

Mueller Service Lines

NEWS ABOUT MUELLER MARKETS, PLANTS, PRODUCTS, PERFORMANCE, AND PEOPLE

From idea to product — step two is industrial engineering



Industrial engineering is responsible for providing the tooling, equipment and procedures required to make the new product. Here is an area of the industrial engineering department at Mueller Co. in Decatur.

(Editor's note — This is the second in a series of articles examining the various departments at Mueller Co. The purpose of these articles is to discover how each department, in its own way, is involved with the quality of the end product and how each department helps maintain the Mueller Margin.)

The first step in the process of turning an idea into a product is putting the idea on paper, which is done in the engineering department. As Joe Daghe, Manager of Engineering Projects, explained to us in the last article, this is where the quality is designed into the product.

Once the idea becomes a design on paper, it goes to industrial engineering where the design starts to take its physical shape. What's the difference between "engineering" and "industrial engineering"? Well, in step one, engineering takes the idea and maps it out in specifications and designs on paper. They also test the idea to prove it will make a good product and meet Mueller Co.'s high quality standards.

But before the first finished product can come off the production

line, some important details have to be worked out. That's where industrial engineering comes in.

Working out the details

We talked to Rex Camfield, Manager of Industrial Engineering, in Decatur. We asked him what sort of details his department works out.

"Industrial engineering is responsible for providing the tooling, equipment and procedures required to turn the design on paper into a physical product. That involves a lot of detail work.

"First we estimate the cost of materials that will go into the product. And costs for tooling and machinery required to make the product," Rex told us.

"We also determine in what order the steps of manufacturing the product should be done and estimate the time needed for each step. By doing this, we can estimate costs. But more importantly, we can make a routing list describing how the product should flow through manufacturing with the other products.

"By determining how many pieces we can produce in an

hour, we estimate how many machines will be needed to produce the desired quantities of the product."

Making tools

Tools needed to make the new product come from the tool room of Mueller Co. which is headed by Dale Reidelberger.

In this department, tool engineers design the needed tools and skilled machinists make them. This includes cutting tools, fixtures and jaws to hold the product piece while it's being machined.

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Meet Edward D. Powers, our new Company President



Our new Company President observes that — "The Mueller people are really dedicated to the company. It is this pride in the company that has made Mueller a great company."

The following article contains excerpts from an interview conducted by the Service Lines editors with Edward D. Powers, President of Mueller Co.

SERVICE LINES: Mr. Powers, what were your initial reactions to Mueller Co. through your prior association or knowledge of the company?

POWERS: Before I joined Mueller Co., I always considered Mueller as a leader in the industry. It is a fine company.

Mueller Co.'s strengths are our broad product line, the quality of our products and our distribution network and sales force.

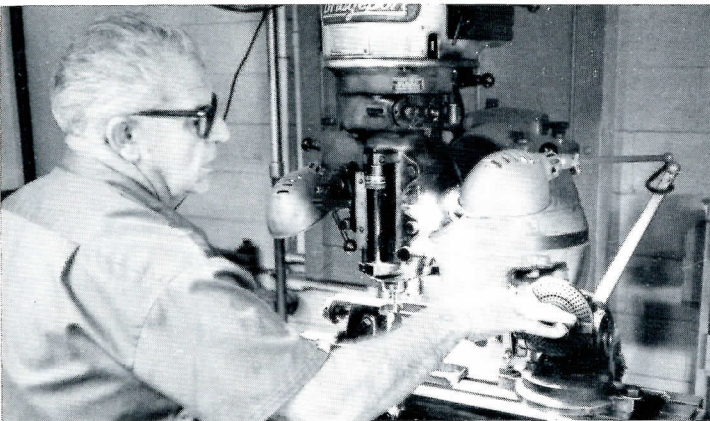
However, the key to any organization is its people. The Mueller people are really dedicated to the company. It is this pride in the company that has made Mueller a great company.

SERVICE LINES: Do you see any changes in Mueller Co.'s direction in the future?

