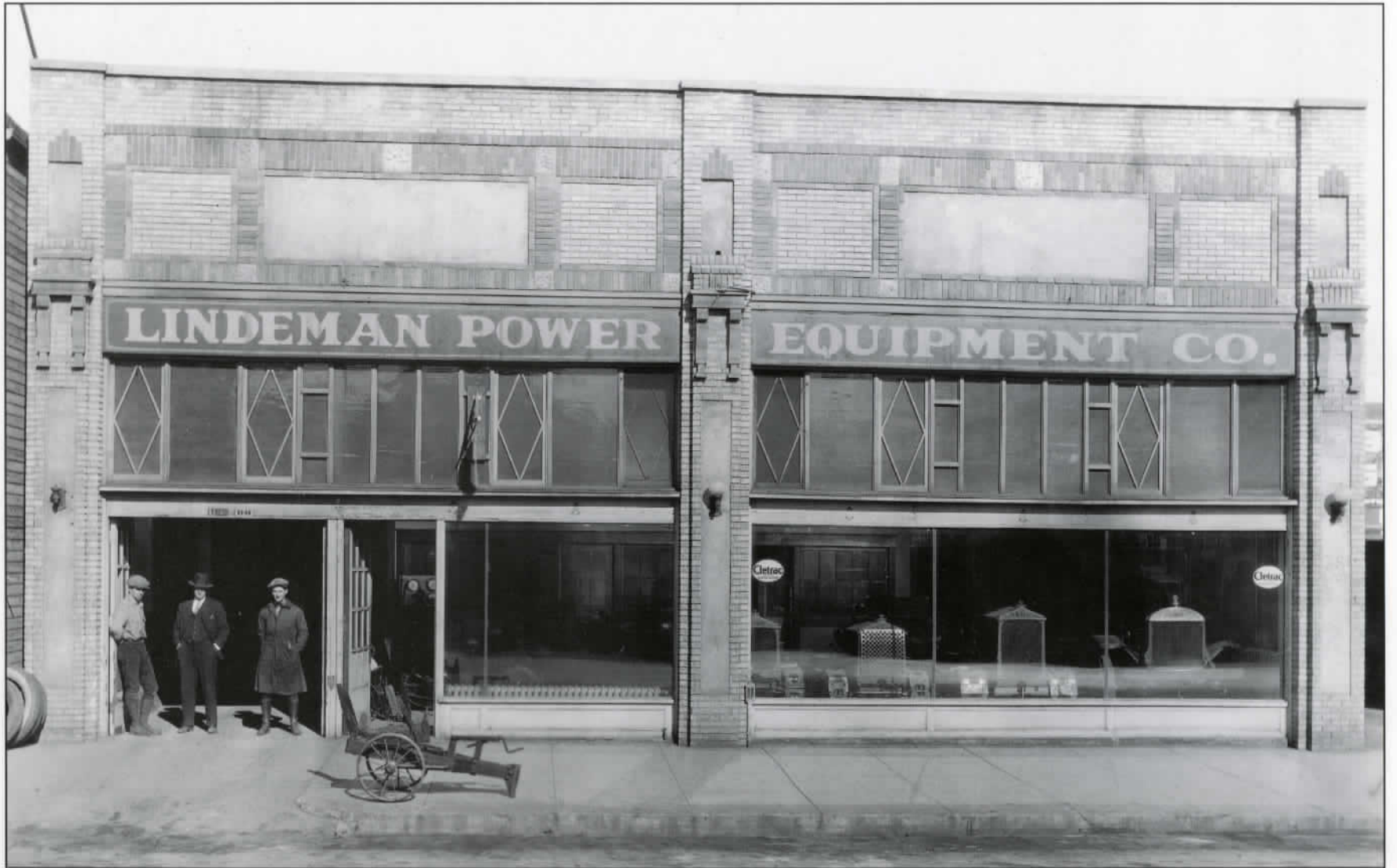


Two-Cylinder



Volume VI — Number I
January-February - 1993



TWO-CYLINDER CLUB
"For the restoration and preservation of
John Deere two-cylinder tractors and
related products"

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COVER PHOTOGRAPHS

FRONT and BACK

This "wide-tread" type of "BO" Lindeman Crawler was built specifically for row-crop farming. The tracks are adjustable, providing a choice of tread widths for a variety of applications. The photos were taken on the product display pad in front of the Lindeman Power Equipment Company in Yakima, Washington.

INSIDE FRONT

The Lindeman Power Equipment Company was located in a former Cadillac dealership in 1925.

INSIDE BACK

In 1929, the Lindeman Power Equipment Company moved to a new location which eventually grew to ten acres with over 400 employees. This site became the John Deere Yakima Works in 1947.

Preface

In 1919, when Jesse Lindeman was just 20 years old, he left Cass County, Iowa, and headed to Washington State. After a year's experience in the air service of the U.S. Army during World War I, he was determined to see the world. With an uncle in Ellensburg, Washington, this seemed a good place to start. Little did he envision that, armed with an eighth grade education, he would stay in Washington all his life and become a self-taught agricultural engineer and one of the best-known and most admired personalities involved in agricultural development in the 20th century.

People close to him, including his friends Ted Adams and Bob Mull, say that Jesse was somewhat oblivious to the degree that his inventions and creations had made him famous. It was only during the last year or two, after he began to slow down somewhat, that he realized that there were two or three generations of tractor collectors who held in the same kind of high regard that a gun buff has for John M. Browning.

Jesse is gone now. He died last September, at the age of 92. Had it not been for the urging of this friends, a lot of the history connected with Jesse and the Lindeman Power Equipment Company would be lost. Ted Adams, Manager of Lindex Company, Inc.*, sat with him as they sorted through the soiled photographs and damaged nitrate negatives that made up a 70-year pictorial history. Bob Mull gathered up fragments of early films and blended them into a video-taped 1991 interview with Jesse. Del Bice of the Yakima Valley Museum conducted several interviews with Jesse, documenting many of the important events of his life. Without their kind assistance it would not have been possible to provide but a small fraction of the information presented in the feature article.

Many of these historic items will be reviewed by the Archives at Deere & Company, and transferred onto modern photographic materials to assure preservation of the images for generations to come as the original nitrate negatives continue to self-destruct.

The Yakima Valley Museum in Yakima is in process of sorting through additional items, and will be preparing a display through the use of the original artifacts that comprise the Lindeman family legacy.

**Lindex Company, Inc., is the last of the companies personally started by Jesse Lindeman. Under the guiding hand of Ted Adams, they continue to manufacture 3-pt. hitches and PTO units for agricultural application on John Deere and Caterpillar crawler tractors.*

Lindeman

The Lindeman name is familiar to most John Deere collectors because of the Lindeman Crawlers — primarily the Model "BO" tractors made into crawlers by the Lindeman Power Equipment Company of Yakima, Washington.

The company was started by Jesse George Lindeman in 1923, in partnership with his brother, Harry. Jesse had come to Washington a few years earlier, figuring that this was a good place to start to "see the world." He had an uncle that lived in Ellensburg, and it was a long way from his family home in Iowa.

