Walking and Biking Tours in Several Industrial Areas of Madison, Wisconsin, 1880-1970

by

Burr Angle and Dolores Kester

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Introduction

Almost all small to medium cities in the upper Midwest are home to at least one manufacturing company and some contain many such firms.

As a University of Wisconsin geography professor, John Wesley Alexander, pointed out in his studies of manufacturing in Rock River Valley cities in Illinois and Wisconsin, these firms had a great deal in common throughout the entire area so that conclusions reached about manufacturing in one city often apply to others throughout the region.

From 1880 to 1970 nearly all major factories in the Rock River Valley were located directly beside or only a few hundred feet from railroad tracks. In Madison many of these railroad tracks or portions of their right-of-way have been replaced by bike paths that can be used without paying a fee.

This means that many factory buildings built from 1880 to 1970 that are typical of others throughout the Midwest can be cheaply, safely, easily, and legally viewed by bikers from one to four sides within relatively small areas. Those without a bike can rent one from several vendors. Others may prefer to walk.

This document begins with a biographical sketch of John Alexander and a brief review of his studies, followed by a biographical sketch of John A. Johnson, Madison's first major industrialist.

The remainder consists of four tours of Madison industrial areas, all within about six miles from the city center. Most of the areas covered are on level ground although tour 4 involves ascending a minor rise along the former Illinois Central right of way on the west side of the city.

TOUR ONE covers an area about the size of an 18-hole golf course along a stretch of East Washington Avenue from the eastern base of the Capitol hill to the Yahara River. This was the first major manufacturing district and the home of two firms established by John A. Johnson.

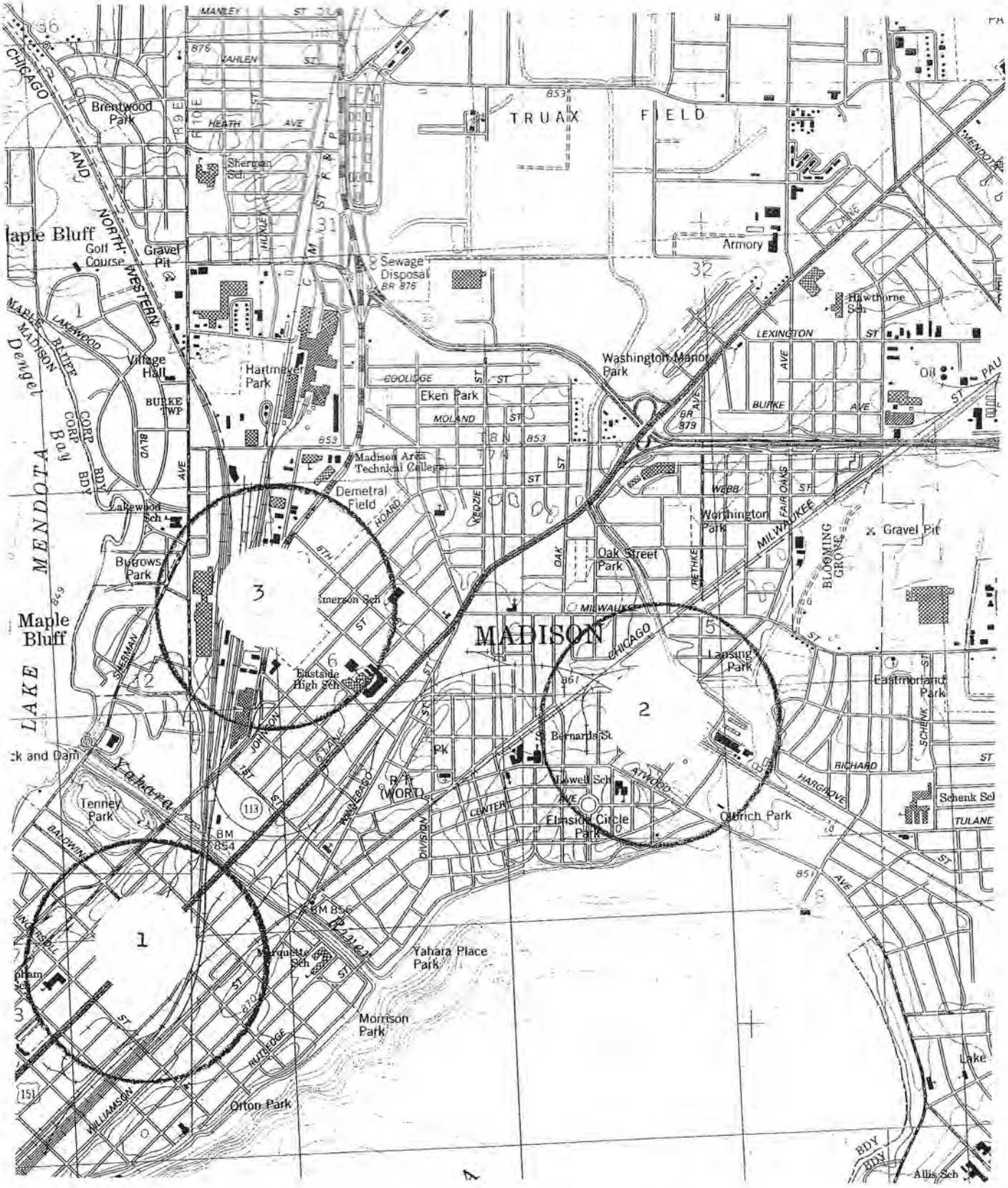
TOUR TWO begins east of the Yahara River and concentrates on several metal fabricating companies clustered in residential areas near Fair Oaks Avenue as well as a relic sugar mill from the early twentieth century.

TOUR THREE includes the Oscar Mayer plant on Packers Avenue on the Northside and several firms located on Pennsylvania Avenue and Fordem Avenue. Optional side trips include excursions

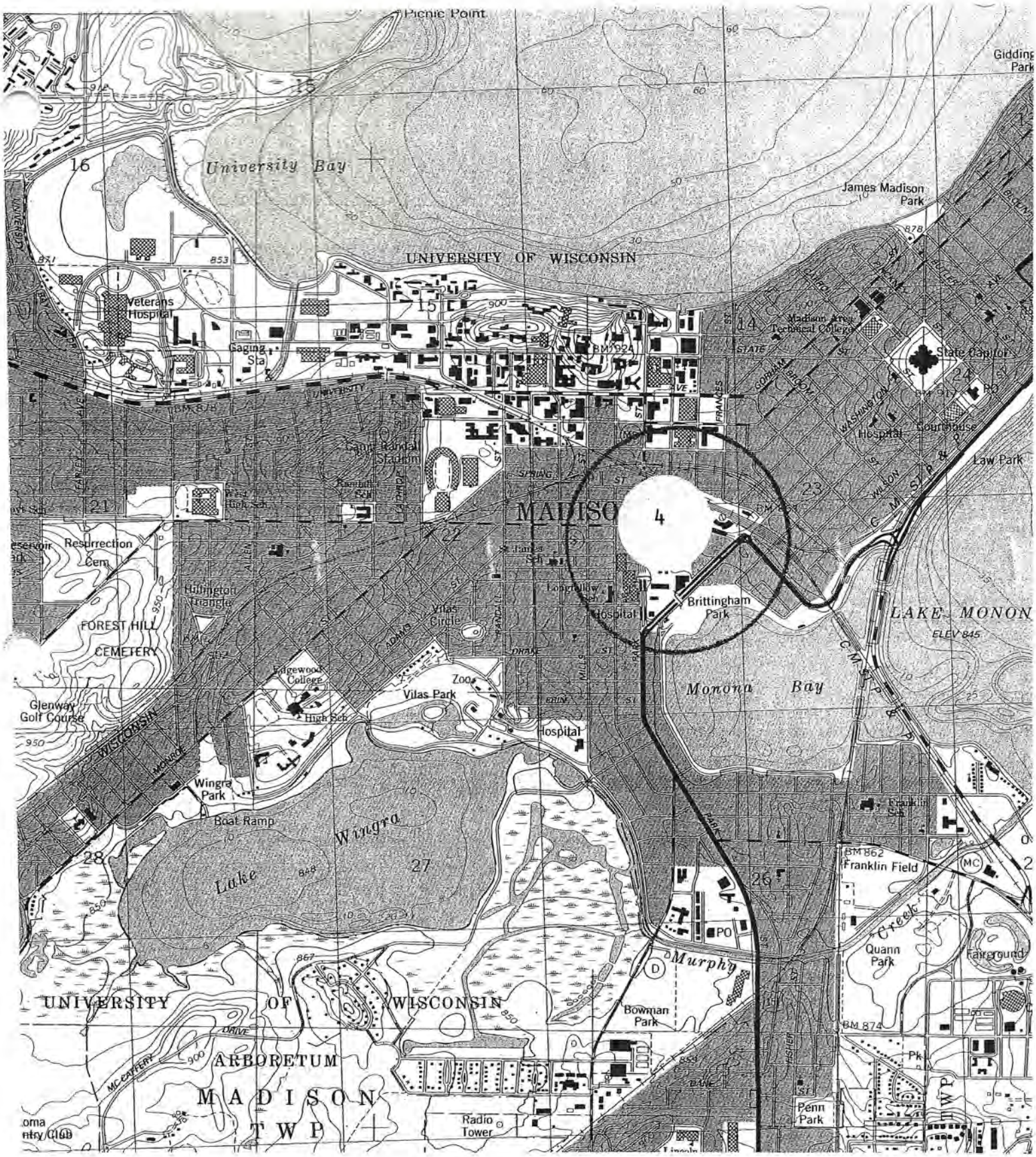
through subdivisions built especially for workers, managers, and owners.

TOUR FOUR begins near the old westside Milwaukee Road passenger depot where there was a concentration of warehouses and then progresses southwest along a bike path along the former Illinois Central tracks to a small industrial area just south of the West Beltline Highway that is the home of the Sub-Zero Freezer Company whose plant was one of the last factories built before 1970.

In addition to Alexander's studies other sources of information about Madison manufacturing were newspaper articles, obituaries, biographies, company histories, city directories, conversations with past and present workers, and various Internet sites.



Nearly all of Madison's industrial output between 1880 and 1970 came from factories in tour areas 1, 2, and 3



Industrial activities in tour area 4 west of the capitol were limited to a small area near the Milwaukee Road and Illinois Central stations and shops

John Wesley Alexander
1918-2002

John Wesley Alexander was born on April 7, 1918 in Greenville, Bond County, Illinois. Greenville is about 45 miles northeast of St. Louis and is the site of Greenville College, which is affiliated with the Methodist Church. His parents were John and Ethel Alexander. John Alexander was born on the Island of Jersey in the English Channel Islands.

In 1940 the family was living in Champaign, Illinois where John, age 22, was working as a clerk in a lumber yard and was also apparently a student at the University of Illinois.

John received a BA from the University of Illinois in June 1940 and an MA in 1941. He then began work on a doctorate in geography at the University of Wisconsin.

From 1942 until 1946 he was in the United States Navy where he attained the rank of Lieutenant and served most of the time as a deck and gunnery officer on the U. S. S. Belleau Wood, CVL-24 (better known to her crew as "Beulah"). This aircraft carrier fought with Task Forces 38 and 58 throughout the Pacific from October 1943 until September 1945, compiling an impressive service record. From

September 1945 until her decommissioning on January 31, 1946 at San Francisco she made three "Magic Carpet" voyages bringing soldiers back to the United States from many parts of the Pacific.

After the war, John was editor of a souvenir history of "Beulah" compiled from materials submitted by more than 200 crewmen as well as Navy photographs. This book, Flight Quarters, was published in 1946 by the Cole-Holmquist Press, Los Angeles, California. A copy is in the Wisconsin Historical Society Library.

John and Elizabeth "Betty" Norton Vinson were married in Los Angeles on September 5, 1946. Betty's parents had moved to California from Evansville, Wisconsin some years before. Mrs. Vinson was a graduate of Greenville College.

John returned to the University of Wisconsin in 1946 and received a Ph.D. in Geography in June 1948. He was an Instructor in the Geography Department from September 1947 through July 1949.

He must have been an outstanding scholar and teacher because he was appointed an Assistant Professor in the Geography Department on September 29, 1949 even though it is unusual for a department to hire its own students immediately upon graduation.

Promotions came fast to "Dr. A" who specialized in the geography of manufacturing, transportation, and conservation. He became a tenured associate professor in 1952, Geography Department Chairman on March 27, 1963, and a Full Professor on August 2, 1963. In the 1950's he was a visiting professor at Harvard University and two campuses of the University of California.

In addition to a college textbook, Economic Geography, New York, New York, 1963 and 1979, his publications included Geography of Manufacturing in the Rock River Valley, Madison, 1949, that was also his doctoral dissertation; Oshkosh, Wisconsin, An Economic Base Study, Madison 1951, and An Economic Base Study of Madison, Wisconsin, Madison, 1953. They appear in a volume titled Wisconsin Commerce Papers, 1948-1958. A copy is in the Wisconsin Historical Society Library.

Outside of the office and classroom, he taught Sunday School, led discussions on religious matters with other faculty members, dabbled in Kodachrome photography, helped raise the family's five children, and attended St. Andrew's Episcopal Church.

In December 1964 he resigned from the University (the resignation was accepted by the Board of Regents in 1965) to become

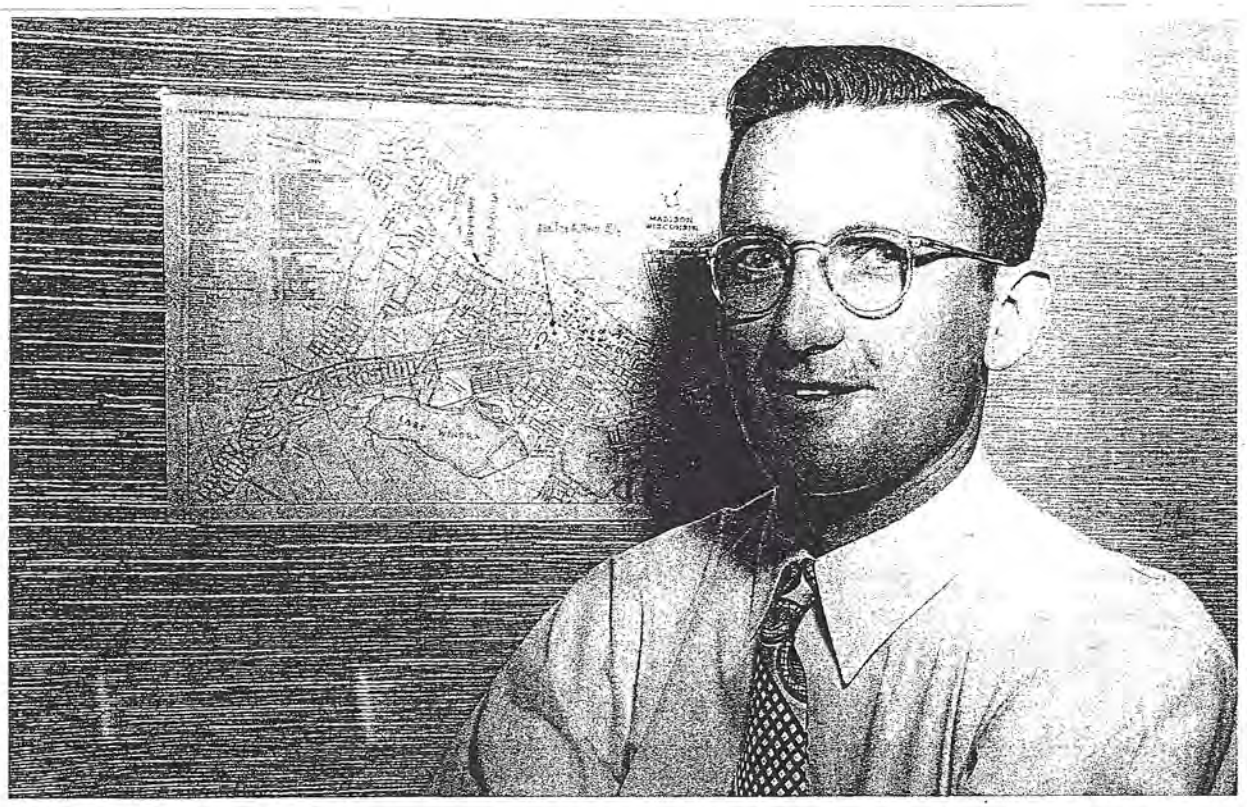
national president of the Inter-varsity Christian Fellowship, a non-denominational evangelical association that was formed at Cambridge, England, in 1877. As of 2013 there were about 900 chapters at colleges and universities around the world. The group's U. S. headquarters were in Chicago until 1969 when they were moved to Madison at 233 Langdon Street. The headquarters are now at 6400 Schroeder Road in Madison.

John retired from Inter-Varsity in 1981 or 1983 and remained in Madison until his death on February 18, 2002.

This biographical sketch was compiled largely from material in the John W. Alexander file in the University of Wisconsin Archives; the 1920, 1930, and 1940 U. S. Censuses; and articles in Madison newspapers.

Having reviewed John Alexander's life history and his scholarly credentials, attention now turns to his Rock River Valley, Oshkosh, and Madison studies, because they offer a comprehensive view of manufacturing industries in one portion of the upper Midwest from the 1860's until the 1950's and by extension for many years into the future.

John Wesley Alexander April 7, 1918 -- February 18, 2002



Both photos courtesy University of Wisconsin Archives

Official U S Navy photo used in Flight Quarters

Some of John Alexander's Conclusions

Two of John Alexander's studies concern cities in the Rock River Valley including Madison. A third deals with Oshkosh, which is in the Fox River Valley.

The first question, which he raised in the Rock River Valley study, was just why and how manufacturing companies became established and succeeded on the western fringe of the United States industrial area which at that time extended from the Atlantic coast to the Mississippi River on the west and the Ohio River on the south.

The Rock River Valley is situated in a part of the Midwest possessing some of the most productive soils in the United States, so it was not surprising that immigrants from New York and New England as well as the British Isles and northern Europe were attracted when these areas opened up for settlement in the 1830's.

However, while the soils are fertile, wood and peat were the only locally available fuels, and metals except for lead, zinc and a small amount of iron were non-existent. Coal, oil, and most metals had to be brought in from long distances.

The Rock River and its tributaries including the Crawfish and Yahara have never been navigable by anything larger than a canoe. They were suitable to power flour mills and sawmills but not much else.

The scenery, particularly along the rivers and beside the lakes, however, was gorgeous.

The climate took some getting used to, but was healthy.

In the 1850's railroads began to pass through the area primarily to connect populated areas in the east to the northwestern states and territories including Wisconsin, Iowa, Minnesota, the Dakotas, and Montana. Telegraphs arrived a few years before the railroads and telephones a few years later.

Early on many villages and small cities developed shops using local materials and charcoal to make implements for local farmers. Other early products included sawn lumber, flour, and beer.

In some areas as early as the 1860's and in others not until the 1880's a number of entrepreneurs began to hire workers almost all of whom were literate in at least one language and who had often brought with them factory skills learned in Europe or back East.

Because of the lack of local fuel and most metals these men designed and built high-value, low-bulk products that required a good

deal of skilled labor but relatively few materials and limited amounts of fuel. Products involving metal fabrication such as specialized farm machinery suitable for prairie conditions and machine tools that were sold in distant markets soon became important. These were all high wage industries.

Alexander also found exceptions to the high-value, low-bulk, high-wage pattern. For example, both Rockford and Oshkosh at one point had many furniture factories using hardwoods from regional forests. Oshkosh had a large mail-order gift company, Miles Kimball, and a bib overall firm, Oshkosh B'gosh,

In Madison meat processing became important because a Chicago sausage maker was looking for a better supply of lean hogs,

Some of Alexander's other findings were that most Rock River manufacturing companies were founded by local residents who had already succeeded in one or more commercial endeavors such as banking or insurance. Some were lumber barons and bonanza farmers. Others grew out of local workshops or retail stores to supply products not available from national companies. Nearly all were locally owned.

The most successful companies were the most nimble. If demand for horsedrawn cultivators declines, we'll make internal combustion

engines to power everything from pumps to washing machines. If plug-in radios reduce the market for radio batteries, we'll make batteries for hearing aids. If competitors can make hams just as good as ours, we'll make the best wieners.

Alexander also mentioned that certain industries were never established in the Rock River Valley or if started had a short life expectancy. They included every business that required large numbers of unskilled workers: the Rock River Valley did not have a large enough non-farm workforce to man huge factories using cheap labor.

Also excluded were most commodity firms such as flour mills, malting plants, and slaughter houses.

Although Alexander did not make a big point of this, many Rock River Valley factories offered excellent jobs for women workers in light manufacturing where fine motor skills and attention to detail were more important than upper body strength.

Alexander carefully raised one other point so as not to offend readers from other backgrounds, but he did have to mention that a good share of the population in Rock River Valley cites was originally from Germany and Scandinavia consisting of families who had emigrated to America partly to restore traditions of social equality and

village level democratic institutions they thought were being destroyed in their homeland. Among these traditions was an expectation that every able-bodied citizen should work and work hard and that employers should not be tyrants. It is said that a Frenchman once asked a band of Vikings, "Who is your leader?" The response was, "We have no leader, we are all equals."

On at least one occasion "Dr. A." led a group of Wisconsin high school geography teachers on a tour of Madison. His studies can still help visitors and residents learn more about his adopted city.

The maps and charts in the next several pages are from his publications.

