheaf hay.

Australian-made tractors and cultivator drills at Charlton, Victoria. These modern tools of agriculture are far advanced from the cumbersome units of the early twentieth century.



An early International Harvester tractor and plough being demonstrated in 1909.



Early days with HARVESTER in AUSTRALIA

AUSTRALIA'S development began in 1788 when Captain Arthur Phillip arrived in New South Wales. One of his first acts on landing at Sydney Cove was to issue orders that land be prepared for the growing of food. This was the beginning of Australia's agriculture.

For many years, the settlers were forced to use crude hand implements—a slow and painful procedure—as well as protect themselves from the hardships of nature and the hazards of hostile natives. These reverses resulted in a continual scarcity of food.

In the years prior to 1831 in the U.S.A.—the year in which Cyrus Hall McCormick invented the first practical reaper—it was necessary for nineteen men to work on the land in order to produce enough food to feed one man in the city. Similar conditions existed in Australia. Were it not for the inventive genius of man and the creation of efficient farm equipment, the present rate of development both of this and other great countries would not have been possible.

High on the list of Australia's great pioneers are those who have contributed to the growth of agriculture. Noteworthy is the South Australian, John Ridley, who invented a stripper which, although a crude device,

stripped the ears of wheat from the standing crop by means of a horizontal comb. Ridley's stripper, developed in 1843, enabled the labour costs for harvesting to be reduced from 3/- per bushel to just over 3d. per bushel. H. V. McKay was another great pioneer who, in 1884, further developed the stripper principle to create a machine that would take the heads from the standing crop, then thresh, winnow and clean the grain in one operation. Other important Australian agricultural developments included the invention of the stump-jump plough by R. B. Smith in 1876, and the introduction of irrigation. Men like William Farrar experimented with and produced, drought resistant strains of wheat suitable to Australian conditions; these strains enabled low rainfall areas to become productive, and added millions of pounds to Australia's income.

During the early years of Australia's development the predecessors of International Harvester made a considerable contribution to this country's agriculture. In 1877, a quantity of wire-tying grain binders was shipped to Australia, and for many years these machines, and later the twine-tying grain binders, became a common part of the Australian rural scene. Early machines in-

The CHANCE of a LIFE TIME 179-0-0

The demand for the "I.H.C." Auto Buggy has during the past six months been far in excess of the capacity of our factories. After refusing scores of orders through want of stock our belated inventors are now being filled. We have no less than 159 of these vehicles now landing and to arrive in Australia before March 15. Our storage space is fully occupied, therefore the first portion of these consignments must be moved before the latter portion arrives. To do so we offer them at a slight additional price. £179-0-0 Spot Cash, or on terms at a slight additional price. We send at our expense a competent expert to remain with each purchaser a week to instruct in operation. Every Buggy offered has been manufactured since September 1st, 1909, and contains the latest improvements. Every Buggy is backed up by our warranty—the broadest ever given with any Auto Vehicle.

More than 7,000 "I.H.C.'s" are already in successful use. We haven't space in this advertisement to give details about this vehicle, but you can get them from our pamphlet No. A2, which is yours for the asking. Condensed our claims are—cheaper, quicker, and more comfortable than horse vehicles; the simplest, handsomest, and most reliable Auto Vehicle ever offered at anywhere near the price. This cut price will be withdrawn without notice when a certain portion of these vehicles are sold. The time to act in this matter is NOW.

International Harvester Co. of America

200 RAIN ST. BRISBANE
37 BROADWAY SYDNEY
17 BANK ST. ADELAIDE
75 YORK ST. LAUNCESTON





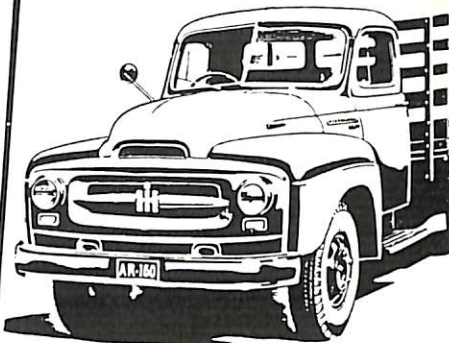
FRICITION DRIVEN

The man in the illustration is "Driven by Friction" to leave his happy (?) home.

The "I.H.C." Gasoline Traction Engine is Driven by Friction anywhere, any time.
No complicated set of driving gears—simply two Friction Wheels.
No "Waiting for steam," no boiler, no smoke, no cinders.
Wonderfully easy to handle, and can be backed and started with an accuracy quite impossible with any gear-drive engine.
First consignment sold out; twenty more due to arrive February, 1909.
Nothing else on the market like it; well worth the while of any tractor buyer to investigate.
Orders placed before January 1st, 1909, for delivery by May, 1909, will be accepted under terms of our Extraordinary Special Offer, which applies also to other types of "I.H.C." Engines Stationary, Portable and Hoisting.
Nothing nearly so favourable ever previously offered to Australian Engine buyers. Find out about it before it's too late.

International Harvester Company of America
Incorporated.
Kinn Street, Brisbane. 37 Broadway, Sydney. 545 Bourke Street, Melbourne.
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Plowing with an "I.H.C." Gasoline Engine at Tullamarine, Vic.

