

History of “SENECA STANDARD” Tripoli

Tripoli was first discovered in 1869 on what is now known as “Tripoli Hill”, one mile northwest of Seneca, Missouri, U.S.A. This was just two years after the birth of Seneca, formerly the home of the Seneca Indians, and two years prior to the arrival of the railroad to the area. The common term used at that time by residents of the area was “cotton rock”, because of the lightness in weight of the mineral.

This unusual non-metallic mineral is found only in a small area in the foothills of the Ozark Mountains in the southwest corner of Missouri and the northeast portion of Oklahoma, within a ten mile radius of Seneca. The deposits occur in horizontal beds, varying in thickness up to approximately 12 feet. They typically are covered by 10 – 12 feet of overburden and located in wooded areas unsuitable for agriculture. The assimilation of iron by the tripoli, from descending surface waters over a period of time, created a variation in color of the deposits from a light “cream” to a dark “rose”.

As early as 1850, tripoli was said to be an earth of gray, red, or yellow color found in Tripoli, Libya, in northern Africa; hence its name. When the Seneca deposits were discovered in 1869, the mineral was called “tripoli” because the material had an appearance similar to the one found in Africa. Later, the Seneca tripoli was compared to the African tripoli and found to have an entirely different particle structure. The African deposits were diatomaceous earth, which is defined as a white or cream-colored siliceous earth composed of the tiny shells of diatoms and the fossil remains of other minute aquatic organisms. Consequently, authorities reclassified the two materials; the diatomaceous earth in Africa was renamed “tripolite” and the name “tripoli” was confined to the material in the vicinity of Seneca. The Seneca tripoli eventually became known in the marketplace as “Seneca Standard” Tripoli. Since that time, many non-metallic minerals with similar chemical analyses have been termed tripoli but they are different in physical particle structure. This particle structure is the outstanding characteristic of “Seneca Standard” Tripoli. The individual particle is soft, porous, and has a fibrous structure, with no sharp edges or corners. These unique characteristics are well known in the leading industrial countries of the world and account for its market value. To our knowledge, in no other place on earth has a tripoli material of like quality been discovered.

The tripoli deposits, where "Seneca Standard" Tripoli is now mined, were first worked in 1871, prompting the first commercial use of tripoli. The marketable product was a 2 in. x 2 in. x 8 in. "brick" cut from the natural stone and called American Bath Brick. The bricks were sold in competition to a similar item called Bath Brick, imported from Bath, England. The ore was mined by stripping or removing the overburden from the top of the deposit and breaking the tripoli into pieces suitable for loading into wagons and transporting into town. The bricks were cut to size at a plant located on Lost Creek in Seneca, operated by the Monarch Tripoli Company, which was owned by the Husband Brothers of St. Louis. The bricks were wrapped in tissue paper and sold in small cardboard boxes for use as a cleanser in kitchens and bathrooms.

The next and first important commercial market for "Seneca Standard" Tripoli was the production of water filters. There were several filter mills in operation in the area. The largest was the Seneca Filter Co. that manufactured the Sutton Tripoli Filter. Others were located in the Racine, Missouri area, approximately six miles east of Seneca. The filter stones were cut into several different sizes. Some were pressure-type, while others were siphon filters. Tripoli water filters was the dominant business for several years and a very important one until approximately 1915 to 1917. After this era early in the century, water systems throughout the United States were greatly improved, diminishing the necessity of filtering household water supplies. The use of filter stones in larger communities experienced a gradual decline and production was discontinued early in 1924.

In 1885, a group from Cincinnati purchased several tracts of land and started the Modoc Tripoli Mining and Manufacturing Co. They built and installed machinery in the first plant on Tripoli Hill. Powell Crossley was President and Treasurer, Manin Block was Secretary, and F. L. Jackson was General Manager. Before this plant was built, all production was done by sawing the crude tripoli stone with a circular saw but now, for the first time, machinery was used to manufacture the water filter stones. The new plant was also equipped with horizontal flourmill grinding stones to produce tripoli in powder form for use in abrasive powders and household cleansers.

In 1888, Mr. T. T. Luscombe of Carthage, Missouri, purchased the Modoc Tripoli Co. from Mr. Jackson and associates, organized the American Tripoli Company, and built an improved mill on Tripoli Hill. The company was incorporated in 1891.

It is interesting to know that Mr. Luscombe was born in Devonshire, England and moved to Toronto, Ontario as a young man. He worked for the Canadian Customs before going into merchandising. The company for which he worked sent him to the United States to open a general merchandise store in Carrollton, Missouri. After several years he moved to Carthage, Missouri, opening a store of his own. He became interested in the tri-state area lead and zinc mining operations, which led him to his interest and involvement in the tripoli business.

In 1893, Mr. Luscombe arranged for an exhibit booth on "Seneca Standard" Tripoli at the World's Fair in Chicago. A gentleman named George Zucker took samples of the powdered tripoli back to New Jersey and found that it was suitable for making buffing compounds for the finishing of non-ferrous metals. The tripoli industry immediately began to grow in the United States and in 1894, saw the advent of exporting as sales expanded to foreign markets. It seems apparent that Mr. Luscombe and his exhibit at the 1893 World's Fair in Chicago should be accredited with launching the development of the principal use of tripoli beyond that of "a number of small operators producing water filters". In 1905, it was discovered that "Seneca Standard" Tripoli could be suitably waterproofed and used as foundry parting in the place of an expensive material—lycopodium and after 1925, it was the outstanding abrasive used in most of the leading automobile polishes and lacquer finishing compounds.

In December 1906, the American Tripoli Company completed construction of the first mill in the town of Seneca. It was located on the siding of the St. Louis-San Francisco (Frisco) Railroad. Mr. Luscombe acted as President and General Manager of the Company until 1914. Robert Ornduff, a gentleman who was connected with the industry for many years, was made Treasurer and General Manager. Mr. Ornduff held this position until 1919, when the company was sold to the Barnsdall Oil Company. Mr. G. V. B. Levings, a mining engineer, came from El Paso, Texas to manage the company. Barnsdall also purchased a business in existence near Peoria, Oklahoma, known as the Oklahoma Tripoli Company. The companies merged and the Peoria plant was dismantled and moved to Seneca with a new grinding mill being built in 1919 - 1920 on the site where the present plant is now located.

In 1931, the company name was changed from American Tripoli Company to Barnsdall Tripoli Company and in 1935, it was changed to Barnsdall Tripoli Corporation. The Barnsdall era witnessed the emergence of "Barnsdall Admix", a Tripoli product marketed to improve the quality of concrete.

Mr. Levings passed away in May 1937, with Mr. Everett H. Dobbs, Secretary-Treasurer of the Corporation and a native of the Seneca area, assuming the title and duties of Vice-President & General Manager.

In December 1938, the plant was destroyed by fire. A new all-steel mill was built in its place and put into operation in April 1939. It was expanded and improved and at one time, was one of the most modern dry grinding mills in America.

In 1947, Barnsdall Oil Company merged with the Sunray Oil Company and sold the American Tripoli Company to J. C. Miller and Associates. In January 1954, the American Tripoli Company was acquired by The Carborundum Company, Niagara Falls, New York as an operating division with Mr. Dobbs continuing as General Manager. In 1968, Mr. Dobbs retired and his son, Robert H. Dobbs, was appointed General Manager. The younger Mr. Dobbs managed the company until leaving in 1974. Alan K. Bates, the Plant Manager at that time, ascended to the position of General Manager. In 1982, American Tripoli was purchased by Warburg, Pincus, Inc., a New York investment company. It sold again in 1986, to the present owners, Canadian Pacific, U. S., which directs through its NYCO and Fording Coal Division. Mr. Bates retired in 1990, and Dwight H. Vowels was promoted to General Manager, retiring in 1992. Mr. Bruce L. Anderson is currently Vice President & General Manager.

The fundamental principles of strip mining and processing powdered tripoli have not changed dramatically over the years. Modern machinery has taken over tasks once done by manual labor and coal-fired steam shovels, while motorized vehicles have replaced wagons drawn by teams of horses. After prospecting and locating a quarry site, the wooded area first has to be cleared. The overburden must be "stripped" from the tripoli bed and contaminants removed from the exposed surface of the deposit. Generally speaking, one ton of overburden is removed for each ton of tripoli produced. The original method of breaking up the deposit with dynamite and black powder has been replaced by "ripping" it with a bulldozer. Because of the absorbent nature of tripoli, it is economically beneficial to allow it to air-dry before it is processed. The crude tripoli ore is transported to drying sheds where it is allowed to remain for approximately five or six months. The crude material requirements for processing by the plant are supplied directly from the drying sheds. Dump trucks transport the tripoli to the plant where it is first coarsely ground. The coarse material is elevated to holding tanks then conveyed to a dryer, followed by the final grinding and sizing through multiple screens. The final step is packaging the various grades consistent with the requests of the customers.

Tripoli occurs in two colors, rose and cream. As the abrasive component in various polishing compositions, the rose-colored tripoli with its iron oxide content will be slightly more aggressive. The particles are naturally friable, breaking down, or crumbling into smaller particles during application. First the particles will cut the surface and, as they break down, will begin to polish, or color the finished item.

“Seneca Standard” Tripoli’s unique physical characteristics make it suitable for a wide range of applications. The major use is as a cut and color agent in rubbing and buffing compounds in numerous locations in the United States and in countries situated all around the globe. Other large applications have been lacquer finishing compounds and automobile polishes in addition to metal polishes, foundry parting, fillers, cleaners, floor sweep, button polishing, wood finishing, polishing cloth, gem polishing, soaps, insecticides, putty, and admixtures for concrete and filters.

