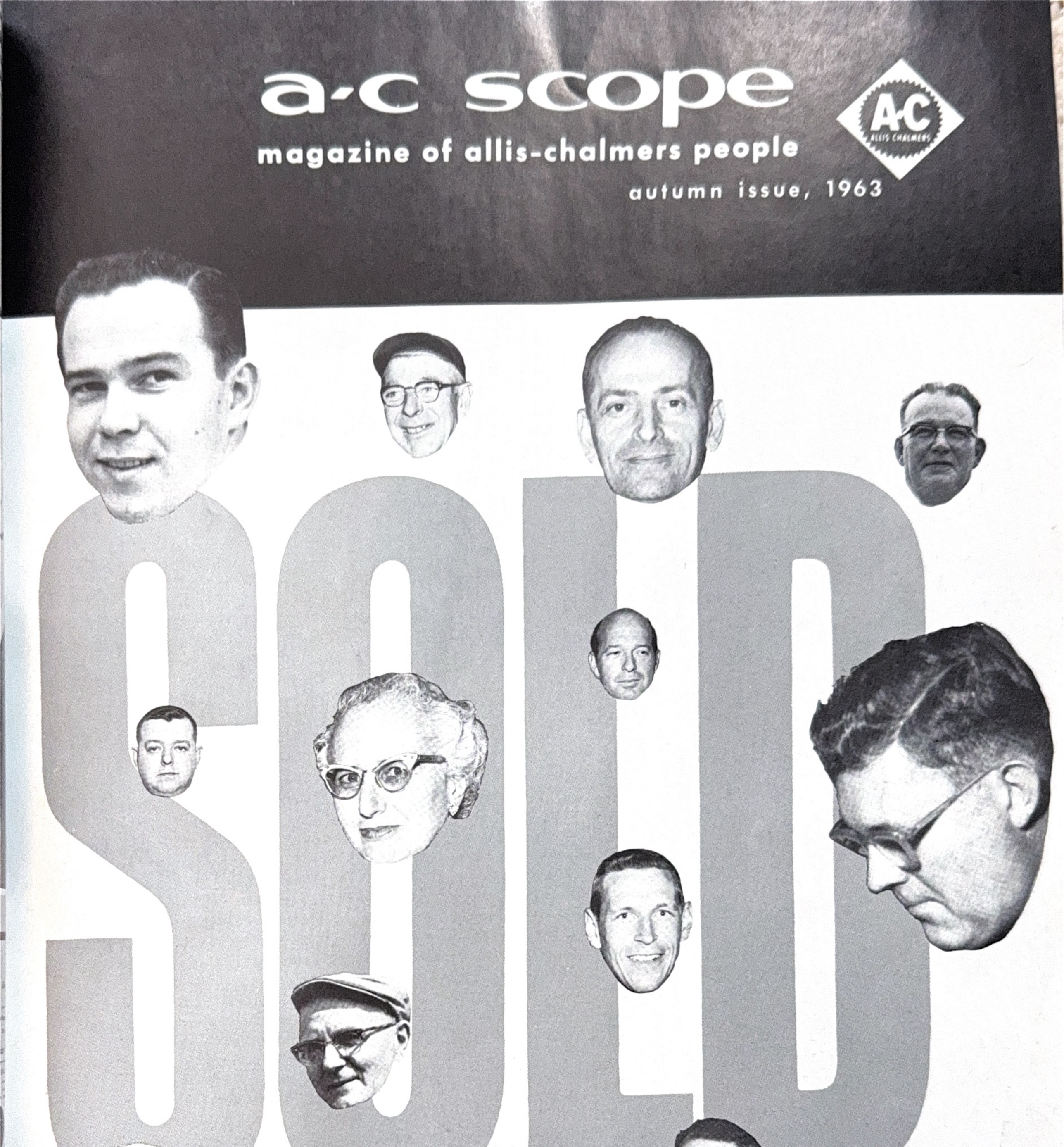
a-c scope

magazine of allis-chalmers people

autumn issue, 1963



'Sell' sales force grows, page 13

The remarkable Gleaner combine

Success story, Independence style

Through the waving wheat comes a Gleaner combine, the farmer's paymaster, a machine with a reputation for dependability unequaled.

"When the difference is combine reliability, I'd pay an extra $1000 to get it."

The people at our Independence (Mo.) Works, home of the Gleaner combine, have written a 40-year success story around the reliability this farmer seeks.

The farmer was not overstating this case. Harvest time is his payday, and the combine is the paymaster. The delay of just a day or two because of equipment failure can cut the heart out of a year's profits.

"Our Gleaner is often referred to as the 'Cadillac of the industry'," said Independence General Manager George Reuland. "This is not our phrase. It is just a common term of reference.

"We have earned this reputation because we have never built a cheap machine and have never sold on the basis of being a cheap machine. We build the best machine we can to do the job, set a fair price on it.

"We build a machine that gets into the field and keeps going and going and going. And we keep our design simple so the machine is easy to maintain."

This does not mean that Independence is not cost conscious. Works Manager Waldon Mason explained, "We are out to give the customer value. For every dollar he spends with us we want him to get more than he can from any of our competitors.

"We look at every item going into our combines to determine how we can reduce the cost without reducing the quality. We found, for example, that by making reel bats ourselves, instead of buying them from a supplier, we could save over $4 a combine. This is the type of savings that keeps us in business."

The Gleaner people started in business by being years ahead of themselves. They developed the first self-propelled combine in the mid-1920's — a small unit mounted on a tractor.

After a brief surge of business, they abandoned the self-propelled combine and went into the pull-type business.

The reason: A pull-type could be used with any tractor while the "mounted" Gleaner sales were limited to one make tractor. Also, it was difficult to mount and dismount the combine.

Independence returned to the self-propelled combine in 1951 as the trend swung to these units. Since then, the market for *large* combines has gone virtually 100 per cent to the self-propelled.

The Gleaner is well-named. The Gleaners were French peasants who were allowed to pick up the leavings of grain after landowners had harvested. Like its namesake, the Gleaner combine saves the grain.

Reuland said, "The combine is one of the most highly developed pieces of farm equipment in use today."

Test Laboratory Supervisor Jim Koelling said, "The combine is the farmer's most important machine. It must be more reliable than any others. A day's downtime can easily run into hundreds of dollars."

A-C SCOPE

MAGAZINE of ALLIS-CHALMERS PEOPLE

Jack Bartness .....Editor
J. J. LaBarbera...Art Director

Published by Information and Community Services, Industrial and Community Relations Division, Allis-Chalmers Mfg. Co., Milwaukee, Wisconsin 53201.

CONTENTS

COVER PHOTO

Employes on the cover are among those who have sold through the "Sell Allis-Chalmers" program. They did so simply by speaking up at the right time. When employes are enthusiastic about the products their company makes, others will listen — and buy.

Twenty-eight Gleaner combines join forces in a Colorado field. Large fleets are a common sight at harvest time in the West.

The Gleaner is a remarkable machine. Designed into an area as small as 23 feet long are such components as an engine, transmission, clutch, a couple of dozen rotating shafts that propel reels, a sickle bar, feeders, beaters, fans, elevators and conveyors.

Lee Oberholtz, chief engineer, said "We have been able to make our success in this business by having big ears, by listening to farmers and their needs, and then giving them that something extra. The farmer today is getting his crop harvested for less money than ever before."

And for Independence people, their machinery is bringing in more work than ever before.

Recent additions tell much of the story. Since 1961, Independence has added 100,000 square feet of manufacturing space, more than twice the size of the original building erected in 1925. Total floor space is now nearly 400,000 square feet.

In 1954, Independence had a peak employment of 431 people. This year the peak reached an all time high of 1088.

Some departments have worked around the clock for three years straight.

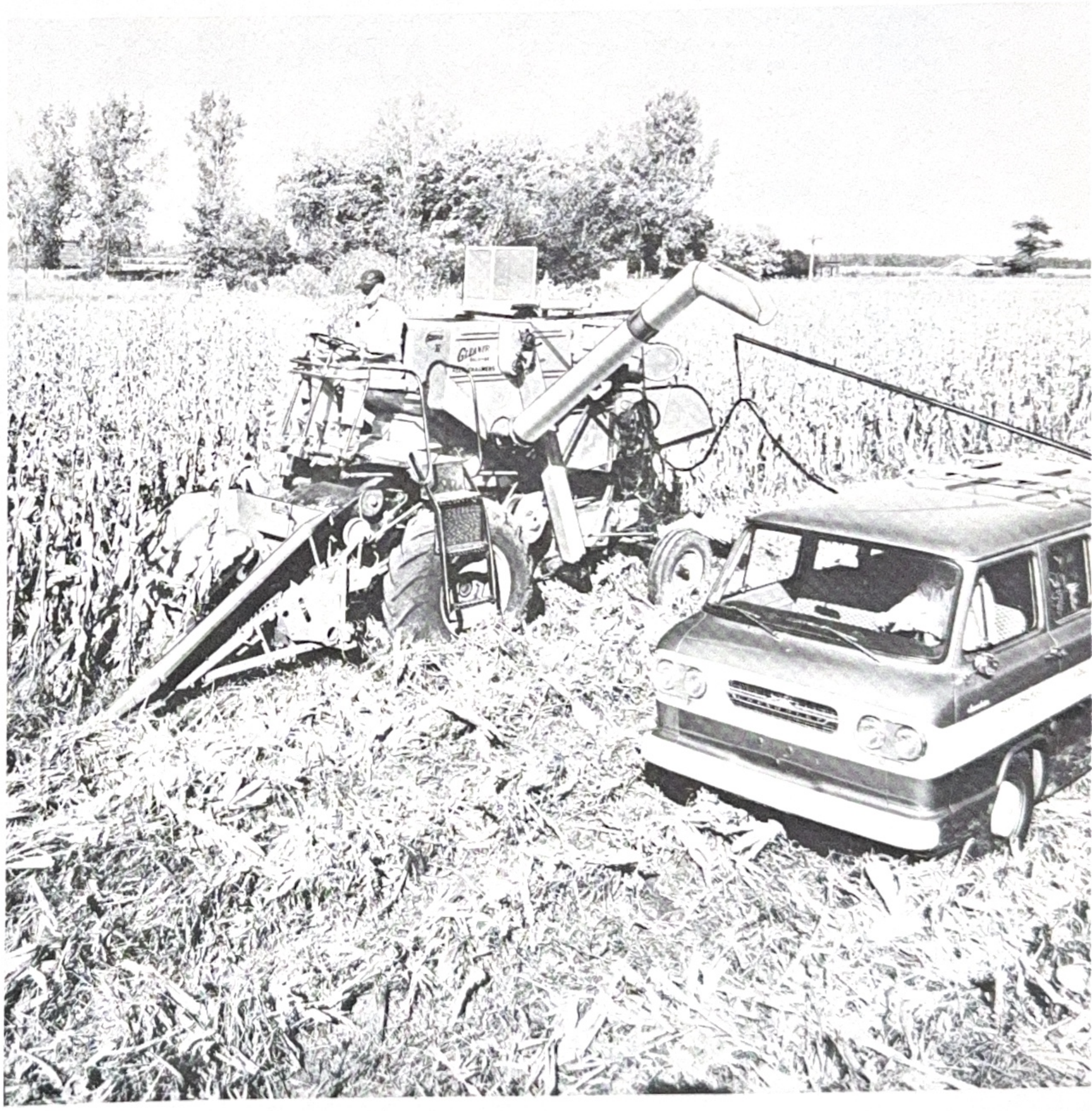
Independence attracts employes from all over the area. One count showed that the plant was mailing information to employes through 41 post offices.

Independence success means work for other A-C plants as well. Gleaners use engines made at both West Allis and Harvey, and corn heads made at La Porte.

An Independence combine and La Porte corn head last year won the National Corn Picking contest with the highest score ever recorded.

Greater sales mean not only producing more combines, but also producing more of the components that go into combines. Mason said, "We are constantly looking into things we can make ourselves. As our volume increases, it becomes practical to make more items. I estimate that we make 85 per cent of our components right now."

A mobile laboratory "electrocardiographs" a combine with La Porte Works corn head. Independence was an industry pioneer in the use of sensitive testing equipment for field tests.



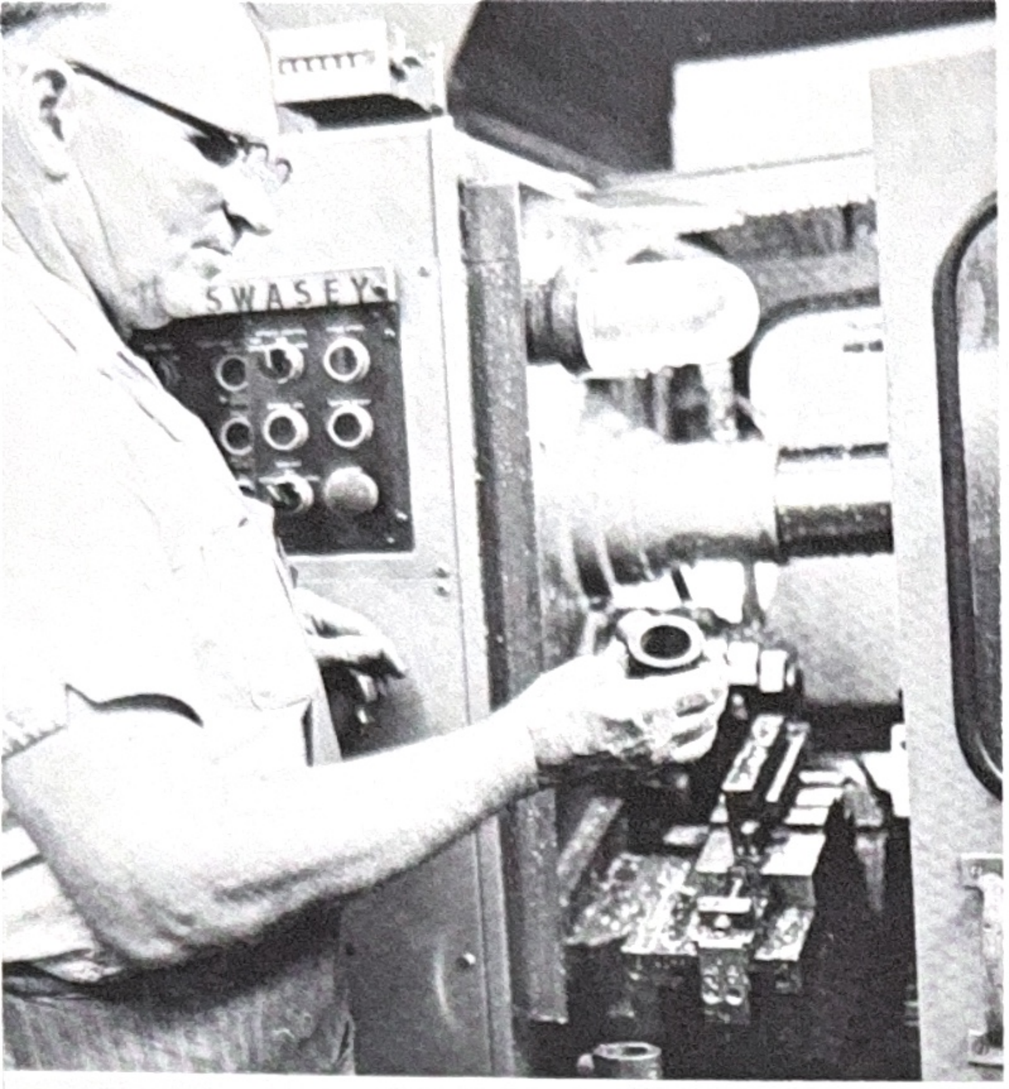
"As a plant," added Reuland, "we are as self-sufficient as any in the business."