MADISON URBANIZED AREA

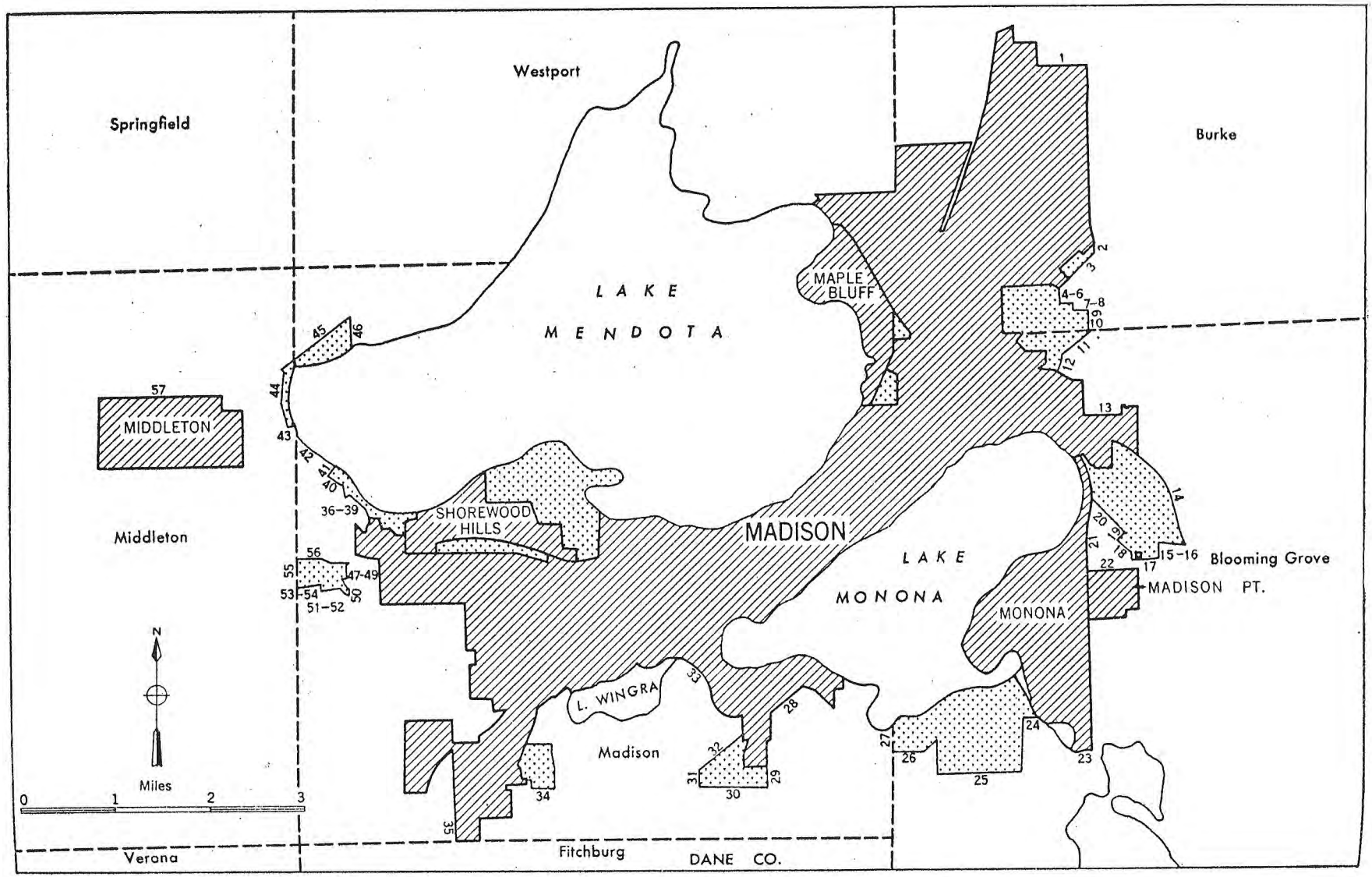


FIGURE 1-4
EMPLOYMENT IN MADISON, 1951

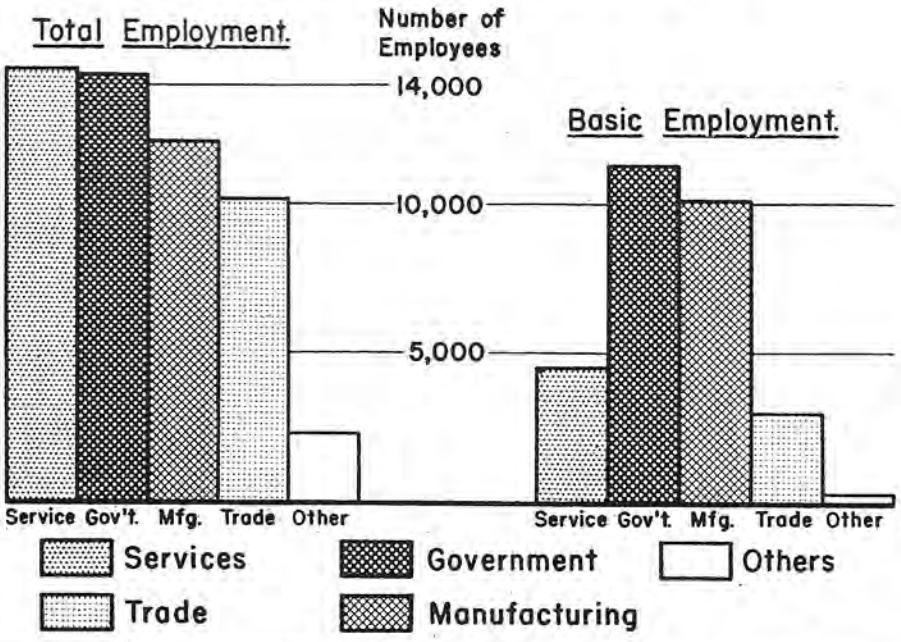
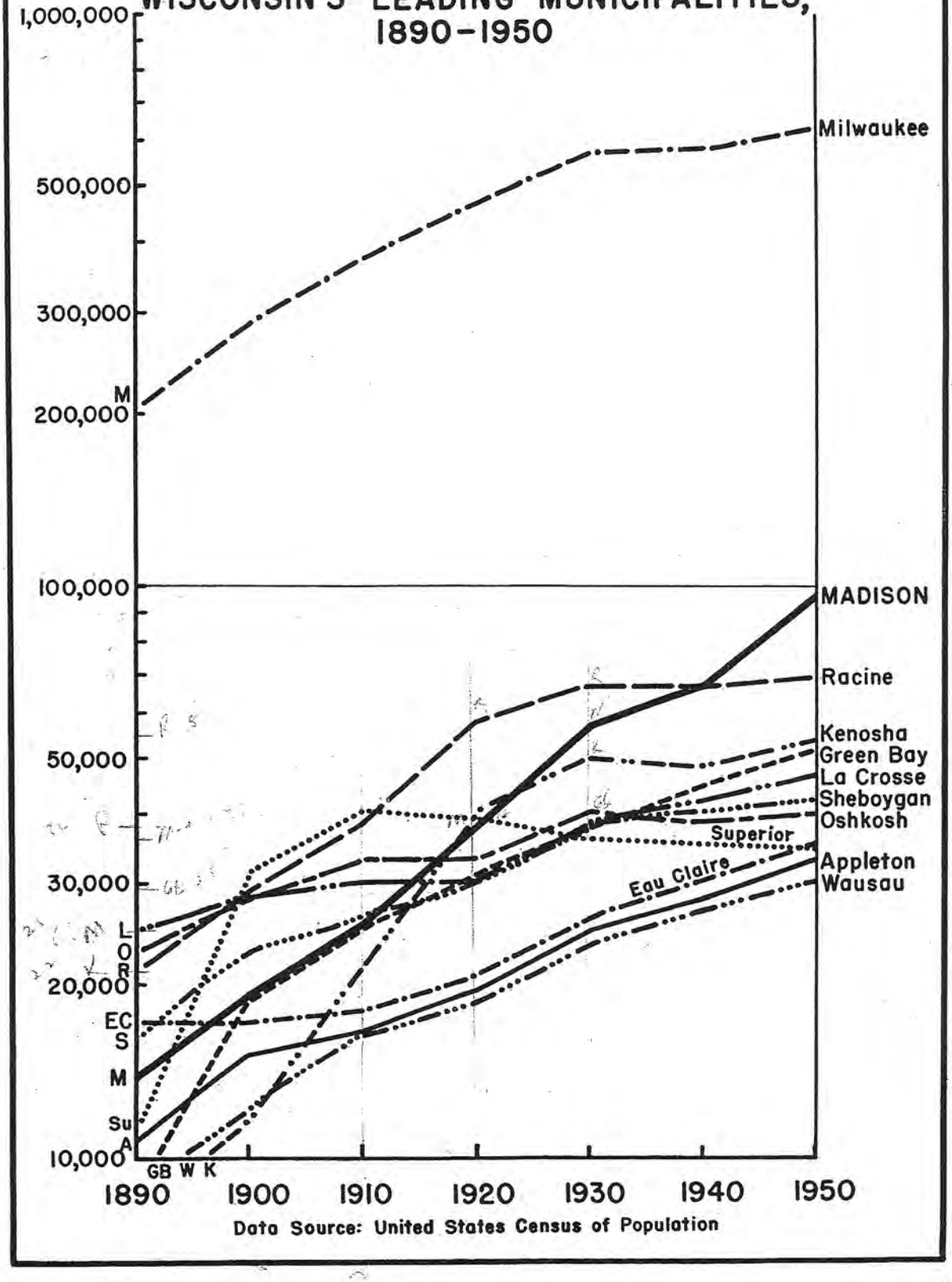
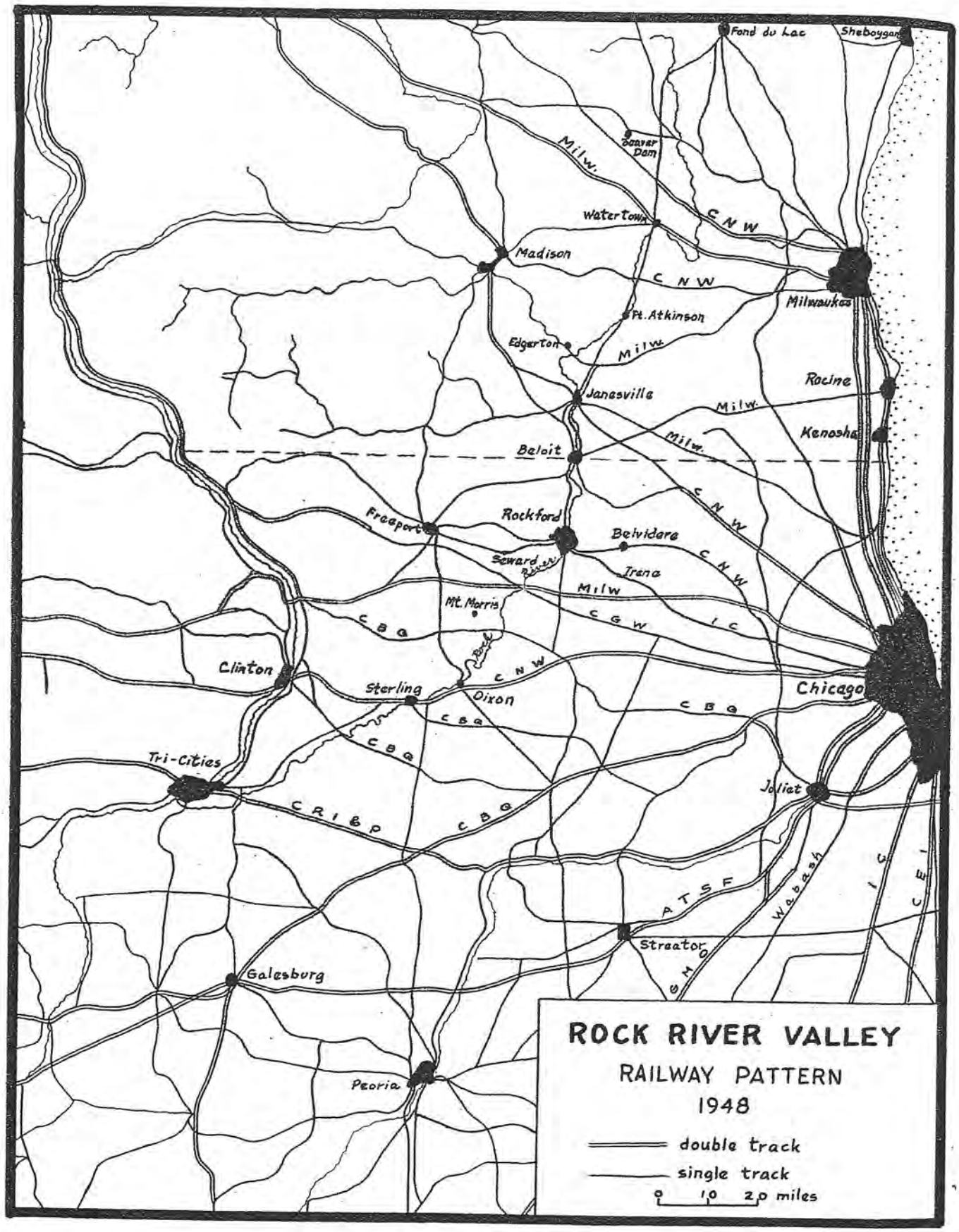


FIGURE 1-3
POPULATION TRENDS IN WISCONSIN'S LEADING MUNICIPALITIES, 1890-1950



Data Source: United States Census of Population


Fond du Lac
Sheboygan
Beaver Dam
Milw.
Watertown
C N W
Madison
C N W
Milwaukee
Ft. Atkinson
Edgerton
Milw.
Racine
Janesville
Milw.
Kenosha
Milw.
Beloit
C N W
Freeport
Rockford
Belvidere
Seward
C N W
Irene
Milw
Mt. Morris
C B Q
C G W
I C
Rock
Clinton
Sterling
C N W
Dixon
Chicago
C B Q
C B Q
C B Q
Tri-Cities
Joliet
C R I & P
C B Q
A T S F
Wabash
I C
C E I
Streator
G M O
Galesburg
Peoria
ROCK RIVER VALLEY
RAILWAY PATTERN
1948
double track
single track
0 1.0 2.0 miles

INDUSTRIAL EMPLOYMENT

PERCENTAGE IN INDUSTRIAL GROUPS

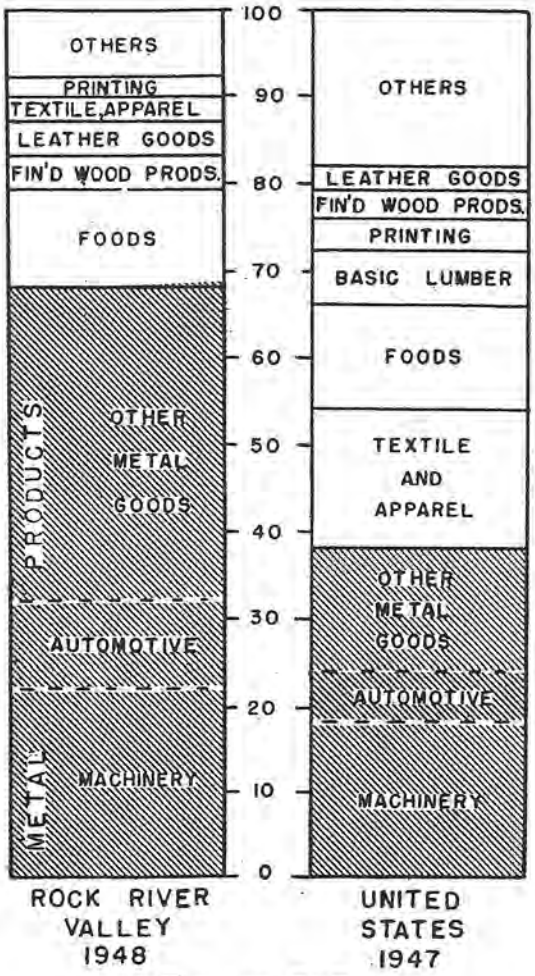
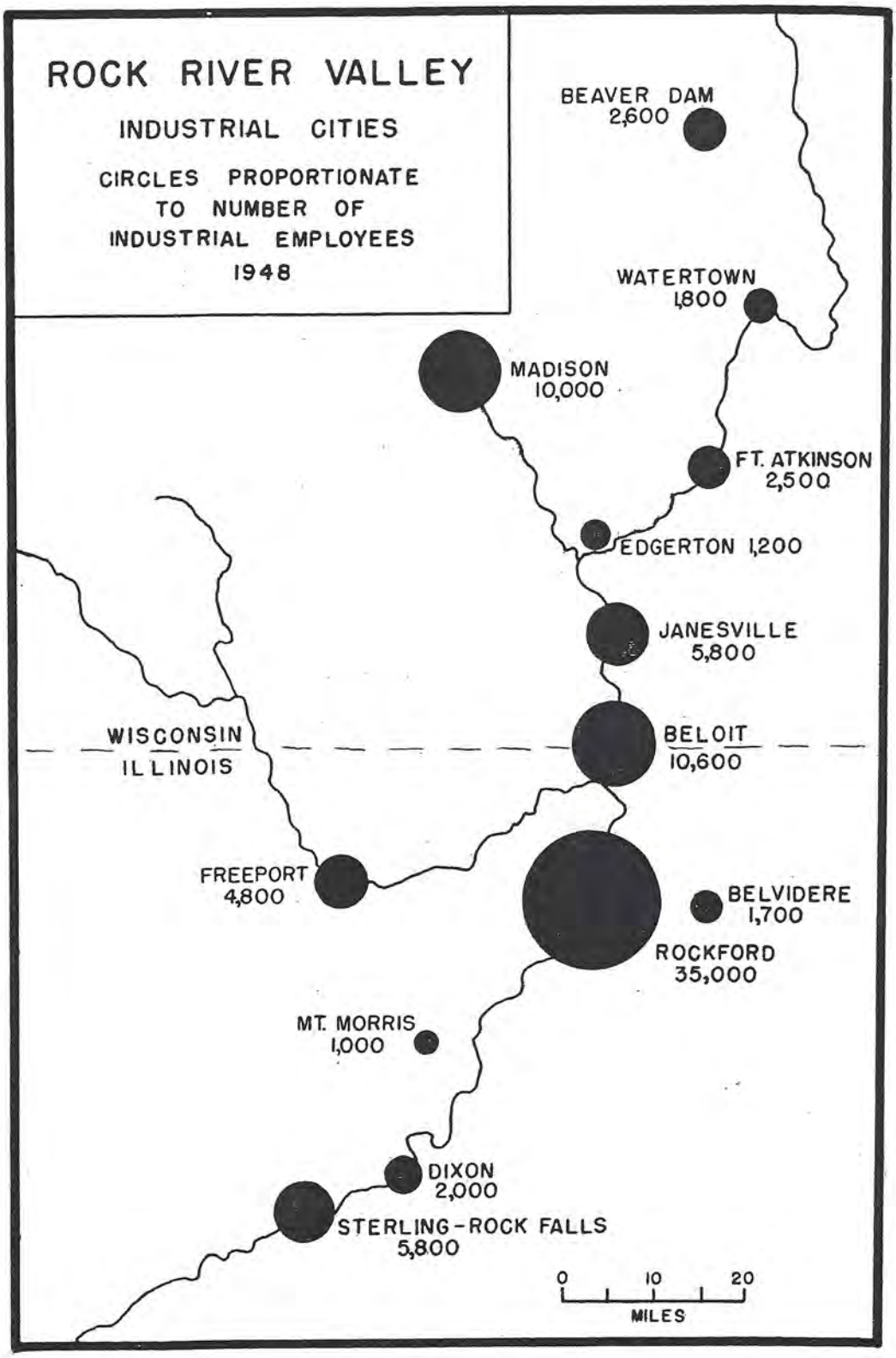
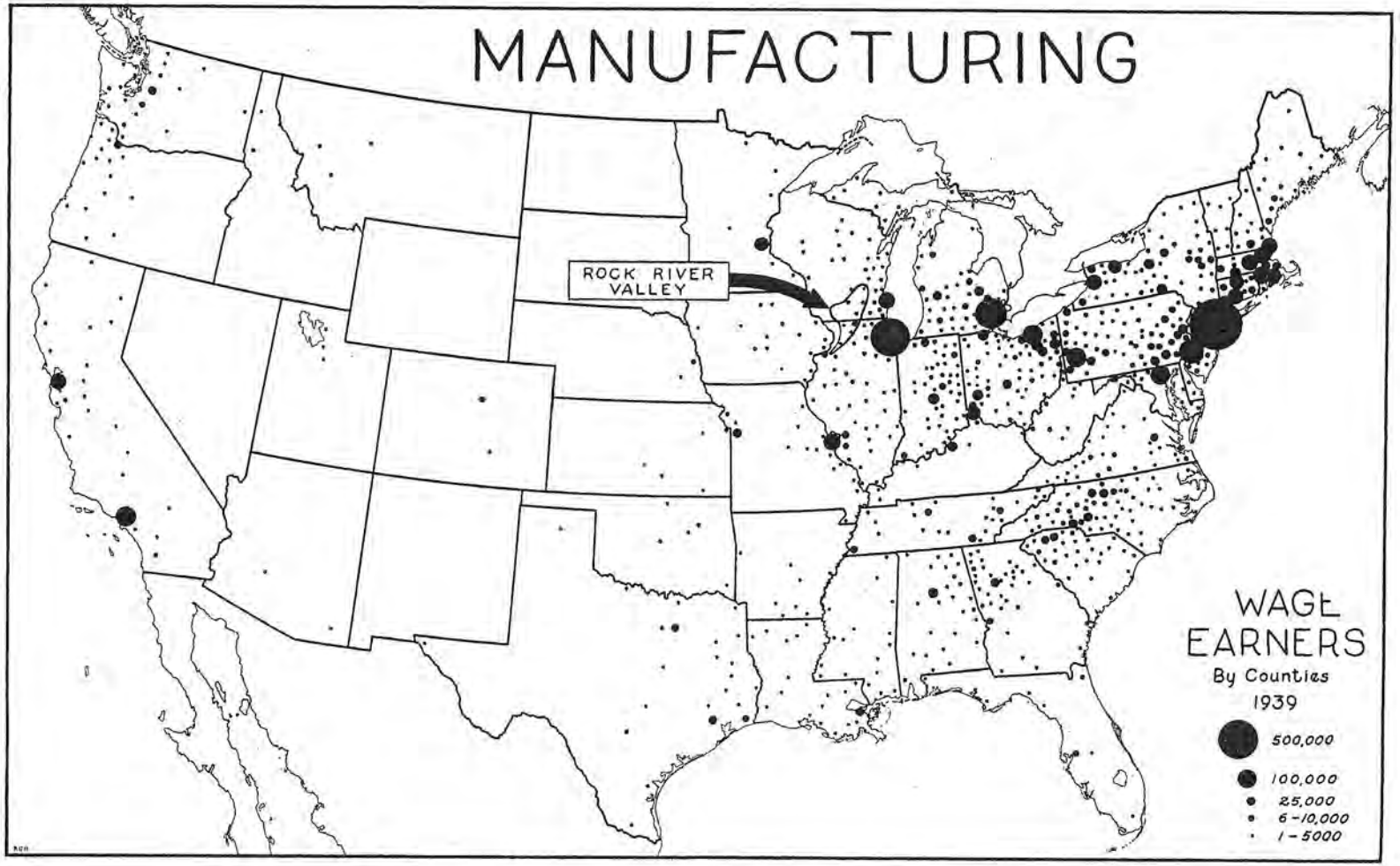


Figure 3-3


ROCK RIVER VALLEY
INDUSTRIAL CITIES
CIRCLES PROPORTIONATE TO NUMBER OF INDUSTRIAL EMPLOYEES 1948
BEAVER DAM 2,600
WATERTOWN 1,800
MADISON 10,000
FT. ATKINSON 2,500
EDGERTON 1,200
JANESVILLE 5,800
WISCONSIN
ILLINOIS
BELOIT 10,600
FREEPORT 4,800
BELVIDERE 1,700
ROCKFORD 35,000
MT. MORRIS 1,000
DIXON 2,000
STERLING-ROCK FALLS 5,800
0 10 20
MILES


MANUFACTURING
ROCK RIVER VALLEY
WAGE EARNERS
By Counties
1939
500,000
100,000
25,000
6-10,000
1-5000

John Anders Johnson
1832-1901
Part I: the citizen

Jens Anders Jensen Skibnaes was born April 15, 1832 on a farm beside Lake Norsjo in the Telemark district of Norway. His father was Anders Jensen Skibnaes. His mother was Aaste Bjornsdotter Killingkoven.

From 1832 to 1843 his parents operated an inn near Norsjo. Jens spent several summers as a child on a farm owned by an aunt and uncle whose name was Gisholt and who owned a farm with the same name.

According to a staff member at the University of Wisconsin Scandinavian Studies Department Gisholt is a fairly rare Norwegian family name of no particular meaning that may be of German origin. It is pronounced "Gees holt" (with a long e) in Norwegian but "Gish olt" (rhymes with dish) is more common in the Madison area.

By 1843 Anders and Aaste Jensen had four sons and a baby daughter. They caught "America fever," and scraped up and borrowed enough money for the voyage to New York, the trip upriver to Albany, a ride across New York on the Erie Canal, and by ship to Milwaukee. They and their children walked the 45 miles from Milwaukee to Heart Prairie near Whitewater, Wisconsin, where they were met by several

John Anders Johnson was an outstanding citizen and Madison's first major industrialist.

Norwegian families who had settled earlier and who loaned the Skibnaes' an 8 x 12 foot cabin.

From 1843 until about 1850 Jens mostly worked for and boarded with American families and attended several grammar schools. One teacher taught him to speak English without an accent. In 1850 he briefly attended a high school in Fort Atkinson and at age 18 became a certified district school teacher.

The family farmed in Heart Prairie until 1852 when they moved to the Koshkonong area in Dane County.