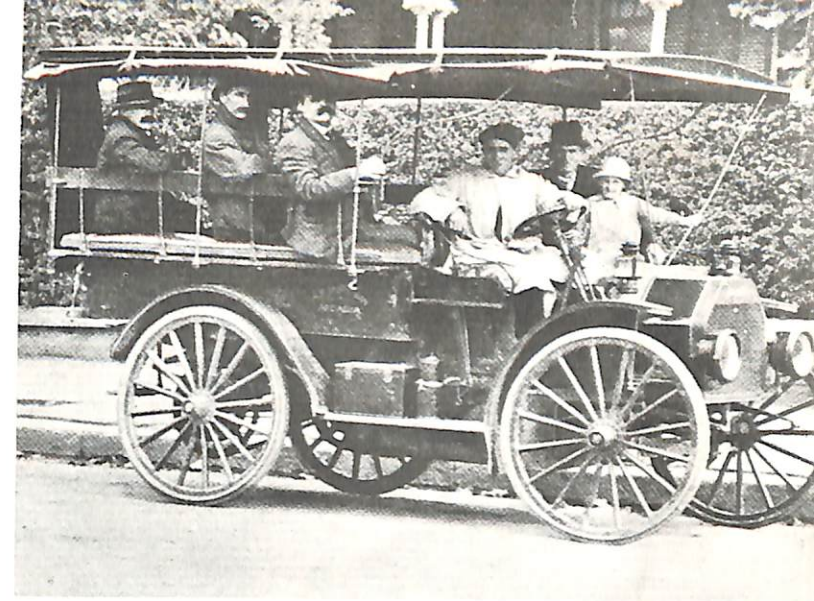
trucks of today. At first they were regarded with suspicion, however, when their possibilities were visualized, they quickly gained common acceptance and wide use. In 1902 the McCormick, the Deering and other farm implement machine companies, merged in the United States to form the International Harvester Company of America, which continued to operate with separate representatives in Australia until 1904, when the International Harvester Company of America opened for business. In July 1912 International Harvester Company of Australia Pty. Ltd. was formed to carry on in Australia the business formerly conducted by International Harvester Company of America and its predecessors.

The history of the Australian company is one of steady progress disturbed only by the depression of the early 1930's. During a period of widespread tariff restrictions on imports, plans were made for the manufacture of Harvester products in Australia. Geelong Works was established in 1938; but production was interrupted by World War II, and the company switched its facilities to the manufacture of materials vital to the allied effort in the South Pacific. Included in this were large quantities of vegetable-growing equipment.

Since the war an ever-increasing range of farm machines for all major agricultural activities has been designed, developed and produced. Tractor manufacture commenced at Geelong Works in 1947 and thousands of Australian-built tractors today serve agriculture and industry throughout the South Pacific.

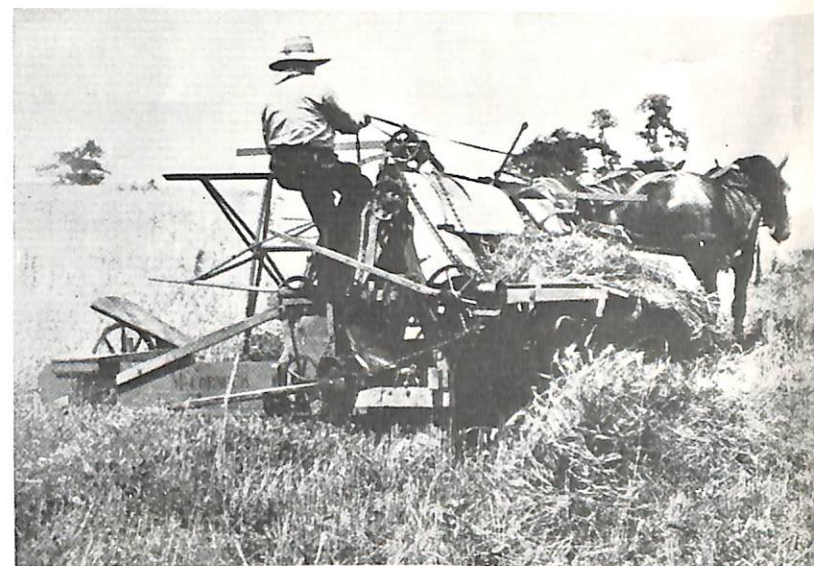
While for many years the imported International trucks which were sold in Australia included some Australian-made content, it was not until 1950 that truck manufacture began in Australia. Today the company's Dandenong Works manufactures over 100 different variations of International trucks.

International Harvester's long association with Australia has stood the test of time. Today the company, whose policy is founded on a spirit of pioneering tradition, is putting its "shoulder to the wheel" with the determination to help Australia complete her gigantic development programmes so that she will one day be one of the really great nations of the world.



Above: A 1915 International Auto Waggon converted for use as a passenger vehicle. These vehicles were popular on the farm and in the city.

Below: Early McCormick reapers were exported from America to Australia during the 1850's, and their successors, the grain binders, were well known in Australia before the turn of the century.



produced by International Harvester to Australia included steam engines, threshers, seed drills, garden implements, disc and mouldboard ploughs and cream separators. The first harvester was marketed in 1905 and was displaced in 1915 by the harvester thresher. This was the forerunner of the modern header harvester, now built at Geelong Works, a product which has been acclaimed by farmers all over Australia.

