

a-c scope

magazine of allis-chalmers people

**The Beach Sanitizer—
A New A-C Product** (See Page 14)

summer 1964



Canadian Allis-Chalmers

**A growing country — A booming market
— A thriving Company**

**ITEM:
A-C Quarterly Report — Spring, 1964**

"Record first quarter Company sales in 1964 of \$143.7 million, 20 per cent higher than for the same period in 1963, were reported . . . Our backlog of orders has increased 45 per cent . . . The strongest percentage sales increase recorded by any of our operating divisions was reported by Canadian Allis-Chalmers . . . Most noteworthy contributors to the order backlog increase have been the Hydraulics division, Electrical Transmission and Distribution division and Canadian Allis-Chalmers . . .

R. S. Stevenson, President

* * *

To understand some of the reasons for the steady growth of Canadian Allis-Chalmers, it is necessary first to take a look at the entire Canadian economic picture.

As the second largest country in size in the world today, Canada represents a land of fantastic potential. Probably no nation in the world has a more promising future. For example, Canada is:

- One of the richest nations in the world in minerals, forest, water and agricultural resources.
- The world's largest producer of newsprint, nickel, asbestos and zinc.
- Second in production of hydro-electric power, pulp, uranium and oats.
- Sixth among nations in manufacturing, fourth in world trade, and second only to the United States in standard of living.

And all this has been accomplished with less than one per cent of the world's



population — just under 20 million people.

Last year, with the devaluation of the Canadian dollar, exports greatly increased. Canada was also in the midst of the largest construction program in its history — hydro-electric dams, flood control projects, pipelines and refineries, highways, housing, public buildings, hospitals, new factories.

While expanding greatly in other directions, Canada has lost none of her supremacy as one of the world's foremost food producers. Agriculture remains Canada's most important industry. Farm cash income amounts to almost \$3 billion annually, and farms cover an area of over 272,000 square miles.

Further illustrating the gigantic size of the nation, the north magnetic pole is within Canadian territory, while the southernmost portions of the country are nearer the equator than the Italian Riviera!

From top to bottom, Canada extends some 3,000 miles. The greater part of

the immense northerly territory is a sparsely inhabited region of forests and lakes. Many productive activities reach northern latitudes, but most areas of dense population lie within 200 miles of the long Canada-U.S. border. Heaviest concentration of population and industry is found in the St. Lawrence lowlands — in eastern Ontario and southern Quebec.

The latter, Quebec, is the home of French Canada. It was settled by the French in 1608. More than 80 per cent of the people in the province still speak French as their native language. This vast region holds fabulous mineral wealth, huge forests of excellent timber and tremendous potential water power — resources that, as yet, are only on the threshold of development.

Lachine, Quebec, an industrial suburb of the Canadian metropolis of Montreal, is the home of Canadian Allis-Chalmers. (Products of Allis-Chalmers Industrial Equipment and Utilities Groups are built and sold by Canadian Allis-Chalmers Ltd. Tractor Group products are distributed in Canada by Allis-Chalmers Rumely Ltd., another Company subsidiary which builds fork lift trucks and front end loaders at Guelph, Ontario.) Montreal, an island city of over two million, is the second largest French speaking city in the world.

The growth of Canadian Allis-Chalmers, especially in the past four years, has surpassed even that of the overall Canadian economic skyrocket.

Providing leadership for this growing organization is J. D. Greensward, who was named president in late 1960. In the period since, employes have shown an increased determination to beat com-

A-C SCOPE

MAGAZINE of ALLIS-CHALMERS PEOPLE

Jack Pearson Editor
I. J. LaBarbera . . . Art Director

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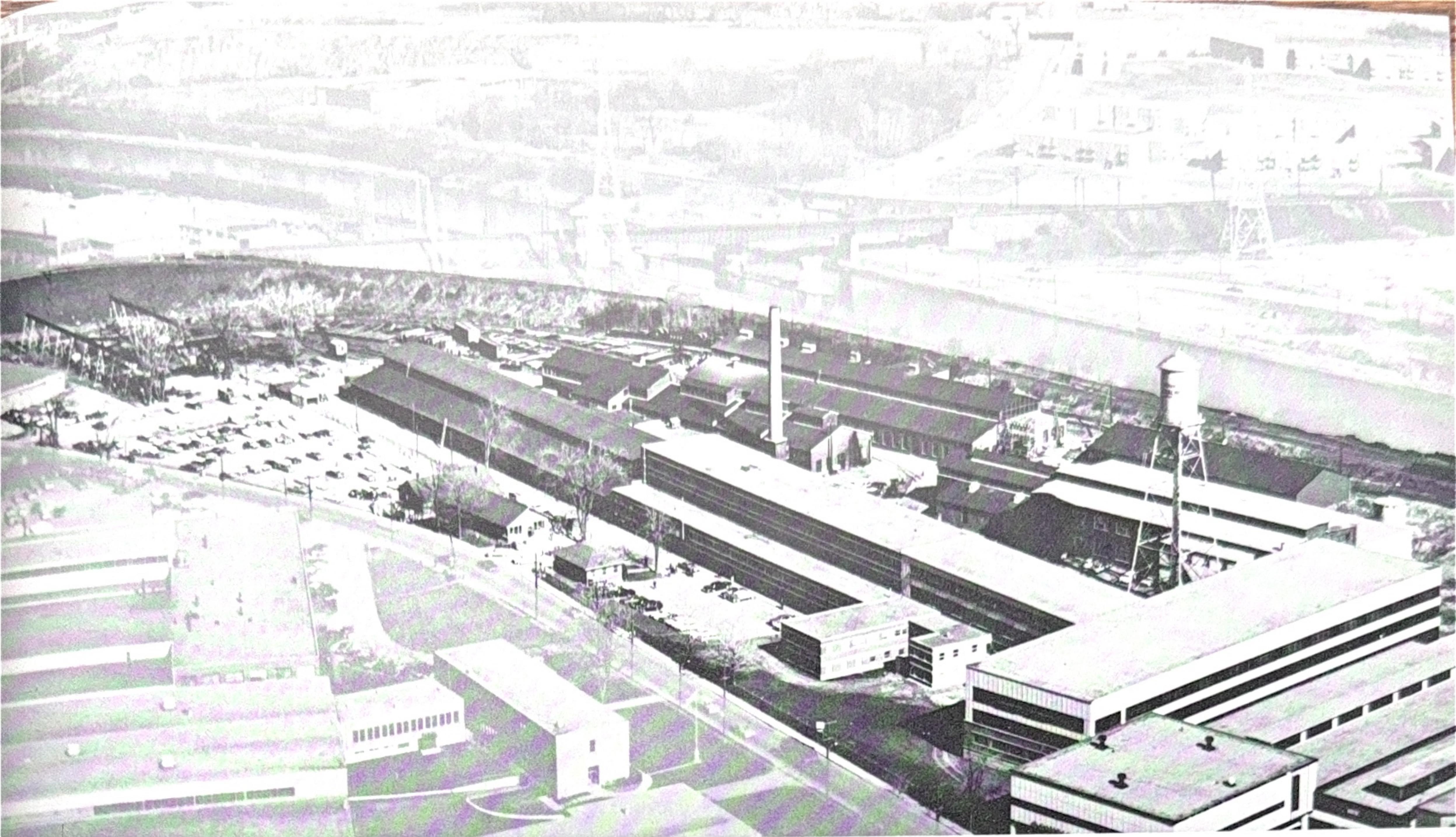
COVER PHOTO

This summer, on beaches all over the United States, on the Atlantic Seaboard, the Great Lakes, the West Coast, hundreds of thousands of swimmers and sun worshippers will see the new Allis-Chalmers Beach Sanitizer. For a full report on the revolutionary new unit, check the story on page 14.



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An aerial view of the Lachine plant, home of Canadian Allis-Chalmers, looking over the Lachine canal. At the extreme left, the new pattern storage building.

petition. An editorial in the *CA-C Diamond* newsletter describes this:

LET'S ROLL UP OUR SLEEVES!

The need for a genuine, all-out Company effort was never greater. Competition is stiffer than ever before, and we have to fight that much more for every dollar we make. We must work harder, price more competitively, increase productivity and cut costs. Why? The reasons are simple.

Not too many years ago, equipment, machinery, almost everything in fact, was in short supply and we at CA-C, in common with most other companies, did not have much trouble selling our products. They were the "good old days," the booming post war years, call them what you will—but it would be sheer folly to pretend they are still with us.

Today, our competitors have grown stronger and more aggressive, offering a wider range of products and prices than before, with the result that customers have grown more selective and harder to please.

This is the challenge we must meet with all the necessary economics of labor and materials—remembering at the same time that CA-C has a reputation for quality—whatever the product. Let us continue to "roll up our sleeves" today, and thus ensure job security tomorrow.

CA-C Diamond
Spring, 1961

"Roll up their sleeves" they did. And always, setting a prime example, was Greensward, who worked often through the day into the night, through the week into the weekend.

(Prior to joining CA-C, Greensward served the Company as director of Manufacturing, Industries Group, and had been a vice president of the Company since 1952. He joined Allis-Chalmers in 1922).

Greensward and each of the employees of Canadian Allis-Chalmers have a lot to be proud of—and they've helped themselves as well. Along with a steady increase in wages and salaries since 1960 has been a rise in employment. There are some 30 per cent more jobs now than there were two years ago.

Backing up Greensward are Gordon Irving, General Manager, Product departments; Charles Echlin, Sales and Service Manager; Norman Hollefriend, Marketing Manager; C. F. Smith, Secretary and Treasurer; Arnold Thorsen, Works Manager; and others, mentioned later.

Billings for the first quarter of 1964 were 35 per cent higher than first quarter billings a year ago; and billings for 1963 were 30 per cent over 1961. The backlog of orders of the first quarter of this year was 30 per cent above 1963's figure, which in turn was 20 per cent over the previous year.

A-C in Canada began in 1901 with the Rockfield Works, which was set up in Lachine to make rock drills, coal cutters, air compressors, car unloaders and steam hoists. In 1904 the plant was acquired by Allis-Chalmers. The product line then included electric motors, generators, switchgears, hydraulic turbines and mining equipment.

During World War I the firm was bought by the Canadian General Electric Co. and operated as Canadian Allis-

Chalmers Ltd. The organization retained manufacturing rights for A-C mechanical equipment and sales rights for electrical equipment. The firm's assets were again acquired by Allis-Chalmers in 1951, with the operation in the hands of Canadians.

Today Canadian A-C serves such major markets as cement, mining, sand and gravel, pulp and paper, electric power.

Canadian Allis-Chalmers now accounts for approximately 20% of all hydraulic turbines installed in Canada. In the province of Quebec, over 3,000,000 horsepower has been installed; 2,000,000 horsepower in the Saguenay power system alone. Installations in Ontario furnish over 1,000,000 horsepower and in British Columbia the horsepower generated exceeds 500,000. There are outstanding features among these installations such as the largest capacity vertical shaft impulse turbine in the world at the Kitimat project in Keman, British Columbia.

At Beauharnois, Quebec, Francis turbines are the largest vertical type (in physical dimensions) in Canada. Ontario's Otter Rapids Installation boasts the highest known head (111 ft.) fixed blade propeller type turbine. The most powerful Kaplan turbine in Canada was at New Brunswick's Beechwood Station at the time of commissioning in 1960.

Most recent orders are for three 82,000

(Continued on Page 4)

Canadian Allis-Chalmers success story

horsepower turbines (Francis type) to be installed at the Manic 1 power house on the Manicouagan River in Quebec. Earlier, two similar units were ordered for the McCormick Dam, a part of the same system. This makes a total of 12 Allis-Chalmers turbines in that area alone.

Significant orders in other fields in process by Canadian A-C include:

\$2,000,000 contract for crushers, mills and screens for Endako Mines located between Prince Rupert and Prince George, B.C.; a further \$2,000,000 order for Saurashtra Cement and Chemical Industries of northeast India to cover kiln and grinding mills for a cement plant; a turn key pelletizing plant for the Jones and Laughlin Adams Mine at Kirkland Lake, Ontario; and the second largest compressor ever constructed by Allis-Chalmers. This along with three other compressors will handle all requirements at the Ampol Refineries at Brisbane, Australia.

Eighty units of 5KV switchgear are being supplied to the Lakeview Generating Station in Ontario. This is one of the largest thermal generating plants in North America.

A total of eight ball mills and 16

pelletizing drums have been shipped to the Carol Pellet company, operated by the Iron Ore company of Canada, in the Quebec Labrador region. Within the past few months the largest compressor of its type was installed for the Air Liquide Company at Hamilton, Ontario.

The Canadian Sales force is a new and growing one. Sales offices have been added throughout the Dominion to aid salesmen, while less productive offices were closed. New locations include offices at Ottawa, Ontario (capital of the country); London, Ontario; Quebec, capital of the Province Quebec; Halifax, Nova Scotia; Fredericton, New Brunswick; and Trail, British Columbia.

Sales training meetings are called regularly, and sales slogans chosen each year. This year's: "Nothing happens until a sale is made." "Salesmen of the month" awards have become a favorite incentive program.

"We have placed considerable emphasis on ways and means to increase our short turnover business and develop the strategy 'why, how, where and when' on major projects," Greensward explained. "We have also stepped up the program for top level executive and management

contact between ourselves and our customers.

"In addition, the shift in selling emphasis from a product approach to an industries approach has been extremely worthwhile."