In 1854 Jens bought 140 acres of land in Pleasant Springs and in 1856 married Karen Kristie Thompson whose family had come to America at the same time and on the same ship as the Skibnaes'. Jens farmed during the summer and taught school during the winter. He soon became the Pleasant Springs town clerk and then assessor, justice of the peace, and town chairman.

On November 19, 1856, age 23, he became a U. S. citizen. The naturalization papers gave his American name as "John A. Johnson."

John became a Wisconsin State Assemblyman in 1857 as a Republican, mostly because he absolutely opposed slavery. In fact he opposed any sort of legalized social inequality and supported the

franchise for both blacks and women. On November 4, 1860, he won the campaign to become clerk of the Dane County Board of Supervisors.

On March 16, 1860 his wife Karen had died, leaving John with their newborn daughter and only child. This girl, also named Karen, died on September 15, 1860.

John kept the farm but soon moved to Madison where he lived the rest of his life. At first he worked at the clerk's office from 7:30 a.m. to 11:00 p.m. but later took up an intensive reading program and taught himself German.

On October 31, 1861 John married Kaia Nicoline Marie Kildahl who was from a Milwaukee family. She had been born in Norway in January 1838. John and Kaia had six children, one of whom, a daughter, died in infancy. They remained united until his death.

John did not serve in the Civil War but his brother Ole, a Lieutenant Colonel with the Fifteenth Wisconsin Regiment, was taken prisoner at the Battle of Chickamauga in Tennessee on September 19-20, 1863. His brother Hans had died in a military hospital on July 5, 1863,

In May 1864, Ole and several fellow prisoners escaped from a train and began what became a 28-day, 300-mile trek through enemy

territory to freedom at the Union headquarters in Strawberry Plains, Tennessee. He was mustered out of the Army on February 10, 1865.

After the war, John compiled a history of the Fifteenth Wisconsin in a 160-page book Det skandiniske regiments historie.

By 1869, now age 37, Johnson had been Dane County Clerk for eight years and felt it was time to move on. He joined a Madison-based agricultural implement distributing company named Fuller and Williams as a salesman. The company sold primarily in the "Norwegian belt" extending from Wisconsin to Iowa, Minnesota, the Dakota territories, and Montana. John traveled through these areas and others as far south and west as Colorado and Nevada.

On September 17, 1873 he became a partner of Johnson, Fuller, and Company along with Morris F. Fuller, Edward M. Fuller, and several others. The Fullers were a father and son pair who had come to Wisconsin from New York. They did well in Madison as bankers and as operators of the Fuller Opera House that opened in 1871. Johnson was to be general manager of the St. Paul, Minnesota branch office.

During this period John also became a co-owner of the Hekla (for the famous volcano in Iceland) Fire Insurance Company in association with his friend and fellow Norwegian immigrant Halle Steensland. He

also became co-owner of the Skandinavian, a Chicago-based Norwegian newspaper. With Halle Steensland he became a founder of the Bethel Evangelical Lutheran Church in Madison, helped establish the Scandinavian Studies Department at the University of Wisconsin, and served in the Wisconsin State Senate.

By the way, Johnson always thought of himself as "quiet and reserved."

In 1880, the Fullers and Johnson decided to manufacture farm implements on their own, beginning an industrial saga that lasted until the 1980's.

In the 1890's John suffered increasingly from stomach ulcers that eventually caused his death on November 10, 1901 at his home in Madison. Almost every Madison politician, businessman, university official, and several hundred of his employees made the trip to his burial at the Forest Hill Cemetery.

At a memorial service on November 24, 1901 at the Fuller Opera House attended by friends and workers, Madison Mayor Storm Bull said that Johnson had never lost pride in his homeland but had also become the complete American.

In the 1960's Agnes Larson titled her biography of Johnson simply <u>John A. Johnson: An Uncommon American</u>.

Mrs. Kaia Johnson, who was famous for her charitable activities, died at age 70 on February 7, 1908 in Madison.

John Anders Johnson
1832-1901
Part II: the industrialist

In 1880 John Johnson and the Fullers decided to manufacture as well as distribute specialized agricultural machinery for the markets they had cultivated over the last ten years.

They first purchased Firmin, Billings, and Company, a small Madison firm that had been making plows and other implements since 1840. They used the name Madison Plow Company for about a year and settled on Fuller and Johnson Manufacturing Company in 1883.

The Fuller and Johnson company soon began operating in several buildings at the eastern corner of East Washington Avenue and North Dickinson Streets. This site was somewhat distant from the more developed areas closer to the Capitol Hill and was served by both the Chicago and North Western and the Milwaukee Road railroads.

By 1883 Fuller and Johnson was making three types of plows and five kinds of cultivators as well as harrows, mowers, and sulky plows. The plows had names like "Bonanza Prairie Breaker" and "Eclipse Stone Dodger." Tobacco had become an important crop in Wisconsin, especially in Dane, Rock, and Walworth counties, so Fuller and Johnson also made tobacco transplanters and cultivators.

From the beginning the company adopted modern methods and soon began to design its own machinery including wood and metal working lathes. Between 1885 and 1887 Fuller and Johnson began to produce these lathes for sale to other manufacturers. A separate company was formed to handle the machine tool business. Johnson named the firm Gisholt Machine Company for the farm where he had spent several summers in Norway.

In the early 1890's Johnson hired Conrad M. Conradson, a Madison area native who had earned bachelor's and master's degrees in engineering from the University of Wisconsin, to design more machinery. Conradson specialized in turret lathes which soon became Gisholt's most popular product, so much so that for many years the word "gisholt" was used in the industry to describe a certain type of lathe.

Conradson, however, who appears to have had a restless temperament, became more interested in electric generators and motors than lathes. By mutual agreement with Fuller and Johnson he left after a few years to form the Northern Electrical Manufacturing Company a few blocks away at 201 South Dickinson Street.

In the 1890's and early 1900's farm implement sales decined but Fuller and Johnson made up for this by introducing low-horsepower gasoline and kerosene internal combustion engines for farm and light commercial use. In 1909 they began to sell the famous Farm Pump Engine.

In 1910 Fuller and Johnson sold the implement business to a group headed by Jackson Reuter, a former employee who had a knack for finance. Reuter resurrected the Madison Plow Company name and established a factory in the nearby Village of Fair Oaks.

By the 1920's larger firms such as Briggs and Stratton had begun to dominate the small engine field, and farm tractors with power take-offs reduced the market even for specialized products such as the Farm Pump Engine. (A power take-off, also called a PTO, is a mechanism on a truck or tractor that allows its engine power to be used to operate separate equipment such as pumps, saws, cement mixers, etc.)

By 1932 the company had virtually discontinued operation and was in receivership although a group known as the Fuller and Johnson Bondholders retained possession of the buildings which by then occupied land on both sides of North Dickinson Street north of East Washington Avenue.

Greatest Little Engine in America!

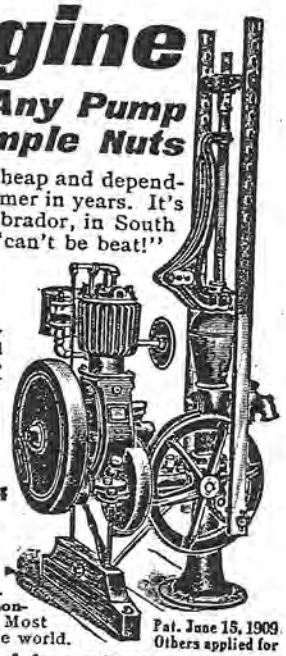
Clamps to Any Pump by Four Simple Nuts

This wonderful portable Farm Pump Engine meets the widespread demand for cheap and dependable power. It has stood the test of the most severe winter and the hottest summer in years. It's **a new invention,** yet so far has its fame extended that already it is in use in Labrador, in South Africa and other distant lands. It cannot freeze or overheat, and users say it "can't be beat!"

A Complete and Perfect Power Plant!

No Belts! No Shafts! No Anchor Posts! No Towers!

The engine is different from anything ever known. An air-cooled engine of the most highly perfected design, without fans or cooling attachments. **Complete in itself,** requiring no special platform, no belts, no arms, no shafts, no anchor posts, no pump jacks, no towers. **Ready to run inside of 15 minutes after delivery!** Tank holds a full day's supply of gasoline. Starts or stops **instantly** and needs no attention while running. The engine is **tried and true!**



Pat. June 15, 1909. Others applied for

Fuller & Johnson Farm Pump Engine

Pumps 800 to 1,000 Gallons Per Hour!

This engine is absolutely supreme among engines designed for pumping. Fits any standard pump. Works in any well! Provides an abundance of pure, fresh water for stock or domestic water supply systems.

Runs All Sorts of Light Machinery. The engine has a 4-inch pulley for running hand-power machinery. It can be quickly detached from pump and carried wherever needed.

Fuller & Johnson High-Powered Engines. These mighty engines are the supreme achievement in gasoline engineering. Built in sizes from 3 to 18 H. P., inclusive—for stationary or portable work. "Open Water Jacket" type—non-freezing and trouble-proof. Most easily managed engines in the world.

How to Get a Fuller & Johnson Engine. Write for Free Engine Book and name of nearest Fuller & Johnson Engine Dealer. **Do it now!**

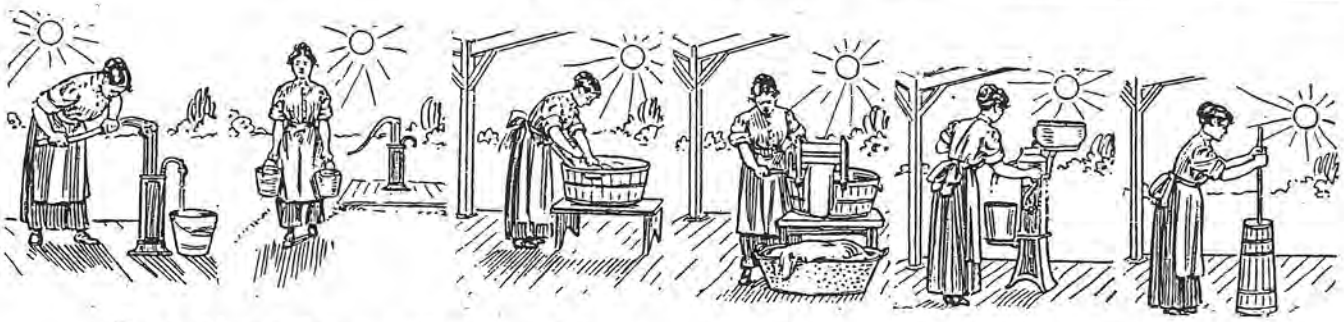
DEALERS—Write for our proposition! Only one dealer appointed in a town. Act quickly or you will miss a great opportunity. Address at once—

(114)

Fuller & Johnson Mfg. Co. (Estab. 1840) 829 Walnut St., Madison, Wis.

Fits Any Pump And Makes It Hump

EASY TO START



Let the Farm Pump Engine Help the Women Folks!

The portable Fuller and Johnson Farm Pump Engine introduced in 1909 came in several sizes from 3 to 18 horsepower. It could be attached to windmills or carried to a work site. If the lady in the illustration had a Farm Pump Engine she could have finished the washing, separated the cream, and churned the butter before the sun began to set.

Casaday
SULKY PLOW.

Denne Sulky Ploug har vundet Anerkjendelse for at være bedre end nogen anden Sort.

☞ Udførlig Beskrivelse vil blive sendt paa Forlangende. ☜

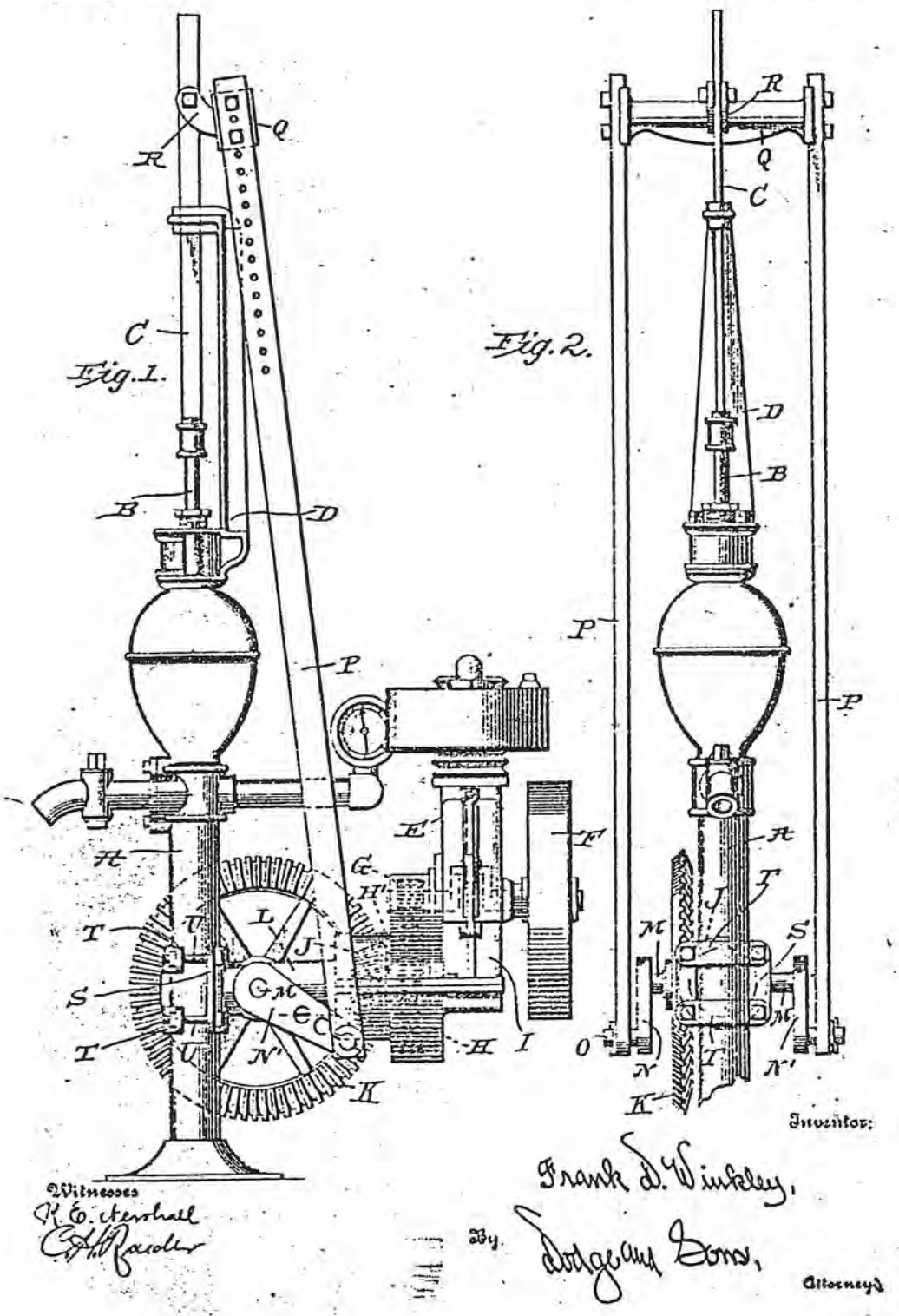
Fuller and Johnson produced agricultural machinery designed for the upper midwest which opened for settlement during the peak of Scandinavian immigration.

F. D. WINKLEY.

PUMP.

APPLICATION FILED OCT. 19, 1903.

925,147. Patented June 15, 1909.



Most parts of the Farm Pump Engine were made by machines designed and manufactured by Fuller and Johnson or the Gisholt Machine Company.

Sources

Madison City Directories from 1877 onward.

Articles in Madison Newspapers.

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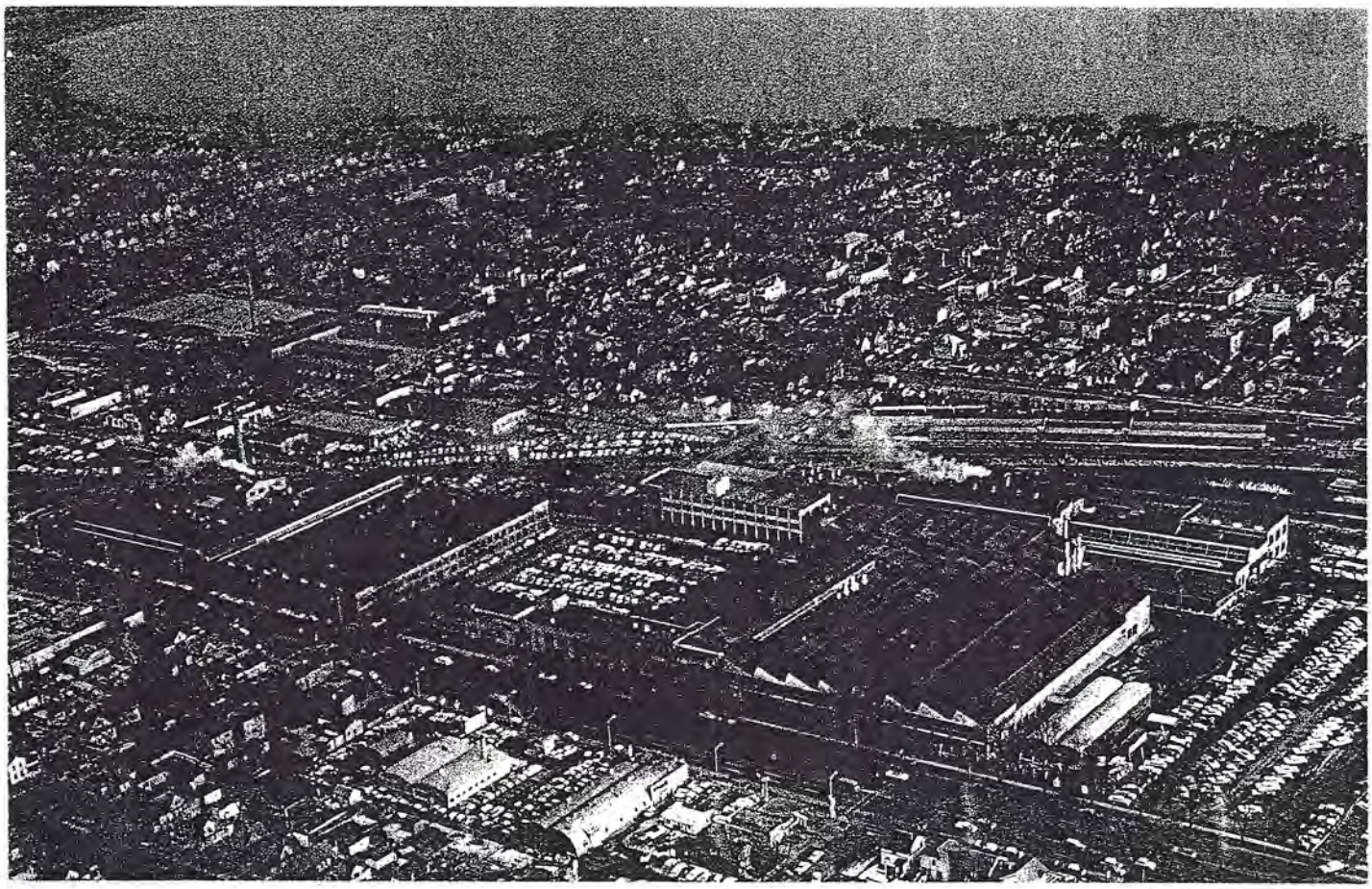
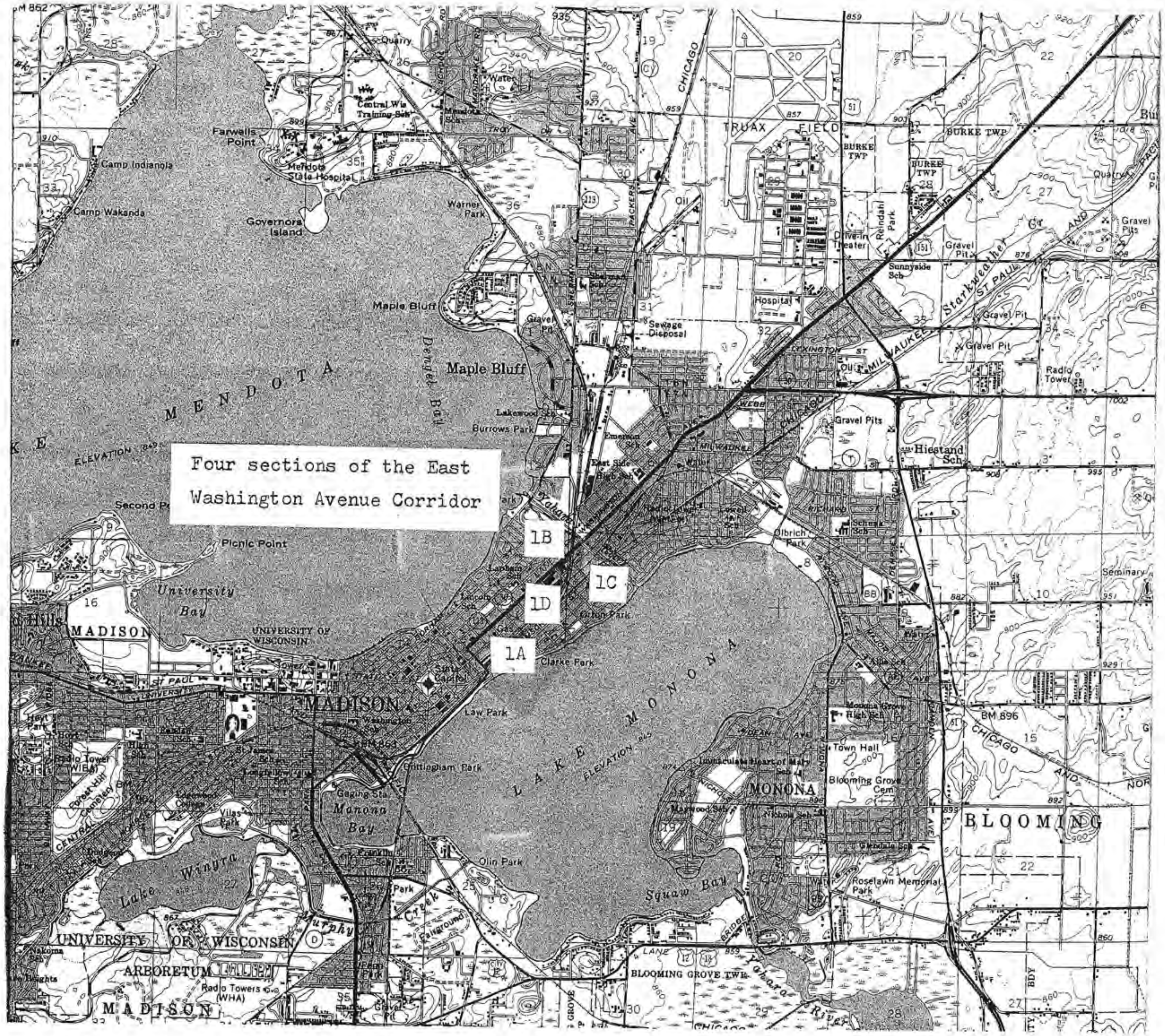
Kaia Johnson Obituary, Wisconsin State Journal, February 7, 1908.

Verne W. Kindschi, The Fuller & Johnson Story: a Brief History of the Fuller & Johnson Manufacturing Company (Lodi, Wisconsin, 1992).



The East Washington Avenue corridor was within walking distance of several residential areas, was perfectly level on soils firm enough to support large buildings, and was served by two railroads whose tracks allowed direct shipping to all parts of the upper midwest.