Perhaps the greatest IH contribution to agricultural growth in Australia was the early farm tractors which were introduced soon after the turn of the twentieth century. While these tractors were heavy and cumbersome they were the foundation of power farming as we know it today. International Harvester was quick to develop more efficient tractors with a higher proportion of power-output-to-weight. These quickly gained wide ac-

ceptance and soon began to replace horses on the farm.

While International Harvester's first farm tractor appeared in 1906, one of the biggest steps in the U.S.A. was the development in 1923 of the first all-purpose Farmall tractor. This was a new conception of the tractor as a power unit, utilizing less expensive but more efficient direct-connected implements.

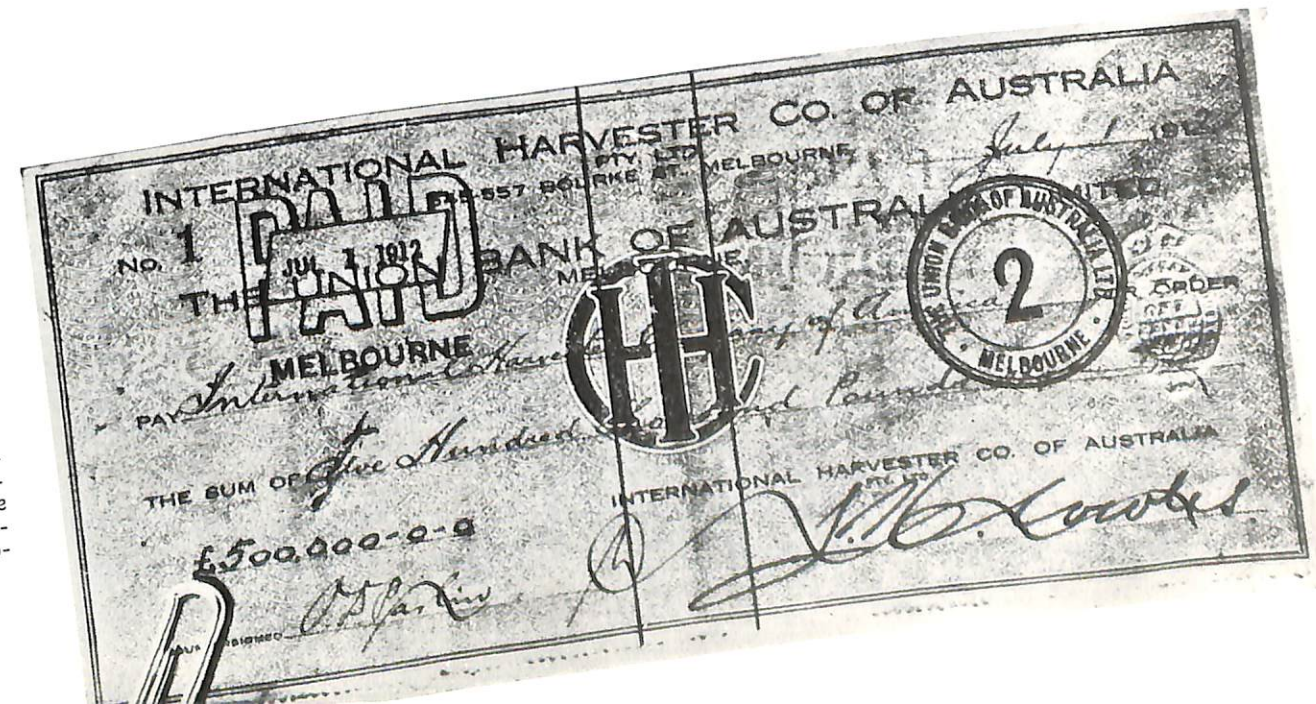
Another achievement accredited to Harvester engineers was the Farmall System of Farming—the original "system of farming" which enabled the farmer to operate a complete line of matched equipment for every phase of farming. System farming has now been developed to a stage where there is a complete system of implements for all types of farming.

Early in the field of road transport development, International Harvester produced its first production-line motor trucks in Akron, Ohio, U.S.A., in 1907 after nearly ten years of research and experimenting. Known as the Auto Buggy and Auto Waggon, these early International trucks were imported to Australia and were the forerunners of the world-renowned International

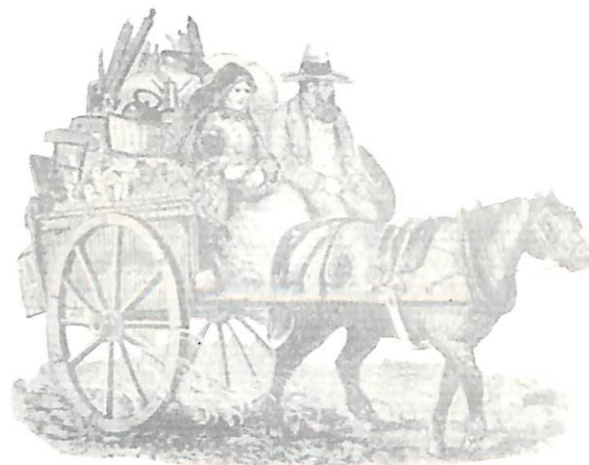
Left: An International Harvester tractor training school being conducted in South Australia in 1924. The tractor is a McCormick Deering model 10-20.