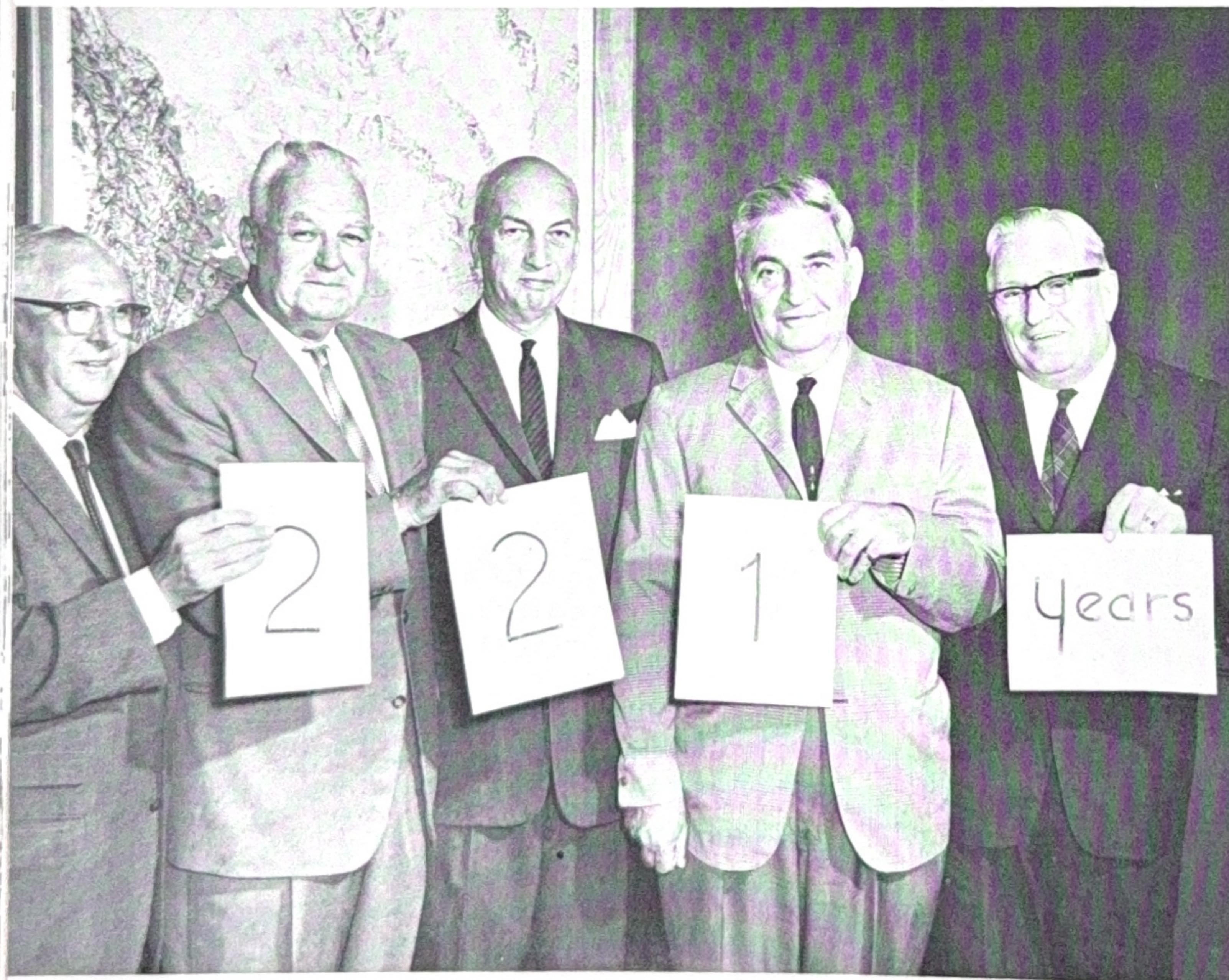
Recently a salesman followed up on a pump inquiry with questions asking what else the customer needed on the installation. Motors? Controls? As a result, instead of a \$5,500 order, CAC received one for \$22,000.

At the plant, other growth factors have been an increase in the number of product lines, and the modernization of production facilities and quality control programs. Product lines were regrouped.

The Flex-Tex coupling line was engineered last year, and is now in production. The Lachine plant is the only Company plant manufacturing this unit.

An old forge shop, a building which had been used for storage since World War I days, was converted into a production building for electrical equipment. The warehouse and job stock building was extended in 1963, and an addition was made on the engineering offices. A pattern storage building was erected at a different location.

During the last four years, the plant replaced and modernized machine shop

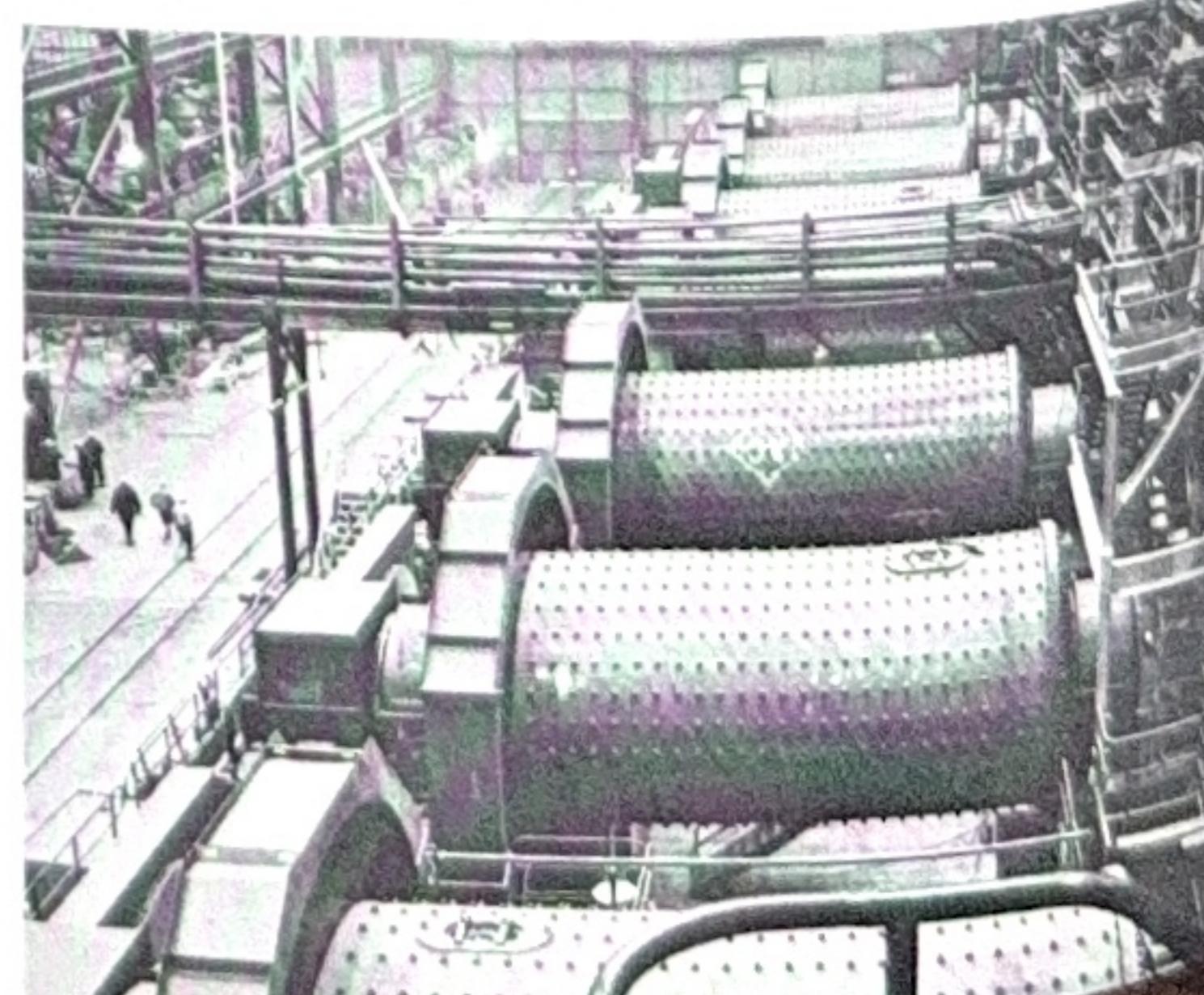


Five men at the Lachine plant have been with the Company for a total of 221 years, including President J. D. Greensward, (center). They are David Donaldson, 48 years, foreman, small tools; Harry Wylie, 40 years, draftsman, advertising; Greensward, 42 years; James Finn, 44 years, erection shop foreman; and Hugh McDougall Scott, 47 years, a checker draftsman.



The largest of its kind ever built by Allis-Chalmers, this VC 1104 Centrifugal Compressor was recently built at the Lachine plant. The customer, Air Liquide Co., of Hamilton, Ontario; the use, the manufacture of low purity oxygen.

Seven giant grinding mills installed in one of Canada's large iron ore plants. In the past two years this type of machinery has been one of the major factors in the Lachine plant's increased production.



tools, with a substantial increase in the value of production facilities.

The controller's department was modernized three years ago, and computer equipment installed. New machines were added in the shop, such as a special pit lathe for machining large grinding mills, and test stands.

New positions were created in administration, mostly using men already in the organization. These included: Project Superintendent, J. M. Creighton; Manager, Systems and Procedures, R. B. Ferguson; Manager, Materials and Scheduling, Harry Stewart; Manager, Manufacturing Engineering, Clayton Ruth; Manager, Production, D. B. Rider; Director, Engineering and Development, Charles Southmayd; Manager, Marketing, Norman Hollefriend; Controller, W. H. Smallhorn; Assistant Controller, G. Fadden; and Product Department Managers A. E. Risk, Frank Trasler, A. Armand and W. Wright.

Today, the Lachine plant is divided into four main departments:

Fluid Dynamics, which includes hydraulic turbines, valves, centrifugal pumps and compressors;

Switchgear, including heavy duty switchgear and heavy duty motor controls;

Cement Mining and Process, kilns, crushers, screens, dryers, pelletizing plants, balling drums, grinding mills;

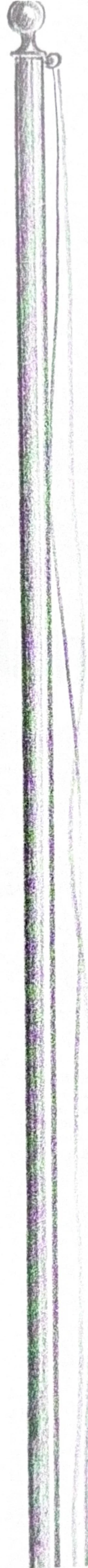
Tex-rope, which encompasses v-belt drives, motor drives, coupling lines.

Machine facilities are available for turning, planing, grinding and milling, and include lathes and boring mills, both vertical and horizontal, as well as tool room and fixture services. There is a complete tank and plate shop.

Nearly 60 per cent of the employees at the plant speak French; however, most of them also speak at least enough English to be understood. Company publications, bulletins, messages from the President, are printed in both languages.

The safety program at the plant has been very successful. In three of the last five years—1958, 1959 and 1961—the plant has won the top award for heavy industry in the province of Quebec. About 90 per cent of the employees wear safety shoes. Upwards of 1,000 pairs are sold each year.

"There's a bright future for Canada, mainly because the Canadian government is placing more emphasis on secondary manufacturing and finance arrangements to encourage export. There is a bright future for Canadian Allis-Chalmers because we are taking and will continue to take a greater share of the available business," concluded Greensward.



Still Time to Enter...

FLAG DESIGN CONTEST

for Allis-Chalmers Employees and Families

Design a flag—it can be any size, shape or color—and it can identify Allis-Chalmers in any manner you think appropriate.

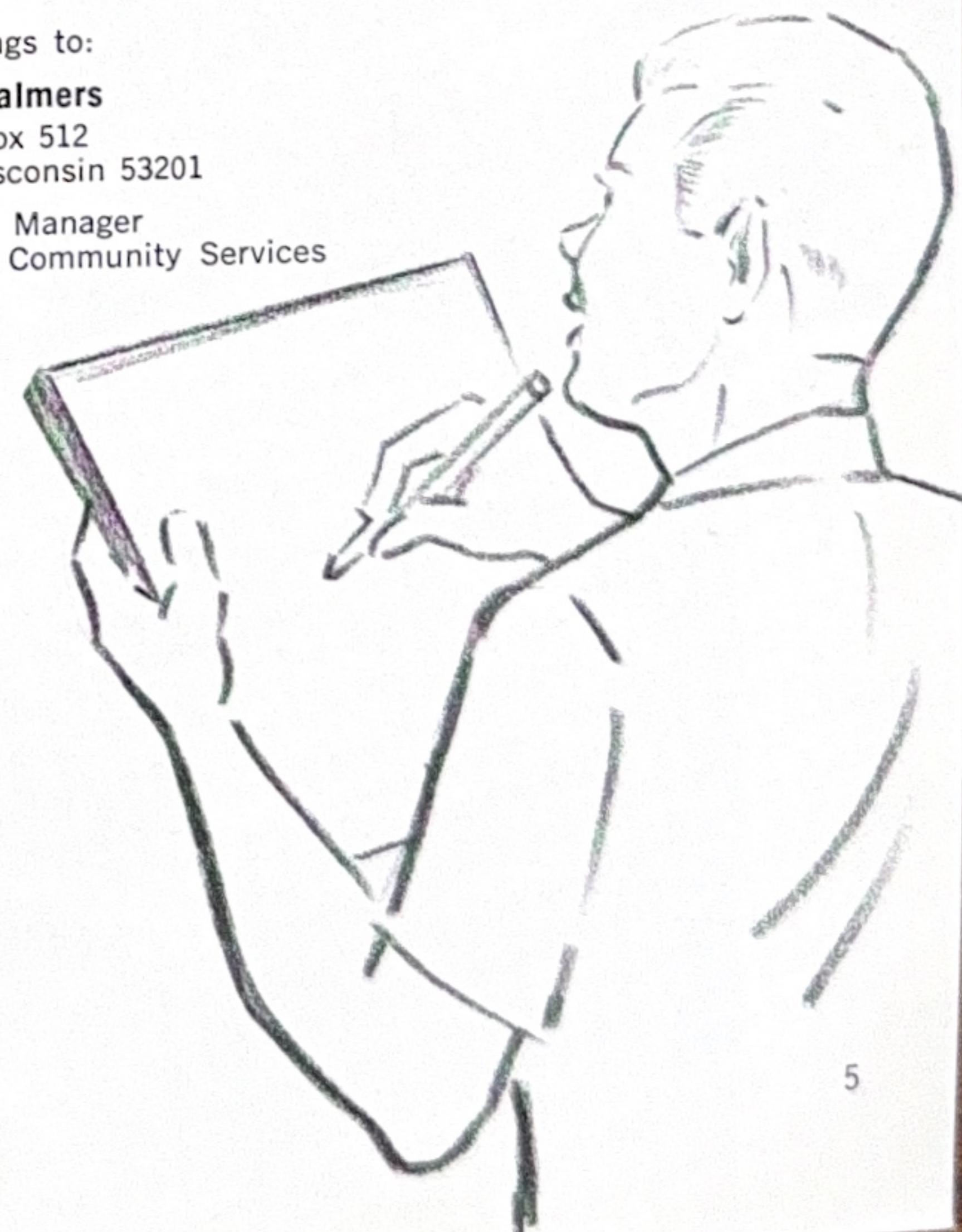
The Company flag will be flown at all A-C operations throughout the free world—at our plants, branches and warehouses. Our flag will be flown beneath the flag of the country in which our facility is located.