Four sections of the East
Washington Avenue Corridor
1A
1B
1C
1D
LAKE MENDOTA
LAKE MONONA
MADISON
MONONA
Maple Bluff
TRUAX FIELD
BURKE TWP
BLOOMING GROVE TWP
Lake Wingra
University Bay
Squaw Bay
Monona Bay
Picnic Point
Governors Island
Farwells Point
Mendota State Hospital
Camp Indianola
Camp Wakanda
Warner Park
Burrows Park
Olbrich Park
Orton Park
Clarke Park
Law Park
Brittingham Park
Olin Park
Vilas Park
Town Hall
Blooming Grove Cem
Roselawn Memorial Park
Hiestand Sch
Sewage Disposal
Hospital
Gravel Pits
Radio Tower
Seminary
UNIVERSITY OF WISCONSIN
ARBORETUM
Radio Towers (WHA)
Central Wis Training Sch
Quarry
Dengel Bay
Yahara River
Starkweather Cr
CHICAGO
MILWAUKEE
ST PAUL
State Capitol
Monona Grove High Sch
Gaging Sta
Lakewood Sch
East Side High Sch
Emerson Sch
Lapham Sch
Lincoln Sch
Drive-in Theater
Reindahl Park
Sunnyside Sch
Camp Randall
Edgewood College
Forest Hill Cemetery
BM 896
ELEVATION 849
ELEVATION 845

TOUR ONE

By about 1900 Madison leaders such as Reuben Gold Thwaites, a newspaperman and scholar, observed that the city had changed more in the last twenty years than in all the time between 1834 and 1880.

Between 1880 and 1900 the University of Wisconsin had become a leader in practical subjects such as agriculture, soil science, electrical engineering, and chemical engineering. Manufacturing had made a good start. Tourism was doing well. Electric generating stations had made possible modern streetcars, better street lighting and cleaner power for stores and factories. Financial institutions were sound.

The public schools were excellent; Madison voters had never turned down a school referendum.

Suburban expansion beyond the original city limits had begun on the east, south, and west sides of town.

The area between the eastern foot of Capitol hill and the Yahara River had become the location of three commercial and industrial sections with the potential for a fourth.

Tour One explores these sections which are:

1-A The railroad yards and wholesale trading area south of East Washington Avenue between South Blair Street and Williamson Street and east to about Paterson Street.

1-B The Fuller and Johnson factory complex north of East Washington Avenue east of North Dickinson Street to the Yahara River.

1-C The Northern Electrical Manufacturing area south of East Washington Avenue to Williamson Street and east of South Dickinson Street to the Yahara River.

1-D A fourth section which pretty much remained the domain of bullfrogs and cattails until the 1910's and 1920's between Paterson Street and South Baldwin Street, mostly south of East Washington Avenue.

1-A Area 1-A is located near several of the oldest residential areas in Madison and became the site of extensive railroad yards, the first Chicago and North Western Railway passenger station (a second station was built in 1910), the east side Milwaukee Road passenger station, the Fauerbach Brewery, several hotels primarily for traveling salesmen, a number of small food companies, and the showrooms of local, regional and national implement manufacturers such as

McCormick/International Harvester. A set of buildings near the corner of Williamson Street and Blair Street known since the 1880's as Machinery Row has been restored but the Fauerbach Brewery that was located directly east of Machinery Row has been replaced by condominiums. The Madison Gas & Electric Company has preserved the front entrance to the 1910 Chicago and North Western station on South Blair Street.

The Isthmus section of the Capital City Bike Path occupies a former railroad right of way a few hundred feet north of Williamson Street between South Blair Street and the Yahara River.

Walkers and bikers traveling east from South Blair can make side trips between the path and East Washington Avenue. Highlights include the Blount Street plant of Madison Gas & Electric, portions of which date back to before 1900, the Capitol Heating Plant on East Main Street, the renovated McCormick/International Harvester warehouse on Williamson Street, the former location of Wisconsin Foundry and Machine Company, and a number of newer apartment buildings that reveal the gradual transition of this area from commercial to residential.

1-B Skipping for now over area 1-D, proceed east on the Isthmus Bike Path to South Dickinson Street and turn north on Dickinson to East Washington Avenue. The large set of buildings with saw tooth roofs at the corner of North Dickinson and East Washington was the site of the Fuller and Johnson Manufacturing Company begun in the early 1880's by Morris E. Fuller, Edward M. Fuller, and John A. Johnson who had been agricultural implement distributors since the early 1870's and who then decided to manufacture plows, cultivators, harrows, transplanters, and other equipment suitable for the prairie soils in states and territories northwest of Wisconsin.

John A. Johnson receives a biographical sketch elsewhere in this study.

This site was later used by Trachte Brothers, Ben H. Anderson Manufacturing Co., Crown Can Company, a WWII Rayovac subsidiary called RMR, the Scanlan-Morris surgical supply company, the national headquarters of Ohio Chemical and Supply Compny that acquired Scanlan-Morris in 1944, and the State of Wisconsin.

Somewhere in this area is a sign that says "Trachte Bros. Parking only"—try to find it.

1-C In the late 1880's and early 1890's Fuller and Johnson began to make the machines used in producing their implements. Self-taught tool makers such as George Steinle and college-educated engineers such as Conrad M. Conradson designed turret lathes for Fuller and Johnson that were at least as good as those made by eastern manufacturers.

Fuller and Johnson then established a separate company to manufacture turret lathes under the "Gisholt" brand. By about 1902 Gisholt had moved into a new building on the south side of East Washington Avenue. Over the years Gisholt's plant expanded several blocks south and west almost to Ingersoll Street. Most buildings are still standing.

Conrad M. Conradson, meanwhile, had become more interested in electric motors and generators than machine tools. He raised enough money to start the Northern Electrical Manufacturing Company in a new building at 201 South Dickinson Street. Northern Electrical survived Conradson's departure for other activities—he seems to have been a better independent consultant than employee or employer—by about 1903 at which time Northern Electrical became the Madison

division of the Fort Wayne Electric Works, Fort Wayne, Indiana, that was part of General Electric.

Fort Wayne consolidated all operations in Indiana about 1916 at which time Gisholt bought the building which it named Gisholt Northern. There were numerous modifications to the structure over the years and a 40,000 square foot addition in the early 1940's. The State of Wisconsin acquired the building in 1972.

Contemporary photos from trade journals show that the Gisholt and Gisholt Northern buildings were well-lighted and well-ventilated. Overhead conveyors safely moved large items from work station to work station. The Gisholt plant included locker rooms, lunch rooms, a library, and an auditorium,

South Dickinson Street is also home of the Bock Water Heater Company.

By 1900 Fuller and Johnson and Northern Electrical together employed at least 1000 workers who were paid well enough to buy their own houses.

Jackson Reuter, a former Fuller and Johnson treasurer and then secretary-treasurer of Northern Electrical combined with real estate developers such as James Corry to form the Fair Oaks Land Company

that sold lots for workingman's houses east of the Yahara River. Fair Oaks became an incorporated village in 1906.

Reuter then started the Madison Plow Company on Fair Oaks Avenue and George Steinle established his turret machine company on Waubesa Street. These created more jobs, that created more houses, and attracted other industries that are covered in Tour Two.

1-D In 1910 Badger State Shoe Company moved from South Madison into a 6-story brick building at the corner of East Dayton Street and North Blount Street which it occupied until 1930. Other than a few foundries on East Mifflin Street, Badger State Shoe was the first industry to locate in the now drained and filled central marsh.

In the early 1920's Charles Frederick Burgess moved the C. F. Burgess Laboratories and the Burgess Battery Company to near the corner of South Blount Street and East Washington Avenue where he built several large factories. The battery company moved to Freeport, Illinois in the late 1920's. The Laboratories later became Research Products Co., which still occupies the former battery plant and several other buildings on East Main Street. Try to find the sign that reads "Burgess Battery Company."

Wisconsin Foundry and Machine Company

In 1907 George Washington "G. W." Botham (February 22, 1865-December 20, 1943) who had been born in Benton Harbor, Michigan founded the Wisconsin Foundry and Machine Company that was located at 623 East Main Street for most of its 86 year history. He was succeeded by his son Dorsey Lawrence Botham (January 26, 1908-March 13, 1985) who was then followed in turn by Dorsey James "Tuck" Botham (January 2, 1934-November 10, 2008).

According to a Wisconsin State Journal article by Henry Noll, Wisconsin Foundry could trace its roots to the Ball Brothers Foundry that had been located near the present "Red Gym" on Langdon Street and that had made cast iron cannonballs for the Army during the Civil War.

Over the years Wisconsin Foundry and Machine Company had a number of specialties. In the 1910's and 1920's it provided high volume equipment to water supply companies. During WWI 98% of its work was for ordnance plants and milk condenseries. It was one of the first machine companies to acquire arc welding equipment. In the 1930's, the company made its own line of road construction machinery such as

stone crushing and screening equipment, conveyors, and steel storage bins.

During WWII it made parts for the Fairbanks-Morse diesel engines for U. S. Navy submarines, as did the Theodore Kupfer Foundry and Iron Works. In conjunction with Kupfer, Bock, Madison Plow, and Steinle, it made supports for Navy machine guns.

After the war the company fabricated crane booms for the Harnischfeger Corporation of Milwaukee and later concentrated on gray iron castings, electric motor repairs, and general machine shop work.

Employment declined from 70 or more during WWII to only a few by the time the company ceased operations in 1993.

Other Users of the North Dickinson Street/East Washington Avenue site. Gisholt Machine Company. Northwestern Ordnance.

Trachte Brothers

From 1914 to 1985 some of the land at 102 North Dickinson Street near the Fuller and Johnson Manufacturing Company complex was the home of Trachte (trock-tee) Bros., a sheet metal fabrication company that was founded in 1899 by George, age 21, and Arthur, 19, Trachte who had learned tinsmithing in their home town of Watertown, Wisconsin. Their first Madison location was a 600 square foot space at 233 King Street. In 1907 they moved to the corner of Bedford Street and West Washington Avenue.

In 1910 the brothers patented a machine that allowed them to make livestock watering troughs and other items without solder joints and in 1914 the Trachtes moved to a larger building near the corner of North Dickinson and East Mifflin Streets.

In 1923 Trachte began manufacturing small buildings from angle iron and corrugated steel sheets. These were soon used as garages, gas stations, airplane hangars, car dealerships, and summer cottages.

In the mid-1950's and later Trachte Metal Buildings Company sold turn-key fast food restaurant buildings to clients such as A&W Root Beer, Shakey's Pizza Parlors, and Dairy Queen.

In 1985 Trachte moved to Sun Prairie, Wisconsin, where it became a leader in the self-storage industry and qualifies as one of the oldest Madison area manufacturing companies.

Ben H. Anderson Manufacturing Co.

Until 1941, the Ben H. Anderson Company founded in the 1920's had been making its Clean-Easy milking machines at 3300 Atwood Avenue near the old U. S. Sugar plant. In 1942 they moved to a former Fuller and Johnson building at 51 North Dickinson Street about half a block north of East Washington Avenue.

In 1948 Ben H. Anderson Co. sold the building to the Oscar Mayer Company that used it for storage. The building which may have been built in the 1860's was demolished in 1965.

Ben H. Anderson Co. has been located since 1948 in Morrisonville, Wisconsin where in 2013 it was making stainless steel parts for the dairy, pharmaceutical and brewing industries,

Crown Can Company

In 1936 the Crown Cork and Seal Company of Baltimore, Maryland that had been making metal bottle caps since 1892 decided to diversify into the tin can business and started a division known as Crown Can Company. In 1937 Crown Can leased some of the old Fuller and Johnson space to set up machinery to manufacture cans for Wisconsin-area meat packers and vegetable growers. This business got off to a good start.

In 1943, however, only two months after Crown had bought the Fuller and Johnson space, the War Department requisitioned the entire area for a factory that was to assemble a special type of battery for the armed forces. The War Department found a new home for Crown Can in Chicago.

RMR

The battery was to be made by the RMR Corporation and the Ray-O-Vac Company of Madison was to be the plant operator. The meaning of RMR and the type of battery was revealed after the war.

The battery was a mercury-oxide cell invented by Samuel Ruben, an independent electrochemist, so the first R was for Ruben. The M

was for the P. R. Mallory Company, a dry cell battery manufacturer. The second R was for Ray-O-Vac.

The problem was that by the end of 1943 every full-time worker within commuting distance of Madison already had a job. The labor pool was empty.

Fortunately, most of the RMR work consisted of light assembly tasks that could be learned quickly. Ray-O-Vac managers reacted by recruiting housewives, high school and college students, airmen from Truax Field, and just about anybody else who could find their way to the plant. Workers could drop in at any time of the day or night. They could stay for an hour or longer or even a complete shift and were paid in cash on the spot. This was a patriotic activity that brought the workers a little money and that gave the airmen a chance to meet high quality girls and the girls a chance to meet high caliber soldiers.

The War Department was impressed.

Ohio Chemical

In 1944 the Ohio Chemical and Manufacturing Company of Cleveland, Ohio, a producer of medical gases, acquired the Scanlan-Morris medical products company of Madison. In 1946 Ohio Chemical

moved its headquarters to the now closed RMR space. After several changes of name and ownership the company is located beside the West Beltline Highway and Femrite Road and is a part of GE Healthcare Life Support Systems.

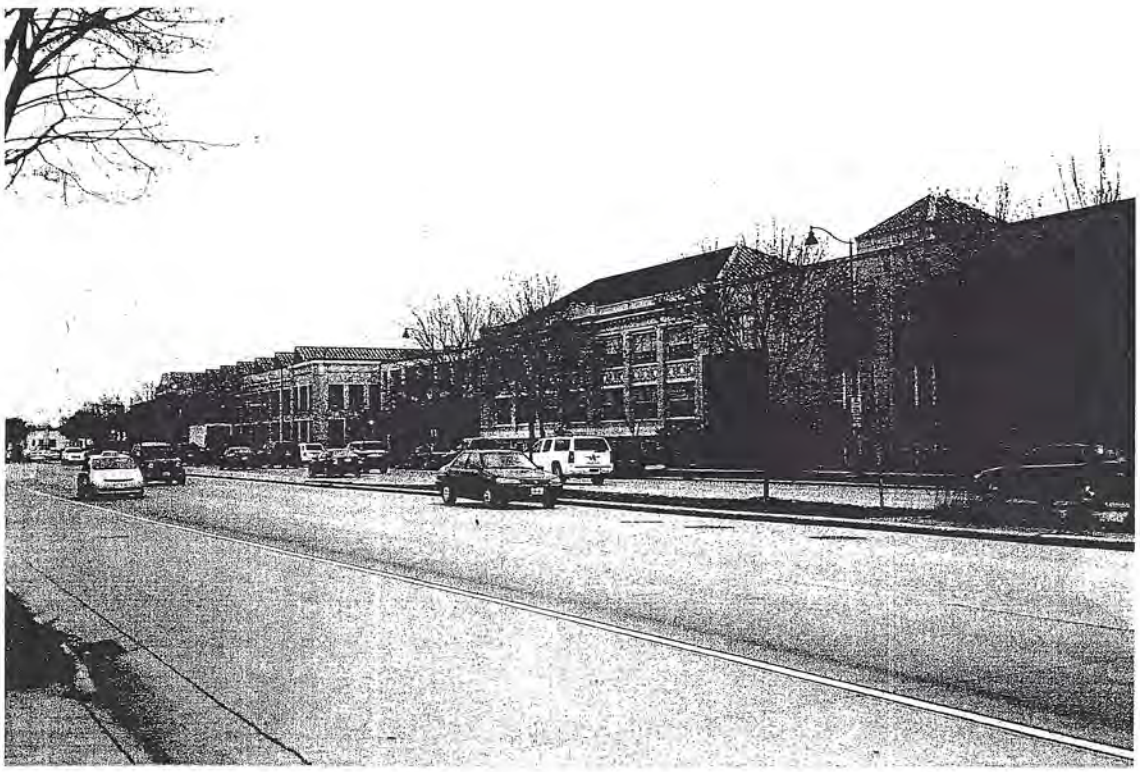
State of Wisconsin

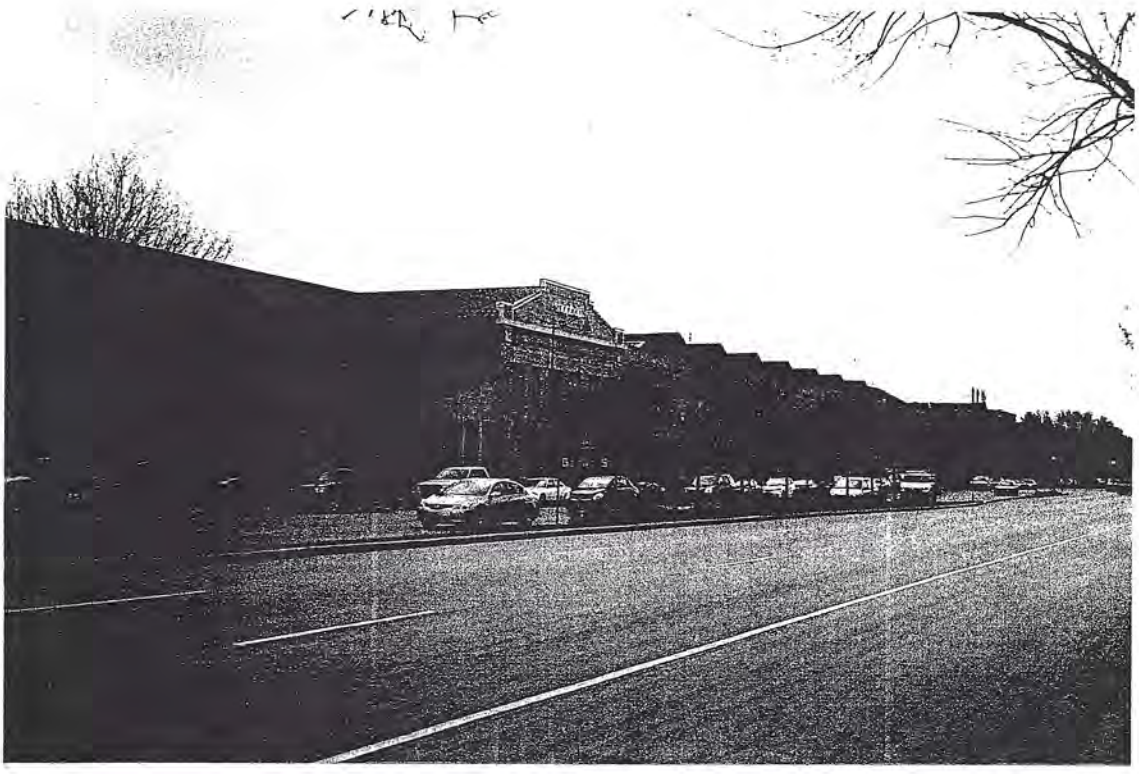
Since about 1971 most of the old Fuller and Johnson buildings, remodeled many times, have been used by the State of Wisconsin for office and storage space. The Fuller and Johnson office building at the west corner of East Washington Avenue and North Dickinson Street was a restaurant for some years but is vacant in 2013. Some of the older buildings in the area have been replaced by parking lots.

Gisholt Machine Company

In 1900 or 1901 the Gisholt Machine Company moved into a new building on East Washington Avenue across from Fuller and Johnson. Over the years Gisholt expanded to the west almost to Ingersoll Street and south as far as the 200 block of South Dickinson Street.

The new plant was thoroughly up to date. The machines were powered by electricity. Oil replaced coal. Dipping replaced spray





Portions of the Gisholt Machine Company buildings

painting. Overhead cranes moved heavy parts. All facilities were airy and well lighted. Amenities included locker rooms, a lunch room, an auditorium with stage, and a library.

In 1901 John A. Johnson wrote about Gisholt:

"How much more may grow out of what we have is uncertain, but it is easier to start other undertakings as we have shop tools, and skilled labor to facilitate further developments. I can now say that there is an enterprise in embryo that in time may develop into far greater proportion than we have yet attained."

All of Johnson's sons became Gisholt executives.

- **In 1901 Frederick A. Johnson, born about 1864, took leadership of the family business. He died in 1908.**
- **Carl A. Johnson (April 21, 1870-October 30, 1931) became president in 1906; he had been vice-president and general manager.**
- **Hobart S. Johnson (October 7, 1873-May 5, 1942) who had been vice-president since 1906 became president in 1931. He had attended the University of Wisconsin for three years.**
- **Maurice I. Johnson (July 16, 1876-May 13, 1933) who had attended West Point from 1894 to 1896 and then became a member of the 1898 class at the University of Wisconsin became vice-president and works manager in 1901 and later was treasurer.**

Other family members also led the business. Johnsons owned at least half of the stock until 1966.

In 1917 the War Department established a $330,000 plant called Northwestern Ordnance near the southeast corner of Few Street and East Washington Avenue. This was managed and staffed by Gisholt.

Northwestern had made about 250 4.7" field guns for the U. S. Army by the time the war ended in November 1918, after which Gisholt acquired the building.

From the beginning Gisholt had been partially dependent on overseas sales. By 1938 almost half of its sales were to customers outside the U. S. and Canada; Gisholt could compete against the best English and German mnaufacturers.

During WWII Gisholt's workforce grew to about 1,600. The company produced gun mounts, radar devices, crankshafts, and every sort of machinery. It earned an Army-Navy "E" award for excellence and efficiency. The 1942 sales were $30,500,000. By 1950 Gisholt was the fifth largest manufacturer of machine tools in the United States.

In 1966 Gisholt became a subsidiary of the Giddings and Lewis Company of Fond du Lac, Wisconsin, that could also trace its beginnings to a blacksmith shop. The Giddings and Lewis acquisition was not brought about by any weakness in the Gisholt products but by several years of miserable sales in the machine tool industry and by the

growth of computer controls. The entire Gisholt plant was closed by 1972.

The Fuller and Johnson and Gisholt legacy lives on with the John A. Johnson Foundation that created the John A. Johnson Memorial Park in the Village of Maple Bluff, and that has made large donations to the Olbrich Botanical Gardens, to the Madison Public Library, and to many other groups and associations.

201 South Dickinson Street, Northern Electric, Fort Wayne Electric, Gisholt Northern, State of Wisconsin

The large building at 201 South Dickinson Street was begun in 1895 to house the Northern Electrical Manufacturing Company (usually called Northern Electric), that was founded by Conrad M. Conradson (1862-1940), a former Fuller and Johnson and Gisholt designer and executive.

Northern Electric made motors and generators, specializing in factory motors that could be directly connected to a lathe, milling machine, or some other equipment.

By 1904 Conradson had moved on to other endeavors but left Northern Electric in good enough shape to attract the Fort Wayne Electrical Company as a buyer. This was located in Fort Wayne, Indiana and was owned by the General Electric Company.

In 1916 the Gisholt Machine Company bought the building from Fort Wayne and described its acquisition in a trade magazine:

> **The new Gisholt Northern Works (formerly the Madison plant of the General Electric Company) is a large thoroughly modern plant of steel and brick construction, splendidly lighted and heated and equipped with a complete sprinkler system. The machine tools are all up-to-date fitted with motor drive.**

Except for a few years in the late 1930's when Gisholt temporarily closed the shop, Gisholt Northern appears to have done well.

In 1942 Gisholt built a 40,000 square foot brick and masonry addition to the side of the Gisholt Northern building facing Thornton Avenue that brought the total area to about 150,000 square feet.

Gisholt ceased operations between 1971 and 1972. In 1972 the State of Wisconsin bought the building and has used it since then in various ways such as a mail distribution center and as a garage for state-owned motor vehicles. As of 2013 the state was sharing part of the building with a University of Wisconsin art department print shop.

Bock Water Heaters, Inc.

Bock Water Heaters, 110 South Dickinson Street, was founded in 1929 by Oscar L. Bock who was born in Des Moines, Iowa about 1900. He was raised in Cedar Falls, Iowa; earned a B.S. in engineering from Iowa State University in Ames; and then moved to Chicago where he and a friend started the Tuthill Pump Co.