The success of Allis-Chalmers combines largely results from constant refinement of the original unit built almost 40 years ago.

But Independence people do not change just for the sake of change. The present day units are very similar in basic design to the very early mounted Gleaners of the 20's.

A few pieces, like a wooden chain idler block, have been used on every unit since the 20's. Independence has experimented with other idler block materials, but found nothing better in performance and cost.

(continued on page 4)



Twenty-three year man Homer Bird can turn out higher quality pieces at a faster rate with this new lathe. Peak employment at Independence reached an all time high in 1963.

Success story, Independence style

The use of galvanized steel gives Gleaners the name "The Silver Fleet." "We are so old we are new," said Oberholtz. "We have used this galvanized metal throughout our history. It looks good and wears good. In recent years, automobile manufacturers have adapted this metal for undercoating."

At the same time, Independence has been quick to change to anything that will improve performance. Independence engineering was a pioneer in the use of sensitive testing and high speed recording equipment for field testing farm machinery.

A field test truck, in effect, "electrocardiographs" the performance of a combine as it's put through its paces. Koelling said, "Such tests give us an encyclopedia of information that affects the combines we will build in the future.

"Testing with modern equipment takes the trial and error out of a lot of our work and enables us to reduce the time between management's decision to make a new model and the actual production. I'm sure this equipment cut a year off the production preparations for the hillside combine."

The combine, like Alexander the Great, has always looked for new worlds to conquer. Originally designed for the wheat crop, the Gleaner, with simple adjustments, can now harvest any crop in which the grain is heavier than the chaff.

This means well over 100 crops, from wheat, corn and soybeans to clover, brome grass and lespedeza, to peas, navy beans and maize.

What makes Lou and John run?

Norwood men are political opponents

Norwood (Ohio) Works has a unique situation taking place this fall. Two of its employes are running for election as councilman-at-large for the city of Norwood.

They are Lou Rumpke, an application engineer in the Electrical department, and John Bouldin, a material control order clerk. To make it more interesting, they are running on opposite tickets.

The big question: Why are they running?

Although opposed politically, John and Lou share an identical reason. "It's a chance to do something for my community."

Both men are running for a political office for the first time. Lou is an incumbent, but he was appointed to a vacated post last September. He also served as co-chairman of the Norwood Democratic campaign committee in 1959 and 1961.

On the strength of a year's tour of duty, Lou feels more people should try to get into the act. "This past year has been a very liberal education. It certainly gave me a greater appreciation of the mechanics and workings of local government. You get an entirely different picture of things. You understand why things are done or aren't done."

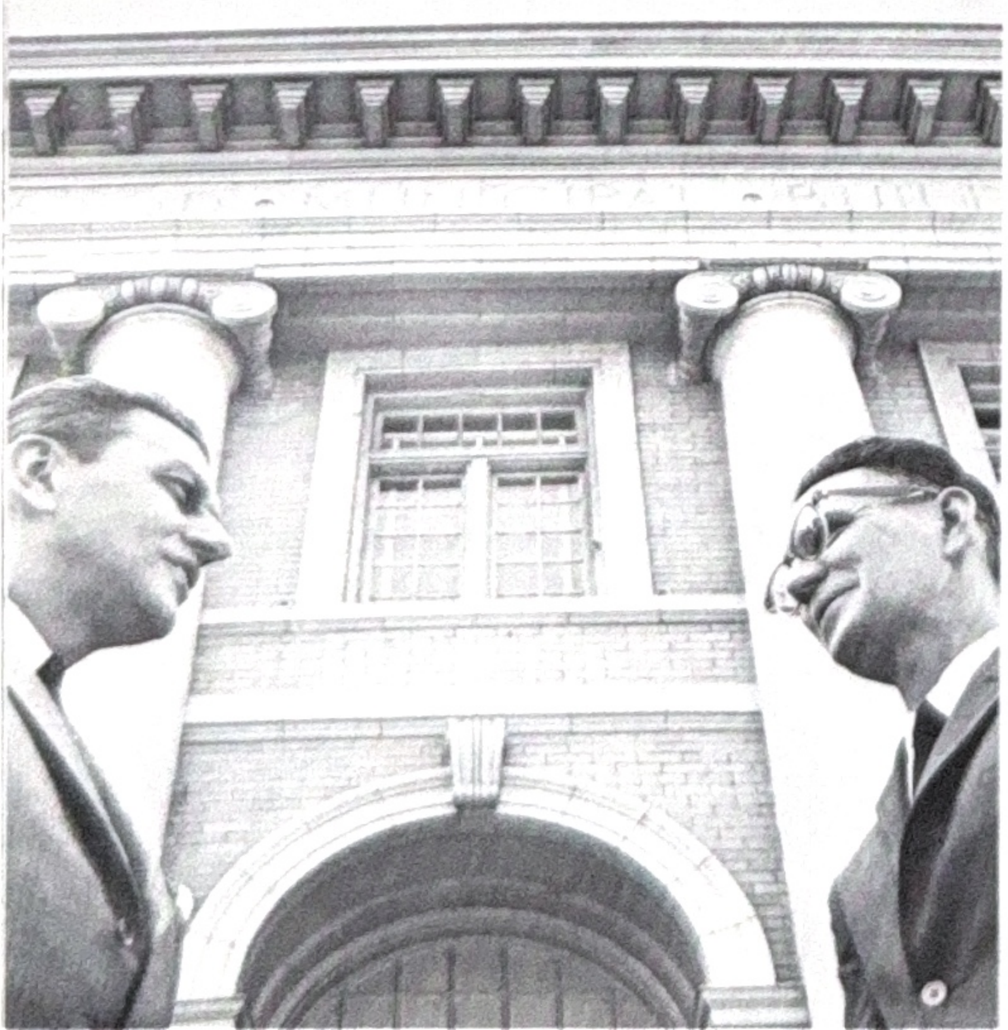
Like Lou, John got into politics by being more sought after than seeking. "I was asked to run by our local Republican organization. I never before had any intentions of being in politics. I refused at first, then I surprised myself by accepting. Like most people, I complained from time to time about various things, as do we all." Now he hopes he will have his chance to do more than complain.

At 46, John said, "I'm sorry I didn't get into politics earlier. I'm learning things and its getting more interesting all the time."

Actually, both Lou and John can be elected in November. They are among six candidates — three Democrats and three Republicans — running for three councilman-at-large posts.

At-large posts are filled through a city-wide vote. Norwood also has a councilman representing each of its six wards.

If tradition holds, the campaigning which begins in earnest after Labor Day will be high level. With rare exception, Norwood's candidates stick to the issues and avoid personalities. John said, "Lou and I are friends now, and I know we will be after the election."



Political opponents, Democrat Lou Rumpke (left) and Republican John Bouldin are seeking councilman-at-large posts in November elections.

Because modern crops are so heavy, the combine must be built like a rock crusher. Independence boasts the strongest main frame in the industry.

Ask the North Carolina farmer whose tornado-tossed Gleaner hurtled out of a shelter, rolled more than 400 feet over a walnut tree, four peach trees and across a ditch. The frame was in perfect alignment and undamaged.

With the advent of the corn head attachment, the combine conquered another major cash crop. Koelling said, "The corn head did more for the self-propelled combine than any other thing since it was first designed."

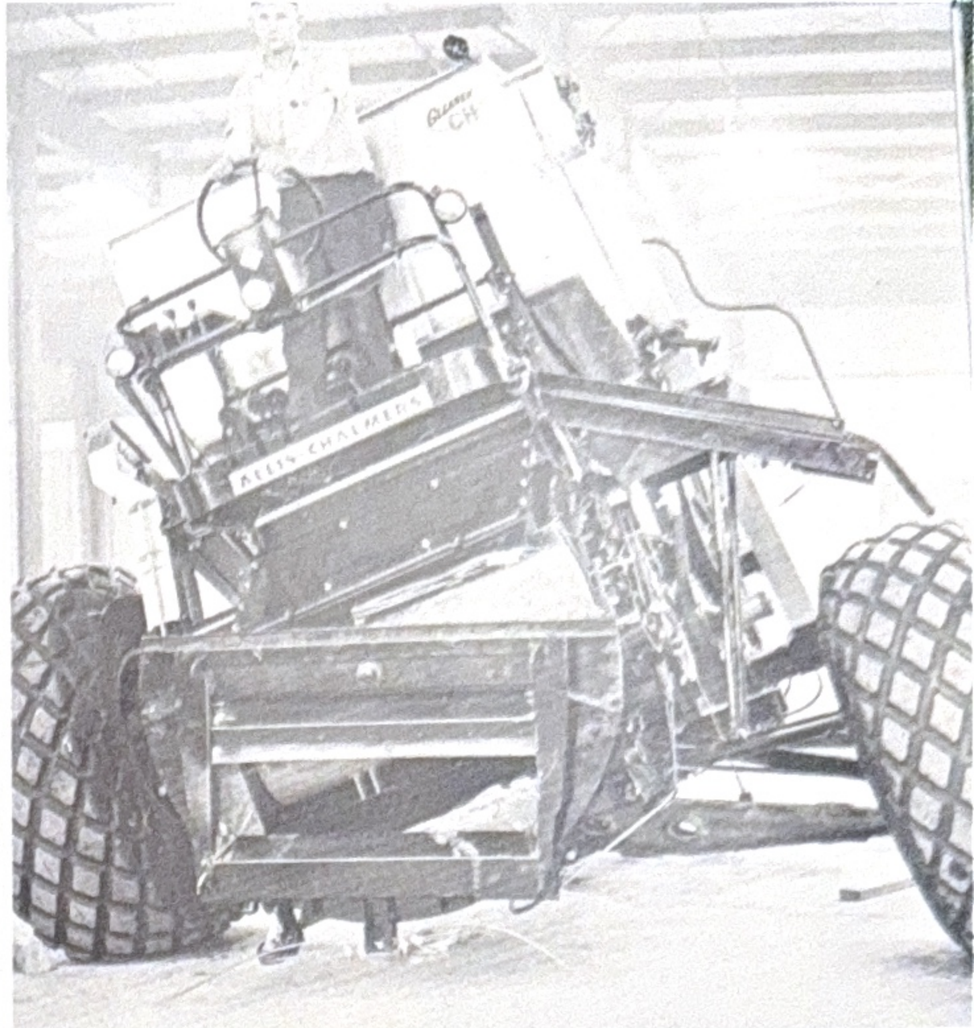
Unlike the early pioneers, Independence people, in search for new frontiers, have followed the motto, "Go East, young man."

For years, the self-propelled units predominated in the sprawling plains west of the Mississippi river. But now, a greater range of combine sizes, plus the trend toward larger farms, has helped gain acceptance for the self-propelled unit everywhere.

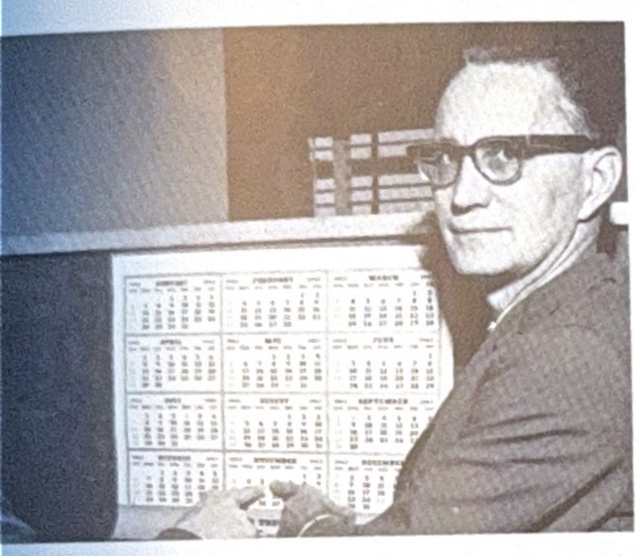
Mason said, "The Model E really helped get us across the river. When first brought out last year, some of our branches took one or two — just to introduce them. Some of these same branches this year ordered up into the hundreds of units."

The immediate success of the Model E was paved through the image previous models had built in the minds of farmers. A reputation for trouble-free equipment that is relatively easy to maintain gets around in a hurry.

As one farmer puts it, "After you've owned Gleaner combines for a few years, you get so you take it for granted that you'll cut your grain with no trouble."



A hillside combine gets the "twist" test from Bill Curtin. On slopes, this flexibility — like having one leg shorter than the other — lets the thresher body remain in a vertical position.



Bouldin and Republican candidate for mayor, Robert A. Beckstedt, point to E-Day, Nov. 5, while Rumpke and Mayor Joseph W. Shea, Jr. discuss plans. Bouldin and Rumpke will be running for office for the first time. They urge others to become politically active.

In running, John is bucking another "tradition". During the past 15 years, Democrats have predominated in Norwood. Not a single Republican now holds office.

Despite this, John said, "Our chances are very good. Periodically most people feel a need for changes, the healthy requirement of new 'blood,' new ideas."

Norwood has a reputation for clean city government. This John confirms. "But anything can be improved," he adds wryly.

Lou counters, "As in the case of all incumbents, we merely point to the record. It speaks for itself."

One thing is certain. Norwood is not hurting financially. A city of 38,000 residents, Norwood's workday population about doubles as people from surrounding areas pour in. Each of these wage or salary earners pays a one per cent earnings tax. This makes possible a very low real estate tax for Norwood home owners and industry.

Norwood's well-diversified family of industries, which provides the payrolls, also contributes significantly to the tax base with a one per cent tax on net profits.

A city within a city, Norwood's 3.17 square miles are completely walled in by Cincinnati. Within these boundaries is perhaps the widest range of diversified industries of any city of similar size in America or the world.

But, whatever the city's current status, Lou and John will be living in its future. It is the future they are interested in, and their interest in Norwood is natural.

Lou, a 41 year old bachelor, is a native of Norwood, a graduate of its schools and nearby University of Cincinnati. He is a church elder, a past vice-chairman of the United Appeal Campaign, and past president of Norwood Works Management Club, among other activities.

John and his wife have lived in Norwood 23 years. Five of their six children were born there and all went to school there. John has taken courses at the University of Cincinnati in speaking, business management, lessons in law.

They'd like to see more people active in politics — as candidates, by accepting appointments to civic committees, contributing money, and joining in the campaign.

Speaking of appointments, Lou said, "You learn to appreciate the people who serve for nothing on citizen committees. Their generous efforts do much to keep the cost of government down."

Both men admit that local campaigns too often are lost in the shadow of the more glamorous state and national elections. This should not be, they say. The individual citizen's voice and vote has much greater numerical strength locally. And the decisions made by the local officials have a more direct bearing on a community's well being than most decisions made by state and national governments.

As for being a candidate yourself, Lou said, "Once in a while you've got to stick your neck out. If you don't, what do you gain."