POWERS: Mueller has been growing along with the housing market since the recession of 1974-1975. However, one characteristic of this market is that when housing is booming, the prospects of full employment and record sales here at Mueller Co. are very good. But when housing slacks off, we often see a corresponding decline in employment and sales.

Therefore, we are looking at markets that will be strong even when the housing market is down. The type of alternate markets we are looking for are those that we have some expertise in but that do not depend on housing starts.

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Precision is the goal of this tool maker. Extremely close tolerances must be adhered to. A poorly machined tool means a poorly machined product.

Industrial engineering *continued*

By making our own tools, Mueller Co. not only saves time and costs, we also can keep a tighter control on the quality of the tools. We test our tools 100% to be sure they will meet required tolerances. Precision tools are necessary to put quality into our products.

Patterns, which are used to make molds for the product, are made in the foundry by the pattern shop under the supervision of Harold Peer.

When all of the necessary pieces are ready, an initial run of about 100 products is made. These products are sent back to Joe Daghe's people in engineering for testing to be sure the product meets the original specifications.

Besides making tools for new products, the tool room provides manufacturing with tooling for all of Decatur's operations. They also help out with tooling for Sarnia, Albertville and Chattanooga.

Albertville and Chattanooga have similar but smaller industrial engineering departments. This is

because Albertville basically produces fire hydrants and Chattanooga produces gate valves. Both operations require limited tooling.

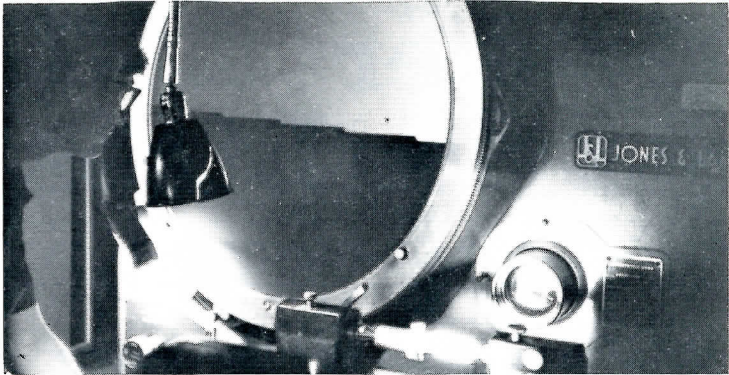
In Decatur, however, a wider variety of products are produced covering more than 14,000 catalog numbers. Over 100,000 pieces are manufactured daily. So Decatur needs a much broader range of tooling for operations.

Bill Horre is responsible for the machine maintenance department. This department repairs and overhauls all machines in manufacturing and adapts machinery to perform needed functions to produce new products.

Quality tools make quality products

As Joe Daghe pointed out to us in our interview with him for the last article, the engineering department designs the quality into the products.

We asked Rex about industrial engineering's responsibility in maintaining quality.



Using an optical comparator, a tool maker runs a quality check on a tool he has finished to make sure it meets specifications. All tools made at Mueller Co. are tested 100%.

"Through accurate estimates, efficient planning and good tooling, industrial engineering helps put quality into Mueller products. Producing a bad tool at this stage means producing a bad

product later in manufacturing. We don't take short cuts." And that kind of attitude also helps put the quality into our products. It's part of the Mueller Margin. □

Edward D. Powers *continued*

SERVICE LINES: Do you have any idea of what type of industry this might be?

POWERS: We have developed a business rationale that we are going to be leaders in the *fluid control* business. This opens a lot of markets to us that we haven't looked at before. Currently, our major business is in the transmission of gas and potable water.

In the future, we will be looking at industries such as sewage treatment, major water transmission systems, and the products that control fluid such as valves, pumps, metering devices, and so on.

I am not making a commitment that we will be in these markets. However, they will be considered in developing our marketing strategy.

My personal belief is that the next crisis after energy is going to be water. If we're not into it now, it isn't very far away. An illustration of this point is — it's estimated that the Mississippi River, from the time it leaves Canada to the time it arrives at the Gulf of Mexico, has been recycled 8 to 10 times!