At some point Oscar and his wife Harriet visited Madison, fell in love with the city, and left Chicago. Oscar's first product was an oil burner that could replace coal burners in furnaces. The first factory was a garage on Winnebago Street. Water heaters soon replaced bnrners. Oscar then moved Bock Water Heaters, Inc. to the Dickinson Street location. By 1968 Bock was making about 10,000 heaters a year of which 51% were for new schools.

Harriet (May 13, 1900-April 18, 1996) was survived by Oscar who died a few years later at age 100.

The company has been 100% employee owned since 2001.

Bock Water Heaters fits perfectly with John Alexander's characterization of many Rock River Valley manufacturing companies.

- **It was established in Madison because the owner and his wife liked the city.**
- **It is a metal fabricating company in a location where all metal materials have to be brought in from long distances.**
- **Very few of its products are sold in the local market area.**
- **It has an important market share in a specialized field.**
- **It must compete on quality, not price.**
- **Highly productive workers are its most valuable asset.**

Badger State Shoe Company

The Badger State Shoe Company was incorporated in Milwaukee in 1893. In 1900 its directors, Albert and Henry Atkins, relocated the firm to a brick building at 1375 Gilson Street in South Madison. This location did not work out well because it was too isolated from workers' houses, so within a few years the company had moved to another building on East Wilson Street and by 1910 was located in a new plant at 123 North Blount Street.

The thoroughly modern Blount Street building was designed by Madison architect Ferdinand Kronenberg. It was six stories tall, 50 feet wide and 100 feet long.

Soon there were about 250 workers, of whom half were women.

The factory made women's, misses, and children's shoes that were sold to retailers through a Chicago distributor.

On February 1, 1917 the Wolfram Shoe Company of Watertown, Wisconsin bought Badger State Shoe. This company had been incorporated by Edward C. Wolfram (April 1870-1927) who also owned shoe factories at Waterloo, Wisconsin and Lake Mills, Wisconsin. The Lake Mills plant made baby shoes; Waterloo made women's "Comfort"

shoes. Wolfram centralized buying and other operations for all four factories. He died in 1927. Badger State closed in 1930, a victim of the Depression.

The Blount Street building was then used for many years as a warehouse by such firms as Crescent Electric Supply, Montgomery Ward, and Rowley-Schlimgen office supplies.

By 2013 it had been converted to condominiums and was known as "Das Kronenberg" in honor of its architect.

French Battery Company, French Battery and Carbon Company, Ray-O-Vac, Rayovac, C. F. Burgess Laboratories, Burgess Battery Company

According to John Alexander by 1950 half of all the dry cell batteries in the United States were made in Madison, Wisconsin by the Ray-O-Vac Company and in Freeport, Illinois by the Burgess Battery Company.

Burgess long ago became part of the P. R. Mallory Battery Company that is now Duracell. Rayovac and Duracell still share a large part of the dry cell market.

Both companies were founded by Madison residents, James Bowen (J. B.) Ramsay (March 9, 1869-May 7, 1952) and Charles Frederick (C. F.) Burgess (January 5, 1873-February 13, 1945).

James Ramsay was from a Madison family. He entered the University of Wisconsin directly from his junior year in high school. After graduation from the University he worked for at least twelve years in the lumber business at Medford, Wisconsin. He then returned to Madison and looked about for other business opportunities.

In 1906 James and a friend P. W. Strong heard that a man named Alfred Landau was making and selling dry cell batteries from a shop in Chicago. They met Landau who told them that dry cell batteries had a

great future in flashlights, lanterns, ignition systems, telephones, telegraphs, and so on. Ramsay, Strong, and Landau incorporated the French Battery Company in Chicago during 1906 with Landau as president.

In his book Madison: A history of the formative years, revised edition, Madison, Wisconsin, 2003 David Mollenhoff says that the French name was chosen to honor Landau's French background. However, because dry cell batteries at that time used almost exactly the same components and chemicals as a wet cell battery invented in 1868 by a French chemist, Georges Leclanche, the name may be based on the French invention. In 1910, for example, "French cell" appeared on the wrapper of a dry cell battery made by the French Battery and Carbon Company.

It is also possible that French was chosen because it suggested high quality as in French champagne and French perfume. None of the available company histories discusses the choice.

In 1907 the French Battery Company moved to Madison and set up shop in a small building on Regent Street near West Washington Avenue. Ramsay became president; Landau stayed on until 1910. He is sometimes portrayed as a charlatan but in 1919 he was granted a U. S.

patent for an improved dry cell. In the patent application he described himself as a British subject and a resident of Manhattan, New York City.

The name was changed in February 1910 to the French Battery and Carbon Company probably because dry cell batteries required a graphite rod as the positive electrode and pulverized carbon to hold the manganese dioxide electrolyte. The company was then buying carbon from various sources and may have felt it could sell any extra.

At any rate because Ramsay and Strong were entrepreneurs, not scientists, they hired Charles Frederick Burgess, a professor of electrochemistry at the University of Wisconsin as a consultant.

Burgess was born and grew up in Oshkosh, Wisconsin. His parents were from Lunenburg, Nova Scotia. In Oshkosh his father worked in a variety of government jobs, for example, as a tax collector for the U. S. Internal Revenue Service and as Winnebago County Sheriff.

Charles and his one year younger brother George entered the University of Wisconsin in 1891. Charles earned a B. S. in 1895 and stayed on to receive an E. E. in electrical engineering in 1898. This was the equivalent of a master's degree. He was then hired by the

University. Over the years from 1897 he rose from instructor to assistant professor to associate professor and then full professor in 1905.

Between 1908 and 1913 Burgess spent more time in outside consulting than teaching at the University. He resigned from the University in 1913 to work full-time in his private laboratory at 625 East Williamson Street that he called Northern Chemical Engineering Laboratories. French Battery and Carbon was one of his first clients.

At French, he reduced the defective product rate from as high as 100% down to zero. He found sources of manganese dioxide in Montana that reduced dependence on ore from West Africa.

Most importantly he found that finely powdered natural manganese dioxide as opposed to synthetic and finely ground carbon as opposed to pulverized made for a better and cheaper battery. In 1914 competitors that had threatened to put French out of business in 1913 were begging to share the French patents in these discoveries.

In 1910 French had moved to a larger plant at 120 South Dickinson Street near the present Bock Water Heater factory. Burgess kept the Northern Laboratories (later renamed C. F. Burgess Laboratories) at Williamson Street but soon began to use shared space

at 120 South Dickinson Street to make his own flashlights and flashlight batteries.

For a time, this was okay because French was then concentrating on the No. 6 ignition cell that was 6" tall and about 2 ½" in diameter with a 1.5 volt output. The No. 6 cell was used in telephones, telegraphs, automobiles, and wireless telegraphy apparatus. However, French later became interested in smaller sizes and introduced the first "French flasher" flashlight in 1914, which put them into direct competition with their research consultant and fellow occupant.

On the night of December 2, 1915 a fire started in either the French or Burgess portion of the Dickinson Street building, which was destroyed as were the friendly relations between Ramsay and Burgess.

The resulting hard feelings eventually caused a court battle that began in June 1921 and dragged on until the summer of 1923. It ended when French paid Burgess almost $60,000 for patent infringements and industrial espionage. In 1916 French moved into a new fire-resistant building at 2317 Winnebago Street and the Burgess Labs and Burgess Battery moved to 1025 East Washington Avenue.

Both companies grew enormously during the 1920's radio boom. Many radios of the time required a high current, low voltage "A"

battery for the filament in a vacuum tube; a higher voltage, lower current "B" battery for the plate; and a medium voltage, low current "C" battery for the grid.

Burgess, partly because he had worked on rectifiers at the University, knew it was only a matter of time before plug-in radios operating off AC house current would reduce this market. The plug-in radios arrived about two years before the Depression.

In 1925, Burgess was unhappy with the high corporate taxes in Wisconsin (this problem was later corrected) and was planning to expand both the battery and laboratory operations.

He found a recently abandoned Moline Plow Co. factory still in perfect shape at Freeport, Illinois. The city of Freeport was desperate for a new industry to replace Moline and offered a $20,000 relocation bonus to any purchaser of this space.

Burgess bought the site but refused the bonus. He set up facilities for battery products and lab activities in Freeport and by not later than 1927 also had a battery plant in Sterling, Illinois.

By 1931, the Madison plant no longer made batteries. The laboratories remained on East Washington Avenue until 1938 when Burgess completely abandoned Wisconsin.

A number of the former laboratory workers, including several scientists Burgess had hired away from the U. S. D. A. Forest Products Laboratory in Madison began a firm called Research Products Corp. that took over the battery spaces.

In 1934 French Battery and Carbon Company officially became Ray-O-Vac. The firm had used made up words such as Ray-O-Lite for the flashlight battery and the company's cartoon mascot, Ray-O-Spark for multiple cell ignition batteries, and Ray-O-Vac for vacuum tube radio batteries. It had also begun to set up satellite plants across the country.

Both companies were neck and neck with the introduction of new types and uses for dry cell batteries. Ray-O-Vac claimed the first wearable hearing aid (1933), the first high-fidelity portable radio (1937), and the first leakproof dry cell (1939).

Rearmament began in the United States about 1938 and both companies responded magnificently. During WWII their batteries were used in portable two-way radios, range and direction finders, infrared signaling devices, proximity fuzes, and millions of flashlights.

Fortunately for the local historian both the Burgess Company and Ray-O-Vac hired respected industrial journalists to write company histories.

The Burgess Company and family chose Alexander McQueen to produce a 429-page book titled A Romance in Research: the Life of Charles F. Burgess (Pittsburgh, Pennsylvania, 1951).

McQueen was born in England but apparently was a Chicago resident for many years. In the 1930's and 1940's he produced and narrated syndicated radio programs such as "Believe it or not" (no connection with "Ripley's Believe it or not") and "Nothing but the truth." He was also a lexicographer, teacher, public speaker, and linguist who could read in ten languages.

Kenneth D. Ruble was an advertising agency executive. He prepared The Ray-o-vac Story: the first 75 years (Madison, 1981).

Ray-O-Vac dropped the hyphens in 1988. The Winnebago Street plant closed in 2003 and was demolished a few years later.

As of 2013 Rayovac's headquarters are on Rayovac Drive in Madison.

Hankscraft

Marshall Wilfred Hanks was born in Madison, Wisconsin on February 2, 1875 and died in Madison on May 7, 1952, He was a member of the University of Wisconsin class of 1897 where he completed three years of study but left after his junior year to attend an apprentice course at the Westinghouse Electric and Manufacturing Co. He worked for some years at Westinghouse and also at the Nernst Lamp Company and the Society of Automotive Engineers.

Between 1905 and 1912 he owned the Hankscraft Boat Company in Chicago where he developed the first wooden motorboat with a completely enclosed gasoline engine.

In 1921 he became president of the Hankscraft Corporation in Madison. James B. Ramsay of the French Battery and Carbon Company was vice- president.

The first Hankscraft office and shop were a 600 square foot room in the French plant at 2317 Winnebago Street.

The Hankscraft Corp. was to build small electrical appliances using an old but unutilized discovery that if two closely spaced electrodes are supplied with an appropriate voltage and current and are

immersed in tap water or water vapor, the water or vapor in the gap between the electrodes will become heated. If there is no water or vapor between the electrodes there is no heating.

One of Hankscraft's first products was the "Electric Maid," essentially an on-off switch that was placed in the vent on top of an electric cooker. As long as the meat or other food gave off a good deal of moisture the device conducted electricity. As the food reached doneness the amount of vapor decreased and the device shut off the cooker's heating element.

That was a good idea but Hanks grew rich with the Hankscraft egg cooker. In the egg cooker the electrodes were placed in a container below a rack holding raw eggs. Cooking began and continued for as long as the electrodes were covered by water. When the water boiled off, cooking stopped. Cooking time was controlled simply by adjusting the amount of water at the start of the cycle.

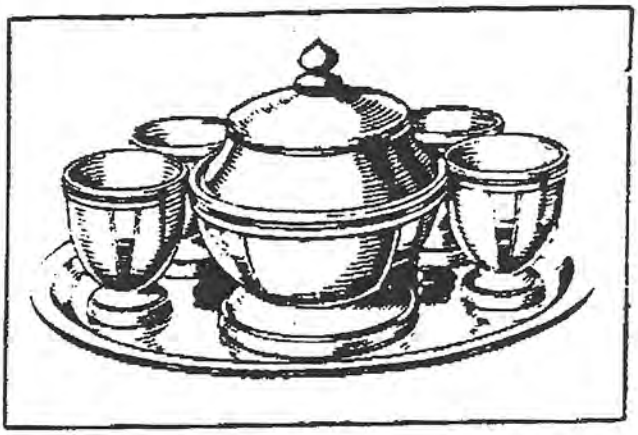
The same concept was used to make baby bottle warmers, baby bottle sterilizers, and medical items so that Hankscraft had good sales in the kitchen appliance, baby, and hospital markets. And because the egg cookers were attractively designed and reasonably priced they also sold well in bridal and gift stores.

Hankscraft soon moved to a factory at 1007 East Washington Avenue near the Burgess Battery Company. In 1927 Wayne Ramsay, son of James Ramsay, became sales manager; he was president in 1947.

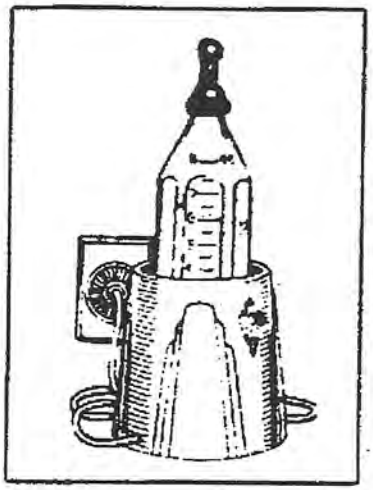
In the 1940's a Hankscraft employee, Sheldon M. Wengel, invented a battery-powered electric motor that had a rocking, not rotary motion. These were soon used in advertising displays.

In 1949 Hankscraft moved to an almost new recently emptied factory building in Reedsburg, Wisconsin, where in 2013 it was still headquartered on Wengel Drive, and still makes motors and many other products.

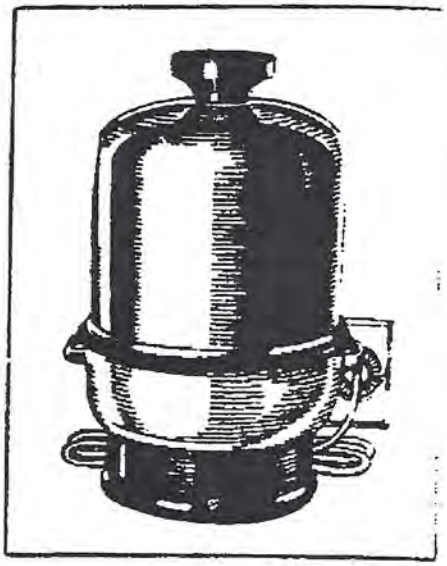
Enjoy 1934 with HANKSCRAFT Appliances



Hankscraft automatic electric egg cookers boil, poach, scramble, shir and steam-fry eggs in live steam by electricity. Starts to cook in three seconds and shuts off automatically when eggs are done just right. **$2.95 to $8.50.**



Hankscraft automatic electric baby bottle warmers heat baby's milk to the correct feeding temperature, quickly and accurately. **$2.95 to $5.00.**



The Hankscraft Baby Bottle Sterilizer sterilizes six standard sized baby bottles, nipples, and other baby accessories in live steam. Shuts off current at end of proper sterilizing period. **$7.50.**

The HANKSCRAFT COMPANY

Madison, Wis.

Research Products Corporation

The Research Products Corporation was founded in 1938 by several former employees of the C. F. Burgess Laboratories. As of 2013 its facilities included a former Burgess Battery Co. building near the corner of Brearly Street and East Washington Avenue and several buildings on East Main Street.

In the late 1930's and throughout WWII Research Products made air filters, black-out curtains from scrap Kraft paper, Zeolite for water softeners, Alkalex to reduce alkalinity in water, Birm to remove iron from water, and silica gel desiccant.

The plant evidently produced silica gel on its own by mixing sodium silicate with acid to produce a rigid pearl gray jelly that was then washed, dried, and reduced to marble size crystals that were then doped with cobalt chloride. The cobalt chloride gave the gel a pink color when dry that changed to blue when wet. The silica gel could be heated to remove attached moisture and to be reused indefinitely.

Its moisture absorbing qualities came from millions of tiny cavities in each crystal providing large areas on which water vapor condensed.

Used as a corrosion inhibitor silica gel often replaced heavy grease or a wax-like coating such as Cosmoline. When metal products such as an airplane engine were shipped overseas, the engine could be placed in a water resistant box containing several bags of silica gel. A clear window near one of the bags allowed inspectors to check for color change. If there was too much blue the box could be opened, dried out, and resealed.

An engine packed in grease or coated with Cosmoline required many hours of cleaning on arrival. An engine protected by silica gel could be installed immediately.

In the 1950's Research Products made a variety of novelties such as an aluminum mesh frying pan cover that prevented hot oil from spattering onto a stove top or the cook's finger.

From 1954 onward the company has specialized in domestic and commercial air quality products such as filters, humidifiers, heat pumps, and thermostats.

Ceramic Arts Studio

From 1940 until its closing in 1956 the Ceramic Arts Studio at 8 North Blount Street made hand-painted glazed ceramic figurines with clay from Wisconsin, Florida, California, and other states.

It was founded by two University of Wisconsin art students: Reuben Sand and Lawrence Rabbit. Rabbit had recently studied Wisconsin clays and had used some of these in ceramics that he exhibited in a show at the U. W. Memorial Union.

Rabbit left the company in 1941, leaving Sand in charge. Over the years most of its 20 or so workers were women who applied color glazes to the 6" tall statuettes of subjects such as puritan maidens, dogs, and Slavic dancers.

Betty Harrington was one of the firm's best-known artists.

Gardner Baking Company

The Gardner Baking Company was established by Louis Gardner (March 26, 1887-December 13, 1979) in 1928. Gardner was born in Illinois and was a high school graduate who entered the baking trade in 1908 as an apprentice. He then managed several smaller firms before buying a failing wholesale bakery in Fort Wayne, Indiana that he revived and expanded from two delivery routes to twenty.

Soon after arriving in Madison, he purchased and expanded a building at 849 East Washington Ave. where he soon installed high-speed machinery that could produce 50,000 loaves a day of sliced, packaged white bread sold under the Purity brand name. By the 1930's Gardner's territory covered all of the Madison area, most of southern and western Wisconsin, and parts of northern Illinois.

On February 20, 1949 a social note in the Wisconsin State Journal mentioned the new home of Mr. and Mrs. Louis Gardner in Fort Lauderdale, Florida. In 1950 Louis Gardner, Jr. became president.

Also in 1950 Gardner announced plans to build a 75,000 square foot plant on a 7 ½ acre site at 3401 East Washington Ave.

This location is significant in Madison industrial history because it was perhaps the first large manufacturing company that was not located beside or close to a railroad track. Trucks could now handle perishable ingredients such as flour, yeast, milk, and butter more efficiently than trains, at least in certain markets.

In 1975 the Gardner family donated 180 acres of land to the University of Wisconsin Arboretum. As of 2013 Gardner is still at 3401 East Washington Avenue.

Mautz Brothers, Mautz Brothers Paint and Glass Co., Mautz Paint and Varnish Co.

Mautz Brothers was founded in 1892 by two Madison natives, Bernhard Frederick Mautz (January 15, 1869-February 11, 1944) and his brother Rudolph Mautz. It was located at 118 State Street and was a wholesale and retail dealer in paints, brushes, glass, and wallpaper.

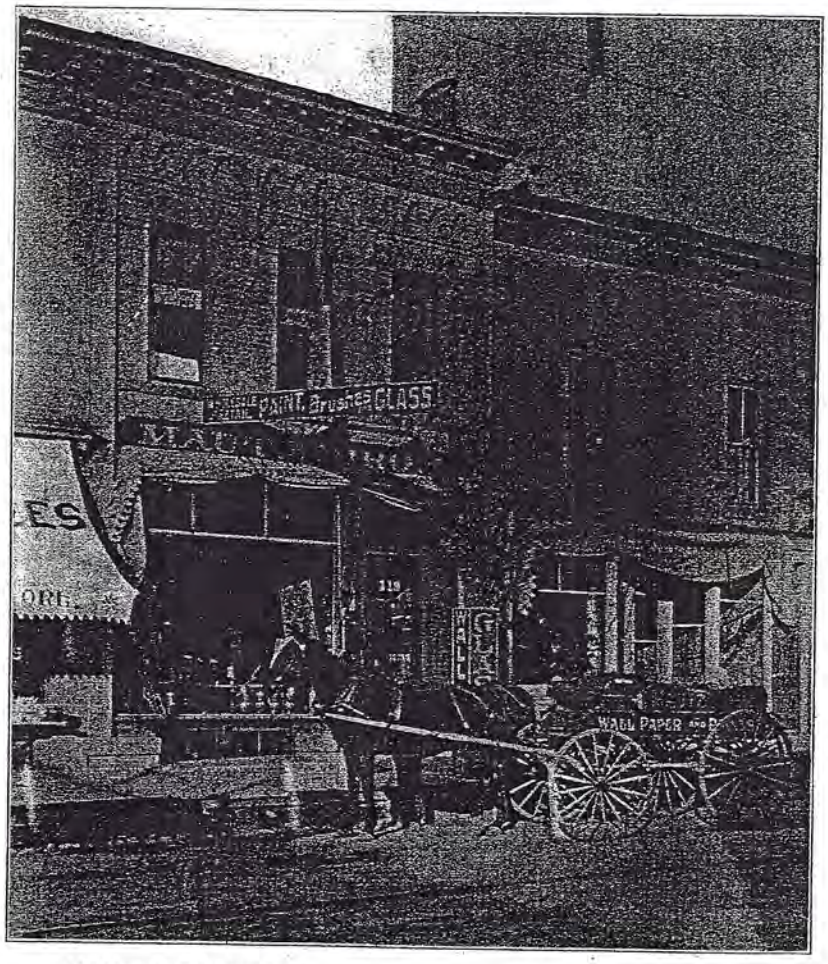
In the 1920's Mautz Brothers built a large warehouse at 116-124 North Murray Street to accommodate its growing wholesale operations and home and office painting and decorating activities.

The State Street store was sold to John M. Svendsen in 1941.

In 1922 Bernard F. Mautz and his son Bernard Meyer Mautz (February 2, 1899-January 7, 1985) established Mautz Brothers Paint and Glass Co., later known as Mautz Paint and Varnish Co.

In 1928 this company moved into new quarters at 917-939 East Washington Avenue near the C. F. Burgess Laboratories.

Mautz Paint and Varnish Co. made house paints, floor enamels, screen paints, heavy duty varnishes, and other finishing products. The house paints were formulated to bear up well in the northern Midwest.



MAUTZ BROTHERS.

Mautz Brothers conduct one of the most complete Wall Paper, Paint and Decoration Supply houses in the city. They wholesale and retail Oils, Paints, Brushes and Painters' Supplies. The concern was established in 1892 by Rudolph and Bernhard Mautz. Both members of the firm were born in Madison, and their education and business training has been secured for the most part here. The store carries the largest stock of Wall Paper and Paints of any concern of the kind in Dane county. The firm also deals in Window Glass, Picture Frames, and kindred stocks of goods. In busy seasons as many as thirty-six men are employed.

At one time Mautz products were sold by hardware and paint stores in as many as fifteen states although Mautz later concentrated on stores in Wisconsin, Illinois, Indiana, Iowa, and Minnesota.

The company never moved from the East Washington Avenue location and was always family owned.