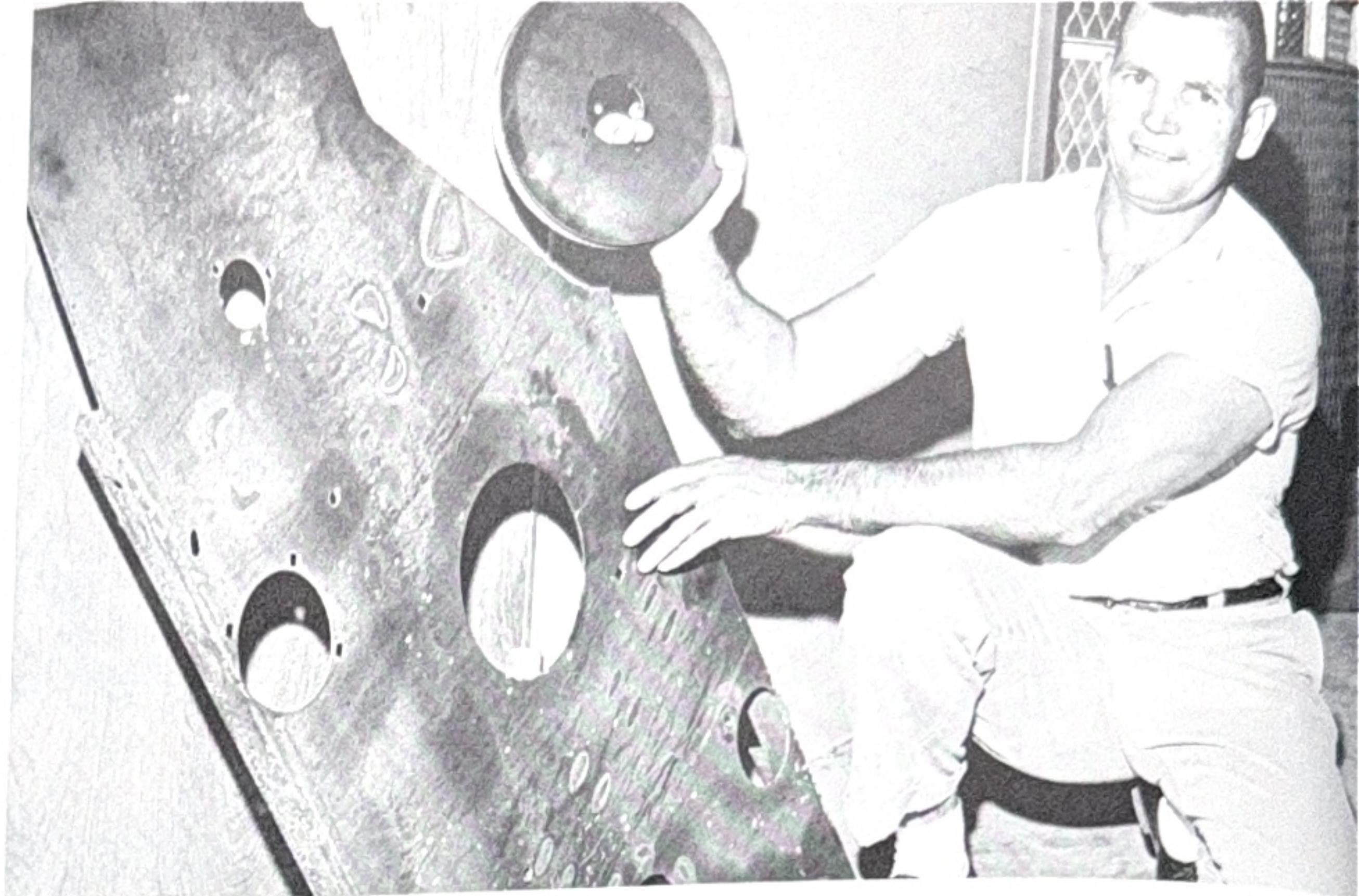
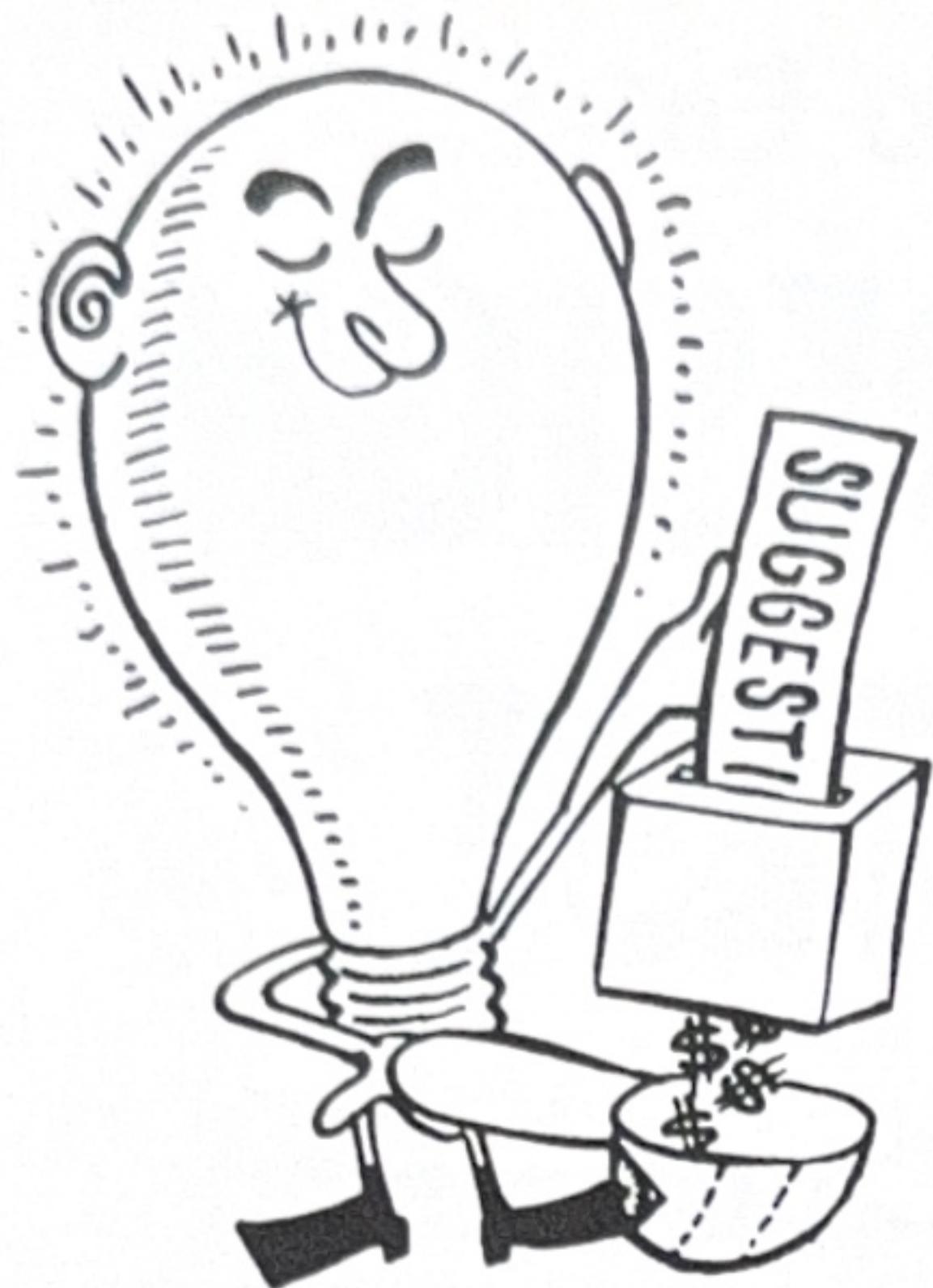
Prizes will be awarded for the best five entries by a panel of impartial judges. Winners will receive a portable television set or a prize of equal value.

Contest rules:

- Employees and their immediate families (wives, husbands, sons and daughters) may submit as many designs as they wish.
- Each design should be neatly drawn or painted (even a pencil sketch is satisfactory) on paper, canvas or other material, no smaller than 8" x 10" or no larger than 16" x 20". Each design must be on a separate sheet of paper.
- For each entry indicate the size, shape and color of the flag. Your entry does not have to be in color, but you must tell us which colors you recommend for each portion of the flag.
- Your name, home address, and Company affiliation should be on each entry.
- If you wish to submit a brief explanation of your flag design, you are welcome to do so, although it will not be necessary in order to win a prize.
- Entries must be postmarked by midnight, August 17, 1964.

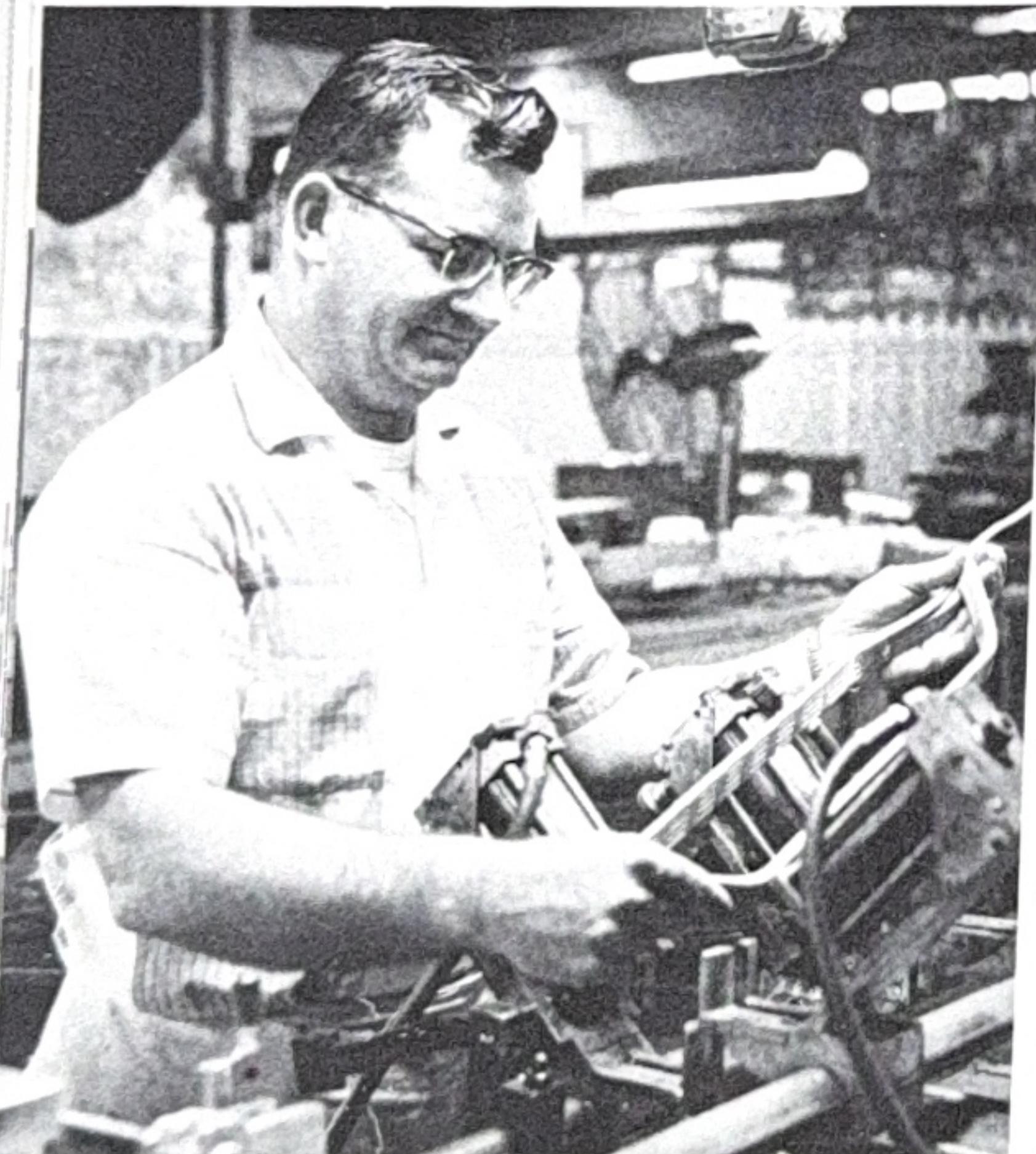
• Mail your flag drawings to:
Allis-Chalmers
P. O. Box 512
Milwaukee, Wisconsin 53201
Attn: Mr. L. W. Baker, Manager
Information and Community Services





The highest award winner at the **Independence Works** was Truman Kratzer, a leadman in the Sheet Metal department. Kratzer's suggestion was to make a sheet metal sheave out of scrap which was left over from the press punching of another part. Via multiple operations, this sheave would be made at the same time as the parent part. On a 3,000 combine basis the projected savings totaled enough to award \$211.50 to the suggester, which represents only the initial payment for his idea. The second half of the payment comes later. Kratzer said he was going to use the money to buy a boat.