Tripoli is also suitable as a texturing agent in paints, coatings and cement, as a viscosity control agent, as an extender for expensive resins, and as a mild abrasive in commercial and industrial cleansers. It is also used in the lapidary business, in plastics and polymers and in relatively recent times, a market has developed in friction products.

Until 1989, “Seneca Standard” Tripoli was sold in three basic sizes, Once Ground, Double Ground, and Air Float, each in the rose and cream colors. However, in 1990, a line of fine particle sized products was introduced to meet the demands of new markets, now numbering 15 different grades available to the marketplace. This is indicative of our desire and ability to move into the growth potential of our company. We are proud of the history and reputation of American Tripoli Inc. and hope to continue with our dedication to product quality and customer service.

THE PROGRESS OF THE UNITED STATES AND THE PROGRESS OF THE WORLD
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This subsidiary has also owned and operated a Pumice Stone deposit at Grants, New Mexico, (seventy-five miles west of Albuquerque), for the past year and a half. This business is similar to Tripoli in that it is the only known Pumice Stone in the United States which compares favorably to imported Pumice. It ties in well with Tripoli because both materials find their basic uses in the abrasive field.

The erection of the new grinding and screening plant, consisting of a three story, all steel mill building 60' x 90' was completed August 1, 1938, the latest and best-known equipment available was installed and consists of trommel screens, flotation system, vibrating screens, dryers, grinding rolls, tube mill, screening and air separation equipment, and automatic packing equipment.

Pumice Stone is a highly vesicular or cellular, glassy volcanic lava. This Pumice Stone deposit is located at the base of Mount Taylor and in the vicinity of numerous extinct volcanoes. Pumice, of course, is of volcanic origin and is found only in volcanic areas. This deposit is worked by tunneling into the side of a precipitous mountain adjacent to the extinct volcano. The lumps of Pumice sometimes are coated with surface impurities which are removed by washing

HISTORICAL

T R I P O L I

"SENECA STANDARD"

Tripoli deposits discovered in 1869 at this location, one year after the location of the town of Seneca and two years before the arrival of the Frisco.

The deposits were first worked in 1871 by Husband Brothers -- Monarch Tripoli Company -- St. Louis, Missouri, producing American Bath Brick.

The first grinding mill was built in 1885.

American Tripoli Company, organized in 1888 and incorporated 1892.

First important use was Tripoli filter stones for water purification.

Powdered Tripoli was sold as a soft abrasive in the scouring, polishing powder, and buffing compositions in this country and Europe, exports starting in 1894.

In 1905 Tripoli was found suitable for foundry parting.

In 1919 the Barnsdall Corporation, New York, purchased the American Tripoli Company and the Seneca Tripoli Company, building a new grinding mill in Seneca where the present plant is located.

In 1938-39 fire destroyed the mill and a new all-steel mill was built.

In 1948 J. C. Miller and Associates, Grand Rapids, Michigan, purchased the company.

In 1954, the Carborundum Company purchased American Tripoli Company.

In 1969 this plaque erected celebrating the 100th Anniversary of "SENECA STANDARD" Tripoli.

pany who have operated it since.

It is interesting to know that Tripoli was first brought to the attention of the people in a large way by a very fine exhibit at the Chicago World's Fair in 1893. A geologist, Chas. Hovey came to Seneca and collected the material for the exhibit and had charge during the fair.

New equipment was installed in the present mill in 1920, the most modern on the market in 1931 the old office building burned and was replaced by a fire structure made of Tripoli.

Seneca should have had a big celebration in 1935 commemorating the 50th anniversary of the building in Seneca, but, in 1938, we can celebrate the organization of the American Tripoli company. Mr. G. V. B. Levings gives credit to Mr. T. T. Luscombe later assisted by Mr. Rob. Ornduff for putting Tripoli "on the map," and we give Tripoli credit for putting Seneca "on the map."

BRIDGE CLUB MEETS

The Bridge club met with Mrs. Homer Cole Tuesday night. Members present were: Mesdames Jones Fryatt, Stewart, Kelly, Brite, Ebert and Helm, and Misses Virginia Stuckey, Emma Davidson and Viola Crossley. Two guests, Mrs. Chester Reece and Mrs. Eugene Handy. Mrs. Brite received the prize for high score and Mrs. Jones for low. The house was prettily decorated with Christmas greens, colored lights, lighted candles and a decorated, lighted tree. Refreshments were served and gifts exchanged.

THIEF KILLED HOG—LEFT IT

Someone was either very hungry or in a mood of taking when they drove to Cleo Wyke's store and killed his fat hog Saturday night. They had taken an axe and hit the hog three times in the head and stuck it with a knife, when it squealed and they were frightened away, leaving it to bleed to death. The next morning Cleo found his hog dead in the pen. People had better be ready with a shotgun and make believers of some of these thieves.—Anderson News-Review.

Read the News-Dispatch

GRADE NEWS

Room I. Herby has some glasses. Roy Fred will soon be back in school.

LaMotte brought us a Christmas tree.

Our room was visited by Mrs. Bragg from Springfield Teachers College last week.

Room II. There were nineteen mothers at the P. T. A. meeting Friday.

The top windows in our room are painted instead of having shades over them.

CHRISTMAS VACATION

The annual Christmas holidays will begin when school is dismissed at three o'clock Friday, Dec. 20. There will be no school until a week from the following Monday, which will be on December 30.

The Moccasin Print staff wishes a "Merry Christmas" and an enjoyable vacation to everyone.

MAIDENS DEFEAT GRANBY

The Indian Maidens defeated the Granby girls by two points Tuesday night, Dec. 17, on Granby's court. This was one of the best games the Seneca Maidens have ever played. Seneca started off with a rush and led at the half 12 to 5. Seneca's three regular guards fouled out, but the Maidens were determined to win. The final score was 23 to 25 in Seneca's favor.

INDIAN BRAVES DEFEATED AT CARTERVILLE

Tuesday night, Dec. 17, the Seneca boys went to Carterville and were defeated. The high school boys score was 40 to 16, and the junior high 20 to 12. These games were much better than the score might indicate. They were hard fought, and a great many fouls were called. The boys showed a great improvement over last week's game and should hit their stride by next Friday.

George Crowder received a crushed middle finger on the left hand when it was caught in the door of a car from which he had alighted on the streets Monday. No bones were broken.

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Welker,
Sargent,
Russell, F
Bill Dutte
Hughes.

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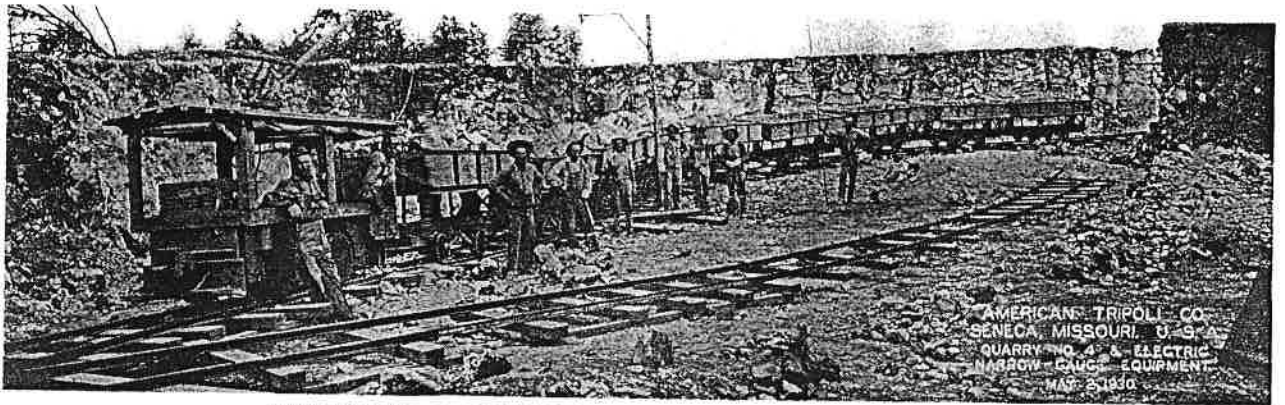
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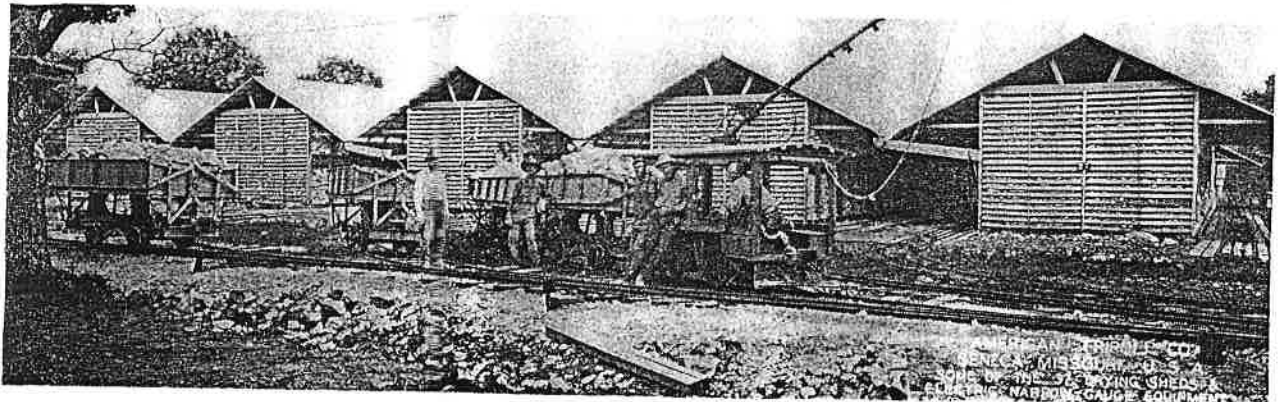
HOME OF BARNSDALL ADMIX