Within a short time, Jesse was working for Rovig Lumber Company in Yakima. In those days, in that area, farm implements were usually sold by lumber companies, in much the same way that hardware dealers sold farm implements in other areas of the country.

In 1921, Rovig had become dealers for the Moline Plow Company line of tractors and implements. The tractor was too tall to operate under the tree limbs, so Jesse modified a regular disk harrow to extend and cultivate under the limbs. While few of the Moline Plow Company tractors were sold, the harrow design worked well with the new Fordson tractor.

The following year, the Rovig Company became bankrupt and their entire inventory was sold. Jesse and Harry Lindeman were able to buy about \$4000 worth of implement repair parts for \$158.

They rented a small place and started the Holt Tractor Agency as dealers of Holt-Caterpillar, and began to manufacture the extension disk harrow for sale through the local Ford dealer. With great plans for the future, they changed the name of the business to Linde-

man Power Equipment Company.

There were times during the next few years that they wished they had their original capital back (about \$300), but they had no recourse other than to hang on.

In 1925, they were joined by another brother, Ross. They acquired the dealership for Cletrac Crawler Tractors, having lost the Holt dealership with the formation of the Caterpillar Tractor Company.

They needed more room, so they rented and moved over to the building of a former Cadillac dealer on South First Street (see inside front cover). They added a disk furrower, a tractor brush rake, and a trailer for hauling fruit at harvest to their line of manufactured products, and marketed their the "Friend" line of orchard sprayers.

In 1928, the Lindemans purchased about 1-1/2 acres of property and built a section of what would later become a 150 x 150 foot building. They moved their business to the new location in 1929 (see inside back cover), and stayed there until their sale to Deere & Company in 1946. By then they were manufacturing ten different types of implements, and annual sales topped a quarter-million dollars. A younger brother, Joe had joined the firm in 1934. Both he and Jesse became employees of Deere & Company when their old firm became the John Deere Yakima Works. (They didn't need much of a break-in.)

It was in 1930, the year that Harry Lindeman was killed in a one-car accident on a lonely and treacherous road in the Cascade Mountains, that things really began to change for Lindeman Power Equipment. The Great Depression was beginning to take its toll, and

(Text continued on page 9.)

The Lindeman name is well-known among John Deere collectors primarily because of the "BO" Lindeman Crawler.

Page 3: Model "BO" Lindeman Crawler with 6-foot Killefer Chisel Plow. Early "BO" Crawlers did not carry the Lindeman name on the track frame cover like the one shown here. Tractor operator, C.R. Chapman, Ashland, Oregon, May 1941.



Above: Initially intended for orchards, the crawlers also performed well in fields.



**LINDEMAN
ORCHARD SPRAYER**
BUILT IN THIRTIESTS
4000 GALLONS
200
Pulled and Driven by Motor
CATERPILLAR Tractors
SHEPHERD/CROOK Inc
San Antonio, Texas

JOHN DEERE TRACTOR
FOR POWER
FOR FERTILIZING AND
FOR CULTIVATING

Natural Gas For Economy

THE
SALES
OF
CATERPILLAR
TRACTORS

CHING CAL

MFG BY
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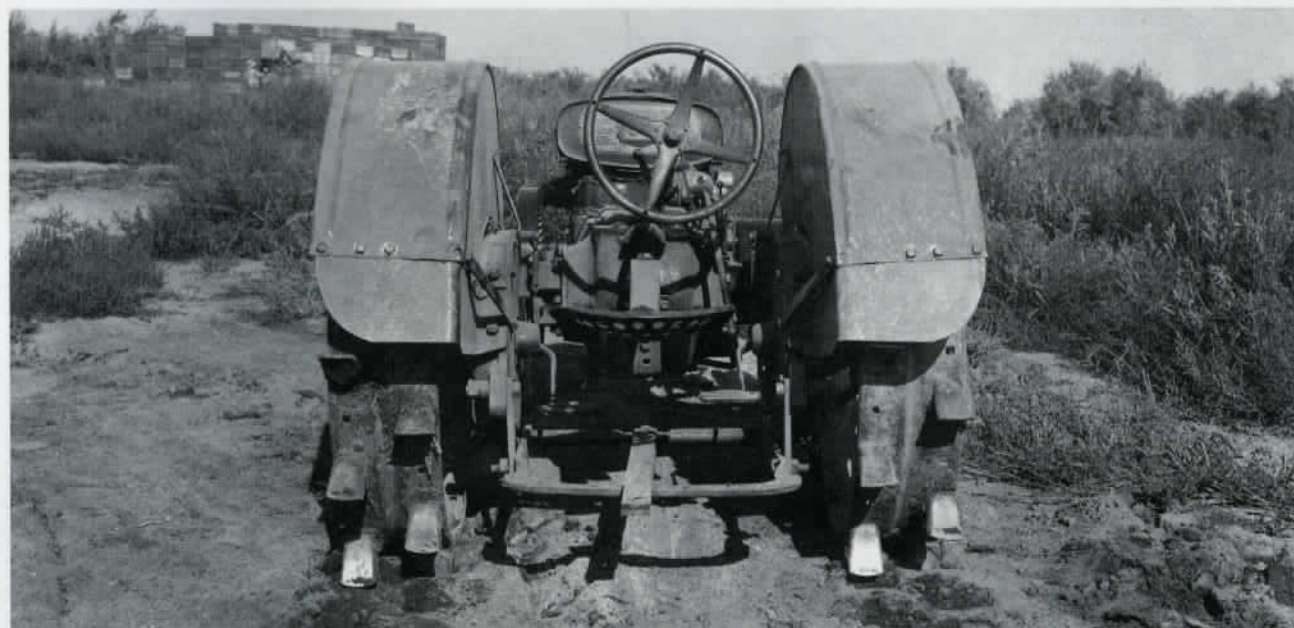
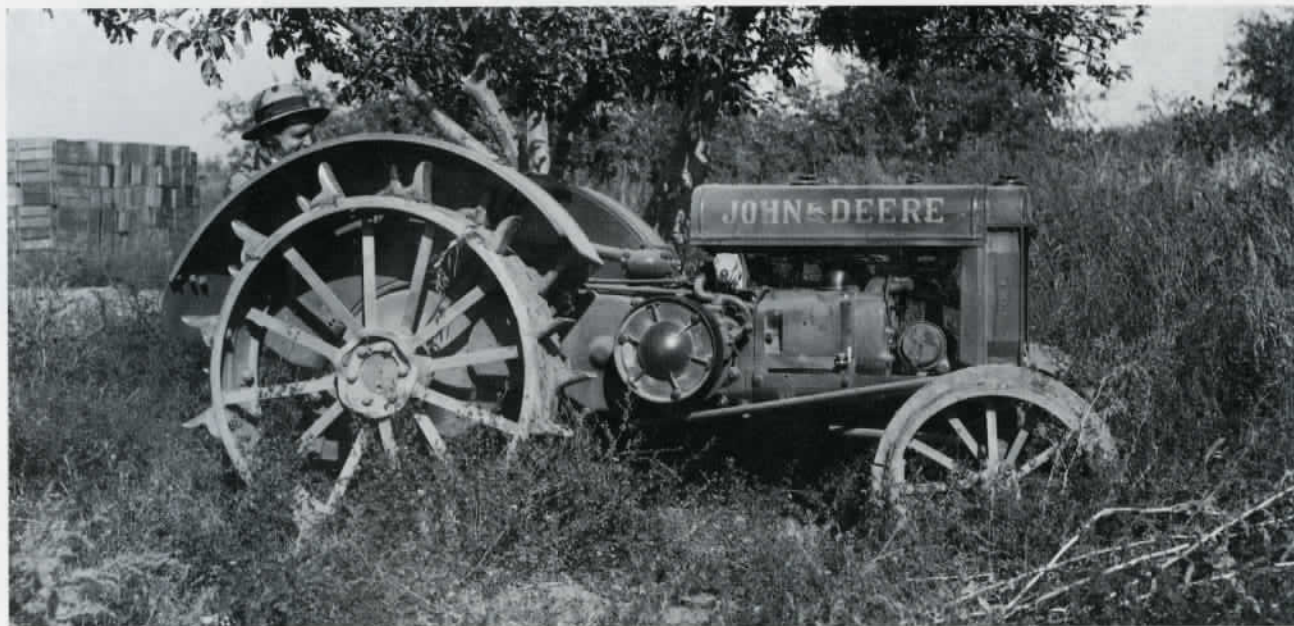
CATERPILLAR TRACTOR CO.
SAN ANTONIO, TEXAS