In 2001 president Bernhard F. Mautz announced that almost all of the firm's assets had been sold to the Sherwin-Williams Co., one of the world's largest paint manufacturers.

Red Dot Foods

In 2012 the Wisconsin Potato and Vegetable Growers Association inducted Frederick and Kathryne Meyer into the group's Hall of Fame. A press release summarized the Meyers' contribution to the potato industry and provided a concise history of their firm, Red Dot Foods. It is copied here without changes:

Fred & Kathryne Meyer

Posted: Thursday, February 9, 2012 9:00 am

The Wisconsin Potato & Vegetable Growers Association Hall of Fame honors lifetime achievement in the development of the state's potato industry. It is the intention of the WPVGA to continue to honor individuals who have made significant contributions to the potato industry in Wisconsin by making annual Hall of Fame inductions.

The following is a brief biographical sketch of this year's WPVGA Hall of Fame inductees.

FRED AND KATHRYNE MEYER

Born in 1910, Frederick J. Meyer grew up in West Salem, the son of a grocer. In December of 1930, he married his college sweetheart, Kathryne (Kaye) Rossman of Marshfield. Both juniors at the University of Wisconsin, they were determined to graduate, but at the same time, they needed work to support themselves while they continued their studies.

The Great Depression made finding work a challenge, but Meyer invested $22 and purchased three cases of a salted confection called "Korn Parchies." Soon he was selling all kinds of packaged foods to grocery stores in the city of Madison, including potato chips, from the back seat of his Chevrolet roadster with a rumble seat.

In 1932 Fred and Kathryne Meyer graduated with degrees in chemistry and commerce respectively. Fred's mentor, chemistry professor Dr. J.H. Mathews, urged Meyer to continue toward a Ph.D., but the couple made the decision to expand their food distribution business instead. The Fred J. Meyer Company grew over the next six years, adding staff, trucks, and new products. Kathryne (who was born in 1908 and died in 1983) was an equal partner in the business in her capacity as Secretary-Treasurer-she possessed high intelligence and remarkable organizational skills which she put to good effect in juggling both maternal and business responsibilities

By 1938 potato chips had become so popular that Meyer and his additional suppliers could no longer keep up with demand. He decided to purchase, with the help of investors, a continuous potato chip making machine, a technological innovation that allowed for unmatched quality control. The newly-reformed company was now called Red Dot Foods, Inc. Red Dot made and sold pretzels, popcorn, cookies, pork skins, and nuts, but potato chips remained the heart of the company's identity.

In 1942, the Meyers purchased over 4,000 acres of farm land in Oneida County, raising livestock as well as a number of different crops, including potatoes. Also in the early 1940s, Red Dot Foods purchased a second chip-making machine. Despite World War II, the business continued to grow and in September 1948, Meyer made the momentous decision to discontinue food distribution for other suppliers and focus on the manufacturing and selling of Red Dot products.

For the next 11 years the company continued to grow, operating nine factories in the Midwest, purchasing potato farms in northern Wisconsin and Alabama, and opening 83 branch warehouses. By 1961 Red Dot had become the leading manufacturer of snack foods in the Midwest and one of the top five such companies in the United States. Its sales rose from $3.6 million in 1950 to over $20 million in 1960.

At its peak, Meyer made a fateful choice to merge Red Dot Foods, Inc., which he now solely owned, with H.W. Lay & Company of Atlanta, Ga. The merger was finalized on May 5, 1961. Tragically, Meyer took his life four days after the merger,

perhaps struggling with the thought that his creation was now out of his hands. Whatever the reason, it is his life and story of what he contributed to the potato industry that should be honored. At the time of his death, Fred and Kathryne Meyer had built their company into a multi-million dollar business which employed several hundred people with the company's main plant and office located in Madison. The 30-year-old company had maintained ten production facilities and its products were sold in 35,000 retail outlets in 12 Midwestern states.

Meyer was a firm believer in potato research as a way to improve the quality of his end product. In 1947 he began the search for a potato specifically bred for chipping. A sustaining member of the American Potato Journal (the publication of the Potato Association of America), Red Dot Foods claimed to be the first potato chip company to operate its own potato research program. Red Dot worked closely with the University of Wisconsin's agricultural researchers as well as the potato breeding program to create the perfect potato for chips.

Meyer's stated ambition was to develop the perfect chipping potato-and then improve on it. He was a member of the potato advisory committee of the USDA, served on the research committee and as President of the National Potato Chip Institute; and for eight years, as a member of the Potato Commodity Committee appointed by the U.S. Secretary of Agriculture, he supported many research projects in the agricultural field, especially the work with potato breeding and genetics. He was always very interested in the foreign potato introductions that are maintained at the U.S. Potato Genebank in Sturgeon Bay, Wisconsin. He was also a member of the exclusive fraternity of Honorary Life Members of the Potato Association of America.

Some other facts are that Kathryne was born January 30, 1908 in Marshfield, Wisconsin and died October 10, 1983 in Hot Springs, Arkansas. She remarried after Fred's death, so her name was then Kathryne Donkle.

The first Red Dot office in Madison was at 518 Division Street but by 1938 the company was at 1435 East Washington Avenue where it had its own railroad siding. In the early 1950's Red Dot acquired part of the old Madison Plow Company factory building on Fair Oaks Avenue.

The East Washington Avenue plant closed in 1973. As of 2013 the building was described as "office and warehouse."

In the 1950's and 1960's Red Dot used several professional entertainers to promote its potato chips and other snack foods to children and adults.

A Whitewater, Wisconsin based clown, Gene Lee, known as "Cousin Otto" for his farm boy persona provided the radio voice for the firm's mascot "Ta To."

Henry Baker, a Chicago piano player and entertainer known as "Two Ton" Baker because he was 6'2" tall and weighed at least 350 pounds, promoted Red Dot products on his children's television show.

TOUR TWO

Tour 2 begins at the former railroad bridge over the Yahara River just north of Williamson Street and follows the Isthmus bike path beside Eastwood Boulevard to the intersection of Eastwood and Division Street, so named because it once marked the city limits of Madison.

This area was the home of Coan Manufacturing that made the U-Select-It brand of vending machines and is the present location of Schoep's Ice Cream and Capital Water Softener. The bike path continues a few blocks northeast beside the railroad tracks to the intersection of LaFollette Avenue and Waubesa Street, site of the former Steinle Turret Machine Co., Kupfer Iron Works, Madison Brass Works, and the current home of Madison Kipp. The oldest Kipp plant runs south along Waubesa Street where it is joined on the south by the former Four Lakes Ordnance building that has been part of Kipp since 1937.

From LaFollette and Waubesa the bike path curves to the southeast. Another Kipp plant is located a few hundred feet to the east where the tracks cross Fair Oaks Avenue. This site was once the car

barns for trolleys operated by the Madison Street Railway Company and later a garage for the city buses.

Portions of the large building on the east side of Fair Oaks Avenue now occupied by Kessenich's were built in 1903 for the American Plow Company that ceased operations in 1911 after which it was occupied by Jackson Reuter's Madison Plow Company from about 1912 to 1952.

The large yellow or cream brick building a few hundred yards farther east was built about 1903 for the U. S. Sugar Company as a sugar beet refinery and was later occupied by Garver Feed and Supply. The Madison Cement Stave Silo Company and the milking machine manufacturer Ben H. Anderson Manufacturing Company also used this area.

The only other large industry along the bike path was the F. S. Royster Guano Company fertilizer factory at the intersection of Dempsey Road and Cottage Grove Road. The Royster site was cleared for future development in 2011-12.

As of 2013 the bike path continues a short distance beyond Dempsey Road to Cottage Grove Road but bike lanes continue both east along Cottage Grove Road and south on Dempsey, one set of which

leads through portions of Madison and the City of Monona around the east and south shores of Lake Monona, and then turns north near John Nolen Drive.

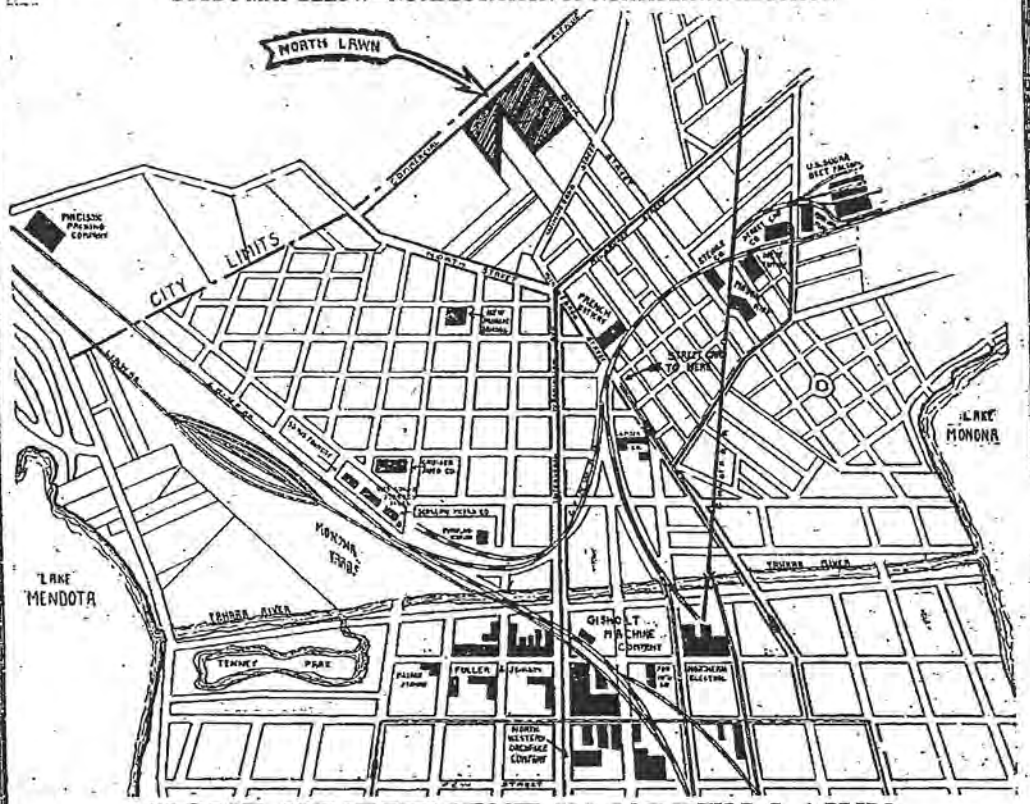
MADISON'S INDUSTRIAL BOOM IS ON

BUY NOW AND MAKE MONEY

More money has been made in buying low priced lots in a growing factory district than in any other form of inveatment. Investors in cities like Gary, Detroit, Cleveland, Chicago and Toledo have made big profits by getting in on ground floor prices at the start of the industrial boom. You have missed other chances.

DON'T FAIL TO INVESTIGATE THIS PROPERTY NOW

STUDY MAP BELOW—NOTE LOCATION OF NORTH LAWN ADDITION



YOUR INVESTMENT IN NORTH LAWN

Is Backed By Over $5,000,000 In East Side Industries

LOTS IN NORTH LAWN ARE WITHIN EASY REACH OF ALL BIG SHOPS—Gisholt, Fuller & Johnson, Scanlan Morris, Madison Sugar Beet Factory, Madison Kipp, Northwestern Ordnance Co., Four Lakes Ardnance Co., Madison Street Railways Co., Steinle Mfg. Co., Madison Packing Co., French Battery, Madison Plow Co., Burgess Laboratory Co., Curiser Automobile Factory. All of these industries are growing very rapidly. Over 5,000 men are now employed within a few blocks of North Lawn.

Men who work in all these factories must have homes. New homes must be built. Vacant ground will be occuppied. This means increase in land values in North Lawn. Every dollar spent in this district is a permanent asset to your lot. Lots within three blocks of this property are now selling for $500 to $1200. Your own foresight will tell you that North Lawn lots will sell for more next year. Take advantage of this opportunity now—protect yourself against the future—a profit comes to only those who act. ACT NOW.

What Will The Growth of Madison's Industries Mean To You?

They have increased values for others. They will make money for you

You can profit by their growth. If you had bought property near these factories a few years ago you could now sell at a profit or own your own home close to your work. A better chance is offered you now than before. Take advantage of it—thereby paying your way to future independence. You cannot make a large amount of money by labor alone. Wise investments together with a small sacrifice on your part is the only way which you can accumulate an income sufficient to make you independent.

COME OUT SATURDAY OR SUNDAY

AGENTS ON THE GROUNDS—2 P. M. UNTIL DARK

Buy now while the price is $195. North Lawn is the most promising sub-division ever offered in Madison. People have heretofore made the mistake of buying high priced property, instead of buying LOW PRICED PROPERTY NEAR HIGH PRICED PROPERTY. If you follow this rule, you can't help but make money by the natural growth of the city. Madison's industries have just started to grow. Madison can grow Eastward only between the lakes. Imagine the value of these lots in a few years, then you will see this opportunity.

$195
$10.00 DOWN

All Lots Within City Limits
Over 50 Lots Sold In 2 Weeks
Cash Discounts of 6%, 10%, 15%

$195
$5 MONTHLY

HOW TO SEE THIS PROPERTY

Take street car to end of Winnebago Street car line. Walk East on Winnebago Street to North Street. Follow North Street to North Lawn Addition.

Better yet. Phone us and auto will call for you. Free transportation whether you buy or not. See this property now. Agents on the grounds Saturday and Sunday afternoon. Drive out in your car.

A TIMELY SUGGESTION

You will never accomplish anything big in life but that your friends will urge you to do differently. To make money you must think for yourself. On all sides there are people ready to give advice. Before taking their word, ask yourself if they have succeeded by following their own advice. THINK FOR YOURSELF, then you are ready to act. While you are thinking this over, others are securing the choice lots. REMEMBER, WHEN 75 LOTS ARE SOLD PRICE WILL BE ADVANCED. Remember over 50 lots are already sold. Get your lot now.

E. J. FISHER
Sales Manager

North Lawn Realty Co.

TENNEY BLOCK
Phones 1458-741

Wisconsin State Journal August 25, 1918

Coan Manufacturing Co.
U-Select-It, Incorporated

John W. Coan (about 1893-May 19, 1961) was working in Kalamazoo, Michigan in 1923 where he opened a small vending machine company that was wiped out in 1929 early in the Depression. In 1933 he bought a Madison vending machine company, the Rush Hour Company, and renamed it Coan Manufacturing Co. whose products were sold under the U-Select-It brand name.

Coan's plant was at 2070 Helena Street on a site that was occupied by the Schoep's Ice Cream Company in 2013.

By 1953 Coan had about 70 workers and had made more than 100,000 vending machines. The company made all of its own jigs and tooling and much of its machinery. The vending machines dispensed candy bars, chewing gum, cigarettes and other merchandise. At some point Coan also made amusement devices.

In 1970 the firm officially changed its name to U-Select-It, Inc. As of 2013 a company in Des Moines, Iowa with that name has manufactured 2.1 million pieces of equipment and is the world's second largest vending machine company.

Coan Manufacturing is another Madison and Rock River Valley company that supports many of Alexander's conclusions:

- **It was a metal fabrication company that had to import all of its materials and whose products were nearly all sold in distant markets.**
- **It gained an important market share in a highly competitive specialized field by constant improvements to low-bulk, high value products made by well-paid unionized workers.**

The only thing unusual about the Coan Company is that newspapers of the time did not report any company sponsored sports teams.

Schoep's Ice Cream

Schoep's [Shep's] Ice Cream Company, 2070 Helena Street, takes its name from a grocer and ice cream maker, Edward J. Schoephoester [Shepheister] who was born about 1882 and who died on September 16, 1966. He was originally from Prairie du Sac, Wisconsin but had moved to Madison and operated several grocery stores on the east side in the 1920's and 1930's. He was successful enough to become a director of a central Wisconsin grocery store owner's association in 1935.

He began to make Schoephoester's ice cream in 1928 for sale in his stores and at local malt shops and later shortened the name to Schoep's,

In 1940 Peter B. Thomsen bought the ice cream business and the name from Schoephoester. "P. B." Thomsen was born in Korlum, Germany about 1891 and came to America in 1911. He first lived in Nebraska, South Dakota, and Illinois and then operated creameries in Washburn County, Wisconsin and at Windsor, Wisconsin. He was a partner in an ice cream factory in Fort Atkinson, Wisconsin before moving to Madison.

Peter and his wife Hilda, who died in May 1963, had four sons and four daughters. Peter died on January 13, 1964 leaving an estate of $300,000.

As of 2013 six Thomsen family members work at Schoep's Madison headquarters and the company is the largest independent ice cream maker in Wisconsin producing about 12,000,000 gallons a year. There are about 150 workers.

It sells the Schoep's brand in Wisconsin, Illinois, Iowa, Minnesota, and the Upper Peninsula of Michigan. Private label customers include such firms as Walgreen's Drug Stores.

Capital Water Softener

The history of Capital Water Softener Corporation is largely the story of three families: Rice, Pederson, and Wick. Capital was founded in 1936 by Clinton A. Rice who was born on September 6, 1890 in Michigan and who died in Madison on June 7, 1954. At some point he learned how to build a better water softener for the tasty but hard water in the Madison area.

One of Rice's early employees was Norman Arthur Pederson who was born April 23, 1920 and who was raised on the family farm at Seminary Springs near Cottage Grove, Wisconsin. Norman graduated from Madison's East Side High School in 1937, his highest level of formal education. He began to work at Capital soon after graduation.

The 1940 U. S. Census lists his occupation as "assembler" in a water softener company.

From 1942 to 1946 he was in the U. S. Army where he served with the First Infantry Division, earned a Purple Heart, and was a prisoner of war. He then returned to Capital where he became a partner in 1947 and owner in 1954.

Norman and the former Ethel Bradley were married on November 25, 1942; she had been born on October 5, 1922. Ethel became a co-owner and director with Capital. She died on August 2, 1986. Norman died on December 27, 2007, age 87.

The Wick family became involved when Erik Wick married the Pederson's daughter Penny. Erik and Penny's first child was born on August 1, 1967.

Capital has had several locations such as East Wilson Street, Winnebago Avenue, and Atwood Avenue and since about 1985 has been at 2096 Helena Street.

In 2011, Capital's sales were about $3,000,000. It produces many sizes of domestic and commercial water softeners that are sold through distributors in several Midwestern states and more distant areas.

Madison Plow Company

In 1910 when Fuller and Johnson decided to drop agricultural implements in order to concentrate on internal combustion engines, it found the perfect buyer in Jackson A. Reuter (March 29, 1858-June 15, 1946) who had been head accountant at Fuller and Johnson in the firm's early years.

Reuter took over a 1903 plant at 131 Fair Oaks Avenue that had been built by a company called American Plow Company. He called his new firm Madison Plow Company and continued to make and repair Fuller and Johnson implements for many years. He also added new products.

By the late 1940's the Fair Oaks Avenue Madison Plow Company factory was a single-story square building about 250 feet on a side.

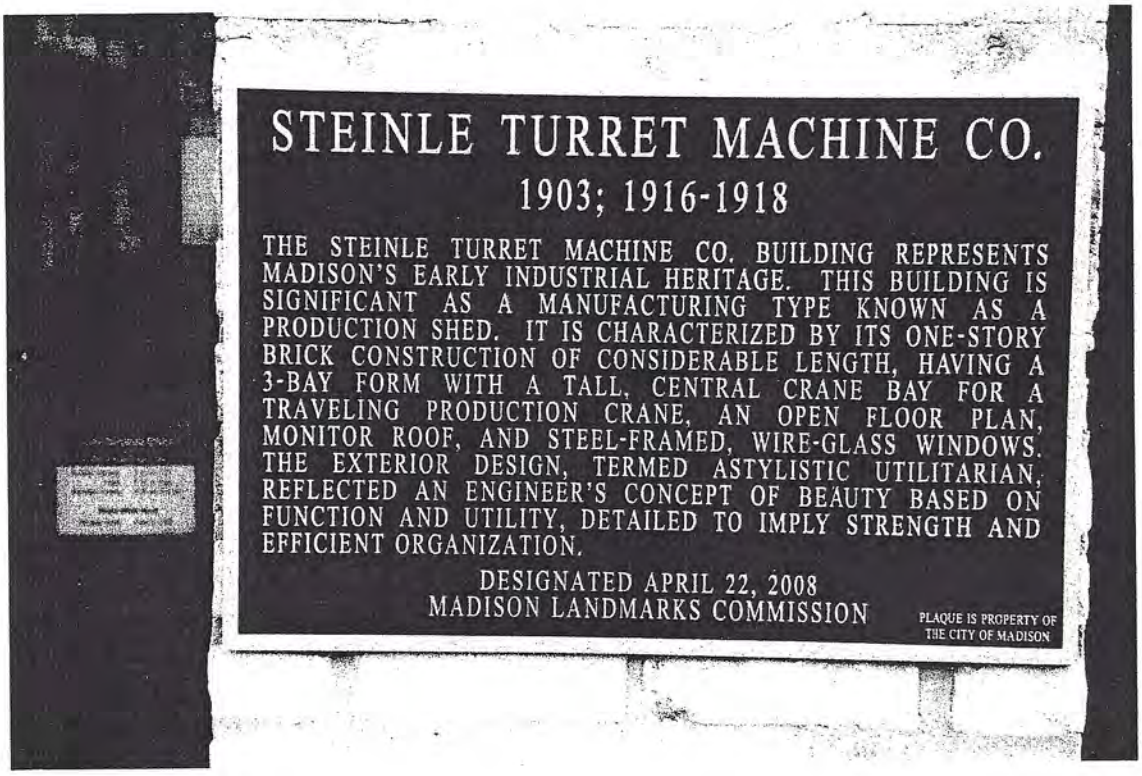
On November 19, 1950 a fire damaged parts of the plant but the company remained at the Fair Oaks site until it closed in September 1951. The building was purchased in 1952 by Red Dot Foods, a Madison-based potato chip and snack foods company. As of 2013 the area was home to Kessenich's, Ltd., a full-line commercial and residential food service company founded in Madison in 1929.

Other aspects of Reuter's career are equally interesting. After leaving Fuller and Johnson about 1898 Jackson bought a controlling interest in the First National Bank of Stevens Point, Wisconsin. During this period he also invested heavily in northern Wisconsin forest property and did very well in this field. He returned to Madison about 1904 and was secretary-treasurer until about 1908 at the Northern Electrical Manufacturing Company at 201 South Dickinson Street that had been started about 1895 by Conrad M. Conradson, a former Fuller and Johnson executive and machine tool designer.

In the late 1890's and early 1900's Jackson was president of the Fair Oaks Land Company. He is considered to have been one of the most important men in the early development of that village.

For many years Jackson lived as a lodger with the Angus P. Udell family at 1351 Morrison Street. Mrs. Udell arranged for his burial at the Forest Hill Cemetery.

Jackson left a $200,000 portion of his estate to be used for a hospital facility for the aged that was to be named in memory of his mother, Augusta.


STEINLE TURRET MACHINE CO.
1903; 1916-1918
THE STEINLE TURRET MACHINE CO. BUILDING REPRESENTS MADISON'S EARLY INDUSTRIAL HERITAGE. THIS BUILDING IS SIGNIFICANT AS A MANUFACTURING TYPE KNOWN AS A PRODUCTION SHED. IT IS CHARACTERIZED BY ITS ONE-STORY BRICK CONSTRUCTION OF CONSIDERABLE LENGTH, HAVING A 3-BAY FORM WITH A TALL, CENTRAL CRANE BAY FOR A TRAVELING PRODUCTION CRANE, AN OPEN FLOOR PLAN, MONITOR ROOF, AND STEEL-FRAMED, WIRE-GLASS WINDOWS. THE EXTERIOR DESIGN, TERMED ASTYLISTIC UTILITARIAN, REFLECTED AN ENGINEER'S CONCEPT OF BEAUTY BASED ON FUNCTION AND UTILITY, DETAILED TO IMPLY STRENGTH AND EFFICIENT ORGANIZATION.
DESIGNATED APRIL 22, 2008
MADISON LANDMARKS COMMISSION
PLAQUE IS PROPERTY OF THE CITY OF MADISON


MADISON BRASS WORKS
BRASS · BRONZE · ALUMINUM NICKEL SILVER

American Shredder, Steinle Turret Machine, Theodore Kupfer Iron Works, Durline Scales, Goodman Community Center

In 1903 East Side developers such as James Corry and Jackson Reuter were excited about a large expansion of the Northern Electrical plant at 201 South Dickinson Street, the new American Plow Company building on Fair Oaks Avenue and the American Shredder Company building at 149 Waubesa Street.