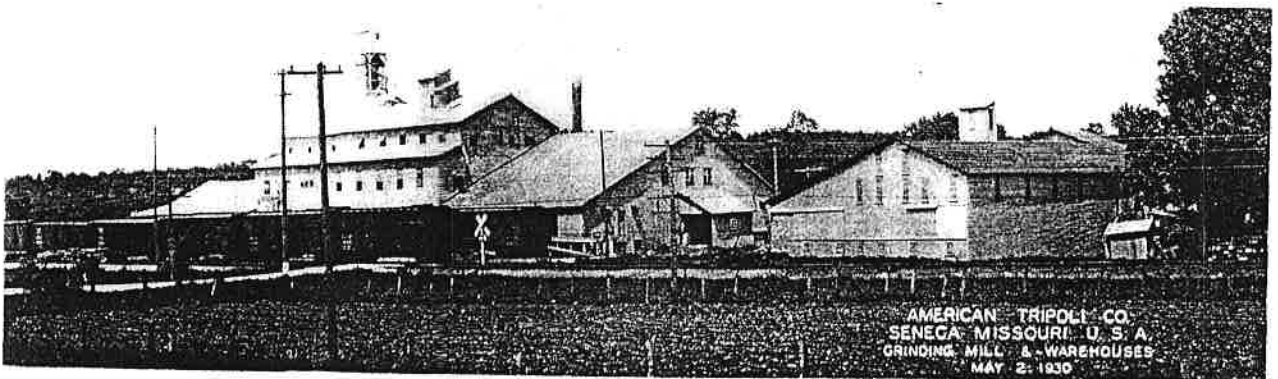
STRIPPING QUARRY NO. 2.



QUARRY NO. 4 AND ELECTRIC NARROW GAUGE EQUIPMENT.



SOME OF THE 37 DRYING SHEDS AND ELECTRIC NARROW GAUGE EQUIPMENT



GRINDING MILL AND WAREHOUSES.

HISTORICAL

- 1868** Tripoli discovered on what is now our land.
- 1871** First commercial application, a polishing brick called "American Bath Brick," by Monarch Tripoli Co.
- 1885** First grinding mill built.
- 1888** American Tripoli Company organized.
- 1892** Incorporation of American Tripoli Co.
- 1919** Purchase of American Tripoli Company by Barnsdall Corporation.
- 1931** Name changed to Barnsdall Tripoli Co.



GOVERNMENT JOBS

BARNSDALL ADMITS HAS.

(50)

U. S.

NS BUREAU

Aspenwall, Pa. - Henry B. Ryan
 Augusta, Ga. - W. P. Rose
 Augusta, Ga. - Satchel Cook
 Augusta, Ga. - J. P. McCaulley
 Camp Custer, Mich. - G. F. Miller
 Camp Custer, Mich. - H. A. Ryan
 Chicago, Ill. - Schmidt Bros.
 Gallipolis, Ohio - G. C. Chapman
 Gettysville, Pa. - Sinclair & Stone
 Columbia, S. C. - W. S. Barber
 Excelsior Springs, Mo. - Morley Const. Co.
 Excelsior Springs, Mo. - Morley Const. Co.
 Fayetteville, Ark. - M. E. Collins
 Gulfport, Miss. - H. B. Ryan
 Gulfport, Miss. - Louis Gerber, Jr.

Indianapolis, Ind. - Ralph Gollett
 Johnson City, Tenn. - H. B. Ryan
 Knoxville, Tenn. - H. B. Ryan
 Lexington, Ky. - S. A. Holman
 Lincoln, Neb. - Parsons Const. Co.
 Little Rock, Ark. - M. E. Collins
 Norfolk, N. Y. - Parsons Const. Co.
 Okeech, N. Y. - Parsons Const. Co.
 Okeech, N. Y. - Parsons Const. Co.
 Perrypoint, N. Y. - Parsons Const. Co.
 Sherman, Tex. - W. S. Barber
 Summit, N. Y. - Parsons Const. Co.
 Waco, Texas - H. B. Ryan
 Washington, D. C. - Marvin Bros.

U. S. TREASURY DEPARTMENT ON REVENUE BIDD

Albuquerque, N. M. - N. P. Severin
 Andalusia, Ala. - Murphy Ponds
 Coleman, Texas - Christy-Dolph
 Ellis Island, N. Y. - A. M. Hazell
 Milbank, S. D. - McManis Const.
 N. Little Rock - McGregor & Pickett

Seattle, Wash. - N. P. Severin, GC
 F. H. Macdonald, Machinery
 Sweetwater, Texas - Christy-Dolph
 Thomas, Ga. - Barger-Thompson
 Toledo, Ohio - N. P. Severin
 Tifton, Ga. - Murphy Ponds

U. S. WAR DEPARTMENT

Baltimore, Md. - Arundel Bracks
 Charleroi, Pa. - Dravo Contr.

Joliet, Ill. - Green & Sons
 Joliet, Ill. - Tully & Costello

U. S. DEPARTMENT OF THE INTERIOR

Washington, D. C. - W. P. Rose

Washington, D. C. - W. E. O'Neil

NAVY DEPARTMENT

Charleston, S. C. - repairing at Navy Yard

THE PANAMA CANAL

Used as integral waterproofing in concrete piles for marine work near Cristobal, C. Z.

U. S. TREASURY DEPARTMENT JOBS IN WHICH
BARNSDALL ADMIX HAS BEEN USED

138
27
161

20
Albuquerque, N. M.
Andalusia, Ala.
Bedford, Ohio
Bergenfield, N. J.
Breckenridge, Texas
Bristow, Okla.
Carlsbad, N. M.
Carthage, Ill.
Charleston, S. C.
Clinton, Ia.
Coleman, Texas
Cushing, Okla.
Dalhart, Texas
Decatur, Ill.
Dedham, Mass.
East Alton, Ill.
East Lansing, Mich.
Ebensburg, Pa.
Ellis Island, N. Y.
Fairfield, Ill.
Fairhaven, Mass.
Franklin, Mass.
Gladstone, Mich.
Hackettstown, N. J.
Hampton, Iowa
Hannibal, Mo.
Hays, Ks.
Highgate Sp., Vt.
Hudson, Mich.
Independence, Iowa

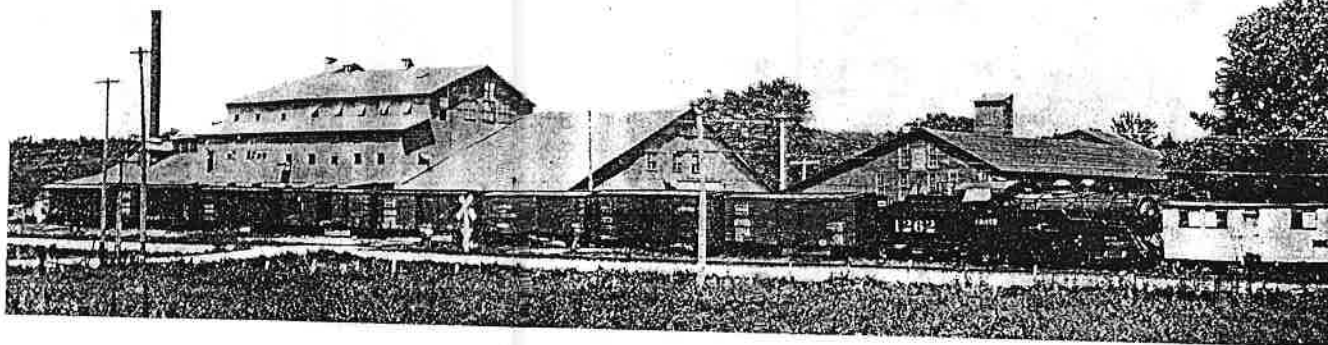
Kingsville, Texas
Lawrenceburg, Ind.
Lancaster, N. H.
Malone, N. Y.
McAllen, Texas
Mobile, Alabama
Neosho, Missouri
Nogales, Ariz.
North Wilkesboro, N. C.
Normal, Illinois
Portage, Wisc.
Portsmouth, N. H.
San Juan, P. R.
Saugerties, N. Y.
Scottdale, Pa.
Seguin, Texas
Silver City, N. M.
Valdosta, Ga.
Washington, D. C.
Warsaw, N. Y.
Waycross, Ga.
Winterset, Iowa
Wood River, Ill.
Milbank, S. D.
N. Little Rock, Ark.
Seattle, Wash.
Sweetwater, Texas
Thomaston, Ga.
Toledo, Ohio
Tifton, Ga.