Those suggestions really pay off



Norwood's Tom Dinger hit the jackpot with this suggestion last February. His idea saves .028 cents per coil in the form wound coil taping operation at the plant. At that rate, the estimated savings for one year are quite substantial. Tom was the happy recipient of \$312.60 for his idea. His suggestion accomplishes a more positive start and finish to the Mylar wrap of form wound coils. He has eliminated the use of a special tape and increases the operator efficiency. The new technique also helps to prevent unwrapping caused by adhesive failure of the special tape. Tom says, "With a family, the extra money helped to round out the budget."

They're getting bigger and better—the Allis-Chalmers suggestion awards, that is. They're better because of the thought and effort put into the suggestions by Company employes, and bigger simply because they're better!

During the past year, the average amount paid by the Company for each award was \$35.83, up over six dollars from last year's average. Allis-Chalmers paid a total of \$29,489 for the suggestions last year. Of the 2,602 suggestions received in 1963, some 823 were adopted, a 29.2 per cent figure. This was well above the national average of 21.3 per cent adopted.

A suggestion to simplify the translation of lubrication charts used for construction machinery shipped overseas is the basis for a scholarship fund for one year old Luis Garcia, Jr. Luis Garcia, Sr., Allis-Chalmers International, West Allis, has set aside the \$950 he received for his idea for his son's education. Because he found the old method too expensive and time-consuming, he developed a glossary of terms used on service and lubrication charts that would give the equivalent of each English expression in Spanish, Portuguese and French. Thus employes at various A-C plants could make up the translation plates and submit them to the home office in West Allis, Wis. for final checking. Formerly this work was done by outside sources.

This past year the average Company reward for tangible suggestions was \$51.48, again over the national average and 50 per cent over the A-C mark of last year. There are two kinds of suggestion awards, tangible and intangible. Tangible are those which produce savings that can be actually measured in exact dollars and cents.

Not so encouraging was the employe participation. There was an average of 124 suggestions per 1,000 employes in 1962. There were 94 per 1,000 last year.

For employes who wonder where to look for award-winning ideas and haven't





The Company's top award for the past year, \$1,667.50 went to W. L. Schering and M. E. Gross of the **La Porte**, Indiana, Works. Their proposal involved a material change from Cold Finished Hex Steel to a Zinc Alloy Casting. On the original estimation of the suggestion's worth, the two received an award of \$845. After one year's operation, however, it became evident that the savings to the Company from the suggestion would be much greater. The award total was then revised upward to \$1,667.50. Schering is in the Purchasing department; Gross in Inspection. In the photo, from the left: J. Q. Ray, Works Purchasing Agent; Schering; J. E. Hannon, Coordinator, Suggestion System; Gross; and J. L. Ovelmen, Works Manager.

participated in the Allis-Chalmers suggestion plan, here's some advice from A. V. Gaulke, Company coordinator of the program:

"Most suggestion award winners will tell you that the best place for anyone to start looking is right on his or her own job. Your chances are good because every day you have the opportunity to study the work that is passing through your hands. Besides, who knows your job and how it could be improved any better than you do."

The possibilities for award winning suggestions, however, are by no means limited to your job. Since the basis for

any winning suggestion is an idea for improvement, the possibilities are almost unlimited.

Awards may be paid for suggesting imaginative ways to improve product quality, make jobs easier, increase efficiency by improving forms, methods or procedures, improve safety conditions, give customers better service, reduce shipping costs or produce some other benefit. There is no limit to the number of suggestions an employe may submit. The more submitted, of course, the better the chances of having one or more adopted.

President R. S. Stevenson has said that

(Continued on Page 8)

Although there was a larger suggestion award during the year to two men at the La Porte Works, the largest award to an individual went to Al Hamman of the Product Service department, **Cedar Rapids** Works. Hamman was the happy recipient of \$1,046.31 for his suggestion to replace all spanner type wrenches in the motor scraper tool kits with one chain wrench. Hamman reports the award money was used for buying furniture, dental work for his wife, Christmas gifts and a vacation in Minnesota. In the photo, J. A. Miller, General Manager, presents the award, while R. D. Johnson, Value Analysis Engineer, holds the new unit.



For suggesting a way to salvage nut seat broach bars, Ben Little, a tool grinder in Dept. 35, **Springfield** Works, has received a total of \$334.49 in suggestion award money. Ben's idea to replace broken teeth in the broach bar involved brazing in a block of neato steel and recutting the teeth. Thus, a costly tool could be utilized for a much longer period rather than becoming scrap. Ben, a 17-year employe, used this extra money to buy a shotgun for his 16-year old son and living room carpeting for the home. In the photo, he discusses the improvement with Foreman Ken Harris.



Suggestions pay off

"A suggestion plan system is fundamental to a company striving to be competitive. We cannot do without it. Employes who come up with ideas to improve our operations are the most valuable we have."

The Company's Suggestion Plan, revised and improved five years ago, now offers awards of up to \$25,000 for ideas that will improve Allis-Chalmers operations in any way.

More than 50 A-C employes received over \$100 each last year for their ideas. Highest award was \$1,667. "We hope someone becomes eligible for the \$25,000 award this year," Gaulke said.



Merle Lee, a shop clerk at the **La Crosse Works**, has received a total of \$381.35 so far from his suggestion regarding the utilization of a specific quantity of stock in process. This semi-finished material was laying idle in inventory due to cancellation of further processing of this part toward its original finished product. Lee could receive a total of \$700 if all of the 37,000 pounds of this orphaned stock in process are utilized.



A \$500 award was presented this April to Rodger Orwick, an assembler in Reactor Weld and Assembly, **York Works**, for his fine suggestion. Orwick's idea was for designing a metal shield. Pictured with him when he received his award are George Phillips, (left), Department Foreman, Reactor Weld and Assembly, and George Hochwalt, General Manager, Hydraulic Products division.

York Paces "Sell A-C" Drive

The "Sell Allis-Chalmers" hit parade leader this quarter is the **York, (Pa.) Works**, with two sales amounting to approximately \$34,000.

With nine other sales also reported since the first of the year, the total Company-wide "Sell Allis-Chalmers" effort has now reached \$360,000 since its inception just over two years ago.

The two men responsible for the fine job at York are Richard Kerr, Turbine Order Processing department, and Gordon Seitz, Department "C."

Kerr turned in a Sales Referral Card for the Seaford Feed Company of Seaford, Delaware, which was interested in farm equipment. The sales lead was directed to Roy Winder, Branch Manager for the Company's distribution center in Harrisburg. Winder made the proper referrals and two sales were made — a D-19 Tractor with cultivator, priced at \$7,000, and an HD-11 Crawler-Tractor, priced at about \$20,000. The purchase of a combine is still pending.

Seitz turned in the name of a fruit farmer, which resulted in the sale of a D-15 Tractor, a loader and a 12-foot Harrow. The price of the three pieces of equipment was close to \$7,000.

Another fine sale resulting from an individual employe's effort took place at the **Independence, Mo. Works**, where Carl H. Taylor's referral card resulted in the purchase of a \$6,200 Gleaner Combine. Taylor is an electric arc welder at the plant. Clyde H. Cox,

of Richmond, Missouri, who bought the combine, is Taylor's father-in-law.

Cox told our sales personnel that he was ready to purchase a rival company's combine when Taylor suggested that first he look at the A-C Gleaner. After checking over our product's advantages, he was "sold."

Other sales:

Cedar Rapids:

Louie Tesar, a final assemblyman on the scraper line, recently purchased a D-17 tractor and a 3-bottom plow. His confidence spilled over on one of his neighbors, Horace Heath. As a result, Horace purchased a D-17 tractor, a 4-bottom plow and a 4-row cultivator. Total for all purchases: \$11,914.

Norwood:

Dee Higgins, in Employe and Community Relations, Norwood (Ohio) Works, generated the sale of a B-10 tractor and mower to one of her neigh-

bors. Jim Hosmer, has sold a 15 horse-power totally enclosed motor worth \$315 to the Mariemont Gravel Co. A third Norwood employe, Mildred Mulholland, of Dept. 16, was instrumental in selling a tractor.

West Allis:

Don Prudhomme, Purchasing department, West Allis Works, offered a lead which resulted in the sale of a 5-horse-power electric motor.

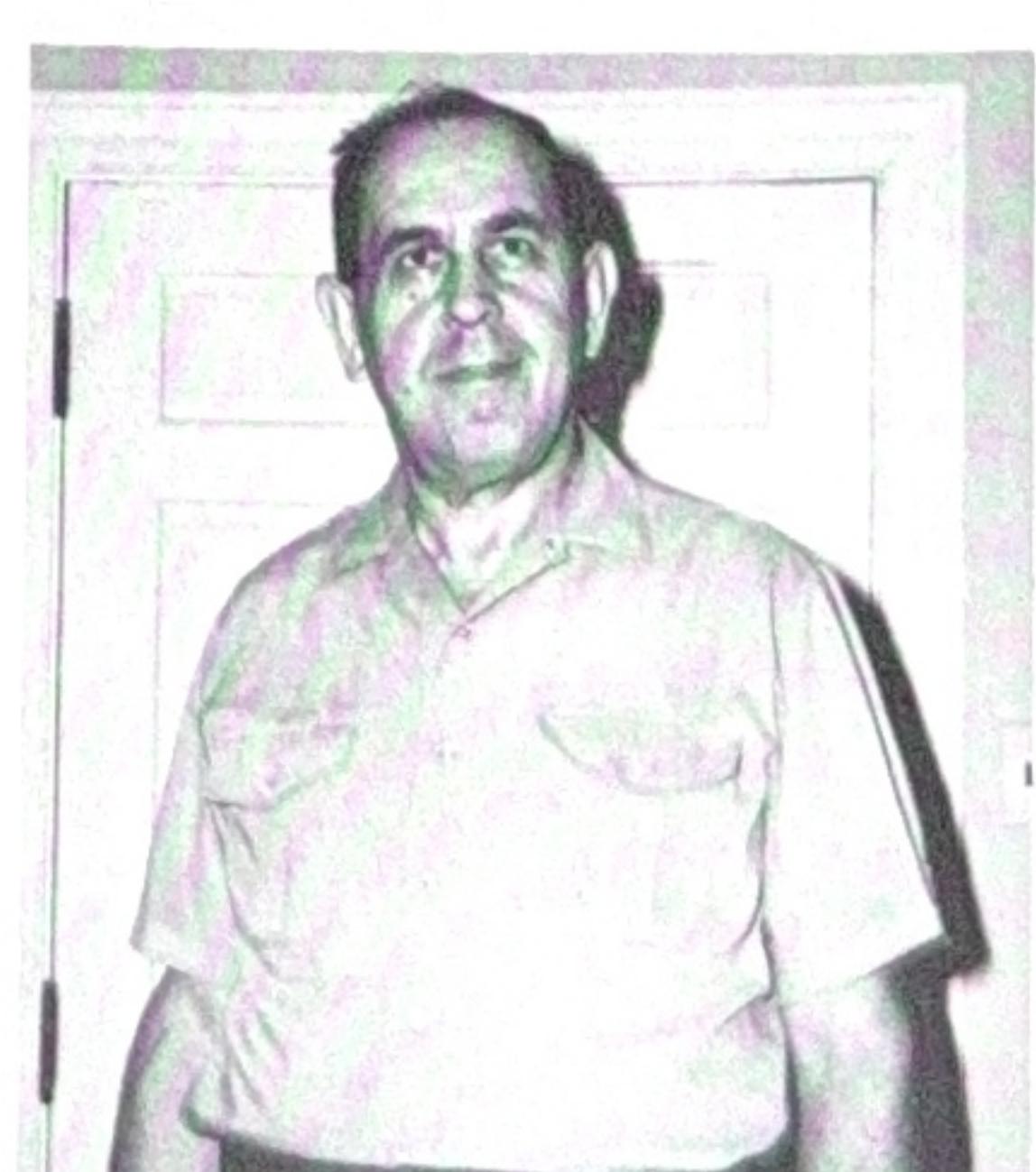
Ed Alonso of #5 shop used the "Sell Allis-Chalmers" approach to aid in the sale of a plow attachment to a customer who had been using one of our D-19 tractors.

Frank Kruzel of Dept. #1065 at West Allis was responsible for the sale of a B-10 in May, with two other prospects currently on the line.

Another B-10 sale came as the result of a referral by John Waddleton, chief counsel, West Allis.