Therefore, we are going to have to look to the field of municipal water and wastewater treatment for additional business in the future. This is on the basis that when housing slows down, municipal work (upgrading of sewage treatment plants and potable water transmission systems) will take its place. (For a related story, see The Housing Scene on page 3.)

Major potable water transmission is one of the fields we want to

take a strong look at. It would require the production of very large valves — 48" to 96".

While developing our strategy of finding new markets for Mueller Co., we are still going to keep our eyes on what we do best, and that is providing hydrants and valves to the housing industry. The housing market has been strong and projections are that it may remain that way through 1979. Eventually, the market may start tailing off, but by that time, we hope that we will have developed some of our new markets.

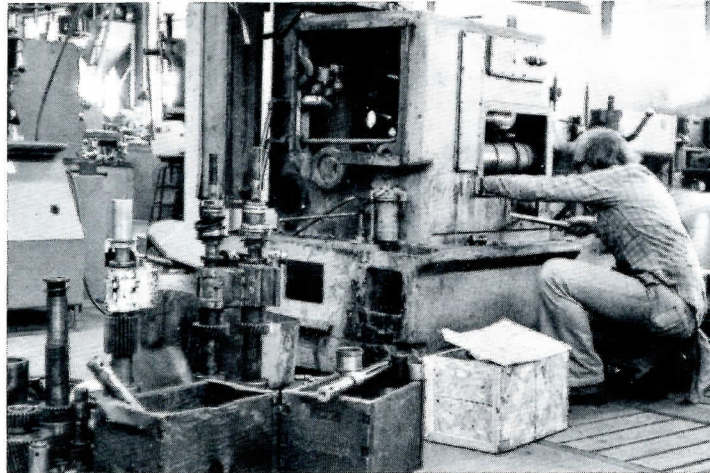
SERVICE LINES: How about the impact of these changes on the various departments or people within the Mueller Co. organization?

POWERS: I think to tackle the goal of developing alternate markets for Mueller Co., we need to do some reorganizing. In fact, we are in the midst of it right now.

We have created the position of Sr. Vice-President/Corporate Development under Bill Leopold. A job that encompasses looking at possible acquisition companies and looking at the new products needed to meet the types of businesses we want to enter. Also, it involves drawing support from the production and marketing forces needed to carry these products from the embryo stage into the marketplace.

Charlie Moore, as Vice-President/Manufacturing, will work to balance manufacturing capacity and increase capacity where needed. We also have to look at new processes in view of the energy crises and adapt our manufacturing processes to energy conservation.

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Our machine maintenance department may be called on to do anything from making a simple repair to doing a complete overhaul like the one being performed here on a machine that drills and taps the threads in copper service nuts.

Strictly Personal Decatur

NEWS ABOUT MUELLER CO. EMPLOYEES AND THEIR FAMILIES

SERVICE AWARDS

10 Years: Ronald B. Bailey
Robert E. Barcus
Betty Conour
Kent E. Elliott
Bruce Fleet
Ronald Grant
Benjamin J. Housh
Wayne I. Huffman
Thurman Jelks
William K. Lindgren
Louis Trudeau

20 Years: Howard Mayberry
J. Douglas Roberts
Ernest E. Utt

30 Years: John R. Auvil
Henry R. Burcham
Delbert H. Guin
Richard D. Kitchen
Donald E. Lowe
Norma M. Lowrey
Dale L. Mathes

40 Years: Joe Fleckenstein
Raymond F. Mounts

PROMOTIONS EFFECTIVE JANUARY 1, 1979

Ben Jones was promoted to the new position of "Foundry Superintendent" reporting to the Production Superintendent.

All Department Foremen at Plant #4 will report to the Foundry Superintendent except Production Control and Quality Control.

Richard McKinley was promoted to the position of "Finished Stock Supervisor".

J. D. Giles was promoted to the position of "Specialty Production Control Manager".

Dean Ater was promoted to the position of "Finished Inventory Planner".

Carl Wilhelm was promoted to the position of "Inventory Analyst".

Phil Tucker was promoted to the position of "Plant #4 Maint. Foreman".