A Partial List of Barnsdall Admix Structures:

WATERPROOFING INTEGRAL (Against Static Head)
BARNSDALL ADMIX for Concrete, Stucco, Mortar and Other Cement Products

Structure	Location	Architect	Engineer	Concrete Contractor
UNION TRUST BUILDING	Detroit, Mich.	Smith Hinchman, Grylls Donaldson & Meier, Associate		W. E. Wood Co.
GARAGE	Detroit, Mich.	G Frank Cordnor		
NORTH SIDE Y. M. C. A.	Detroit, Mich.	Marcus R. Burrows		
GARAGE	Detroit, Mich.	Marcus R. Burrows		
DENVER NATIONAL BANK BUILDING	Denver, Colo.	Fishe & Fisher		Culbertson & Kelly Martir & Krausman F. J. Kirchoff Co. and Alex Simpson
WESTERN GILLESPIE AUTO LAUNDRY	Denver, Colo.	L. E. Hegenberger		
GOODWIN-GRANGE MFG. CO.	Denver, Colo.			
MUNICIPAL SERVICE BLDG.	St. Louis, Mo.	Stady & Farrar	Skanklin & Ristine	Dutton & Kendall
ST. LOUIS WATERWORKS	St. Louis, Mo.	Stady & Farrar	Martin Engrg Co.	McCormack-Combs Co.
CIVIL COURT HOUSE	St. Louis, Mo.	Plaza Commission, Inc.	City of St. Louis	Mo. Eagrg. & Contry. Co.
CENTRAL STATES LIFE INSURANCE BLDG.	St. Louis, Mo.	T. P. Barnett Co.		A. D. Gates Co.
WAXIDE PAPER PLANT	St. Louis, Mo.	Leonard Haeger		McCormack-Combs Co.
PYTHIAN TOWER FOR KNIGHTS OF PYTHIAS	St. Louis, Mo.	Truelood & Graf	Taxis & Becker	Fruin-Colnon
CENTRAL DEAF INSTITUTE	St. Louis, Mo.	Wm. B. Ittner		A. D. Gates Co.
MISSOURI BAPTISTS' HOSPITAL & SWIMMING POOL	St. Louis, Mo.	L. B. Pendleton	Brussel & Viterbo	Dickie Constr. Co.
FIFTH CHURCH OF CHRIST SCIENTIST	St. Louis, Mo.	Wademeyer & Nelson		Murch Brothers
ST. LOUIS BOX FACTORY—(Paper Storehouse)	St. Louis, Mo.		Taxis & Becker	Dickie Constr. Co.
PAVING—GOODFELLOW AVE.	St. Louis, Mo.		W. J. Knight	Fruin-Colnon
JOHN VOLZ PACKING HOUSE	St. Louis, Mo.			Centra Paving Co.
MISSOURI-PACIFIC BLDG.	St. Louis, Mo.	Bcnnell & Tohtz	City of St. Louis	Fred Schmitt Co.
VILLA DUCHESNE SCHOOL For Ladies of Sacred Heart	St. Louis, Mo.	E. M. Tucker	Geo. Birkland & Co.	Humes-Deal
MOYDELL SWIMMING POOL	St. Louis, Mo.	O'Meara & Hills	E. A. Hadley	Fred Schirm
MONSANTO CHEMICAL WORKS	St. Louis, Mo.		Schuett & Meier	Higbee Brothers
BONDI OFFICE BLDG.	E. St. Louis, Ill.	George Schreiber	Dr. L. F. Nickell	
NATIONAL STAMPING & ENAMELING CO.	Galesburg, Ill.			
SCHOOL	Granite City, Ill.			
SCHOOL	Altamont, Ill.			
TOWNSHIP HIGH SCHOOL	Chrisman, Ill.	Leonard F. W. Stuebe		Murch Bothers
CITY HALL	Homer, Ill.	Leonard F. W. Stuebe		Fruin-Colnon
GRADE SCHOOL	Kankakee, Ill.	Leonard F. W. Stuebe		Reese-Cline Constr. Co.
MARtha WASHINGTON CANDY FACTORY	Vandalia, Ill.	Leonard F. W. Stuebe		Hagerman & Harshman
MONKEY CLEANING & DYING WORKS	Kansas City, Mo.	Leonard F. W. Stuebe		Harry Branch
JOHN J. PERSHING SCHOOL	Kansas City, Mo.	Leonard F. W. Stuebe		John Moroff & Son
LONGFELLOW SCHOOL	Kansas City, Mo.	Hot, Price & Barnes		Hagerman & Harshman
MESERVEY SCHOOL	Kansas City, Mo.	Shepard & Pickett		Swensor Constr. Co.
SOUTHWEST HIGH SCHOOL	Kansas City, Mo.	Charles A. Smith	George E. McIntyre	Harvey Stiver
MARLBOROUGH SCHOOL	Kansas City, Mo.	Charles A. Smith	George E. McIntyre	John Harper
PLA-MOR AMUSEMENT BUILDINGS	Kansas City, Mo.	Charles A. Smith	George E. McIntyre	Lishear Constr. Co.
MELROSE GARAGE	Kansas City, Mo.	Charles A. Smith	George E. McIntyre	
THEATRE	Kansas City, Mo.	Charles A. Smith	George E. McIntyre	
CITY HOSPITAL	Miami, Okla.			
PHIL-TOWER BLDG.	Muskogee, Okla.	Boller Brothers		
POWER HOUSE & OIL FIELD BUILDINGS	Tulsa, Okla.	Dawson & Griffith		Kucks Brandt Co.
BATES FILLING STATION	Earlsboro, Okla.	Keene & Simpson, Arch.		Relly & Phillips
FACTORY	Fort Smith, Ark.	Edward B. Delk, Associate	Hans Von Unwerth	
FACTORY	Coraopolis, Pa.			Long Construction Co.
T. & P. RAILROAD BLDG.	Great Falls, N. Y.			Barnsdall Oil Co.
UNION STATION—MO. PAC., K. C. S., ST. L. S. W., T. & P.	Fort Worth, Tex.	Dawsor & Griffith		H. G. Buchanan
MOBILE & OHIO RAILROAD SHOP & ROUNDHOUSE	Texasarkana, Texas			Austin Co.
SHERMAN PARK SUB-STATION	East St. Louis, Ill.	E. M. Tucker	E. A. Hadley	Austin Co.
UNIVERSITY CITY HIGH SCHOOL	St. Louis, Mo.	C. A. Hayes	B. W. Woods	Stewart-McGehee Co.
MISSOURI-KANSAS-TEXAS UNDERPASS	University City, Mo.	Albert Osburg	George Heath	Ellington-Miller Co.
CRIPPLED CHILDREN'S HOME	University City, Mo.	Truelood & Graf; Ferrand & Pich Associates	Martin Engineering Co.	E. A. Britson Constr. Co.
DENVER UNION STOCK YARDS	New Braunfels, Texas		F. Ringer	Murch Brothers
	Tulsa, Okla.	Charles W. Dawson & A. E. Griffith		Constr. Co.
	Denver, Colo.			Bart Moore, Inc.



American Tripoli Company Plant, Seneca, Mo.

BARNSDALL ADMIX

Produced by the American Tripoli Co from a distinctive siliceous mineral found only at Seneca, Mo.

Additional Illustrated Technical Data Designed for Your Files Sent Upon Request

Incorporated 1892

AMERICAN TRIPOLI COMPANY

1636 Arcade Building, St. Louis, Mo.

Phone, MAin 1307

Plant: Seneca, Mo., U. S. A.