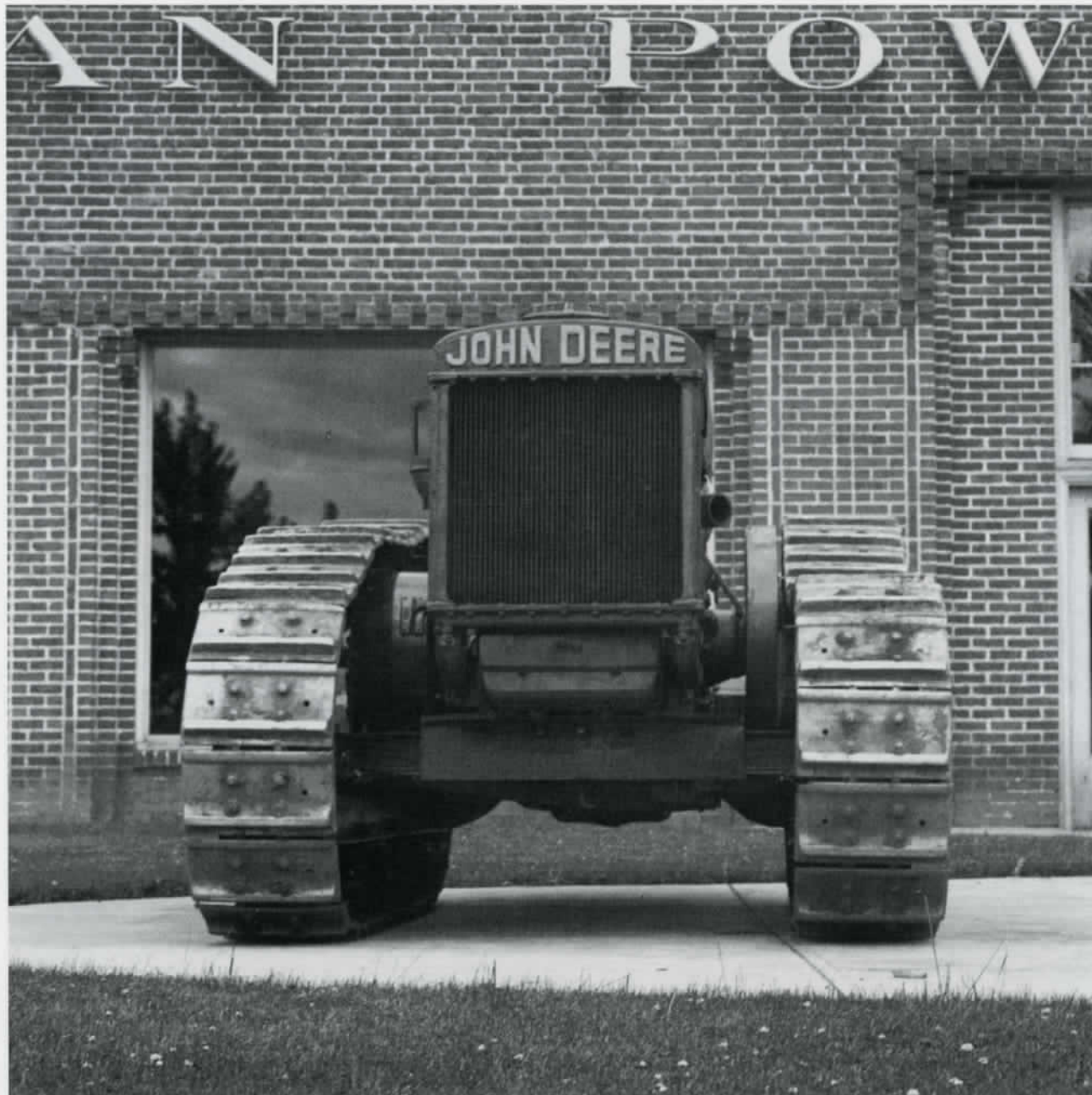
Page 4: Harry Lindeman manning the Lindeman Power Equipment Company display at a show in the late 1920's.



Ross Lindeman.

Right: The first known effort by the Lindeman Brothers to adapt John Deere tractors to orchard use occurred when they modified this 1929 "GP" Standard. The fundamental design was later adopted by Deere to produce the "GPO".





Left: In 1932, the Lindeman Brothers fitted a crawler assembly to three Model "D" Tractors. One of them was sent to the Deere & Company Experimental Farm for testing in 1933. The tractor shown here is parked on the product display pad in front of the Lindeman Power Equipment Company.

Page 7: The "D" with Lindeman crawler attachment was only able to outpull a regular "D" in low gear, at the expense of speed. At 2-1/2 miles per hour, pulling capacity of either unit was about 5000 pounds.





Above Left: Model "D" with Lindeman crawler attachment. Low clearance limited their potential as an agricultural tractor.

Below Left and Below: Size and maneuverability precluded any chance the Crawler "D" might have had as an efficient orchard tractor. At least, with that seat, they would be relatively comfortable during long trips across fields.



(Text continued from page 2.)

the company was unable to collect many of their accounts. The brothers decided to dissolve the partnership and form a corporation. A number of product lines were added to create new sales opportunities. One of these would change the scope of the company forever. They became John Deere dealers.

Retail sales of John Deere tractors was reasonably successful, but neither of the models available at that time were well suited to orchard work. The Lindeman Brothers (as Deere personnel often referred to them) took a "GP" standard tread and modified it with special quill castings and front axle to drop the tractor's height by seven inches. The seat position was also lowered, which gave the operator a fighting chance to clear at least some of the branches in orchards. Deere engineers and officials looked at their lowered "GP", and made further revisions and developments to create the "GPO".

rollers. One of them was shipped to Deere & Company for testing, which resulted in Deere encouraging the Lindemans to put tracks on the "GP" instead.