Charles Kingery was promoted to the position of "Ass't. Plant #4 Maint. Foreman".

John Neiderbrach was promoted to the new position of "Machine Repair Shift Foreman". John will be responsible for our 2nd shift machine repair and tool making activities.

John Milliman was promoted to the position of "Junior Construction Engineer".



Ray Mounts receives his 40 yr. pin from Gene Hullinger and George Lebo

RETIREES

Ruth Wampler, Time & Order Clerk, Department 33 36 years, 3 months, 29 days, November 21, 1978

Merlin Coates, Director of Human Resources Development 31 years, 4 months, 13 days, December 31, 1978

Dorothy Cooper, Core Maker, Department 50 37 years, 11 months, 10 days, January 5, 1979

Charles W. Johnson, Finish Stock Supervisor 39 years, 3 months, 1 day January 18, 1979 (80 plan)

Charles L. Schroeder Maintenance Foreman, Plant #4 42 years, 5 months, 15 days, January 31, 1979

Lester Duncan, Toolmaker 42 years, 9 months, 25 days, February 13, 1979

Anthony Schultz, Foundry Methods Engineer 25 years, 5 months, 27 days, February 28 1979 (Disability)



Merlin Coates Retires



Chuck Schroeder On His Last Day



Charlie Johnson and Friends



**Rex Camfield Helps
Ruth Wampler Unpack A Gift**



**Jack Bain and Don Matthews
Help Dorothy Cooper
Celebrate**



Lester Duncan Retires



"Whether you're in purchasing, or manufacturing, or production control, or any other part of the company . . . you all contribute to sell company products."

SERVICE LINES: What about Mueller Co.'s customers?

POWERS: Part of my business philosophy stems from a card I received when I worked at Lever Brothers. It read: "Whether you're in purchasing, or manufacturing, or production control, or any other part of the company, you are first and foremost a marketing man. You all contribute to sell company products."

I have taken that philosophy to every company I have worked with. It's a basic business rationale that it all starts with the customer. Simply stated, if you

can't reach the customer, you don't have a business.

Some companies first make a product and then decide how they will market it. My philosophy is to first find out what the customer wants, what the marketplace needs, and then go ahead and provide the product.

SERVICE LINES: What are your comments on the future of export markets?

POWERS: Well, I think we must continue the program of making our business an international one. American industry has always had a credibility problem in foreign markets. This devel-

oped because U.S. companies have supplied foreign markets when there was an abundance of products, and then withdrew from the marketplace when the market grew domestically.

To enter the international business, you have to have made a commitment that interfaces very, very closely with the domestic side of your business.

We, at Mueller Co. are committed to be in the international marketplace. To accomplish this, we intend to have the international marketing section interface much more closely with our domestic section.

The international business is another way to recession-proof Mueller Co. They will always be building cities in the Middle-East, South America, or somewhere.

SERVICE LINES: How do you and your family feel about moving to Illinois?

POWERS: A lot of families find changing locations difficult because it can be an unsettling influence. We try to look at moving as an opportunity to broaden our children's outlook on life. It gives the whole family the opportunity to compare different experiences that come with living in various parts of the country.

This is not our first encounter with living in Illinois, though. We lived in Chicago between 1966 and 1970. We have also lived in New York City (which is where I was born and raised), Rhode Island and Elmira, New York.

SERVICE LINES: What are some of your hobbies and other interests?

POWERS: The pressures of business tend to keep me pretty busy, however, I have always loved sailboats. I did quite a bit of sailing when I lived in New England. I hope by next spring that I can try out Lake Decatur. About three years ago, I started building radio-controlled sailboats. The model I'm currently working on is a 12-meter, America's Cup Boat.

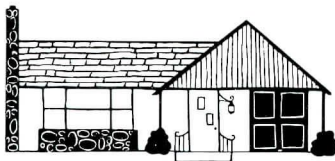
SERVICE LINES: What civic activities were you involved in?

POWERS: I was a member of the Chamber of Commerce of Chemung County, Elmira, New York.