Subsidiary of Barnsdall Corporation

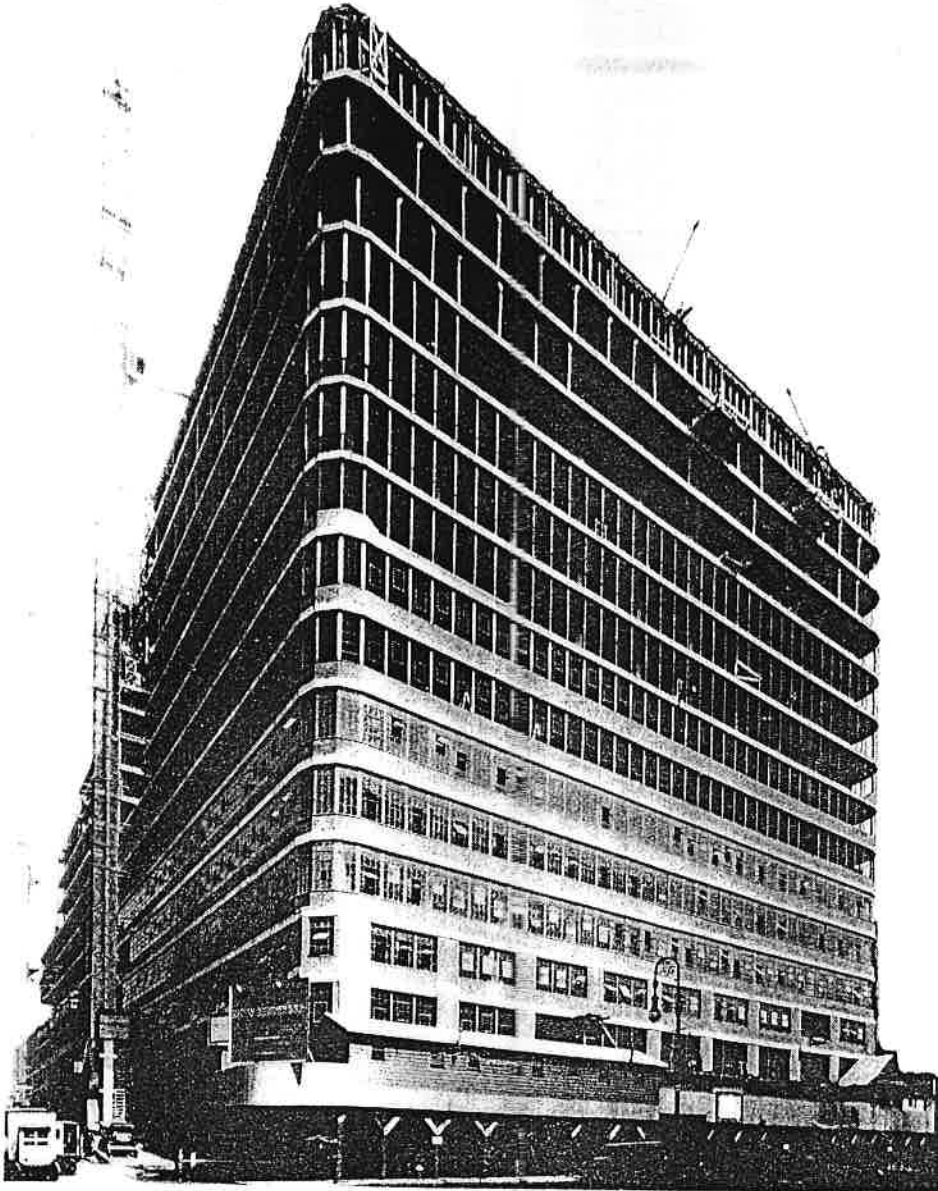
Makers of "Be Square" Products

A. I. A. File No. 7a 2
(See A. I. A. File No. 3b)

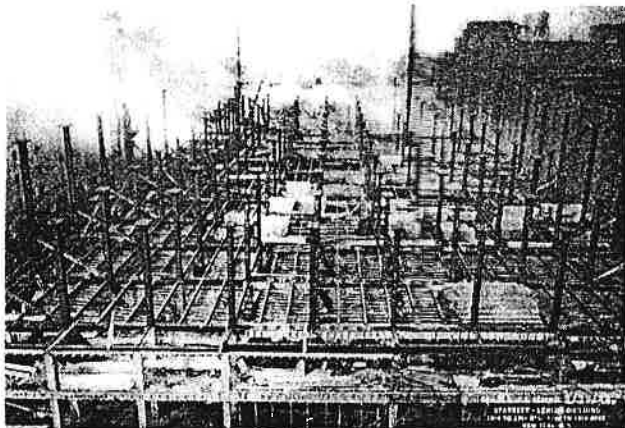


The following pictorial record of the performance of Barnsdall Admix in concrete construction work is submitted to give you a general perspective of the types of work we are doing and the results obtained.

OFFICE BUILDINGS



STARRETT-LEHIGH BUILDING, NEW YORK CITY.
R. G. & W. M. CORY, ARCHITECTS AND ENGINEERS.
STARRETT BROTHERS & EKEN, INC., BUILDERS.



VIEW LOOKING WEST—FOUNDATION OF
STARRETT-LEHIGH BUILDING.



MISSOURI PACIFIC BLDG.,
ST. LOUIS, MO.
E. A. HADLEY, ENGINEER.
E. M. TUCKER, ARCHITECT
MAURAN, RUSSELL &
CROWELL, ASSOC. ARCH
HUMES-DEAL CO.,
GENERAL CONTRACTOR.

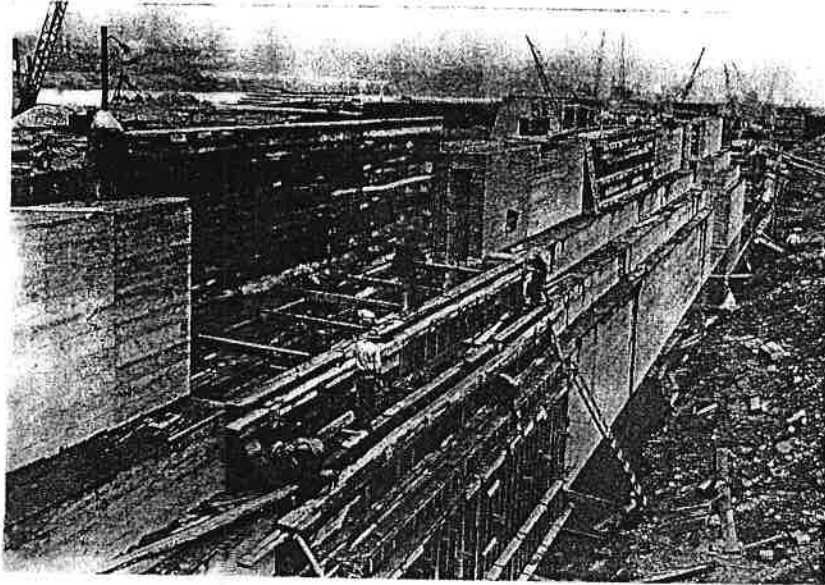


PHILTOWER BUILDING,
TULSA, OKLA. KEENE &
SIMPSON, ARCHITECTS,
EDWARD B. DELK,
ASSOCIATED ARCHITECT.
HANS VON UNWERTH,
ENGINEER.
LONG CONSTRUCTION CO.,
CONTRACTORS.

Starrett Brothers & Eken, Inc., after testing various Materials decided to use Barnsdall Admix for concrete work. They used it for flowability in chuting over 300 feet and had crushing strength ranging from 1900 to 2500 pounds per square inch in seven days, with a 1: 2: 4 mix and about 6½ gallons water per bag of cement.

The basement walls were 22 ft. high with a 14 ft. head of water. These were waterproofed by using Barnsdall Admix integrally.

DAMS



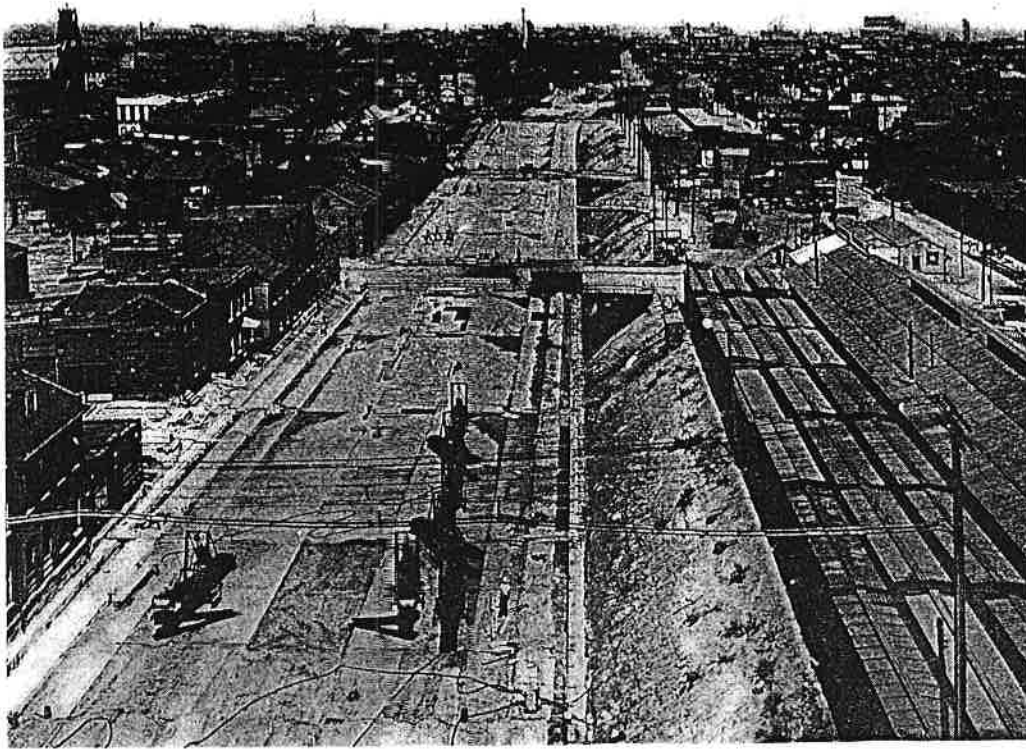
NEW LOCK NO. 4, MONONGAHELA RIVER,
CHARLEROI, PA.
U. S. ENGINEERS (WAR DEPT.), ENGINEERS.
DRAVO CONTRACTING CO., CONTRACTORS.

WATERWORKS

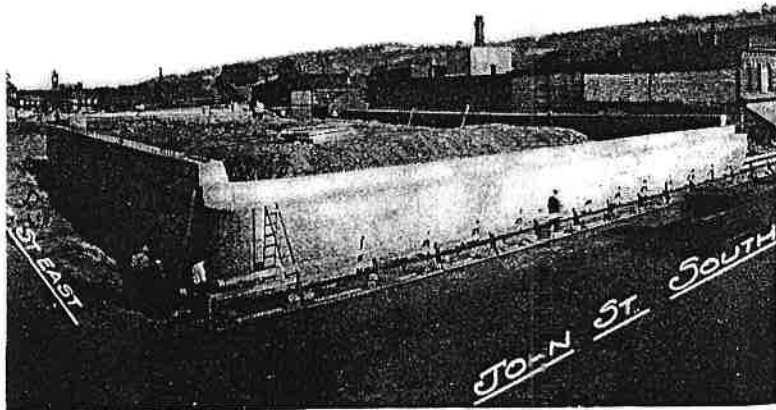


SEDIMENTATION BASIN, WATERWORKS, ST. LOUIS, MO.
STUDY & FARRAR, ARCHITECTS.
DEPT. OF PUBLIC UTILITIES, JOHN C. PRITCHARD, DIRECTOR, ENGINEERS.
MISSOURI ENGINEERING & CONTRACTING CO.,
CONTRACTORS.

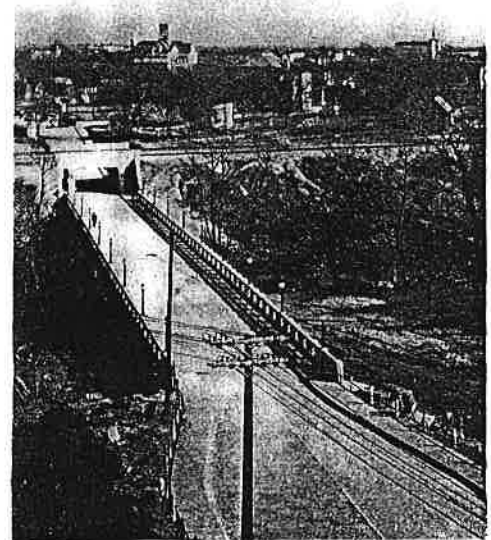
RAILROADS



SLBWAY & CITY STREET,
 NEW ST. LOUIS ELECTRIC TERMINAL PROJECT,
 ILLINOIS TERMINAL RAILROAD, E. S. HIGHT, CHIEF ENGINEER,
 MAURAN, RUSSELL & CROWELL, ARCHITECTS,
 JAMES A. COKE, CONSULTING ENGINEER,
 RED-D-MIX CONCRETE BY GENERAL MATERIALS CO.

