

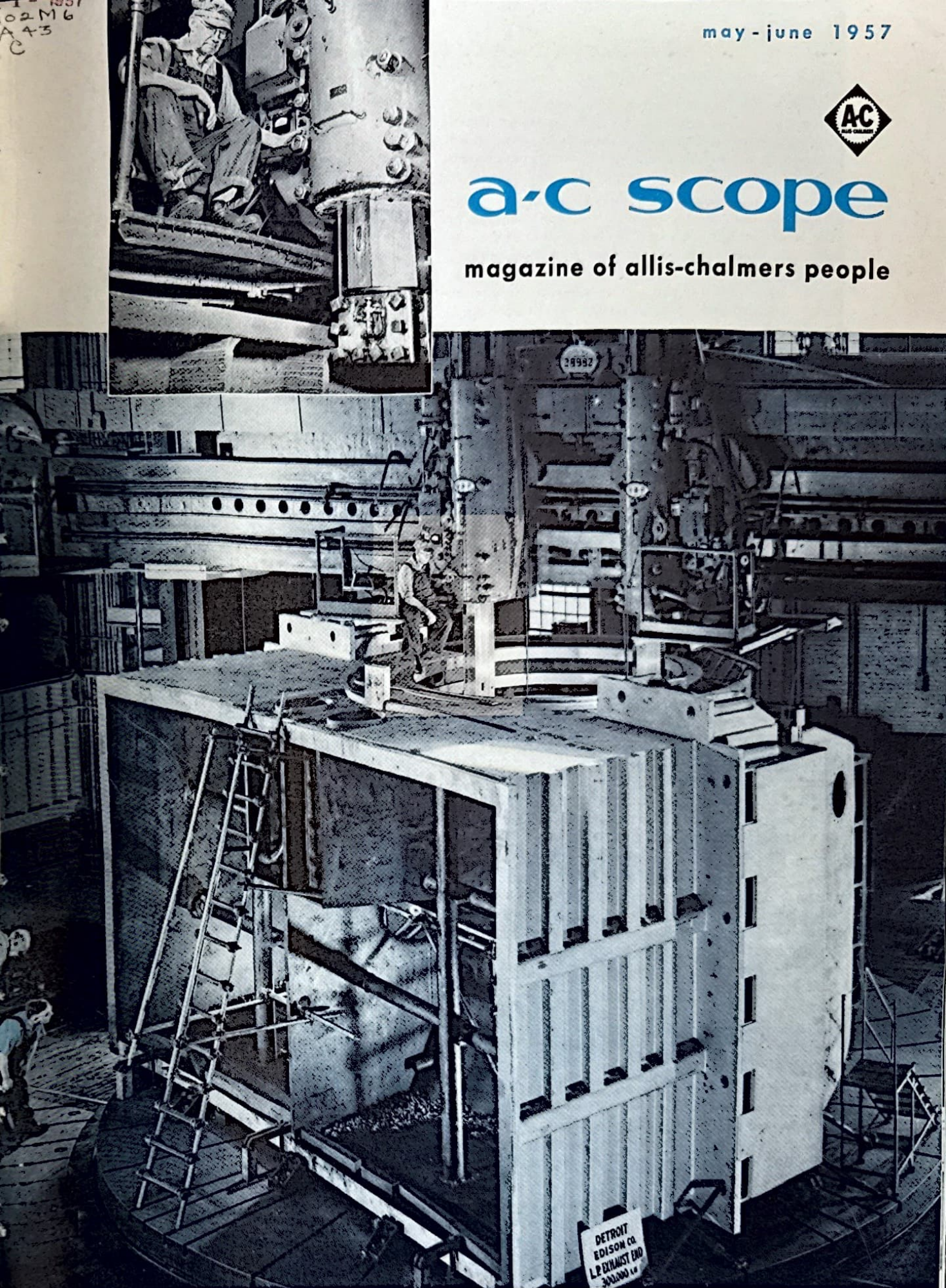
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may - june 1957



# a-c scope

magazine of allis-chalmers people



For a BIG Project, BIG Men and BIG Machines . . . See Page 11



## Profit—a Reasonable Return

Anyone who makes an investment wants his money to earn a profit. When a man puts his cash into Savings Bonds, bank accounts or other investment channels, he feels justified in expecting a reasonable return for his investment, a reasonable profit for the use of his money.

Take Venus Products, the Junior Achievement company featured on Page 18: The company sold shares of stock to raise money to start operations. Doubtless, many of the persons who bought Venus stock felt they were simply making a contribution to a worthy cause. Instead, at the end of the JA year, they found they were getting their entire investment back, plus a dividend, or profit, for the use of their money.

When we move out of the world of Junior Achievement, we find that business corporations also issue shares of stock—but the investors expect a return for the use of their money, a reasonable dividend on the shares of stock they have purchased. Why else would they invest in Allis-Chalmers or any other company?

This continent was settled by "companies" who sold shares to raise the funds to finance their voyages. This nation's businesses are rich in the history of men who found investors . . . financial backing to make new products and new jobs. Allis-Chalmers had a similar beginning. The settlement companies, the business enterprises, would still be looking for funds if it were not for the people who are willing to invest their money in hope of a fair return.

Nobody wants to invest their money in a company that fails to earn a profit, and nobody wants to work for a company that doesn't make a reasonable profit. A company with a steady record of financial losses may eventually go broke—and everybody's job goes out the window.

## ... and Away We Go

Question 38,000 Allis-Chalmers employees about their vacation plans and you'll get close to 38,000 separate answers. Each of us enjoys the right to spend our vacations as we please . . . subject to 1001 variations. There's the matter of what the rest of the family wants to do; the problem of which relatives to visit; the question of whether it's a good idea to drive that far with several children.

Some of us figure vacation means getting as far away from home as possible. Others use the time to fix up the house, with maybe a couple of trips to the golf course or a fishing spot. To the schoolboy, vacation is a welcome release—but his mother may be counting the days until the fall term begins.

We get a vacation and it's ours to do with as we please. Whether you've been saving all year or using the "go now, pay later" system, you're probably ready to get out and go when vacation time comes.

Allis-Chalmers did not invent the paid vacation, but the company's vacation plan compares favorably with those of other large manufacturers. It's the company's way of saying "you've done a good job, now take some time off to relax." To which we'll add "relax sensibly, and come back in one piece."

Speaking of vacations, the total paid vacation and holiday time granted to A-C employees in a single year is equal to 1562 man-years of time off. The first thought is obvious—"why don't you work all year and I'll be one of the 1562 to take the whole year off?" Seriously, though, that's a lot of time off. And it represents a lot of recreation and relaxation for people who work at Allis-Chalmers.



## COVER PHOTO

Leonard Ristow, inset, typifies the big men needed to build big projects. He and William Trudell have 73 years of Allis-Chalmers service between them. Ristow, in his own words, "grew up," with the huge 40 foot boring mill, which was installed during 1928. There is no substitute for experience, as proved by these two men and the other two operator-helper teams who run this machine, Allen Lund and Joseph Sorsock (second shift) and Robert Halmich and Louis Wood (third shift).

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## PHOTO CREDITS

Front cover—Mike Durante, West Allis Works; Page 7, top left—Jerome Gosseck, West Allis Works; Pages 11 through 14—Duran, Gosseck, Harold Shrode, West Allis Works; Page 16, top left—Howard Williams, Springfield Works; Others, Pages 15-16-17—Joe Goulet, Springfield Works; Page 19, bottom—J. A. Shank, Junior Achievement of Southeastern Wisconsin, Inc.; Page 20, bottom, and Page 21—Charles Schorman, Norwood Works; Back cover—Dave Ward, LaPorte Works.

## A-C SCOPE

MAGAZINE OF ALLIS-CHALMERS PEOPLE  
—Arthur V. Swenson, Editor . . . James A. Brammer, Assistant Editor, Published by Information Services, Industrial and Community Relations division, Allis-Chalmers Mfg. Co., Milwaukee 1, Wisconsin.



Ruthann (left) and Karen Taylor get an unusual view of the Liberty Bell on their visit to Independence Hall in Philadelphia.



## A-C Family Sees Birthplace of Independence

### Philadelphia...

the name brings a number of different pictures to mind: Possibly one of Franklin walking into town carrying a loaf of bread under his arm; perhaps for sports fans the memory of an Army-Navy football game at Franklin field; perhaps for the business-minded the sta-

tistics of two percent of the nation's population producing 10 percent of the national wealth in goods. Most of us have a good many impressions of Philadelphia, even though we may never have visited the city.

For Allis-Chalmers people in the Philadelphia area, a tour of the historic

sights serves as a refresher course in the history of American independence. Recently Bill Taylor, sales representative in the Philadelphia district office, took his wife and their two daughters to some of the better-known historic spots in Philadelphia and at nearby Valley Forge. For Ruthann, 12, and Karen, 10, the excursion supplemented what they've learned in school about their city's role in history. For Mrs. Taylor, a transplanted Hoosier, it was a visit to some of the city's shrines.

Bill Taylor, Philadelphia district office representative, with Mrs. Taylor and Karen, 10, and Ruthann, 12. He's pointing out where the Declaration of Independence was signed.



The Taylor girls feel a little closer to their history lessons when they realize that the Declaration of Independence was signed not more than 15 blocks from their father's office, that other equally important spots are in the heart of the city. History takes on a new meaning when they realize that the Valley Forge they've visited on a family outing is the same place where Washington's Army spent a dreary winter almost 180 years ago.



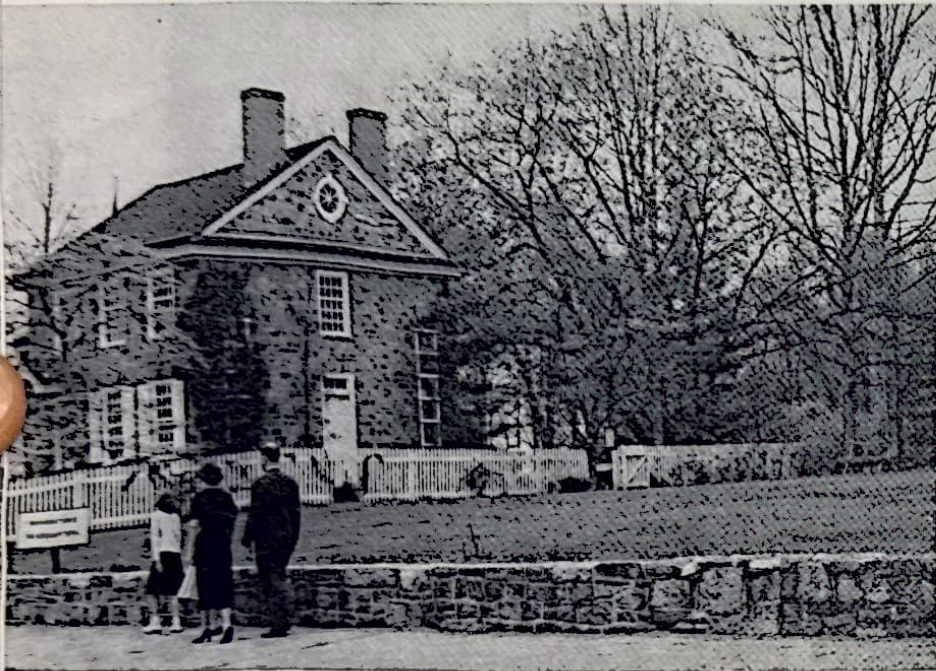
Tailors inspect cannon at Valley Forge. Note log huts in background, used to quarter soldiers in winter of 1777-78.



Memorial arch is familiar sight to all who have visited Valley Forge.



## Philadelphia ...



As family approached Washington's headquarters, dogwood tree (extreme left) was almost in full bloom. Entire Valley Forge area is blanketed with blossoming trees.

Revolutionary War period relics are on display at Carpenter's Hall, where the first Continental Congress convened.