From that encounter, the "GPO" Lindeman Crawler was conceived. Only about two dozen of these units were built. Production records for the entire lot do not exist. The "two dozen" figure appears to be based on handed-down statements rather than hard facts. Deere & Company records show five "GPO" tractors that were shipped to the Lindeman Power Equipment Company without wheel equipment. It seems likely that they were specifically intended to become crawlers. Others were most likely built using "GPO" and "GP" tractors that had been shipped with wheel equipment.

About the time that the value of a low-profile crawler tractor was being discovered in area orchards, Deere confided with the Lindemans by letting them know that the "GP" was going to be dropped and a new model introduced.

Years later Jesse would recall his experience with the "BO"... "Everything just clicked. It was a beautiful little tractor." Although designed for orchards, the "BO" Lindeman Crawler found surprisingly wide acceptance among farmers for a variety of crops in many environments. Of the nearly 1700 built, over a thousand were sold outside the Yakima area.

Sales of the other Lindeman-built products increased during the 1930's and 1940's. Major items included the special disk harrows, two-way plows, potato harvesters, beet loaders, land shapers, transplanters, the rapid apple sizer, trailers, sprayers, brush rakes, hitches, and the portable hop harvester.

Most of the "BO" Lindeman Crawlers were built from 1943 through 1946. Deere shipped the short assembly of engine, transmission and related parts to Lindeman, where they

(Text continued on page 14.)



Above: Front view of tractor shown on page 7.

Below: A better idea for orchard use than the Model "D", fitting the "GP" with a crawler attachment provided a concept that would later be successful on the "BO". There were about two dozen "GPO" Lindeman Crawlers built, and those remaining today are worth a small fortune.



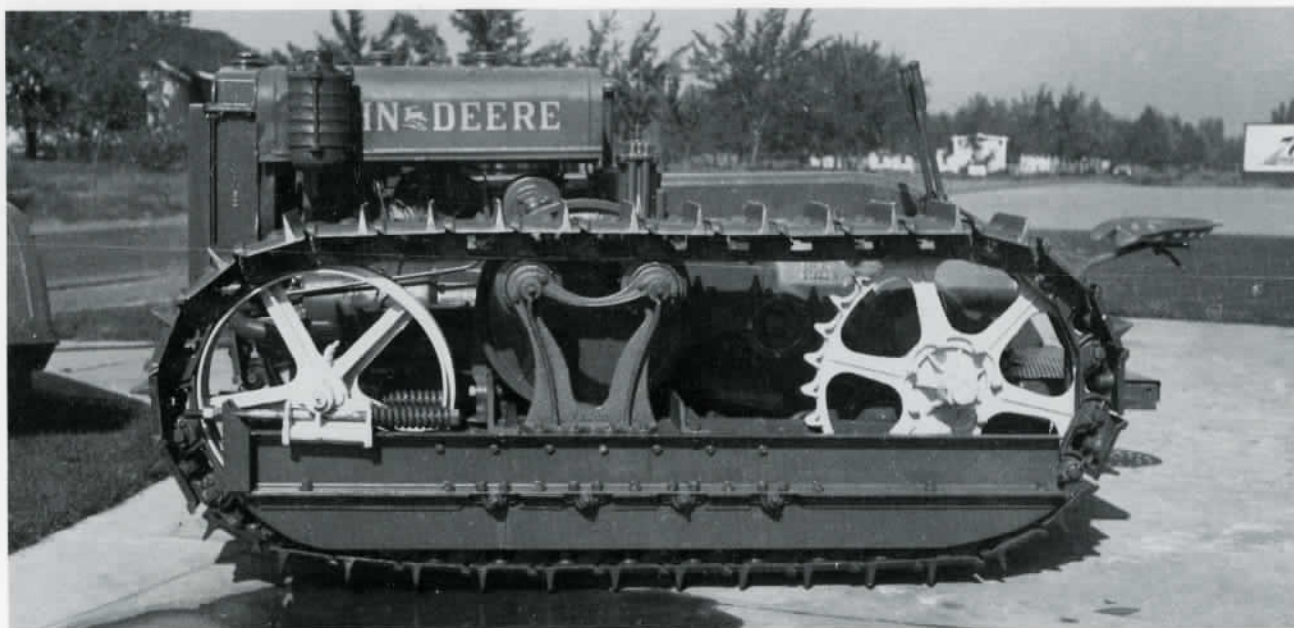
Model "D" Lindeman Crawler.

The Lindeman Brothers were getting some attention. That helped in the credibility department when they contacted Deere again, in 1932, to let them know that they had devised a track system for the Model "D". They built up three of these units, using Best 30 tracks and

LINDEMA



Page 10: Model "GPO" Lindeman Crawler with "GO-800" Sprayer. The 3-wheel configuration on the sprayer was to provide a smooth ride and stability over irrigation ditches. The pump is a Friend Model "ATC". The fenders on the tractor were regular equipment, but were usually later removed by owners for easier servicing of the tracks.



Above Right: Fender removed from left side to expose crawler mechanism. The flywheel-side exhaust indicates that this "GPO" Lindeman Crawler was built from an early (5-3/4-inch bore) "GP".

Below Right: Even the "GPO" Lindeman Crawlers made it out of orchards into farm fields... an act that would be followed repeatedly by the "BO" Crawler.