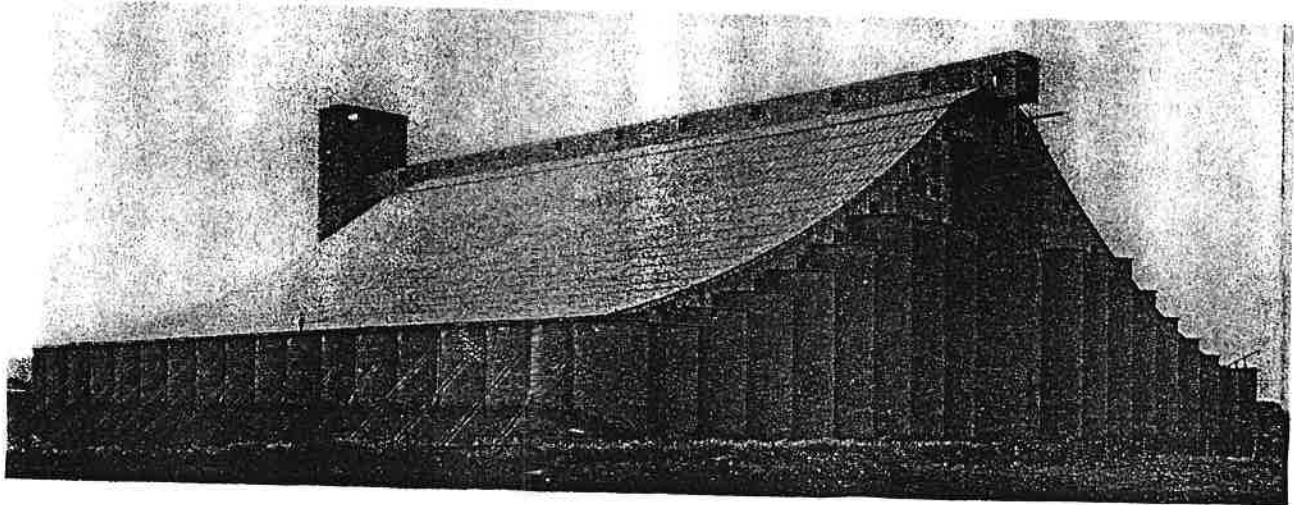


T. H. & B. RY. GRADE ELIMINATION JOB, HAMILTON, ONT., CANADA,
 FELLHEIMER & WAGNER, ENGINEERS, NEW YORK CITY,
 DOMINION CONSTRUCTION CO., CONTRACTORS, TORONTO, ONT.

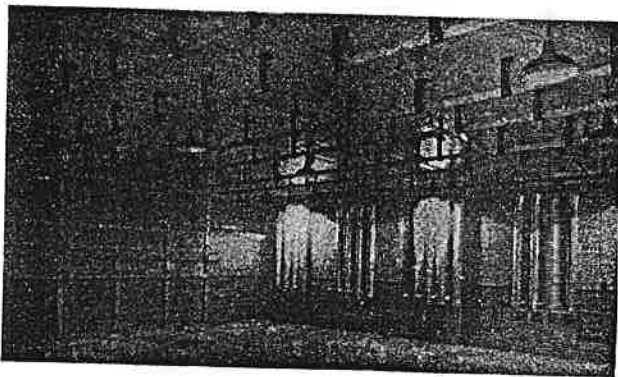


UNDERPASS, M. K. & T. R. R. CO.,
 NEW BRAUNFELS, TEXAS,
 F. RINGER, CHIEF ENGINEER,
 BART MOORE, INC., CONTRACTORS.

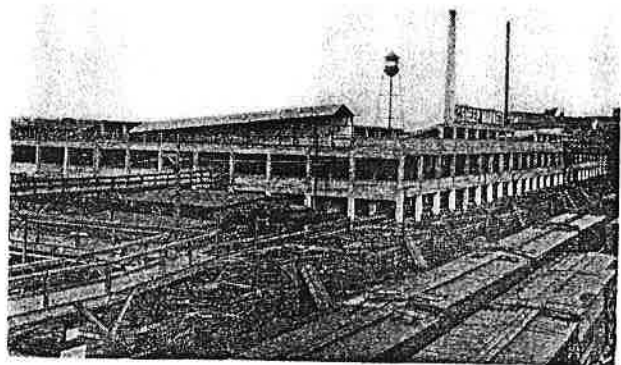
INDUSTRY



GRAIN ELEVATOR, CARGILL GRAIN CO., OMAHA, NEB.
(ON C. & N. W. RAILROAD)
FEGLES CONSTRUCTION CO., CONTRACTORS,
MINNEAPOLIS, MINN.



PACKING HOUSE, JOHN VOLZ PACKING CO., ST. LOUIS, MO.
SECOND LARGEST UNSUPPORTED CONCRETE
SLAB IN THE WORLD.
BONNELL-TOHTZ CO. ARCHITECTS AND ENGINEERS,
GEORGE BIRKLAND & CO., STRUCTURAL ENGINEERS,
FRED SCHMITT CO., CONTRACTORS.

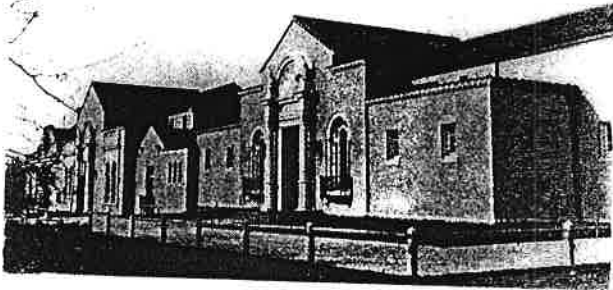


DENVER UNION STOCKYARDS, DENVER, COLO.
H. RENO, ENGINEER,
FRANCIS J. KIRCHHOF CO., CONTRACTORS.

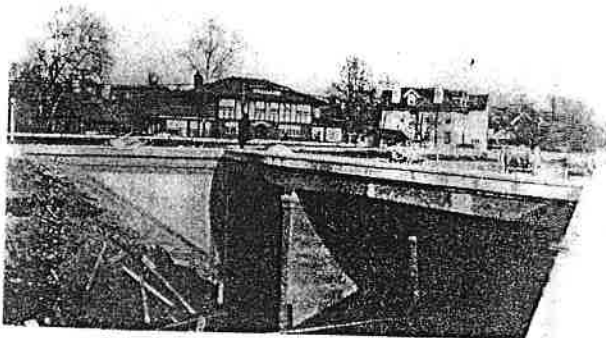


RUSSELL-BURDSALL-WARD BOLT AND NUT CO., CORAOPOLIS, PA.
THE AUSTIN COMPANY, CLEVELAND, OHIO, ARCHITECTS,
ENGINEERS AND BUILDERS.

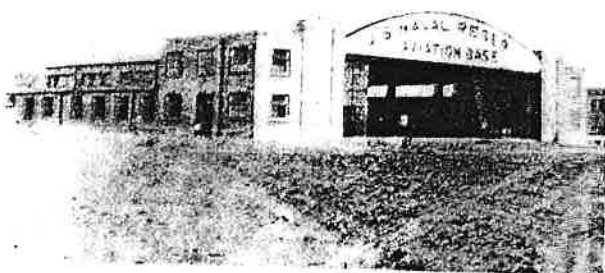
PUBLIC BUILDINGS



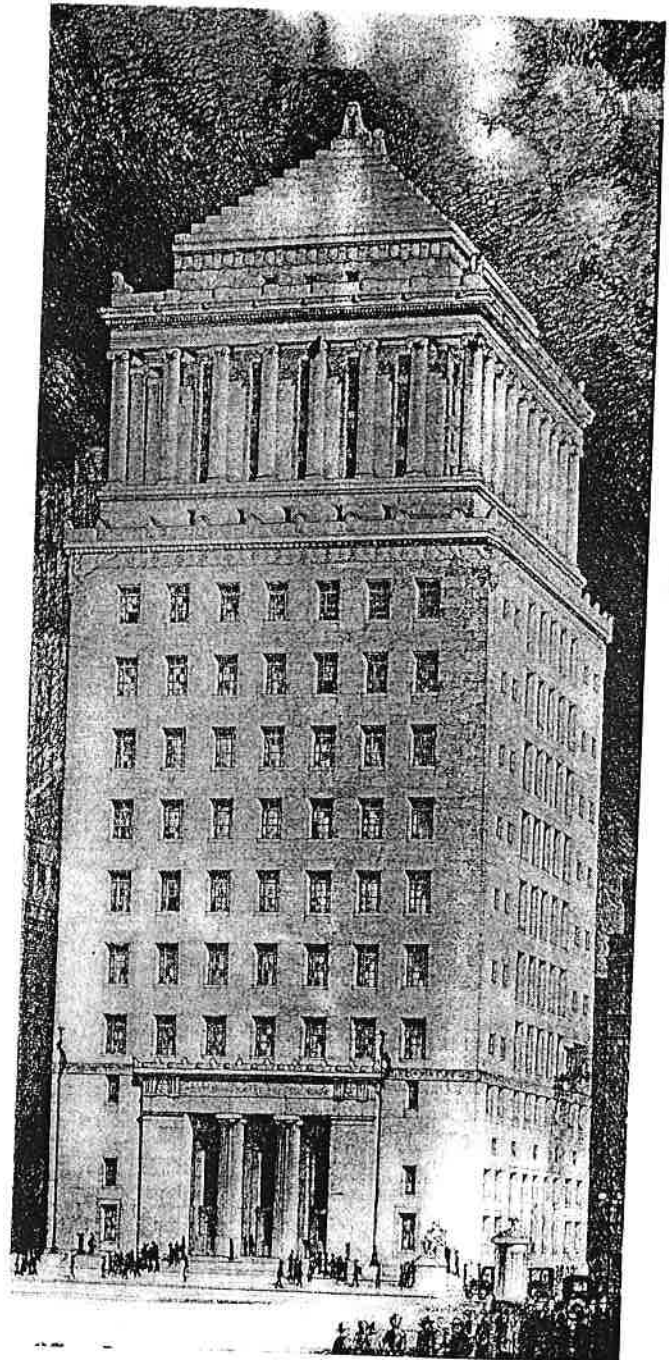
BIRD HOUSE, FOREST PARK, ST. LOUIS, MO.
 JOHN E. WALLACE, ARCHITECT.
 ZOOLOGICAL BOARD OF CONTROL
 MCCARTHY BROTHERS CONSTRUCTION CO.,
 CONTRACTORS.