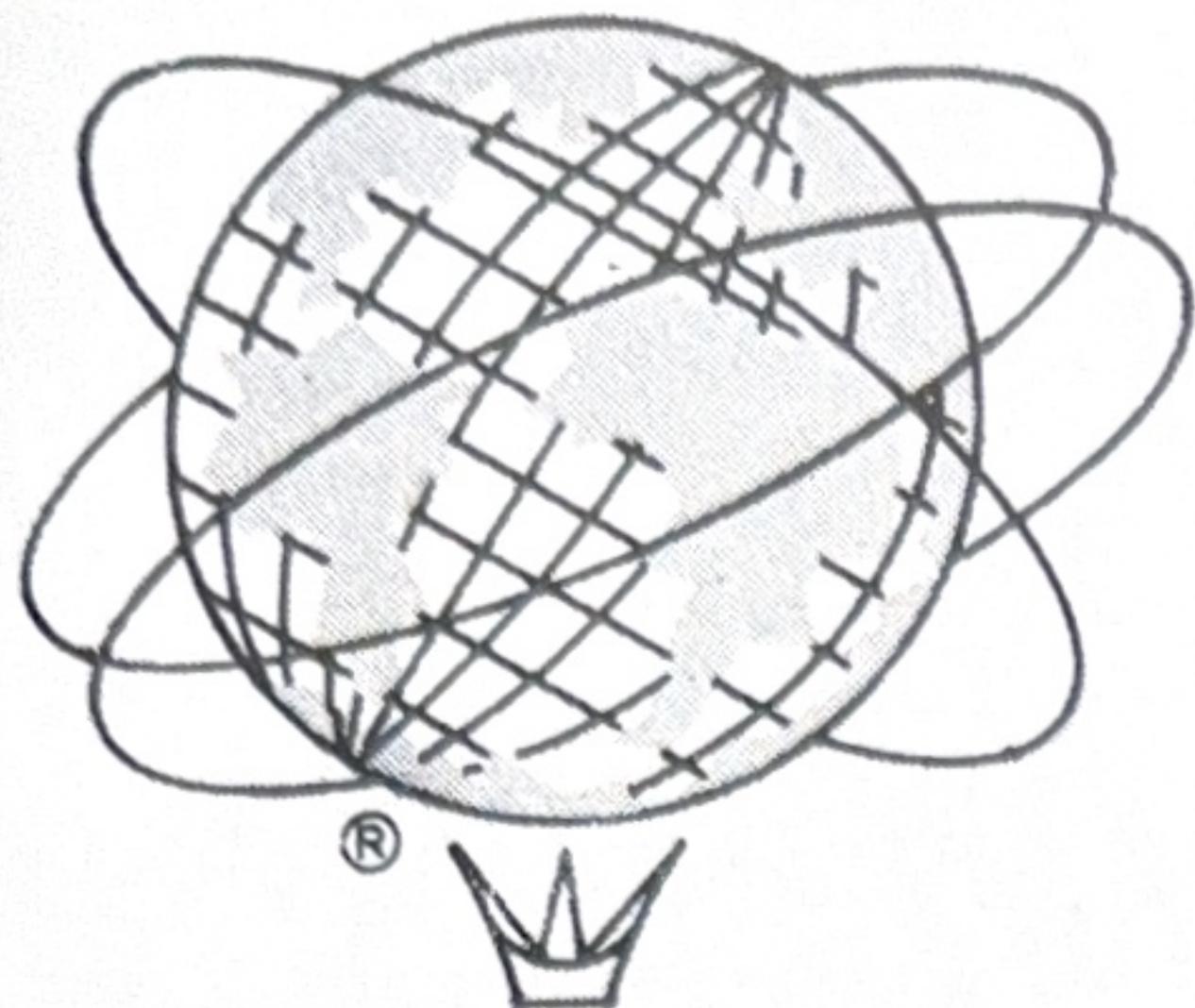
Kerr



Seitz



Taylor



The Hall of Free Enterprise

Going to the Fair?

Don't miss the Hall of Free Enterprise

The New York World's Fair, expected to attract over 80 million people by the time the season ends on October 17, 1965, will attract many Allis-Chalmers employes and their families. Some will be weekend visitors from plants in Boston, York, Pittsburgh or Lachine, and sales offices in those and nearby cities. There'll also be A-C people at the fair who are on vacation from West Allis, Cedar Rapids, Frankfort, Guelph, Harvey, Norwood, Springfield, La Porte and from other Company sales and production locations in the United States and Canada.

To these employes and family groups the Fair will be a vast collection of educational and exciting exhibits.

In a sense, the entire Fair is an exhibit—a grand display of a free economy's productivity. The fair is a reminder that the United States, with only six per cent of the world's population and seven per cent of the world's land, produces thirty per cent of the world's goods and services.

To show the world how and why people have more to gain from free enterprise than from any other system ever developed, is the mission of an unusual exhibition building—The Hall of Free Enterprise.

The Hall was built entirely by voluntary contributions.

The Hall, the pavilion of the American Economic Foundation, is the first structure in history to visualize and dramatize the principles of private, competitive capitalism. Across the front of the striking building stand ten stone

columns, representing the "Ten Pillars of Economic Wisdom"—basic economic principles which are the foundation of free enterprise. These basic principles (at right, abridged) are woven into all of the displays inside the Hall.

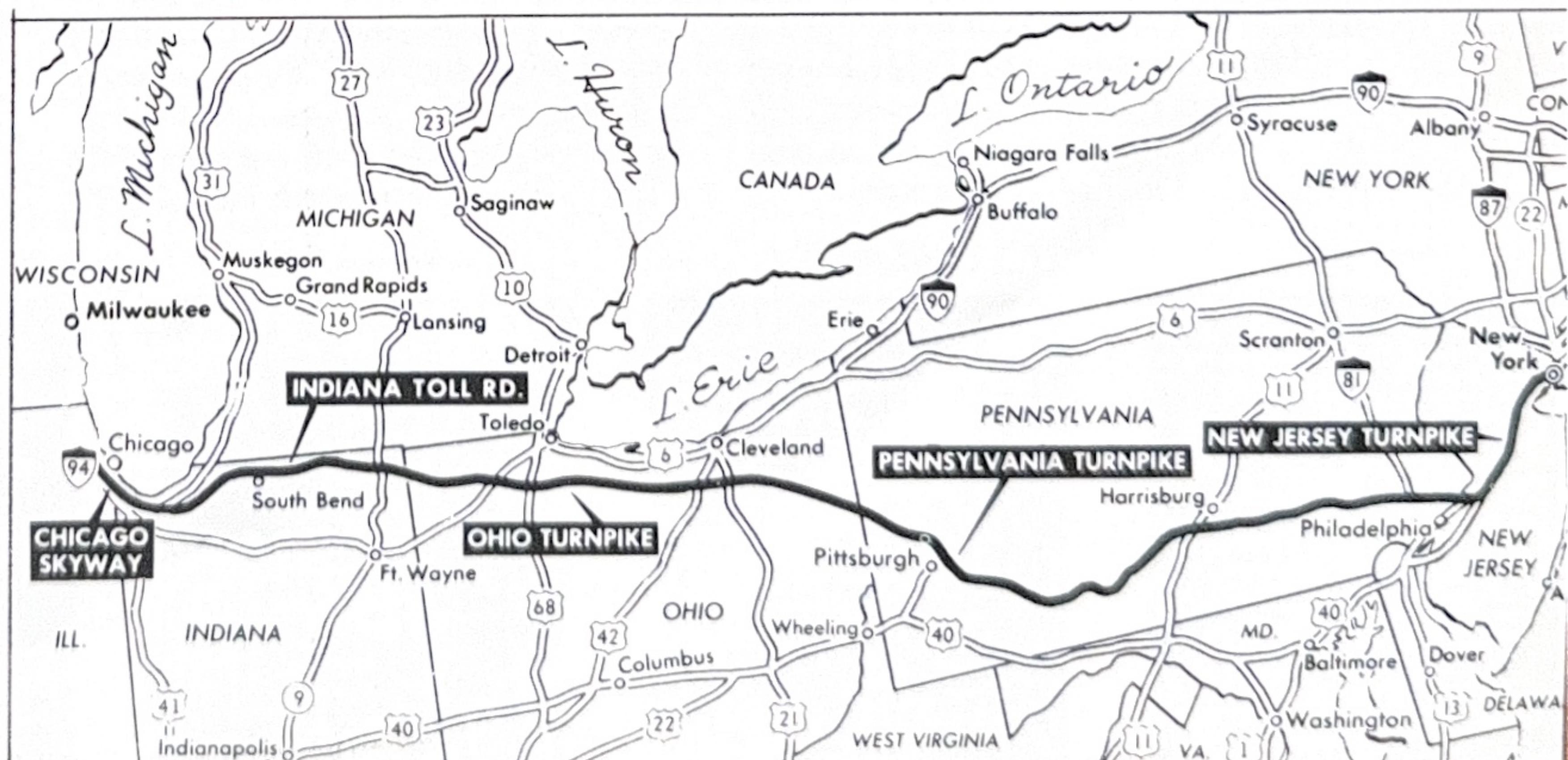
Among the impressive facts dramatized by the Hall is that in America, the necessities of life take less than half of our total income, leaving a large amount for things usually considered luxuries.

To gain a better comprehension of the system which has proved to the world that it provides "The Greatest Good for the Greatest Number," Allis-Chalmers employes and their families are urged to visit the Hall of Free Enterprise.

Millions of people will be driving to the New York World's Fair. The heavy line shows a route that will be used, at least in part, by the majority of Allis-Chalmers people who travel by auto. From Chicago to New York on the toll road and turnpikes is roughly 840 miles—figure 14 to 17 driving hours and about \$12 in toll costs. The map also shows other major highways which converge on New York City.

TEN PILLARS OF WISDOM

- I Nothing in our material world can come from nowhere or go nowhere, nor can it be free: everything in our economic life has a source, a destination, and a cost that must be paid.
- II Government is never a source of goods. Everything produced is produced by the people, and everything that government gives to the people, it must first take from the people.
- III The only valuable money that government has to spend is that money taxed or borrowed out of the people's earnings.
- IV In our modern exchange economy, all payroll and employment come from customers, and the only worthwhile job security is customer security; if there are no customers, there can be no payroll and no jobs.
- V Customer security can be achieved by the worker only when he cooperates with management in doing the things that win and hold customers.
- VI Because wages are the principal cost of everything, widespread wage increases, without corresponding increases in production, simply increase the cost of everybody's living.
- VII The greatest good for the greatest number means, in its material sense, the greatest goods for the greatest number which, in turn, means the greatest productivity per worker.
- VIII All productivity is based on three factors: 1) natural resources, whose form, place, and condition are changed by the expenditure of 2) human energy (both muscular and mental), with the aid of 3) tools.
- IX Tools are the only one of these three factors that man can increase without limit.
- X The productivity of the tools—that is, the efficiency of the human energy applied in connection with their use—has always been highest in a competitive society in which the economic decisions are made by millions of progress-seeking individuals.



How I Came to Work at A-C

Allis-Chalmers manufacturing plants bring together people from all parts of the community, often from many parts of the North American Continent. How did they come to work for this Company in the first place? This interesting question was asked of employes at a number of A-C operations. Here are some of the answers:

Hubert C. McCalley, inspector, Cedar Rapids Works:

"I clearly remember how I happened to start work for the Company, because it was a cold, snowy Sunday morning in January, 1936. I was leasing a filling station and on that Sunday morning a friend came in to get some gas. He had been at work so I asked him if things were booming at the plant and how chances were for getting a job.

"Having lived on a farm where we always had some tractors and trucks around, I was interested in machinery and wanted to get a job in a factory. My friend told me to see the factory superintendent. I did. Two days later I began work as a helper on a punch press. As of January 29, I had 27 years of service with LaPlant-Choate and now Allis-Chalmers."

Eileen Manton, payroll clerk, Cedar Rapids Works:

"I am afraid that my answer is not too exciting or interesting. My sister Veronica had been working here for approximately two years when I began as a clerk-typist in the Production Control department on June 14, 1950. Veronica at that time was a stenographer in the Order and Parts department.

"I had just graduated from Mount Mercy Junior college and had been working part time on the switchboard at Mercy hospital.

"As I was then looking for a full-time job and as Veronica liked her job, the Company and the people with whom she came in contact out here, she talked me into coming out and applying for a job. I came out, was hired as a clerk-typist and have been here ever since.

"That's the story, except that I think I can honestly say I have the same feeling toward my job, the Company and the people here as Veronica had."

10

McCalley



Manton



Kathleen Van Loon, shipping order department, La Crosse Works:

"I was a senior at Central high school when I started work at Allis-Chalmers in May of 1945. A number of the top senior commercial students were permitted to secure part time employment during the last six weeks of school; that is, we would be employed mornings and attend school in the afternoon. In October, 1947, I was married to Weldon Van Loon who is also an Allis-Chalmers La Crosse Works employe."

Stephen Sapuder, assembly department, La Crosse Works:

"When World War II ended in August 1945 I was employed as a Civil Service ordnance inspector at Camp McCoy, Wisconsin. With the end of hostilities I figured my job would soon be over so I naturally started to look for new employment which would provide job security. I found that condition at the Allis-Chalmers plant in La Crosse.

"Prior to my employment at Camp McCoy I had served four and a half years with the army in the European theater during World War II. Previous to that I had been a coal miner for 10 years in the coal mines near my home town of Wilkes-Barre, Penn."

F. C. Holsworth, fork lift driver, Independence Works:

"As a boy, I went to school at the Columbian grade school located on a hill with a view of the old "Gleaner" plant. As boys do, I formed a desire to work at the plant, to the point of telling my teacher, 'That is where I would like to work'.

"One day my father mentioned that I was looking for work to the *Gleaner* combine foreman he knew. At the suggestion of the foreman, I reported to the plant and was put to work immediately.

Van Loon



I have been on the payroll since January 12, 1937."

Mrs. Edra Bybee, secretary, Independence Works:

Mrs. Bybee was employed in 1936 and 1937 by Strong and Potter, then the A-C Dealer in Macon, Mo. There she became familiar with farm equipment, including the *Gleaner* combine. After she moved to Independence and after several years of raising children, she decided to resume work. "The name *Gleaner* held a fascination for me because I knew the product," she said, "so I made an application with the Company." She has been employed continuously since December 1, 1954.