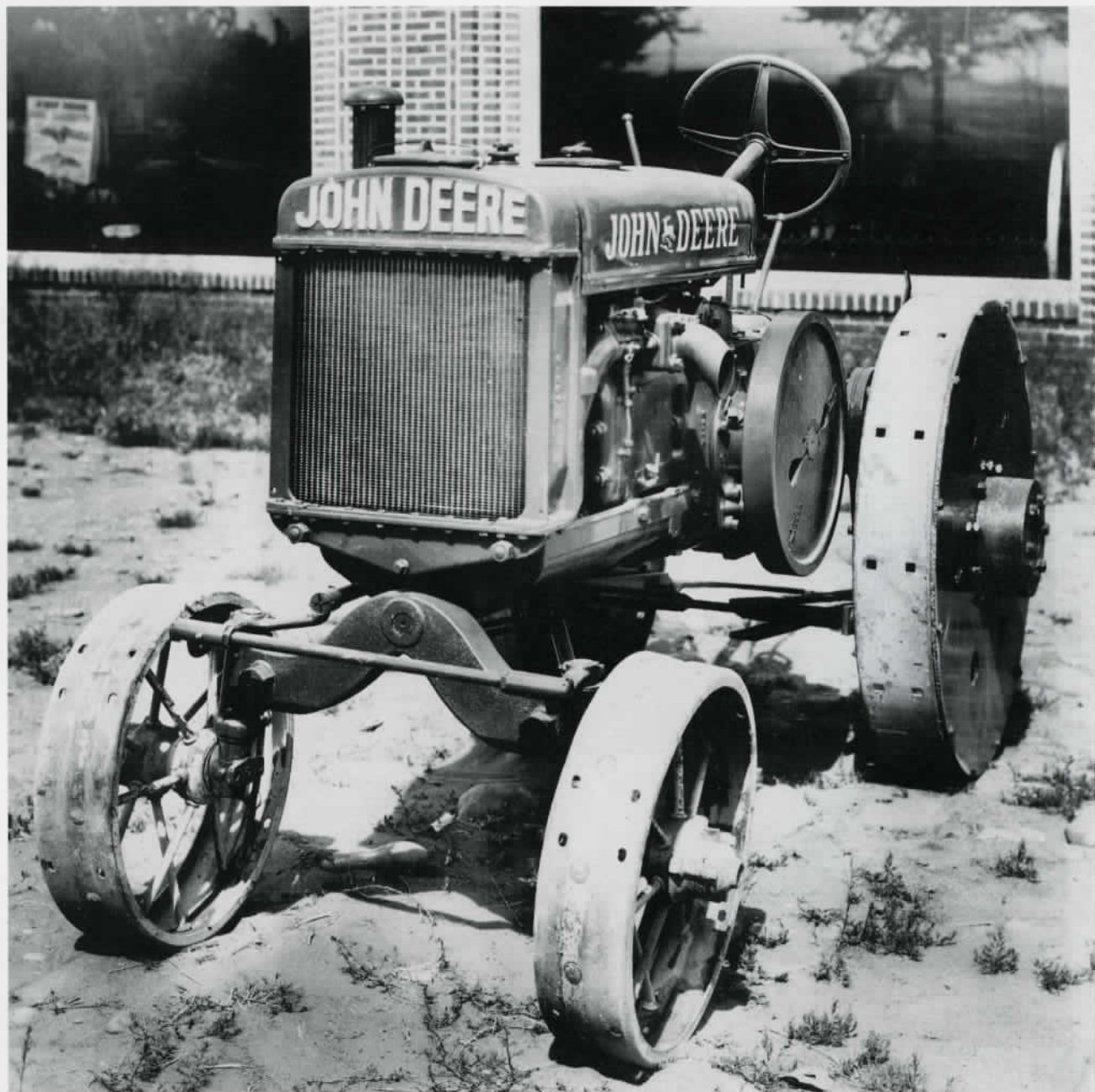




Left: The "GPO" Lindeman Crawler quickly found a home in the orchards of the Northwest. The wet, hilly countryside was finally conquered by the little crawler and offset harrow.



Right: There's no written record to indicate why Lindeman narrowed up this 1930 "GP". It may have been for a vineyard or specialized vegetable crop.



(Text continued from page 9.)

added the final drive, steering clutches, track assemblies and attachments. At their peak, the Lindeman Power Equipment Company spread out over ten acres and employed over 400 people.

Just as with the "GPO" Lindeman Crawlers, there is some question as to how many of the "BO" Crawlers were built. A figure of 1675 was offered by Jesse Lindeman, which matches the figure on the back of the autographed photo he sent us showing the last of them to come down the assembly line. That tractor, incidentally, may be serial number 337345, if we can figure that the last "BO" shipped to them from the Waterloo Tractor Works was also the last one built by Lindeman.



Shipment of "BO" tractors, without wheel equipment, from the John Deere Waterloo Tractor Works.

The problem with the figures is as simple as lost records. The Tractor Production Records of the Lindeman Power Equipment Company stayed with the firm when Deere bought and changed it to the John Deere Yakima Works. When the factory was closed in 1954, and the operation was moved to Dubuque, Iowa, the records disappeared.

The figure of 1675, if not right on, appears to be close. Deere production records support

that 1748 "BO" and "BR" tractors were shipped to Lindeman Power Equipment Company and/or Yakima, Washington. Some may have been shipped to local John Deere dealers, but most undoubtedly went to Lindeman to be made into crawlers. The part about the "BRs" isn't an error. Twenty-nine of the tractors shipped specifically to Lindeman were "BRs", and twenty-five of them are listed as having been equipped to be built into a crawler. The serial numbers of these potentially super-rare tractors are:

333379	335356	336518
333381	335357	336519
333382	335358	336520
333383	335359	336521
334370	335360	336522
335351	336513	336524
335352	336514	336525
335353	336515	336527
335354	336516	336744
335355	336517	

It's thought that "BR" tractors were substituted when regular shipments of "BO" tractors needed to be rounded out. The tractors started down the line as "BRs", but were singled out and sent to Lindeman without wheel equipment to complete the order.

Even rarer than the "BR" Lindeman Crawlers is the one-of-a-kind "BI" Lindeman Crawler. Serial number 330986 was sent to Lindeman, without wheel equipment, to be built into a military prototype for testing by the U.S. Government. There's a photo of the "BI" Lindeman Crawler on page 24, and it appears in action (and color) in the VHS video tape "The Lindeman Story" (see page 42).

It has been estimated by interested collectors who follow the "BO" Lindeman that there are between 300 and 400 still in existence. For

(Text continued on page 20.)

Page 15: Ten "BO" Lindeman Crawlers fitted with Thys Portable Hop Pickers. Edward Thys of California invented the picker, and it was manufactured by the Lindeman Power Equipment Company.





Page 16: With a crew of eight, the Thys Portable Hop Picker could accomplish the work of 50 experienced pickers. The savings realized during one harvest, in many instances, would pay for the cost of the machine.

Note that one of the "BO" Lindeman Crawlers is fitted with rubber track pads. They were intended for industrial use on hard surfaces, including operation in the hull of ships.

Right: It doesn't seem to matter where a Lindeman Crawler is sitting — they tend to draw a crowd of people, just as this show-stealer did back in the 1940's.







Page 18 and Above: Model "BO" Lindeman Crawler owned by Harold Schultz of Ollie, Iowa.

Below and Bottom: Harold with Jesse Lindeman.



The last event attended by Jesse Lindeman was the Washington State Pioneer Power Show at Union Gap on August 15-16, 1992.

Harold Schultz of Ollie, Iowa, transported his "BO" Lindeman Crawler 2000 miles to participate in the show, and had the honor of using the tractor to pull the float that carried Jesse.

The photos in the sidebar, taken earlier that day, show Harold (in yellow shirt) with Jesse, and Jesse's nurse.

The crawler was purchased for \$2400 at an auction near Iowa City in 1984. It was in very good condition, but there wasn't a lot of interest shown at the time.

He later found two rubber track pads in an old inventory storage area in South Bend, Indiana. They were used as patterns at a small plant in Iowa to produce a full set of tracks. It took over a year to restore the tractor.



There are two dozen other tractors in his collection, both styled and unstyled. He started in 1981 with an unstyled "A". His favorites are the "BO" Lindeman Crawler and a "BR", which he



Clever engineering. The wrench holds the front blade in place.

usually exhibits together at shows.

Schultz and his son-in-law, David Silvers, do all of their own restoration work — cosmetic and mechanical, and are active in the local Two-Cylinder Club. Both have exhibited tractors at Expos. While Harold and Virginia enjoy retirement, David and their son, Gary, operate the 600-acre family farm.



(Text continued from page 14.)

many years, most of the tractors stayed in the Northwest and remained in continual use. Many were eventually cannibalized for parts. People in that region didn't relate to the collector demand that began to materialize in other parts of the country. After all, the "BO" Crawlers were kind of common around there. But little by little, folks from other parts of the country began to gather up the Lindemans and take them home. Eventually it was noticed, and owners from Oregon and Washington have gotten much more reluctant to part with them. Consequently, prices are tending to increase at a rate that may be somewhat faster than that of most other models.