LINDELL-UNION VIADUCT, ST. LOUIS, MO.
 CITY OF ST. LOUIS, DEPT. OF BRIDGES AND
 BUILDINGS, ENGINEERS.
 R. J. BLACKBURN, INC., CONTRACTORS.



U. S. NAVAL RESERVE HANGAR, LAMBERT FIELD,
 CITY OF ST. LOUIS, DEPT. OF BRIDGES AND
 BUILDINGS, ENGINEERS.
 CHAS. H. SCHROEDER BUILDING AND
 CONSTRUCTION CO., CONTRACTORS.
 RED-D-MIX CONCRETE BY GENERAL MATERIALS CO.



CIVIL COURTS BUILDING, ST. LOUIS, MO.
 BOARD OF PUBLIC SERVICE, E. R. KINSEY, PRES.
 PLAZA COMMISSION, INC., ARCHITECTS AND
 ENGINEERS, SELDEN-BRECK CONSTRUCTION CO.,
 GENERAL CONTRACTORS.
 A. D. GATES CO., CONCRETE CONTRACTORS.

BARNSDALL ADMIX—“A low water-factor siliceous admixture of high purity.”

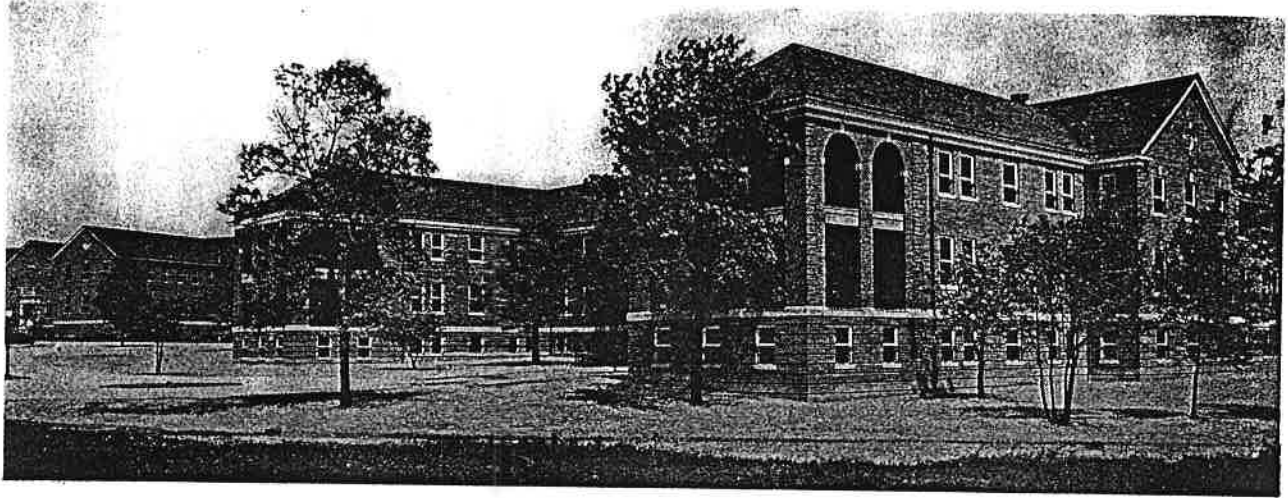
HOTELS



PARK PLAZA HOTEL, ST. LOUIS, MO.
LAURENCE O. SCHOPP & EDWIN J. BAUMAN, ASSOCIATED ARCHITECTS.
BRUSSEL & VITERBO, STRUCTURAL ENGINEERS.
McCORMACK-COMBS CONSTRUCTION CO., CONTRACTORS.
PARK PLAZA COMPANY, OWNERS AND BUILDERS.
SAM KOPLAR, PRESIDENT. NAT KOPLAR, VICE PRESIDENT.

HOSPITALS

U. S. Veterans Hospitals and Others



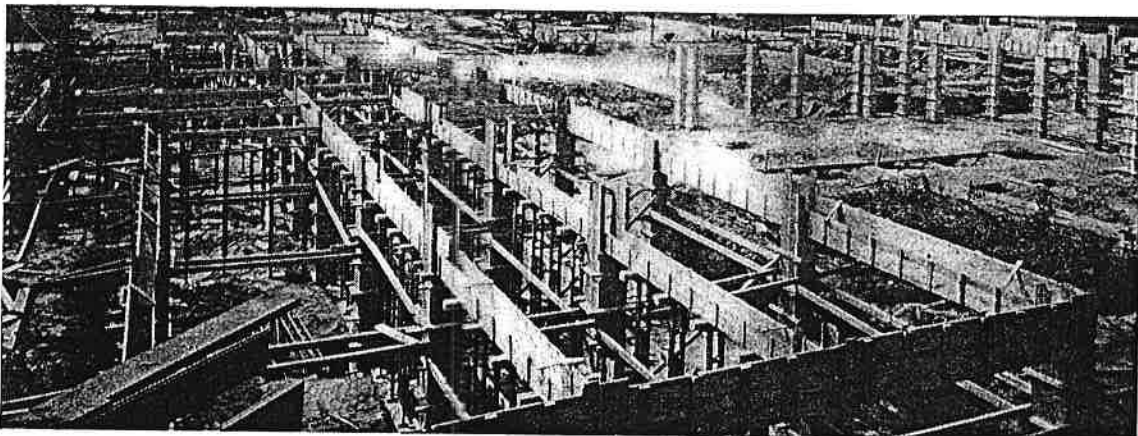
U. S. VETERANS' HOSPITAL, NORTH CHICAGO, ILL.
U. S. VETERANS' BUREAU, ARCHITECTS AND ENGINEERS.
SCHMIDT BROTHERS CONSTRUCTION CO., CONTRACTORS.



MISSOURI BAPTIST HOSPITAL (INCLUDING
SWIMMING POOL), ST. LOUIS, MO.
L. BAYLOR PENDLETON, ARCHITECT
TAXIS & BECKER, ENGINEERS.
MURCH BROTHERS CONSTRUCTION CO.,
CONTRACTORS.

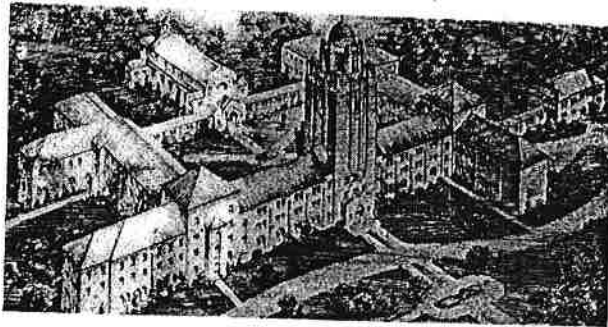


NURSES' HOME, ST. MARY'S HOSPITAL,
ST. LOUIS, MO.
O'MEARA & HILLS, ARCHITECTS.
WIMMER CONTRACTING CO., CONTRACTORS.

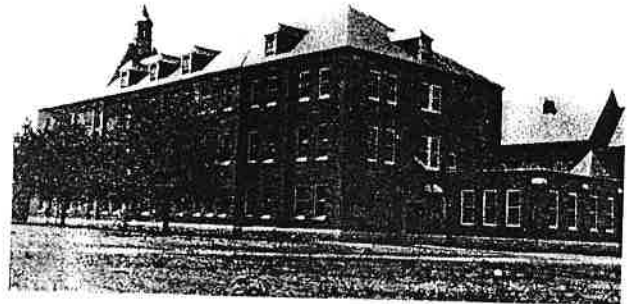


U. S. VETERANS' HOSPITAL, NORTHPORT, LONG ISLAND, N. Y.
U. S. VETERANS' BUREAU, ARCHITECTS AND ENGINEERS.
VIRGINIA ENGINEERING CO., CONTRACTORS, NEWPORT NEWS, VA.

