

# Reichel & Drews, Inc.

*"A Century of Customer Satisfaction"*

by  
**Robert R. Morris**







*Laminated Shingle Stacking System.*

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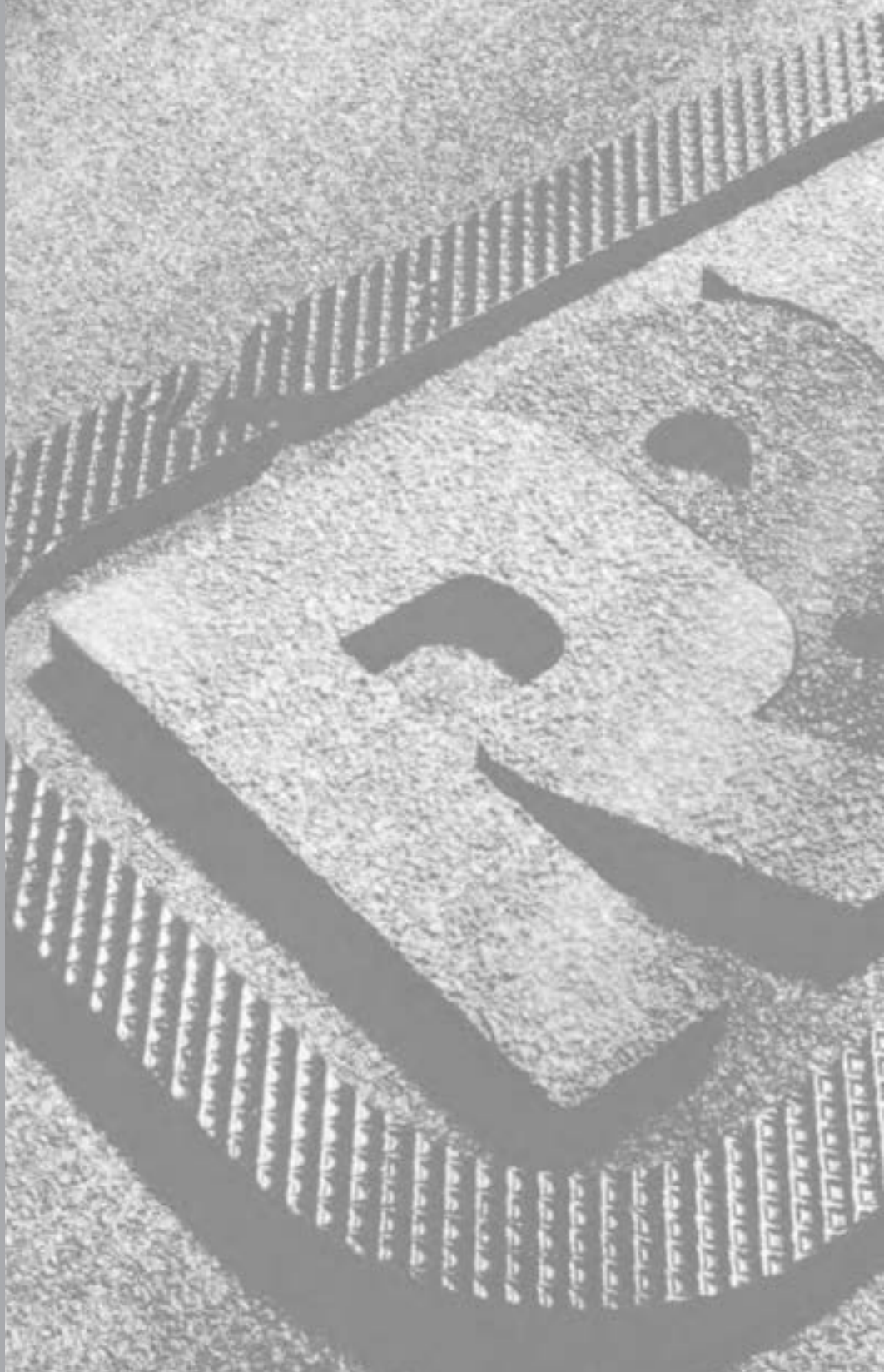
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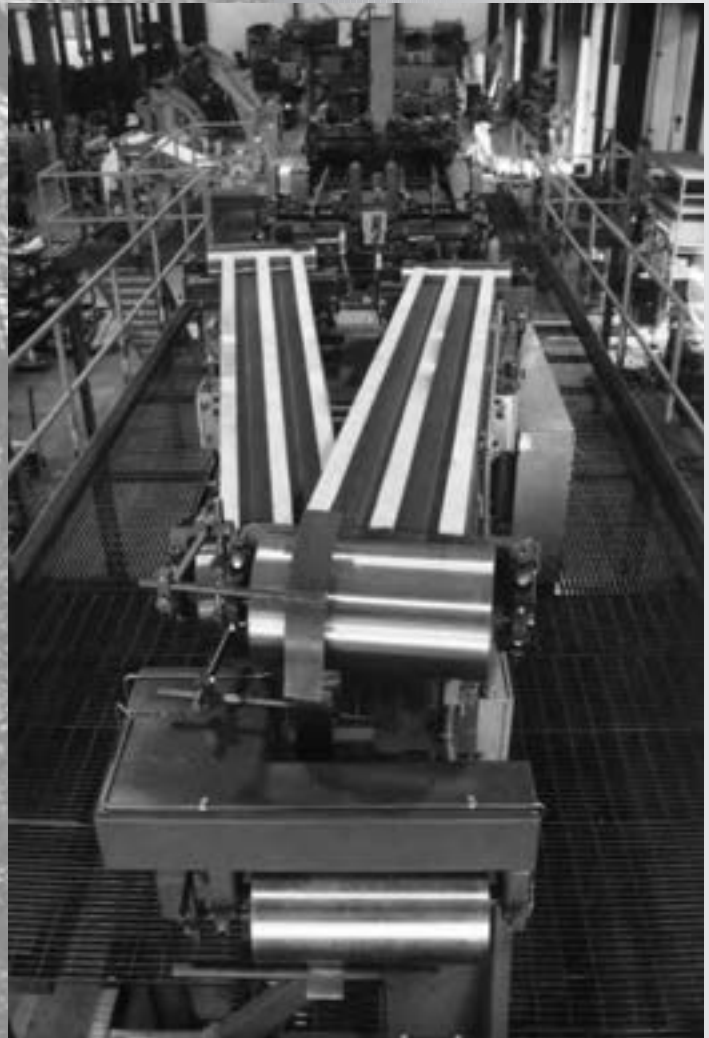
# Reichel & Drews, Inc.

*“A Century of Customer Satisfaction”*



# Our Mission

Reichel & Drews  
is committed to completely fulfilling  
the needs and expectations of customers  
worldwide through proven products, superior  
service and advanced technology.





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January, 2002

Dear Friends:

Celebrating the 100 year anniversary of the founding of Reichel & Drews is truly an honor for me. All of us at Reichel & Drews today take great pride in the fact that our company has reached this impressive milestone. The original founders set the stage for this anniversary by instilling in the company, at the very beginning, a strong focus on customer satisfaction and the overriding importance of solving customers' problems. One hundred years of innovation and successful products is certainly a key to this achievement, but it is the people of Reichel & Drews over all these years who have made this happen.

I would like to personally thank all of the wonderful people who are Reichel & Drews today, and all of those that I have had the good fortune of knowing over the last 21 years. Also, I would like to thank all of those who are no longer with our company, who starting in 1902 contributed their energy, skill and dedication to the success of this company.

I would also like to thank our customers, many of whom we have had relationships with for many decades, and with whom we have developed a mutual trust and respect that makes doing business together a great pleasure. In addition, the relationship we have with many of our suppliers is also a key to our success, and we acknowledge their contribution on a daily basis to our ability to serve the needs of our customers.

Over these 100 years everything has changed dramatically, yet the essence of business has stayed the same. We have proven that a company who's core values are based on its responsibilities to its customers, employees and suppliers can succeed and thrive. The mission of today's Reichel & Drews is to continue this 100 year tradition of commitment to these core values, which are the foundation of our organization.

Curtis N. Maas  
President and Chief Executive Officer



# The Reichel & Drews Place in History



**In 1902...**Theodore Roosevelt was popular as President of the United States; that year he authorized the building of the Panama Canal...

The “Boer War” ended giving the British sovereignty over South Africa...

Cyrus McCormick, Jr. founded the Chicago-based International Harvester Company...

Talented inventor Willis H. Carrier produced the first practical indoor air-conditioner...

The Texas Oil Company was founded and soon would be called Texaco...

Edwin Binney of Easton, Pennsylvania, introduced Crayola brand crayons...

North Carolina pharmacist Caleb Bradham founded Pepsi-Cola...

The 20th Century Limited train set a speed record, zipping from New York to Chicago in 20 hours...

The First Tournament of Roses football game was held in Pasadena, California...

**Machinist Fred Drews and Inventor Hugo Reichel combined their talents into a Chicago company to be called Reichel & Drews...**

# The Reichel & Celebrates





# Drews Family a Century



# Introduction

*Engineers Ross Oberg, Chris Hanson and Gregg Larson represent Reichel & Drews' new generation of engineering excellence for the 21st century.*



The Reichel & Drews story is very much a part of the American panorama - entrepreneurs find a need, fill it better than anyone else and reap the considerable rewards of success.

However, this story is more than a retelling of a good idea. The Reichel & Drews saga is much more. The asphalt roofing industry is a homegrown North American industry, tracing its roots back to the first English settlement in Jamestown, Virginia almost 400 years ago.

Reichel & Drews has served that industry for 100 years and in doing so has helped grow the building products industry as the major designer, builder and supplier of quality production equipment.

For 100 years, the company has flourished in the same geographic location in the Chicago area.

There is a much more personal part of this story. Reichel & Drews' success is directly related to the scores of people who have spent careers with the company. They have demonstrated traits of what many have thought to be relics of a bygone era:

- Commitment
- Loyalty
- Longevity
- Inventiveness
- Perseverance



*Dennis Worthem (L) and Tom Szatkowski are veteran members of Reichel & Drews' Assembly unit. Tom worked for long-time competitor UIP before joining Reichel & Drews in 1991.*

The hard work of Reichel & Drews' employees made the company what it is and all that it has accomplished.

In return, Reichel & Drews has provided its people with jobs - often during periods of economic difficulty. Employees have spent 20, 30 and 40+ year careers with Reichel & Drews.

They have built lives, married, bought homes and cars, raised children and sent them to college, paid taxes and maintained a community.

Together, Reichel & Drews and the employees who call the company home have built a community and an industry.

That is the rest of the story - the story of the American Dream.



This book has been a joint project of a special Reichel & Drews team.

Reichel & Drews' President Curtis Maas, whose knowledge of the industry and ability to eloquently verbalize the company vision made the project clear.

Gloria Schaible, Assistant to the CEO, supervised communications with key veteran employees and retirees.

Sales Manager Kurt Gore brought to the team an encyclopedic knowledge of the asphalt roofing industry, enhanced by his museum-quality collection of artifacts and memorabilia related to the industry. Manager of Marketing Communications Mary Uhrina organized, collected, reminded, pestered and urged the team's other members, bringing the project in on time.

Hours of personal interviews were conducted with veteran Reichel & Drews employees and retirees. Extensive archives from corporate and personal sources portrayed the company's evolution.

Important references consulted pertaining to the industry included:

—*One Hundred Years of Roofing in America*, published by the National Roofing Contractors Association, Rosemont, Illinois, 1986.

—*Old American Manual*, Fifth Edition ©1937 by the American Asphalt Roof Corporation (a descriptive product catalogue with many historical references; the company later became part of the Ruberoid Company which today is GAF).

—Archives of the former *UIP Engineered Products Corporation*, at one time Reichel & Drews' chief competitor.

—*Asphalt Roofing Manufacturers Association*

—*National Roofing Contractors Association*

And many, many other sources.

—ROBERT R. MORRIS  
January, 2002

*Fred Tietz retired in 2000 after working at Reichel & Drews for more than 36 years.*



*Ron Selesky is Reichel & Drews' third longest-serving employee. The Senior Service Coordinator joined the firm in May 1965.*





# Average Folks, Extraordinary Results

*For one hundred years, Reichel & Drews has been known for innovation, quality, customer service and communications with its clients. Average people who have given an extraordinary commitment have built that reputation one client at a time...*

Seventeen-year-old Tony Zizzo came to work at Reichel & Drews two days after he graduated high school in 1962. Times were tough for him and his mom and the two of them struggled to make a life in their apartment on Chicago's tough West Side. Tony had to help pay the rent.

"I started in the knife department," Tony recalls. "I was making roofing knives to place into cutting cylinders for three-tab asphalt shingles."

Zizzo worked at the Reichel & Drews original plant, in an aging building west of the downtown area. "The building was very low, very hot and very cluttered!" he adds. "Wasn't a whole lot of room there."

Forty years later, Zizzo is still part of the Reichel & Drews team, managing one of the assembly areas.

Tony has seen owners come and go, has seen business ups and downs. But he has stayed with the company he started with four decades ago.

"I've respected everyone in this company for as many years as I've been here and they've respected me. That means a lot."

Tony Zizzo has given a lifetime to a company which has climbed to the top of an industry over the past century.

Perseverance.

In 1968, Jim Thomas took a two-week vacation from his work as a purchasing agent for a trial run at Reichel & Drews. He'd been asked by then-President Paul Henriksen to help the company's one-person purchasing department.

Thirty-three years later, Thomas is still at Reichel & Drews, currently Spare Parts Manager. The company does a significant volume of business supplying replacement parts for its many machines - including roofing knives.



*Tony Zizzo started at Reichel & Drews as a 17-year-old and has been with the company in many roles ever since.*

"It was - and still is - the kind of company a lot of people would like to work for," Thomas explains. He went on to supervise all company buying, while satisfying his ongoing interest in mechanical devices and operations.

"It's exciting!" he adds.

Jim Thomas has been a main contact person with customers and suppliers for more than three decades.

Commitment.

Jim Richardson decided to try something else, like working on the docks. The 16-year-old had started working as a helper at Reichel & Drews in 1966 when the grass looked greener elsewhere.

"I left for four months to work on the docks," Richardson remembers. "I did that for four months then came back to Reichel & Drews and have been here ever since."

Thirty-five years after his dockside adventure, Richardson now works in receiving, checking raw material for company projects as it arrives - this time on Reichel & Drews docks.

"There have been times when I thought about taking a different job," Richardson admits. "But they've been good to me all these years."

Longevity and loyalty.

Mike Walton joined Reichel & Drews in 1983. He had been with Grotnes Metalforming Systems prior to that. (Grotnes would be united with Reichel & Drews as part of the RDI Group, formed in 1994.)

Part of Reichel & Drews management when the company was purchased from Signode in a leveraged buyout, Walton participated in the strategic decisions in the mid-1980s to expand the company's product offerings.

Together with Reichel & Drews' president Curtis Maas and the other members of the team, the company developed and successfully marketed a full line of shingle production equipment, spanning the entire gamut of the production process.

The move catapulted the company past the major competitors. Today, Reichel & Drews is the premier designer and manufacturer of asphalt roofing production systems, as well as many other products.



*Spare Parts Manager Jim Thomas tried working at Reichel & Drews for a two-week stint in 1966 and has stayed ever since.*





*Jim Richardson left Reichel & Drews for four months to try his hand as a dockworker in Chicago. Four months after that he was back at Reichel & Drews and has stayed with the company for 35 years.*

“It was a conscious effort on our part to provide as much as we could to the roofing industry. It was a key milestone in the company’s history,” Walton explains.

Not content to sit back, Walton works with others in the company to forge the great new directions abroad, as the populations in eastern Europe, Russia and China gear up for the next great international building boom. Reichel & Drews will be there with the best manufacturing equipment and customer service available.

Inventiveness.

Reichel & Drews has built an extraordinary track record of outstanding engineering, technological innovation, knowing customers’ needs and remaining customer-focused.

It has done so year by year for 100 years.

And it has done so through the day-to-day dedication of ordinary people who have accomplished the extraordinary.

Their story begins, however, with the first permanent settlement of North America by Europeans. They needed roofs and built an industry to make them. How they got them is crucial to why Reichel & Drews is where it is today...



*Below: Don Skibicki is Senior Parts Assembler and has worked with the company since 1980.*











# A North American Industry

*“If you but advance confidently in the direction of your dreams, and live your life each day as if you had already attained them, you will know success uncommon in human hours...”*

—HENRY DAVID THOREAU  
American Essayist

*European immigrants to North America brought with them a wide range of talents with which to build a new society. They toiled in joint endeavors, some based on the traditions of the past, others designed to meet the challenges of the New World. Some of the newcomers developed a new way of covering the roofs of homes and schools, churches and businesses. They created an entire new industry...*

North America has always been a land of immigrants. When the first European explorers “discovered” the continent, they found whole civilizations of “native” people. They called the people they ran into here “Indians,” since, for all they knew, they were in India.

Wrong on two counts.

This wasn’t India. And the “Indians” were not natives. They were just here several centuries longer. The “Indians” were squatters as well, having migrated here from Asia during a time before history was written.

In the “New World” there was plenty of room for everyone. At least, at first.

## **European Craftsmen.**

Although explorers from many European nations came calling during the 1400s and 1500s, each claiming a part of the new territories, the British had the biggest impact.

Years before the Mayflower landed at Plymouth, the British were attempting to form colonies in Virginia. Sir Walter Raleigh tried to found several in the 1580s but all were dismal failures since almost everyone he brought died there.

What Raleigh also began was a wanderlust to last for ages, despite the high price in human lives. By 1607, boatloads of Englishmen (there were only men in the first group) arrived and founded the Jamestown colony in Virginia. Despite disease, hunger, and the occasional horrific Indian atrocity, more settlers came.



**BIRD ROOFS**  
*Quality*  
**PRODUCTS SINCE**  
**1795**  
**K & M CONSTRUCTION CO.**  
 3107 So. Wallace  
 CHICAGO 16, ILLINOIS  
 Roofing—Insulated Siding  
 Complete Remodeling  
 Phone: CAumet 5-8620

*The Old Mill*—from this modest beginning on Massachusetts' Neponset River came the imagination, experience and skill that today spell *Bird Quality*.

10224

*Bird Roofs could trace its origins to the earliest days of the country. The first settlers in Virginia and Massachusetts in the early 1600s actually created the industry out of the need for reliable, weatherproof, fire-resistant roofing materials. (Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)*

The third boatload arrived in the summer of 1608 and among them were eight Polish craftsmen. (At the time, England and Poland carried on extensive trade relations, the kingdom of Poland being a major economic and military power in central and eastern Europe.)

The Poles were experts in glass blowing and manufacture. They were also expert in **tar making**.

With their arrival, a new industry was born in the mosquito-infested Virginia colony.

### **Buildings Homes; Making Roofs.**

The first North American settlers had to invent a society out of the wild; create an infrastructure for the very basics of daily life.

Dwellings were the first order of business. At the start, the Jamestown dwellers built simple huts, often emulating those of their Indian neighbors. Wigwams of cloth and huts of branches, leaves and mud kept the weather off their heads.

But only for a short while.