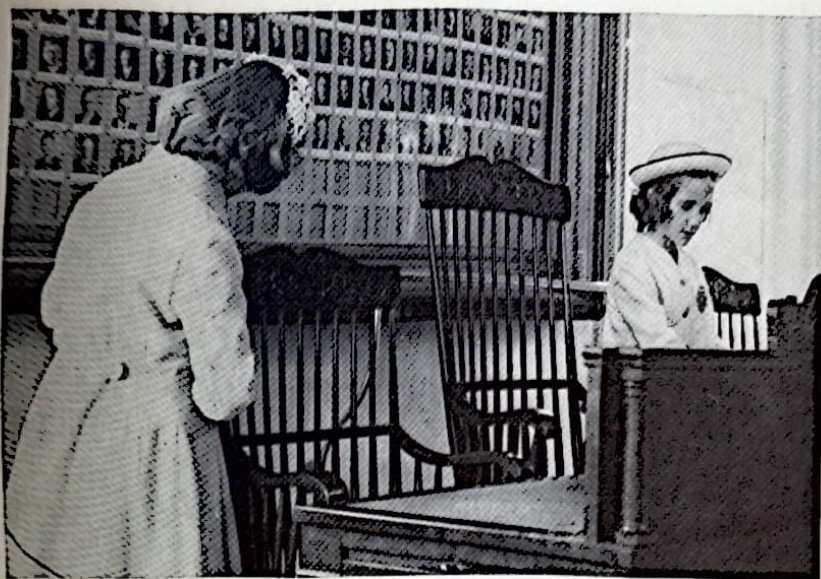


Classic tower of Independence Hall forms a backdrop as ladies wait for Bill to get the car.





Officers of Continental Congress used this furniture at Carpenter's Hall "before Mommy and Daddy were born," Taylor girls observe.



Philadelphia is almost British in its reverence for history and tradition. But the city is getting a face-lifting in the downtown area . . . a new office building and a plush hotel can be seen from the Allis-Chalmers district office on the 12th floor of the Suburban station.

The spirit of renovation carries over to the historical sights, too. Independence Square, the new Mall, Carpenters Hall and others are being "dressed" for the summer tourist rush. It's necessary work, but a bit unsettling to see compressors and scaffolding near the Liberty Bell, or a jeep at Valley Forge.

If you concentrate on the Revolutionary War attractions in Philadelphia, you can't do justice to the city's modern accomplishments. Philadelphia is the nation's second largest seaport . . . its convention hall has been the scene of many notable gatherings . . . the University of Pennsylvania's 120-acre campus is an inspiring sight . . . the U. S. mint attracts thousands of people to witness the minting of U. S. and foreign coins . . . Philadelphia has a planetarium, museum of art, arboretum, zoo, 4000-acre park, 100,000-seat stadium and many other facilities as modern and extensive as those of any other city in the United States.

But Bill Taylor and his family were concentrating on history for their sight-seeing tour, and they saw a good deal in a short time. At Independence Square, they saw the Old State House, now called Independence Hall, where the Liberty Bell is enshrined, where the Declaration of Independence was signed and the Constitution of the United States was formulated. To the right and left of Independence Hall are

Congress Hall and Old City Hall, where congress met and the first Supreme Court was convened.

Not far from Independence Square is Carpenters Hall, where the first Continental Congress met in 1774. The home of Betsy Ross is a short distance away — a small house made famous by the 13-starred flag which flies from its second story.

Valley Forge, where Washington and his men spent the winter of 1777-78, is a tour in itself. The Headquarters house, the soldiers' huts, company streets and the Memorial Chapel all help recall the memory of the men who conceived and fought for a new nation.

So the Taylors saw a lot of American history right in their home town of Philadelphia. They saw things with names like Valley Forge, Independence Hall and the Liberty Bell, names which stand for freedom and independence throughout the world.

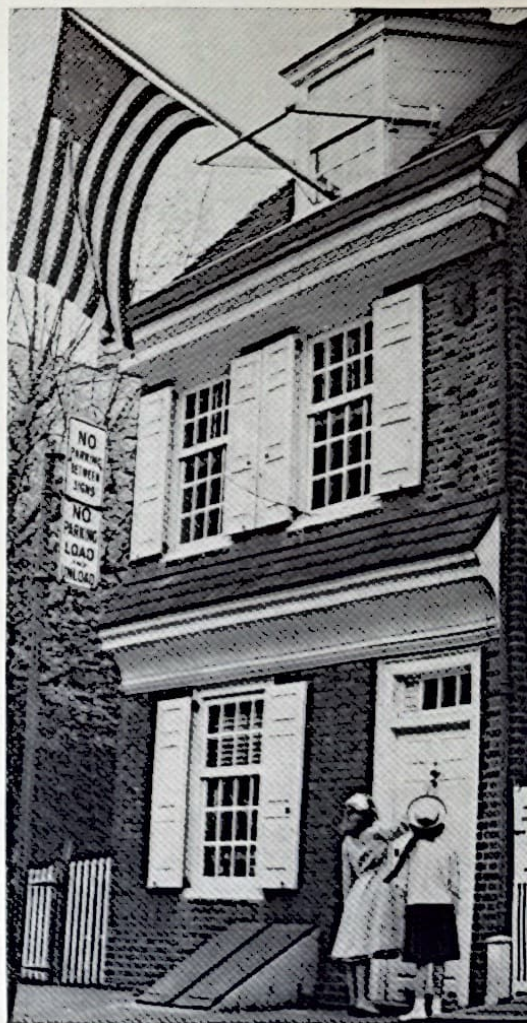
Taylor family stops to look at the bell used "to proclaim Liberty throughout the land." Because of flaw in casting, bell cracked the first time it was used.



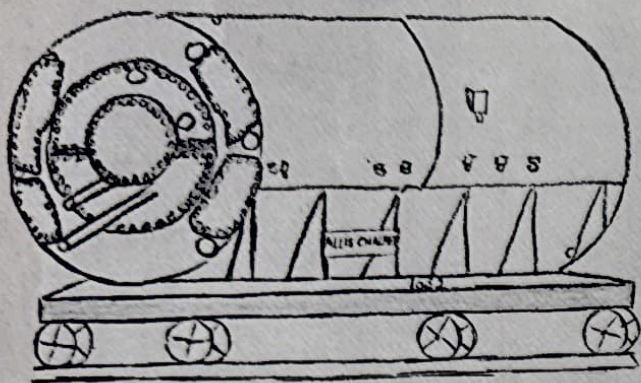
Hardware on Carpenter's Hall door attracts Mrs. Taylor's eye. Like other furnishings, it is authentic to Revolutionary War period.



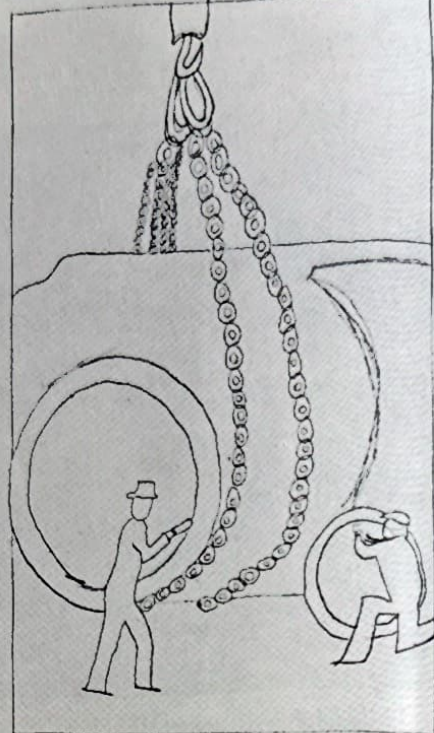
Replica of the first American flag flies over the home of Betsy Ross as the Taylor girls try the brass knocker on the door, below.





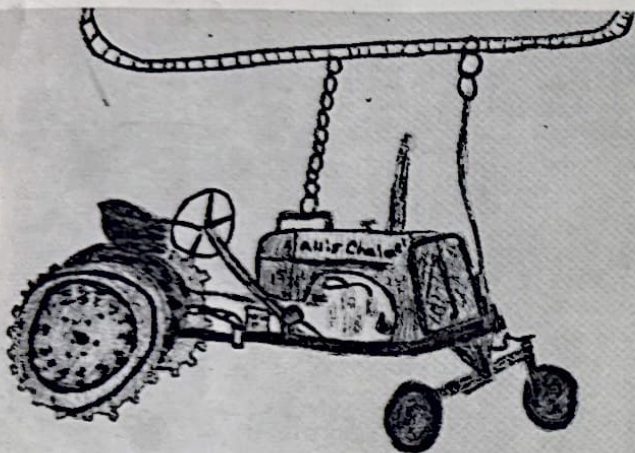


ANNE STRONG  
6-7

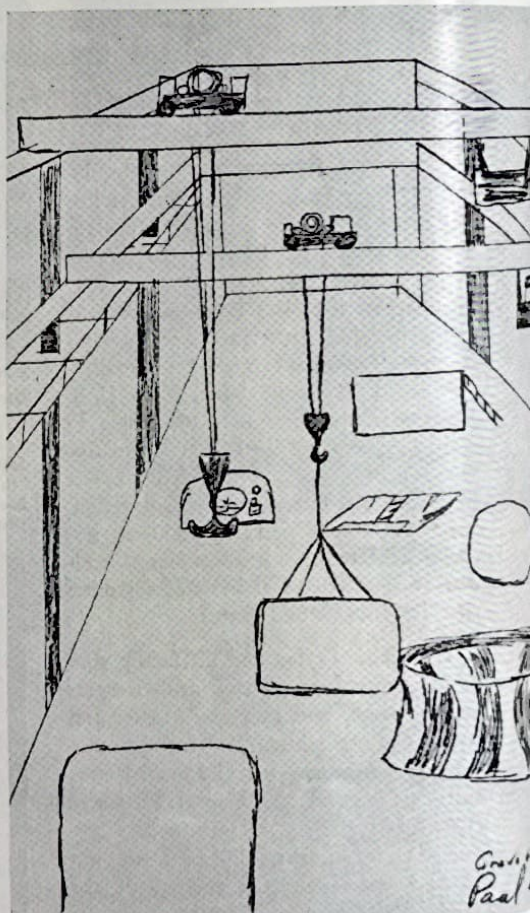


Grade 6-11  
L. L. Ethell

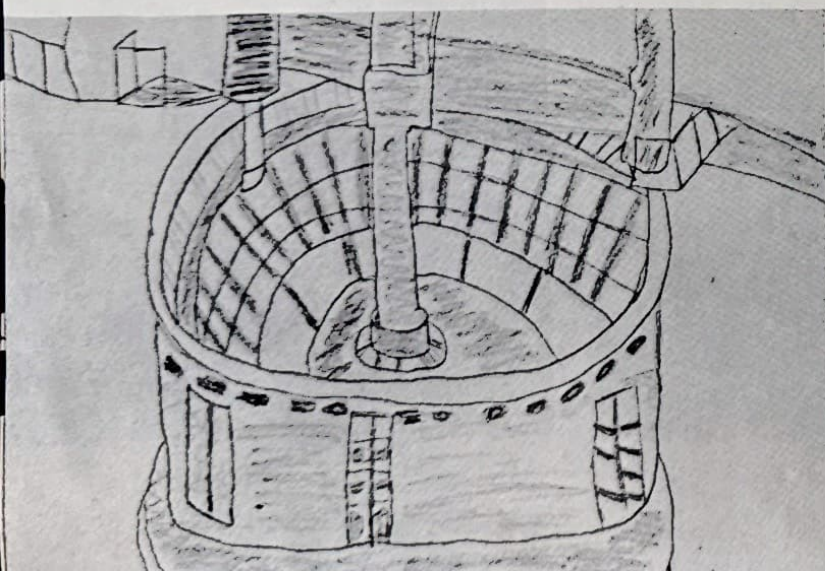
... our products



Christine Stickford

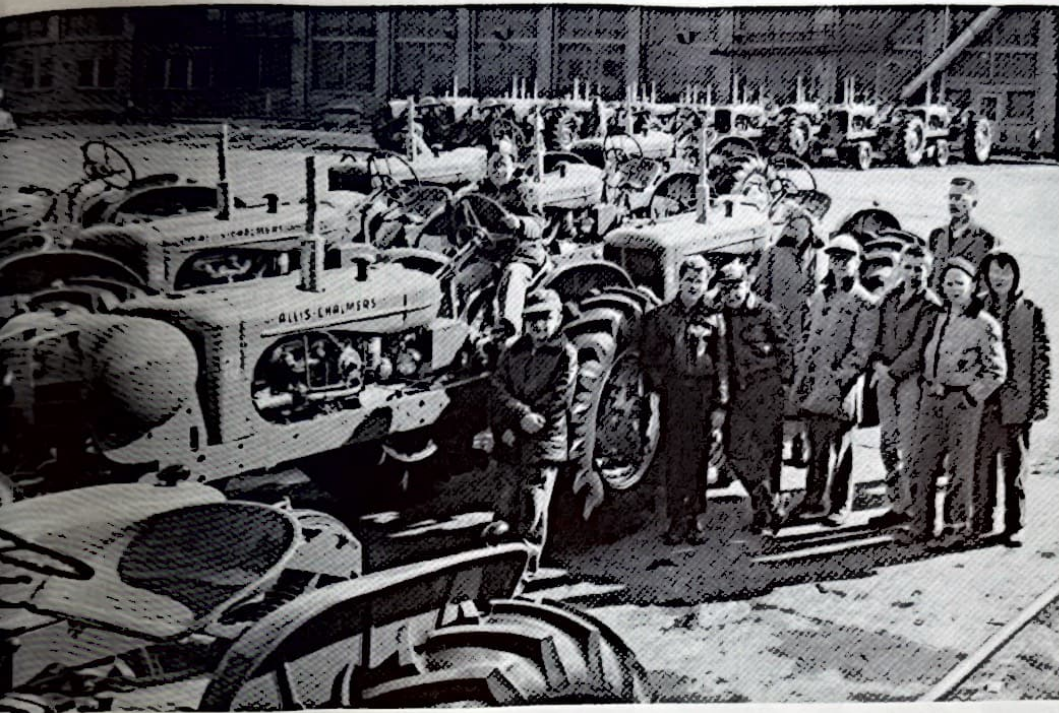


Grade 6-11  
Paul





The sixth graders of Henry Clay school pause during their tour for a look at a WD-45.