Byrd "Bud" Bayse, pipefitter, La Porte Works:

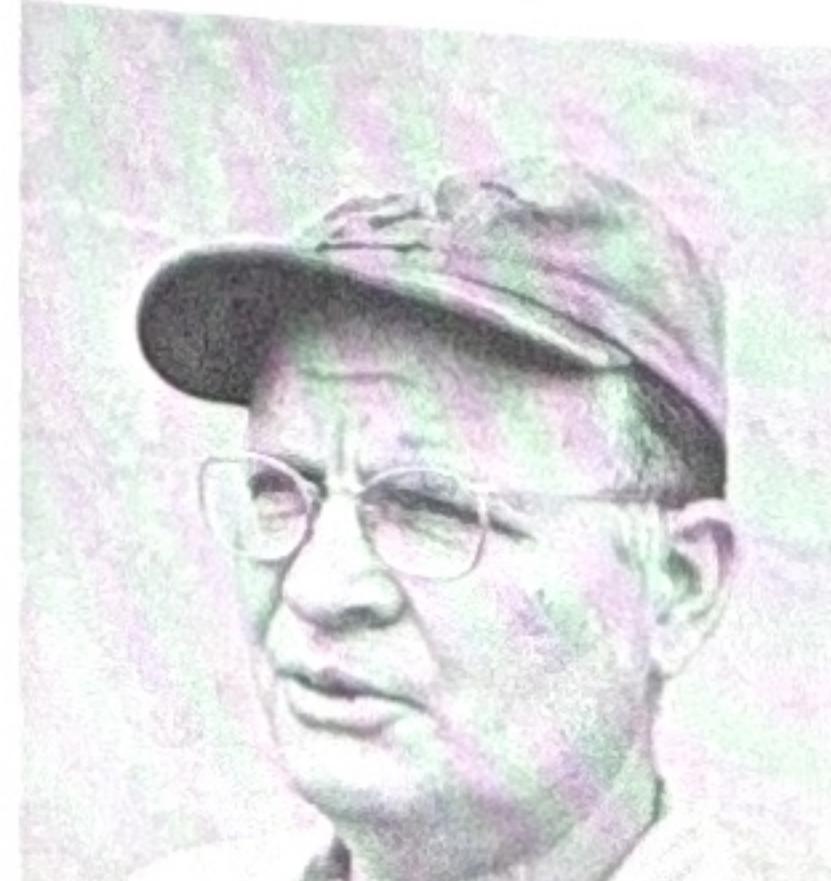
"I lived on a farm near La Porte in the location which is now the Beechwood golf course. Through a friend I acquired a job in the foundry at the Rumely company. A short time later the foundry was dissolved and I had to look elsewhere for work.

"I was working at Timba's bakery one day when my former supervisor came in to purchase some baked goods. He asked me if I would like to return to work. I reported the next day to find out about the job and was hired right on the spot. I now work as a pipefitter and have over 30 years of service with the Company."

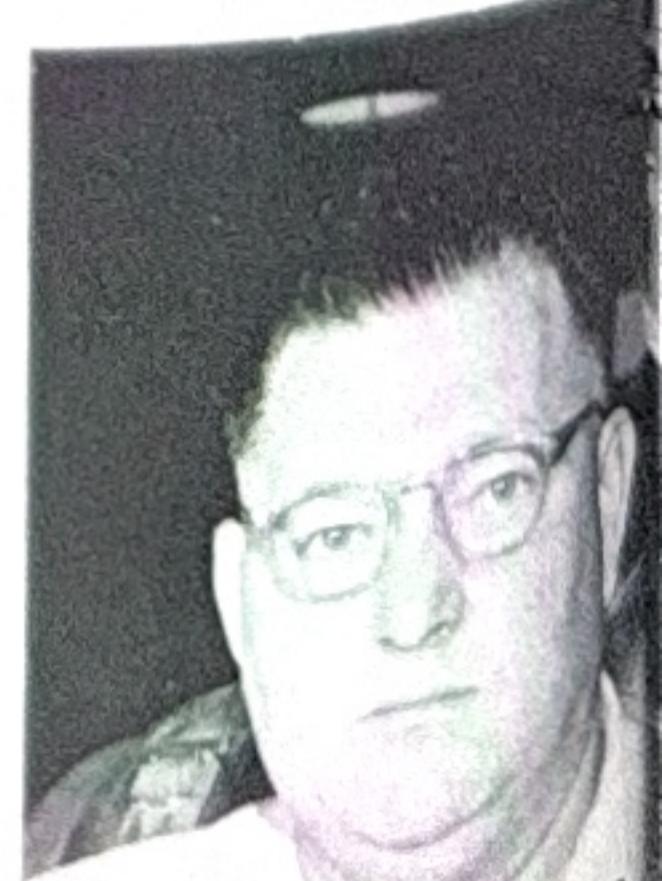
Fred Borwell, general manager, Engine-Material Handling division, headquarters in West Allis:

"I just walked up to the employment office at Harvey and asked if they had a job for me. This was in 1940. I was a mechanical engineering student at the University of Wisconsin. I had run out of money so I decided to work until I

Sapuder



Holsworth





Bybee



Bayse



Borwell



Meyer



Vail

could return to school. Being a resident of Oak Park, Ill., and living engines, I asked a neighbor if he knew of any engine plants in the Chicago area. He mentioned Harvey.

"I was hired as a tracer in the drafting department and remained with the company after I received my engineering degree, which I finally got with the help of the G.I. Bill. After I was with the Company for a time I got restless and spent \$50 on an aptitude test. The results were rather shocking. They showed that I was a good textbook engineer but it was doubtful if I would ever be a topnotch creative engineer. It did show, however, that I had a good aptitude for sales.

"After talking it over with my wife, I decided to put my faith in the test, and applied for a job in our sales department. About three weeks later there was an opening in sales, and I have been there ever since."

A. W. Meyer, accounting department, Harvey Works:

"In the accounting field, it is generally considered that there is no more challenging work than in the durable goods industry. Allis-Chalmers is a part of this type of industry and provides such challenges. The satisfaction derived from meeting and overcoming them is very rewarding.

"Looking back over the past 26 years, and especially over the past 19 years after returning from military service during World War II, I believe that is the major reason I came to work for Allis-Chalmers."

Mrs. Phyllis Vail, secretary to Owen J. Higgins, general manager, Harvey Works:

"In September of 1950, I answered an ad in the Chicago Tribune for an executive secretary. The agency sent me to Allis-Chalmers in Harvey where I

was interviewed and accepted for the position. I lived in Chicago at the time and working in Harvey appealed to me. A contributing factor in my acceptance of this job was the fact that Allis-Chalmers is an old established firm with a fine reputation and many advantages."

Margot Boisvenue, Shirley Gwinnett, accounting department, Canadian Allis-Chalmers, Lachine:

Both girls came to Canadian Allis-Chalmers via the unemployment office within a few weeks of each other in 1952. But they had met six months earlier — behind a drapery in the ballroom of a Montreal hotel where they were modeling for a fashion show.

It happened this way: Shirley (on the left in photo) was modeling sportswear and Margot, evening and daytime wear. The ballroom had one disadvantage — inadequate changing facilities, and the girls had to make a quick change. Searching about for cover from opposite sides of the room, they both spied a nearby drapery and made a dash for it. They met in the middle.

Robert L. Winship, application engineer, Boston Works:

"After graduating from college in 1957 as a mechanical engineer I was faced with the familiar question 'where to go from here?' The demand for engineers in industry was, as it is now, very high and many avenues were open to me. I chose to work in an industrial company and set down certain criteria on which to base my selection among the many companies conducting job interviews on the campus.

"Among them were:

"The stability of the Company, the diversity of business activity, its reputation as a business organization, the training program offered new engineering employes, the salary offered in the light of the other criteria.

"Among the companies which I considered (and which considered me) for employment, Allis-Chalmers showed excellent potential as a place for a business career of mutual benefit. I chose to work for A-C because, based on my criteria of a good place to work, A-C rated at the top."

Lee Loughran, project engineer, Valley Iron Works Corp. (subsidiary):

"A prospective place of employment, I believe, should provide the type of work you have an affinity for as a primary requisite. Other desirable features such as: an exciting growth potential, an acceptable starting wage, and a location in a community in which you would like to settle, are also very desirable. These things I found at Valley Iron ten years ago and was prompted to give it a try."

Carlyle C. Blum, advertising supervisor, Pittsburgh Works:

"Like many other people, I was forced to change jobs during the early part of World War II because of emphasis on defense. My training was in advertising and industrial designing — but after taking a refresher evening school course in mechanical drawing, I took advantage of an opportunity to start as a draftsman with Allis-Chalmers.

"The idea of working for a big company, plus the inducements of overtime and promise of advancement, appealed to me — although I couldn't see making a career of drafting.

"As things turned out, five years after my hiring date in June, 1942, an opportunity opened for me in the Sales department in promotion and publicity. This put me back in the field I enjoyed — and, with the experience gained as a draftsman in transformer designs of various kinds, I had a better insight for my new assignment."

Gwinnett

Boisvenue



Winship



Loughran



Blum



The "Industrial" line — Potential Unlimited

Allis-Chalmers is an old Company — 117 years in fact — but a company that continues to remain "new," in the sense of new products, new methods, new people, new markets.

Considering the latter, perhaps one of the newest and most significant markets entered into by this Company and its Farm Equipment division in recent years has been one generally labeled "industrial."

Just how big this new market is is still uncertain — because it is still not agreed on how it should be defined. Most of the companies vying within it are farm equipment manufacturers, and Allis-Chalmers is among the leaders, with the broadest line of tractors and equipment in the industry.

Included in the industrial category are tractors in the relatively smaller horsepower ranges, with a wide variety of attachments. Generally speaking, the tractors are 70 horsepower and under. This includes both crawler and wheeled tractors.

Although manufacturers disagree on defining the market, they are as one in seeing in it a growing potential. Some industrial tractors had been introduced as early as the 1930's, and after World

War II, with an increase of hydraulic applications to hitches, the market began to take form. But it is just now beginning to bloom, and manufacturers forecast steady gains over the next five years.

"We first described this market as the 'utility' market. Then, following the pattern that appeared in the industry, we used the words 'light industrial.' The Industrial Equipment Manufacturers Council some time back decided to drop the word 'light' and to refer to this market simply as the industrial market," explained L. W. Davis, General Manager, Farm Equipment division and a Vice President.

Davis said that the small tractors for industrial use should not be confused with the farm tractors which, in many cases, they resemble.

Originally, farm tractors were fitted with some attachments making them reasonably suited for contractor use, but, as more and more contractors saw the advantages of using smaller tractors, Allis-Chalmers began to tailor certain models specifically for the industrial market. Thus, a small diesel or gas driven tractor for contractor use today, while being similar to a farm tractor, may boast a heavier front axle, heavier wheels, a

A vital two-week sales and product training school for new industrial sales representatives was conducted in mid-June. The first segment was held in West Allis; the second in Topeka, Kansas. Clockwise, from the left, Pete Desnoyers, West Allis; Howard Walters, Portland, Oregon; Marion Mitchell, Madison, Wis.; Ben Cornwall, West Allis; Bob Howard, Service Manager, West Allis; Ray Fletcher, Sales Training Supervisor, West Allis; Bob Blinn, Industrial Tractor and Equipment Sales Supervisor, West Allis; Eli Heinemann, West Allis; Gerald Landers, Atlanta; Bob Carr, Harrisburg, Pa.; and Herbert McComb, Toronto, Canada.



D-10 Tractor, with a 10-foot backhoe.

faster acting transmission, different hydraulic system, and more accessories.

Instead of the traditional Persian orange paint, a bright yellow is used for all A-C industrial products.

The market for industrial tractors and equipment is composed of parts of many different markets — some of them quite sharply separate. These markets use the various industrial tractor products to varying degrees. Our principal markets and the products they use include:

A. Construction is the number one market for industrial tractors. Most of our customers in construction are smaller contractors who do subcontracting and custom work for the home builder, including residential and light commercial. Since upwards of \$70-billion in home construction is expected within the next five years, it

D-15 Tractor, equipped with an 8,000 foot pound mobile drop hammer.





H-3 Crawler, with 13 1/2 foot backhoe and loader.

follows that a lot of industrial tractor equipment will be used.

B. The Governmental market includes all political subdivisions, from federal through local, and is potentially a huge field. They buy the complete range of industrial tractor type equipment.

C. Cemeteries represent a good market for backhoes, front loaders, mowers and hydraulic jackhammers. Any cemetery with 50 interments per year needs mechanized digging equipment. There are about 12,000 of these cemeteries.

D. Pulp and paper logging is another good market, and one in which we are getting a good share of the business.

E. Gas utilities and pipe line contractors buy both side booms

and backhoes and front loaders. Utility companies use wheel tractors, loaders and backhoes.

F. Parks have a market for smaller wheel tractors and mowers. The target is 22,100 municipal parks and 2,610 county parks. Tractors are used for mowing, loading, trenching, digging, grading and snow removal, and beach sanitizing.