The settlers in Virginia and their colleagues in Massachusetts in those early 1600s, found the New Land had two very important differences which would drastically affect their dwellings.

First, unlike back in Europe, forests and trees were everywhere. Wood was most abundant. Permanent buildings could be made easily and cheaply out of wood - unlike back home where centuries of settlements had denuded many forests. Homes in the old country were mostly stone.

Second, and even more important, the weather in the New World brought wider temperature extremes - hotter summers, brutally cold winters, more violent storms.

The building codes of the past could never do in the new neighborhoods.



## Freeze, Thaw and Fire.

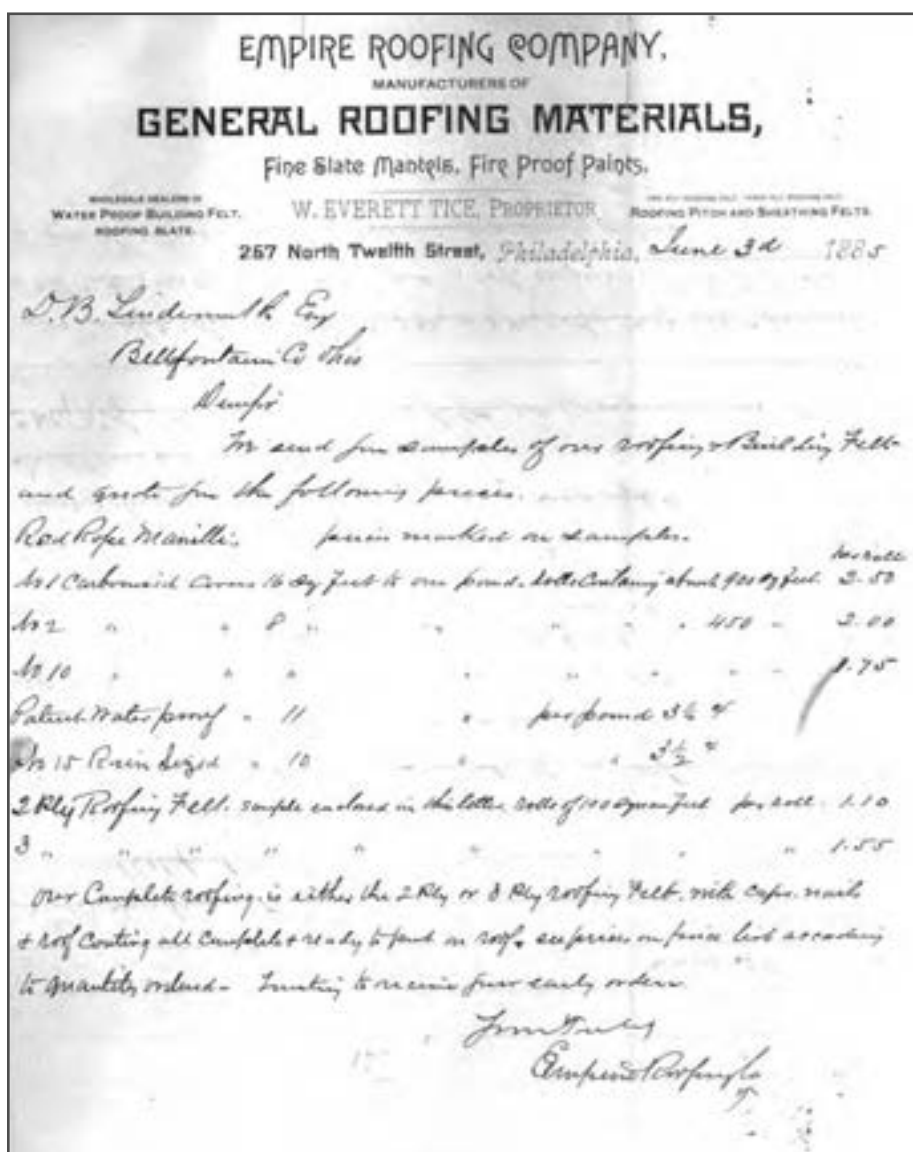
After only a year or two, the original settlers found their crude frame huts were dangerous. The severe winters ruined the “wattle-and-daub” construction of poles, twigs and boards matted with mud. Gaps would allow the howling wind and sleet to sweep through living quarters.

The need to stoke up the fireplace to ward off the icy blasts caused countless accidental fires.

Summer was no better. The thatched roofs either rotted in the wet or easily burst into flames in the drought. Whole communities could vanish into ashes minutes after a windblown coal swept from a carelessly monitored cooking fire onto a neighbor's roof.

However, the ingenuity of the isolated settlers created new building materials.

First came a way to build better roofs.



## The Polish Connection.

As soon as the British established Jamestown, Virginia as the first English colony in North America, the immigrant rush was on.

Eight Polish craftsmen were on the third boat to arrive, the *Margaret and Mary*, which landed on October 1, 1608.

According to information provided by *The Polish American Congress*, these men brought with them skills in glass manufacturing as well as experience working with pitch and tar.

Their work contributed to the very first exports from the New World to Europe.

They also brought with them a certain bit of independence. It resulted in the New World's first organized labor walkout.

It seems the Poles were left out when the first Virginia assembly was convened in July, 1619. Apparently the British felt citizenship was only for the British.

So the Poles stopped working in the glassworks and the tar and pitch plant. Commerce came to a halt.

The British colonists caved, granted the Poles full voting privileges in the assembly and the work resumed.

Fast-forward three centuries later and the asphalt shingle roofing industry, which can arguably trace its roots in North America to these first Polish settlers, has a main hub in the Chicago area.

Reichel & Drews is headquartered in suburban Chicago. And, Chicago is legendary as the largest city in the world outside of Warsaw with a Polish population. A significant portion of the Reichel & Drews' current workforce has Polish roots.

*Left: A June 1885 price quote from Philadelphia roofing manufacturer*

**W. Everett Tice.** (Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)

## From Thatch to Shingles.

The flammable thatched roofs had to go - and many were legislated out of existence for the safety of the communities.

The homebuilders of the 1600s turned to a roofing style reserved for only the rich back home in Europe - shingles.

Oak shingles could be found only on the most exclusive manor homes back in the old country - castles and mansions.

However, forests were scarce and oak even more so. Not so in North America. Good, hard wood of every kind imaginable was virtually everywhere.

The craftsmen found a marvelous, plentiful source of shingle material - white cedar. Lightweight, easy to work with and shape, resistant to rot.

Starting in Jamestown and Williamsburg, Virginia, the common folk soon lived in homes sporting roofs of nobility - at least from the 17th century perspective.

Once reserved only for the upper crust of European society, the shingle-clad roofs of the colonies established the era of everyman.

*(Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)*



## Glassblowers and Pitchmakers.

To make the new shingle roofing construction longer lasting and better able to keep out the harsh cold and wet conditions of coastal North America, the Jamestown settlers turned to their Polish craftsmen.

The Poles distilled the resins from the plentiful pine trees surrounding the settlements into "pine tar" - a thick, gooey dark brown caulk. The new cedar shingles were weatherproofed using the pine tar.

Regular applications of pine tar kept the shingles impervious to decay and watertight. Some shingled roofs were completely covered in tar just to be on the safe side.



MONTHLY STATEMENT.

Folio \_\_\_\_\_ Cincinnati, Jan 1 — 1890

m J<sup>r</sup>. H Griffith — Paria Pa.

**THE PORTER IRON ROOFING & CORRUGATING CO.**  
 MANUFACTURERS OF  
**IRON and IRON ROOFING.**  
 101 AND 103 WEST FRONT STREET.

Dec	29	By Cash	52	75	
	30	To M <sup>d</sup> re	49	30	
		Due you —	3	42	

So you want us to remit  
 you the above or do you  
 prefer buying more roofing?  
 Let us hear from you.

May 21<sup>st</sup> sent them \$50.00 with order for  
 15000 roofing for Parsonage.

If we do not have your remittance before \_\_\_\_\_  
 we will make draft on you.  
 Please honor same.

In the 1800s, roofing contractors experimented with a number of roofing materials. The Porter Iron Roofing & Corrugating Company was located in Cincinnati, the home of composition roofing.  
 (Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)

### In Search of Better Materials.

The cedar shingles were very good. However, they were not perfect. The combination of kiln-dried wood covered with pine tar reduced the first hazard a bit, but did not eliminate it.

The fledgling North American roofing industry sought something better, longer-lasting, low maintenance, and safe.

## The Early Roofing Craft.

When settlers set up housekeeping in the Jamestown community, they established the North American roofing industry (so to speak, since it really evolved over several decades of trial and error...).

For the next 200 years, wood roofing shingles were made and installed by hand.

According to *One Hundred Years of Roofing in America*, (published by the National Roofing Contractors Association, Rosemont, Illinois, 1986), the most important roofing implement in use by roofing craftsmen was the **froe**.

Something akin to a splitting maul, a froe consisted of a sharpened, heavy metal bladed wedge attached to a handle at a right angle. But where a maul was typically used for splitting firewood into burnable chunks, the froe was far more specific.

A froe separated much thinner sections of lumber - the size for shingles.

*(The origin of the word "froe" is not clear, and some references find it spelled "frow." One possibility of its roots can be found in the Old English word "fro," which meant "away," which was the direction you hammered the "froe" to split the wood.)*

Once the craftsman had split sections of wood into suitable shingle raw materials, he then turned to a **draw-knife** to form the shingles into their final shape.

Draw-knives were made of a sharpened steel blade with wooden grip handles on each end. The craftsman would secure a piece of the split wood on a "shaving horse," then using the draw-knife would shave the piece until it formed a typical shingle shape - something of a gentle wedge.

The authors of *One Hundred Years of Roofing in America* tell us that the finished shingles were typically 3 to 5 inches wide and 18 inches long with the wider part of the wedge shape about 1/2 to 3/4 inches thick.

The thick end would be the exposed portion as the shingles were placed in an overlapping sequence with about 6 inches of the shingle facing the weather.

This arduous hand process continued for two centuries until a Connecticut innovator produced the first recorded shingle machine in 1802.

Through the next three decades, many various shingle making devices were patented, eventually replacing the tried and true but tiring froe and draw-knife process first established in colonial Jamestown.

(Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)



The industry also began a search for better processes to make the shingles, a laborious, time-consuming and exhausting endeavor.

Back in England, some of the more exclusive buildings were topped with slate shingles. Slate is formed by splitting a special kind of rock, which conveniently chips off into thin “sheets.”

Once on the roof, slate did not rot, did not burn, and lasted for years and years.

But slate requires stone quarries, which did not exist in the early colonies.

Some builders ordered slate shingles from England, requiring expensive transatlantic shipment of the heavy items.

Worse, slate easily cracked and chipped so often, that whole shiploads of slate shingles arrived destroyed and useless.

*(Slate roofs became more popular in New England in the mid-1700s and early 1800s, as slate quarries were opened in the northeast. Still, slate quarrying and shingle-making is even more labor intensive than wooden shingle production...)*

In the North American colonies, forests - and wood for crafting shingles - were everywhere you turned.

### **Still a Fire Hazard.**

Early builders also had a passing fancy with tile, so popular in continental Europe.

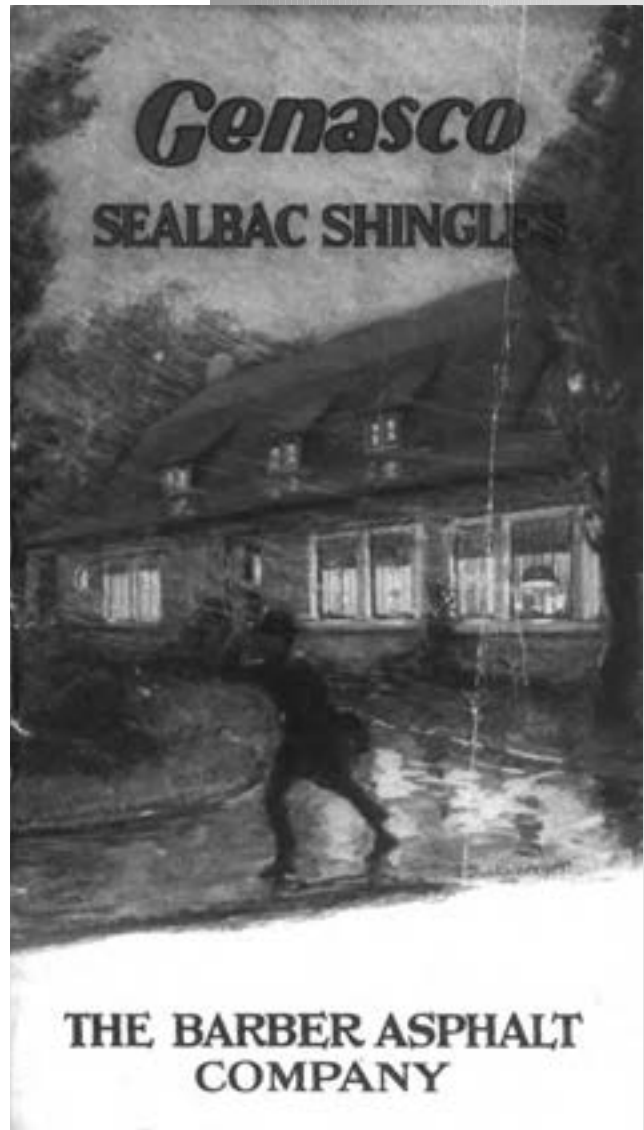
Similar to the slate shingles, roofing tiles had to be imported from Europe and were breakable, heavy and expensive. Even after a fledgling American tile industry began, the North Americans soon found out that clay and terra cotta (a glazed form of kiln-fired clay) were just too expensive when compared to wood shingles.

And although the attractive red tile roofs work well in the sunny cities of Portugal, North America’s vicious winter cold, and its resulting “freeze-thaw” often wreaked havoc with the decorative tiles.

In the late 1700s and into the 1800s, builders experimented with several metal roofing materials, chief among them copper, lead, zinc and tinplate. No fire hazard with any of those, to be sure.

Copper had a brief heyday in the early 1800s. Originally imported from England, then mined in Upper Michigan, copper was refined into large rolls. Sheets from the copper rolls were formed into roof coverings. They were watertight, long lasting and fireproof.

However, copper was always in limited supply, useful for many other endeavors - and always expensive. Public buildings, the occasional church and exclusive residences were topped in copper, which gleamed in the sun until weathered into a bluish-gray.



*(Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)*



Asphalt did not become a popular roofing material until standards for "built-up" composition roofs were finally adopted in the first years of the 1900s. (Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)

THE NATIONAL ROOFING CO.  
MANUFACTURERS OF  
ASPHALT ROOFINGS,  
TONAWANDA, N.Y. *Oct 18 1904*

FOUND *8882* SOLD TO *Graham Jones*  
ORDER *Price* *East Brady, Pa*  
NO. OR *20/100*  
TERMS *30 days or 20/100* ALL CLAIMS FOR DEDUCTIONS MUST BE MADE WITHIN TEN DAYS FROM DATE OF INVOICE. BILLS DUE ARE SUBJECT TO PAYMENT WITHOUT NOTICE.

<i>Large 1381 Asphalt Shingles 575822</i>	<i>1090</i>
<i>Less 1st 500 @ 14 1/2</i>	<i>7250/12</i>
<i>Net 575822</i>	
<i>Oct 21, 1904</i>	

### A Brief Interest in Zinc.

Zinc also had a brief run as a roofing material, one that was sparked with controversy.

Zinc is a bluish brittle metal, which finds its best use when mixed with other things, like iron, steel or brass. You can get zinc to coat the other metals by passing an electric current through them - it's called "galvanizing."

The zinc coatings made other metals relatively corrosion-free.

In the mid-1800s, zinc roofs were touted as waterproof, fire-resistant and corrosion-free. Apparently - not completely. Although the American adherents of zinc roofing vehemently claimed otherwise, there was constant grumbling in 19th century circles about zinc roofing springing leaks.

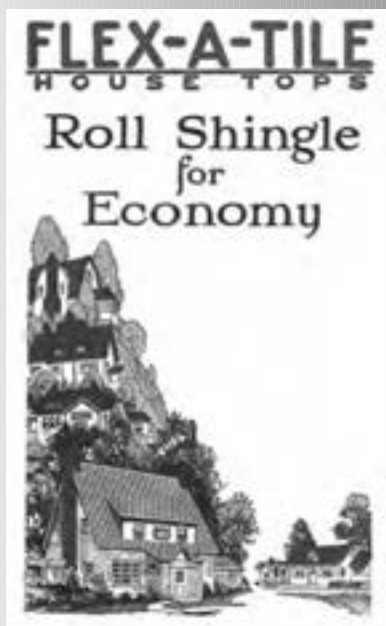
Worse, many people collected rainwater from their roofs in those days and a whispering campaign claimed - never definitively proved - that zinc contaminated the drinking water collected from roofs.

The death knell for zinc roofs came when still others claimed that zinc had the lowest melting point of roofing metals, and therefore had the lowest fire resistance.

Despite their understandable righteous indignation, representatives of the zinc roofing industry could not turn the tide of public opinion and zinc roofing evaporated from the 19th century scene.



*Left: Roll roofing materials were most often used in large, commercial or public buildings. The eventual economy of asphalt shingles proved a boon to homeowners. (Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)*



Above:  
(Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)

Right: Ad for roofing being shipped to the Philippines following the Spanish-American War in 1898. (Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)

## Pine Tar: Important to Colonial America.

Records indicate the early settlers to Jamestown brought with them expertise in making and using pine tar and pitch.

The process of gathering pine tar was fairly straightforward, and a smoky mess.

Workmen would find a remote forest clearing surrounded by a plentiful supply of pine trees - easy to come by in colonial days.

There, they would build a kiln - a large earthen or clay chamber in which items could be placed for burning, drying or hardening.

The pine tar kiln was built with a large burning compartment, below which was a channel slanted so that liquid could gather and flow out through a hole in the side of the kiln.

The channel led out to a barrel or trough, some other type of receptacle, or even into a small ditch leading to a collecting pond.

Lengths of wood were cut, often using dead wood (of which there was an enormous supply throughout the virgin forests...). Loaded into the kiln, the wood was set to burn and smolder at low heat for days on end.

This process allowed boiled resins to drip out of the wood, onto the channel and collect outside of the kiln in the barrels or other receptacles.

Once underway, the process required little attention and managed to produce significant amounts of pine tar - often barrels each day.

**Resin** refers to liquid substances in many plants; tree sap is a resin.

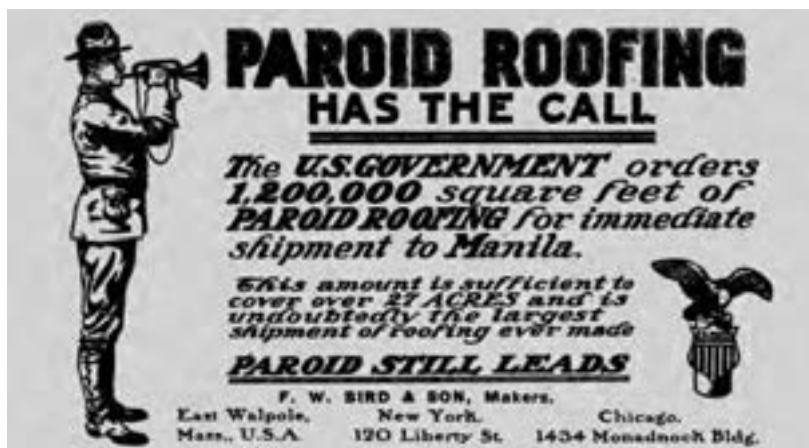
**Pitch** is the sticky, dark brown substance resulting from the kiln-firing process of collecting the resin. Pitch can be obtained from a variety of sources, including trees, coal or crude oil.