In July, 1912, International Harvester Company of Australia Pty. Ltd. paid a half a million pounds to International Harvester Company of America for the purchase of its Australian buildings, equipment and facilities



"From importer to one of the world's leading exporters" is the story of the Australian wheat industry



OVER 100 years ago, in the infant cities and straggling towns of a growing nation—438,000 people—the entire population of Australia was shaken by one of the most contagious maladies known to man. Gold had been discovered at Bathurst in 1851 and the news had spread like the plague. Men from all walks of life—lawyers to labourers—unshackled themselves from an ordered society, gathered their transportable goods and set out for the diggings, where they hoped to find their fortunes.

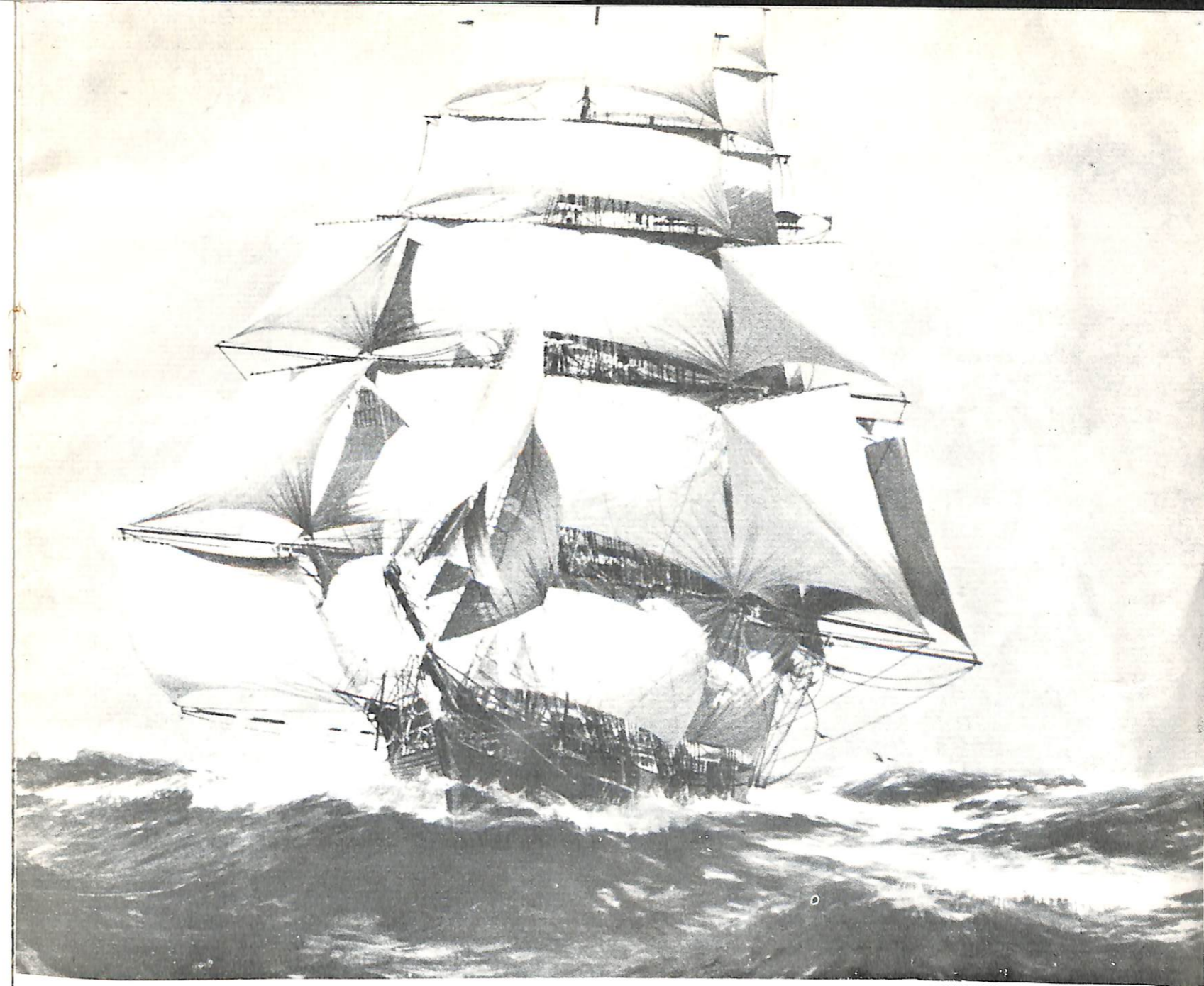
Within months the word had spread to other parts of the world; people came from everywhere over many thousands of miles. In four years the population had doubled; in another two it had passed the million mark and Australia, racked by a feverish prosperity, had come to be recognised as a country of worth—almost overnight.