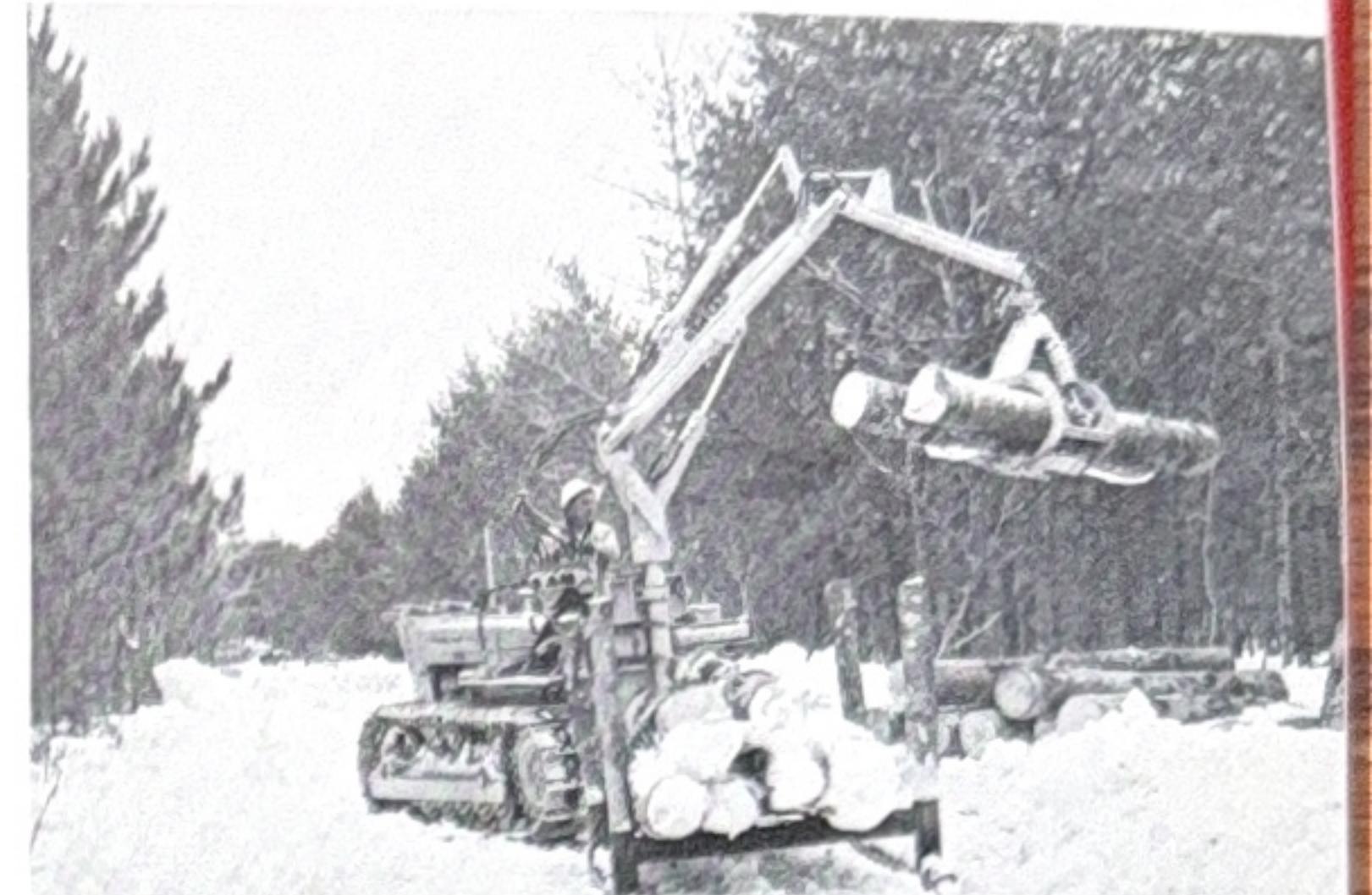
G. Aggregate producers represent a market for front and reverse loaders.

The trend in the market is clearly up. Increasing suburban development, urban renewal and road building all increase the demand for light machines used in landscaping, trenching and clean-up work—in all kinds of light earthmoving. Contractors are continually finding more jobs they can do more efficiently with smaller equipment. Even on the largest earthmoving jobs there are tasks that industrial tractor size equipment can do best.

To handle parts and service, the Division now has two distinct dealership setups. Industrial equipment can be sold by retail dealers who handle only A-C industrial equipment, and are known as "straight industrial" dealers. Other farm equipment and industrial combination dealers may handle the industrial and other A-C lines but the functions are kept as separate as possible. Equipment, parts and service are provided to both type dealers.

Contractors using industrial equipment are aware that in many cases a small machine, with proper attachments, can do many jobs for which larger ma-

Hydraulic hammer, utilizing a tractor hydraulic system.



H-3 Crawler Tractor, equipped with a pulpwood loader.

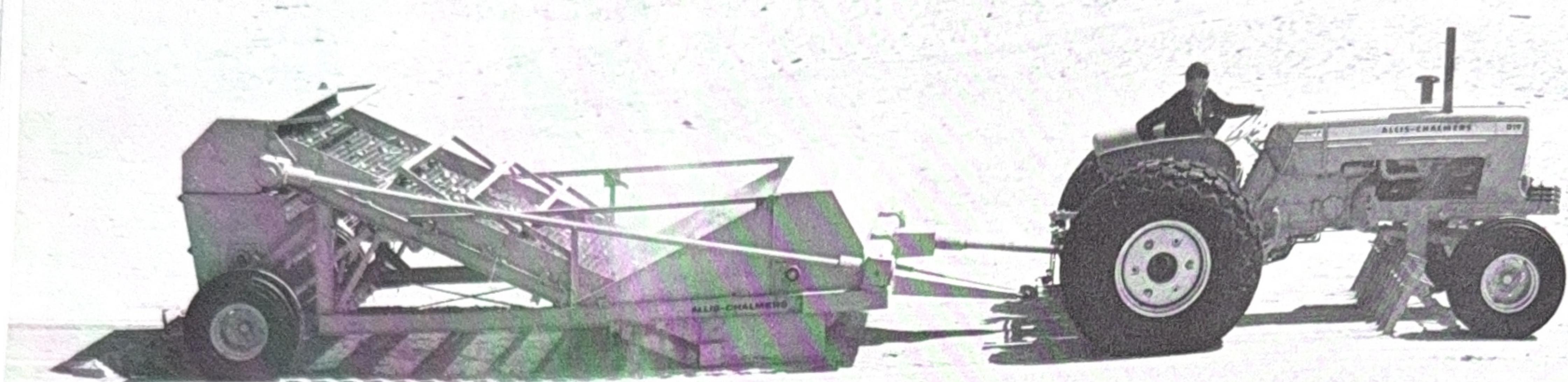
chines are now being used—and for a lower initial investment.

The Allis-Chalmers product line now numbers over 75 varieties in the industrial field, and includes six models of wheel tractors, two crawler tractor models, seven models of dozers, six different loaders, four drop hammers, three backhoes, two types of fork lifts, eight mowers, seven snow plows, three scarifier scrapers, a side boom and others. More recently, the Beach Sanitizer, a unit for cleansing beaches, has been added to the line. The Sanitizer is pictured and described more fully in an article on page 14.

According to R. E. Blinn, sales supervisor, Industrial Tractors and Equipment, "companies such as Allis-Chalmers know that the versatility and adaptability of these valuable tools are more and more in demand. The production and sales figures prove it. The nationwide market has been estimated to have an annual sales volume in excess of \$220-million—and as more and more applications are found for these machines, the sales picture will continue to go upward."

We are faced with a group of well-established competitors, most of which have been in the industrial field longer than we have. However, with our fine well-rounded line of products, with excellent attachments, we are overcoming their early lead.

We are and will continue to move ahead in the field. Our sales objectives for 1964 include these points: To raise the stature of Allis-Chalmers as a supplier of industrial tractors so that buyers are well aware that we are in the market; to broaden distribution for industrial tractors, especially by adding more straight industrial dealers; to continue to provide the finest line of industrial tractors and equipment in the market; and, of course, to continue our increase in sales.



Now...cleaner, safer, better looking beaches

A new A-C product— The Beach Sanitizer

Allis-Chalmers continues to move into fields ripe for expansion—and with products tailored for success. Example: the Beach Sanitizer line.

Production work on the Sanitizer began at our Oxnard, Calif., plant last fall. When this summer's beach season began, our dynamic sales programs for the units moved into high gear.

Many of you are already familiar with pictures and copy concerning the Beach Sanitizer. That the remarkable unit is used for efficient and economical cleaning of beaches you may perhaps already know.

It is with today's market acceptance of the unit, how it compares with competitor's products, and the future of the Beach Sanitizer that we are now concerned.

Each spring and throughout the summer millions of tons of sand must be sifted on beaches throughout the world, in order to keep them clean, safe and enjoyable for swimmers, sun bathers, boat enthusiasts and others.

The oceans, lakes, and other waterways all have similar problems. Debris of every shape, size and substance is washed up. People using the beaches leave trash in unbelievable quantities, despite efforts to educate them; and nature also contributes her share, in the form of dead fish and birds, flies and other insects.

Many attempts have been made to solve this tremendous problem. Hand cleaning of beaches, involving the hiring of hundreds of people at great expense, never did remove the hazards of buried glass and metal.

Large, bulky and costly machines have preceded the Beach Sanitizer. But they moved too slowly to get the job done, didn't pick up all the debris, and worked poorly in wet sand.

Today's Beach Sanitizers move cans, bottles, cigarette butts, paper, seaweed, kelp, algae, small chunks of driftwood and other trash. The smooth and gentle action of its rotating pickup reel allows glass to be picked up without further breakage. It digs down six inches and leaves a six-foot wide path of clean, safe sand in its wake.

Sifted sand falls onto the beach while the litter is dropped into a rear-mounted container which holds about 4,000 pounds of rock and debris.

Our D-19 Beachmaster Tractor, built at the West Allis, Wis. Works, is power-matched to the Beach Sanitizer. This tractor pulls through either dry or wet sand with plenty of power and flotation. The tractor can also be used for other jobs such as handling materials, mowing parkways, or snow removal in winter.

In September of 1963 the Beach Sanitizer was turned over to the Farm Equipment Division's Industrial Tractor and



Above, the Sanitizer at work. When traveling at approximately two miles per hour, the unit can cover one acre per hour, taking a cut into the sand six inches deep. The three ton Sanitizer is pulled by an A-C wheel tractor with an 85 horsepower engine. Below, a pile of rubbish picked up by the Sanitizer.

Equipment sales group to proceed with the job of getting orders, demonstrating and marketing the product.

James Henfey, Municipal Highway Superintendent at Margate, New Jersey, was "overjoyed" when his city ordered a unit. "Now for the first time, a real cleaning job can be done on the beaches," he said.

Newspaper accounts have followed purchases of the sanitizer with headlines and stories warm with praise. These stories, written by unbiased reporters, have only repeated what our salesmen have been enthusiastically saying all along.

For further information call or write Industrial Tractor and Equipment Sales, Farm Equipment division, West Allis.

There's a bright future for another A-C product.

West Allis man wins

Scientific-Engineering Award

Dr. James E. Millington, 34-year-old chief organic chemist in the Research division, West Allis, has received the Company's 1964 Scientific and Engineering Award for inventing a chemically-treated electrical insulating paper.

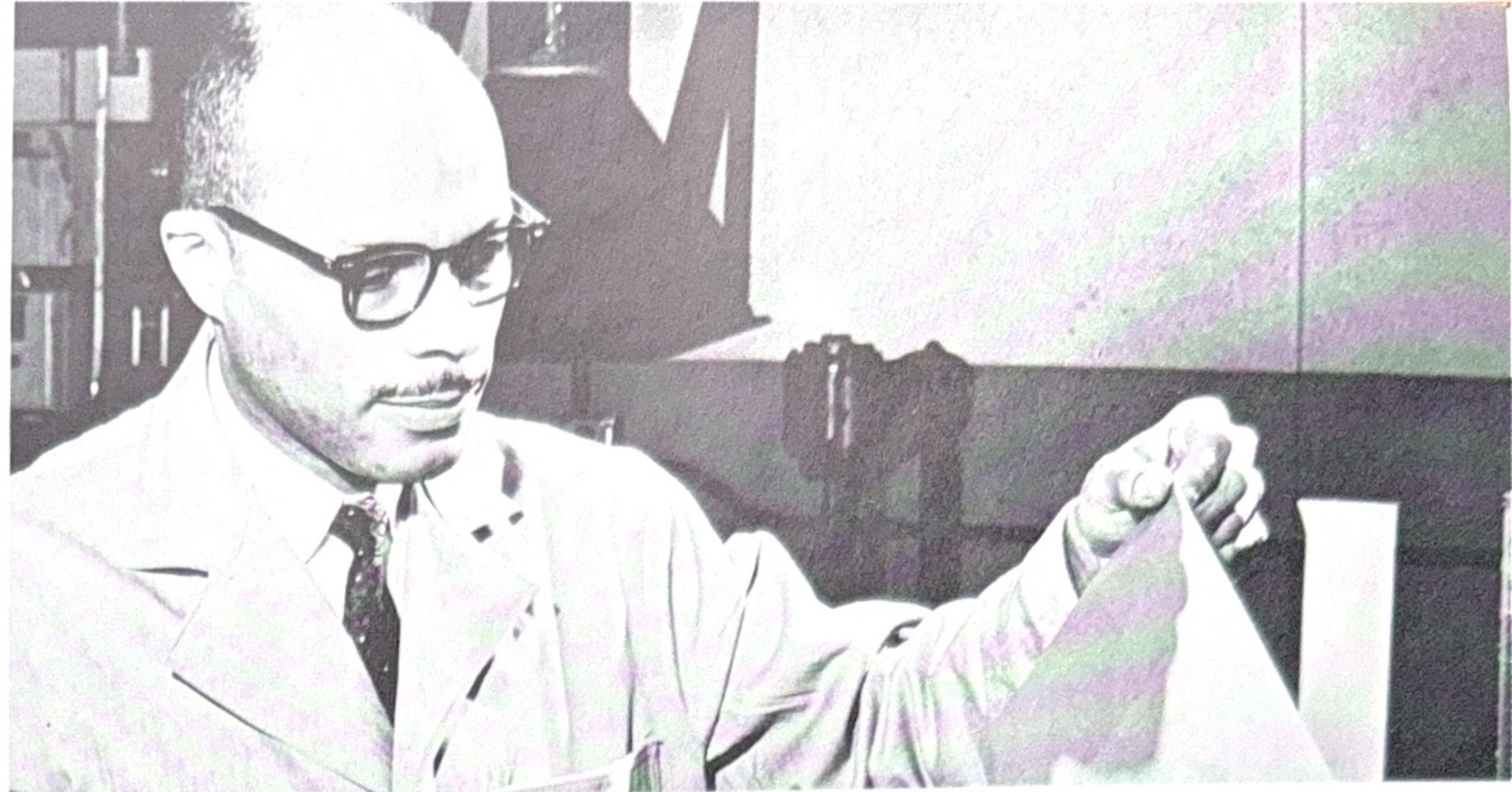
The award consists of a medallion, a certificate of merit and \$5,000 in cash.