**Pine Tar** is the specific result of distilling pitch from pine tree resin.

What is so special about pine tar?

Pine tar was an excellent waterproofing material - great for slathering in the seams of wooden-hulled ships to keep the seawater out.

But even in the 1600s, pine tar had another superior use - as a waterproofing material for the new industry of roofing with hand-crafted wooden shingles.





## A Little Tin Box.

The British, busy with the Industrial Revolution during the 1700s and 1800s, also developed a different process for coating - and preventing corrosion in - metal. They covered iron, then later steel, with tin, calling it **tinplate**.

Through a very complicated process, iron or steel plates are formed into sheets, then methodically dipped in molten tin. When done under the right conditions, the tin adheres to the iron or steel, giving it rust-free properties, just right for long-term use, like roofing material, for example.

Tin is a very soft metal with a low melting point.

Unlike copper or zinc, tin plated iron or steel sheets fit much of the North American roofing material requirements. It didn't burn, could easily be made waterproof and was far less expensive than the other more exotic metals.

Tinplate roofs were a hit and offered a reasonable alternative to wooden shingles. At first, tinplate roofing was imported from England. Since North America was covered with trees, the tinplate roofing industry got a late start.

The original tinplate process coated iron with tin, but by the mid-19th century, steel became more popular with the invention of the Bessemer furnace. A variation of tinplate, called "terne", used a tin and lead mixture to cover steel sheets. Terne was overall less expensive to produce, work with and maintain, so terne roofing nudged out tinplate in the admittedly small niche.

Both tin and terne required several coats of paint to maintain their rust-free properties, so the roofing aficionados of North America continued to search for lower-maintenance roofing products to meet the needs of the growing population.

So, after trying multitudes of methods, builders were still not satisfied. Worse, by the end of the 19th century, North Americans began to see that the forests were not endless after all.

As a result, the roofing industry was transformed by the turn of the 20th century. In the new age dawning, the industry would blossom using materials not yet invented or developed.

What had started out as a need to build good roofs for the English and Polish settlers in Jamestown in the 1600s, would come full circle as a critically important industry formed to cover the homes of the English and Polish (and countless other) immigrants to North America in the rollicking 20th century.



*By the start of the 20th century, roofing contractors had become a separate trade, no longer part of carpentry. (Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)*

# Carey ASFALTSLATE SHINGLES BIG SIZE

## "The Shingle That Never Curls"

WILL TRANSFORM YOUR HOME

The home you'll be proud to show must be attractive. Its roof most of all must be not only durable, but handsome as well.

A cozy home, but spoiled in appearance by an unattractive and delapidated roof.



A leaky roof is a source of constant annoyance and trouble. A bad leak oftentimes costs more than a new roof.



You can't forget the fire hazard of wood shingles. Do you live in constant fear of roof fires?

Does your roof blow off and leak in each wind-storm? Let the Big Asfaltslate Shingle end your roofing troubles.

# A New Age in Roofing

*“You cannot step twice into the same river; for other waters are ever flowing on to you. Change is the only constant...”*

—HERACLITUS

4th Century B.C. Greek philosopher

*The North American continent brought with it far harsher weather conditions than those faced by the immigrants back in their homelands. From the disastrous first thatched roofs of Jamestown, Virginia, through the constant experimentation with different materials, American builders sought a way to cover homes and public buildings with a low-cost, dependable material strong enough to stand up to the weather. When they finally found it, a new, specialized industry took root...*

America burst onto the international scene in the latter half of the 1800s, fueled by a growing industrial community. The need to move people and materials across a huge land spawned the intercontinental railroads. The railroads permitted the quick shipment and delivery of virtually any packable item.

Quick delivery encouraged regular and repeated orders, which in turn expanded factory production, which then led to an ever-increasing need for workers.

The great immigrant experience was underway. Back in Europe, from where most of the first wave of immigrants came, events fortuitously complied.

Famine, political unrest, war, disease, conquest, subjugation - all of these swept across the gasping European continent.

Millions left home without a second glance, eager for a fresh start in a fresh spot. Millions poured into the “land of opportunity.” Millions immediately found work in the expanding industrial might of the land.

Countless new homes were built. Countless new schools, hospitals, churches, stores and government buildings were built to serve them.

Each building needed a roof.

Each roof needed to be waterproof, fire-resistant, easy to install and inexpensive.

Facing page courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.



## Composition Roofing.

One day in the 1840s, a twenty-something New England drifter by the name of Samuel M. Warren found himself on a street in Newark, New Jersey with nothing to do and little prospect of finding a career, when he glanced upward to see a man working on a roof.

It was a glance that changed his life, started a career and formed an industry.

Warren watched in interest as the workman on the roof applied a new kind of covering to a building under construction.

As Warren retold it, the workman, instead of applying traditional wood shingles, was methodically placing a heavy paper directly on the roof underlayment. He slathered pine tar all over the paper and followed that up with a shower of sand, which stuck to the pine tar.

Intrigued by the apparent innovation, Warren struck up a conversation with the worker, eventually forming a kind of partnership with him. Researching this new process, Warren found it not to be original or unique; that several other East Coast builders had used this composition roofing process for several years.

After a while spent learning this trade, Sam Warren teamed up with a Cincinnati investor, brought his brother Cyrus into the business and set up a composition roofing business in the fast-growing “Queen City” of the Ohio.

## Roofing Transformed.

A major drawback for the new composition roofing was the use of pine tar, which became expensive and harder to obtain as the ever-optimistic nation happily moved west and cut down any trees in their way without replacing them.

Many builders experimented with all sorts of materials for composition roofing in the 1840s. Workmen attempted exotic combinations, including cattle hair, horse manure, marble dust, sawdust, whale oil and even blood.

Few worked well. Most smelled terribly.

That’s where the Warrens changed the industry single-handedly. It’s also why Sam Warren is usually credited as the founder of the composition roofing industry even though he really wasn’t. He just made it better.

Sam found the local Cincinnati gas lighting company processing coal to make illuminating gas. In doing so, a disgusting waste product, **coal tar**, was dis-



*(Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)*

carded by the gas company, often just dumping the stuff conveniently into the Ohio River. The black gobs of coal tar floated away to grace the shoreline of downriver communities.

Sam determined that the coal tar - with some distilling — was a great substitute for pine tar in composition roofing. He got the stuff for free, coincidentally doing the Ohio River townspeople of Ohio, Kentucky and Indiana an ecological favor.

Sam's much lower-cost composition roofing business was now racing down the path of dreamy expansion, covering the roofs of a burgeoning population forever moving west.

Bringing many family members into the business, the S.M. and C.M. Warren Company zoomed to the pinnacle of composition roofing.

### **An Unexpected New Material.**

While on a roll, the Warren family later stumbled upon yet another composition roofing material - **asphalt**. First obtained from Pitch Lake in Trinidad, asphalt in its natural form is a gunky organic material on its way to becoming petroleum but isn't there yet.

Rather than let the asphalt decompose for a few million more years, Warren's company brought it to the U.S. and did two amazing things with it. First, they used asphalt to pave some streets - with sensational success. Then they adapted it for use to replace coal tar in composition roofing - with similar success. The Warren family was now heavy into road paving as well as roofing.

And just as amazingly, Samuel Warren, founder of an industry and now quite wealthy, resumed his drifting and virtually walked away from the business, alternatively dabbling in law, plans for participating in the California Gold Rush, and eventually into church ministry.

### **The Chicago Connection.**

One of life's coincidences took place when Sam Warren met Rev. Benjamin F. Barrett, a popular and respected Ohio minister. Warren was taken with Barrett's preachings and prominence - so much so that Warren gave serious thought to becoming a minister himself.

Just as Warren was taken with the Rev. Barrett and his church, the Rev.



*CertainTeed continues today as one of the major producers of asphalt shingles in North America. (Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)*

### A Very Old Building Material.

According to the *American Heritage Dictionary of the American Language*, **asphalt** comes from a Greek word, "asphaltos."

It might have been a word made up to describe a binding agent used by ancient Greek stone masons, since the word looks like its roots might mean "to keep from falling," or words to that effect.

The *Encyclopedia Britannica* tells us that asphalt was used by people living in what is today Pakistan as far back as 3,000 B.C., apparently also as a mortar between stone blocks.

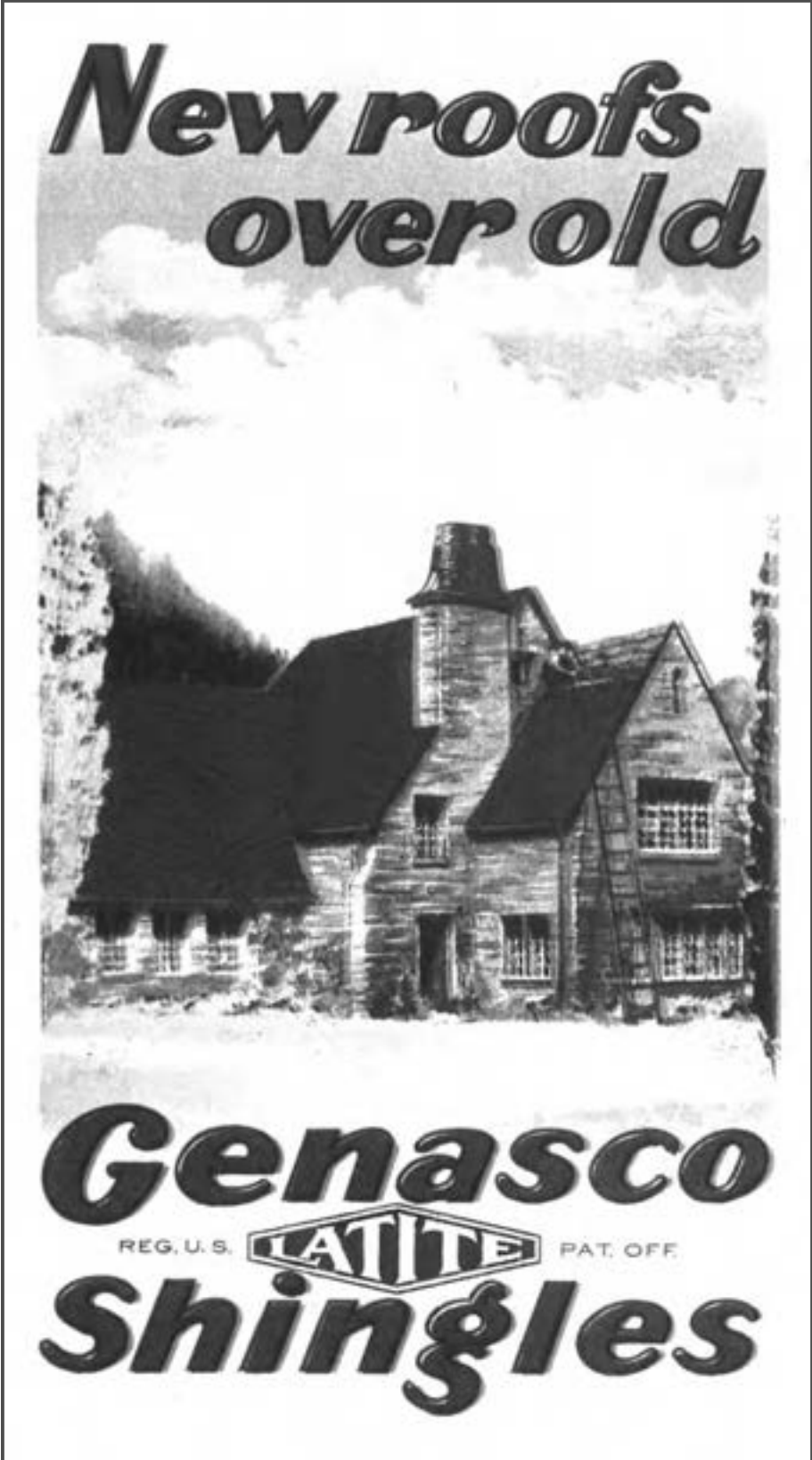
It seems quite possible that people in several places in the Middle East came up with the idea of using asphalt for road paving.

Back in those days, gooey black natural asphalt was available for the taking, lying in pits.


Today, little natural asphalt is mined or used, since it can be synthetically produced from petroleum, which is much more plentiful, although not inexhaustible.

The major current use for asphalt is in road paving and in roofing manufacturing, floor tiling and waterproofing.

Asphalt is used the world over, but in Britain and Europe it is called **bitumen**. Strictly speaking, bitumen is a solid or semisolid mixture of hydrocarbons existing in nature or resulting from the distillation of coal or petroleum. Because of that, bitumen is an ingredient in tar and asphalt.



**New roofs  
over old**



**Genasco**  
REG. U.S. **LATITE** PAT. OFF.  
**Shingles**



Barrett was taken with the Warren family's composition roofing system.

Barrett saw several opportunities, some altruistic, others perhaps less so. Having a small congregation of followers in the new city of Chicago, Rev. Barrett made an agreement with the Warrens to use their process in establishing a composition roofing business in the "Windy City" in 1848. The business would be a source of income for the Reverend since the congregation was too small to provide much in the way of contributions.

The Chicago venture was an immediate commercial success and by 1850, Benjamin Barrett resigned from his ministry to devote full time to the roofing business.

### **Samuel E. Barrett, an Entrepreneur.**

In 1855, Benjamin's brother (or quite possibly his cousin...) Samuel Barrett took over the roofing company from Benjamin (who like Samuel Warren, quickly became bored with his roofing business and astonishingly turned away from it..).

Different from his forebears, Samuel Barrett was in the roofing business for the long haul. Over the next four decades, he built his Barrett Manufacturing Company into the premier firm in the nation in the manufacture of composition roofing materials.

Eventually absorbing a branch of the Warren family roofing business, Sam Barrett worked to bring standardization to the industry, which was beset by widely varying quality and components in roofing materials.

The boom times - through the Civil War, rebuilding Chicago after the great fire of 1871, and the building explosion in the industrial expansion era - all kept Barrett's (and other roofing manufacturers and installers) running full tilt.

No longer an offshoot of carpentry, roofing was now a stand-alone industry.

Samuel Barrett's main role in the years to come was to set standards for the composition roofing industry, long beset by shoddy materials, little attention to quality control, and worthless warranties.

It would take the Chicago Fire to tighten the standards for everyone.



*Above and facing page: Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.*

## The Grail of Fire-Resistance.

House fires had been the bane of civilization for millennia. In North America, the abundance of wood exacerbated the problem. The 19th century trend towards composition roofing lessened, but hardly eliminated the issue.

Sam Barrett, together with Moses Powell, another pioneer composition roofing contractor, spearheaded the formation of a professional organization to serve the needs of the industry. When the Gravel Roofers Protective Association was born in Chicago in 1886, Powell was first president and Barrett first vice-president. Barrett represented the roofing supply industry and Powell represented the contractors.

The time period was ripe with union movements, litigation, unfair competition and charlatans. The Gravel Roofers Protective Association went national in 1890, becoming the National Association of Master Composition Roofers. *(That organization continues today as the Rosemont, Illinois headquartered National Roofing Contractors Association, or NRCA...)*

As a professional organization, the National Association of Master Composition Roofers, spurred on primarily by Sam Barrett, sought to promote strict quality control standards, especially for fire-resistance.

The legacy of the Great Chicago Fire, as well as many other less publicized metropolitan conflagrations across North America, demanded these reforms. Progress was painfully slow.

Sam Barrett was finally able to get the “Barrett Specifications” for industry standards compiled in 1906. By 1916, Underwriters Laboratories had completed a series of strictly controlled tests, and in conjunction with the National Board of Fire Underwriters, issued classes and categories of roof covering fire resistance.

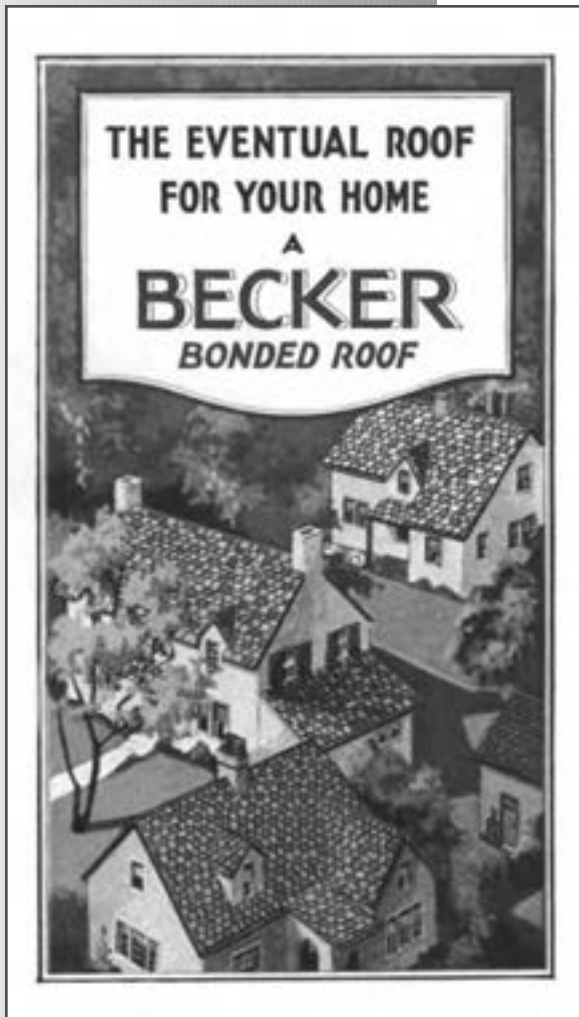
“Barrett Specification” roofing materials received a class-A rating, the highest (and most fireproof) possible.

The search for the right mix had been successful.

Now it was time for the industry to develop a roofing material easier to handle for the next wave of building to take place in the growing land.