But after four or five years of feverish energy, many were satisfied that there were other ways to wealth than gold mining. In the four years from 1850 to 1854 the area of Australia's cultivation had fallen

100 milestones

from 491,000 to 458,000 acres. The declining yield from agriculture in a land struggling to absorb a tremendous influx of population had sent farm prices soaring to what was then an all-time high; a phenomenon which had made the tilling of the soil more profitable than the delving into it. Many men were to throw down the shovel and take up the plough on the farms which they themselves had deserted when the gold fever broke out. Others created fresh settlement by clearing the land in new areas—pioneering farmers from a get-rich-quick era.

But while these men had been laying the foundations of Australia's agricultural future, the practice of agriculture was itself undergoing some radical changes. In the blacksmith shop of his family farm "Walnut Grove", Virginia, U.S.A., back in 1831, Cyrus Hall McCormick



From a painting by James Spurling

of mechanization

One of the most famous Clippers on the Australian run during the gold rush era was the "Lightning" (1,468 tons). With her 13,000 yards of canvas spread, she twice made 24 hour runs at 18 knots and held the record of 64 days from Port Phillip to Liverpool. As well as transporting cargo she was a favourite with passengers from overseas.

had invented the first practical reaper, a machine which after having proved itself in the U.S.A., made its first appearance in Australia in the year 1856 — over 100 years ago. As the earliest reports acclaim, the machine was revolutionary and, in fact, so successful that in 1858 an additional 25 reapers were imported.

Already established in the U.S.A. as a manufacturer of farm implements the McCormick company set about the appointment of more agents to distribute its products in Sydney, Melbourne and Adelaide. This was in 1878 and by the end of the harvest season of that year, McCormick binders had won eleven first prizes in trials throughout Aus-

tralia and New Zealand. During the next six years Australia and New Zealand imported about 3,500 binders, some 400 mowers and several reapers; quantities which were indicative of the growth of Australia's agriculture at that time. It is interesting to record that Australia and New Zealand were the largest and most profitable export markets during the lifetime of Cyrus Hall McCormick, who died in 1884.

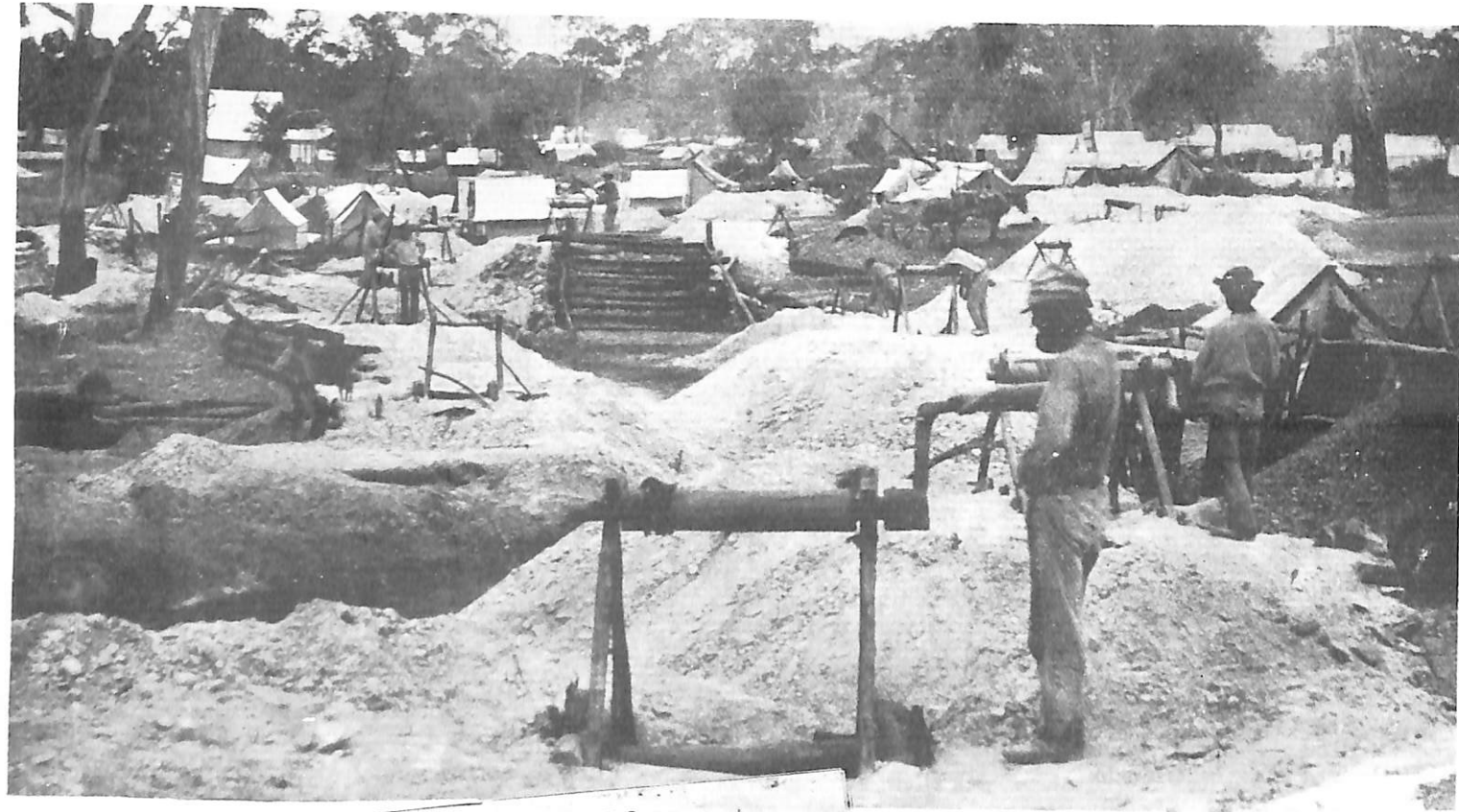
But although Australian wheat production jumped from 10,600,000 bushels in 1870 to 56,000,000 bushels in 1910 the progress of the industry to its present eminence was not all plain sailing. In 1899 something like a crisis occurred. The spring of that year had been abnormally wet during the