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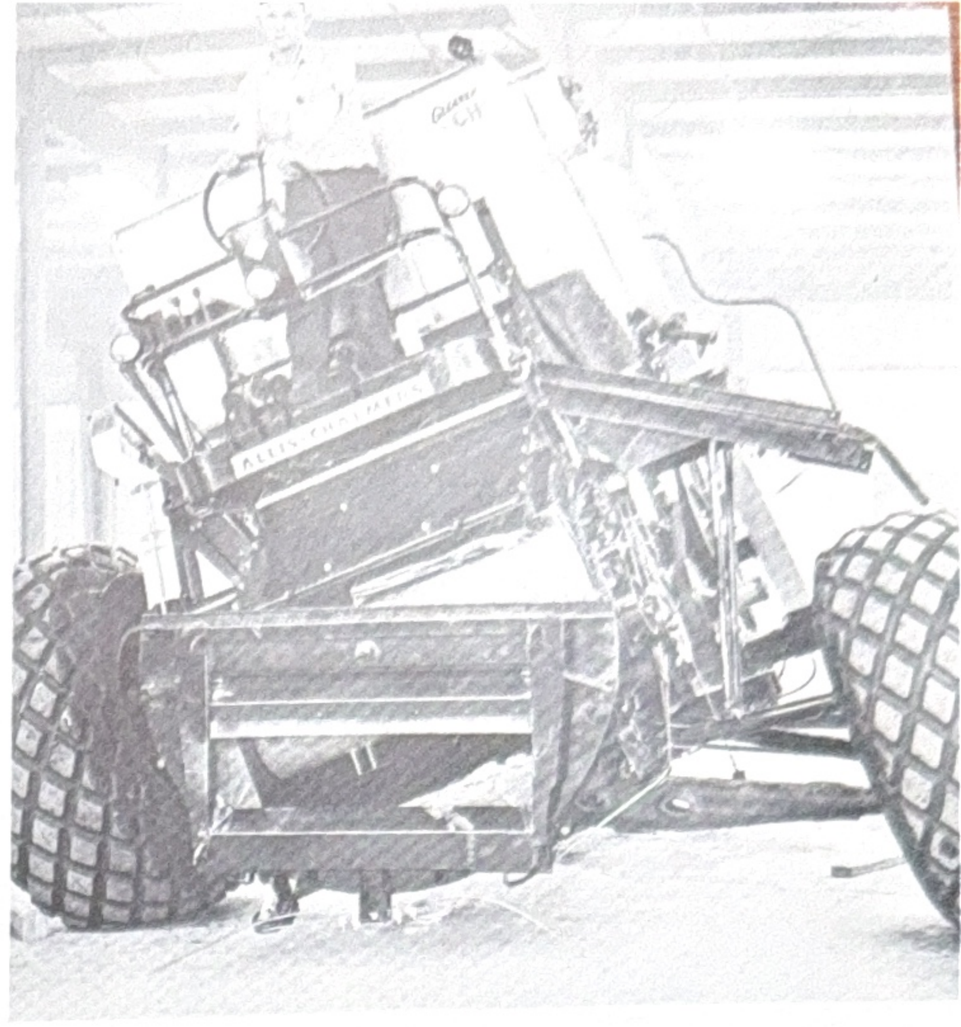

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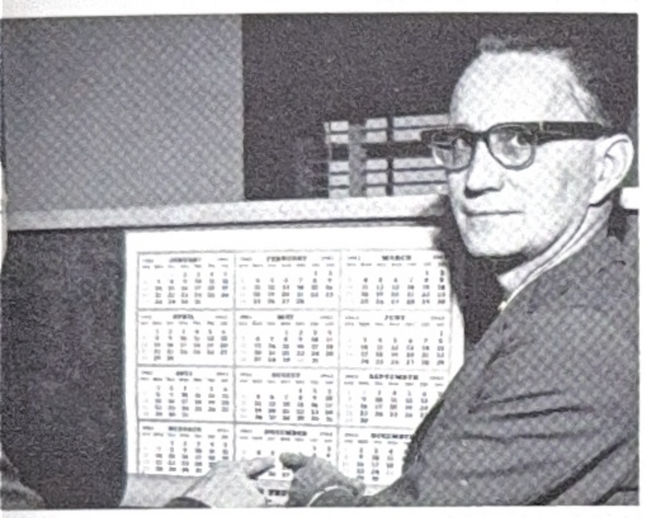

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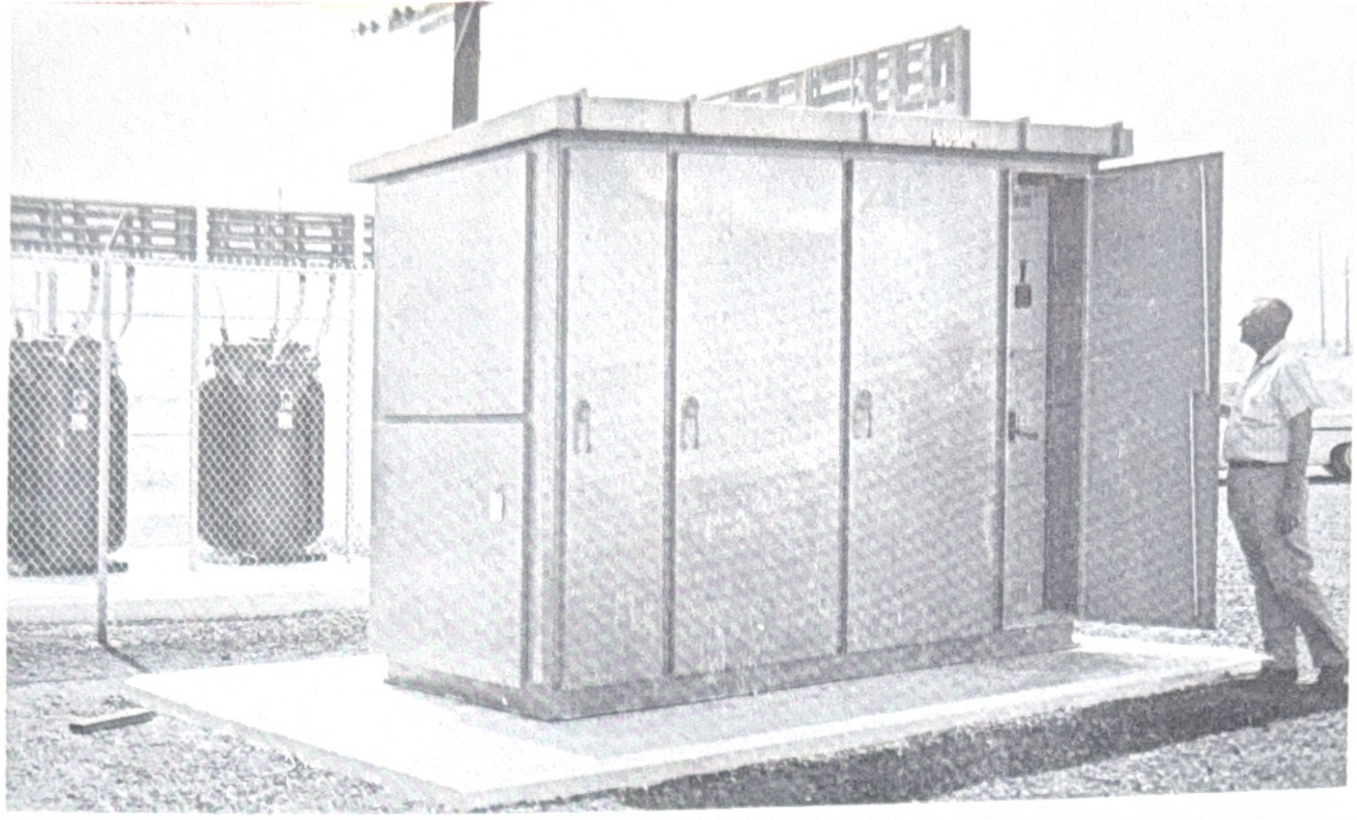
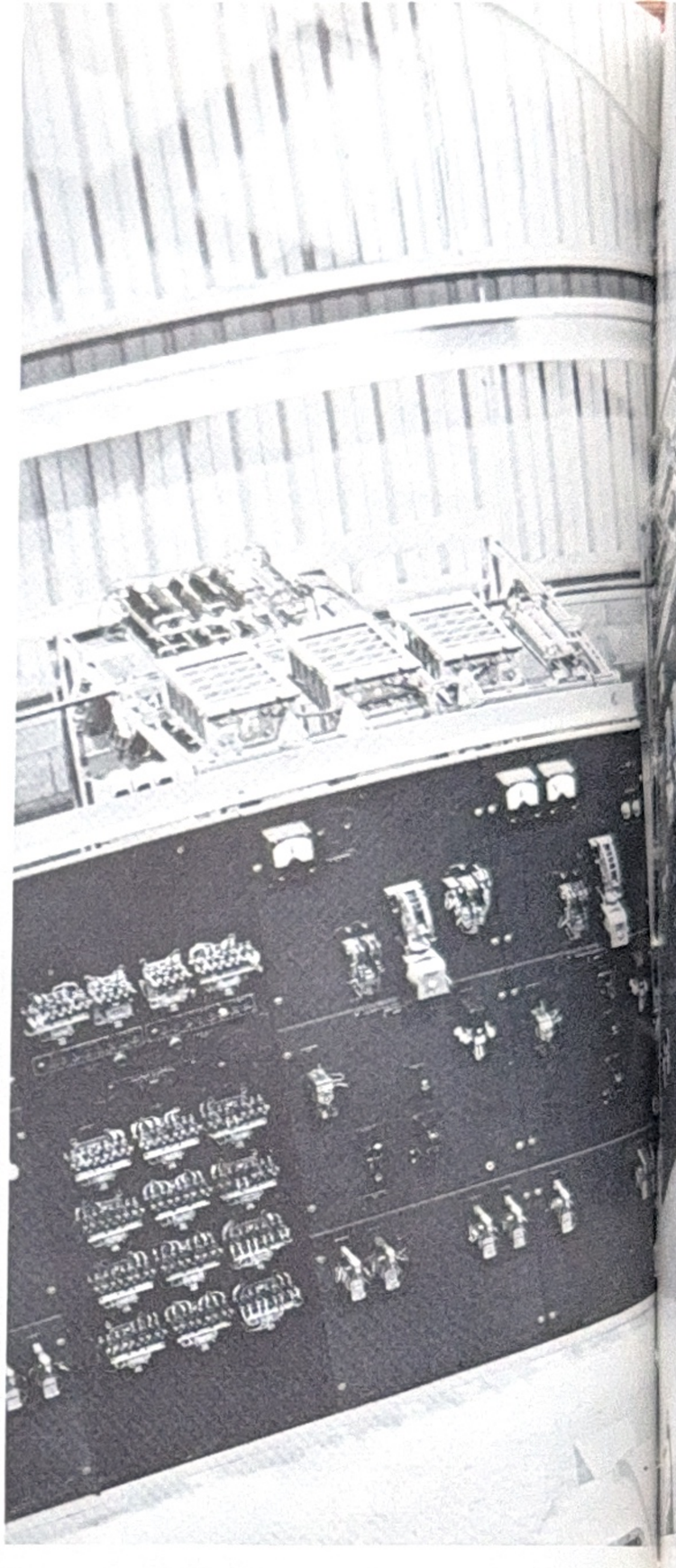
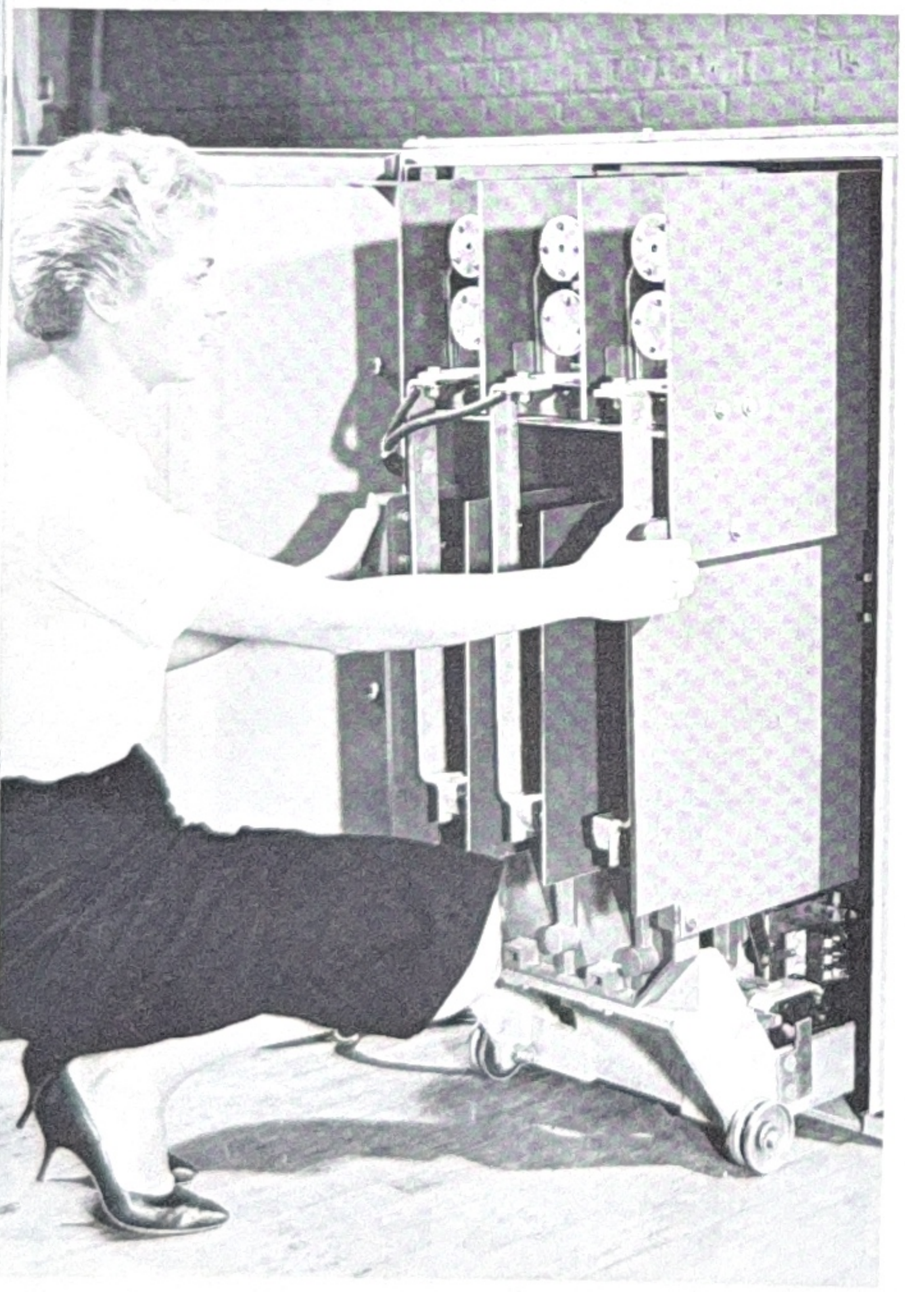


Utilities are important customers for our electric controls. This motor control center is located in a substation. Our controls range from push button starters to complex units.



The 'lady' is indispensable

Electric controls – a $300,000,000 market



Jean Adamczak demonstrates how easy it is to disengage the heart of our *SpaceMaker* electric control for maintenance purposes.

Don't refer to an Allis-Chalmers electric control as "it." "She" is more appropriate.