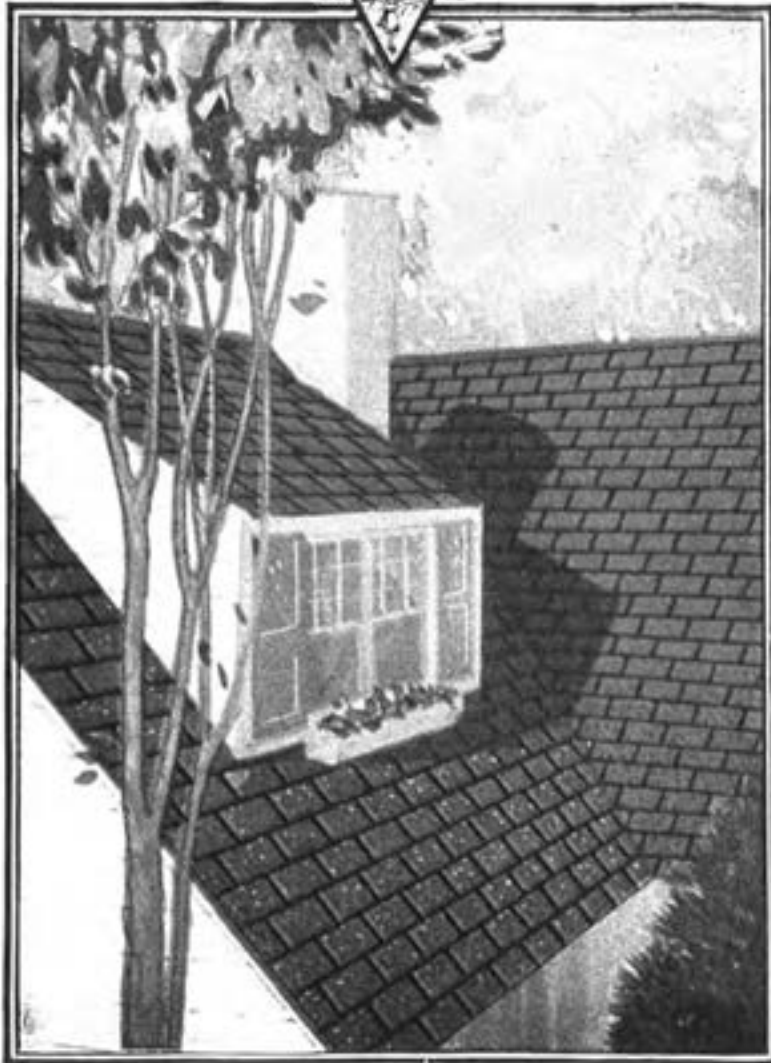
Among them was a band of visionaries who dreamed of thousands of homes across North America clad with the reasonably priced, easy to install, safe shingles. All it would take to push the industry “over the top” would be reliable technology to produce, cut and package the shingles for shipment.

Reichel & Drews, along with others, would be there to provide the innovative breakthroughs.



*(Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)*

# BIRD'S ROOFS



**The Crowning Glory  
of the Home!**

*for sale by*

**Jencks-Adams Co.  
So. Attleboro                      Mass.**

*(Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)*



## What is the Composition?

After decades of experimentation using often bizarre ingredients, the roofing industry adopted the "Barrett Specifications" for composition roofing in the early 1900s.

With asphalt as the main ingredient, there were two basic methods for a Barrett Specification roof: **membrane** or **non-membrane**.

In a membrane roof, a series of layers of asphalt-saturated roofing material are cemented to each other. Sometimes this process is called a **built-up roof**.

Non-membrane roofs still use asphalt, but in overlapping layers of rolled material, or smaller pieces, called **shingles**.

When the roof is ready for covering, a layer of **felt** is applied. Usually produced in large rolls, roofing felt is a conglomeration of fibrous materials, like rags or hemp, sliced, diced and chopped into tiny bits by terrifying whirling knives in production plants.

Pre-saturated in asphalt, the blenderized rag slurry is fed through a series of strainers to remove extraneous material. The felt material eventually is pressed, dried and formed into a continuous roll, something akin to the production of paper.

When trimmed, the felt is ready for shipment or processing into shingles.

Felt to be made into asphalt shingles has a **finish** covering, usually of tiny, color-coordinated granules, sometimes of glass or ceramic. A large roller presses the granules into heated asphalt, smoothed and dried through more rollers, and eventually cut into traditional shingle shapes. A variation on this same theme can include fiberglass shingles as well.

When stacked, wrapped, packaged and palletized, the shingles are ready for shipment.



## The Debut of Asphalt Shingles.

By the time the Barrett Specification composition roof was adopted, most producers and installers took delivery of large rolls of asphalt roofing material.

Some contractors, often the smaller ones, searched for a way to install asphalt composite roofing more easily, with fewer workmen, and with a wider choice of application procedures.

In 1901, the H. M. Reynolds Company of Grand Rapids, Michigan came to their rescue.

According to the *Old American Manual*, a 1937 publication of the American Asphalt Roof Corporation, Reynolds was the first producer of cut asphalt shingles.

Reynolds at first simply took roll asphalt composite material, cut it out into shingles by hand, and applied it to a group of houses.

The result was a popular sensation. Shingles could overlap, thus covering the nail holes. The shape and overlapping offered a pleasing appearance without the occasionally unsightly seams of roll roofing.

With further experimentation, asphalt shingles in different shapes, designs and colors swept the building industry.

With Reynolds' innovation, common practice became underlaying the shingles with roll paper or felt, then covering the underlayment with shingles. The result, a more beautiful roof with greater fire-resistance and waterproofing. As an added bonus, workmen could more easily handle the shingles than the rolls.

By the 1920s, asphalt roofing had become a leading roofing material. The development of the cut asphalt shingle revolutionized both the roofing and building industries.

As the asphalt roofing industry moved into the middle part of the 20th century, it would also need production machinery and packaging processes.

They would find this, too, in Chicago.

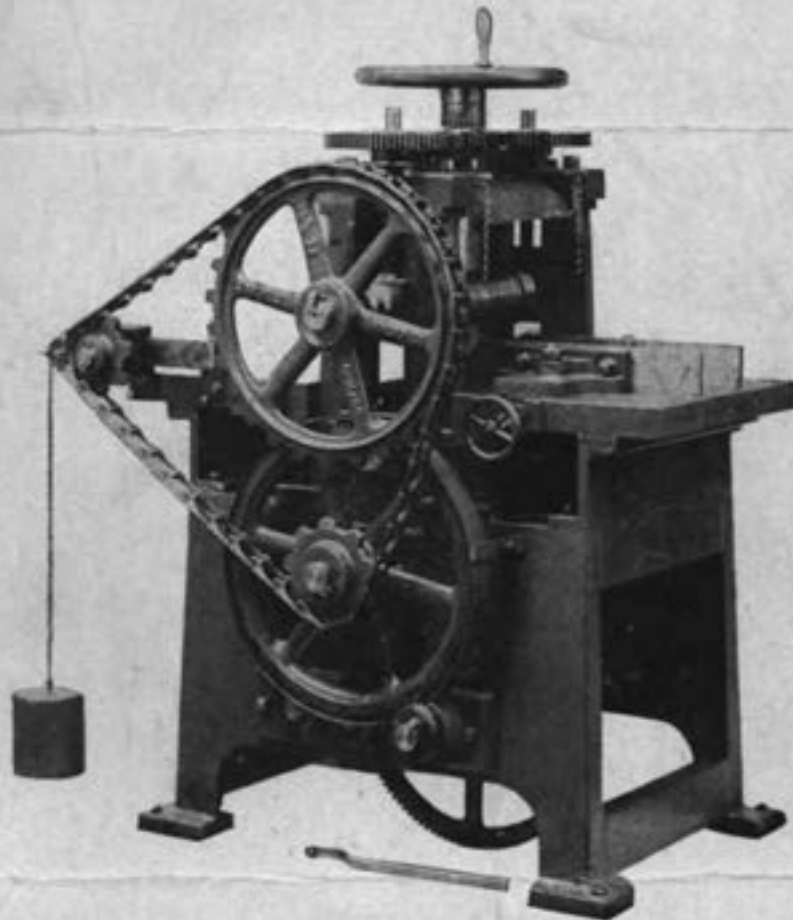


Above: Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.

Facing page: Hexagon-shaped asphalt shingle production equipment and cutters provided a spectacular growth opportunity for Reichel & Drews in the 1930s. (Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection.)

**REICHEL & DREWS**

# **EMBOSSING MACHINE**



The above machine is made to emboss mouldings and wood work with special made roller dies. This machine is heavily built for this special work with the best of material and workmanship. The machine also has two different speeds and can be attached anywhere.

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For further particulars and price please address

**REICHEL & DREWS**

**CHICAGO, ILL., U.S.A.**



# "Mr. Reichel, Meet Mr. Drews"

*"It still holds true that man is most uniquely human when he turns obstacles into opportunities..."*

—ERIC HOFFER

20th century American philosopher

*The story of the North American roofing industry spans the entire history of European settlement on the continent. By the start of the 20th century, asphalt composition roofing surged to the forefront of the industry. Roofing manufacturers now sought better, faster and less expensive systems for making their product. What began as a small machine shop on Chicago's west side would one day claim the title of the most successful roofing manufacturing system provider in the world...*

Chicago just happened to have location on its side. As the American nation caught a virulent case of "Manifest Destiny" in the mid-1800s, every citizen felt it was simply our right to explore, claim, occupy and civilize the North American continent from the Atlantic to the Pacific.

Cooler heads prevailed when wise commentators pointed out that other countries occupied the continent as well and they might not necessarily share the same expansive view.

## **A Cascade of Circumstances.**

Chicago was not much more than a farm goods shipping point by the time of the Civil War. The War changed that. Its dual location on Lake Michigan and as a hub for the newly expanding railroads, made Chicago a place for the manufacture and shipment of munitions and war materiel, as well as a staging point for troop movements of the Union Army.

*Facing page: For the first 20 years of the company's existence, Reichel & Drews was a quality machine shop, specializing in equipment that rolled, pulled or lifted. Hugo Reichel was an inventive genius, whose work on existing shingle cutting machines in the late 'teens led to a focus on shingle cutting machinery in the 1920s. The company continues that tradition today.*



*Reichel & Drews began in a small shop in Chicago's "Loop." But as business grew, the company found new quarters at 452 North Ashland Avenue where production continued until 1980.*

Following Appomattox, Chicago benefited from the transcontinental railway frenzy and found most rail lines snaked through Northern Illinois. That was convenient.

Refrigerated railcars were invented in 1868 by Michigan fish dealer William Davis, allowing safe shipment of meats, fish and other foodstuffs. By 1880, Chicago had become home to the nation's largest stockyard.

The cascade of expansion continued: the food purveyors needed willing workers and found them in European immigrants. The newcomers streamed



into the nation, many heading for Chicago and plentiful jobs. Once there, they needed places to live and support services.

Industries involved in the mighty economic boom flourished and by the turn of the 20th century, the city by the lake had become a manufacturing and economic giant.

Rough-and-tumble, brash and boasting, Chicago was the place to be for entrepreneurs entering the 1900s.

Fred Drews was one of the them, Hugo Reichel was another.

“MR. REICHEL, MEET MR. DREWS”





*The Reichel & Drews workforce poses sometime in the 1930s for a rare formal portrait outside the Ashland Avenue plant. Workers came from the neighborhood and included many immigrants from Germany and Denmark. The building was cramped, hot and low, but the company provided steady work even through the Depression.*

### **A Machinist and an Inventor.**

**Hugo Reichel** knew machines, knew how they worked, and knew how to make them better. He also knew how to invent new machines, especially the kind that saved intensive labor or which combined complicated processes. He was a tinkerer in the best tradition of a Thomas Edison.

At the start of the 20th century, Hugo was busy in Chicago, in partnership with two other machinists at a shop in the city's center.

The firm of **Henry Roos & Reichel** advertised their expertise in building specialized machinery to order. Their concentration was in elevators, cranes, lifting mechanisms and conveyors.



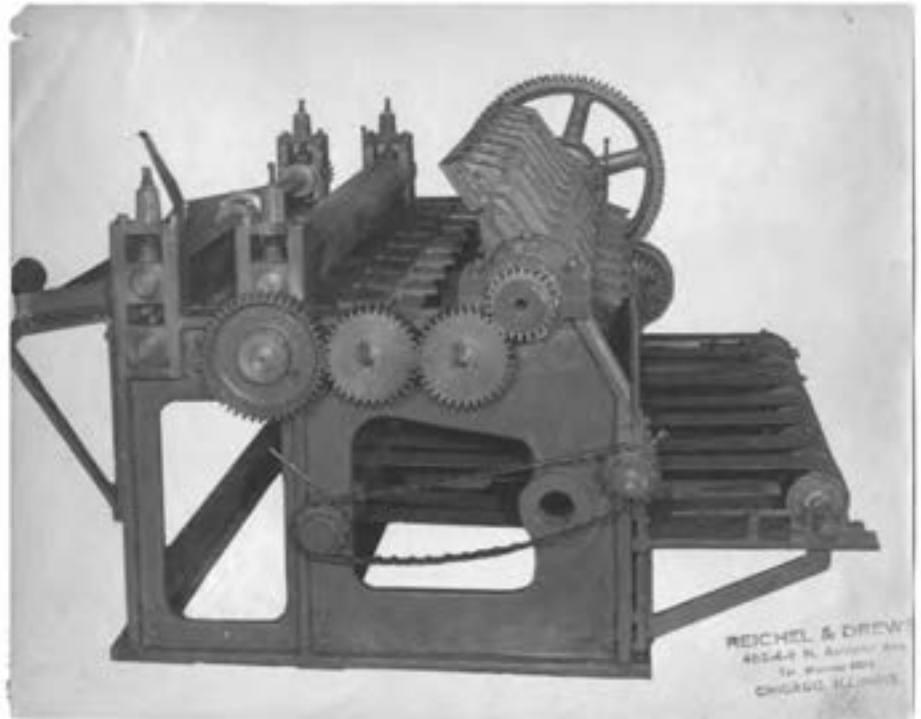
Henry Roos & Reichel crafted **pulleys** and **sheaves** (*sheaves are specialized pulley wheels with grooves or collars so the cabling is guided and stays within the lifting channel...*). They also crafted **hangers**, **couplings** and **pillow blocks** (*pillow blocks are specialized holders for rotating shafts or axles, such as the kind of device to hold and roll conveyor belts. They are used in mining, metal mills and paper and pulp mills*).

In their spare time, they repaired engines and pumps.

Hugo Reichel spent his days at the drafting table and in the shop, designing parts, machines to make parts, and countless ways to join several mechanical operations in a single device.

In the same building, **Fred Drews**, a business entrepreneur, toiled away in a

*In the early days of the company, Fred Drews provided the business and management know-how. Hugo Reichel had an uncanny way of understanding machines, adapting them to various purposes. It didn't hurt that Hugo also had friends in City Hall.*



similar shop. We don't know when they met or the circumstances. But they did and an economic chemistry took place.

Hugo left his partners, teamed up with Fred Drews and together they opened the firm of **Reichel & Drews** in a shop at 28-30 West Washington Street, Chicago.

### **Nothing to do with Roofing.**

From the start, Reichel & Drews concentrated on machines, machine systems, machine parts and conveyor belt parts. Asphalt roofing was not even in the hopper.

The firm was one of scores of Chicago "job shops," where skilled machinists would craft parts from drawings or remake broken parts of existing machines.

One of Reichel & Drews' first marketable products was a specialized rolled steel belt rod fitted with bronze hardware for conveyor belts.

It was a tiny affair, with Fred Drews running the business and Hugo Reichel designing the parts, machines and dreaming of the future.

Business matters were bright since Hugo Reichel had friends in City Hall.

Through Hugo's contacts, Reichel & Drews was awarded a city contract to maintain and repair steam engines and steam production devices for the Chicago Public Schools (at that time filled with the children of immigrants...).

Other city work flowed in, including the design and manufacture of Fire Department alarm boxes and street manhole covers. *(In a day when very few people had home telephones, a network of street and sidewalk fire alarms were sprinkled*





*through major cities, Chicago included. Anyone suffering or witnessing a fire could rush to an alarm box, and signal a crew of firefighters...)*

For the first two decades of the company's existence, Reichel & Drews flourished on continuing city-of-Chicago business, augmented by the occasional design project for specialized machinery and machine part fabrication. Through those early years, the company established a well-deserved reputation for quality design, production and repair work.

### **A Decade of Changes.**

The decade of the "Roaring '20s" turned out to be Reichel & Drews' most challenging and transforming period to date. Through the constant need to find and nurture business contacts, the company expanded into machinery for auto and truck tire debadders.

"MR. REICHEL, MEET MR. DREWS"

*For years, shingle production companies hired workers to catch shingles as they spun off the conveyor. Difficult, tiring and stressful, this task was eventually mechanized by Reichel & Drews' innovation of stacking (and de-stacking) machinery.*

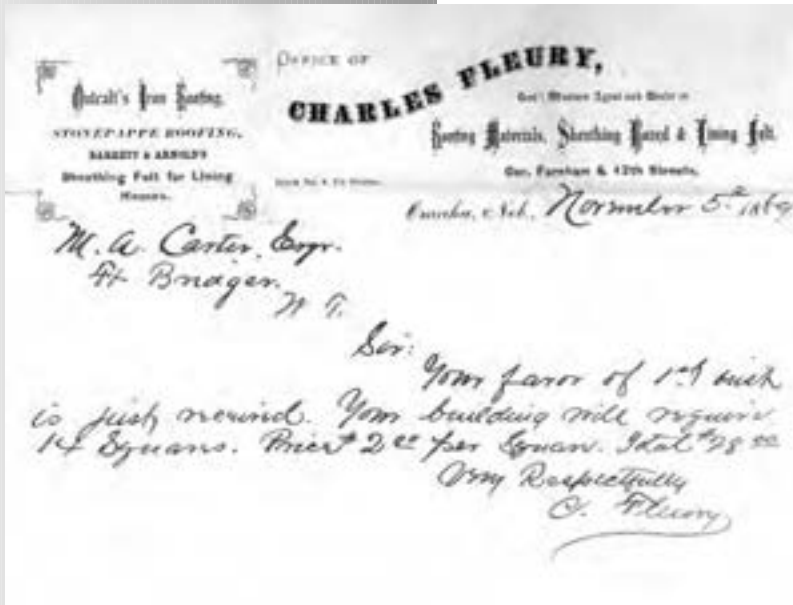


However, another development proved beneficial for the company's future. From the start, Reichel & Drews produced machinery and parts for conveyor belt systems. Expanding on that theme in the '20s, Hugo Reichel devised machinery for trimming leather belts used on conveyors, eventually crafting special clamps for guiding the belts.

That led to a milestone mark in the company's history. In those days, one industry used conveyors in a big way - composition asphalt roofing, produced in large rolls.

In 1923, Hugo Reichel began the first in a long series of jobs repairing, maintaining and devising new or replacement parts for conveyor and production machinery for asphalt roofing producers. One specific project included a device to accept machine cut asphalt shingles, stack and bundle them. The device received a U.S. Patent in January, 1926.

No one realized this chance twist would chart the company's future for the balance of the 20th century.



Courtesy of the Kurt Gore Historic Roofing Memorabilia Collection

## Hugo Reichel's Inventive Mind.

Reichel & Drews' co-founder Hugo Reichel was a savvy inventor. His specialty included taking existing machines, adapting them to do their work better, to add new functions, or to combine related jobs.

No sooner would Hugo complete a prototype then he would rush off to a patent attorney to file an application with the United States Patent Office securing his place in the pantheon of U.S. inventors.

As early as 1913, Reichel had completed a prototype of a new kind of **cutting** or **slitting machine**. His device was unique in that although primarily designed for removing "clenchers" from automobile tires, it could easily be adapted for cutting leather belts or heavy fabrics. (*Tire clenchers were heavy rubber beads on solid rubber tires, which slipped under a metal flange on the tire rim, holding the tire in place so it wouldn't slip off. Without the clenchers, the tire would easily slip off the rim when turning.*) The U.S. Patent Office agreed it was unique, awarding Hugo Patent # 1,190,192 on the patriotic date of July 4, 1916 (*the country's 140th birthday*).