The insulating paper, known as "Cello-Flex," has been hailed by electrical equipment designers as one of the most significant developments in this field in the last half-century. It is used in Allis-Chalmers transformers and regulators.

Cello-Flex is so heat-resistant that it increases the life of the equipment and allows operations at peak conditions without material damage to the apparatus.

Dr. Millington was planning an East Coast business trip when President R. S. Stevenson and members of the Senior Engineering committee revealed the good news to him. He was presented with the award at a dinner in his honor in Milwaukee, June 11. He said that the award came as "a great shock and pleasant surprise."

Congratulating Dr. Millington on his award, from the left: F. J. MacDougall, Director of Purchases; R. S. Reaves, Manager, Development Engineering, Farm Equipment Division; Will Mitchell, Jr., Director, Research Division; Millington; President Stevenson; Executive Vice President W. G. Scholl; and J. W. Carlson, General Manager, Construction Machinery Division and Vice President. MacDougall, Reaves, Mitchell and Carlson are members of the Senior Engineering Committee. Mitchell is the chairman. Also on the committee but not pictured are W. M. Terry, General Manager, Electrical Apparatus and Systems Division, and L. J. Linde, Manager, Special Projects, Utilities Group.



Millington, who joined the Company in June, 1956, as a research chemist, possesses an interesting background.

An only child, he was born in New York City while his parents, Mr. and Mrs. Edgar Millington, British citizens, were on an extended vacation from their home in Bridgetown, Barbados, West Indies. His father was employed by a bank there.

Brought back to the island at the age of four months, young Millington remained on Barbados until he was 19 years old and had completed high school and two years at Harrison college.

He returned to the United States, took a summer session at City College of New York, then transferred to Lincoln University in eastern Pennsylvania where he was graduated magna cum laude in 1951 with a bachelor's degree in mathematics.

He then enrolled in the University of Western Ontario (at London, Ontario), earning a Master of Science degree in organic chemistry in 1953. Millington stayed on there until a Doctorate of Philosophy degree was bestowed on him

Dr. Millington and the insulating paper "Cello-Flex." The paper is used in Company transformers and regulators and is so heat resistant that it increases the life of the equipment.

in May, 1956, a month before he came to Milwaukee and Allis-Chalmers.

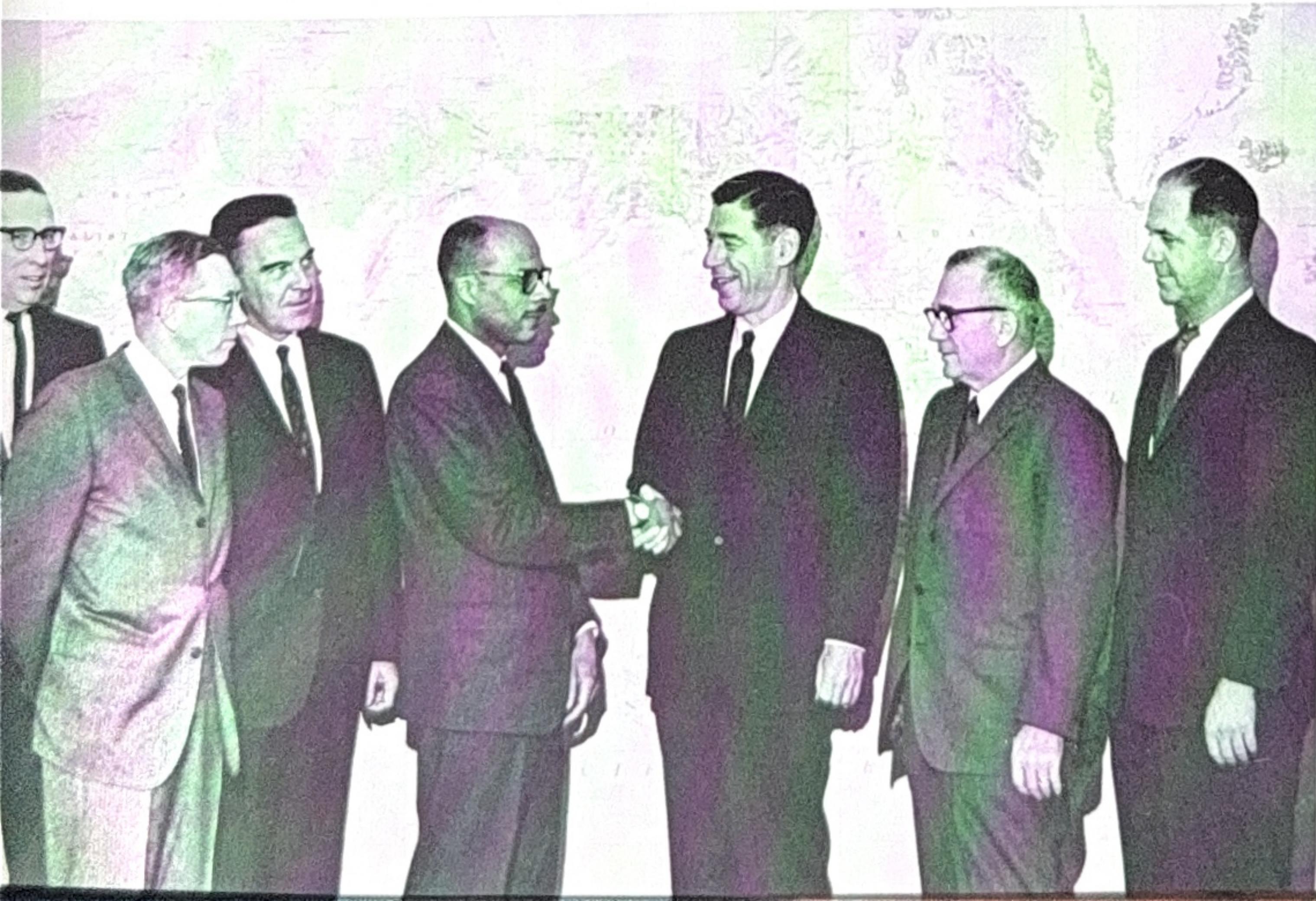
It took Dr. Millington over a year's work to invent Cello-Flex, "at a time when such a development was of commercial urgency" to Allis-Chalmers, Stevenson noted.

Three paper companies now produce Cello-Flex commercially.

Dr. Millington was selected for the Scientific and Engineering Award by a panel of outside judges. He was among four finalists screened from a list of applicants by the A-C Senior Engineering Committee.

Dr. Millington is the fifth recipient of the annual award, established in 1960 "to encourage and recognize creative endeavor among Allis-Chalmers engineering and research and development personnel."

Previous winners of the award are Walter F. Strehlow, manager of engineering for the Tractor Group; Vernon B. Honsinger, chief engineer in the development laboratory at the Norwood Works; W. H. Tanke, general works manager at the La Crosse Works; and W. L. Ringland, chief engineer for the Electrical Section of the Development department, Research division.



★ ★ ★ BACK PAGE PUZZLE ANSWER



ALLIS-CHALMERS

Norwood Works
Norwood, Ohio

RETURN REQUESTED

Competition Crossword

Competition is really a wonderful thing. It's what keeps the free-enterprise system working. We aren't governed by any master plan but must decide for ourselves how best to compete for a share of the world market.

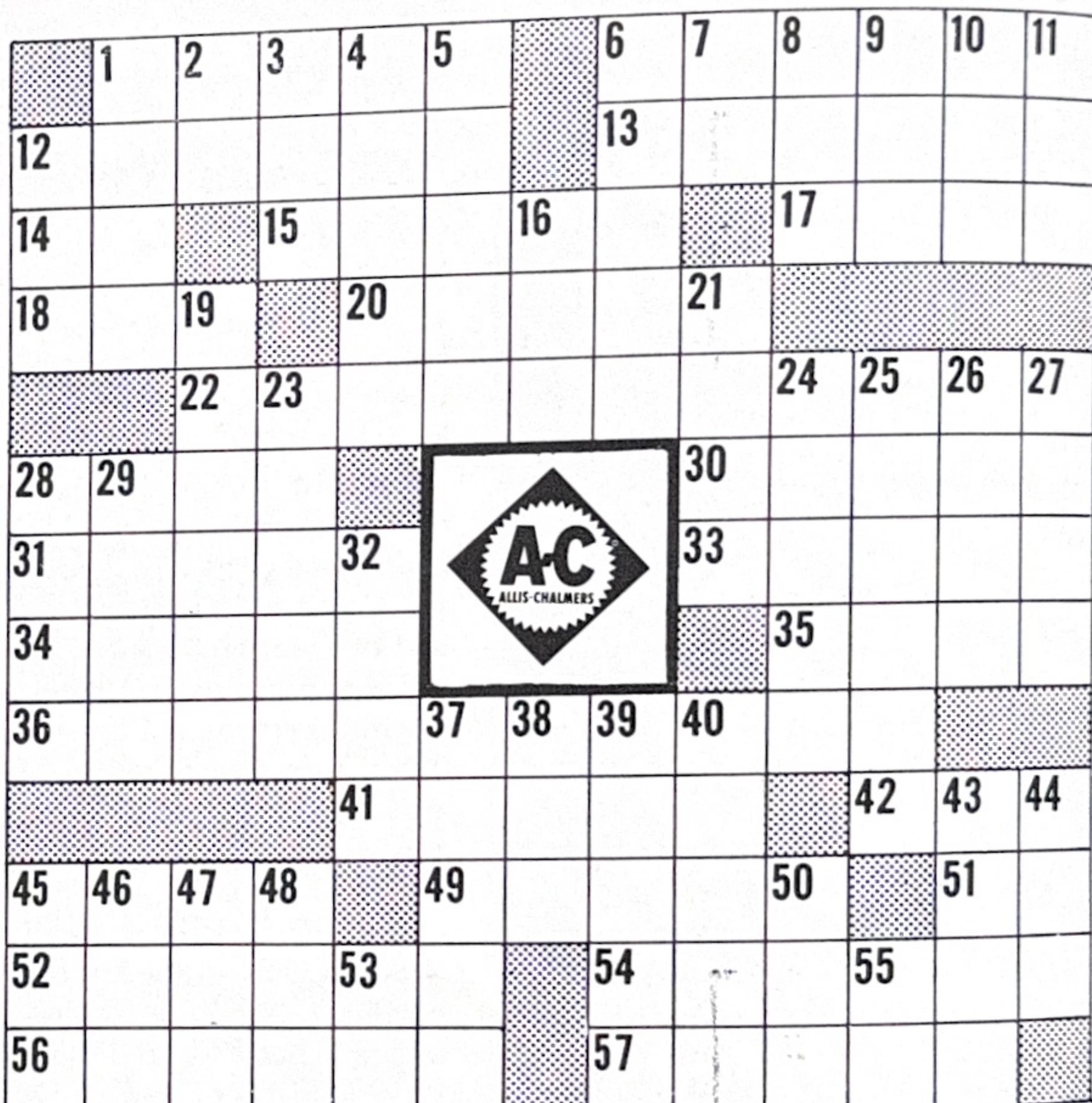
Competition makes us put forth top effort to offer the best possible quality in Allis-Chalmers products at a fair price, and to give the best possible service to our customers. It makes us work hard to find new products, new applications and new markets for our present products.

If we don't do these things, we'll soon see our competitors come out on top.

Here's a little test to see how much you know about competition, and other things too. When you've finished the crossword puzzle, turn to page 15 to see how well you did.

DOWN

1. Competition is the as rivalry.
2. Pair (abbreviation).
3. Musical instrument (slang) played in Hawaii.
4. Furnish with weapons, as to a salesman with new sales material.
5. Type of infection (slang).
6. Competition will a monopoly.
7. Near (abbreviation).
8. A good suggestion will a cash award.
9. Frozen water.
10. Gender.
11. Eastern Standard Time.
12. Placed at door to wipe shoes on.
16. Compass point.
19. Behavior inspired by competition.
21. Competition can sharpen yours.
23. To hold customers, you have to your competitors.
24. Pester.
25. Put money in business. You choose a company you believe can stay ahead of its competitors.
26. Biblical character.
27. Where baby birds compete for a share of food.
28. Group working together, not competing.
29. Boss of a shield.
32. Ninth month (abbreviation).
37. What salesmen compete for.



ACROSS

1. What competition does to business effort.
6. Injudicious, like not keeping up with business competitors.
12. Where competition is keen for the customers' dollars.
13. Competition affects these business changes.
14. When the early salesman gets the order.
15. A good employee his wages.
17. Competitors for an inheritance are usually of kin.
18. Refreshing beverage.
20. Repeat, desirable on business orders.
22. This business rivalry keeps quality up, prices down, everybody on their toes. It is characteristic of free enterprise and outlawed under communism.
28. New Zealand shrub.
30. Intent, as salesmen competing for orders.
31. Expels.
33. Rescues.
34. Dwelling place.
35. There's competition for this on the bus during rush hours.
36. Exclusively controls a market.
41. Buying and selling, competition keeps it going.
42. In competitive enterprise, highest quality wins prices.
45. Orders are the of salesmen.
49. Lived in a place.
51. Transformers change direct current into this.
52. Corporations compete for this just as people work for it.
54. Prepares for action.
56. Competition demands ever products.
57. What all industries compete for.