Consider just a few characteristics our controls have in common with the fairer sex. They are sensitive, protective, have excellent memories, are often complicated, give orders (and take them), can't be rushed when they don't want to be, watch their waistline (the smaller the better), are getting smarter all the time — and are indispensable.

How indispensable? Without them we couldn't start a factory machine, or get water from a faucet, or ride in an electric train, or fire a missile, or shop in air-conditioned comfort.

We'd pay more for almost everything, and the quality probably wouldn't be nearly as good.

Important to Allis-Chalmers people: The market for controls we make and sell is $300,000,000 annually. We are now ankle-deep in this market, and intend to get in much deeper.

Said Don B. Scott, manager of the Control department at West Allis Works, "Our opportunities for growth are tremendous and we are taking advantage of them. We are already making some 110 basic control products at our Hawley Works here in West Allis. We added 17 to our line in 1961, 12 more in 1962 and 23 new controls are planned for 1963. When you consider all the possible variations within these basic units, you get into the thousands!

"We are now beginning to feel our oats and are able to challenge our largest competitors. We are building and building soundly. We thoroughly study our customers' needs, and then give our salesmen something they can run with.

"We lead the high voltage market and have many fine products going for us in the low voltage field.

"By 1965 we expect to show a 35 per cent increase in business and expect to double our profits."

As $300,000,000 indicates, the market is vast. Look at any industrial plant, utility installation, farm, construction project, commercial building. All are possible customers.

Our controls vary from starters that handle regular house current ratings of 110 volts up through high voltage starters controlling thousands of volts. They weigh a half pound, and thousands of pounds. They work with motors of less than a horsepower and more than 3000 horsepower.

Because of the many places they go

they may be drip proof, weather resistant, water tight, dust tight or explosion proof.

In complexity, they vary from simple push button units to complex packages for substations, steel mills and processing plants.

A huge control console recently shipped to Anaconda Copper Co. will "mirror" an entire smelting plant, from raw ore to finished material. A glance at the console will reveal, for example, which crushers are loaded, and which hoppers are empty.

A relatively new line for Allis-Chalmers is electronic controls. Electronic or solid state circuits have no moving parts. Scott said, "We started an electronic manufacturing section last year and it is the fastest growing section we have."

Just what do controls do? They stop machinery, start it, drive it at desired speeds, reverse it, "inch" it ahead, accelerate it, decelerate it.

Thousands of controls are sold right off distributors' shelves to contractors building shopping centers, hospitals, apartment buildings, motels, industrial buildings.

Employes have a fine opportunity to "Sell Allis-Chalmers" controls because often they know contractors or others in a position to determine what manufacturer's equipment will be used in building construction.

Allis-Chalmers is one of its own best control customers. Our controls are found on our electric lift trucks, diesel-electric sets, hydraulic generators, pumps, motors, processing equipment, to name some.

Through the years, one of the largest users has been the Electro-Motive Division of General Motors Corp., one of the world's biggest diesel locomotive manufacturers.

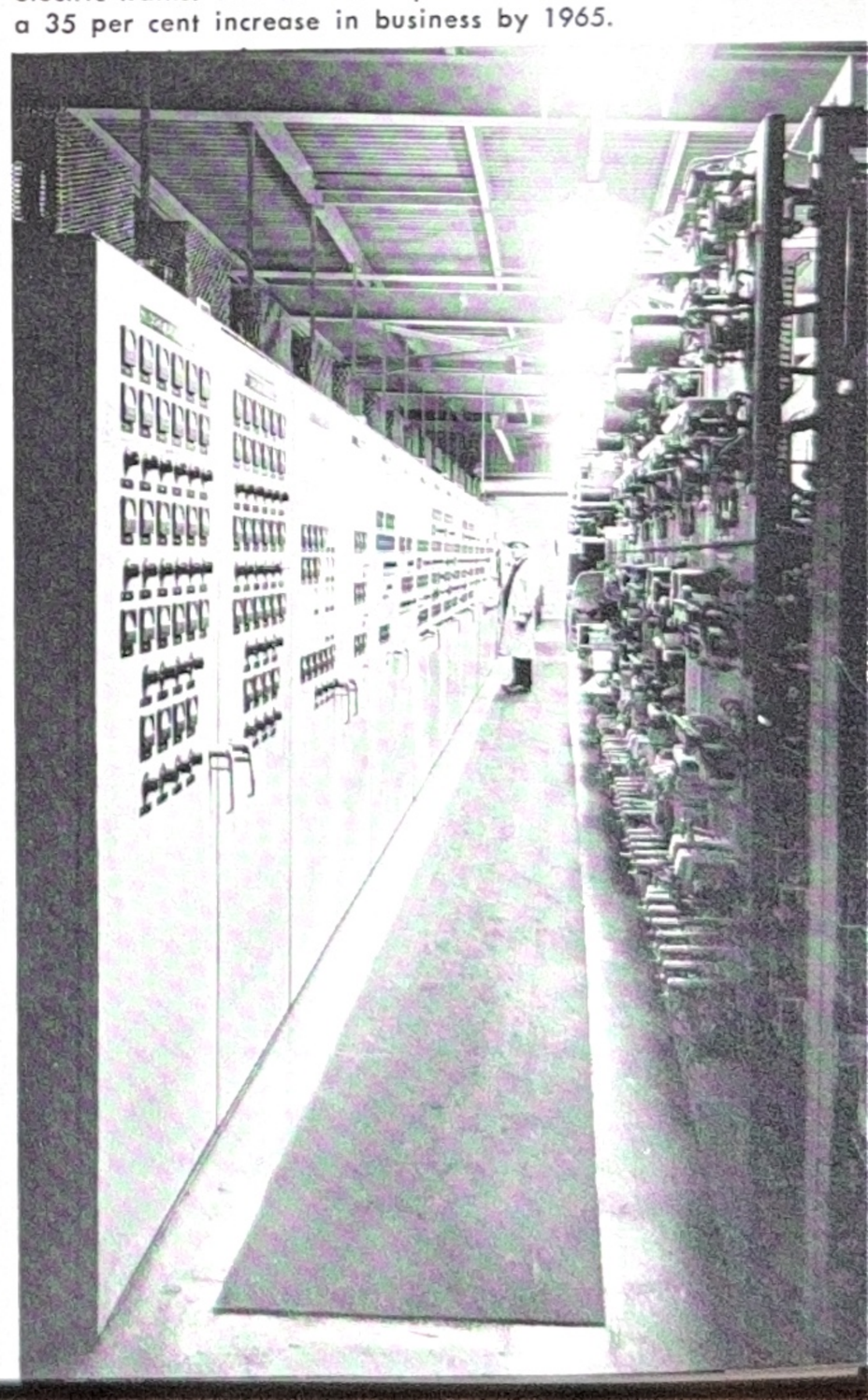
For Electro-Motive, A-C equipment controls the circuit between the traction motors and the main generator, and enables the engineer to change the direction of the steel giant with a flick of his finger.

In another transportation field, a semi-automatic control for mine cars hauling personnel permits safer and speedier transportation to job sites. It provides acceleration at speed from four to five times faster than the conventional mine locomotive.

(continued on page 8)

Our electric controls often work in conjunction with other Allis-Chalmers products. In the foreground are our motor-generator sets; in the background are our controls.

Controls from West Allis Works are found everywhere, in steel mills (below), at missile sites, in electric trains. The Control department looks for a 35 per cent increase in business by 1965.



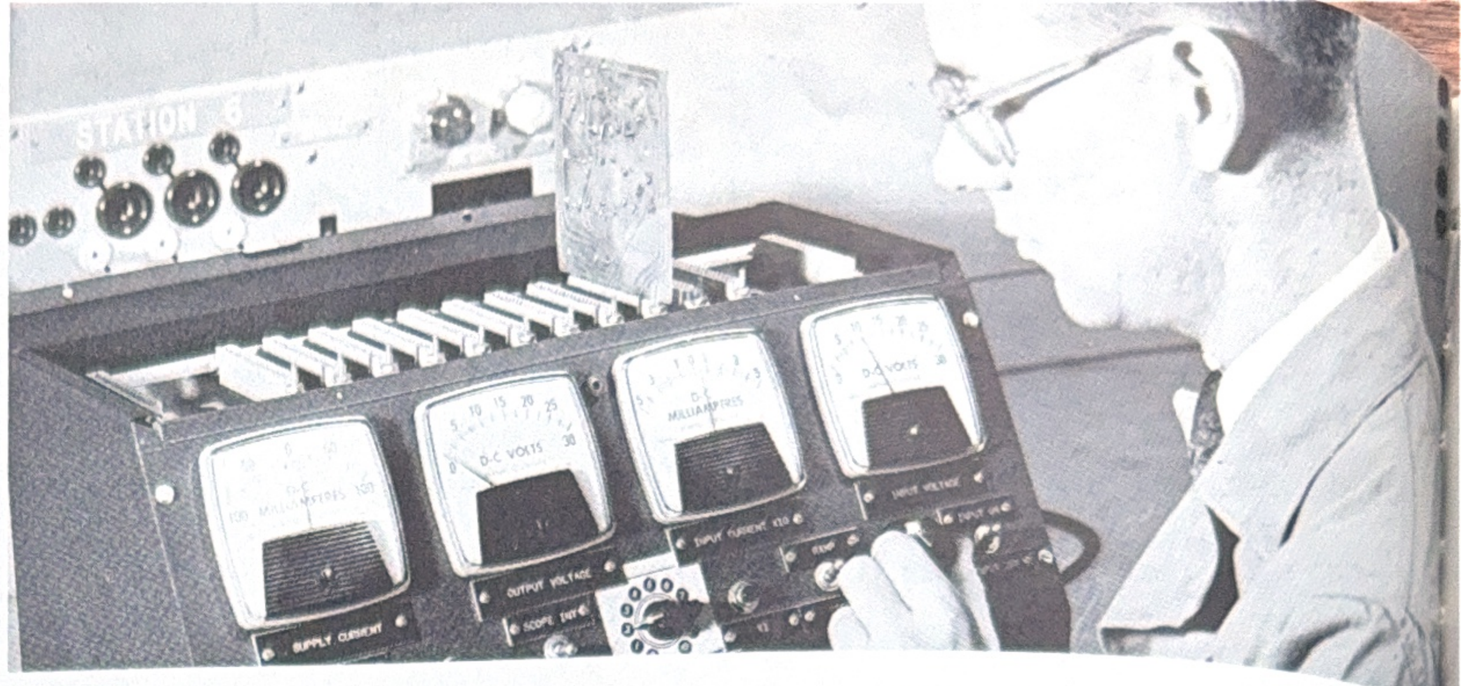
Another type of Allis-Chalmers control improved hardness techniques for steel mills producing sheet and tin plate. This all-static system measures the amount of elongation of cold rolled strip as it passes between the work rolls of a reduction mill. Previously, steel mills had to rely on spot checks of surface hardness, which required slowing down mills.

Still another control anticipates material breakage and automatically stops a strip being rolled to prevent excessive material damage.

A memory type fault detector offers greater reliability and versatility in operation of complicated mill control systems.

An Allis-Chalmers motor control center is the nucleus for a marine elevator installed in Belgium for drydocking vessels up to 1500 tons displacement. All the motors powering the hoist unit are coordinated electronically to start and stop simultaneously. The motors are controlled by one operator at the control center using a single selector switch to raise or lower the 250 by 43-foot platform.

Our controls have been used in a Navy test operation where important data on craft design is obtained by towing models of ships, submarines and torpedoes through the water.



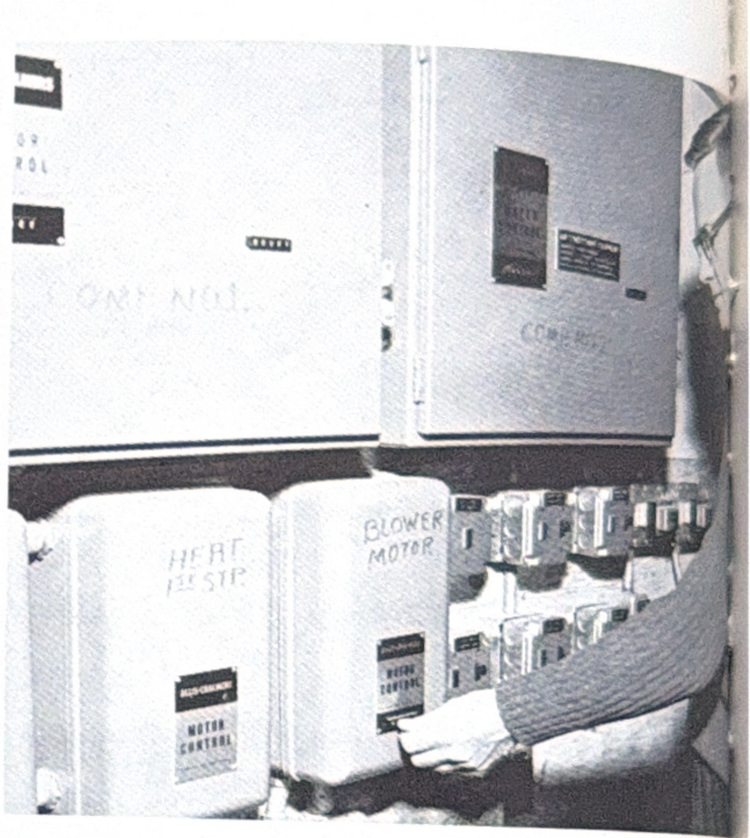
Electronic controls form a relatively new line at Allis-Chalmers. These units have no moving parts. Here a technician tests an electronic circuit.

A-C control apparatus was an integral part of the firing gear for guided missile housed in portable vans. Our control was used to calibrate the missile instruments and perform ground check operations prior to missile blast-off. A-C control then fired the missile when ground checks were finished.

Allis-Chalmers now provides the electric controls for many of our Titan missile bases.

One of the latest Control department projects is the development of electronic control for electric vehicles used in some localities to haul mail from the post office to corner boxes.