The overhead cranes on the Main Erection Floor impressed one of the artists.



## as "kids-on-tour" saw them

GIVE 33 children, aged 11 to 12, the chance to tour a large manufacturing operation and then ask them to draw what they saw. What impressions are created by a boring mill large enough for the entire group to ride like a merry-go-round? Or a lathe that turns steel shafts longer than telephone poles? Do overhead cranes catch the eye as they move 75 tons? Do farm tractors meet with youthful approval, coming off an assembly line?

Pupils from the sixth grade at Whitefish Bay's Henry Clay school recently toured West Allis Works with their teacher, Miss Katherine MacLaren. Later, she asked them to draw what they'd seen at Allis-Chalmers.

The tour included the main erection floor, where A-C assembles the "big stuff" in the form of steam turbines, generators, transformers, compressors and grinding mills. One of the sights there was the 40-ft boring mill, one of the world's largest machine tools. They went to the tractor shops, and watched the new D-14 being built from the ground up. They also peeked into one of the foundries where castings were being poured.

The Henry Clay sixth graders were a portion of the 18,000 visitors who tour West Allis Works every year. Stu-

dents from grades to graduate school, members of professional societies, church groups, teachers' organizations, Boy Scouts, Future Farmers of America, 4-H clubs, customers, dealers and distributors, employees and their families represent the bulk of the A-C visitors. Tours, arranged by the Public Relations division, are keyed to the interests of the specific group.

Comments from visitors are expressed in many ways. The Henry Clay school pupils put their views into an Easter card for C. J. Busacca, who is in charge of the plant's tour bureau. Here's what some of the sixth-graders said:

"I learned that tractors went through many processes . . ."

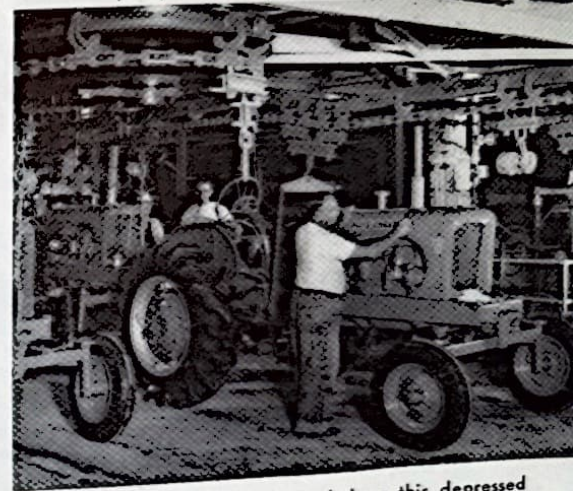
"I learned that you have a lot of heavy industry . . ."

"It is fun to know how tractors are made. I run one during the summer for a week or two . . ."

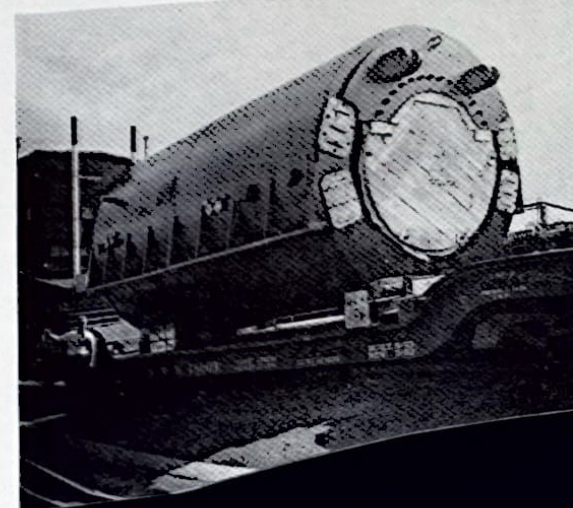
"Happy Easter. I learned about tanks and generators . . ."

Maybe a plant the size of West Allis Works is difficult for sixth-graders to learn all about in one short tour. One student, who did an excellent job of drawing the new steam turbine test pit control panel, finished his artwork with a sketch labelled "plow for inside of generator."

The bright Persian orange of a new tractor prompted a sketch complete with A-C name.



A generator stator loaded on this depressed center flatcar proved to be a good subject.





SCHOOL  
CROSSING



# safety...



RAILROAD  
CROSSING  
2  
TRACKS

STOP  
ON RED  
SIGNAL

STOP



Flat tires are exasperating, especially at night. GTC John Townsend, who posed for this photo, really knows better than to change a tire without pulling off the road, setting out flares and leaving the car lights on.

Here's Ed Schindler ready to mow the lawn with a power mower. Regardless of the type of machine you use, remember that the sole purpose of any mower is to cut the grass.



## EVERYBODY'S JOB!

[Our thanks to members of the Graduate Training Course who posed for these pictures.]

**T**HE United States loses the equivalent of the Allis-Chalmers employe group every year. If that statement strikes you as being a bit startling, look at it this way:

Every year, automobile accidents kill 35,000 to 40,000 Americans in all walks of life. This number is about the same as the work force of Allis-Chalmers.

As breadwinners, these A-C people are valuable to their families as well as to the national economy. Many own their own homes and support large families — they are equal in number to the adult population of a medium-sized city.

Economically, they are capable of producing and marketing more than \$500,000,000 worth of goods and services each year. They make products which serve world enterprises ranging from agriculture to zinc mining. And so you see, these 40,000 people are a pretty valuable segment of Americana.

Should we be any less shocked at the death of 40,000 people than we would be if all of those people were from the same city or worked for the same company? Of course, we do not suggest that all of this year's 40,000 fatalities will come from A-C families. On the con-

trary, it is our mutual hope and goal that none of the A-C family will be one of these victims of traffic accidents.

Figures show that vehicle mileage in 1956 was estimated at 5 per cent above 1955 and 88 per cent above 1941. The death rate for the number of miles traveled was 6.4 deaths per 100 million miles. With vacation time upon us, considering the rapid increase in automobile travel, there will be more deaths this year. There *will* be, unless there is a careful analysis of the accident-causing factors and a rigid enforcement of safety procedure on the part of all of us.

Automobile accidents, although the largest factor, will not be the sole killer. Home accidents claimed 27,500 lives during 1956, a two per cent decrease from 1955. Total costs resulting from overall home accidents both fatal and nonfatal injuries totaled \$850,000,000 in wage loss, medical expense and overhead costs of insurance. Appalling, isn't it? Even if you stay at home during your vacation, your safety will depend upon you.

Many vacation accidents or mishaps are not of a fatal or critical nature. But, unhappily, they can mean that you

may be on the sick list during the major portion of your vacation. This, of course, doesn't allow you a leisurely, fun-filled vacation.

Seemingly "unimportant" items like poison ivy or oak, painful sunburn, over-exertion and snake bite can speed you on the way to the infirmary.

Vacation accidents resulting in fatalities make up only a minor portion of all deaths but then, you are only on vacation a fraction of the year. As a matter of fact, **YOU ARE SAFER ON THE JOB THAN AWAY FROM IT!**

In 1956 alone, a total of 24 employes were killed while away from their respective works. In this light, 100 per cent of all Allis-Chalmers fatalities occurred away from the job in 1956.

Getting back to vacation accidents and fatalities, more than one-fifth of last year's traffic deaths occurred on Saturday. The reason for this number of highway fatalities lies in the motor-ing habits of the American public. Every highway in the nation has its Saturday share of that portion of America bound and determined to arrive at its weekend destination in time for din-



## Safety ...

ner, even if the trip's last 60 miles must be covered in an hour flat.

What are some good rules to follow when on vacation? National safety authorities agree on these:

Small boats are a lot of fun if you can swim, take no chances with rough weather, don't prowl around, and keep your head in case of trouble. Children should be protected with life preservers and a ratio of one adult per child maintained in a boat.

Summer camping can be wonderful if you discover and stay away from the local hazards (snakes, poisonous plants and quicksand), eat carefully, drink only safe water, exercise and suntan moderately.

Swimming is fine exercise for those in physical condition to do it without harm and who wait for a time after eating, for those who never dive into strange water, follow beach or pool rules, and don't swim beyond their strength.

Going fishing? You'll have a better time if you choose your clothes for protection, go slow with power boats

Picnics at a lake are fun, but somebody usually gets hurt when there's horseplay around water or rocks.



Painting the house on your vacation? Here's John Townsend again, due for a nasty fall unless somebody's holding the ladder for him.



Extended trips, long stretches of turnpike and night driving put a heavy strain on the driver's eyes. In photo at right, GTC James Howells demonstrates that it's high time to pull off the road and take a break.



in strange water. If snagged deeply by a fishhook, push the point out until you can cut it off below the barb. Remember that many streams have pools and underwater shelves or other sudden drops into deep water.

If you stay home, open garage doors before starting automobile engine. Make

the yard a safe place for children to play, don't take any chance where ladders are concerned. Get help to lift heavy objects. Take it easy — have a safe restful vacation where ever you go and whatever you do and remember the most important rule, come back to work full of bounce, not as a statistic.



One of the big machines which helped produce Detroit Edison's 300,000-kw steam turbine is this unique crane-mounted radial drill, located on the main erection floor at West Allis Works.

Now nearing completion at West Allis Works is the world's first 300,000-kw steam turbine generator unit, ordered by the Detroit Edison Company in November, 1954, for its River Rouge power generating station at Detroit. It is the most costly single piece of machinery ever sold by Allis-Chalmers. And its significance to A-C people, especially at West Allis Works, covers a good many things.

First, the purchase of this unit by one of the nation's largest electric utilities has meant a good deal of prestige to Allis-Chalmers as a maker of equipment for the electric industry. Not every utility company needs or wants so large a machine, but there is a strong feeling that a company which can build the big ones can also do a good job on smaller turbines.

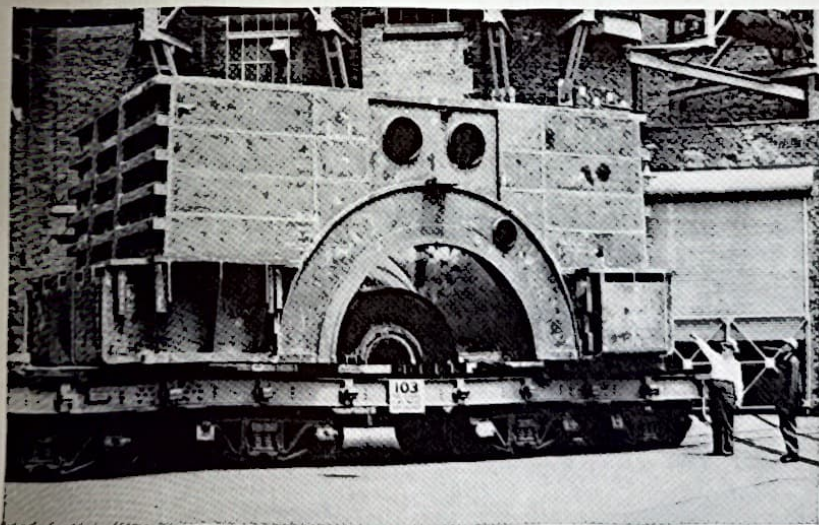
It means that Allis-Chalmers has the engineering know-how, the manufacturing experience and the plant facilities to build the biggest machines now being ordered by electric utilities across the land.

It means that the customer has faith in the ability of A-C's employees to design, build and deliver a machine of this size. It means the customer has faith in the stability of the company's labor-management relations when he places an order that will require more than two years to complete.

It means that the customer is impressed by the performance of other Allis-Chalmers machines, relatively smaller, but by no means pygmies.