In early 1922, Reichel completed a **belt cutter**, specifically for cutting smaller belts into "V"-shaped cross sections. It was patented in November, 1923.

That same year, he produced a special machine to cut solid rubber tires from trucks ("balloon" tires with inner tubes for heavy trucks were still not commonplace in the early 1920s). The **tire cutting machine** received a patent in December, 1924.

Continuing with his work with tires in 1924, Hugo Reichel completed a **tire buffer**, which automated the process of removing glue and fabric from tires after they were molded - formerly a process done by hand. This invention was patented in November, 1925.

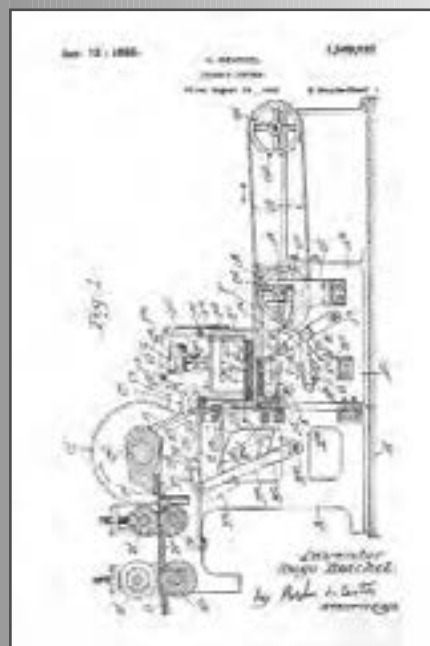
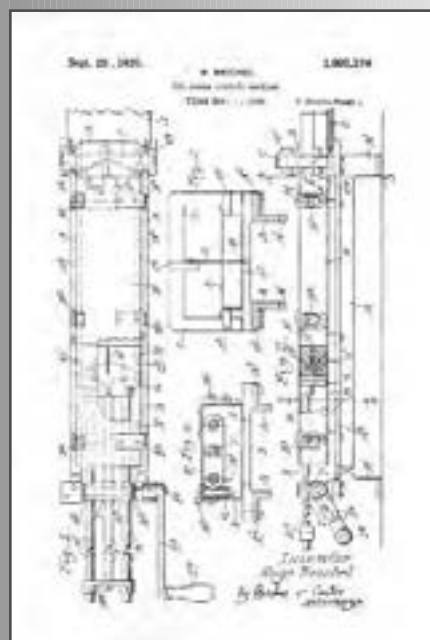
One of Hugo Reichel's key inventions was begun in 1923 and patented in January 1926. His **shingle cutter** enhanced the cutting, stacking and bundling of asphalt shingles. This landmark invention helped change the company and the industry (with further enhancement by John Johansen...)

In 1922 and 1923, Hugo Reichel ventured into a different direction. His **ice-cream cutter**, patented in February, 1926, in one operation cut large slabs of ice cream into small blocks for wrapping and packaging. His **ice-cream cutting machine**, patented in September, 1926, was specifically designed for cutting and packaging ice cream to be chocolate-covered. (*This machinery was eventually used in the production of "Eskimo Pie" ice cream confections...*)

Two more automobile tire related inventions followed in 1926 and 1927. Both patented in 1929, the **tire remover** mechanically removed solid rubber tires cemented to rims. The **valve separator machine** provided an automated system for extracting brass air valves from balloon tire inner tubes.

One of Hugo Reichel's final patents was for work he began in 1926 on a **shingle strip machine**, which was prophetically another enhancement for the asphalt roofing industry. This machine would take long rolls of asphalt composition roofing, and cut and slit the edges so that when the material was installed on a roof, it would appear like cut shingles, when in reality it was roll roofing.

By the time the U.S. Patent office awarded Hugo Reichel Patent # 1,758,410, he was dead. It would take follow-up work by Johansen, the new owner of Reichel & Drews, to bring the asphalt roofing shingle machinery to nationwide prominence in the later 1930s.





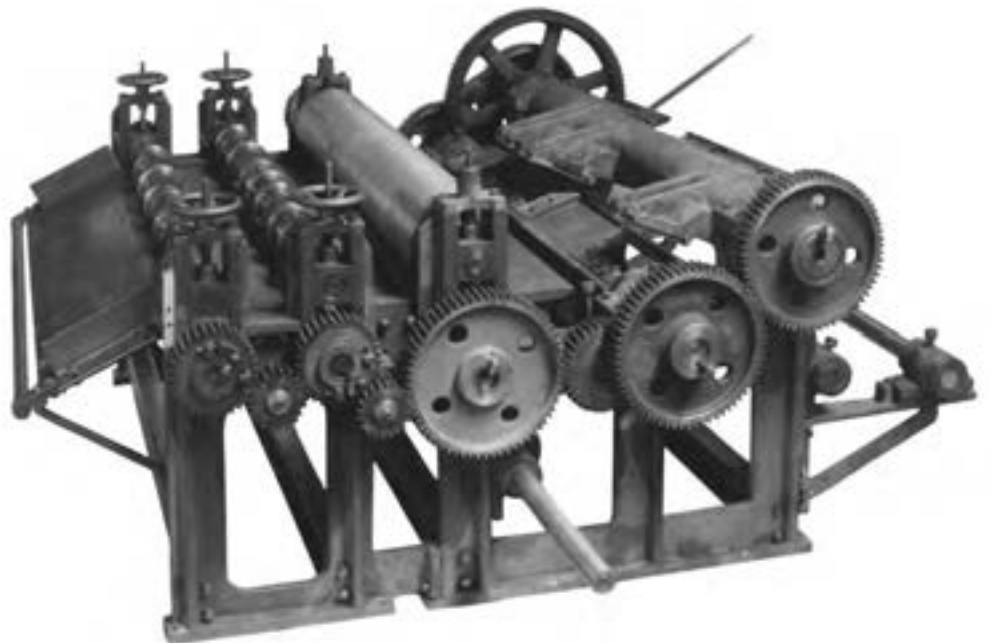
## The Danish Connection.

At that time, Fred Drews hired a Danish immigrant with innate engineering expertise, John V. Johansen. Adding Johansen to the staff would make a difference for not only the company, but the entire asphalt roofing industry.

Before any notable big breakthroughs took place, Reichel & Drews went through trying times. The Great Depression started in 1929, casting grave doubt on future business expansion as millions lost their jobs (and their ability to buy, build or consume...).



*The Reichel & Drews 1962 workforce ready for a field trip in their Sunday best.*





*Eric Ousen has the longest memory of Reichel & Drews, starting with the company in 1935. He is the last person to remember original owner Fred Drews. Eric retired in 1970 after 35 years with the company. Today, the spry 88-year-old still can spin the yarns about the old days, especially about meeting his wife Connie at a tavern across the street from the plant on Lake Street.*



### **When John Johansen Needed Overalls.**

Worse, Hugo Reichel died in 1930, casting doubt on how well Fred Drews could continue the company. Drews had always been the business brains of the firm, while Hugo Reichel was the engineering and inventive genius.

Fred could run the show but without Hugo, there might be no show to run.

Fred turned to Johansen and sold him the company - all on borrowed money, since Johansen had plenty of ideas but no cash.

In return, Fred Drews continued to have an interest in the firm, one relegated to a consulting role.

At first, operating on supreme confidence in his abilities despite the economic disaster sweeping the county, Johansen kept the firm afloat by continuing work as a general "job shop" and working with Hugo Reichel's customers in the leather conveyor belting and asphalt roofing production industries.

Somehow, Reichel & Drews, now operating from a plant at 452 North Ashland Avenue on Chicago's "West Side," managed to survive the hard times and uncertain future.

However, Johansen's ingenuity would not only propel the company into national prominence, his inventiveness would change an entire industry simply because he set out to do what others had said couldn't be done.

And he did it.

"MR. REICHEL, MEET MR. DREWS"

Long-time Reichel & Drews employee Eric Ousen was hired for the company by John V. Johansen in 1935. What Johansen didn't know was that Ousen's father had done the Dane a good deed.

Johansen, like Ousen's father, had come to the U.S. from Denmark seeking a new life. Years earlier, the two men knew each other. According to Eric Ousen, John Johansen approached the elder Ousen asking him for a loan of \$10.00 shortly after he arrived in the country.

Asking what it was for, Johansen explained he had just got a new job (with Reichel & Drews) and needed supplies and clothes - especially overalls.

The elder Ousen lent him the \$10.00

Johansen would go on to own and run the company - and pay back the loan by hiring Eric.

Eric Ousen worked for Reichel & Drews until he retired.



*30 large packages like this*  
**AUTOMATICALLY WRAPPED**  
***EACH MINUTE!***

CAN YOU PUT THIS SPEED AND ECONOMY TO WORK?





# Through Depression, War and its Aftermath

*“We are deeply impressed with the honor involved in this recognition and feel it is only the background for additional stars for which we will now strive...”*

—JOHN V. JOHANSEN,  
2nd president of Reichel & Drews  
in accepting the Army-Navy “E” Award in 1944

*With Hugo Reichel dead and Fred Drews minimally involved, John V. Johansen began the 1930s with a truly uncertain future. His optimism, self-confidence and faith in himself and his company were equal to the challenges they faced. Yet as so often happens in life, a chance decision by another company turned Reichel & Drews fortunes in a way no one could imagine...*

At first, John Johansen served the same clientele as had Hugo Reichel and Fred Drews. Besides working with belting and conveyor machine parts and systems, the company developed hydraulic molding presses and spring winders. Even Hugo Reichel’s ice cream cutters found their way into “Eskimo Pies.”

## **They Said it Couldn’t Be Done.**

In the early 1930s, a specially-made 3-tab hexagonal-shaped asphalt shingle became quite popular. Its development brought with it problems since the shape exposed more of the shingle to wind. Hexagonal shingles were more prone to lifting, damage and tearing. They required additional stapling to hold them in place.

A Chicago roofing contractor developed a new style of hexagonal shingle using specially slit end tabs “locked” to the roof. Dubbed “Staple-Lox,” these hexagonal shingles needed a high speed manufacturing process to become cost effective.

*Facing page: Reichel & Drews has always been known for creativity, customer service and innovation. After John Johansen bought the company, those qualities continued and expanded. A unique shingle wrapping and imprinting machine eventually attracted the keen interest of a corporate suitor.*



*Reichel & Drews cutting machines eventually were combined with stackers to eliminate the tedium, mess and danger of manual stacking.*

The contractor turned to the only major asphalt shingle production equipment manufacturing company in the nation at that time - the Guyton and Cumfer Manufacturing Company, also located in Chicago.

Ernest Guyton, the company's president, together with his engineering team, studied this new "Staple-Lox" hexagonal asphalt shingle and determined high speed automated production machinery could not be made to efficiently produce the revolutionary shingle.

If Guyton said it couldn't be done, it probably couldn't.

### **Reichel & Drews Could.**

For some years, Reichel & Drews had a steady business repairing and making replacement parts for local roofing manufacturers. Hugo Reichel had developed machinery and a system of reliable cutting knives, forging a small yet dependable niche in a specialized field.

The "Staple-Lox" inventors had run across Reichel & Drews workers in sev-

eral of the plants, and turned to Johansen to see if he could come up with a machine to produce their shingles.

It may have been the most momentous event in the company's history to that time.

Johansen took a risk and developed a machine to make and cut the special hexagonal shingles. Johansen's **machine for forming composition shingles** was finished in 1932 and awarded U.S. Patent No. 1,953,680 in April, 1934.

Trials of the new machine took place at the Amalgamated Roofing Mills plant in the western Chicago industrial area called "Clearing" by the locals. With trial-and-error, fine tuning and adjusting, the machinery eventually worked flawlessly. Soon, Amalgamated was running three shifts, seven days a week producing hexagonal asphalt composition shingles for nationwide distribution. All this happened during the worst years of the Depression.

It was a smashing success during a dreary time.

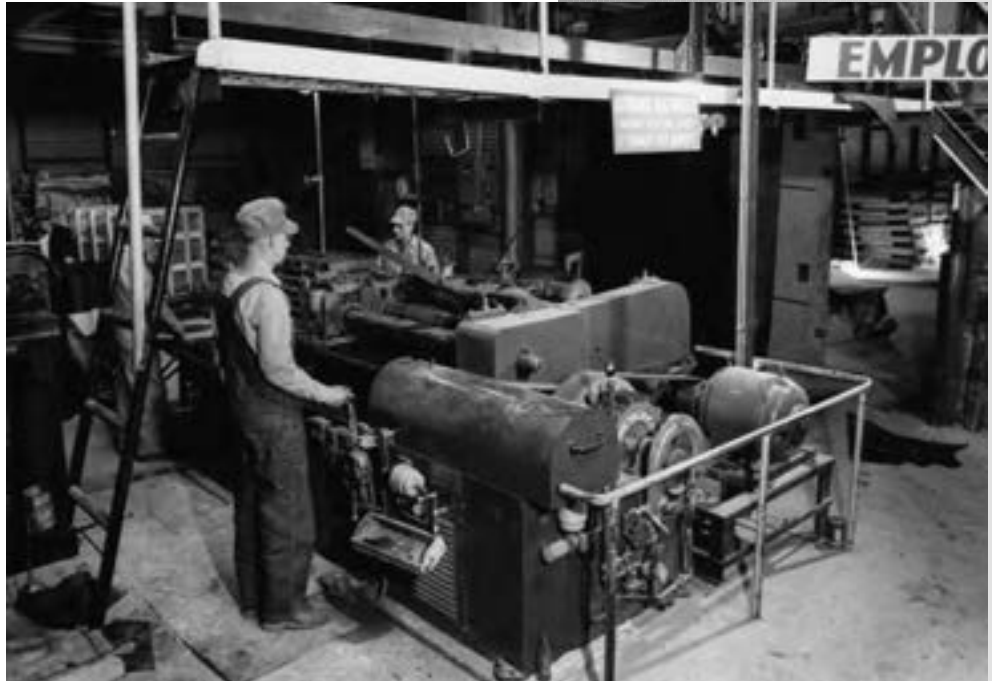
### **A Budding Nationwide Reputation.**

The Reichel & Drews shingle forming and cutting machine drew immediate attention. Shingle manufacturers from all parts of the country wanted to see what it was that kept this small Chicago area shingle plant (Amalgamated) running 'round the clock.

To accommodate interest, Reichel & Drews developed, marketed and produced an expanded line of asphalt roofing cutting machinery. A second plant location on Lake Street in Chicago was opened to handle the interest and production.

Johansen rallied his workers to build machinery to equip other plants. Reichel & Drews machines were installed at the Texas Roofing Company plant in Lockport, Illinois, then at the Ford Roofing Company in Vandalia, Illinois.

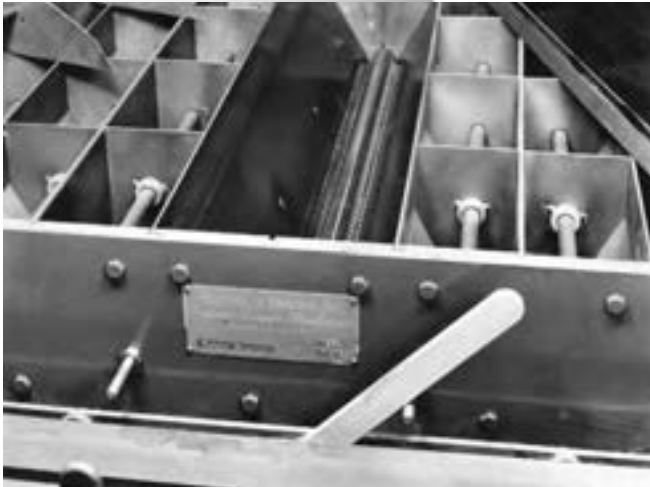
Claude Brown, a salesman for the Cleveland, Ohio-based CertainTeed Products Corporation, a shingle manufacturer, saw the innovations made by Reichel & Drews and came up with a plan for an entire high-speed roofing plant.



*Automatic roll winders developed by Reichel & Drews increased the efficiency of roll roofing production processes.*



Forming the Dixie Asphalt Roofing Company, Brown built a new facility in Savannah, Georgia. Working with Johansen, Dixie opened in 1938 as the most modern - and automated - roofing materials production plant in the United States.



*(Dixie Asphalt Roofing later became Dixie Asphalt Products, then later became part of Ruberoid, a nationwide asphalt roofing manufacturing firm. In the mid-1960s, Ruberoid was bought by General Aniline and Film Corporation - today's GAF.)*

Soon, the roofing industry was beating a path to John Johansen's door. What had begun as a small Chicago machine shop specializing in parts for conveyor belt systems and pulleys three decades before, had now transformed into the up-and-coming producer of roofing machinery for the industry.

*Ironically, Guyton and Cumfer, which had been the premier roofing machinery manufacturer and in essence "owned" the industry, never recovered from the decision to pass on the "Staple-Lox" shingle. Before the decade of the 1930s was out, Guyton and Cumfer failed, eventually reorganizing as Roofing Machinery Manufacturing Company. Even more ironically, Reichel & Drews continued to service and fabricate replacement parts for the still-operating Guyton and Cumfer machines.*

Further orders cascaded in. Reichel & Drews continued to innovate, always adding new features to existing machines or developing even newer processes.

At the Dixie plant, a special Reichel & Drews crew installed the industry's first fully automated roll winder.

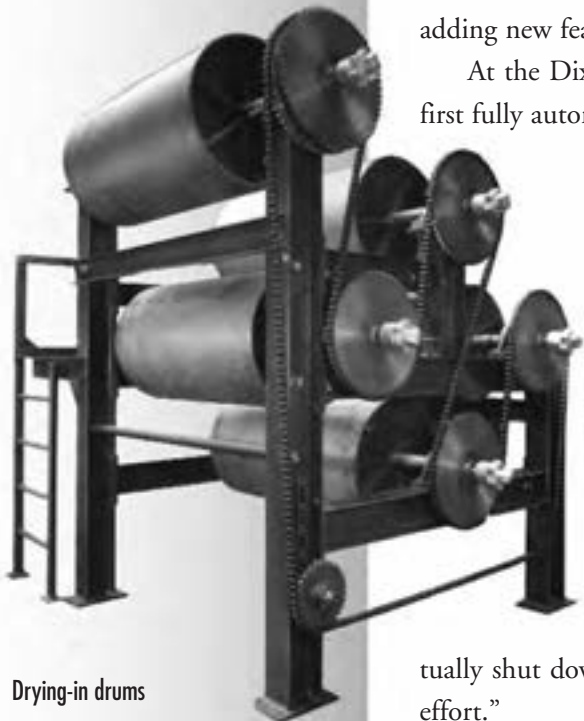
## Wartime.

By the start of the 1940s, Reichel & Drews was "on the map" in the asphalt shingle production machinery world. But in Europe, the Axis powers were "on the map" to redraw it to their own liking. In the Orient, the Japanese had already ventured into China.