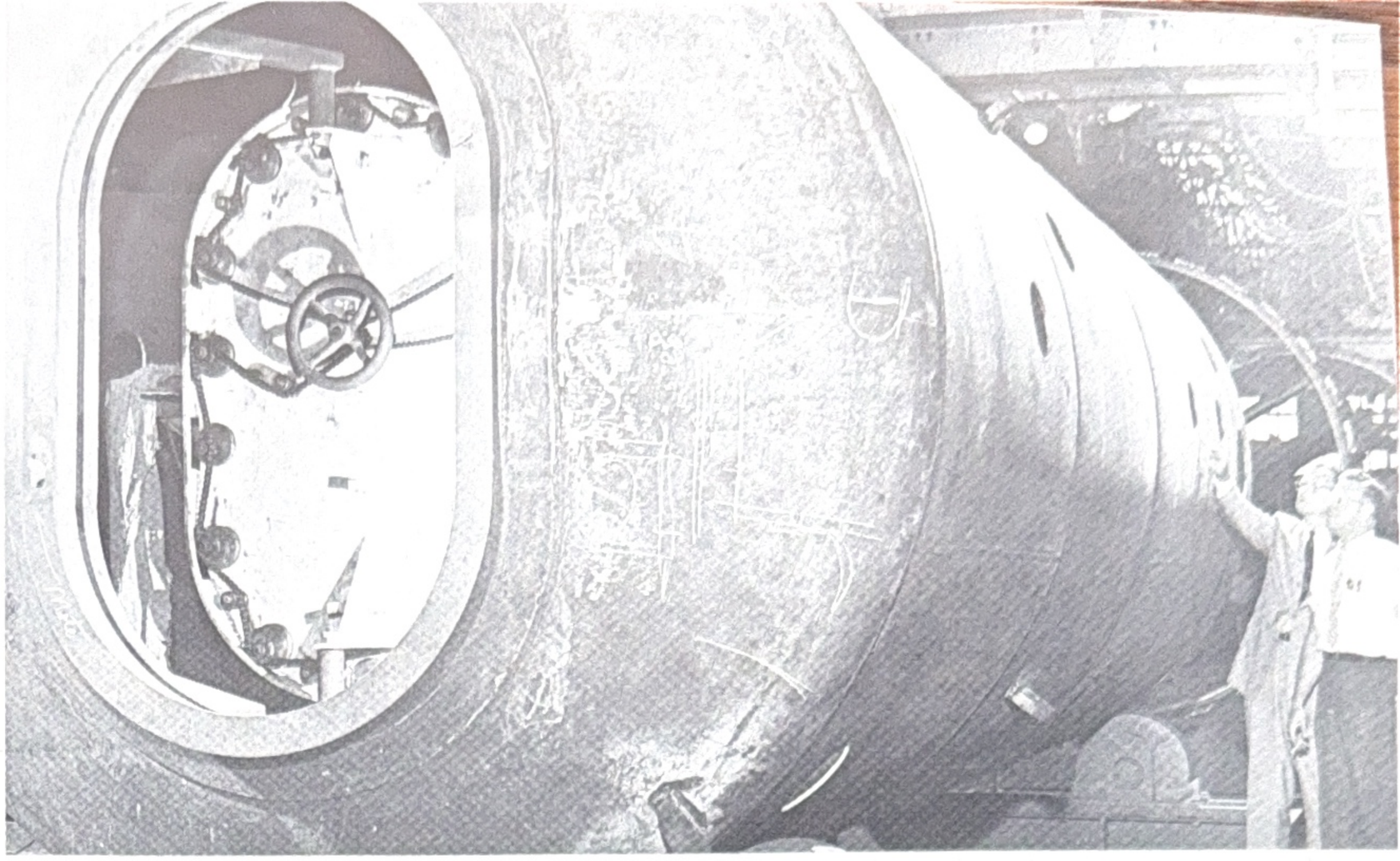
Controls? They're wherever we look.



A small department store houses motor control and other low voltage equipment for its air conditioning system. Shown, Don LeRoy, West Allis.

Anaconda Copper Co. bought this control console for a smelting plant. The control "watches" raw ore as it is processed into finished material. Control department will add 23 new products in 1963.

Medical tool with portholes



A chamber built at West Allis Works will be used to study the effect of working environments on older employes. Dr. Carl Zenz, medical director, and Vern Block, Plant Engineering, inspect it.

A-C develops environmental chamber

A test chamber nearing completion in the West Allis Works Tank & Plate shop can lift a dozen men 18,000 feet above sea level, or submerge them 100 feet below.

It can make them shiver in −10 degree cold, or bake them in 130 degree heat.

It can envelope them in precise amounts of humidity, dust, smoke, smog — the whole gamut of irritants in the atmosphere.

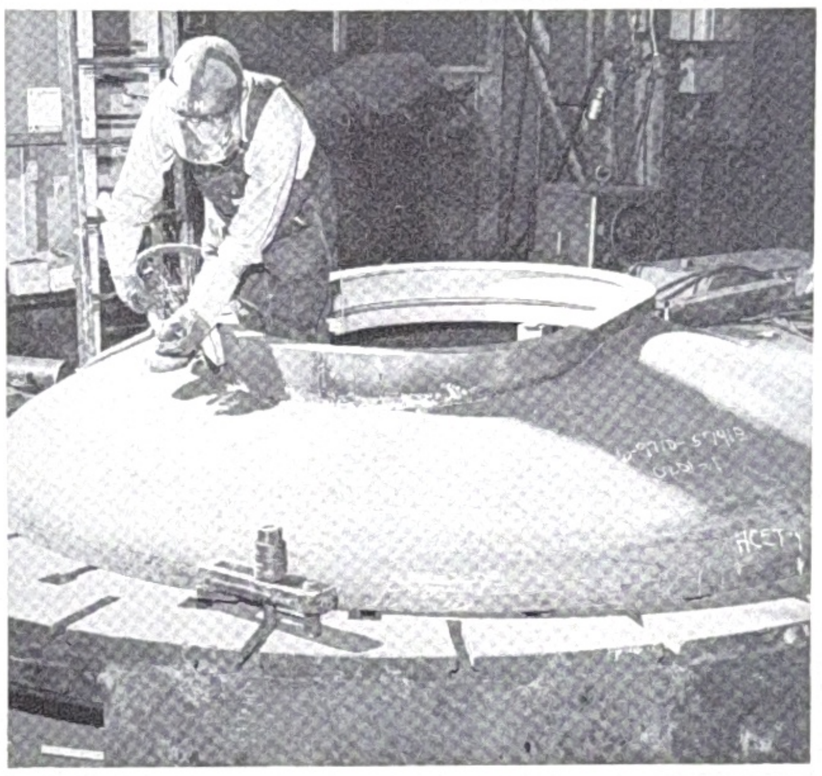
The chamber — more properly called a controlled environmental system — was built by Allis-Chalmers as a tool for its own medical staff. Primarily, it will help the physicians assess more precisely the physical working capacity of employes 50 years old or more.

Dr. Carl Zenz, Company medical director and the chamber's originator said, "By means of this chamber we will have opportunities to ascertain physiological standards for older employes under varying environmental situations. We will be able to simulate for hours or days almost any working environment and analyze its effect on men.

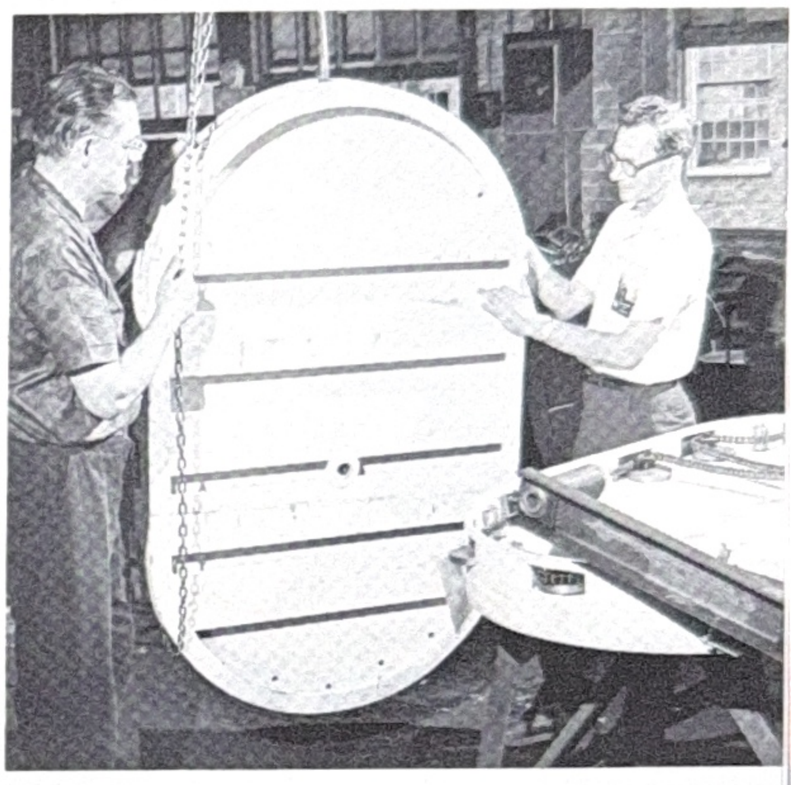
"The chamber can duplicate climatic conditions far more extreme than Allis-Chalmers employes are likely to encounter; and for special uses we have in mind, we wanted to reproduce as many conditions as possible."

Fred Puschel, Wayne Yoder and Vern Block of the West Allis Plant Engineering department designed the chamber. Dr. Zenz outlined his needs; these men did the rest.

He said, "I believe this chamber is unique, incorporating new and various features of others."



Tank and Plate Shop employe Joe Stoebich works on the chamber's end plate. The chamber holds 12 men. It will be installed in a hospital.



Checking the door of the chamber are Dick Branham and Joe Heidenreick, 5/2 Shop toolroom, West Allis.

The 24-foot long chamber has a nine-foot interior diameter.

Two men can use its treadmill facility simultaneously. It has 37 portholes, 17 for viewing and the rest for controls, ventilation and recording equipment.

Dr. Zenz said, "People are living longer and working longer, so it becomes imperative to learn certain of their physical responses. We have been doing research in this field for years."

Dr. Zenz and Dr. Walter Thiede of Milwaukee, a specialist in cardiopulmonary diseases, have studied and tested older A-C people at St. Luke's hospital in Milwaukee.

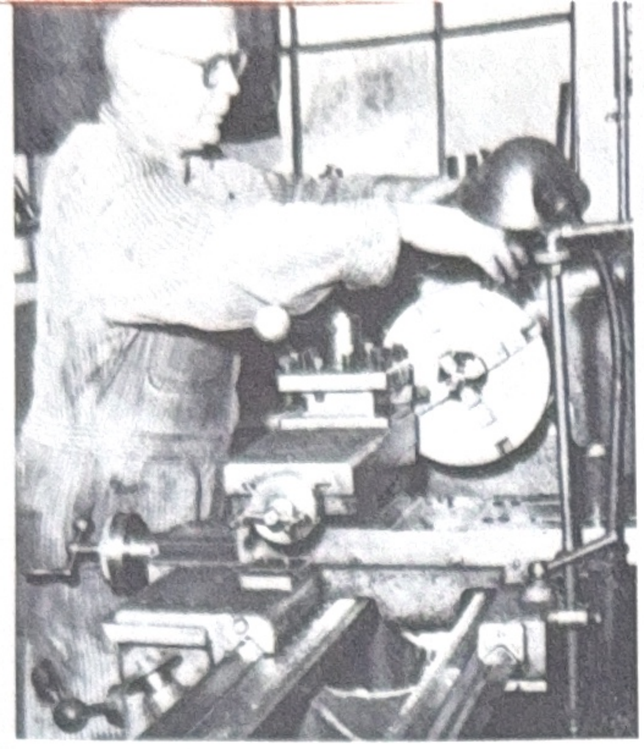
Results of the investigations will be presented by Dr. Zenz at the 14th International Congress on Occupational Health in Madrid, Spain, in September.

The chamber itself will be installed at St. Luke's hospital and be available to the entire community.

Designed for determination of working capacity of older employes under conditions of varying temperature and humidity, the chamber has many other potential applications. It may help determine the effect of increased oxygen pressures in men with coronary artery disease and of low temperatures on men with pulmonary impairments. It may tell the results of exposure to widely-used materials such as lead, vanadium, various solvents and the newer exotic materials such as rocket fuels.

The chamber could be a veritable life-saver in treatment of carbon monoxide poisoning, infections as tetanus and gangrene, the "bends," and respiratory complications in newborn and infants, such as hyaline membrane disease.

Dr. Zenz suggested, "Another future possible use — the chamber could be an operating room under higher oxygen pressures, permitting surgeons increased time to perform delicate operations as in congenital heart defects."



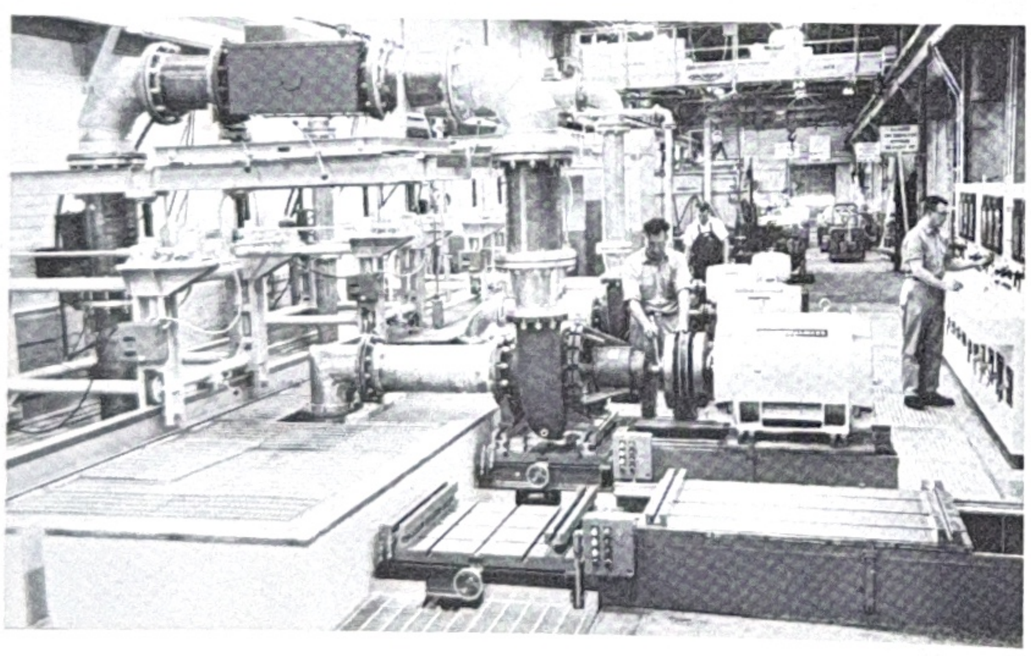
We're building, always

You build today. Or you're gone tomorrow. At Allis-Chalmers, we're in perpetual motion . . . modernizing and remodeling, building and buying the facilities and tools we need to keep our people and our plants competitive. Each year the Company invests millions of dollars for this purpose. These pages show some of the things we've been doing.

Acquire Two Plants

Schwager-Wood Company, Inc., a Portland, Ore. electrical switching equipment manufacturer, joined Allis-Chalmers in June, strengthening our position in the extra high voltage transmission field. Schwager-Wood's equipment ranges from 2300 to more than 500,000 volts with emphasis on high and extra high voltage applications — none of which was made by A-C. The firm employs about 75 people. Russell Frazier, (upper left photo) engine lathe operator, is oldest in length of service. He joined Schwager-Wood in September, 1947. Shown left are (from left) W. Maxwell Wood, vice president, general manager, Schwager-Wood; Gordon Clothier, general manager, Electrical Transmission, Distribution Division; President R. S. Stevenson, Executive Vice President W. G. Scholl.

Also this summer, Allis-Chalmers Rumely, Ltd., Canadian subsidiary, opened a plant at Guelph, Ontario, west of Toronto, to build six models of lift trucks and two of tractor-loaders.



Norwood Improves Test Facilities

A new pump test facility at Norwood Works more than doubles previous test capabilities and provides for improved development testing. (Employes, from left are Charlie Hensely, Paul Cooper, Robert Hancock). Also at Norwood, a new shipping office combines first and second floor shipping office operations into one area. The old office space increases shipping department efficiency.

Lachine Works of Canadian Allis-Chalmers at Montreal has a new overspeed test rig for compressor impellers, believed to be first of its type in Canada. Purpose: To test material strength and gain design information on compressor impellers operating above normal speeds.