flowering period of the wheat and the warm humid weather which followed was favourable to the growth of rust, a fungus which attacks wheat plants with amazing rapidity, thus drastically reducing yields. By the end of the year it was estimated that the damage done amounted to nearly £3 million—and the outlook appeared black. But the situation was to be saved by a Queanbeyan farmer—William James Farrer.

William Farrer was a graduate of the University of Cambridge. He had come to Australia about 1870 as a result of bad health and settled on a farm in New South Wales. Interested in developing new varieties of grain, he conducted a series of experiments over a period of nearly a quarter of a century with a view to producing wheat plants suitable to Australian conditions. At the time of his death in 1906 he

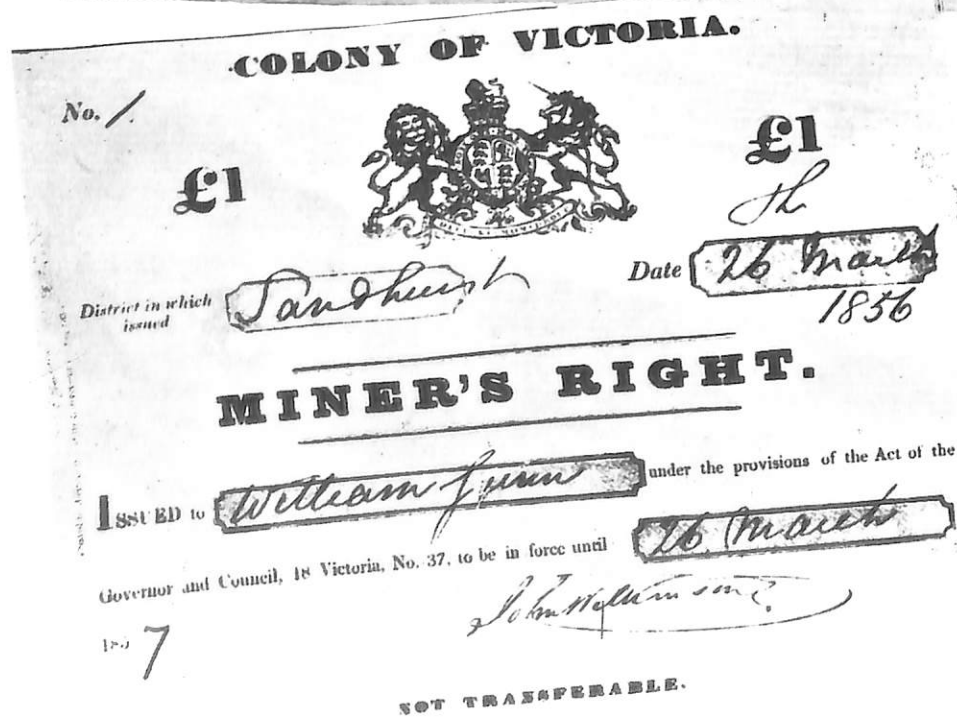
had developed 33 varieties of wheat, the best known being Federation, a strain which between 1910 and 1925 was the most extensively grown. His experiments had resulted in the growth of a strain of high yielding wheat from a plant able to resist disease and drought and give prolific yields in the Australian climate—a development which has benefited wheat farmers to the extent of millions of £'s. The introduction of superphosphate to the soils towards the end of the century also assured a continued high yield from sturdier crops. It also gave impetus to the development of the modern seed drill; for with such a machine it was possible to fertilize and plant the seed in one operation.

At the same time that Farrer was developing his wheat strains the farm implement industry was being re-organized. Two of the major manufacturers of the day, the McCormick



Above: Deep shaft gold-mining was generally carried out by the experienced diggers. This very old photograph taken in the 1850s at Mt. Alexander, Victoria, gives some idea of the extent of the gold rush.

Left: From September, 1851, until June, 1855, the digger had to obtain a licence to "dig, search for and remove" gold. The fee was 30/- a month until the end of 1853, when it was reduced to £1 for one month, £2 for three months, £4 for six months and £8 for twelve months. After 1855 miners were issued with a Miner's Right which cost £1 per year.



With the invention of the world's first practical reaper by Cyrus Hall McCormick in 1831 farm mechanization took a step forward far greater than ever before. This machine would cut as much grain in one day as four or five men with cradles—as much as 12 to 16 men with hand sickles. Within a decade the time required to harvest an acre of wheat was reduced from about 37 hours to an estimated 11½ hours, with a big decrease in the use of physical labour.