Jesse G. Lindeman with the last "BO" Crawler to come off the line.

In 1946, Jesse was told by Deere that the "BO" would be discontinued. It would be replaced by a new tractor, the "M", and Jesse was encouraged to use his talents to develop a crawler conversion.

A little time passed, and Deere approached him with a new proposition. They wanted to buy Lindeman Power Equipment Company. Valued at just over a half a million dollars, the plant facility wasn't all they were after. They would double the price if Jesse would stay on board as a consulting engineer to the new owner.

The deal was completed in December 1946:

- Deere was to assume operations on January 1, 1947,
- Every single Lindeman employee would be accepted into the Deere operation, and
- Jesse would be allowed to continue to manufacture farm implements (not those assumed by Deere) at the nearby Northwest Equipment Company, a firm started by he and Joe in 1954.



Foundry molding floor.

On the down side, the foundry facilities suffered a major fire (\$50,000 loss) on December 27, just a few days before Deere took over. It didn't cause insurmountable problems. Deere proceeded to farm out the necessary casting

(Text continued on page 25.)

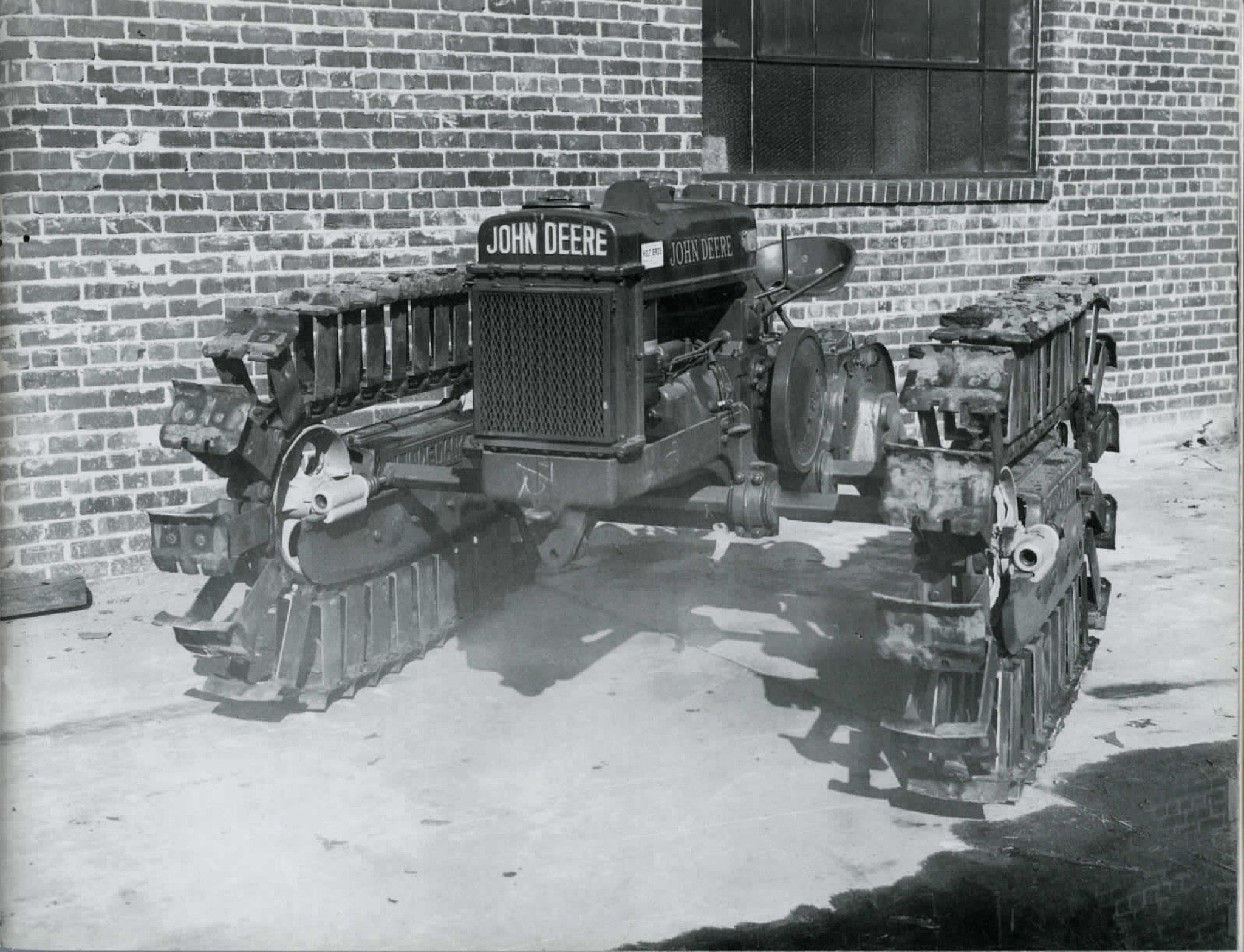
Below: Beach duties with a U.S. Navy "BO" Lindeman.