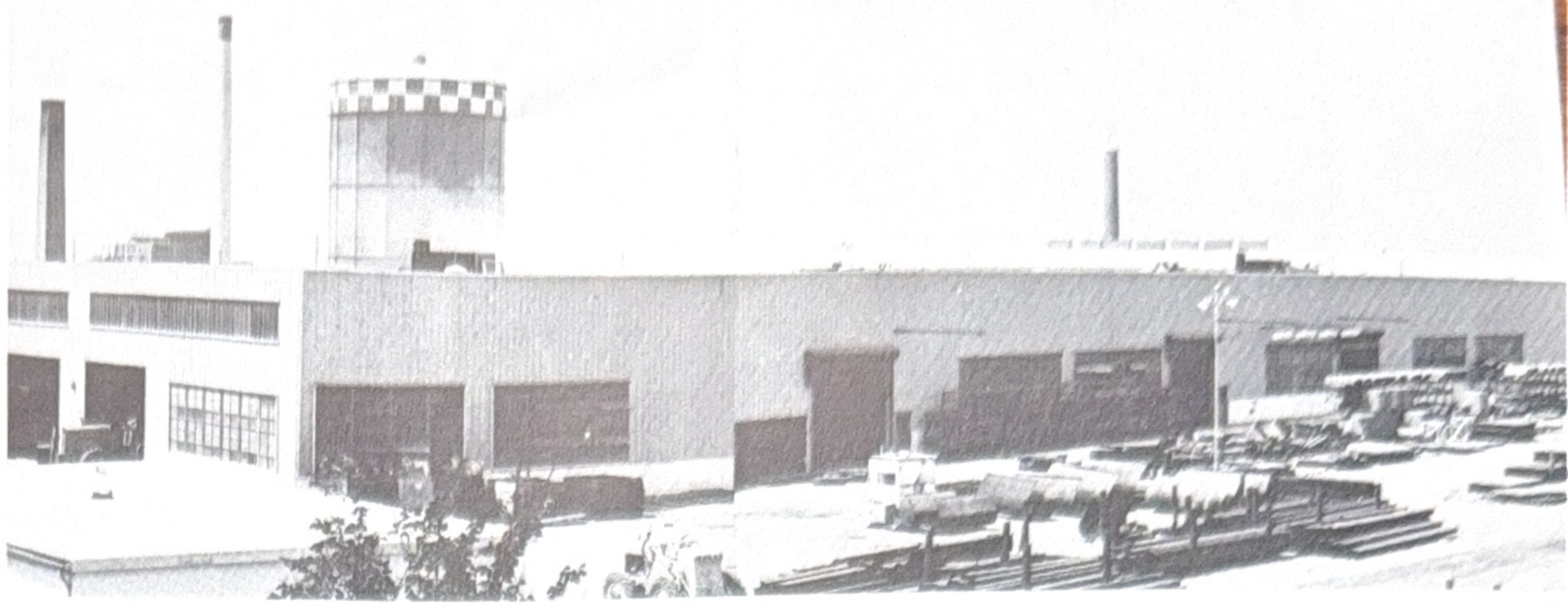
West Allis, Improvements Are Many

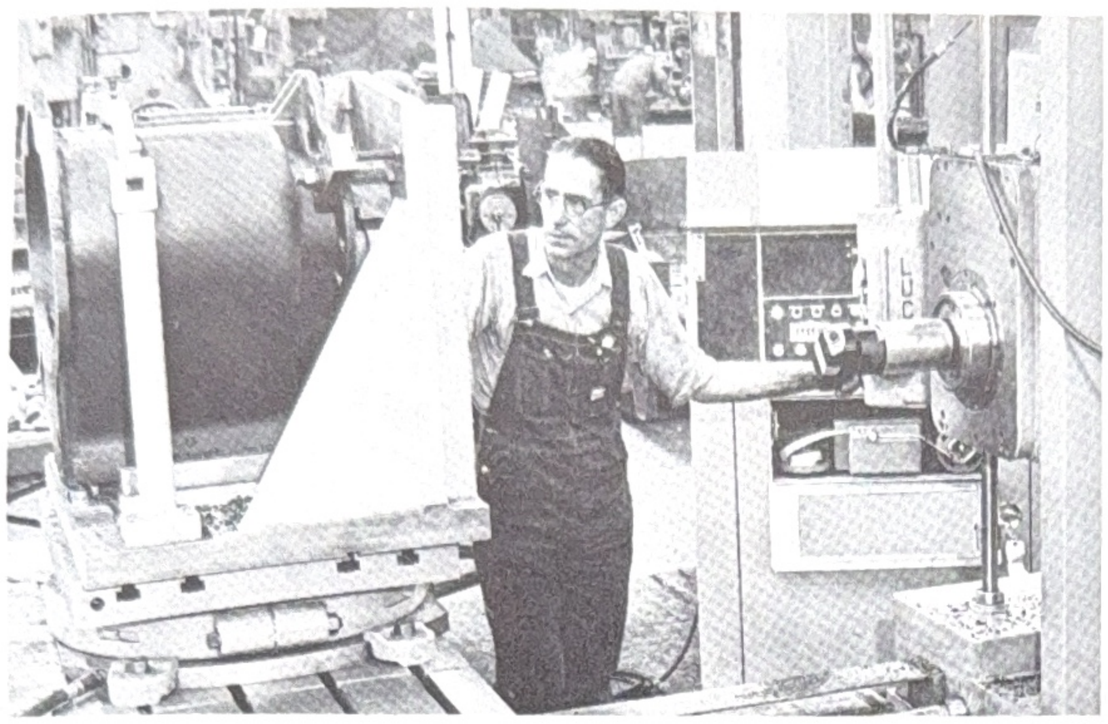
At West Allis, an entire building (shown) has been remodeled to accommodate expanding farm tractor production. No. 1 Tractor is being revamped and expanded to place a service parts storage and shipping facility under one roof. Another recently completed building will provide 90,000 square feet of covered storage area for finished materials used in tractor production.

Five task forces are studying machine shop and assembly areas of the West Allis Industries Group. This is the first phase of a program for rearrangement and modernization in these production facilities. Planning is scheduled to be finished by next May and completion date for the rearrangement, exclusive of two assembly areas on the erection floor, is December 31, 1964.

Deerfield Expands

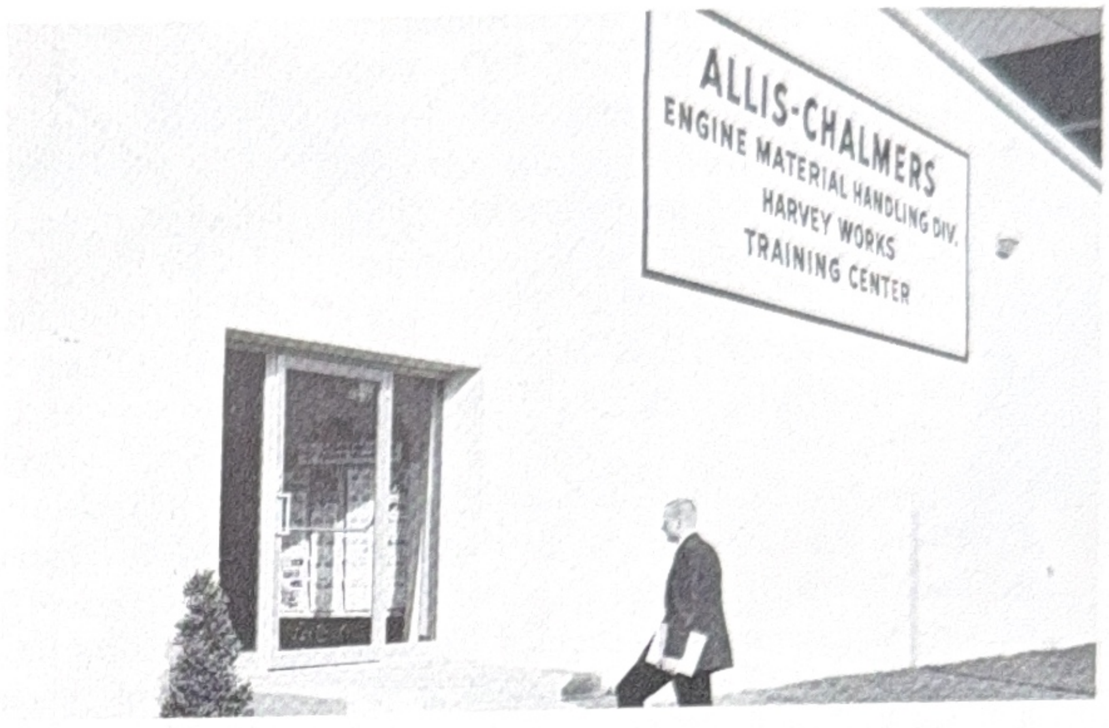
A more than 65,000 square foot addition at Deerfield Works, completed this summer, increases production facilities by more than 50 per cent. It will add 85 per cent to the assembly area, over 80 per cent to the weld shop, over 40 per cent to the receiving and production stores area.





New Machine Tools Everywhere

Always, machine tools are being added somewhere around Allis-Chalmers — like the tape-controlled precision boring machine for production of crawler tractor transmission cases at Springfield Works. Operator Fred Hobbs can achieve tolerances within .0005 of an inch through the control console in the background.

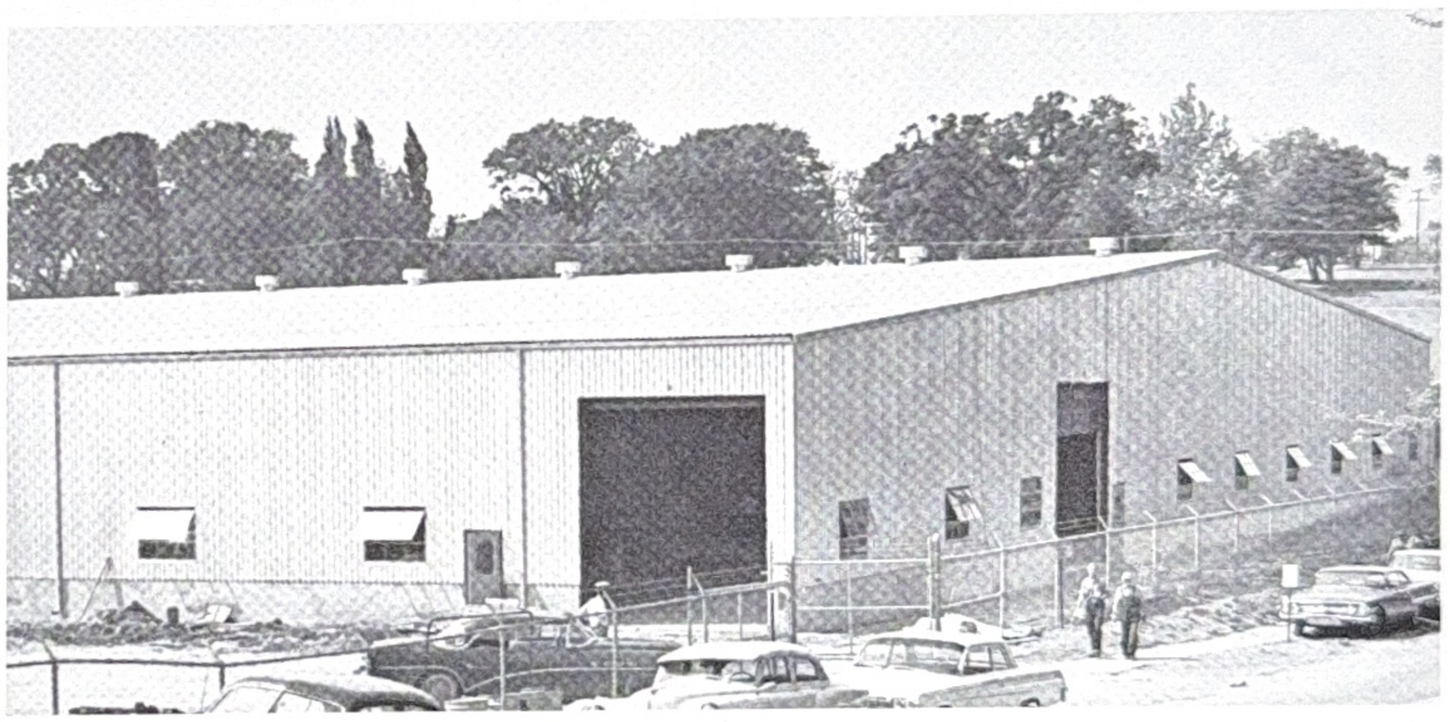


Harvey Builds Service Center

Salesmen, servicemen and customers are kept up to date on our engines and material handling equipment at the new Harvey training center. Harvey also is increasing its lift truck production area by about one-third by revamping existing facilities. In the office, safety department and personnel services employes now work in new quarters.

Independence Adds Again

Independence this summer completed a 40,000 square foot addition for improved combine assembly work. The addition is the second since 1961. Also new are truck loading docks which doubled capacity. This fall, new cleaning equipment will improve the combine painting operation. Since January, Independence has installed ten new machine tools — automatic lathes, screw machines, wire welding machines, press and broaching machines.



...And, Sometimes We Lease

This recently dedicated 10,000 square foot sales, rental and service lift truck facility in Atlanta, Ga., is leased by the Allis-Chalmers Distribution Service Corporation, a Company subsidiary. It was built specifically to fill our needs. Similar facilities were open within the past year at Los Angeles and Seattle.

Field engineers with "seven league" boots

Allis-Chalmers people have helped smash construction deadlines at two installations which they hope will never be used.

The installations are the Minuteman missile sites at Ellsworth, S.D., and Minot, N.D., where 330 of our diesel electric sets provide emergency power.

Some 220 additional sets are now being installed at the Warren Minuteman base, Cheyenne, Wyo.

For "superior performance" in supplying the Ellsworth units, Allis-Chalmers was recently honored with a citation from the Army Corps of Engineers.

Behind this citation is a story of ability and hustle that began in our engineering departments, continued through manufacturing, and culminated at the Ellsworth missile silos, where A-C field service personnel tussled with rigid installation schedules.

At Ellsworth, and again at Minot, men like Len Konkel, field engineer, Harvey Works, forgot about the eight hour day. Over a period of 10 months, Konkel put in 500 hours beyond his regular eight hours. A 12 to 16 hour day was not uncommon. Even the more normal days were often followed by "shop talk" at dinner time as our crew members, widely scattered during the day, filled each other in.

Konkel worked at both Ellsworth and Minot. At Ellsworth he was joined by Sam Borshay, Marvin Camp and George Paisley; at Minot by Don Heine, Tom Hauke, Del Reed and Carl Chieves. All seven are with our Industries Group Service department, working out of West Allis.

These men battled distance, weather and time as they made certain our diesel electric units could do their part in keeping the missile silos operational.

The silos, on less than 15 seconds notice, must rifle an intercontinental ballistic missile more than 6,000 miles at up to 15,000 mph to deliver a nuclear warhead of about one megaton.

Our diesel electric sets are in each of the 300 missile silos at Minot and Ellsworth. Others are located in each of the 30 control centers, one for every 10 silos.