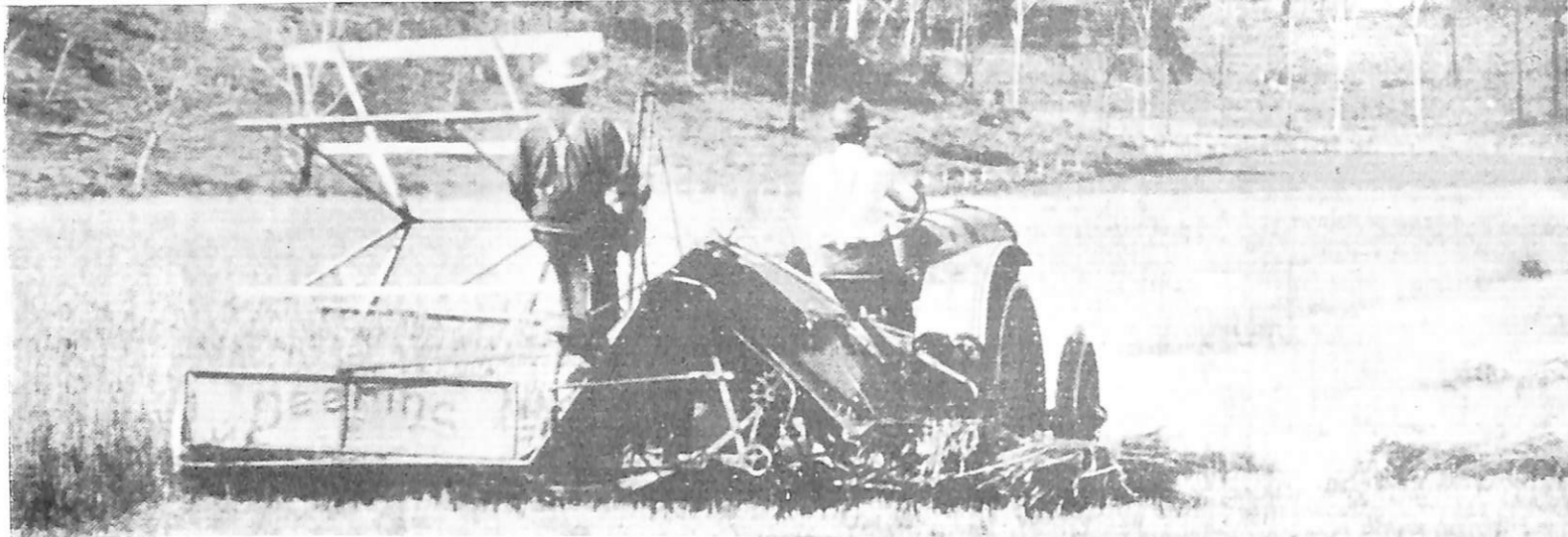
A famous pioneer in Australia's wheat industry was William James Farrer who, over a period of twenty-five years, developed 33 strains of drought-resistant wheat suitable to Australian conditions.

and the Deering companies, together with four smaller firms had merged in the U.S.A. in 1902 to form the International Harvester Company of America. However, even after the merger, the Australian farmer continued to know the McCormick and Deering products as separate divisions of their new parent organization—that is until 1904 when they combined operations in Australia as the International Harvester Company of America. Eight years later, in 1912, the Australian organization acquired the assets from the American Company to become the International Harvester Company of Australia.

Meantime, in the U.S.A., the first real large-scale tractor industry had been born; an event which is recorded as the biggest single thing that has happened to agriculture in general and harvesting in particular in modern times. But the transition to power farming was no sudden revolutionary change. It was a slow evolution which has extended over more than half a century and is still in progress. Centuries of use had so established the horse in his position as a farm utility that he came to be considered as an indispensable part of the farmers' equipment and although each horse demanded from 50 to 60 man hours of attention a year and consumed the production of approximately five acres of the farm land per year, it was not till after the end of World War I that farmers began to retire their horse teams in favour of the tractor.



As early as 1843 South Australian John Ridley invented a stripper which pulled the ears of wheat from the standing crop by means of a horizontal comb. The International 8-foot Stripper Harvester at the left was popular with farmers early in the twentieth century.



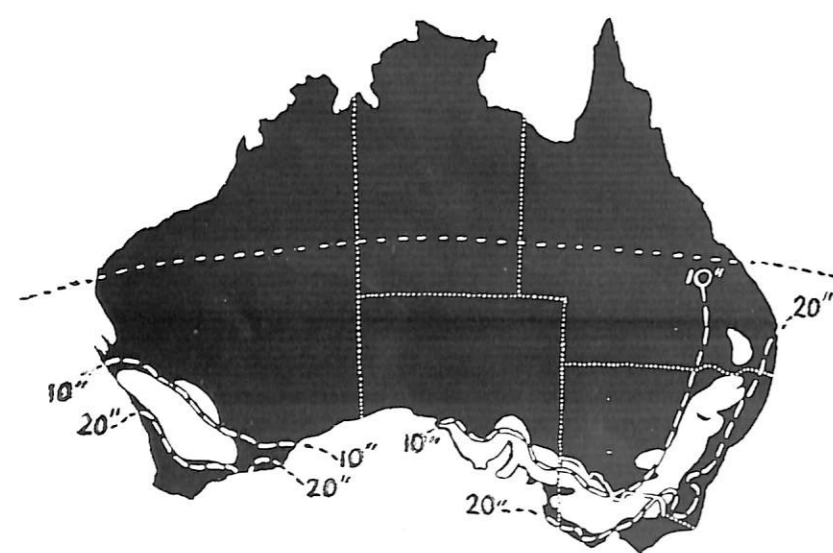
The advent of the tractor early in the twentieth century has been hailed as the biggest single thing that has happened to agriculture in modern times. The first International tractor was seen in Australia in 1908, but tractors did not become commonplace until the 1920s. Above is a Deering binder and a 10-20 tractor in the 1920s—both products of International Harvester.