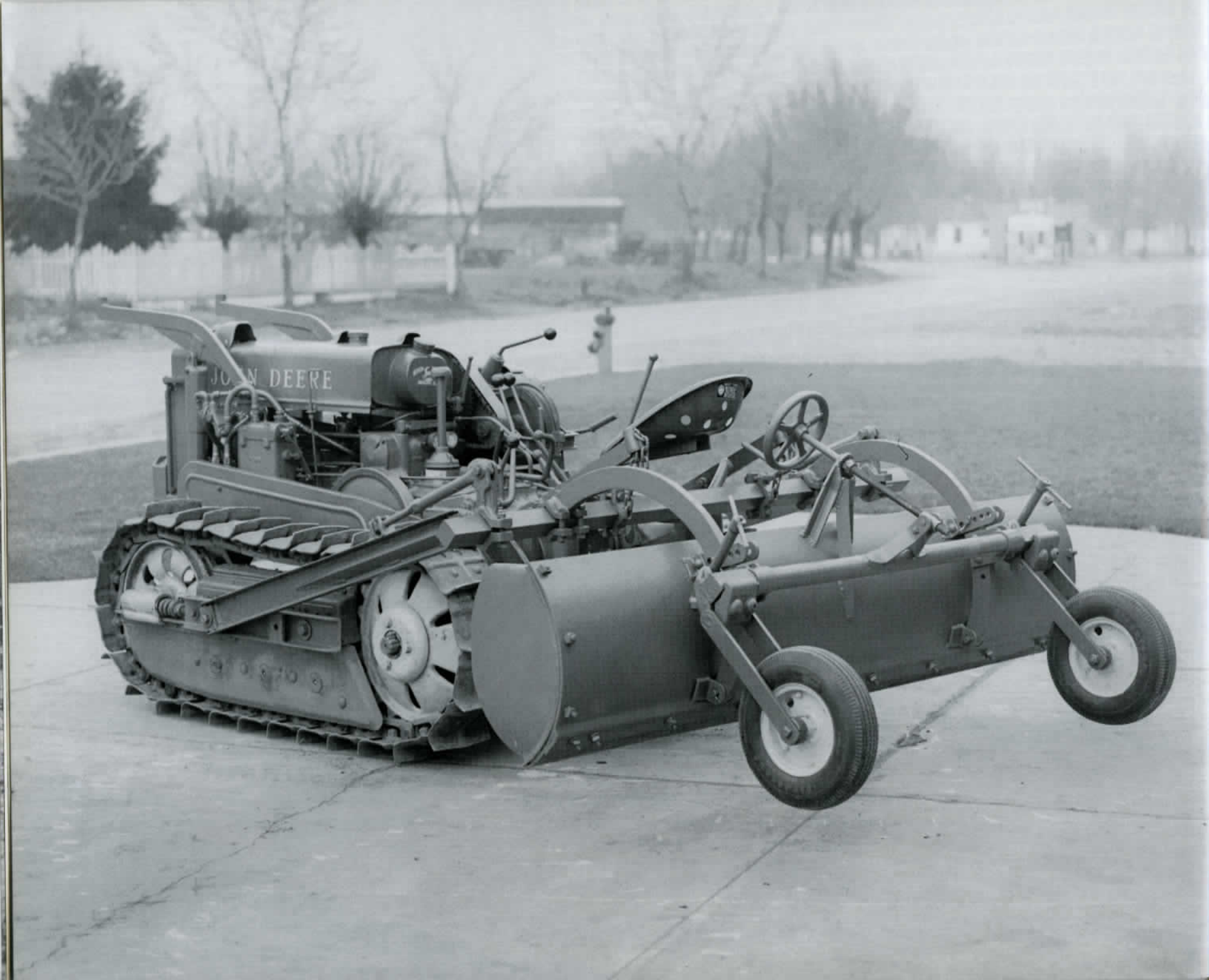


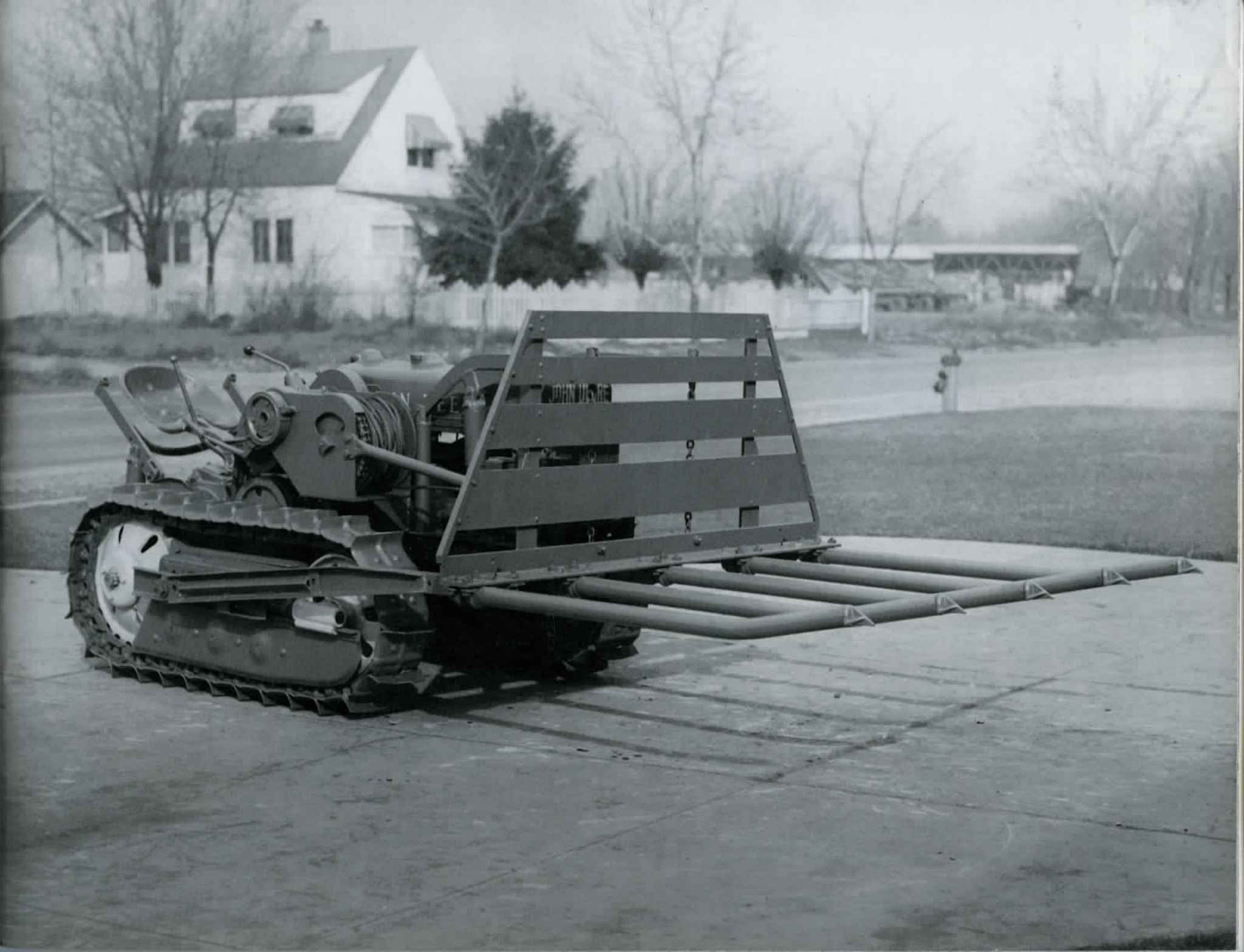
Page 21: The strangest of them all, two of these "Hi-Crop" Lindeman Crawlers were built for use in asparagus. As might be expected, the track system was not as rugged as the regular unit and the tractors had to be operated with extra care.