Wartime came for the United States, and affected business and industry as well as people.

Now Reichel & Drews had a considerable reputation to uphold. They did, handsomely. Asphalt shingle production virtually shut down as the materials and their processes were diverted to the "war effort."

Almost immediately, Johansen worked with his employees to transform the machinery and processes. Quickly, the company received contracts from the U.S. Navy.



Drying-in drums

Through Cicero, Illinois-based Western Electric, Reichel & Drews received a huge contract to fabricate radar unit housings and instruments. Through the Manitowoc Shipbuilding Company of Wisconsin, they received orders to design and build rudders and rudder assemblies for LSTs and PT boats.

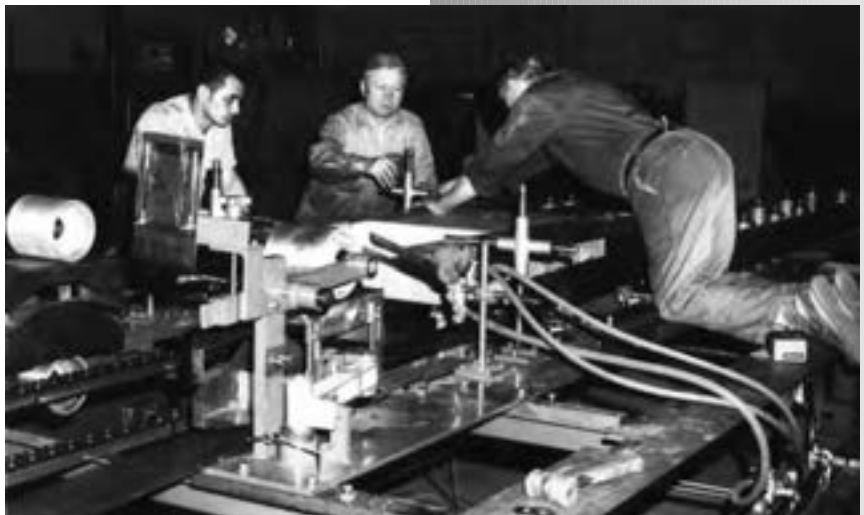
Reichel & Drews machine tooling expertise also was tapped to build submarine torpedo shafts.

Johansen also starred in the effort as he proposed a solution to what was then a problem of acquiring enough hemp for wartime use. Prior to the war, hemp, jute and manila fibers were imported, primarily because of the lower costs of the foreign firms, who used hand labor to spin the fibers into roping and other materials.

The war stopped those imports, and the War Production Board turned to U.S. sources. Using machinery developed earlier for working with hemp, Reichel & Drews applied to the War Production Board to build new machinery to spin hemp fibers more efficiently than done ever before mechanically in this country.

Although the war was already winding down by the time the new machinery was ready and available, John Johansen had gained a nationwide reputation as an expert on working with and mechanically spinning hemp from fibers.

The Reichel & Drews workforce performed beyond the call of duty. Because of the excellent “on-time” performance and delivery of components, the joint U.S. Army-Navy War Production Board awarded the company the “E” for effort designation on May 4, 1944. John Johansen was honored with the special “E” flag to fly over the plants. Reichel & Drews was one of the smallest companies in the nation to receive this prestigious classification.



*Reichel & Drews has always maintained, adapted and improved existing machinery - continually working with customers to determine their needs and wants.*

### **Return to Roofing Material Production.**

Even before World War II ended, the War Production Board authorized Reichel & Drews to resume limited asphalt shingle machine fabrication. Everyone realized there would be a tremendous building boom when the men and women returned from the war.

In the United States, there was incredible pent up demand for housing. Relatively little new home construction took place during the 1930s because of the Depression and in the 1940s because of the war. Two decades of housing

demand was set to explode upon the land in the late 1940s.

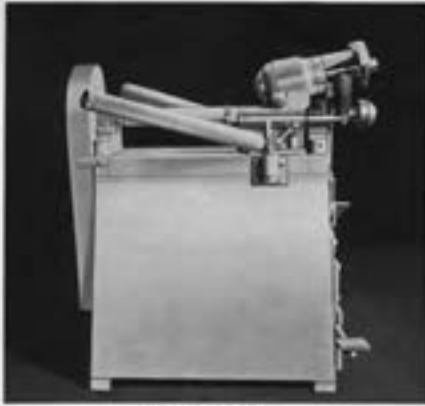
Quickly, Reichel & Drews developed two new products. One, a simulated insulated “brick” siding machine was introduced. Second, the automated roll winder, so successful at the 1938 Dixie plant installation, was developed as a stand-alone item. Its introduction brought in an immediate order for 17 machines.

Reichel & Drews’ innovation and engineering excellence attracted attention and orders from large national roofing manufacturing corporations, including Johns-Manville, Flintkote, Lucky Star and the venerable Bird & Son (which traced their heritage to 1795...).

### **Making Lemonade from Lemons.**

Not that there weren’t some bumps in the road along the way. The post-World War II era was filled with business opportunities. No sooner did the war end when two of John Johansen’s trusted lieutenants, chief engineer Carl Westergaard and shop superintendent Arnold Gram decided to move on and start their own business.

Johansen had not groomed successors, so for a while he was in the dark. But he had a knack for hiring the right people. Later that year, he brought to Reichel & Drews two men who would propel the company to the next level - and with it a stunning new invention.



Model 42 — Debeader

#### **SAVE RUBBER WITH THIS NEW SIMPLIFIED DEBEADER**

- It will debead tires ranging from 7.50 x 15 to 13.50 x 24.
- It will cut sidewall strips 4" wide.
- It is quickly adjustable for bead sizes which eliminates much sorting.
- It reduces bead losses to an absolute minimum.
- It increases the life of slitters by means of adjustment that permits knives to be worn down two inches in diameter.
- It is sturdily built with ball bearings thruout.

**REICHEL & DREWS, INC.**  
4516 NO. ASHLAND AVE.  
CHICAGO, ILL.

Paul Henriksen was hired as shop superintendent in the late summer of 1945 and Peter Stanley was brought aboard in November of that year as chief of engineering

### **A Decade of Innovation.**

Any business associated with the housing industry during the 1950s was swamped. Returning servicemen immediately married, started families and clamored for their own homes.

Prior to these times, multi-generational families lived together, sometimes in two- and three- flats, often in extended dwellings. The post-war world was a time of considerable culture shift as the new families wanted their own space.

Cities expanded: suburbs from Glendale, Wisconsin to Levittown, New York to San Dimas, California mushroomed. The housing industry was booming. So was the need to cover those houses with asphalt roofing shingles.



Johansen was approached by John Addison of the Addison-Semmes Company, a Wisconsin paper manufacturer. Addison wanted to get in on the housing boom. His company made a specialty heavy Kraft paper, he felt would be just right for wrapping, labeling and shipping stacks of asphalt shingles.

What didn't exist yet was a machine to stack and wrap completed shingles - it was still done by hand in the 1940s and early 1950s.

Johansen decided to give it a try. Working closely with Henriksen and following the engineering lead of Stanley, they toiled incessantly to perfect the as-yet un-invented machine and process.

After several years of starts and stops, Reichel & Drews eventually completed work on the first totally automatic shingle wrapping machine.

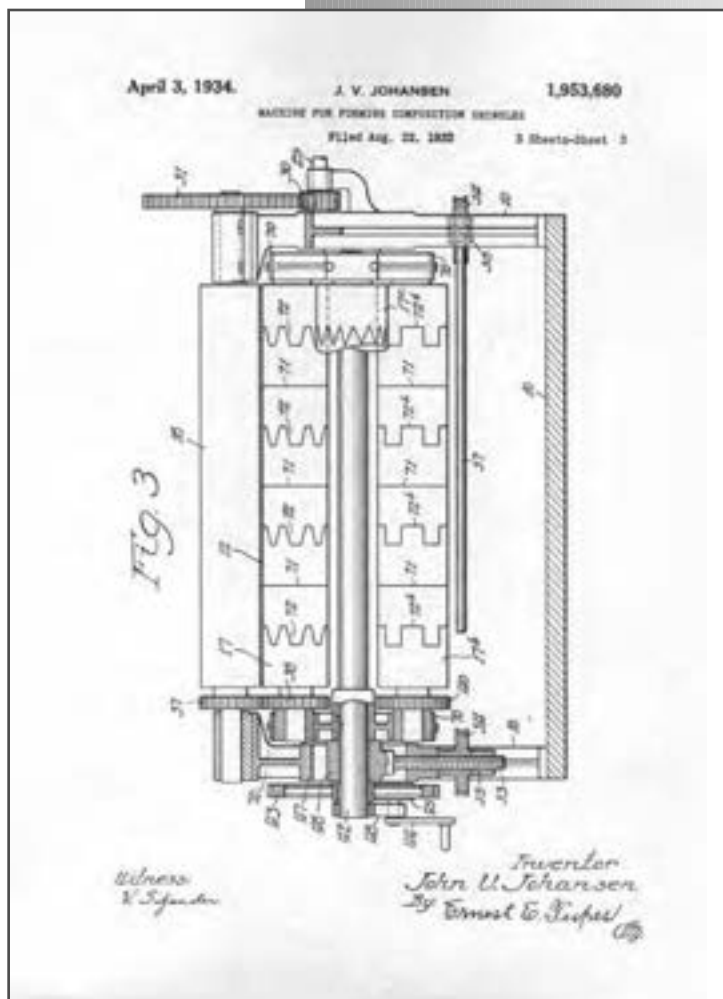
Perfected in 1958, the Reichel & Drews shingle wrapping machine instantaneously became the standard of the industry, capable of handling large loads at speeds of up to 33 bundles per minute, a vast and dramatic improvement over anything that had gone before.

Using Addison-Semmes' heavy wrapping paper, the machinery was able to code and label each bundle.

This significant innovation not only kept Reichel & Drews at the forefront of roofing material manufacturing processes, it caught the eye and interest of a corporate suitor.

That company wanted to know how and why orders for its steel band production - specially devised for wrapping bundles of asphalt shingles - had suddenly nose dived.

What they found out - and what they did about it, again changed the industry, and Reichel & Drews.



*Continuing in Hugo Reichel's footsteps, John Johansen also had a knack for improving machines to make them unique, and therefore, patentable.*



*Left: Sales reps gather with Reichel & Drews leadership in this late 1940s photo. Company president John Johansen is at the head of the table. Paul Henriksen, seated just to the left of Johansen would one day succeed him.*

When Reichel & Drews received the Army-Navy "E" Award, a special ceremony accompanied the presentation. A commemorative program detailed the significance of the award.

DEPARTMENT OF THE NAVY  
OFFICE OF THE UNDER SECRETARY  
WASHINGTON

7 April 1944

Mr. J. V. Johansen, President  
Reichel & Drews, Incorporated  
454 North Ashland Avenue  
Chicago, Illinois

Dear Mr. Johansen:

This is to inform you and all employees of Reichel & Drews, Incorporated that the Army and Navy are conferring upon your plant the Army-Navy "E" Award for outstanding production of war materials.

This award consists of a flag to be flown above your plant, and a lapel pin which every member of Reichel & Drews, Incorporated may wear as the mark of an inspiring contribution to the future of our country.

Your accomplishment during the past year has set a high standard, yet the Army and Navy are confident that your record in the future will raise that standard even higher.

Sincerely yours.

James F. Jones

# REICHEL & DREWS, INC.

✿ MACHINISTS ✿  
Designers and Builders of Special Machinery  
452-54-56 N. ASHLAND AVENUE  
TELEPHONE MONROE 5823-24-25  
CHICAGO, ILLINOIS

April 11, 1944

The Under Secretary of the Navy  
Navy Board for Production Awards  
2118 Massachusetts Avenue, N. W.  
Washington, 25, D.C.

Attention: Honorable James Forrestal

Gentlemen:

This is to acknowledge receipt of your letter informing all employees of our company that the Army and Navy are conferring upon our company the Army-Navy "E" Award for outstanding production of war materials.

We are deeply impressed with the honor involved in this recognition and we feel that this is only the background for additional stars for which we will now strive.

Sincerely yours,

REICHEL & DREWS, INC.  
*John V. Johansen*  
John V. Johansen  
President

JVJ:JO

Below: Reichel and Drews received the prestigious Army-Navy "E" Award in May, 1944. John Johansen proudly holds one end of the flag in this photo taken from a Chicago area Danish language newspaper.







# The Signode Years

*“It’s this experience that we can rely on for continuing our reputation for exceptionally high quality products...”*

—PAUL F. HENRIKSEN

3rd President of Reichel & Drews,  
describing the company’s veteran workforce

*When Reichel & Drews began the 1960s, the previous decades of innovation had propelled the company into the forefront of the asphalt shingle production machinery industry.*

*John V. Johansen, president since Fred Drews sold the company to him in 1931, took the opportunity to place the company on a firm footing for the next generations...*

For many years, asphalt roofing manufacturing companies had bundled stacks of shingles with a strip of wood, then cardboard secured by wire ties or straps.

The machines that wrapped the bundles in wire - and the wrapping wire itself - were made by the Signode Corporation. Founded in Chicago by Ellsworth E. Flora and J. Fremont Murphy in 1913, the company was first known as the Seal and Fastener Company.

The name was changed to “Signode” in 1916 (*from two Latin words: “signum,” meaning seal, and “nodus,” meaning knot*).

In 1928, the company incorporated in Delaware under the name the Signode Steel Strapping Company, its official, legal name until reverting to simply “Signode” in 1964.

The company concentrated on manufacturing packaging machines and systems - and the wrapping supplies needed to package the materials.

“Many years ago, every roofing company in the country used the Signode wire strapping machines and wire ties,” says Jim Thomas, currently Spare Parts Manager for Reichel & Drews and a company veteran since the 1960s.

*Facing page: Paul Henriksen was originally recruited by John Johansen to work as shop superintendent for Reichel & Drews at the end of World War II. Johansen sold the company to Signode in 1960 and when he died later that year, Henriksen was named president - a job he would hold until 1979.*



*Reichel & Drews has a long history of employees with long histories. Here shown in 1962, bench hand Joseph Symonanis had already been with the company for 30 years. Symonanis had at least one machine patent in his own right.*

“Signode supplied the machine and you’d keep buying the wire from them. Companies would go through miles and miles of wire.”

They did until Reichel & Drews developed the automated shingle wrapping machine.

### **A Strategic Corporate Solution.**

The new wrapping machine attracted immediate favorable attention.

“The beauty of the Reichel & Drews machine and process was that the entire bundle was wrapped in Kraft paper,” Thomas continues.

“The paper was protective. Even better was the more attractive appearance and the ability to print company advertising on the wrapper, as well as the color and lot number. It made perfect sense.”

A rush to buy Reichel & Drews machines began, as well as supplies of Kraft paper from Addison-Semmes.

By 1959, Signode saw shingle manufacturers returning their strapping machines and canceling orders for wire strapping.

Signode’s leadership team looked into these events and came up with an imaginative and bold move to stem their mounting losses.

On January 1, 1960, Signode purchased **both** Addison-Semmes **and** Reichel & Drews.

Simple.

Effective.

### **A New Era for Reichel & Drews.**

When Signode came courting in 1959, John Johansen was ready for them. Company owner since Fred Drews sold it to him in 1931 following Hugo Reichel’s death in 1930, Johansen was looking toward retirement.

The Signode offer was accepted and Reichel & Drews became Signode’s first wholly-owned subsidiary. The move offered Johansen a graceful way to pass the baton. However, Johansen continued for several months as president of Reichel & Drews.

*(In a parallel move, John Addison, previous owner of Addison-Semmes, Kraft shingle-wrap paper producer, continued as president of that firm following Signode’s purchase of it...)*

But Johansen, who had always kept a high civic involvement, was more and more often out of the plant, regularly giving speeches. It was at one of his public appearances in 1960 that he suffered a heart attack and died.

Reeling from the unexpected, parent Signode asked Paul F. Henriksen to



step in as 3rd president of Reichel & Drews. Henriksen had been one of Johansen's hires in 1945 when an unexpected group of top-level R & D executives left the company to start their own firm.

### Another Innovation - The Palletizer.

After Paul Henriksen took over he instructed his management and engineering team to tackle a new challenge. With additional research funding from parent Signode, Reichel and Drews developed a revolutionary **automatic palletizing machine**.

When introduced in 1961, the palletizer expanded Reichel & Drews' mastery of the asphalt shingle production machinery industry.

The palletizer automatically stacked 12 layers of bundled and packaged strip shingles. The unique machine would alternately stack the bundles on a conveyor-fed pallet and move the pallets to a staging area for shipment.

With these innovations, Reichel & Drews had a very bright future - within the industry and as part of the Signode family.

"Reichel & Drews is looking forward to a bright and prosperous future," Henriksen said as quoted in the July, 1962 issue of **Signews**, a Signode publication. "The automatic wrapping machine, which accounted for only 33% of the firm's production in 1961, is now accounting for 45% of its present output. And, we really haven't begun to realize the full potential of the automatic palletizer. It should be as big or bigger than the wrapper."



*Hired at the same time Paul Henriksen joined the company, Peter Stanley led Reichel & Drews' engineering staff as Vice President Engineering for four decades.*



*Left: The Reichel & Drews' innovative Automatic Shinglwrap Machine, produced in conjunction with paper producer Addison-Semmes, is what attracted Signode's attention in the late 1950s.*



*Signode realized quickly that Reichel & Drews' successes required expansion from the cramped, low-ceilinged Ashland Avenue Plant.*

During the mid-1960s, working closely and jointly with the Addison-Semmes division of Signode, Reichel & Drews developed a polyester strip applied to the back of shingles preventing them from adhering to each other. For years, stuck shingles were damaged during unpacking, adding to costs and worker frustration.

The Signode-sponsored introduction of Release Film® added yet another value dimension to the process. With the Release Film® stripping produced by Addison-Semmes, and Reichel & Drews supplying the machinery to position and attach the strips, asphalt shingle manufacturers achieved a higher level of efficiency.

*(In 1966, the Addison-Semmes subsidiary was renamed Signode Wrapping Systems.)*

## Not Just Roofing.

Nor was Reichel & Drews just making asphalt shingle roofing production machinery and spare parts.

From the company's start, Reichel & Drews' expertise in making special-purpose machinery, repair parts and engineering designs for machine components had been its core business.

Throughout the company's history, expert machinery repair service has been part of the mix. Other kinds of machines were, as well.

At various times - even beyond the World-War II years - Reichel & Drews consistently produced machinery for wide-ranging industries, such as tire debadders or wheel-washing machinery specific to the car wash business.

However, the company's successes continued in the development of shingle stacking, bundling, wrapping and palletizing. Eventually, Reichel & Drews produced machinery to **stack** or **de-stack** products similar to but decidedly different from roofing shingles, including floor tile, glass, plastic, wood and other items with close attention to minimizing damage to their finished surfaces.

Through the 1970s, Paul Henriksen guided Reichel & Drews, continuing as president. Johansen's hand-picked successor decided to retire from the company in August, 1979 after 34 years with the company.

That month, Signode's leadership team named veteran Signode manager John Fyfe as 4th President of Reichel & Drews. Fyfe had worked in corporate communications for the parent company but relished the challenge of running one of the company's subsidiaries. This was his chance.