Production costs were rising and the farmer, in his efforts to keep costs down, began to study the advantages and the techniques of tractor farming, and indeed to regard farming generally as an important business proposition.

His products were finding extreme competition from others on the world markets and the distance from those markets made transport costs high. He just had to trim costs to the finest if he were to stay in business. The coming of the motor truck in the wheat fields in the 1920s helped to some extent to improve this position.

By 1925 Australia was enjoying a period of prosperity, and with new developments in farming practices—attributed to the acceptance of the tractor—the acreage under wheat was almost twice that of the year 1900.

In 1930, widespread tariff restrictions were imposed on



White areas indicate the Australian wheat belt; the figures, average rainfall in inches

Below: An International bulk handling truck being loaded in the field from a bulk bin. The GL-200 header harvester in the background is about to start on its journey with a similar bulk bin attached. By continuously changing each bin as it is filled, there is no delay in harvesting. From here the International truck transports the bulk grain to the silo or railhead.



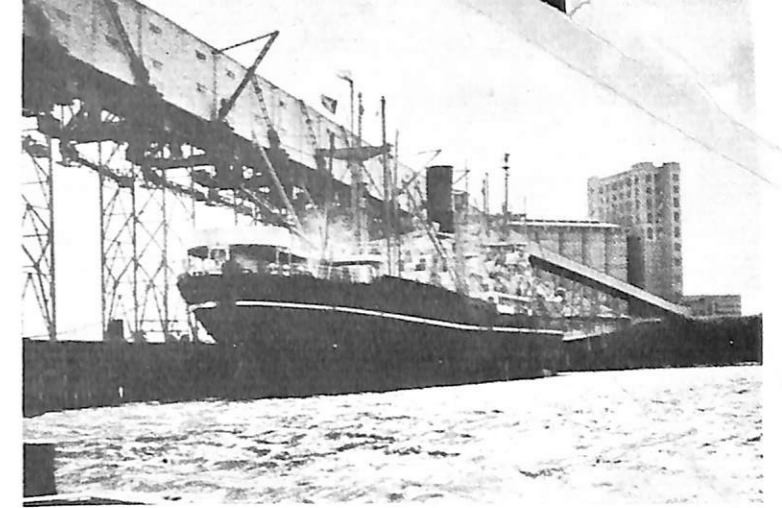
imported farm machines. This situation, coupled with the strong demand for equipment especially developed for Australian farming conditions, influenced International Harvester to investigate the possibilities of local manufacture. After long and careful investigation a 46-acre site at North Shore near Geelong was purchased and a modern farm equipment works erected. Manufacture commenced in 1939.

During World War II the Allied Forces called on Australia's assistance in food production for the fighting forces and civilian population. Geelong Works played a prominent part in manufacturing farm machines to make this possible.

At the end of the war the company commenced the manufacture of tractors at Geelong and today produces a line of tractors and matched equipment not only for the wheat farmer but for every phase of farming. In 1950 the company began the manufacture of International motor trucks in Australia and today these trucks are at work throughout the nation, serving the needs of agriculture, commerce and industry.

Today each farmer produces enough food to feed 25 Australians. This is the reverse situation of the days before 1831 when 85 per cent of the world's population was forced, by the need for food, to work on the land. Australia is still regarded as one of the leading primary producing nations of the world, yet few countries have less people proportionately working on the land.

International Harvester is proud of the part its products have played throughout the past century in helping to



The pioneer method of handling wheat from the farm was in four bushel bags each weighing up to 250 lb. Today, by bulk handling methods the grain is transported by motor truck and/or train to terminal silos such as at Geelong where it is loaded into the ship at the rate of 1,600 tons per hour.

build the Australian wheat industry. The tremendous savings from the use of International Harvester and other Australian-made farm machinery has helped raise our standard of living, meant more and better food, clothing and homes. Power farming equipment has lightened the labour and increased the prosperity of the Australian farmer; raised his status from that of a person bound to the sod, to that of an independent business man. In turn his products have given this nation an easier way of life and a higher standard of living than ever before.



Before McCormick's invention of the reaper in 1831, the cradle was the most efficient method of cutting the crops; with it one man could cut two acres per day. The reaper increased this figure to 8 acres per day, but today the Aus-

tralian-made machines shown above — the McCormick International A8-1 header harvester and Super AW-7 tractor or the A8-2 self-propelled header harvester — machines which can cut out and thresh more than 60 bags of grain per hour.