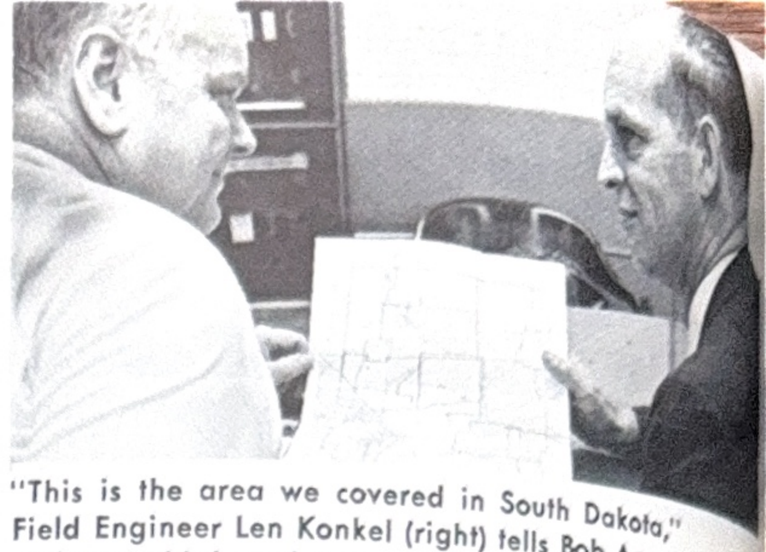
Distance proved quite a problem for the men. The crew estimates it covered between 400,000 and 500,000 miles at Ellsworth and Minot. They traveled up to 75 miles between their hotel and the fringe of the missile areas. From there they'd travel to the individual missile silos, one as far as 135 miles from the hotel. In a single month, Konkel logged 4,700 miles.

The Ellsworth missile silos are grouped in three general areas covering over 13,000 square miles. The Minot silos were spread over 20,000 square miles, an area almost as large as Massachusetts, Connecticut, Delaware, Rhode Island and New Jersey combined.

Cars took a beating. Because of the many gravel backroads they covered, punctured gas tanks, and fractured windshields and headlights were common.

Despite this, the entire crew had only one accident. Paint was scratched off a car in a parking lot.

Then there was weather. The Dakotas are noted for their extremes of hot and cold, with quick, unexpected storms thrown in.



"This is the area we covered in South Dakota," Field Engineer Len Konkel (right) tells Bob Arner, assistant chief engineer, Harvey Works.

Col. John C. Mattina, Chicago Army District engineer, presents a citation to C. F. O'Riorden, Defense Products Division, for the Company's "superior performance" in supplying Minuteman diesel electric sets. Left is Owen Higgins, general manager, Harvey Works.

Len said, "I was in Minot for 22 days in January; 18 days were below zero. The high all this time was 5 above and the low a minus 34. Several days the high was a minus 20."

Len said, "During construction at Minot our sets were located in open rooms just below the surface, so it was extremely cold. One of our service people reported — 'wall temperature, minus 10, wind at 40 mph.' Winds got up to 60 and 70 mph, winter and summer."

Then there was time. "Time didn't mean anything," said Len. "You worked until you got the job done. Since our tests were the last in the silo, we were low man on the totem pole. Sometimes we'd be notified at midnight where we had to be the next day.

"But these construction people did a fine job of scheduling. In fact, Minot was five months ahead of schedule.

"We met our schedules, and this meant checking out and putting in perfect order 330 sets at as many locations. But this was a team effort all the way. So much of the credit goes to our factory people. When we needed things, we had them."

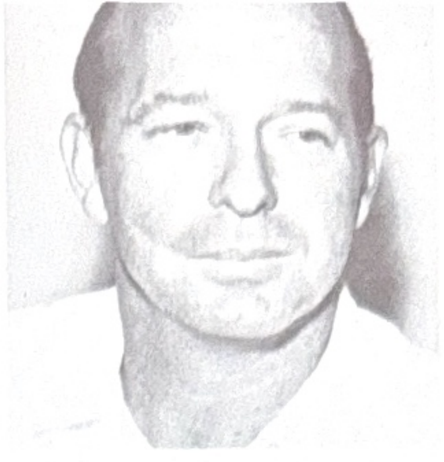
Bob Arner, assistant chief engineer at Harvey, said, "Our people had three months between the start of engineering and the start of shipping. We were able to meet or beat our schedule with every single unit."

An A-C tractor loader back-fills at a completed Minuteman launch control center capsule near Minot, North Dakota.

Patton

James Hutchinson

James Hill



Hank Allgeier

Bill Leach

Roy Wynn

Norwood leads 'Sell' parade

Norwood (Ohio) Works employes posted four more sales in recent weeks to continue as the "Sell Allis-Chalmers" pacesetter. Involved were the sale of a lift truck, pump, motor, tractor and implement B-1 yard and garden tractor.

John Patton, Norwood welder, suggested that a farmer friend look at Allis-Chalmers models after John learned the man was considering a new tractor. The result: both a tractor and implement ($5,400) were sold.

James Hill, pump tester, at Norwood, furnished the lead and arranged for the sales contact that produced an order for a pump and motor from the Seman, Ohio, Board of Public Affairs. The equipment is for the town's water plant.

Norwood Job Analyst Henry Allgeier, sold much more than a B-1 to a friend in Morrow, Ohio. His friend deals in riding mowers and used tractors. He was so impressed by Henry's sales talk that he purchased a B-1, sold it the same day, and immediately applied for a B-1 franchise. He's now an A-C dealer.

Bill Leach, general foreman, Norwood, has made a habit of "talking up" our products. This paid off with the sale of a lift truck to a Cincinnati terminal. Said a terminal employe, "You've been talking so much about your lift trucks, I just wanted to let you know that we bought one. And, I got news for you, Bill — it's the best lift truck I ever saw."

Bruce Derrington

Ray Messmer

Emiel Lehrmann

Rudy Hebron

Other sales:

KANSAS CITY — Roy Wynn, an employe at our Kansas City farm equipment branch, became the first "repeat" salesman by initiating the sale of a B-1 and mower to an Independence, Mo., church. Last year he helped sell a baler to a farmer.

DEERFIELD — A sixth lift truck has been sold to a Chicago firm as a result of an original tip by Elmer Giznik, cost accounting, Deerfield Works. Giznik's efforts produced an initial order of three units. The firm later ordered two more, and now a sixth.

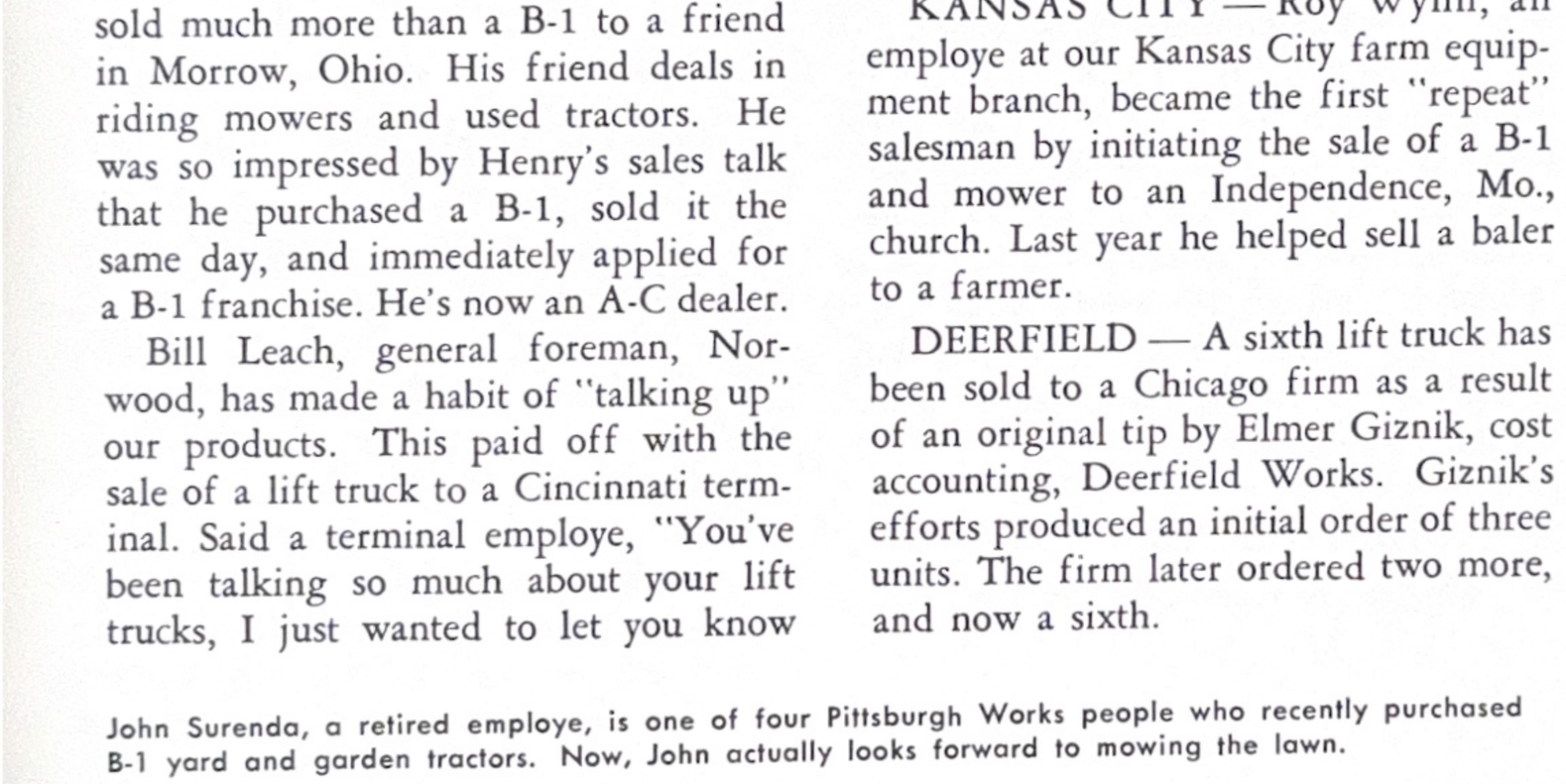
PITTSBURGH — Four Pittsburgh Works employes interpreted "Sell Allis-Chalmers" to mean "Buy Allis-Chalmers". Each bought a B-1. They are Foreman Ray Messmer, Crane Operator Emiel Lehrmann, John Surenda, a retired employe, and Welder James Hutchison.

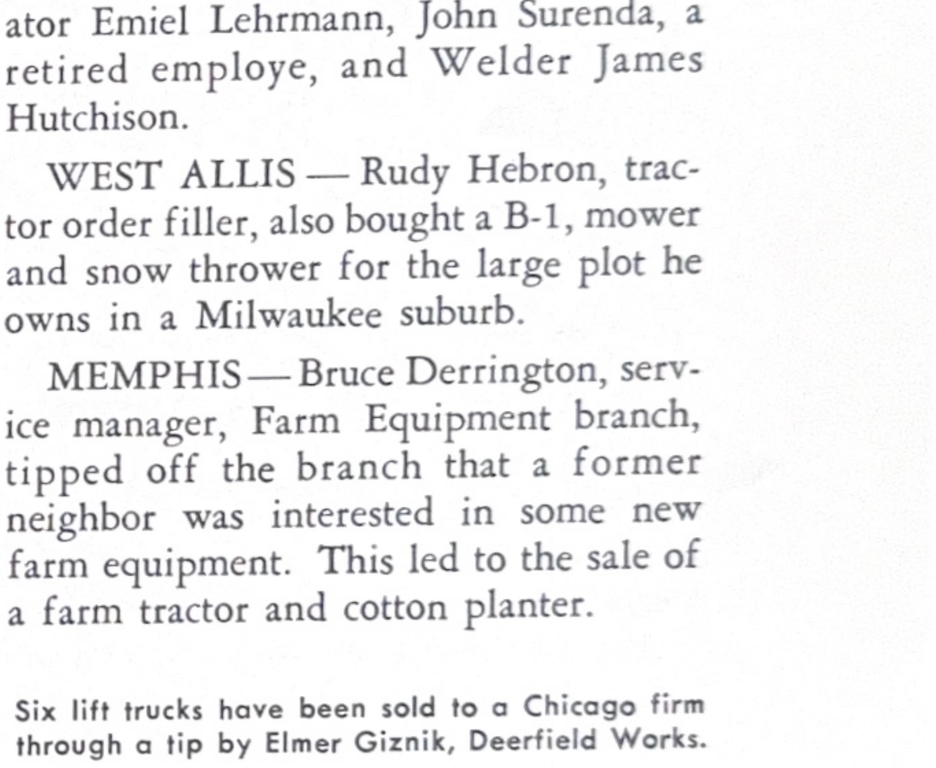
WEST ALLIS — Rudy Hebron, tractor order filler, also bought a B-1, mower and snow thrower for the large plot he owns in a Milwaukee suburb.

MEMPHIS — Bruce Derrington, service manager, Farm Equipment branch, tipped off the branch that a former neighbor was interested in some new farm equipment. This led to the sale of a farm tractor and cotton planter.

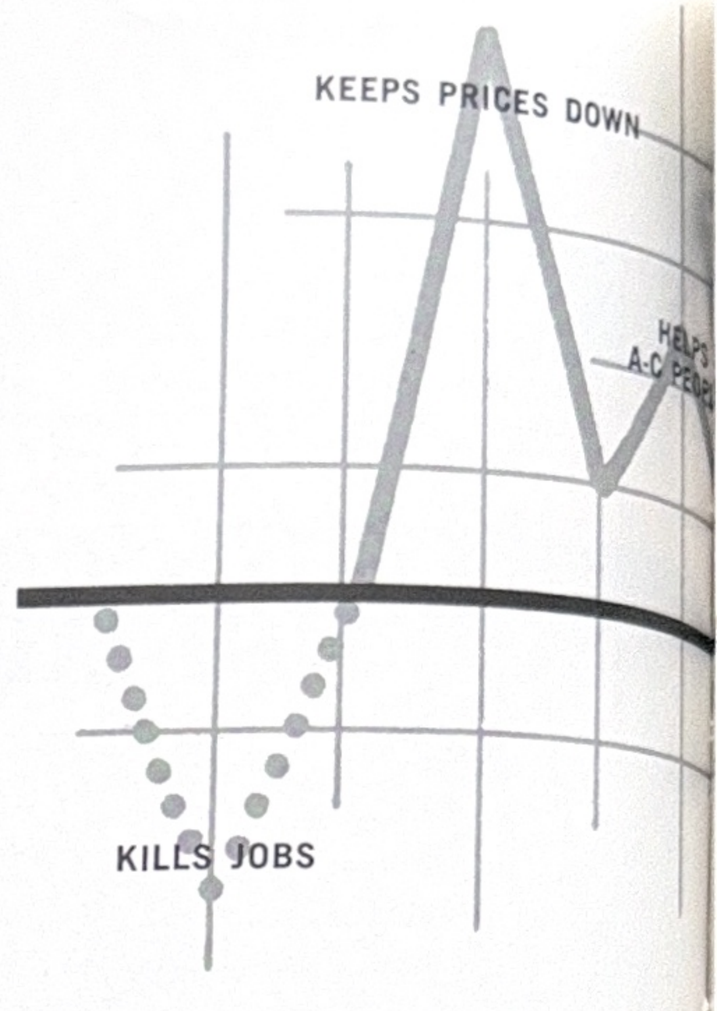
John Surenda, a retired employe, is one of four Pittsburgh Works people who recently purchased B-1 yard and garden tractors. Now, John actually looks forward to mowing the lawn.