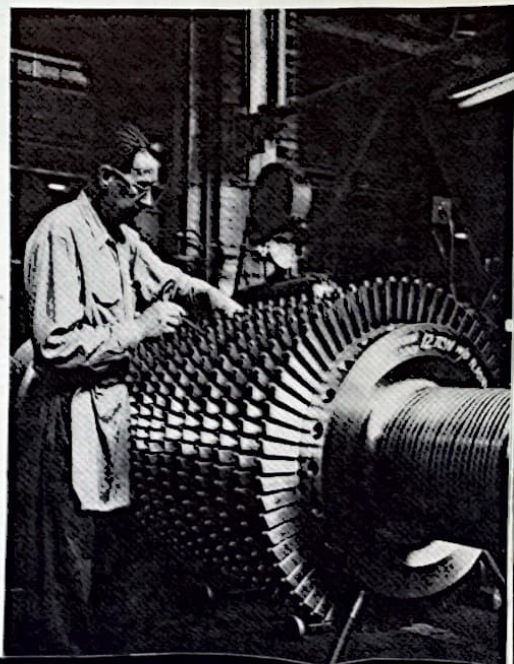
What does it take to conceive and put into production a machine capable of generating sufficient electrical power

## for BIG projects, BIG men and BIG machines



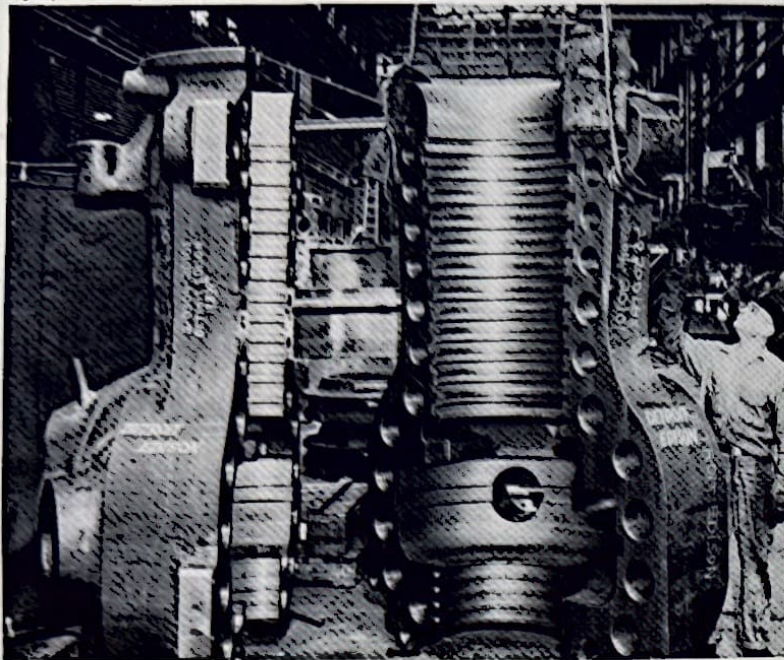
One of the turbine's two lower half low pressure cylinders towers over L. C. Bell (left), superintendent, Transportation section, and Switchman Louis Dembiec in the West Allis Works yards.

You can't get away from the blades that make up a steam turbine, in this case 12,500 of them. Here's Skjold Anderson checking the Detroit Edison machine's high pressure spindle

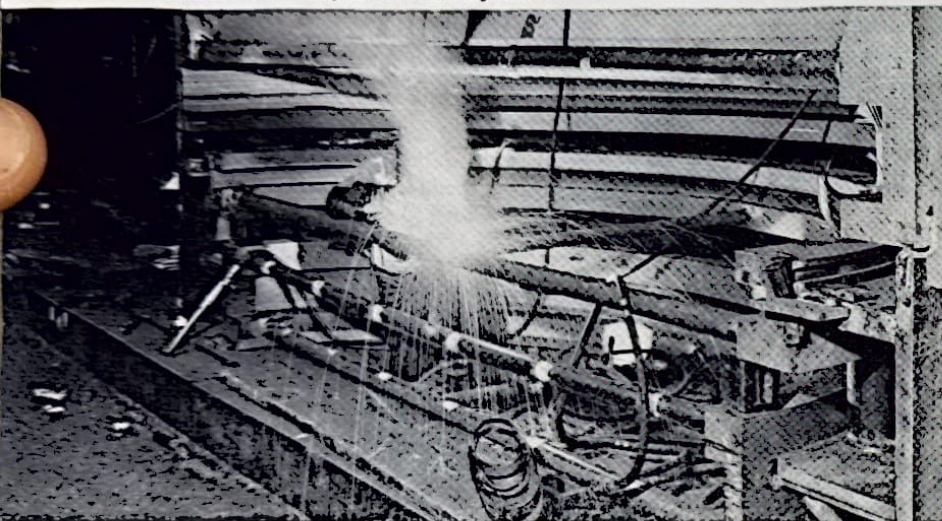




George Armstrong gives the signal for a crane to raise one of the big turbine's inner high pressure cylinder halves after final machining.



Hidden behind a shower of sparks is Welder Art Sotterfield, working on one of the fabricated exhaust end cylinders for the big turbine.



### Talk About Speed!

Nothing is more impressive than the speed with which a particle of steam will give up its kinetic energy to a turbine shaft. Take the 300,000-kw unit for an example:

Inlet pressure .....2400 psig\*  
Inlet temperature .....1050 F  
Reheat temperature ....1000 F  
Exhaust pressure ..... $\frac{1}{2}$  psia†  
Exhaust temperature .....79 F  
Time (through blades) .1/17 sec.

Energy conversion takes place only as the steam passes between the turbine's 12,500 blades — additional time is required for the

steam to pass through inlet pipes, crossunder pipes and the reheat pipes between turbine and boiler.

The speed of the steam is a result of its expansion in volume, which in this case is 1730 to 1. It leaves at the exhaust of the double-flow low pressure 1800-rpm element through two rows of 46-inch long turbine blades. Tip speed of these two rows of blades is 962 mph, and the steam speed is even faster!

\*psig = pounds per square inch gauge (pressure above atmospheric, 14.7 psia).  
†psia = pounds per square inch absolute (pressure above zero).

## for BIG projects —

for a city of 85,000 homes, each using 3500 watts per hour or more? What does it take to transform a mountain of blueprints into forgings, castings and thousands of intricate parts, which, when assembled, will operate with the accuracy of a fine watch?

What does it take to order the materials and allocate the shop time for an order worth several million dollars? Needless to say, such an order must be filled without disturbing the progress of machines which are smaller, but of equal importance to *their* purchasers.

Detroit Edison's big turbine, in its progress from the drawing boards to the River Rouge, has figured into at least a portion of the workday of several thousand Allis-Chalmers people. To some, it was the world's first 300,000-kw steam turbine. Men who assembled and tested the giant machine in the West Allis shops gave it the nickname of "Mount Everest."

Building a steam turbine involves many things. (Somehow, it doesn't seem right to say "making" a steam turbine, any more than it would for a large building.) Primarily, it involves all the forms of engineering, of heavy manufacture and of enterprise. It means experience, materials, research, thermodynamics, aerodynamics, electrodynamics, electronic computers and specialized talent. It is a project involving thousands of man-hours, skilled organization, men and machines.

The finished unit, including its two generators, will weigh 1615 tons — more than three million pounds. Its components must be shipped in sections on heavy, specially routed cars, and assembled on the customer's foundations in a 88 x 51 $\frac{1}{2}$  ft rectangle.

The unit's two generators will send electricity through transformers and circuit breakers to Detroit's homes and industries. One of the generators involves application of supercharged hydrogen cooling for both the rotating and stationary elements, or rotor and stator as they are called.

Supercharged hydrogen cooling is Allis-Chalmers' way of accomplishing conductor cooling, which is the removal of heat from the surface of current-carrying copper by cool, high velocity hydrogen. This is done to make generators of greater output possible without increasing too greatly their physical size.

Windings in the two generators of the Detroit Edison unit, incidentally,



will utilize 63,520 pounds of copper — equivalent to the weight of 8,900,000 United States pennies.

While copper and special punched magnetic steel plate, welded steel plate and forged special steel form the business end of the generator, the turbine relies heavily on forged and cast alloy steel of high grades to withstand temperatures up to 1050 F and pressures up to 2400 pounds per square inch.

Glistening turbine blades make row-on-row patterns in both the stationary and rotating elements of the turbine. The rotating spindle and its blades are precisely balanced to the last ounce of weight for perfect dynamic balance. Both the moving and the stationary turbine blades must take the tornado-like force of expanding steam from the boiler and turn this force into rotating energy. The blades of a steam turbine whirl in their tornado just as the blades of a windmill rotate in a breeze.

This is the principle of the steam turbine — you heat water to make steam,

you pass the steam through a windmill driven by a tornado and you connect a generator to the "windmill" shaft to produce electricity. It doesn't matter if the turbine is large or small, the principle is the same. It doesn't matter if the turbine is erected indoors or out, on land or aboard ship. (Some marine turbines drive propeller gearing rather than generators, however.)

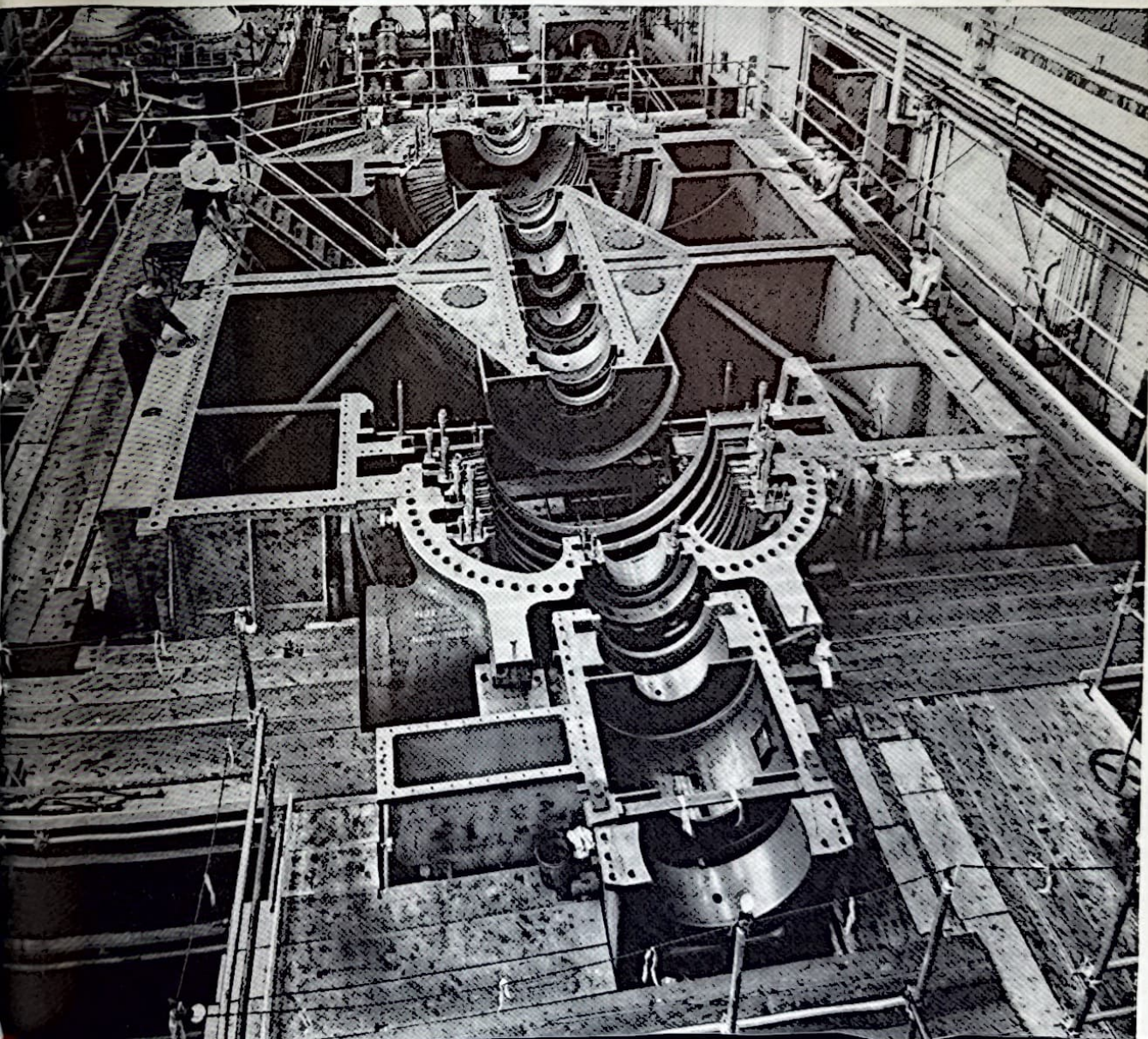
It doesn't even matter whether the turbine operates on steam produced with coal, gas, oil or uranium fuels. Coal is the most common and will be used to generate steam for the 300,000-kw Detroit Edison unit. Uranium is the fuel of the future and, unlike the others, will generate steam by nuclear reactors, rather than by combustion in boilers.