I was a director of the Valve Manufacturers of America. Since Mueller Co. is not a member, I resigned my position. However, I think that eventually, Mueller Co. will become a member of this organization.

Edward D. Powers is 46 and holds a BS degree from St. Johns University, as well as a Master's Degree in Business Administration from Fairleigh Dickinson University. He was formerly associated with Lever Brothers Company and UPO (Universal Oil Products). Most recently, he was President of ITT Grinnell Valve Company, a subsidiary of ITT Corporation. The Powers family recently moved to Decatur from Elmira, New York. □

The Housing Scene



1979 Predictions

1978 turned out to be a strong housing year, according to the National Association of Home Builders (NAHB). And NAHB reports that there was no slack in mortgage demand despite the higher rates.

For 1979, NAHB forecasts 1,680,000 U.S. total housing starts. Although this is a 14% drop from 1978's figures, NAHB forecasts that the demand for housing will remain strong through the next five years. (see chart)

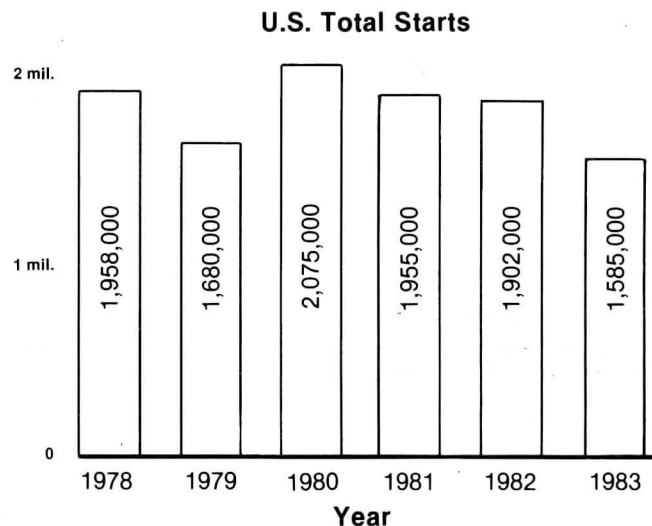
Here are the reasons NAHB cites as a basis for this forecast: new

technology in building products; innovations in financing such as graduated payment mortgages; new short-term money market certificates of deposit; and the emphasis on housing as an integral part of today's lifestyle.

Housing magazine predicts the drop in housing starts for 1979, too. They forecast a 15% drop but they also agree that the long-term picture for housing will remain strong.

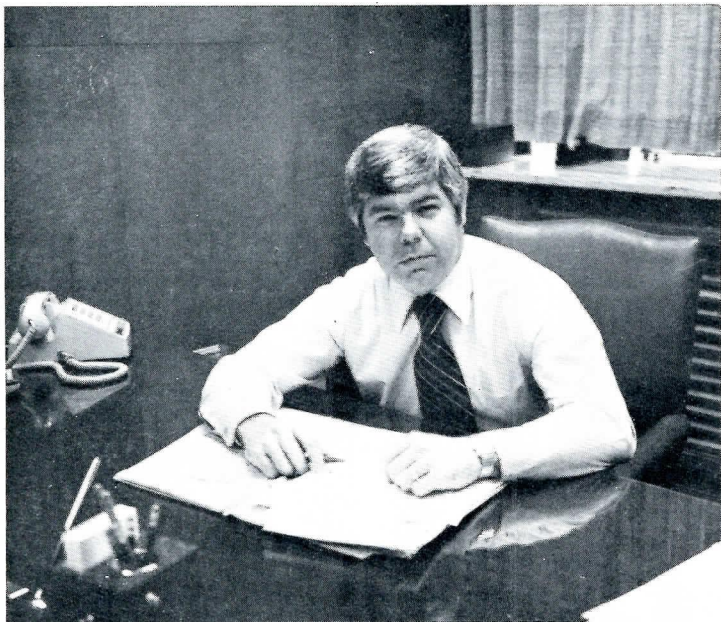
The best opportunities for growth in the market for 1979? **Housing** predicts that there will be an increase in office buildings, industrial construction and sewage and waste treatment facilities. □

NAHB five year housing forecast



SOURCE: NAHB Forecasting Service

Although housing starts are predicted to dip in 1979, a significant increase is predicted for 1980. The total picture shows a strong, resilient market for the next five years.