Six lift trucks have been sold to a Chicago firm through a tip by Elmer Giznik, Deerfield Works.





Modern technology, burden or boon?



Why kid ourselves. Technology kills jobs.

We don't know exactly how long it took to plow an acre with a forked stick 8000 years ago. But we know that centuries later people were covering a lot more ground with oxen-pulled plows.

The cast iron plows which came later stepped up the pace still more. And today a farmer on a 5-plow tractor can far outstrip the efforts of any ancestor.

Through the centuries, a chain reaction of improvements has enabled man to do much more in much less time. Fewer people are needed to do the same volume of work.

In this sense, technology does kill jobs. What's happened in plowing has happened almost everywhere — in offices, factories, stores.

At this rate, most of us should be unemployed. Why aren't we? Let's take a closer look at this thing called technology, which now embraces such scare terms as automation and cybernation, and see what else it does, *and* doesn't do.

KEEPS PRICES DOWN

"Television sets cost less than five years ago. So do washing machines and vacuum cleaners. And radios and refrigerators." So read a recent newspaper story. Such bargains "stem, in very large measure, from automation and other such technological advances." But, the story went on, "Haircuts cost 12 per cent more today, on average, than in 1957-59. Domestic service is up 18 per cent. A hospital room, on average costs 32 per cent more than 1957-59." These are fields relatively unaffected by automation. A barber, for example, can cut hair just so fast.

In most cases, however, even improved technology cannot make things cost less. It cannot always compensate completely for the rising cost of doing business and the cost of improvements added to products year after year. Allis-Chalmers, for example, must charge more for farm tractors today than 30 years ago. But our modern tractors do so much more work, and offer the farmer so many more conveniences, that they defy comparison with the earlier models. So, even when improved technology is unable to offset entirely the increased costs of marketing a product, it still can give the customer a real bargain in view of what he gets and what he pays.

ENCOURAGES BUYING

A product that's "priced right" is within the buying range of more customers. It's said that Henry Ford put the nation on wheels. That's because his manufacturing genius permitted him, through technology, to mass produce cars economically, and then pass on savings to the masses. If cars were still manufactured as they were about 55 years ago they would cost about $65,000. One manufacturer reports that if his company produced electric light bulbs like it did 55 years ago, the costs would be $20 a bulb instead of 25¢. Few people would buy them — and, consequently, few people would make them. We buy what we can afford to buy. Technology enables us to afford more things.

CREATES NEW FIELDS

Most of us remember when there was no such thing as television, or computers, or satellites, or modern plastics, or polio vaccines, or home air conditioners, or tape controlled machine tools. At Allis-Chalmers, fuel cells, electronic controls and nuclear reactors are among products of recent vintage. Economist Yale Brozen of the University of Chicago in his "Automation — The Impact of Technological Change" states: "The primary effect of automation is not a reduction in the number of jobs available. Rather, it makes it possible for us to do many things which otherwise could not be done . . . to develop new knowledge that would not have been possible in our lifetime."

MAKES LIFE EASIER

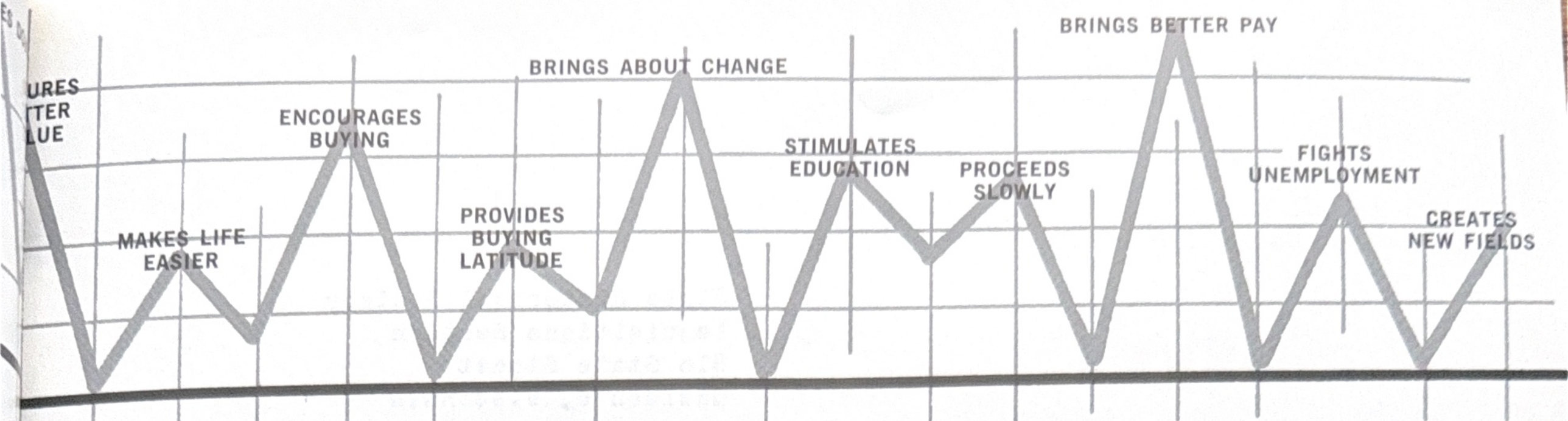
Admiral Hyman Rickover, father of the U.S. nuclear navy, said, "Machines furnish every American industrial worker with energy equivalent to that of 244 men, while at least 2,000 men push his automobile along the road, and his family is supplied with 33 faithful household helpers." An IBM publication went a step further: "If we had productive equipment and methods of 1860, it would be impossible to support the 180,000,000 Americans now alive. We could not produce nearly enough food, clothing, housing and other essentials."

FIGHTS UNEMPLOYMENT

In 1900, the United States had an unemployment rate of 5.0; in 1910, 5.9; in 1920, 4.0; in 1930, 8.7; in 1940, 14.6; in 1950, 5.3; in 1960, 5.6. Over these decades, the population increased steadily from 77 million to 180 million, and total employment from 29 to 69 million. If technology was to blame for unemployment, our unemployment rates should have increased steadily during this time instead of fluctuating as they did. Truth is, while technology does cause displacement, it creates far more jobs than it disturbs. Economist Brozen reports: "The number of civilians at work in 1961 was seven million higher than 10 years before. While 13 million jobs were destroyed by various causes in the 1950's, more than 20 million were created as a result of technological change and the growth in our stock of capital." He believes that if it were not for the technological advances of the past decades, unemployment, at present wage levels, would be above even the levels of the early 1930's.

HELPS A-C PEOPLE

Allis-Chalmers construction machinery, electrical equipment and processing machinery are nothing more than pack-



aged technology. Our very livelihood is based on our ability to build and to sell machinery that our customers can use to improve their operations — whether it's digging a ditch or powering a factory. In designing and manufacturing our products, we rely on technology we buy from others in such forms as computers and machine tools. Without this technology our products would cost more than competitors' and be inferior in quality. We would soon sell very little and tremendous unemployment would result.

ASSURES BETTER VALUE

Modern man not only makes things faster than those before him, he makes them better. The modern rubber-tired wheel withstands much more punishment than a chariot wheel. Customers demand this. At Allis-Chalmers we respond by giving them motor scrapers that haul twice as much dirt and 50 per cent faster than just five years ago, motors that stand up four times as long in certain operations, electronic drives for unusually precise control of electric lift trucks, crushers that can crush enough stone in an hour to make a road a mile long, 18-feet wide and eight inches deep. These products give the customer more value than ever. Then he is willing to come back for more.

PROVIDES BUYING LATITUDE

Technology increases productivity. As productivity rises, costs and prices fall in relation to income so we have greater latitude in how we spend our money. Brozen reports that in 1870, over half of the U.S. work force was engaged in the primary industries (agriculture, forestry, fishing, mining). In 1960, fewer than 10 per cent were in this field. But, the fabricating, specialization aiding, personal service and life enriching industries all showed substantial increases. In short, people were able to spend money for a richer, fuller life, and this flexibility created employment in these other fields. As one authority said in "Nation's Business", "Whenever we step up productivity, and total capability, a whole range of undreamed-of products, services and jobs come into being. Human needs and wants are open-ended."

STIMULATES EDUCATION

Advancing technologies mean we must become better educated. But we've always shown a willingness to educate ourselves when we could see good reason for it — like the hundreds of Allis-Chalmers employes who have studied evenings under the Company's tuition refund program. Economist Arno H. Johnson, said, "By July 1963 the number of adults (over 20) with a full high school education will be 2½ times as great as in 1940 and over 60 per cent greater than in 1950. Total college graduates increased from 4 million in 1940 to 10 million in 1963 and by 1973 they should total 14 million." This educational boom, incidentally, has more than doubled employment in this field in the past 30 years.

PROCEEDS SLOWLY

Despite the popular image of technology as an onrushing monster, technology, as a rule, gives people and industry time to adjust. Brozen said, "This new, and old, technology, (automation) is spreading very slowly and the present slow pace is not likely to accelerate."

Changes in automation not only take time, they are costly and do not apply to some sections of industry. When technology does cause changes, wholesale layoffs are generally unnecessary because of transfers within the company and natural turnover of personnel through retirement, death, and voluntary terminations.

W. Allen Wallis, president, University of Rochester, said: "Unemployment is not an inevitable consequence of automation. Most of what is said and written about it is idle chatter. The problem of unemployment caused by technological change is almost negligible — certainly not one per cent of the total jobs lost for all reasons. DuPont's "Better Living" reports: "Not more than 300,000 jobs are displaced by labor savings advanced each year, while manufacturing turnover requires three million new employes each year."

BRINGS BETTER PAY

An obvious result of greater productivity through technology is greater pay. As a rule, when you produce more your employer can pay you more. There are also many side benefits such as insurance programs and paid vacations. Fringe benefits at Allis-Chalmers have risen 200 per cent per hour worked in 10 years. Moreover, technology enables our pay to outpace the rise in the cost of living. In the same 10 years, the cost of living increased 14 per cent, but the average Allis-Chalmers pay check went up 54 per cent.

BRINGS ABOUT CHANGE

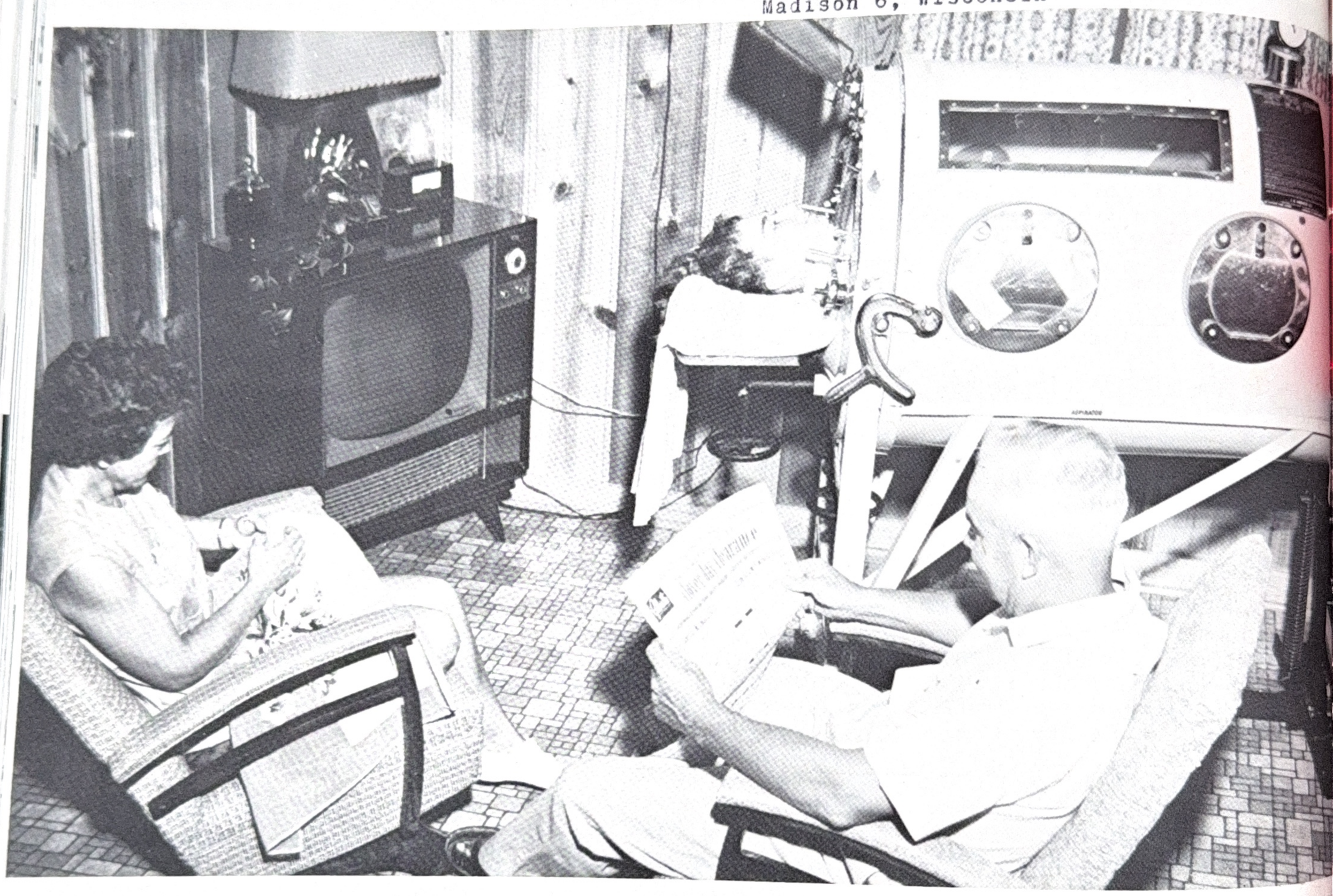
Technology causes change. But change for the better. We all tend at times to fight what's new and different, particularly when it affects our jobs, our way of life. But to fight change is often to fight progress.

If those who fought progress throughout history had their way we'd still be setting type by hand (all printed matter would cost more, and variety would be limited), textiles would still be handspun (same thing would happen). We'd make less money, the money we did make would have relatively weak purchasing power, there'd be less available to buy, even if we had the money.

Fortunately for all of us, progress is inevitable. As Dr. William Baker of Bell Telephone Laboratories said in "Nation's Business," "Those who question whether we should stop progress might as well debate whether we should have sunlight during the day."

a-c scope

ALLIS-CHALMERS MFG. CO.
Box 512
Milwaukee, Wis. 53201



Pluck in an iron lung

In Marilyn Boyette's world, baseball players run from home plate to third base. Watching televised games through the mirror on her iron lung, she gets an upside-down picture.

"You get used to it," says Marilyn, a polio victim for 15 of her 24 years. Marilyn, who now spends 20 hours a day in the lung, has learned to "get used to" a lot of things — except dejection and self-pity.

At Rutherford, Tenn., where she lives with her parents, Lynn and Janie Boyette, Marilyn graduated with her high school class as co-valedictorian. As active as her health permits, she reads much, collects dolls, likes records, television, needlepoint work.

Allis-Chalmers learned about Marilyn after her father bought a B-1 lawn and garden tractor because an optional accessory — a generator set — could provide stand-by power for the lung in case of electrical failure.

He has never had to use it. But when the weather looks stormy he gets the generator set ready — just in case.

Lynn also mows lawn and cultivates a 1½ acre vegetable garden with the B-1.