Of course, there are refinements in the modern steam turbine which the old-timers wouldn't have believed possible. Back in the early days, turbines operated on steam at 250 pounds per square inch and temperatures up to 550 degrees Fahrenheit. Today, the



Russell Dodge blocking and taping one of the two huge Detroit Edison rotors he wound. The job is self-inspecting, which means that Dodge's 35 years of experience plays a big part in getting it right the first time.

How many men in this picture? If you can take your eyes off the tremendous bulk of the low pressure end of this 300,000-kw steam turbine, you'll see some of the men who worked on "Mount Everest" in No. 4 Erecting shop: John Olk, Eugene Darneider, Alois Rossa and Keith Berlin.





## for BIG projects—

300,000-kw unit uses boiler steam at 2400 pounds per square inch and 1050 F temperature.

These steam conditions call for a huge alloy steel high pressure cylinder held together by rows of 5½-inch diameter alloy steel bolts capable of withstanding great mechanical strains although they are almost red-hot.

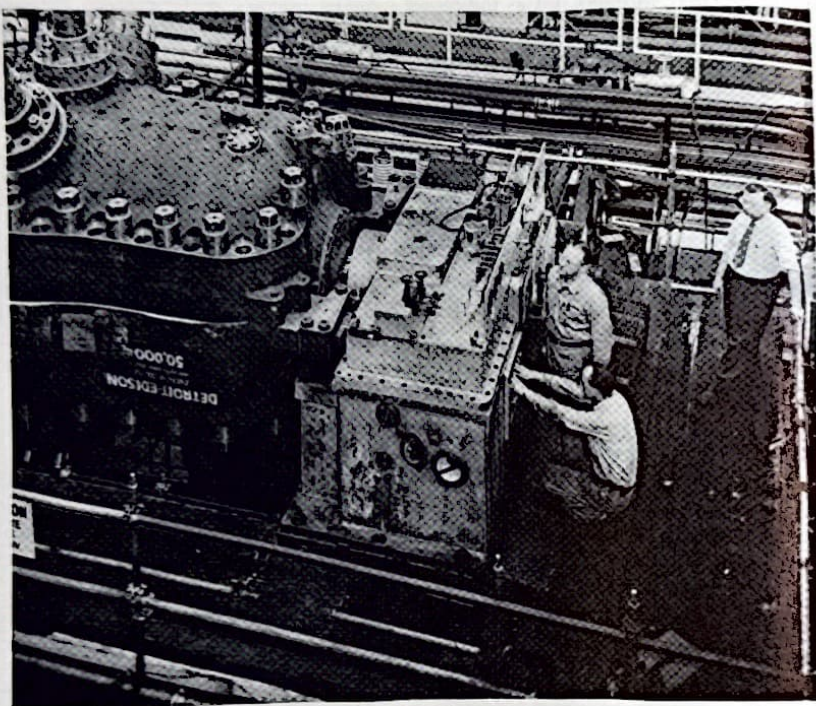
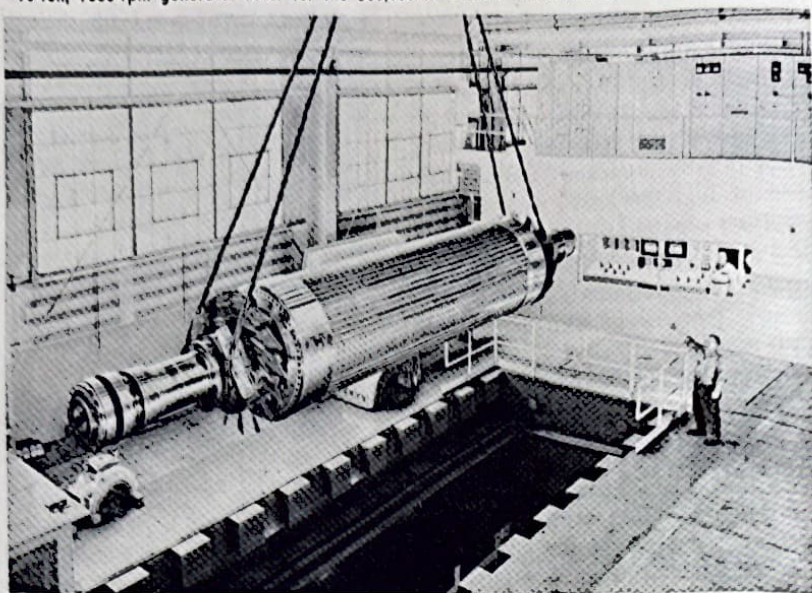
But it's still a boiler, a tornado-driven windmill and a generator which form the system rapidly shouldering a great portion of the task of generating our electrical power requirements. It's true that water wheels or hydraulic turbines still have their place. The giant western dams, the huge Tennessee Valley authority projects, the St. Lawrence power project have felt and will feel the surge of power from A-C turbines and generators as millions of gallons of falling water turn a wheel connected to an electric generator. And the hydraulic turbine has a rich place in Allis-Chalmers history—for who can match A-C in the experience and ability required to manufacture both the turbine wheel and the generator for these big hydro-electric installations?

But there isn't enough falling water in the United States and Canada to generate the power we demand from our electric companies. So it's steam that carries the load, steam-electric power that gives us our modern, automatic appliances, steam-electric that gives us the productive "hands" to feed, clothe and transport 175 million Americans.

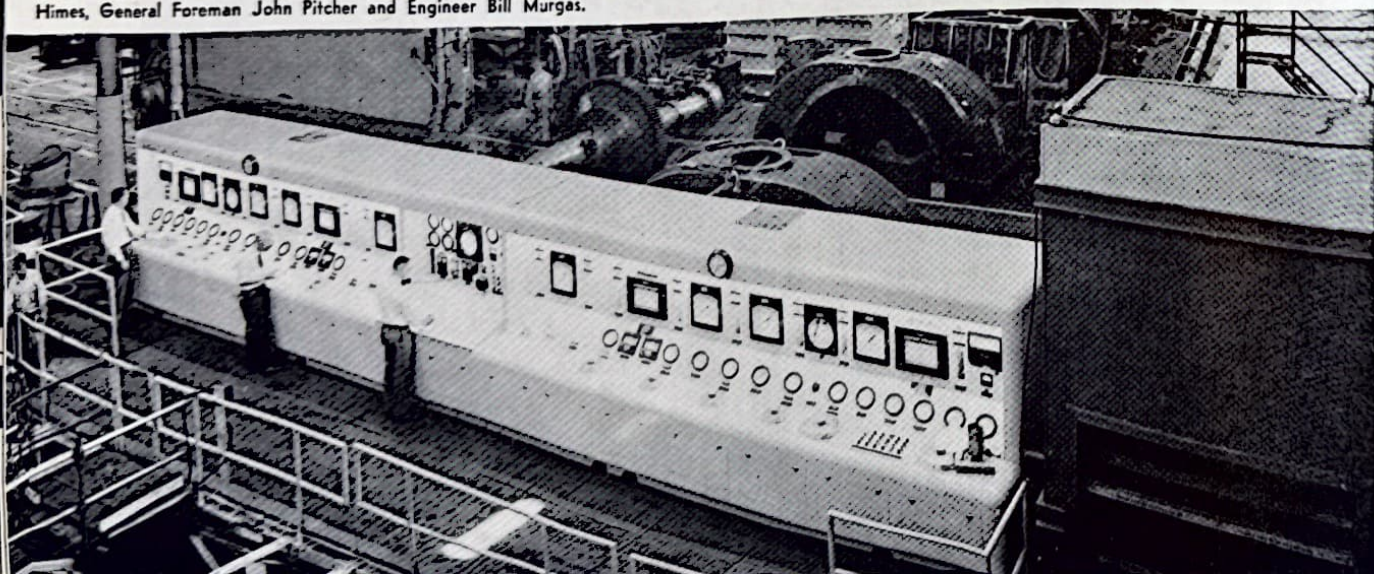
In this golden age of the steam-electric plant, (now producing 75 percent of the total U. S. power output), special significance must be given to River Rouge No. 1, the world's first 300,000-kw steam-turbine generator unit, designed and built by Allis-Chalmers.

Scene at the big turbine pit test board as the 3600-rpm, HP-IP part of the 300,000-kw Detroit Edison unit was put through its paces. Les Manhardt mans the steam valve while at the board (left to right) are Engineer Art Himes, General Foreman John Pitcher and Engineer Bill Murgas.

Pit and control room for hot balancing of generator rotors with Roy Smith on the test floor and Fred Luecker in the control room. Being lowered onto the pit bearings is the 98-ton, 1800-rpm generator rotor for the 300,000-kw Detroit Edison unit.



Men who assembled the high and intermediate pressure elements of the Detroit Edison unit also helped test it. Here are Andy Sommers (standing) and Les Manhardt, with John Bergenthal, foreman, looking on.







Part of the "typical day . . ." The nurse's capable hands apply a dressing to a cut on a Springfield employee's thumb.



*"A typical day in the life of an industrial nurse?  
... why I wouldn't know where to begin . . ."*



Loren Evans (right) uses an Ortho-Rater machine to test the vision of Hamilton Jones, Springfield employment office. Evans also uses audiometer, gives periodic eye and ear examinations to all employees.

Mrs. Alta Whitley, supervisor of nurses, Springfield Works, visits employees and their dependents in local hospitals once a week. Here she's talking with Mrs. Alice Frantz, wife of a purchasing department employee.



THE speaker is Mrs. Alta Whitley, R.N., who heads the industrial nurses staff at Allis-Chalmers Springfield (Ill.) Works.

Mrs. Whitley doesn't hesitate to tell you that an industrial nurse has a career different from that of, say, a hospital nurse in a surgery or maternity ward. But she can't for the life of her outline a "typical day's work" for an industrial nurse.

Part of the problem comes from the fact that the emergency treatment and first aid portion of the nurse's day is so unpredictable. The other phase of the work — the planned employee health programs — can be scheduled, but even the planned phase has its unpredictable elements.

Mrs. Whitley has been chief nurse at Springfield Works for 15 years and she's seen a great deal of change in both employee and management attitudes toward industrial hygiene programs. From its small start, the A-C program has grown to the point where Springfield employees have the services of a physician, Dr. Lee F. Winkler, Mrs. Whitley and nine other registered nurses, an x-ray technician and other specialists.

"At first," Mrs. Whitley says, "we met resistance to examinations and checkups." However, employees began to regard the programs with greater enthusiasm when they realized that many of their friends were benefiting through early warning of heart condi-



Mrs. Katherine Krueger, R.N., removes a speck from the eye of Beulahmae Richardson, secretary, in a Springfield Works dispensary.

R. V. O'Keefe, superintendent of personnel, goes over employe health program statistics with Mrs. Whitley.

Mrs. Bonnie Hawkins, R.N., says good night to James Dobson, plant protection department, as she leaves the plant at midnight.



## *"Typical day in the life of an industrial nurse?"*

tions, diabetes, tumors, tuberculosis, etc.

With some ailments, it was found, early warning gave the employe the time needed to cure or arrest a serious disease. In those cases where the worker did not recognize his own symptoms, periodic examination proved useful in uncovering unsuspected conditions.

Some employes, particularly those who operate moving equipment like cranes, lift trucks, motor vehicles, etc., find that they are examined more rigidly than employes in other fields. These examinations go into vision, depth perception, hearing and blood pressure on the theory that serious deficiencies in these respects creates an unsafe condition for all employes. If such examination indicates that an employe should not be operating mobile equipment, the health department recommends a new assignment.

The employe's first contact with the plant's health department comes when he is hired. All Springfield Works em-

ployes are given an examination upon hiring. From this point on, a health record is maintained, including subsequent check-ups, chest x-rays, urinalyses, etc.

At Springfield, as at other A-C Works, sufficient plant hospitals are maintained to make first aid treatment or emergency care readily available at all times. Minor cuts can be bandaged on the spot. More serious injuries, or ailments such as heart attacks, will require care and comforting until the patient can be examined by a physician. The plant hospitals also serve as infirmaries or dispensaries, to rebandage cuts, hand out cold tablets and other medications.