American Shredder had been founded about 1880 to build a type of power operated machine that became popular when Midwestern farmers began to use more corn in livestock rations. According to Charles H. Wendel, author of <u>Encyclopedia of American Farm Implements and Antiques</u>, Iola, Wisconsin 1997, a husker shredder used rollers and other devices

> **that snapped the ears from the stalks, cleaned them in a husking bed and delivered them to a waiting wagon. Meanwhile the stalks and leaves were cut and shredded, passing through the machine, and into a blower which conveyed them into a pile or into the barn.**

The husker-shredder was most popular between 1880 and 1940. Early models were hand fed which is one reason why there were so many one-armed farmers during that period. The American Shredder

was self-feeding so that the company's ads in 1903 stated "it leaves no cripples."

The 1903 building was acquired in 1909 by the Steinle Turret Machine Company. There was a major expansion in 1916-1917. The site was especially desirable to Steinle and other occupants because it was located at the junction of the Chicago and North Western Railway tracks and those of the Milwaukee Road. A spur track beside the plant provided direct access to both railroad lines, a feature shared by the Fuller and Johnson and Gisholt properties. This was important because shipments could go directly to all points served by these railroads without any switching or extra fees.

The Steinle Turret Machine Company's major product was turret lathes designed by George A. Steinle (September 11, 1865-October 10, 1939), a Madison native who became a Western Union telegraph operator after graduating from high school. He became familiar with machine tools at the Ball Brothers Foundry in Madison before joining Fuller and Johnson where he designed their early turret lathes. He became Fuller and Johnson's and Gisholt's chief salesman and traveled frequently throughout Europe promoting these products and then set up his own business.

In 1917 the U. S. War Department created the Four Lakes Ordnance Company to manufacture 5" guns for the U. S. Navy and built a large shop at 3810 Atwood Avenue that was operated by the Steinle Company until 1919. The Four Lakes building was then mostly vacant until 1937 when it was purchased by Madison-Kipp probably in anticipation of rearmament. Madison-Kipp was still using the building in 2013.

Steinle Turret Machine ceased operations in 1934 leaving the 149 Waubesa Street shops empty until 1940 when they were taken over by the Theodore Kupfer Foundry and Iron Works. The Theodore Kupfer Foundry had been started in 1892 by Theodore Kupfer, Sr. (about 1862-1936) in the 600 block of East Mifflin Street where it did general foundry work and made cast iron fittings for store fronts and similar items. It moved to the Waubesa Street plant to gain more space and to have direct access to its own railroad siding.

By 1940 Kupfer was making large fabrications such as bridge railings and steel columns. During WWII it made mounts for Navy machine guns and supports for the Fairbanks-Morse diesel engines used in U. S. Navy fleet submarines. Kupfer closed in 1985 after 93 years in the foundry and fabrication businesses.

Durline Scales and Mfg. Co. used some of the former Steinle/Kupfer space for a few years in the 1990's to make its line of industrial scales.

The property was then purchased by a real estate investor who hoped to convert the abandoned and decrepit buildings into condominiums. This plan fell through.

By 2008 work was under way to rehab the buildings, add a new gymnasium, and update the utilities for a City of Madison facility to be named the Goodman Community Center after Madison residents Robert and Irwin Goodman whose contributions made the center possible.

Madison-Kipp Corporation

According to the Historic Blooming Grove Historical Society the Madison-Kipp Corporation began in 1902 when a lubrication company in Rochelle, Illinois merged with a similar company in Madison, Wisconsin.

In 1903 the firm moved into a new building at 201 Waubesa Street which is still the company headquarters. It was purchased by the Coleman family in 1904. The Waubesa Street area was established by Fair Oaks developers and civic leaders to attract high wage industries such as those pioneered in the Madison area by John Johnson and the Fullers.

Lubricating devices for steam and gas engines were the most important products during the company's early years. By the 1920's zinc and aluminum castings of all sorts became important. In 1937 the firm bought the old Four Lakes Ordnance building fronting on 2824 Atwood Avenue that had been built by the War Department in 1917.

Beginning in 1938 and continuing throughout WWII, Madison-Kipp pioneered new ways to make artillery ammunition for the U. S. armed forces, designed machines for munitions manufacturers, and

built aiming devices for mortars, as well as TNT containers for antiaircraft ammunition. Military production again became important during the Korean War.

As of 2013 the firm still uses the Waubesa Street space as well as a newer plant at the intersection of Fair Oaks Avenue and the railroad tracks and a 2006 plant in Sun Prairie, Wisconsin.

Also as of 2013 there were about 300 Kipp workers with an average tenure of 16.5 years.

Madison Brass Works, Surf Inc.

Madison Brass Works, 206 Waubesa Street, was started in 1907 by Henry Vogts (about 1879-February 1, 1968) and Edward Schwenn (about 1882-November 4, 1918).

Henry Vogts was born in Germany and came to America in 1894. At age 14 he was working on a farm near Waunakee, Wisconsin for room and board and an annual salary of $120. He attended three winter sessions of grammar school at Waunakee, mostly to improve his English.

At age 18 he left the farm and worked at foundries in Beloit, Milwaukee, and Kenosha, Wisconsin and at Waukegan, Illinois as an informal apprenticeship. He and several friends then began a western working trip with sessions at foundries in Denver, Salt Lake City, Portland and San Francisco where in 1906 they lost all of their possessions in the San Francisco earthquake. He returned to Wisconsin and worked for about a year at the Madison division of the Fort Wayne Electric Company, 201 South Dickinson Street.

The first Madison Brass Works plant was a wooden shed on Waubesa Street on a lot that Henry and Edward bought for $400 and

paid for in $10 monthly installments. The shed burned down in 1912 and was replaced by a fire-resistant brick and steel structure.

Madison Brass was primarily a "jobbing foundry" that made castings for other firms. About 90% of its products went to manufacturers in Madison, Racine, Milwaukee, and Chicago, but it also did one-off custom work such as the 1910 "sifting and winnowing" plaque for the University of Wisconsin.

Henry was a musician who played with the Madison Civic Symphony and the Zor Shrine Band. He was a life member of the Madison Musicians Union.

He was also a director of the Security State Bank, a member of the Madison police and fire commission, and a founder and director of the East Side Business Men's Association.

He owned a construction company that built at least 60 houses near the Nichols School in the Village of Monona and on the East Side of Madison.

In 1965 at age 87 Henry was still working at Madison Brass although by then he had turned over most of the supervisory tasks to his nephew Elmer Schwenn. He never lost his German accent.

Henry's son Harry (about 1909-1994) was an outstanding instrumental musician at Madison's East High School and at the University of Wisconsin. He was owner and leader of a band after graduating from the UW.

Harry and his wife Elizabeth (Betty) were local, regional, and national motor boat racing champions. He was a plant supervisor and officer at Madison Brass and the founder and president of Surf, Inc. that made cast metal boating accessories and decorative items.

His Ace Builders Corporation, "Ace sets the pace," built many single family houses in the Glendale and Acewood Boulevard areas of Madison in the 1950's and 1960's.

As of 2013 Madison Brass is officially defunct but a present occupant still uses some of the casting facilities.

Many industrial firms such as U.S. Sugar were built where they could be serviced by two railroads

U. S. Sugar Company, Garver Feed and Supply

The yellow brick building on the north side of the railroad tracks a few hundred yards east of Fair Oaks Avenue was the home of several industrial firms from 1904 to 1997. It was built about 1902 to 1904 for the U. S. Sugar Company as a beet sugar refinery that operated in most years between 1906 and 1924 when the company went bankrupt.

A thorough discussion of the brick building's architecture and its changes through the years until 1994 can be found on the Internet at www.cityofmadison.com/planning/landmark/...3244 Atwood Ave.pdf/.

One of the U. S. Sugar Company's founders was an inventor and chemical engineer named Magnus Swenson who was born in Langesand, Norway on April 12, 1854 on the estate of Thorstrand and who died in Madison on March 21 1936. In 1868 at age 14 Magnus came to the United States by himself. He then lived with an uncle in Janesville, Wisconsin for about eight years where he attended grammar school and worked as an apprentice blacksmith in the Chicago & North Western Railway shops.

He then entered the engineering college at the University of Wisconsin. His senior year thesis was on the pollution of well water in Madison that caused quite a stir and was partly responsible for the

subsequent development of a sanitary sewer system in Madison. In 1880 he became William Arnon Henry's first research assistant in the new college of agriculture.

At this time Magnus became interested in better ways to obtain refined sugar from sorghum. He left the ag department after a few years and continued to study sugar refining. He decided that sorghum would never become an important source of sugar but discovered many ways to improve sugar cane and sugar beet processing, so much so that he was soon called "the Eli Whitney of sugar."

Swenson's biographer was Olaf Haugen whose article on Magnus appeared in Volume X of Norwegian-American Studies, the journal of the Norwegian-American Historical Association. The article can be read for free on the Internet. Haugen wrote that Swenson's combination of mechanical skill, chemical knowledge, practical skill, and perseverance helped Magnus prosper in the sugar business and other fields such as mining.

In 1902 Swenson returned to Madison where he became president of the U. S. Sugar Company that established sugar beet refineries in Menomonee Falls near Milwaukee, and at Janesville, Madison, and Chippewa Falls. This seemed like a good idea because sugar beets grow

well almost everywhere in Wisconsin, especially in the eastern part of the state and Swenson certainly knew the trade.

The Madison plant operated for almost every annual processing season (usually October to February) from 1906 until 1924 when it closed forever.

The sugar beet industry never took hold in Wisconsin. For example, by 1938 only three of the nine sugar beet mills that had been established from 1869 were still in business.

It can be conjectured that by 1906 many Wisconsin farmers had become so heavily involved in dairy farming, livestock, truck gardening, tobacco, and other crops that they did not have the time or money to go into beets. Also beets require extensive thinning and weeding in the spring just when mint, peas, onions, sweet corn, potatoes, tobacco, and others also most need attention.

Another answer may be that other parts of the United States such as northeast lower Michigan, east and west North Dakota, eastern Montana, southwestern Idaho, and elsewhere developed a sugar beet culture similar to the dairy culture in Wisconsin or the pork culture in Iowa.

In hindsight, as Alexander would have pointed out, a sugar beet factory should never have been built in Madison, which was no place for a commodity producer.

Magnus Swenson remained a leading Madison citizen. In 1922 he built a large house on his estate, Thorstrand, near the southwestern shore of Lake Mendota. As of 2013 he is probably best known for his role in constructing the hydroelectric dams on the Wisconsin River at Kilbourn (Wisconsin Dells) and Prairie du Sac.

Garver Feed and Supply

James R. Garver was born in Abilene, Kansas about 1885 and died in Madison on May 2, 1973. He graduated from the University of Kansas and then earned a master's degree in animal husbandry at the University of Wisconsin in 1908. He became the head of the Indiana Agriculture Extension Service.

In 1917 James and his wife the former Ann Van Vranken moved to Madison where he started an agricultural supply company that had several names over the years—Garver Feed Co., Garver Feed and Supply, Economy Feed Milling Co., and Garver's Supply.

In 1931 he bought the former U. S. Sugar plant for a feed mill and warehouse. He removed some of the upper portions of the sugar plant and made other changes.

In 1946 one of the largest fires in Madison commercial history destroyed the warehouse section of the plant. The fire was especially hard to control because there was only one hydrant near the plant, so hoses had to be extended from several blocks away. Four hundred bystanders helped company workers move cars, trucks, and equipment out of danger and a firewall prevented damage to the main shops. Damage exceeded $100,000.

Garver later expanded beyond cattle, swine, and poultry supplies into cat and dog food and rations for rabbits, ostriches, and emus.

For many years Garver's produced about 500 tons of animal feed per week.

Several workers continued the business after Garver's death. The 66-year old firm was sold to Nutrena and closed on October 31, 1997.

As of 2013 the U. S. Sugar and Garver office building between the east end of the plant and the railroad tracks had been restored but the future of the main building was still in doubt.

Madison Cement Stave Silo Company

Madison Silo Company was started in 1914 by J. Ray Trusler and Clyde C. "C. C." Woody who had been building silos since about 1906.

Trusler (October 1, 1988-September 22, 1966) and Woody (January 31, 1886-March 31, 1982) were both from Jasper County, Iowa. Woody earned a civil engineering degree from Iowa State University at Ames in 1911. Both men shared an interest in farming and harness racing. Each was an officer in several horse racing and horse breeding associations. Woody was a founder and president of the Madison Rotary Club.

Their silos were made from concrete staves 30" long by 10" wide x 2 ½" thick, each with a tongue and groove. They were fireproof, windproof, and "would last until doomsday." The sales price included installation on the purchaser's property. In addition to silos, the staves could be used to make tanks, standpipes, culverts, and well curbing.

The first plant was at 2126 Winnebago Avenue near Buell Street. First year sales were 30 silos; this grew to more than 12,000 a year by 1956, the most by any company in the world.

In April 1928 Madison Silo moved from Winnebago Street to a 2 ½ acre site off Atwood Avenue near the abandoned U. S. Sugar plant

where they were soon joined by the Ben H. Anderson Manufacturing Company, makers of Clean-Easy Milking Machines, and by Garver Feed and Supply. Additional plants were erected in Chippewa Falls and Waupaca, Wisconsin; Winona, Minnesota; and El Paso, Illinois.

In the 1960's and 1970's Madison Silo was purchased and sold by at least two conglomerates including American Marietta. By 1982 the company had been purchased by 12 employees and became known as Madison Farm Structures.

In 1986 there was an auction to disperse nearly all of Madison Farm Structure's tools and machinery.

TOUR THREE

Tour Three begins at the intersection of East Johnson Street and Fordem Avenue and progresses north on Fordem to North Sherman Avenue to Aberg Avenue, east on Aberg to Packers Avenue and south on Packers through the Oscar Mayer parking lot to Pennsylvania Avenue and East Johnson Street. There are no bike paths in this area but several roads have bike lanes and it is legal to ride bikes on most of the sidewalks.

Fordem Avenue was built in 1946-47 to house the Forsberg Paper Box Company and the Democrat Printing Company that were ready to move from downtown into large single story buildings close to railroad tracks. Democrat later changed its name to Webcrafters. After passing beside the Webcrafters plant walkers and bikers may want to explore three residential areas west of Sherman Avenue—Maple Bluff, Sherman Park, and Brentwood.

The Village of Maple Bluff was incorporated in 1931 from several earlier subdivisions. Its lakeside houses in particular have been favored by many Madison industrialists since the early 1900's. The Wisconsin

Governor's Mansion on Cambridge Road was originally built for a president of the Gisholt Machine Company.

About half a block north and east of the North Sherman Avenue/Aberg Avenue intersection are several entrances to the 1920's Sherman Park subdivision, where all of the streets are named for civil war generals and admirals. Sherman Park attracted many Oscar Mayer workers.

Contiguous with Sherman Park to the north is Brentwood Village that can be entered from North Sherman Avenue via Almo Drive named for its developer, Albert K. Moe. Brentwood's 1950's and 1960's good-sized ranches and split levels on curved streets with buried electric lines appealed especially to middle and upper level managers of Oscar Mayer and other industries.

This arrangement of subdivisions for specific income levels within short distances from each other and close to factories can be found throughout almost all of Madison east of the Capitol Square. In a few cases, such as the former locations of Ideal Sales and Manufacturing Company on Ruskin Street and O'Neill Avenue west of the Oscar Mayer plant, factory owners actually lived above or next door to their shops.

The Oscar Mayer plant is between Aberg Avenue and Commercial Avenue. It has been expanded almost continuously since 1919. Slaughtering operations ceased in the late 1970's.

The Scanlan-Morris and Celon factories on Pennsylvania Avenue were located in the 1903 Madison Square subdivision which was planned to feature a mix of factories and single-family houses for the working man.

Democrat Printing Company, Demco, Webcrafters, Forsberg Paper Box Company

The Democrat Printing Company took its name from the Madison Daily Democrat newspaper whose first issue was on May 21, 1868. In 1905 the company created a library department that in 1925 became Demco Library Supply and that in 2013 was Demco Library Supplies owned by the Wall family of Madison. In 1912 Democrat Printing expanded its job printing business that soon became more profitable than the newspaper. In February 1921, in a friendly transaction, the Democrat was purchased and absorbed into the Wisconsin State Journal by the Journal's owners.

By not later than 1945 Democrat was ready to move from its obsolete multistory building at 114 South Carroll Street to a new location on the East Side where it could build a single story plant with railroad sidings, ample warehouse space, and large parking lots. It chose a parcel just west of the Chicago and North Western Railway tracks in an area between East Johnson Street on the south and Erie Court on the north. There would also be room for a younger company, Forsberg Paper Box, that had ties to Democrat.

In 1946 Democrat chose the name Fordem Avenue from Forsberg and Democrat for the new road to pass through this area and began to construct a plant that was completed in 1947. Democrat Printing was at 2107 Fordem Avenue, Forsberg next door at 2211 Fordem Avenue.

In 1947 Frederick S. Brandenburg (November 11, 1888-January 5, 1959) was president of Democrat and a director of Forsberg. His father Oscar D. Brandenburg (July 11, 1850-November 30, 1930) had been with Democrat during its newspaper days.

On October 3, 1937 the Wisconsin State Journal announced that the Feldman Paper Box Co., 29 North Charter Street, founded by Jacob Feldman in 1923, had been purchased by F. S. Brandenburg, Walter Frautschi, Jerome J. Jones [who owned a bank in Barneveld, Wisconsin], and D. A. Forsberg, and that it would now be known as the Forsberg Paper Box Co.

Delbert Alton Forsberg (September 5, 1904-August 18, 1994) was born in Bertrand, Nebraska and was a 1928 graduate of the University of Nebraska where he worked his way through college by mending clothes and doing tailoring for his classmates. He apparently worked in Chicago for a few years and then became head of the Cuneo Press in

Milwaukee. Cuneo Press, Inc., was founded in Chicago about 1920 by John Cuneo and became that city's second largest printing company.

Printing and box making had a lot in common and the Brandenburgs and Frautschis were always looking for ambitious young colleagues, so Forsberg was quite a catch.

As was common with many Rock River Valley industrialists, the Frautschis had a number of other commercial interests including a funeral parlor and a furniture store.

In 1960 Democrat set up a division called Webcrafters to promote its recently acquired offset printing machinery. In 1965 the company abandoned the Democrat Printing Co. name and has been known since then simply as Webcrafters.

On January 2, 1964 Forsberg ran an ad in the Wisconsin State Journal that could have been written by John Alexander. The ad first stated that Forsberg was good for Madison because its products were sold in a wide area and brought in lots of money. Forsberg also paid taxes that supported local schools and government activities, and had a large payroll. It then stated that Madison was good for Forsberg because its high quality of life attracted and kept workers who were proud to do good work.

In 1964 Forsberg's products included setup boxes, printed folding cartons, paper tubes, and corrugated displays. In spite of three additions to the Fordem Avenue plant, Forsberg had almost outgrown that location.

In June 1965 Forsberg was purchased by Eastex Packing. Delbert stayed on as general manager of the Madison plant and oversaw construction of a 200,000 square foot building at 4202 Lien Road that was completed in August 1968.

The new building accommodated a $750,000 six-color offset press and die cutter. There were now about 250 workers. Webcrafters took over the Fordem Avenue space after Forsberg's move.

Delbert and his wife Margery Lundberg McCleary Forsberg moved to Tucson, Arizona in 1969.

In 2013 Eastex was part of an even larger packaging company, Inland Container.

Oscar Mayer & Co.

The Oscar Mayer Co. began in 1883 as a Chicago butcher shop started by three Bavarian immigrant brothers, Oscar F. (1859-1955), Gottfried, and Max Mayer.

By 1900 Oscar Mayer hams and sausages were popular throughout Chicago and its suburbs. By 1918 sales exceeded $3,000,000 and the Chicago plant was running at capacity.

In about 1916 some 2,000 farmer members of a southern Wisconsin pork producers co-operative association decided to build their own meat packing plant in Madison. They would operate the plant themselves, bypassing the Chicago slaughterhouses and the long train ride from farms to Chicago that was expensive and hard on the animals.

The co-op built a large, up-to-date plant in the Town of Burke just north of Madison. Within a year, however, the farmers discovered that raising hogs and running a packing plant were not the same. The co-op was $55,000 in debt by the time they decided to close shop in 1917.

In 1918 a Mayer family member was visiting a friend in Madison who told him about the closed plant. The Mayers soon decided to buy

the plant. At this time they could have told the farmers in essence "Here's a couple hundred thousand dollars for your plant. Take it or leave it."

They did not do that. Instead company representatives held meetings with co-op members in at least 22 Wisconsin villages, explaining their plans and offering to buy hogs from the farmers. They then paid for the plant with $300,000 in cash. This eliminated the farmers' debt and gave them almost $250,000 to distribute as dividends among the members.

The Madison plant opened in 1919 and began to turn a profit about 1923. Within a few years after that Oscar Mayer had a fleet of 100 refrigerated railroad cars that took their products not only to Chicago but to many points east and south. With characteristic acumen Oscar Mayer avoided the congested Chicago railroad yards by using the Lake Michigan railroad car ferries.

Over the years several aspects of the company helped set it apart from competitors and make it special.

Sports

For example, almost all Madison manufacturers sponsored athletic teams for their male and female workers, usually baseball, softball, basketball, and bowling. Oscar Mayer had all these but also a golf team and a physical fitness instructor, Jimmy Demetral, who was a beloved Madison area wrestler, sports promoter, and philanthropist. They even had a company band.

Brand identity

In 1929 Oscar Mayer began to place a yellow paper band on every fourth wiener in a batch, establishing a brand identity for what had been a generic product.

Packaging

In later years, by which time Madison had become the company headquarters, Oscar Mayer staff and those of several packaging firms invented the chub pack for soft sausages, the resealable pack for lunch meats, and the leaf pack for bacon.

Machinery

By 1970 Oscar Mayer engineers had perfected a machine that could make 36,000 wieners per hour and the company had seven of the machines in their plants throughout the country.

Advertising

In 1936 and 1937 Carl Mayer of the Sales Deprtment invented the wienermobile and hired Meinhardt Raabe (Robby) to become the first Little Oscar.

Meinhardt (September 2, 1918-April 9, 2010) was born on a farm near Farmington, Wisconsin. He was a midget, University of Wisconsin commerce school graduate, and professional stage performer. In 1937 he was working in the Oscar Mayer accounting department. Dressed in a chef's outfit, Raabe rode on top of the wienermobile waving to crowds along parade routes. He also appeared at cooking demonstrations and store promotions throughout the Midwest.

In 1937 he took a short leave of absence from Oscar Mayer to act in the movie version of The Wizard of Oz, in which he played the coroner. He then returned to Oscar Mayer where he trained a succession of other Little Oscars. Altogether he worked 29 years for the

company. Raabe was inducted into the Wisconsin Meat Industry Hall of Fame in 2011.