## The Need for a New Facility.

From the days of Hugo Reichel and Fred Drews, the company operated out of headquarters at 452 North Ashland Avenue in Chicago. As business



## How Reichel & Drews Innovations Changed the Way People Worked.

Reichel & Drews' Jim Thomas, veteran Spare Parts Manager, is graphic in his description of how the shingle wrapping machinery and other R & D innovations actually changed the way men worked in the shingle factories.

"Up until Reichel & Drews introduced automated shingle stackers, people actually hand loaded the shingles," Thomas explains.

"It's hard to imagine that people would do this, but men would stand at the end of conveyor belts and would catch the shingles by hand!

"The shingles would come off the belts at a pretty rapid rate, yet these men were so good, they could actually count the number by feel."

The shingle collectors and stackers were big and strong.

"These guys were very hard working, usually in a hot plant. It was a very, very difficult task - so much so they would work 20 minutes and take a 20 minute break, on and off."

This specialized, labor-intensive work was eliminated by Reichel & Drews engineering and production machinery.

"Once this process was automated," Thomas continues, "you no longer had to worry about back injuries or whether the workers would even show up on a given day."

Reichel & Drews' innovations in stacking, wrapping and palletizing asphalt shingles became the company's strength, reputation and concentration.





*The palletizer, also developed by Reichel & Drews, expanded the total systems, "turn-key" approach of machine production.*

expanded, a satellite plant for the assembly of machinery was purchased at Lake Street and Talman Avenue, several blocks away.

By the 1970s, that area of the city was increasingly surrounded by urban decay. The buildings were old, and access to them for delivery trucks, customers and employees became more and more problematic.

It was not necessarily the best location to make significant capital investment for expansion.

*(Signode's own corporate headquarters had for many years also been in Chicago on the city's northwest side, at 2600 North Western Avenue - about 3-1/2 miles from the old Reichel & Drews site. In 1971, Signode moved into new corporate offices in north suburban Glenview, Illinois, while retaining the Western Avenue plant as a production facility. The company moved all operations from Western Avenue to Glenview in 1979.)*

Signode looked to relocate Reichel & Drews. In 1978, property was acquired in west suburban Itasca, Illinois approximately five miles west of O'Hare International Airport.

During 1979 and 1980, a state-of-the art 83,000 square foot facility was built for Reichel & Drews and Signode Wrapping Systems (which had been Addison-Semmes). It made sense to combine the two units into one plant and



*Left, below and following page: In 1978, Signode acquired property in west suburban Itasca, Illinois and built a state-of-the art facility combining Reichel & Drews and Signode Wrapping Systems. Reichel & Drews moved in on December 15, 1980.*





the new building offered more than double the square footage of the old facilities of both subsidiaries combined.

Reichel & Drews moved into the new facility on Monday, December 15, 1980 with Signode Wrapping Systems joining them on Monday, January 19, 1981.

With John Fyfe now aboard as Reichel & Drews president, he looked for ways to grow the company, its product lines and number of customers.

Unfortunately, Reichel & Drews - and John Fyfe - ran into a period of business tumult. Runaway inflation drove interest rates to unheard of levels. A sharp business downturn and recession plunged the nation and the company into a protracted period of painful decisions.

One decision to be made included Reichel & Drews' continued viability as a significant part of Signode.

The outcome - and the players in it - would be surprising.



### Recollections of a very different era.

With some qualification, one could say John V. Johansen's tenure as Reichel & Drews president made the company.

From 1931 until 1960, he guided the firm started by Hugo Reichel and Fred Drews in the early years of the 20th century. For most of those years, the company continued as a machine shop, specializing in certain kinds of fabricated devices - often associated with conveyors and pulleys.

But Johansen's years also covered a major transition in the company into the country's premier asphalt shingle production machine fabricator.

What was working for the company like in those years? Janice Garcia remembers.

In 1959, when Janice came on board, Reichel & Drews, despite their nationwide reputation, was still a small company.

"It was a small office," Janice recalls when she was hired as a receptionist and payroll clerk. "I worked in the downstairs office reception area where there were only three desks. Right outside was the shop — there was glass between the office and the shop. We had about 30 people and the atmosphere was great."

"John Johansen was president of the company at that time and he worked out of an upstairs office."

Inexplicably, Johansen, Danish immigrant to the United States, also served for a time as either the consul general or representative of the consul of Chile.

"I have no idea how that came to be," Garcia explains, "But we used to get quite a few calls from Spanish-speaking people, so I actually took a Spanish course so I could understand a few words."

Johansen spent considerable time in the plant and office areas. "He was very distinguished looking and well spoken. I believe he died of a massive heart attack while he was speaking at a function."

Johansen always came to work dressed in suit and tie. "It was not casual!" Garcia recalls of that different era. "We (the women in the office) [wore] heels, hat, gloves, neat hair." Business attire was like that.

After Johansen's death, Paul Henriksen took over as president.

"Paul Henriksen was probably one of the most honest, fair men I've ever known," Janice Garcia states. "He knew everyone who worked for him, personally. He ran the company on a personal basis - he knew everything that was going on. And he was extremely fair."



*Janice Garcia started working for Reichel & Drews and John Johansen in 1959.*



# B o l d   M o v e s

*“The years of experience, commitment and dedication of Reichel & Drews employees has really been the strength of the company. That’s why the company has succeeded for 100 years...”*

— CURTIS N. MAAS

5th (and current) president of Reichel & Drews

*As Signode entered the 1980s, economic pressures and a change in corporate direction resulted in the decision to sell Reichel & Drews. They didn’t have to look far for a buyer. The new ownership propelled the company into a new era of innovation, resulting in a final climb to the very top of the industry...*

Shortly after John Fyfe took over as 4th President of Reichel & Drews in 1979, he began to surround himself with top-notch engineering and management people. His charge was to take the venerable machinery producer to a wider presence in the national and international scene.

One of his early hires was a young engineer working on his MBA. When Curtis Maas first came aboard in 1980, he had been hired away from another veteran Chicago company, Grotnes Metalforming Systems, a producer of metal forming machinery for the automobile and truck industry.

In 1982, Fyfe placed Maas in the job of Manager of Market Development. Maas’ role was to attempt to diversify Reichel & Drews into other machinery production in addition to the continuing success with the asphalt roofing industry.

But that year, a dramatic change took place in the parent company, Signode, in the largest leveraged corporate buyout at that time.

The new arrangement created new challenges, and fairly soon, the parent company looked to sell some of its assets.

*Facing page: Signode provided for extensive office space as well when the new Itasca facility opened in late 1980. Big changes were in store for the company just a few years more down the road.*





*Reichel & Drews unveiled a revolutionary Floor Tile De-Stacking Machine in 1983, designed by newly-hired engineer Curtis Maas, shown here at the far right - he is the only man wearing a tie.*

### **A Shocking Transition.**

Over the Memorial Day weekend in 1984, John Fyfe went on a fishing trip. He would never return. The 50-year-old Fyfe's life and career tragically ended when he suffered a fatal heart attack.

For the next several weeks, Signode wrestled with the choice of a successor, even as the company strategized its own future, including the company's continuing ownership of Reichel & Drews.

Curtis Maas made a bold move. Calling for a meeting with the Signode Vice President whose responsibilities included Reichel & Drews, Maas spent half an hour explaining why he would be the right choice for the job of president.

His persuasive powers were convincing. In August, 1984, the 28-year-old Maas was named 5th president of Reichel & Drews.

"I learned a very important lesson," Maas recalls. "I wasn't even being considered because of my age. But, because I took the time to go over there, I overcame that. The lesson I learned was that you have to ask for those things you want and in which you believe."

Now in place as the company's president, Maas set out to learn how to do his job.

"At that time, the company was in a challenging position; our financial performance was not strong, and we really needed to get back on track and start moving forward."

“I listened a lot, I evaluated. I then reached agreements with people on what I was expecting them to do. They understood it and things started to move forward.”

Then Signode dropped the other shoe.

### **Signode Decides to Sell Reichel & Drews.**

Curtis Maas was just starting to turn things around at Reichel & Drews when he got a call from the Signode leadership team in March 1985, some eight months after he took the job as president.

“It was only the second time I was at the [Signode] headquarters in Glenview,” Maas relates. “I was told Signode was going through a restructuring and that they were putting a number of subsidiaries up for sale, including Reichel & Drews.”

Surprised, Maas quickly regained his composure and made another bold move, asking if they would entertain an offer from Maas’ management. Signode agreed, qualifying the response by stressing Maas would have to compete against all other bidders for Reichel & Drews.

Maas immediately began the process of learning about what he had proposed.

“I had to learn how to put together a leveraged buyout. But I had the right people around me and was able to attract investors interested in the business and in us. Plus, there were quite a few leveraged buyouts going on at that time and financing was readily available.”

Maas, his leadership team and other investors, made an offer for Reichel & Drews. Sealed bids were placed and the action eventually boiled down to an offer from giant Illinois Tool Works (ITW) and Maas’ group of investors.

Maas’ group won the nod and the deal was closed in August, 1985. Curtis Maas, just three years before a master’s degree student, was president of his own company at the age of 29.

“This may not sound right, but I wasn’t afraid of anything then!” Maas reflects. “I decided that I was going to do whatever I needed to do because this kind of opportunity doesn’t come along all the time!”

Maas now turned to moving the company forward.

*Reichel & Drews constantly updates existing machinery as new technology comes on line. Here, a shingle wrapping machine seals paper around a bundle of shingles.*



*Shingles are wrapped in traditional paper or plastic, using mylar tape between them to keep them from sticking together in transit or storage. Wrapped shingles are barcoded for inventory and tracking.*



### **New Products and Globalization.**

Curtis Maas had a significant challenge ahead of him. The company had to grow and expand its product line in order for the buyout to work.

At first, Maas' attention turned towards making the existing product lines the best possible. Through a joint venture with a European firm, Reichel & Drews added the fabrication of production machinery to manufacture modified bitumen membranes - a specialty commercial roofing product in use in Europe since the 1960s.

Reichel & Drews worked out a technology transfer arrangement with the firm to bring the technology to North America. The modified bitumen membrane equipment became an important Reichel & Drews product line. The company has produced and installed membrane manufacturing machinery in the United States and Asia.

### **Total Systems Approach.**

Since 1925, Reichel & Drews had been a major player in the asphalt shingle cutting and packaging equipment lines. Starting in the late 1980s, Maas' leadership team looked at the entire asphalt shingle manufacturing process and concentrated on a total systems approach to offer manufacturers a complete turnkey production operation.

"We started to expand our product offerings to asphalt roofing customers beyond what had traditionally been our niche," Maas describes.

"We had historically provided stacking, wrapping and palletizing equipment for shingles, but lacked a presence in the overall shingle manufacturing process.

"Over the years (the late 1980s on), we continuously expanded our product line to ultimately include everything that was needed in the entire production process to make asphalt roofing material, both commercial and residential."



*UPC Printer developed by Reichel & Drews.*

By the 1990s, Reichel & Drews was the major player in this market. The roofing machinery lines were complete systems, where the company would install equipment for customers, service and supply their production lines. Through diligence, engineering expertise and hard work, Reichel & Drews became a full-line supplier to everyone making asphalt roofing material.



*Because of tremendous experience processing asphalt for the roofing industry, Reichel & Drews began to offer mobile and permanently installed asphalt mixing systems to the asphalt paving industry.*



*When Reichel & Drews moved into the Itasca, Illinois headquarters, management team members made a display of the many shingle manufacturing companies using Reichel & Drews machines. Although many of the manufacturers shown here are still in business today, continuing as Reichel & Drews customers, only 13 major North American companies still produce asphalt shingles and roll roofing out of an original 62 as charted by roofing industry historian Kurt Gore.*



### **Our Customers - From Entrepreneurs to Multi-Nationals.**

The North American asphalt shingle industry started much as did Reichel & Drews - small family-owned businesses or partnerships, employing a handful of people, working out of a single plant supplying a modest geographical area.

The decades of the 20th century demonstrated the incessant growth of larger companies, made large through merger and acquisition.

That has colored the nature of the business Reichel & Drews supplies.

Kurt Gore, who has made a study of the history of the roofing industry his lifelong avocation, cites 62 major asphalt shingle producing companies in the 20th century. Today the number of major producers is 13.

Reichel & Drews has supplied machinery to all of them.

Many of these started as small regional affairs. "TAMKO started in the 1940s," says Gore. "The name stands for Texas, Arkansas, Missouri, Kansas and Oklahoma because that was their territory. They started as a small company that built a few plants, acquired a few more and have grown into a major player in the industry."

GAF (formerly General Aniline and Film Corporation) has long roots through companies it acquired over the years, including former national powerhouses such as Ruberoid, American Asphalt, Dixie Asphalt Products and US Intec.

Owens Corning also grew through acquisition, bringing in parts of Johns-Manville and the giant Lloyd A. Fry Roofing Company which for years supplied shingles to retailer Sears, Roebuck.

Venerable Barrett Roofing, with roots all the way back to the start of the composition roofing process in the mid 1800s, exists today as part of CertainTeed Products.

CertainTeed also holds remaining plants of Bird & Son, whose one-time advertising purported its roots went back to the 1700s in East Walpole, Massachusetts.

For 100 years, one name continues to supply the technical innovation, expertise and service to them all - Reichel & Drews.



*As early as 1986, Curtis Maas and a delegation of Reichel & Drews team members established contacts in China to offer roll roofing, shingle production and asphalt paving equipment.*



*Above: Reichel & Drews management team members meet regularly with Chinese delegations and community representatives to expand opportunities for both nations. Here Mike Walton (the tallest man in the center) is at the March, 1994 Xingtai-Danyang meeting.*

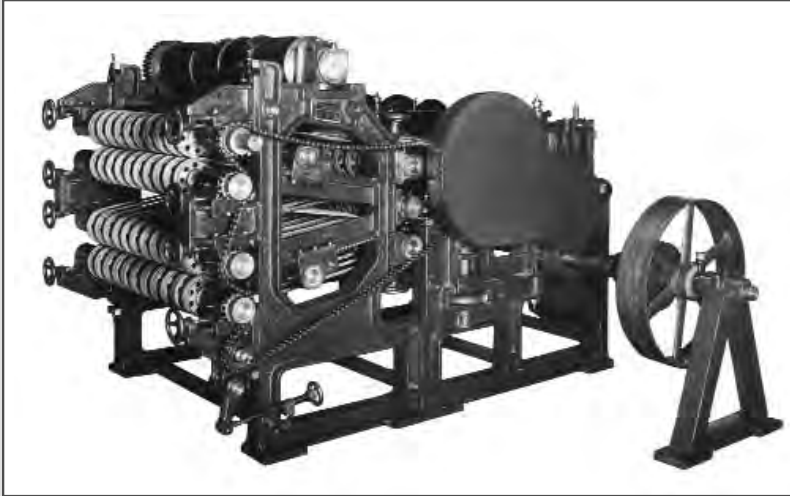


*Left: Reichel and Drews has had a presence in Japan for a number of years. Mike Walton here meets with Japanese counterparts at the Tajima-Saitama plant in April, 1989.*

## From Guyton and Cumfer to UIP The Odyssey of Reichel & Drews' Closest Competitor.

Throughout Reichel & Drews' century, the company has had worthy competitors - usually in various segments of production, with various specialties.

However, there was one company against which R & D touched, bumped and assimilated through the unpredictable yet regular twists of fate.



*Ernest Guyton led his company into automated shingle production and cutting machinery even before Hugo Reichel. For years, the two companies were competitors, even as Guyton and Cumfer went through several name changes. What became UIP Engineered Products eventually dissolved in 1999 and Reichel & Drews purchased the company's assets, including patents and designs for the original machinery, such as this 1927 Guyton and Cumfer "Little Giant" Shingle Cutting Machine.*

In 1910, when Reichel & Drews was busy making machine parts for conveyor belt systems and pulleys, plus repairing the occasional steam engine or fabricating fire alarm boxes, one Chicago company was already hard at work making machines for the asphalt roofing industry.

The Guyton and Cumfer Manufacturing Company, founded in 1910, also promoted itself as a specialist in belting machinery and parts, repairs and special machinery built to customer specifications. However, an interest in working with rubber products brought Guyton and Cumfer into the asphalt shingle manufacturing processes far earlier than Reichel & Drews.

Soon, Guyton and Cumfer specialized in making and selling roofing machinery nationwide from headquarters at 4401 West Fillmore Street in Chicago.

During the 'teens and '20s, Reichel & Drews was not a player in this market. Typically, R & D would be called to repair or make replacement parts for existing shingle machines at plants in the Chicago area.

In the late 1920s, Hugo Reichel began to tinker with shingle making machinery. In fact, Hugo's development of a shingle cutting machine attracted the ire of Ernest Guyton, who wrote the following to Reichel in a June 17, 1926 letter:

*"Information has reached us that you are building machinery for cutting different types of shingles...[we] are advising you that any machine we find which has been built to infringe on patents held by this Company, we shall avail ourselves of all privileges granted under patent laws of the U.S.A.*

*"...this is formal notice for you to either get our permission or cease manufacturing [this] machinery..."*

Strong words, but the issue was apparently settled amicably. Yet by the late 1920s, a marker was set down - that Reichel & Drews saw opportunity in asphalt shingle machinery, and that Guyton and Cumfer would stand its ground as the main supplier of such machinery to that industry.

Then Ernest Guyton made a fateful decision - one that affected the future of both companies.

For whatever reason, whether disinterest, hubris or lack of vision, Ernest Guyton chose not to develop a new hexagonal shingle called the "Staple-Lox."

The fateful decision had disastrous results for Guyton and Cumfer. Business swept to Reichel & Drews and by 1933, Guyton and Cumfer was bankrupt.

The story does not end there, however.

The assets of Guyton and Cumfer were reorganized and the company incorporated as Roofing Machinery Manufacturing Corporation with offices in Chicago on Cornelia Avenue.



For the next 25 years, Roofing Machinery continued to make production lines in competition with Reichel & Drews. Their strength was in the "back-end" of shingle production, whereas Reichel & Drews' reputation was built on the "front-end" production components of cutting, stacking, bundling, wrapping and palletizing.

In 1958, the same year Reichel & Drews introduced the industry-changing shingle wrapping machine, Roofing Machinery Manufacturing Corporation merged with Cutler Engineering Company, forming a new entity - Asphalt Equipment and Engineering Company.

The marriage didn't last long. After moving to new plant headquarters in Elk Grove Village, Illinois in 1962, the former Cutler unit dissolved and the company reverted to its former name - Roofing Machinery Manufacturing Company.

As Reichel & Drews was acquired by Signode in the 1960s, Roofing Machinery itself was purchased by the UIP Corporation in 1968. (*"UIP" stood for United Investment Properties*).

Known as UIP Engineered Products Corporation, the former Roofing Machinery Manufacturing Company (which started life as Guyton and Cumfer), was bought by an even larger entity - the Eastmet Corporation - in 1974, although the UIP name continued.

For the next 20 years, UIP flourished and even expanded to a new 106,000 square foot facility in Addison, Illinois in 1980.

But starting in 1988, a series of events overtook the once premier asphalt shingle machinery producer in the nation.