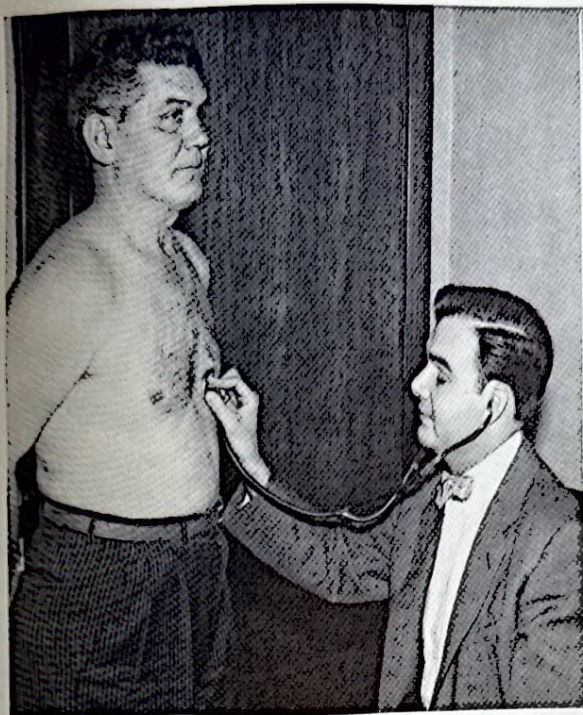
Here, again, the watchful eye of the plant nurse means a dividend for the employe. Repeated requests for "something to take care of these gas pains" may be an indication of an ulcer or a gall bladder condition. Frequent headaches may mean the employe requires

optical or dental examination. In these cases, the plant nurse or company doctor may suggest that the employe consult his family physician and get to the heart of the matter.

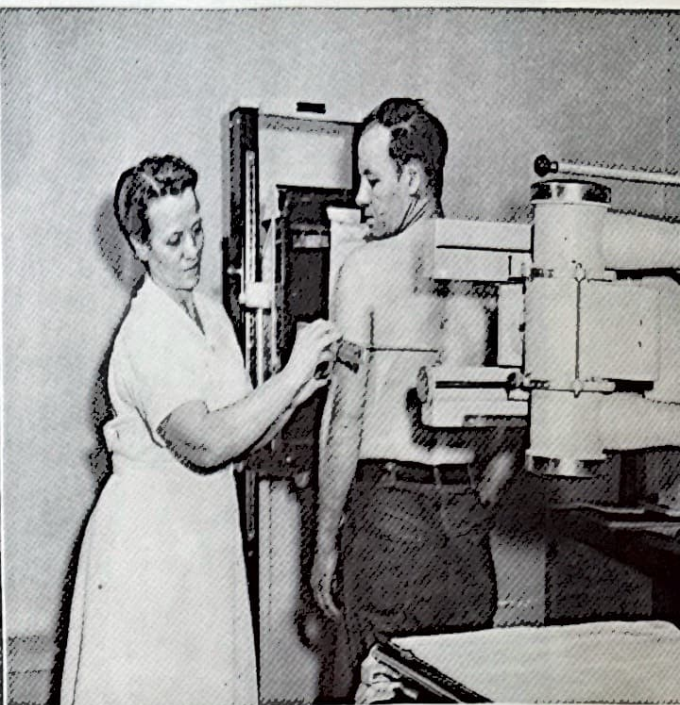
Today, Mrs. Whitley and her staff go about their business with the blessing of management and the cooperation of their fellow A-C employes. They and their sister nurses at other A-C plants contribute a great deal to the health and well-being of all of us. Each Allis-Chalmers Works has an employe health program comparable to that of Springfield Works.

But a typical day? You'd have to include all of it—the various medications, the bandaging, the checkups, the x-rays, visiting employes and their dependents in the hospital, and everything else that the industrial nurse encounters. And it still wouldn't be "typical," because there's no way of knowing in what order these things will take place.



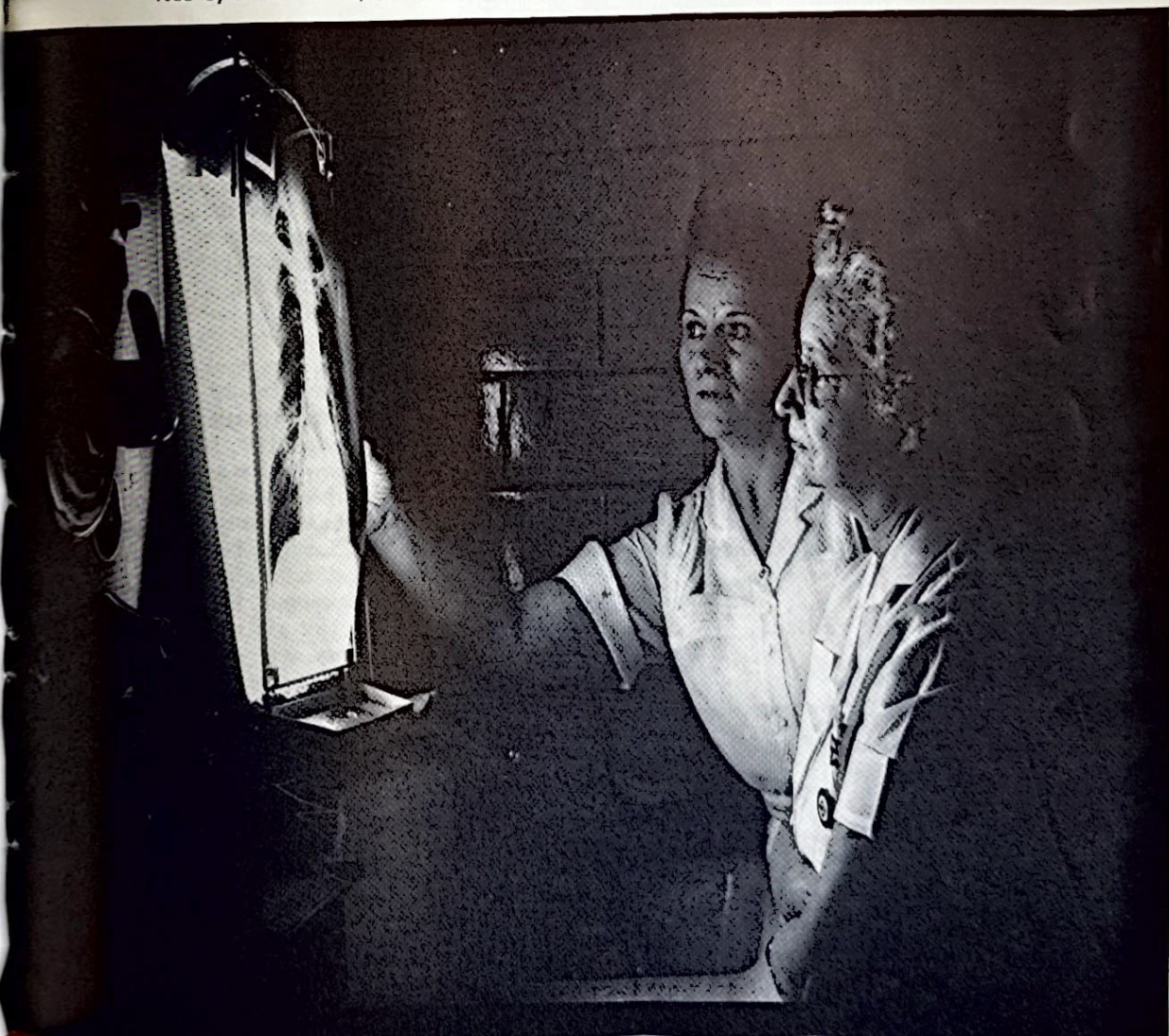


William E. Simpson, machine operator returning from leave of absence, gets a complete physical examination from Dr. Lee F. Winkler, Springfield Works physician.



Lonnie Goff, machine operator, is being measured and positioned for a routine chest x-ray by Mrs. Virginia Vice, x-ray and lab technician.

Mrs. Vice (left) and Mrs. Whitley view a large chest film of an employee who is under periodic observation. All Springfield chest films are read by Dr. D. H. Trumpe, medical director of St. John's tuberculosis sanatorium.







Kathy Fallon, Venus Products secretary, reads the minutes of the preceding meeting to the officers and board composed of (clockwise) Jon Hagedahl, Mary Ellen Zabawa, Joan Stebner, Nancy Flick and advisors Eli Heineman and Bill Wilson, Dennis Stefaniak.

## *Venus Products Company*

Statement of net earnings for the six months ended April 25, 1957

		Percent of Total Income
Sales .....	\$632.10	
Discounts earned .....	35.97	
<i>Total income</i> .....	<u>\$668.07</u>	100.00
<b>COSTS AND EXPENSES</b>		
Material .....	349.69	52.3
Wages .....	57.40	8.6
Rent .....	14.00	2.1
Office Supplies .....	6.45	1.0
Depreciation .....	2.00	0.3
Taxes (Charter fee) .....	2.00	0.3
Insurance .....	3.60	0.5
<i>Total manufacturing cost</i> .....	<u>\$479.74</u>	65.1
Sales expense (discount allowed) .....	22.30	3.3
*Sales commissions .....	200.35*	30.0
<i>Total operating cost</i> .....	<u>\$657.79</u>	98.4
Net profit for period (before taxes) .....	10.28	1.6
	<u>\$668.07</u>	100.00

\*NOTES: (1) The selling and distribution costs are admittedly high for this particular operation, but they are deliberately so, to approximate the costs which any business relying on door-to-door distribution might actually encounter.

(2) Distribution of Net Profit, \$10.28.

(a) Return of 10% on invested capital of \$72.00 .....

(b) Junior Achievement income tax, 30% .....

THE thriving Venus Products Co. of West Allis, Wis., after eight months of sound financial operation, has closed its books and published its liquidation report.

Yes, the company made money and yet the owners liquidated the assets, for the Venus company, you see, is Junior Achievement in operation. When the school year closes, Junior Achievement companies across the nation also close up shop for the summer. This is done because most Achievers have other jobs during the summer months or go on vacations. That way, too, the Achievers returning in the fall have a fresh start at a new company and a new product.

Last September found the Venus group with their advisors, Bill Wilson and Eli Heinemann, both employed at the West Allis Works. They had problems common to all business in the infancy stage. First and foremost, after the introductions were made and the basic corporate structure explained, the new Achievers had to determine what product or service they were going to put into production and market.

Would it be shoe racks, jewelry, lamps, clothes racks, ash trays or one of the countless other products that could be chosen? Typical of many com-



Jon Hugdahl, Venus president, uses his "invention" to fill a bottle of MIST as Dennis Stefaniak caps another on the company production line.



Eli Heinemann and Bill Wilson, West Allis Works, who are advisors to Venus Products Company, sit in on the business meetings. Advisors pass their business knowledge along to Achievers who learn by doing.



## JUNIOR ACHIEVEMENT

### ... helps youth "learn-by-doing"

panies, Venus staged a "brainstorming" session and came up with a liquid detergent that had the possibilities of being not only a money maker, but also a prize winner if handled correctly.

So, MIST was born—MIST, the detergent that could sell and would sell, needed a catchy advertising slogan, attractive packaging and a marketing program. Again the heads went together and came up with "MIST IS A MUST—IT LOVES YOUR HANDS." "our products are out of this world" as the advertising slogans. Investigation was started on how and where bottles could be obtained and a label was sketched out.

OK, so now the company is ready to operate, where and how do we get the money to buy the raw materials, pay the rent, and our wages? The young businessmen and women learned that this money is called capital and that to obtain it they must sell shares of stock. Junior Achievement stock has a par value of 50 cents and no investor may own more than five shares in any one company. Venus had a capitalization of \$72, subscribed by 53 shareholders.

No company can operate without officers and a board of directors. In Venus Products, Jon Hugdahl, a senior at West Allis Central high school, was elected

president. Working with him in the organization were: Nancy Flick, vice-president; Mary Ellen Zabawa, treasurer; Kathy Fallon, secretary; Dennis Stefaniak, sales manager, and Joan Stebner, safety and production manager. These six members of the board, officers and employees comprised the company.

Venus Products was now ready to start into production on MIST. A concentrated detergent was obtained in bulk lot from a leading manufacturer. This detergent, after mixing with a percentage of water, made an excellent cleanser for dishes, laundry, silverware and even washing the family dog.

The work progressed to the point that the employees were ready to bottle and label MIST. Wham, you might know, a bottleneck developed . . . how to get MIST into 16-oz. bottles without letting a portion of the profits run down the drain. Venus members tried funnels, pitchers, tubes, even a ladle with no success.

Hugdahl, mulling the problem over, came in with the solution: Use a potato chip can fitted with a section of pipe that would operate on a gravity flow principle. The device worked and Venus soon hit the market with MIST.

House to house selling gave the Achievers an opportunity to build up

a sales talk, meet the market and get valuable experience by talking to the public. MIST sold for 50 cents with a 10 per cent discount on case lots.