In 1962 a Chicago advertising man wrote the lyrics and music to the jingle that begins "Oh, I wish I were an Oscar Mayer wiener/ That is what I'd truly like to be." Oscar G. Mayer instantly approved a test recording of the jingle sung by the author's nine year old stuffy-nosed daughter. In the years since it has been heard all over the world and was once played by the Vienna Symphony Orchestra.

Defense

During WWII more than half of Oscar Mayer's production of "Meat, It's Fighting Food" went into canned rations for the armed forces of many allied countries.

Mutual respect by owners and workers

Adolph C. Bolz (December 23, 1893-March 28, 1968), husband of Eugenie Mayer, was the first Oscar Mayer plant manager and later senior vice-president. He was loved and respected equally by the Mayer family and the workers. He spoke repeatedly of the excellent work

performed by the Madison employees from production workers to foremen to department heads.

For many years Oscar Mayer was the largest Madison area industrial employer and in 2013 it was still one of the largest employers in Dane County even though computerization and automation had reduced its workforce.

General Foods bought Oscar Mayer in 1978 and in 2013 it was a division of Kraft Foods. The national headquarters was still in Madison.

The Capital Times November 8, 1919

Announcement

Oscar Mayer Company announce the opening of their plant for full operation on November 24, 1919.

They take this means of expressing to the people of Madison and vicinity their great pleasure at being privileged to enter into the local industrial activities of this community.

What has this basic philosophy meant when applied to the day-by-day operation of Oscar Mayer & Co. for the past 87 years? In summary, the following:

- A decision to utilize our basic knowledge of sausage and smoked meat production techniques and concentrate on the manufacturing of high quality sausages and other processed meat products.
- Dedication to quality control at every step, from selection of raw materials to retail store delivery.
- Complete commitment to both research and mechanical innovation, leading to a series of ingenious inventions and industry firsts which have helped keep Oscar Mayer & Co. in the forefront of the meat industry for decades.
- A constant plow-back of a large share of our earnings into the expansion and improvement of the business. This has nearly doubled the total shareholders' equity in the last ten years alone. The dividend payout has never exceeded 50 percent during the life of the company, but the company has paid cash dividends for 34 consecutive years.
- A particular confidence and pride in our work throughout our history which, in turn, has led to the marketing of brand-identified, consumer-oriented meat products.
- Considerate, open and productive relationships with employees and union groups, farmers, retail customers and consumers, shareholders, governmental agencies and the general public.

Excerpt from a speech by Oscar G. Mayer, Jr, April 30, 1970

Ideal Manufacturing and Sales

Max C. Bethke was born May 6, 1915 on a family dairy farm near Augusta, Eau Claire County, Wisconsin and was still living in the Eau Claire area about 1940. His father Theodore and mother Lena were both born in Germany.

His WWII record shows that Max entered the U. S. Army Air Corps on September 30, 1942 as a private, that he had completed grammar school, and that his civilian occupational specialty had been "semiskilled workers and flame cutters." He served in the Pacific with the United States Army Air Forces as a corporal and was separated from the Army in 1946.

On March 9, 1944 either before his overseas deployment or while on leave he married the former Emma Winter in Highland, Wisconsin.

In 1949 Max started the Ideal Manufacturing and Sales Corporation (this sometimes appears as Ideal Sales and Manufacturing) and on August 9, 1949 he obtained a building permit for a single family residence at 1117 Ruskin Street in Madison.

On August 15, 1951 he received a building permit for a machine shop and two-unit apartment building at 1121 and 1123 Ruskin Street

next to his house so that business must have been doing well. The next step up took place about 1963 when Ideal expanded into a building at 1118 O'Neill Avenue which is directly behind 1123 Ruskin Street; the back doors of both buildings are about 30 feet apart.

Max's hobbies included motor boating on Lake Mendota and the Mississippi River. He was a charter member of the Four Lakes Yacht Club. He was also an amateur radio operator.

At some point Ideal expanded from a welding and machine shop to a manufacturer of packing machinery for the paint industry. In about 2001 the firm moved to a new location about three miles north of O'Neill Avenue where as of 2013 it made Ideal-Pak liquid filling machines for the paint, chemical, lubricant, food, and beverage industries. Max and Emma's son Steven was president.

Max was also founder of the Ideal Crane Rental Company that provides Madison-area contractors with cranes, lifts, and work platforms.

His ham radio station KA9BDY went silent when Max died on January 16, 2007 in Madison.

Berntsen Brass and Aluminum Foundry, Inc.
Production Machine and Enterprises Corporation

The Berntsen Brass and Aluminum Foundry, Inc. at 2334 Pennsylvania Avenue was started by Osvald Marinus Berntsen and his son Peter in 1946. Osvald (June 7, 1891-March 1, 1962) was born in Oslo, Norway and came to Madison in 1923. He had learned foundry techniques in Norway and became an employee of Henry Vogt's Madison Brass Works.

Aside from his involvement with metal casting enterprises, Osvald was a well-known vocal musician who performed both solo and with several choral societies. In 1923 he was a founder of the Grieg Male Chorus in Madison that specialized in Norwegian music and was a founder of the Madison Zor Shrine Chanters in 1943. He was a baritone but had a wide vocal range from tenor to bass.

His renditions of songs such as "Den Store Huite" (Great White Flock) and "Naar Fjodne Blaaner" (When the Fjords Are Blue) were well received both in Madison and in Norway which he visited at least twice with a Chicago-based Norwegian music society. In 1961 King Olav V of Norway presented Osvald with the St. Olav's medal in honor

of his contributions to Norse music. Osvald was said to be modest and agreeable: he never criticized another performer.

Peter Berntsen (September 9, 1917-April 1, 1977) was also born in Norway and became a U. S. Citizen in 1942. He was a 1935 graduate of Madison's East High School and a 1941 graduate of the University of Wisconsin. During WWII he was a captain in the Marine Corps.

In 1972 Peter and Phillip Peterson started Berntsen Cast Products which was later renamed Berntsen International, Inc. This firm is a leading manufacturer of surveyor's products, especially cast metal survey monuments (markers). It is located on Hanson Road in Madison.

In 1978 a Berntsen Brass and Aluminum subsidiary named Production Machine and Enterprises Corporation (P M & E) was begun next door to the Pennsylvania Avenue foundry. It specializes in machining non-ferrous metal castings.

Berntsen Brass and Aluminum also has a foundry in Phelps, Wisconsin.

Scanlan-Morris, Scanlan Laboratory, Scanlan-Morris Division of Ohio Chemical and Manufacturing

The Scanlan-Morris medical supply company was founded in 1903-1904 by Thomas S. Morris (Otober 14, 1874-March 3, 1919) and Samuel Gwyn Scanlan (November 19, 1872-February 11, 1949).

Morris was born in Fairbury, Lexington County, Illinois and graduated from the University of Wisconsin in 1900. While attending the UW he was manager of the Co-Operative Book Store (University Book Store). In addition to being co-owner of Scanlan-Morris he was business manager of the Wisconsin State Journal and owner of the T. S. Morris Paper Company. He was president of the Madison General Hospital Association.

Scanlan was born in Salem Plantation, Caroll Parish, Louisiana.

In 1903 he was a surgical equipment salesman based in St. Louis whose territory included Minnesota and Wisconsin. He met Thomas Morris in a hospital where Morris was recovering from an appendectomy. Morris suggested several improvements in medical equipment to Scanlan and the men agreed to establish a surgical supply company.

By 1904 Scanlan had moved to Madison and the company's first shops were in a small building near East Washington Avenue and Blount Street and then in one of the Machinery Row buildings in the 600-block of Williamson Street. Within a few years Scanlan-Morris was in a new reinforced concrete building at 1902 East Johnson Street in the Madison Square subdivision where the developers encouraged a mix of factories and single-family houses for industrial workers.

The company's future was assured when Scanlan returned from a trip to Rochester, Minnesota with a $40,000 order from the Mayo brothers who Scanlan knew well enough to call Doctor "Will" and Doctor "Charley."

Both on his own and in cooperation with the Mayos Scanlan invented the first hydraulically raised and lowered operating table built in America and the first orthopedic table permitting free use of the fluoroscope.

Other products included sterilizers, incubators, oxygen cribs, anesthesia machines, lights, and medical office furniture. The Scanlan-Morris Operay Multibeam operating room light provided non-glare, shadowless illumination with a system of arms resembling a frozen

octopus, It was adapted from a theatrical light first used by the Florenz Ziegfield Follies in New York City.

Scanlan Laboratories, also at 1902 East Johnson Street, made surgical sutures with dissolving times of two to forty days.

In 1943, a Wisconsin State Journal reporter who visited the plant found Scanlan sitting in a cubby hole office in the middle of the factory surrounded by foundry workers, enamelers, painters, assemblers, and the suture makers. He wrote that Scanlan called himself the company's oldest employee but that several other workers had been with the firm for 25 to 35 years. There was a waiting list of "working girls" for jobs in the Laboratories,

In June 1943 the company received the Army-Navy "E" award for efficiency and expertise.

An awards ceremony at the East Side High School auditorium was attended by 1000 workers, family members, Army officers, the Madison mayor, and the Truax Field Band.

Private Daniel J. Kelly, a Madison resident who had lost a leg to a Japanese mortar shell on Guadalcanal presented "E" pins to several representatives of the workers, all 270 of whom also received pins.

Scanlan retired in 1944 when the company became a subsidiary of the Ohio Chemical and Manufacturing Company of Cleveland, Ohio that was in turn a subsidiary of Air Reduction Company, a maker of medical gases. As of 2013 the Scanlan heritage lives on with its descendant, the Madison branch of GE Life Support Systems.

Scanlan was a member of the Madison Vocational and Adult Education Board from about 1924 to 1949.

Pallbearers and honorary pallbearers at his funeral included Madison business leaders such as Marshall Hanks, James Groves, Thomas Hefty, and Emil Frautschi. Doctor James Dean represented the medical community.

The Wisconsin State Journal summarized Scanlan's life and career by stating simply that "he was a good citizen."

This enterprise "came to" the city. Mr. Samuel G. Scanlan was a surgical instrument salesman operating out of St. Louis in a territory including Wisconsin and Minnesota. His experience with surgical equipment, physicians and surgeons plus his own inventive talent led to his designing new equipment and establishing a factory. At this time he met in Chicago an alert Madison businessman, Mr. Thomas S. Morris, who while recovering from an appendectomy in a Madison hospital was impressed with the inadequacy of certain hospital facilities. Though Mr. Morris was not an equipment specialist, his interest in the equipment business was aroused when he met Scanlan; in 1904 they launched their own company with Scanlan providing the technical ideas and Morris the business acumen. Scanlan agreed with Morris that Madison was a good location, an attractive community centrally located in his former sales territory. The enterprise grew slowly and by 1944 employed 250 people. It was then purchased by the Ohio Chemical and Manufacturing Company of Cleveland, a producer of anesthesia gases, a firm wanting to augment its sales line by acquiring a factory producing related hospital equipment. After investigating numerous companies they purchased the Scanlan-Morris Company because of its high reputation. Moreover they consolidated their several headquarters for movement to Madison. Mr. G. J. Dekker, President of the newly-renamed Ohio Chemical and Surgical Equipment Company, said "We looked at several communities and found Madison attractive not only in terms of available good labor but other things as well. This is a nice place in which to live. We feel the people here are of a high type and dependable." Since 1944 over 700 employees have been added, bringing the total basic employment to 1,000, Madison's fourth largest factory.

John Alexander's description of Scanlan-Morris

Celon Company

The Celon (Seal-on) Company of Madison, Wisconsin was founded by Joseph C. Ford (about 1891-October 19, 1956). He was born in Scottsdale, Pennsylvania, graduated from Cornell University in 1911, worked in New York, New York, and Cleveland, Ohio; and was manager of a General Electric plant in Chicago all for short periods.

He moved to Madison in 1914 and was assistant manager at the French Battery and Carbon Company during WWI and then Secretary until 1925.

In 1943 he told a newspaper reporter, "I decided Madison was the ideal size and type of city in which to live. It's one of the finest and most beautiful cities in the United States—there's no doubt about it."

Ford's wife was the former Vera Veerhusen whose father started the Olson and Veerhusen Clothing Store in Madison. Joseph and Vera lived at 500 Farwell Drive where he was active in village affairs and was a poor golfer at the Maple Bluff Country Club.

He left French Battery and Carbon in 1925 to start the Celon Corporation to make a product that a <u>Wisconsin State Journal</u> columnist, Betty Cass, described on April 12, 1942 as "the celluloid-like

seals which are used over the corks and tops of nearly all liquor bottles and many ready packaged drug bottles. [The seals are made] of viscose which is pure cellulose and is practically the same thing as that from which rayon is made."

John Alexander later stated that Celon's raw materials "come from diverse sources: wood pulp from Berlin, New Hampshire, sulfuric acid from Chicago, caustic soda from Detroit, sulphate from Kansas and Oklahoma."

Celon is chemically similar to cellophane. Celon's closures were sold in various sizes of sheet viscose in many colors that were kept moist in a container until just before use when a sheet was draped over a jar lid or bottle top. The sheet shrank as the moistening solution evaporated forming a tight seal. Viscose celons are still being manufactured for use with heat-sensitive products and for short production runs where heat shrinking plastics and ovens are not required.

The Celon plant was in a large cream brick building at 2034 Pennsylvania Avenue until 1953 by which time all operations had been moved to a larger set of buildings at Muscatine, Iowa. Planning for the move had begun by at least 1948 and may have been partly inspired by

conflicts with the City of Madison and the State of Wisconsin over charges that some of the plant's waste was being discharged into storm sewers that flowed into the Yahara River where government scientists said they were harmful to fish.

Oscar Mayer and Gisholt were among other companies accused of the same practice. Oscar Mayer and Gisholt repaired and enhanced their waste disposal facilities but Celon hesitated, possibly because of its planned move to Iowa.

Celon employed more women than men. Its 275 or so workers were closed-shop members of Local 20485 of the AFL Celon Workers Federal Union.

In June 1953 the C. A. Hooper utility construction company bought the Celon buildings, which were later demolished.

Ford remained in Madison after the company moved to Iowa.

On October 23, 1956 the Wisconsin State Journal wrote that Joe Ford was "the quiet unassuming man…[whose] quiet exterior covered a steely determination and a willingness to work hard, to convince others by his own power of persuasion that they had to join up in any civic cause…. He never sought personal glory, attention, or honor."

TOUR FOUR

The first railroad train entered Madison from Milwaukee in 1854 on tracks built by a predecessor of the Milwaukee Road. The first railroad station was on West Washington Avenue about a half mile west of the Capitol. The railroad continued to build west on a more or less water level route to the Mississippi River at Prairie du Chien.

The Illinois Central branch from Freeport, Illinois to Madison was completed about 1881. Both railroads built stations and shops in the West Washington area which also became a favorite location for warehouses serving the tobacco, grocery, moving and storage, and hardware industries.

Except for Marschall Dairy Laboratory on Proudfit Street and the Gallagher Tent and Awning Company on Bedford Street that was founded in 1880, there appear to have been no major manufacturing companies near the railroad stations, perhaps because so much space was used by the warehouses, many of which have been converted to apartments.

The bike path continues along the former Illinois Central tracks for several miles as it climbs a mild grade to the intersection of

Hammersley Road and the West Beltline Highway where the Sub-Zero Freezer Company uses a large group of metal buildings placed on one of the few level sites on the west side of Madison.

The 1946-47 Forsberg Paper Box and Democrat Printing factories on Fordem Avenue represented the latest trends in industrial buildings in the 1940's with single story brick and concrete structures near important railroad tracks. The 1960's and later Sub-Zero buildings show how much factory design had changed in just 20 years.

P. Lorillard Co. Tobacco Warehouses

Jacob Hiestand and Ralph Pomeroy, both Madison area farmers, were the first to successfully grow tobacco as a cash crop in Wisconsin. In 1853 they raised ten acres of tobacco in the Syene Prairie south of Madison.

Hiestand and others soon discovered that the limestone based soils of southeastern Dane County and adjacent parts of Rock County were well suited for tobacco culture. These same areas had been heavily settled by Norwegian immigrants who often had small farms but large families. Tobacco was a labor intensive crop at all periods from seed bed preparation in the spring to harvest in late summer when the leaves were hung to dry in tobacco barns until January or February. Then they were packed in boxes or loosely compressed into 45-pound bales and hauled by wagon or bobsled to a warehouse. Warehouse workers, mostly women, sorted the leaves that were then kept at the warehouse until use by a local or distant cigar or chewing tobacco manufacturer.

Tobacco farming almost always involved manual labor by every family member regardless of age although a few steps could be partially mechanized. For example, in 1892 three brothers, Daniel, Frank, and

Fred Bemis, of Evansville, Wisconsin invented a mechanical transplanting machine.

Fuller and Johnson acquired rights to manufacture the Bemis Tobacco Transplanter. They claimed it could also be used for transplanting tomatoes, cabbages, strawberry vines, sweet potatoes, shrubbery, cuttings, etc., and for planting potatoes. Bemis Transplanters were made into the 1960's.

Henry Horace Hibbard, a graduate student of agricultural economics at the University of Wisconsin, examined Dane County tobacco culture in his 1905 doctoral thesis and concluded that one of the better aspects of tobacco farming was that its profits allowed many families to shift into dairy farming where prices were more stable and where Bossie enriched the soil that tobacco had exhausted.

In 1900 forty-seven million pounds of tobacco were produced in Wisconsin about half of which was from 15,000 acres within a 15-mile radius of Madison.

National firms such as American Tobacco and P. Lorillard built warehouses so that by 1921 Lorillard had facilities in Madison, Edgerton, Janesville, Evansville, Deerfield, Cambridge, Sun Prairie, Baraboo, Tomah, Sparta, and Prairie du Chien.

Most of the tobacco warehouses in Madison were constructed near the Milwaukee Road and Illinois Central railyards near East Washington Avenue.

For various reasons, including the shift to dairy farming, tobacco production declined from its peak in the 1930's so that by the mid 1950's fewer warehouses were required. By 1964 a Lorillard warehouse at 301 South Brearly Street built about 1902 had been razed. Others were then used as storage space by non-tobacco firms or were converted into apartments.

Marschall Dairy Laboratory

Dairy farming in Denmark where the climate and soils are perfect for cattle began about 4000 B. C. Denmark is one of the world's top five cheese exporting nations and some Danish cheeses even sell well in Wisconsin.

That being the case it is not surprising that Adolph J. Marschall (April 7, 1865-July 7, 1953), a Dane born in Copenhagen, would be successful in the Wisconsin cheese industry.

Adolph (A. J.) came to America in 1894 and began Marschall Dairy Laboratory in Madison at 14 Proudfit Street in 1906. In 1918 he constructed a three-story fireproof shop and warehouse next to the earlier buildings.

For many years Marschall concentrated on two products: rennet extract and annatto. Rennet extract was then obtained from the stomachs of young calves; it is used to curdle milk in the first stage of cheese production (synthetic rennett is now more common). Marschall's extract was so powerful that less than a quart would curdle a thousand gallons of milk.

Annato is an intense orange dye from the seed of the Latin and South American achiote plant. Marschall obtained its supply from Jamaica. In the dairy industry annatto is used to give a yellow or orange color to butter and cheeses such as cheddar. The company said that a few ounces of Marschall-brand annatto would color a thousand pounds of cheese.

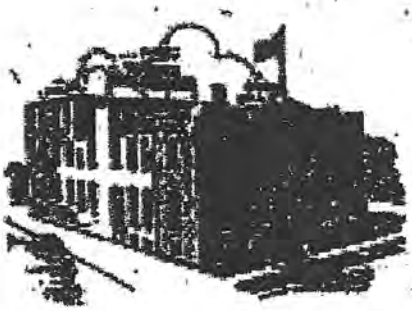
The products must have been as good as advertised because by 1922 two-thirds of the cheese factories in Wisconsin were using Marschall rennett and annatto.

A. J. maintained ties with Denmark. His last voyage in 1952 a year before his death was to visit his sister in Copenhagen. He had moved from Madison to Winter Park, Florida, a few years before.

In 1966 Miles, Inc. of Elkhart, Indiana, best known at the time for pharmaceuticals, purchased Marschall Laboratories which by then also made food dyes, meat tenderizers, phosphorus buffers, and lipase.

In 2013 the Madison food cultures division of Dupont Danisco still traced its origins to the Marschall Dairy Laboratory.

Wisconsin State Journal December 31, 1922



—but not in Wisconsin only—

From a small beginning fifteen years ago the Marschall Dairy Laboratory has grown until it occupies a pre-eminent position in the industry it represents.

Rennet Extract and Cheese Color are essentials in cheesemaking, the one to curdle the milk, the other to color it. Twenty-eight hundred factories in Wisconsin produce nearly three-fourths of the nation's cheese and in over two-thirds of them the process is carried out with the help of Marschall Rennet and Color.

Not in Wisconsin alone are the Marschall products used, however. In Ohio, in New York State, on the Pacific Coast, across the line in Canada, and even overseas, the fame of Marschall Rennet and Color has spread and they are the daily aids of cheesemakers who appreciate and demand "the best."

The Marschall Dairy Laboratory is proud of its place as a link in the chain of Madison's industrial development and rejoices in the opportunity Nineteen Twenty-three will afford all loyal citizens to work, in a spirit of hearty cooperation and helpfulness, for a greater and better Madison.

The Marschall Dairy Laboratory

MADISON, WISCONSIN

Sub-Zero Freezer Co., Inc.

There is so little level dry land in Madison between the tobacco warehouse area on West Washington Avenue and the West Beltline Highway that no one ever thought of building a factory in that area either along the Milwaukee Road or the Illinois Central tracks. The 1850's Milwaukee Road tracks were in a boggy valley along Sauk Road (University Avenue) subject to flooding. The 1880's Illinois Central tracks, now a bike path, ran through a series of hills and valleys that descended from a 1000 foot elevation at Summit Station near the present intersection of Hammersley Road and the West Beltline Highway to 863 feet near the tobacco warehouses.

After about 1900 the area was converted from farms to residential neighborhoods that provided single-family housing for faculty and staff at the University of Wisconsin and other workers. The housing ranged from modest to luxurious.

There was an ice house on Lake Wingra operated by the Knickerbocker Ice Company of Chicago. The only siding was a spur that left the Illinois Central tracks about where the bike path crosses

Commonwealth Avenue and that provided access to the ice house which was demolished in the 1920's.

In the early 1960's Westye F. Bakke, owner of the Sub-Zero Freezer Co., was planning to expand from a set of buildings near the intersection of South Park Street and the West Beltline Highway. He or a real estate developer noticed that there was a suitable area of level, dry land south of Summit Station beside the Illinois Central tracks. Bakke, who lived about a mile away on Odana Road, chose this location for Sub-Zero where after many expansions and the loss of the Illinois Central tracks it was still located in 2013.

Westye Ferdinand Bakke (September 30, 1892-July 7, 1974) was born in Superior, Wisconsin. Both of his parents were from Norway. In 1920 Westye, who was a WWI veteran, and his brother Oscar were operating a bicycle shop in Rice Lake, Wisconsin.

By 1929 Westye was living in Madison at 2440 Commonwealth Avenue and was president and general manager of the Electric Refrigeration Sales Co.

The 1940 U. S. Census reports that Westye, his wife Mary Lee, and their two children were still living in Madison and that he was still in the refrigeration business.

In 1943 he built what was said to be the first freestanding home-sized freezer in the basement of his house at 621 Chapman Street.

By 1945 the firm he named Sub-Zero Freezer Company had grown big enough to have four employees who worked out of a two-car garage. The offices were above a hardware store at 731 University Avenue.

In the 1950's and early 1960's Bakke decided to concentrate on high-end domestic refrigerators and freezers but also did considerable work for the U. S. military and several universities on low temperature centrifuges, methods to freeze treat metals, and other activities.

As of 2013 Sub-Zero is still an industry leader in large domestic refrigerators and freezers and related products such as wine coolers.