A holding company purchased all of Eastmet's assets, including UIP, eventually moving the company back into Chicago and consolidating it with other, unrelated business units. A number of employees left, taking their engineering shop production and sales expertise with them.

In 1998, through yet another twist of inexplicable fate, UIP was shuttered and its assets were offered for sale.

"We bought the business assets which included the drawings, the engineering files and patents, and hired several of the people," says Reichel & Drews' Sales Manager Kurt Gore, himself a former UIP employee. "So today, we continue to supply replacement parts for the machines they built."

Irony.

When Hugo Reichel first started to experiment with shingle cutting machines in the 1920s, he angered Ernest Guyton who warned him of patent infringement.

By 1998, Reichel & Drews now owned those same patents.

The vicissitudes of life.



*Rare interior photo of the Guyton and Cumfer Plant taken in August 1923, shows the "New" Heavy Duty Revolving Type Shingle Machine, originally patented in 1914. Guyton and Cumfer developed automatic shingle producing and cutting machinery earlier than Reichel & Drews, although Hugo Reichel was often called upon to repair or make new parts for machinery produced by others.*





# A New Century

*“We’ve built an organization of people with more knowledge about supplying our products and services to the asphalt roofing industry than any other company in the world...”*

— CURTIS N. MAAS

*As the members of the Reichel & Drews family gather to celebrate a century of customer satisfaction, the company’s leadership continues to strengthen their position in an industry where client attention and engineering excellence are inseparable...*

Reichel & Drews has attained the distinction as the only major equipment designer and manufacturer for the asphalt shingle material manufacturing systems. Using that expertise, the company has branched out to other segments of asphalt production and utilization.

Today the company also serves the asphalt road paving industry. Using the tried-and-true systems approach developed and refined in the asphalt roofing shingle field, R & D supplies mixing and processing systems which produce modified asphalt compounds for road surface applications.

Included in the Reichel & Drews paving product line are high capacity stationary systems, medium capacity pre-assembled systems and mobile/rental systems.

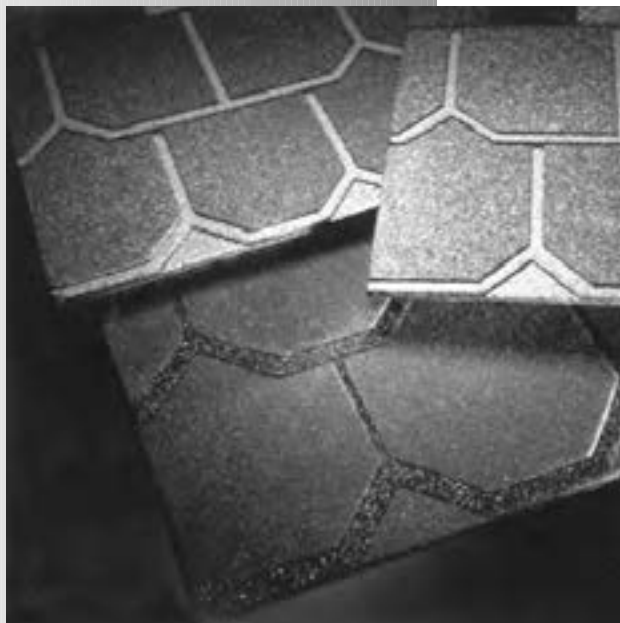
Not that Reichel & Drews will rest on its laurels. The company faces the 21st century with challenges unimagined even 15 years ago.

“Our customers continue to demand better products, better value and better delivery,” Curtis Maas observes. “Our customers also continue to look for products that enable them to run faster, better. We’re investing more in product development because the marketplace is demanding it.”

*Facing page: Reichel & Drews enters the 21st century poised for dramatic growth in roll and asphalt roofing equipment, modified bitumen membrane production and asphalt road paving equipment as a global company, ready to offer its innovation, engineering excellence and customer service to eastern Europe, Russia, China and Central and South America.*

## Changes in the Residential Roofing Market.

Prior to the management purchase of Reichel & Drews from Signode in 1985, the roofing industry and the Reichel & Drews customer base had been very stable. However, during the past decade, there has been a significant change.



*Production of laminated asphalt shingles has risen dramatically in the past fifteen years and continues to increase every year. Developed by UIP, now owned by Reichel & Drews, the machinery produces a low-cost, attractive alternative to cedar shake, tile or slate roofs.*

Customers have been aggressively conducting product research to bring unique shingles to market. This, in turn, requires them to find different kinds of production systems. Reichel & Drews has had the flexibility and innovative engineering to anticipate the market's needs.

The risk of the market also provides great opportunity.

### A Global Company.

With Reichel & Drews' domestic experience, the company has turned increasingly to markets abroad. Although the asphalt shingle market is primarily a North American industry, several areas of the globe are poised for dramatic expansion in the residential market, and are very active markets for Reichel & Drews products.

Among them are eastern Europe, Russia, China, southeast Asia and South and Central America.

Reichel & Drews has had long-standing relationships with all asphalt roofing manufacturers in Japan for many, many years.

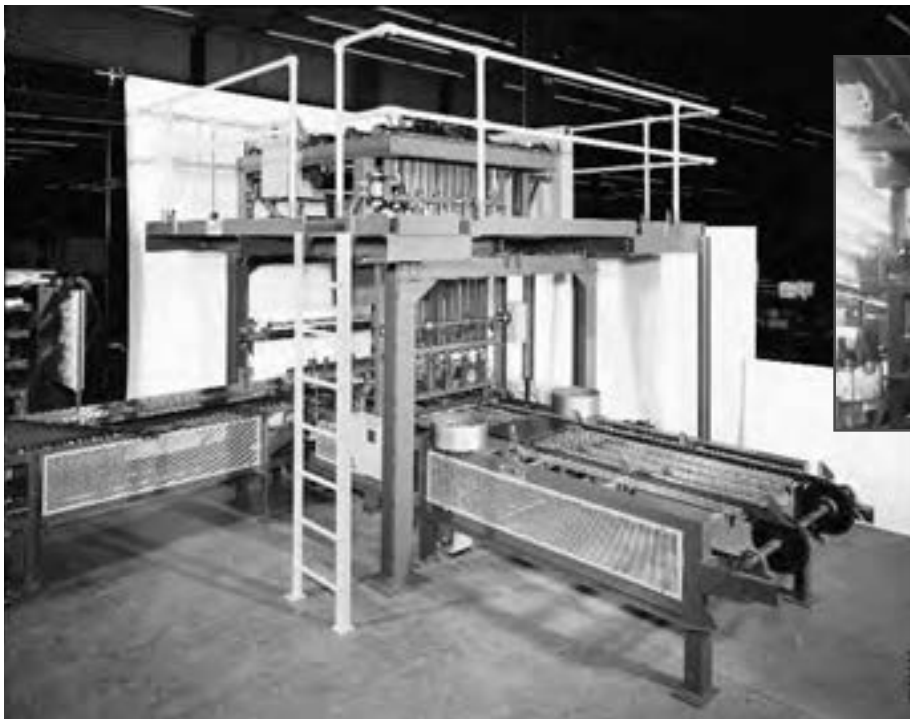
"Western Europe uses primarily roll roofing or clay tiles for roofs, since the houses there are 'heavier' in construction," says Werner Krug, Reichel & Drews Business Development Manager. Krug works out of an office in Erbach, Germany.

There are some opportunities there, Krug explains. But look east - to the areas of the former East Germany, and all the former socialist republics, including Russia.

Those nations are in the midst of a technological advance. They have turned to building new residences for their populations and in doing so have created a growing need for roofing materials. Reichel & Drews is on the scene, supporting their roofing manufacturers with the latest in sophisticated and cost-effective roofing production equipment.

Reichel & Drews will be ready to supply the machines and expertise to the construction industry, because of the company's current presence and developing relationships with suppliers and customers on a worldwide basis.

The case is even more evident in China, as the enormous population is poised on a building boom on a monumental scale. Reichel & Drews has worked with Chinese representatives since the 1980s and is similarly poised for success.



*Above: Innovative Reichel & Drews In-Line Laminator, cut-to-length section.*

*Left: Reichel & Drews' "ShinglWrap" System.*

"We're in China for long term growth," adds Maas. "It's the right place for us to be - a rapidly developing economy with most of the development coming in infrastructure."

Reichel & Drews has supplied machinery for roll roofing, waterproofing and modified bitumen membrane production. A great deal of road paving has been done - and an enormous amount remains. Reichel & Drews asphalt paving equipment is in China now.

There is also a tremendous interest in asphalt shingle production as the authorities begin to consider the residential market in China.

A company poised for perhaps its greatest successes yet.

### **Continuing Innovation and Accomplishment.**

Nor is Reichel & Drews solely tied to production machinery for traditional asphalt shingles. In addition to the company's long-running effectiveness in this market, machinery has been developed and enhanced for production of laminated asphalt shingles, roll roofing materials and modified bitumen membrane production.

The past 20 years have seen a resurgence of technological innovation at Reichel & Drews. During the final decades of the 20th century, Reichel & Drews entered an extraordinarily innovative phase under Maas' guidance.

"Technical innovation and inventions have kept us moving forward," says Maas. "We've continued and accelerated our traditions of innovation by adding



*Reichel & Drews is famous for outstanding controls engineering capability.*



some very smart people to our staff. We have a continuous evolution of our product lines.”

Working closely with customers, Reichel & Drews has developed laminated shingle production machinery. Laminated shingles offer a three-dimensional appearance, often simulating the look of a cedar shake, tile or slate roof while maintaining the benefits of asphalt shingles. Laminated shingles provide a highly attractive appearance and can be produced using Reichel & Drews’ state-of-the-art equipment at a fraction of the cost of the former labor-intensive systems.

“We make all the equipment needed to produce laminated shingles,” Maas explains. He is proud of the company’s continuing commitment and dedication to the asphalt roofing market.

“Our sales and marketing people know the asphalt roofing industry very well. We listen to our customers, and talk with the manufacturers, contractors, distributors and others in the asphalt roofing industry. We’re always learning about trends and building new relationships,” Maas stresses.

### **Continuing Innovations.**

Under Maas’ leadership Reichel & Drews has followed through on a commitment to new product development and has been successful at consistently combining the latest technology with traditional industry experience.

Throughout the 1980s and 1990s Reichel & Drews focused its efforts on new and better ways to enhance machines and bring new products to market that increase line speed and reduce waste. Innovations large and small have touched all roofing material manufacturers in some way. From controls breakthroughs to entirely revamping workhorse machines like the palletizer and roll wrapper, adding automation to granule application and filler mixing, Reichel & Drews constantly listens to customer needs and finds technologically sound answers with a solid return-on-investment.

One major area of focus in the new millennium is laminated shingle manufacturing technology. Only two years into the new century and Reichel & Drews has invented two new approaches to laminated shingle-making. Differentiated Layer Technology, whose patent has been applied for, is a revolutionary way to produce laminated shingles that allows total manufacturing flexibility to run multiple products with numerous patterns and shapes on one machine. This approach removes the manufacturing limitations that often prevent a roofing material manufacturer to bring a truly unique architectural product to market. The other invention is Convertible Laminator Technology, which incorporates very tight control on pattern and color while allowing manufacturers to make different size shingles on a single machine.

### **A Proud Tradition, a Bright Future.**

Because of Reichel & Drews’ unique position and tradition, the company knows its customers and serves their wide range of needs for manufacturing systems.

R & D offers customers a virtually boundless array of machinery options to help clients increase productivity and meet objectives.

*The Automatic Palletizer with Servo Shuttle Conveyor is one of Reichel & Drews’ most recent engineering innovations.*



*In-line Shingle Laminator.*

## Reichel & Drews: People and Innovations

"There is more competition now than ever before," says Tom Colvin, a twenty-year sales and service veteran of the Reichel & Drews team. Today, instead of any single major head-to-head competitor, there are a number of smaller companies developing portions or single components of the roofing machinery manufacturing processes.

In addition, many of Reichel & Drews' customers are doing their own research and development, often in coordination with R & D. We must continue to rely on our excellent customer relationships so that we anticipate and quickly meet customer needs with our innovations.

That attention to new processes developed in cooperation with customers has been a major hallmark in the company's overall change during the past 15 years. "Prior to 1985, we really never built products for the 'back end' of the line," says Colvin.

*(The 'back end' refers to processing the raw products, mixing asphalt and granules and making the roofing material, as opposed to the 'front end' processes including cutters, stackers, wrappers and palletizers...)*

"Since then, we have produced the complete line."

"There have been a number of turning points for Reichel & Drews in the past 15-20 years," says Director of Engineering Blase Rau, who joined the company in 1979 after a previous career in mining and manufacturing.

Rau follows in the footsteps of founder, inventor Hugo Reichel and Pete Stanley, who helped the company move into the forefront of asphalt roofing material manufacturing machinery in the roaring economy of post-World War II. Rau is also an inventor in his own right.

"We built programmable logic controllers for our machinery in 1979-1980, even before our customers knew about the processes," explains Rau in describing just one of those 'turning points.'

"Our move into modified bituminous membranes through our partnership with the Italian firm Index, located in Verona, Italy was another milestone," Rau continues. He cites that move as being a risk that chief competitor UIP chose not to take at the time.

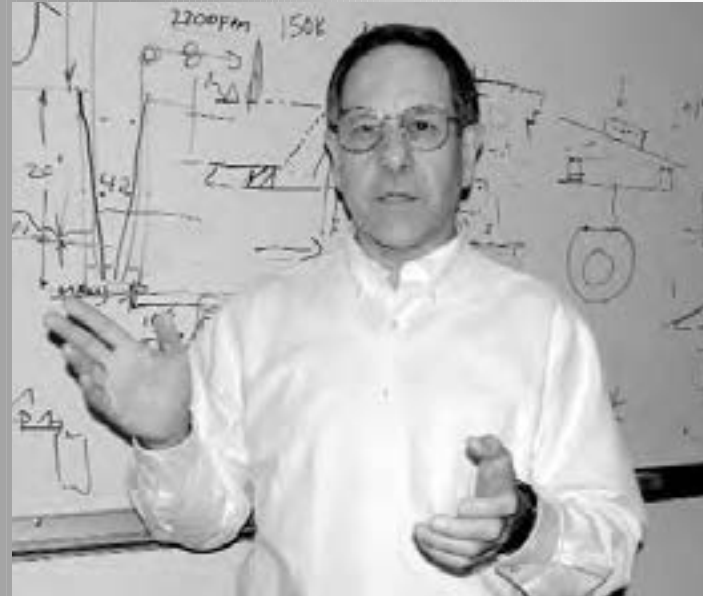
Other innovations Rau has worked on include the revolutionary development of laminated shingles using sophisticated "dragon's teeth" rollers, winders, stackers and de-stackers, high speed granule blending, high speed auto roll wrapping, "star wheels" and mylar film covering for shingles.



Tom Colvin

## Reichel & Drews' Honor Roll of Industry Innovations

1912 Guyton and Cumfer Shingle Cutter	1973 Off-Line Laminated Shingle Machine
1913 Festoon Looper	1975 Glass Mat Machines
1915 In-Line Felt Saturator	1979 PLCs
1916 Cutting or Slitting Machine	1979 UIP(Elk) In-Line Laminator
	1979 High Speed Automatic Hydraulic Winder
1924 Turret Style Shingle Cutting Machine	
1926 Shingle Strip Machine	1982 Floor Tile De-Stacker
1926 Guyton and Cumfer Quick Change Carriage Cutter	1983 High Speed Blender Control System
1929 Filler Mixing System	1985 Turnkey Shingle Manufacturing System
	1985 High Speed Water Bath Modified Bitumen Line
1931 Guyton and Cumfer Multi Color Slate Surfacing Machine	1985 UIP Laminator with Phase Control
1932 Machine for Forming Composition Shingles (hex shape)	1985 Computer-Based Filler Mixing Control System
1932-38 High Speed Production Lines	1985 Ceiling Tile Flipper Stacker
1938 Automatic Roll Winder	1986 High Performance Stacker
1938 Automatic Stacker	1987 High Speed Auto Roll Palletizer
1938 Floating Looper	1988 Non Linear Gate Control
	1988 Flip and Nest Packaging
1941 Roofing Machinery Manufacturing Company Horizontal Filler Mixer	
1944 Fluted Roll Granule Applicator	1990 Load Cell Based Laminator Drive Control System
1944 Hydraulic Winder	1990 MobilMix Asphalt Mixing System
1945 Roofing Machinery Manufacturing Company Measuring Drum Cutter	1992 Bar Code Printer
1946 Vertical Filler Mixer	1992 Automatic Film Tracker
1946 Filler Heaters	1992 Containerized (portable) Asphalt Mixing System
	1995 Multi Product Convertible Laminator
1952 Roofing Machinery Manufacturing Company Quick Change Blender	1996 Touch Screen Granule Blender Control System
1958 Shingle Wrapping Machine	1998 Heavy Duty Palletizer
1961 Automatic Palletizing Machine	2000 Differentiated Layer Technology (Laminator)
1962 Ceiling Tile Wrapper	2000 Auto-Adjust Stacking
1963 Asphalt Heater Thermal Oxidizers	2000 Convertible Laminator with Pattern and Color Phase Control
1965 Introduction of Release Film and Machinery to Apply Release Film	2000 Modern Auto Roll Wrapper
1965 Starwheel Stacker	
1967 Roll Wrapper	



*Blase Rau*





Today's high-speed materials-handling systems, stackers, coaters, impregnators, palletizers, accumulators, wrappers and laminating systems are tailor-made to each customer's needs, thoroughly tested and supported with upgrades and conversions to allow customers to extend the lives of their older machinery.

The constant innovations in various roofing applications offers Reichel & Drews an expanded chance to show the same expertise and inventive spirit first demonstrated by Hugo Reichel and Fred Drews at the start of the 20th century.

- *Making systems better.*
- *Making machines others wouldn't or couldn't.*
- *Making complete systems when no one had done that before.*
- *Making certain customers were served.*

These are the hallmarks of Reichel & Drews - a company founded during an entrepreneurial age a century ago. It is a company facing a new era with confidence, dedication and tradition.

For after all the accolades and congratulations are received, Reichel & Drews is and always has been a company of people.

"That's our strength," says Curtis Maas. "So many people have spent their entire careers at Reichel & Drews. Those years of experience, commitment and dedication have really given the company strength. It was like that - long before I got here - and I'm sure it will be like that long after I am gone."

"We are also very fortunate to have customers world-wide and our continuing mission is responding to their needs, working together in a global partnership."

"That's why we've been around for 100 years."

## ABOUT THE AUTHOR

Robert R. Morris specializes in researching and writing organizational and institutional histories. A published author for more than 20 years, he has written scores of magazine articles, and was a newspaper columnist in the Chicago area for 10 years.

Having published more than 30 books, he combines his love of history with his writing talent and organizational skills to produce readable histories in a highly specialized market. Many of his books are enhanced with his original photography.

The former high school teacher and administrator left the halls of ivy in 1990 to pursue his dream of writing on a full time basis.

He currently lives with his wife of 30 years in Northern Illinois. Parents of two adult sons, the author and his wife frequently indulge in their passion for international travel.