Finding that the door-to-door selling was progressing and that money was flowing into the treasury, Venus held a board meeting and decided to hit the super market customers. This presented another practical application in the field of modern marketing. The customer will buy a commodity that is tagged at an odd figure such as the nine cent ending to be found in most chain, department and super stores. MIST was put on the shelves at 49 cents, making it a competitive item.

Treasurer Mary Ellen Zabawa led the company in sales as well as being the

Allis-Chalmers Comptroller T. D. Lyons received the Achievement Award during the Future Unlimited banquet in Milwaukee. This award, presented by Raymond E. Brooks, chairman of the board, Cleaver-Brooks Mfg. Corp., is presented to the businessman who has done outstanding work in behalf of J.A.





# JUNIOR ACHIEVEMENT



The top saleswoman of Venus Products, Mary Ellen Zabawa, tries her sales pitch on her parents, Mrs. and Mr. Adolph Zabawa. He has been an A-C employee for 16 years, as an electrician at Hawley Shop.



Mrs. Arnold Klentz, wife of West Allis mayor, was a satisfied user of MIST and Venus saleswoman Mary Ellen Zabawa took her order.

watchdog of current funds, which she was pleased to report totaled \$668.07 for the entire operating period.

After satisfying all outstanding indebtedness, Venus Products paid their personnel \$200.35 in sales commissions above their 20 cents per hour wage scale. The company was also a success from the shareholders point of view. They received a 10 per cent dividend on their capital investment, considerably higher than most businesses pay their investors.

Just as the Achievers had believed earlier, MIST proved to be a prize winner as well as a money maker. When the results came in from the Junior Achievement judging for the State of Wisconsin, Venus Products had been named to receive awards for Best Advertising Campaigning, Best Chemical Product and Best Sales Campaign, and Outstanding Company in West Allis. In competition with 83 companies throughout the state, they missed the Best Company award by four points and the Outstanding Record Books title by a single point. At the awards banquet during the final week of operations, Hugdahl was presented a \$200 scholarship for his winning essay on "What Junior Achievement Has Meant to Me" and an \$100 award as the outstanding achiever in the state.

While the West Allis group contemplated their success during the past year, other groups throughout the nation totaling 2490 companies also prepared to liquidate. Two such companies in the Cincinnati area, JACO and JAC Products, were planning a visit to the plant of their sponsor, Norwood Works.

Allis-Chalmers was one of the leading companies instrumental in bringing Junior Achievement to Cincinnati and since 1952 has sponsored two or more

groups. During the first year, A-C sponsored three companies. The president of one of them, Virginia Leidenbor, is now employed at Norwood Works as secretary to her Achievement advisor, Works Comptroller R. R. Walther.

Acting as business advisors for the two A-C companies were Ed Gropp and Joe Sanker of Norwood Works. They served as hosts at a luncheon held in the works cafeteria and a tour of the plant. The Achievers were able to see just exactly how a large manufacturing operation functions and in turn were able to evaluate what they had been doing along the same line but on a smaller scale.

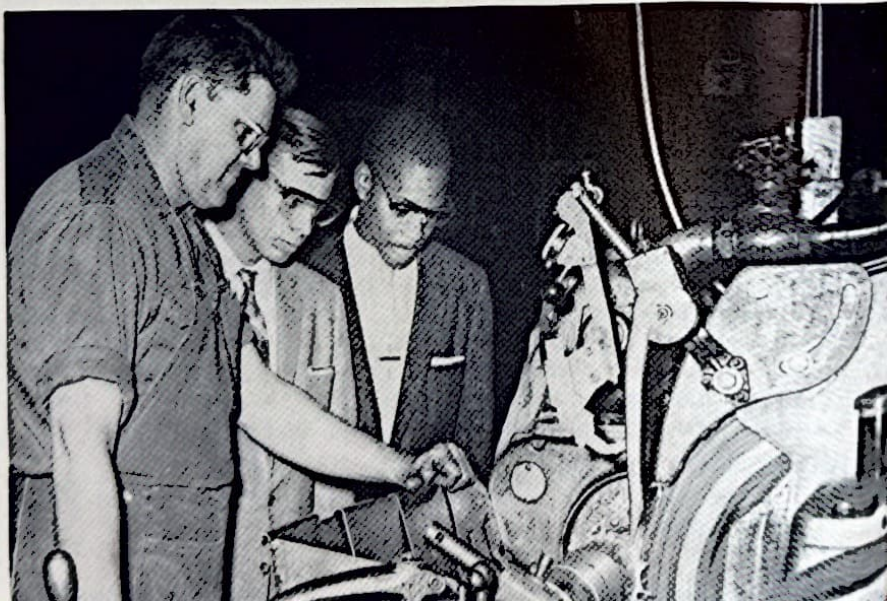
An excellent example of Junior Achievement in action can be found in pretty, pigtailed Antje Schefflin formerly of Frankfurt/Main, Germany.

Antje arrived in the United States two years ago after having lived in Lithuania, France and England, during the span of her 14 years. Her father, an employee of a Cincinnati machine tool builder, was anxious for Antje to continue her schooling and to feel at home in their adopted country.

Antje had more than a little trouble understanding the American youngsters because, "It surely wasn't like the English that I studied in Germany." Soon, however, she got the feel of teenage slang and "then I was in business."

Shortly after Antje started to Hughes high school, Larry Brown, the area J. A. director, spoke to an assembly in the school auditorium, stressing the many values to be derived from Junior Achievement. He asked the students to fill out applications. Antje completed the form and was assigned to the JAC Products Company.

Now that her first year in Junior



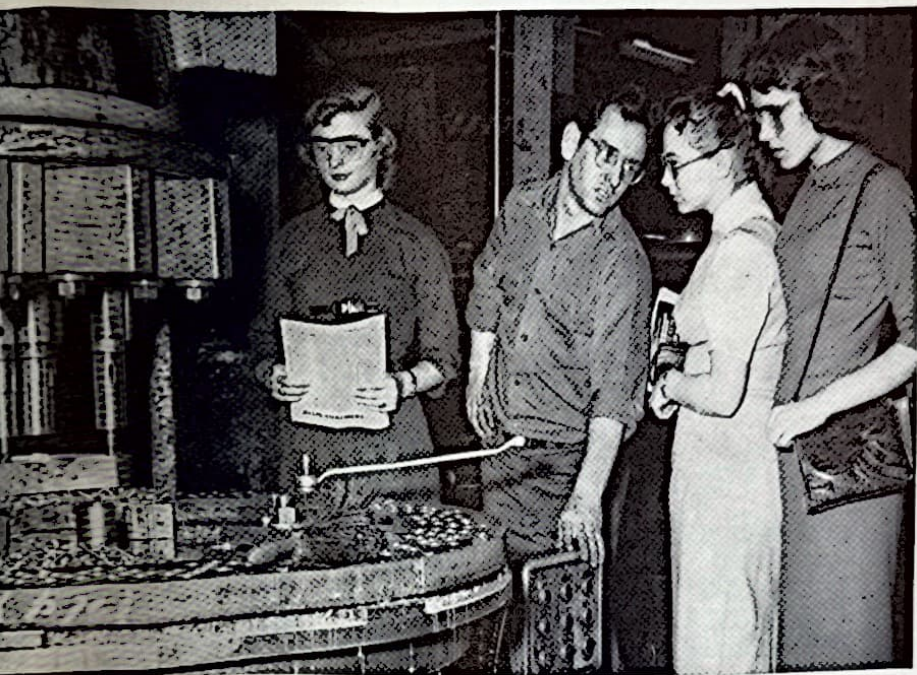
Raymond Rice, grinder operator, explains the controls and functions of his machine to Achievers Bob Zehner and Henry Smith during their tour of Norwood Works.





Achievers stopped for lunch at Norwood Works cafeteria during their tour of sponsor's plant. At extreme right is Larry Brown, Junior Achievement area director.

Julie Schmidt, Jo Hager and Dottie McGuire, members of JACO, sponsored by Norwood Works, find that Dick McDonald is a good source of information concerning multiple drill operations.



Virginia Leidenbor typifies the Junior Achiever who has moved in the business world. She is secretary to Norwood Works Comptroller R. R. Walther, her J. A. advisor. That's one of her company's products on the wall.

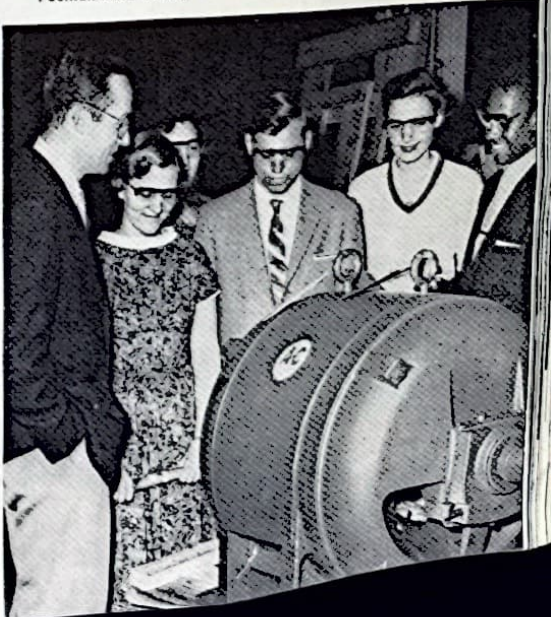
Achievement is over Antje has this to say, "What do I think of J. A.? Well, I suppose that it would be easy to say that I had fun and that I met a lot of new friends which is true, but . . . well, Junior Achievement helped me to understand just how we, as Americans, do business. Another thing, and probably more important, it has shown me that many young people can work together to produce a product no matter where they go to school or where they live in the city."

This is a picture of what the founders of Junior Achievement had in mind in the early 1920's. Young people working together practicing sound business procedure . . . Learning by Doing.

Don Cullinan (left), Norwood Works, shows finished motor to Achievers Marlene Plogmann, Jeanette Rackley, Bob Zehner, Carol Feeman and Henry Smith.



German-born Antje Schefflin talks about Junior Achievement in action: "helped me understand how we, as Americans, do business . . . young people can work together, no matter where they go to school or where they live in the city."





# Who owns A-C ?

The company's financial statement for the first quarter of 1957 carried an interesting "first," in addition to its evaluation of the state of A-C's business. The statement shows that the company now has more than 50,000 shareholders.

To appreciate the extent to which A-C ownership has broadened, consider the fact that the company had roughly 40,000 shareowners two years ago, and less than 30,000 in 1952. Today's 50,000-plus figure is about double the number of A-C shareholders in 1951.

Since the company you work for has more than 50,000 owners, you might very well wonder "Who are they? Where do they live? How do they become Allis-Chalmers shareholders?"

For a typical new shareholder, let's say that a man in Florida decides to sell his share of a grocery business and in-

vest about \$6800 of the proceeds in A-C stock. He contacts a broker in his vicinity and places his order. The broker relays the information to his firm's representative at the New York Stock Exchange, where the "buy" order is made known. When the shares are available at the price the buyer wants to pay, a sale is made.