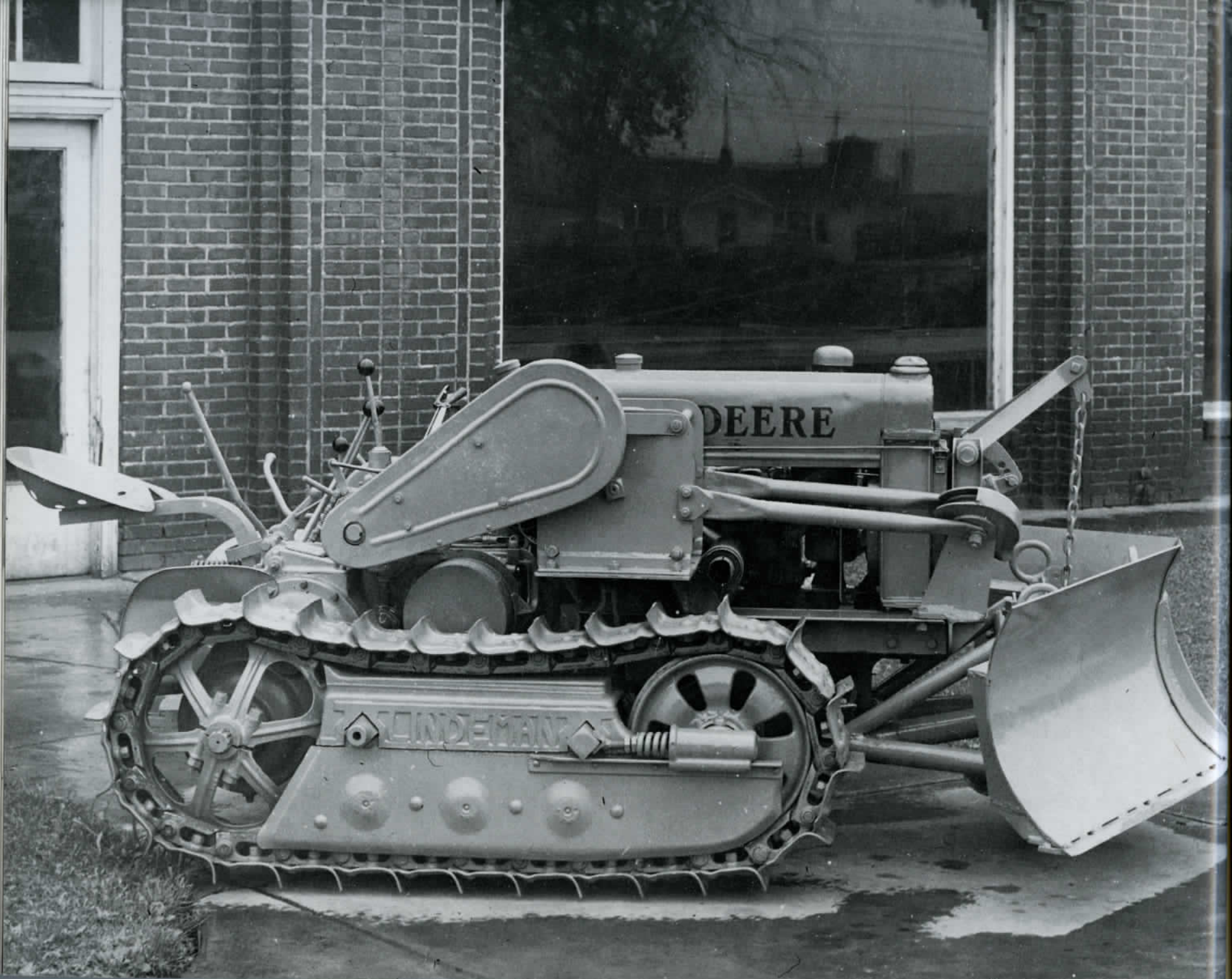
Page 22: Flywheel side of "BO" Lindeman Crawler with scraper.

Page 23: Pulley side of "BO" Lindeman Crawler with Lindeman Brush Buck Rake.









(Text continued from page 20.)

work, decided not to rebuild the foundry and utilized the space for storage and other manufacturing functions. The million dollar purchase price, no paltry sum today, was certainly big news back then. Especially so for a community the size of Yakima, who got to keep its largest manufacturing facility as well gain a new Lindeman plant. Talk had always been that this transplanted Iowa farm boy without even a high school education was a "genius." Now, with John Deere paying some half million for the factory, and an equal figure for his talents, it became the stuff of legends.



Jesse with his children (from left) Bill, Betsy and Bruce.

Not yet half-a-century old, Jesse and his wife, Jane, lived in a beautiful but unassuming house on a hillside acreage overlooking his adopted hometown. They were active in the community, and devoted to their family. When he spoke at business or social functions, people were captivated. Not necessarily because he was Mr. Lindeman, but because he could spin a tale and spice it up with humor.

Ross Lindeman died the following year.

Jesse and Joe continued to operate Northwest Equipment Company.

They manufactured fruit-handling and packing equipment, two-way plows, an innovative multi-functional rotary tiller, transplanters, beet planters and loaders, and potato harvesters.



Land shaper.

Meanwhile the John Deere Yakima Works was building crawlers out of Model "M" Tractors under the guidance of Jesse. The first "MC" rolled off the line on March 3, 1949. The Yakima hitch, plows, land levelers and other implements were developed and produced by Jesse and the John Deere Yakima Works.

Deere & Company made the decision to close the Yakima Works in 1954. Production of the "MC" was transferred to the John Deere Dubuque Tractor Works. Jesse and Joe continued with Northwest Equipment until it was sold in 1982. Joe died a short while later.

After trying to for a few years, Jesse realized he was not yet ready to retire. He started a new company, Lindex Company, Inc., in 1986. Lindex is now managed by Ted Adams, and they continue to make 3-point hitches and

(Text continued on page 29.)

Page 24: The rarest of all Lindeman Crawlers, this Model "B1", serial #330986, was built for demonstration to the U.S. Armed Forces for possible use in construction of airfields in the jungles of the Pacific. A military contract did not materialize.



Above Left: Among the many products designed and produced by the Lindeman Power Equipment Company, the potato harvester shown here is being operated by a styled "A". The second tractor is pulling a wagon.



Below Left: The Lindeman Beet Loader worked well with either beets or beet tops, loading cleanly and diverting many man hours to other tasks during the busy harvest season.

Page 27: Jesse Lindeman with the first "MC" built at the John Deere Yakima Works.



JOHN DEERE

JOHN DEERE



KEEFE



(Text continued from page 25.)

PTOs designed to provide industrial crawler tractors, built by John Deere and Caterpillar, the flexibility to be used with agricultural implements in agricultural applications.

Page 28: Discussing the development of implements for the "MC" are, from left: Oril Dunland, Rob Kneibel, Jesse and Joe Lindeman.

Below: Throughout his professional life, Jesse Lindeman continued to document his work through his enjoyment of photography. These field scenes, with a 45-year time span, show an active and fully involved man still with camera in hand.



Jesse Lindeman at 89.

During the last few years of his life, Jesse was clearly flattered by the unexpected attention he received from tractor collectors and historians. "My ego is right up to here," he was heard to say, gesturing to his chin. Graciously, he granted taped interviews, plant tours and demonstrations of his equipment. He shook his head at the thought that collectors were paying three to four times the original price (around \$1400) for one of his sturdy little crawlers. He was even more impressed that many of them were still in operation.

The Washington State Pioneer Power Show, held in Union Gap last August, was the largest in its eleven-year history. Thousands of exhibitors and admirers nationwide arrived in

the small town adjacent to Yakima to celebrate their agricultural heritage. Attendance had swelled when it was learned that the Grand Marshall and guest of honor would be Jesse G. Lindeman. The show capped a year of recognition in many forms. It was a highlight of the legendary, self-taught engineer's long life.

Unable to travel to Expo III due to failing health, he confided to close friends that the hometown show was to be his swan song. Three weeks later, a month before his 93rd birthday, he quietly passed away in his sleep.

During research for this article the production information for every model "BO" and "BR" tractor shipped to the Lindeman Power Equipment Company, as well as to Yakima, Washington, was recorded.

Owners of "BO" Lindeman Crawlers are welcome to write to the Two-Cylinder Library, P.O. Box 10, Grundy Center, IA 50638-0010, requesting production information on their tractor. Please include a self-addressed, stamped envelope and your serial number. The information will be provided at no charge.