In the next issue . . .

In the next issue of Service Lines, we'll feature Stanley J. Bogaczyk who has joined Mueller Co. as Vice President — Personnel and Industrial Relations. In this newly created position, Stanley will be responsible for personnel programs, organization development, labor relations policy and related administrative proceedings. □

THE MUELLER MARGIN IS CREATED BY PEOPLE WHO TAKE PRIDE IN THEIR WORK



Taking pride in our work is what Mueller Co. is all about. Pride in our work creates the Mueller Margin. The Mueller Margin means more quality in our products. That quality in our products makes us a leader in the industry. That's something to be proud of!

MUELLER CO. / DECATUR, ILL. 62525

Factories at Decatur, Ill., Chattanooga, Tenn., Albertville, Ala.
MUELLER LIMITED, Sarnia, Ont., St. Jerome Que., Canada.
Sales office and Western Service Center, Sparks, Nevada.

serving the water and gas industries since 1857

Checklist for Checks

These "ten commandments of checking" were suggested by United California, a West Coast bank, to help people avoid forgery, loss and other problems associated with having a checking account.

- 1) Keep track of your checks. If you lose one, notify your bank immediately. Keep your stock of blank checks where they're inaccessible to everyone but yourself.
- 2) Carry your driver's license, credit cards and other I.D. separately from your checkbook. Together, they are the answer to a forger's dreams.
- 3) Never sign a blank check.
- 4) Don't sign your name to a check until you are at the bank and ready to cash it.
- 5) Never change anything on a check. Never accept an altered check.
- 6) Don't lend your checks or deposit slips and don't borrow anyone else's. The code number on them is magnetic. It is "read" by a machine even if you cross it out.
- 7) Never use a check or deposit slip that is torn in the magnetic code area.
- 8) Each time you receive a new set of checks, make sure they have your account number printed on them.
- 9) When you receive a check, cash it as soon as possible. Some banks won't honor checks that have been kept over 90 days.

- 10) When endorsing a check, sign your name as it appears on the "Pay to the Order of" line, even if it is misspelled. Then sign your regular signature below it.

Here are some of the most frequently asked questions about checks:

- Q. If there is a discrepancy between the written number and figures, which governs?
 - A. The written amount is used.
- Q. If a check bears the words, "in full settlement," can you collect any balance due to you after cashing the check?
 - A. It depends on the circumstances. If the check is written for a lesser amount, ordinarily those words do not settle the claim. However, if there is a dispute about the amount owed, those words on the check do settle it. If you accept such a check, you probably cannot claim any amount in balance.
- Q. If you endorse a check, are you guaranteeing its validity?
 - A. When you endorse a check, you are usually making yourself responsible for its validity. You can protect yourself with a qualified endorsement like, "for deposit only." This prevents the check from being reindorsed and passed again.
- Q. What's the difference between a "bank check" and a "certified check"?
 - A. Bank checks, certified checks and treasurer's checks are essentially the same. There are legal differences. But as a practical matter, all three are issued by a bank with the bank's guarantee that they will be honored. □

What to do if you have an accident

Twenty percent of all licensed car drivers were involved in automobile accidents last year.

If you were involved in one, would you know what to do immediately? The Insurance Information Institute makes these recommendations.

- 1) Stop and identify yourself and summon aid for anyone injured.
- 2) Get the other driver's name, address and phone number.
- 3) Get the names and addresses of all passengers and witnesses.
- 4) Report essential facts to investigating police officers. Obtain officers' names and badge numbers.
- 5) Report the accident immediately to your insurance company.
- 6) Don't admit to any liability. Don't state that you were not injured.
- 7) Make notes of circumstances: how and when accident occurred; road, light and weather conditions; speeds, etc. . . .
- 8) Make a diagram of the scene showing car locations before and after the accident. □