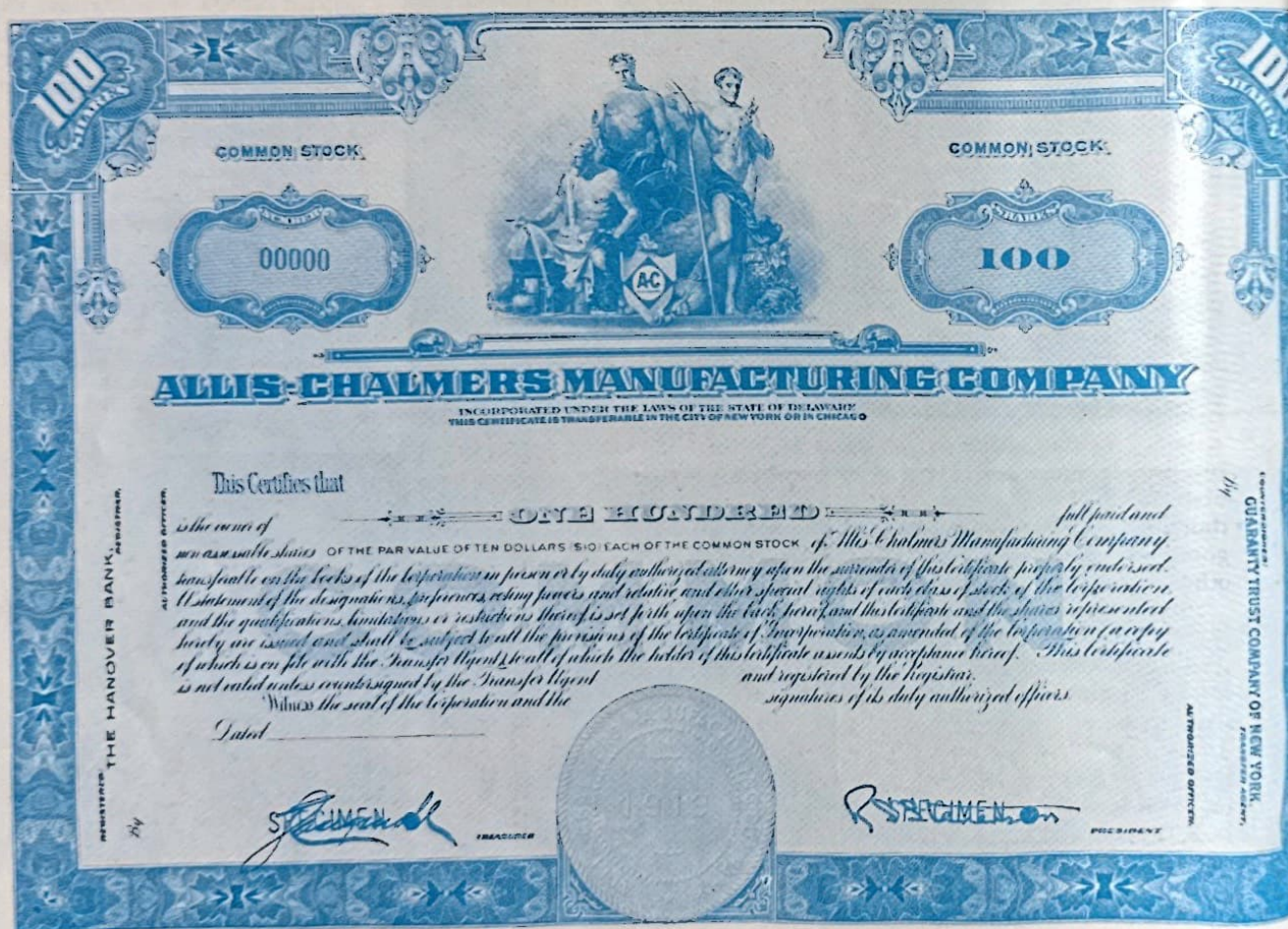
So the man in Florida buys 200 shares of Allis-Chalmers, without traveling to New York or West Allis. He has become a part owner in one of the nation's largest, most diversified operations. By his purchase, he has become a participant in the manufacture and sale of machinery for the electric power, construction, mining, chemical, food and agriculture and other industries.

Our man in Florida joins some 50,053 others (as of March 31, 1957) who own

the Allis-Chalmers Manufacturing Co. And, if he checks the company's 1956 Annual Report, he'll find that more than 1300 other Floridians also own A-C shares.

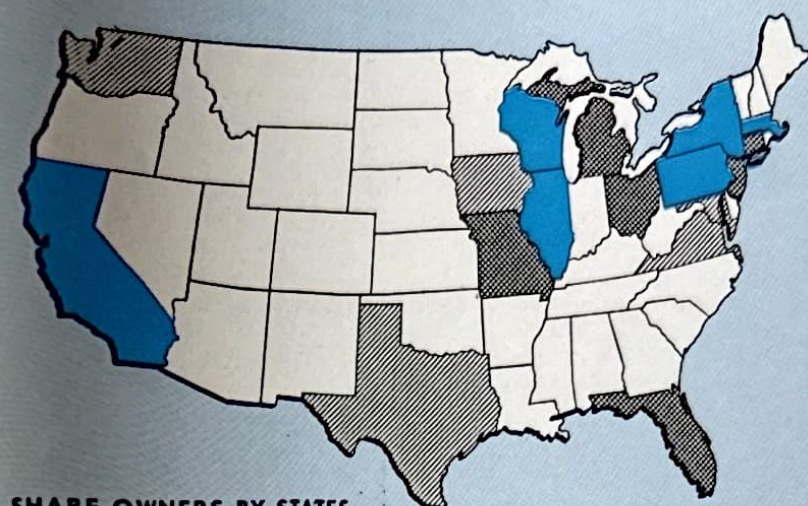
Allis-Chalmers shareholders are found in every state and territory of the United States, plus every Canadian province except Saskatchewan, and a good many foreign countries. New York has the greatest number of A-C shareholders (8067), while Nevada, with 42, has the least. Six states, New York, Pennsylvania, Illinois, Wisconsin, Massachusetts and California, have more than 2500 A-C shareowners each. Another six states have more than 1000 apiece.

Who actually owns Allis-Chalmers? The ladies make up the largest single group of owners with 19,218, as compared with 17,035 male shareowners





# an analysis of company ownership



SHARE OWNERS BY STATES



and 7592 joint accounts. The remainder of A-C's share ownership is divided among fiduciaries, brokers and dealers, nominees, institutions, such as hospitals, colleges and others. The average number of shares of common stock held by each shareowner is 172, and 100 or fewer shares are held by 35,225 stockholders, according to the Annual Report.

Once a year—the first or second Wednesday in May—Allis-Chalmers shareowners meet in Milwaukee. That doesn't mean that 50,000 people crowd into the A-C clubhouse. Most shareowners authorize others to vote for them, by a process known as proxy balloting. Shareowners are entitled to one vote for each share of common stock owned.

Since they are the owners, the shareholders elect a board of directors to manage the company for them. The directors, in turn, elect the company's officers. In addition, the directors formulate and approve company policy, authorize large expenditures for capital goods, tooling, plant modernization and other major undertakings.

One such undertaking is known as a "stock split," which refers to the division of the outstanding shares of stock into a larger number of shares. Ordinarily, this action is proposed by the directors and approved by the shareholders. Allis-Chalmers had a two-for-one stock split in June, 1956.

A two-for-one split means that a person holding 100 shares with a market value of \$60 per share would ex-

change them for 200 shares having a market value of \$30 per share. Since each person's holdings are increased two-for-one, each individual holds twice as many shares, but no greater percentage of the total shares than he held previous to the split.

One reason for a stock split is this: Many stock purchasers prefer to buy in 100-share lots, known as round lots or units of trading. If 100 shares of Allis-Chalmers costs about \$3000 instead of \$6000, the stock is more readily available to the smaller dollar volume investor.

The "price" of a stock, incidentally, is governed by the laws of supply and demand—and affected by market conditions, company activities, national and international events and many other variable factors. The price change of a stock is determined by the number of points (dollars) a share gains or loses. A rise of three points means that each share has risen three dollars in value.

At any rate, more than 50,000 people have invested money in Allis-Chalmers. So, we have 50,000 owners, as compared with 25,000 six years ago. Each of the shareholders is justified in expecting a fair return for the use of his money, just as each of us expects a fair return on money we have invested. This fair return, in the form of dividends on common stock shares, is as much a part of the American business scene as the basic idea of making goods to sell at a profit.

Alabama	236
Arizona	180
Arkansas	73
California	6,036
Colorado	290
Connecticut	1,108
Delaware	113
Florida	1,310
Georgia	348
Idaho	53
Illinois	3,816
Indiana	479
Iowa	726
Kansas	331
Kentucky	259
Louisiana	255
Maine	288
Maryland	669
Massachusetts	2,750
Michigan	1,257
Minnesota	471
Mississippi	69
Missouri	1,564
Montana	128
Nebraska	151
Nevada	42
New Hampshire	323
New Jersey	2,239
New Mexico	78
New York	8,067
North Carolina	371
North Dakota	46
Ohio	1,503
Oklahoma	159
Oregon	334
Pennsylvania	4,198
Rhode Island	276
South Carolina	161
South Dakota	56
Tennessee	389
Texas	620
Utah	103
Vermont	181
Virginia	753
Washington	565
West Virginia	227
Wisconsin	2,999
Wyoming	48
District of Columbia	454
U. S. Territories and	
U. S. Citizens abroad	156
Canada	79
Foreign	57
Total	47,449

Transactions in shares of Allis-Chalmers stock take place at this post on the New York Stock Exchange. Here at all times during the business day are representatives of the two member firms who are designated specialists in Allis-Chalmers stock. Shown below are Gerard L. Pears (left) of Stieglitz & Co. and Theodore C. Romaine of Brinton & Co.





# a-c scope

ALLIS-CHALMERS MFG. CO.

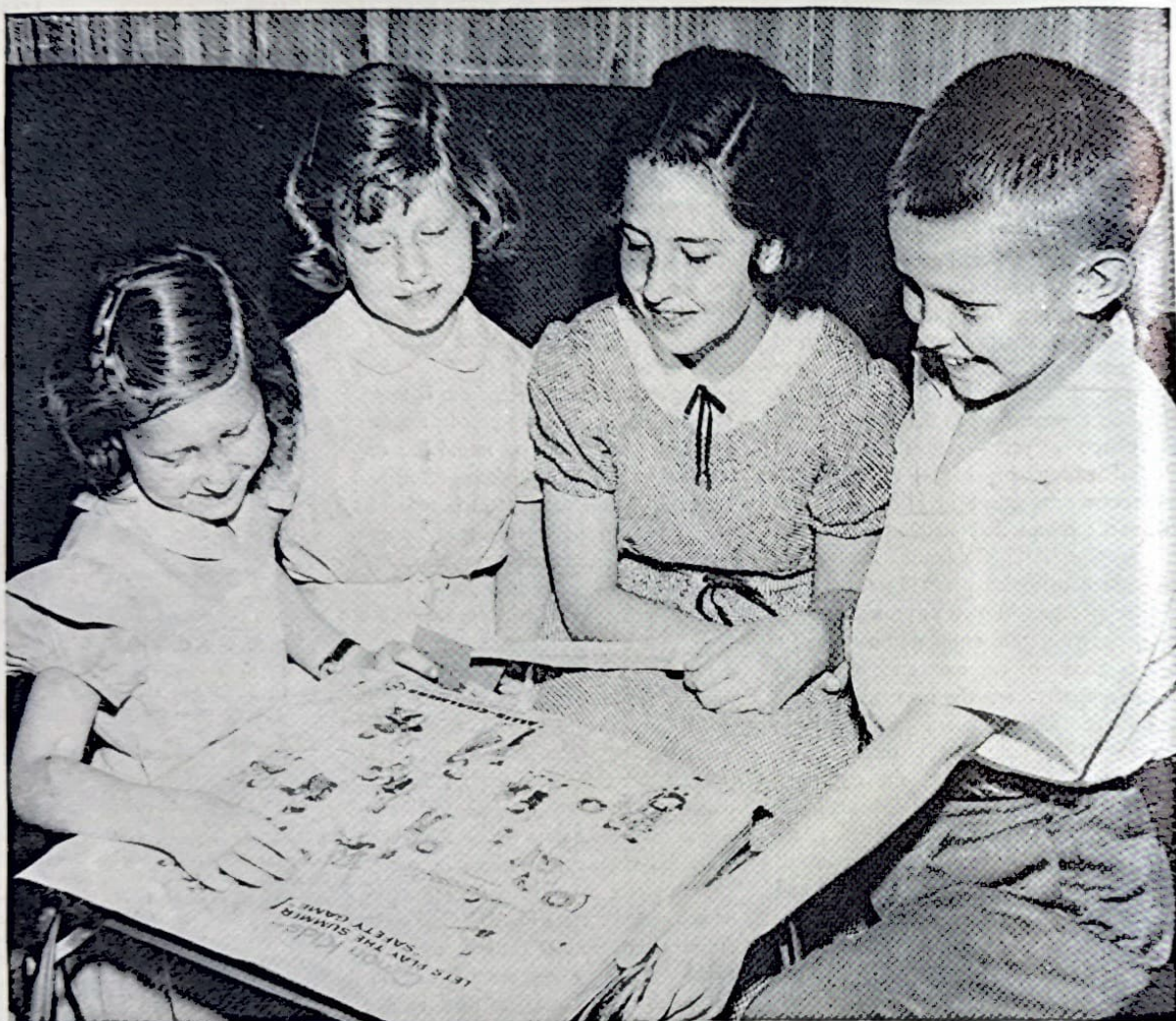
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During May and June, Allis-Chalmers is sponsoring community advertising in support of public safety campaigns in its plant communities in the United States and Canada. The advertisement is designed to promote safety for young people during summer-time play. It combines safety education with the fun of playing a game, to help guide young people toward safe play

and recreation in the vacation months. Pictured above, playing the game, are the children of Robert W. Taylor, La Porte Works statistician. Left to right are Elizabeth, Rita Marie, Martha and Mike Taylor. While the campaign is aimed at the younger generation, it may have some good pointers for the rest of us. Safety, after all, is for everybody.