COLLEGES

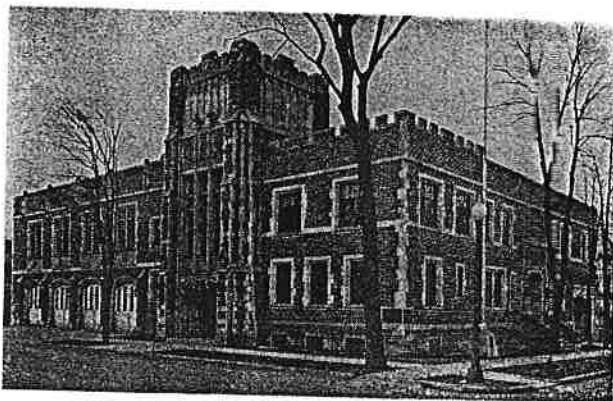


JUNIOR KENRICK SEMINARY, WEBSTER GROVES, MO. HENRY P. HESS, ARCHITECT. L. M. DIECKMEYER, ENGINEER. MISSISSIPPI VALLEY CONTRACTING CO., GENERAL CONTRACTORS. FRED SCHIRM CONTRACTING CO., CONCRETE CONTRACTORS.



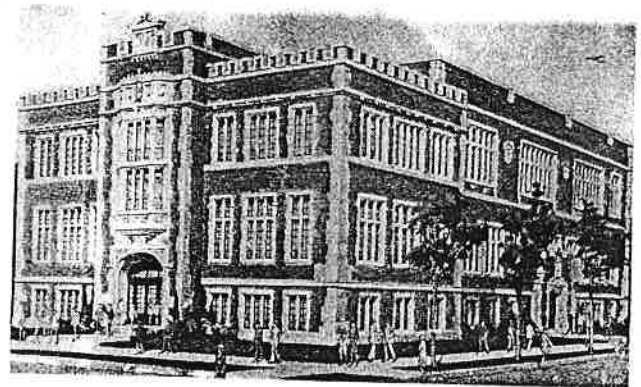
ST. MARY'S SEMINARY, ADDITION, O'FALLON, MO. O'MEARA & HILLS, ARCHITECTS, ST. LOUIS, MO. HUTTER CONSTRUCTION CO., CONTRACTORS. FOND DU LAC, WIS.

City Halls



CITY HALL, KANKAKEE, ILL. LEONARD F. W. STUEBE, ARCHITECT. JOHN MOROFF & SON, CONTRACTORS.

Masonic Temples



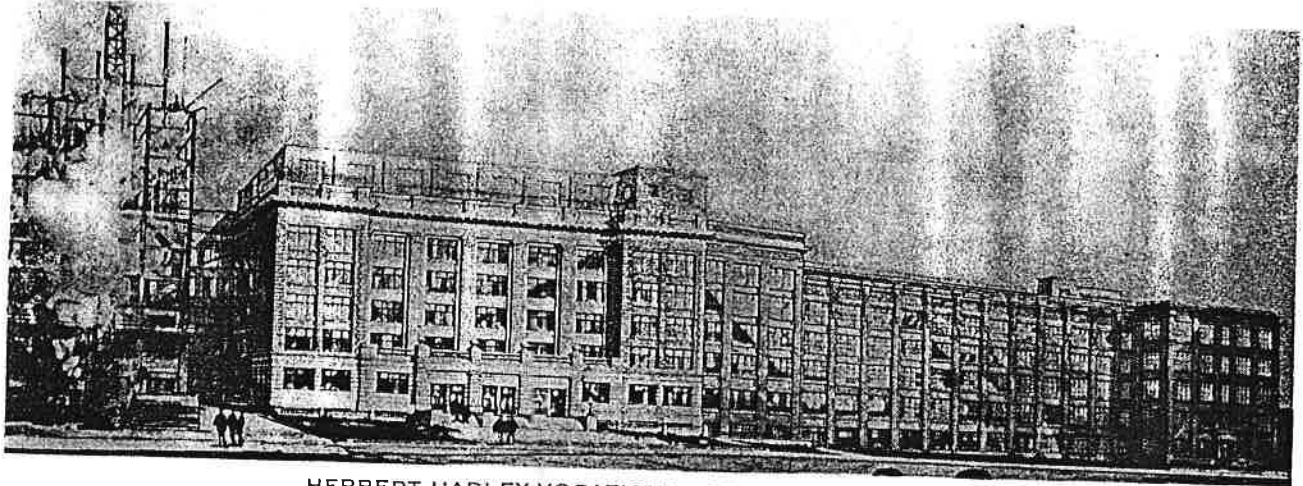
MASONIC TEMPLE, MATTOON, ILL. LEONARD F. W. STUEBE, ARCHITECT, DANVILLE, ILL.

U. S. Veterans' Hospitals

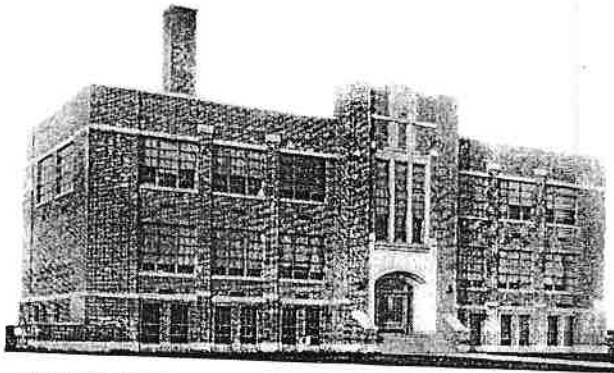


U. S. VETERANS' HOSPITAL, AUGUSTA, GA. U. S. VETERANS' BUREAU, ARCHITECTS AND ENGINEERS. W. P. ROSE CO., CONTRACTORS, GOLDSBORO, N. C.

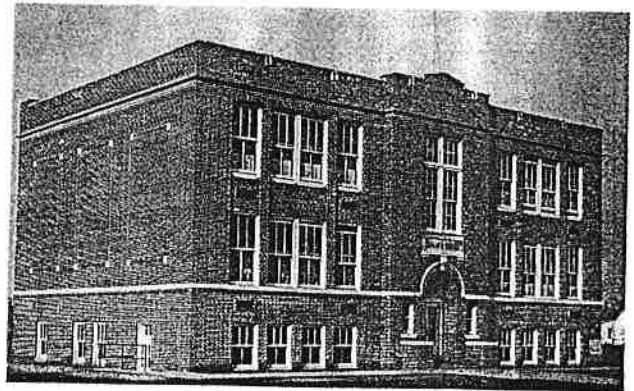
SCHOOLS



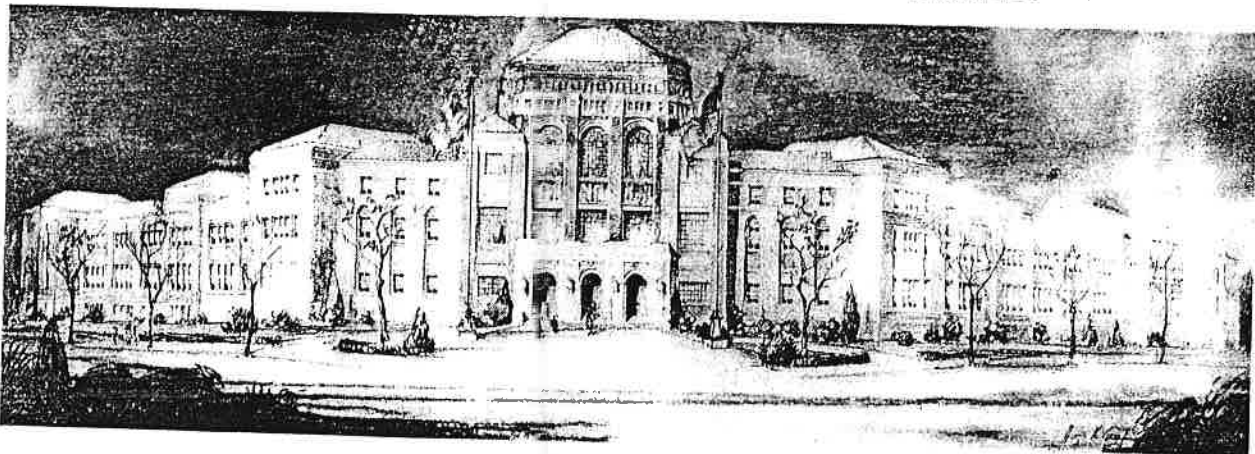
HERBERT HADLEY VOCATIONAL SCHOOL, ST. LOUIS, MO.
ST. LOUIS BOARD OF EDUCATION, ARCHITECTS AND ENGINEERS.
JOHN HILL CONSTRUCTION CO., CONTRACTORS.



HOMER COMMUNITY HIGH SCHOOL, HOMER, ILL.
LEONARD F. W. STUEBE, ARCHITECT,
DANVILLE, ILL.
HARRY BRANCH, CONTRACTOR, DECATUR, ILL.

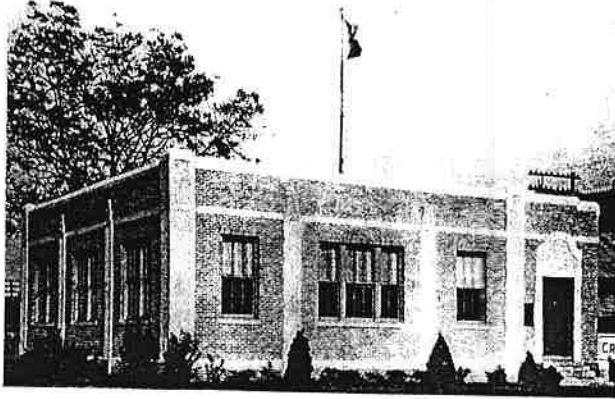


GEORGETOWN HIGH SCHOOL, GEORGETOWN, ILL.
LEONARD F. W. STUEBE, ARCHITECT,
DANVILLE, ILL.
CHARLES SCHENDEL, CONTRACTOR,
DANVILLE, ILL.



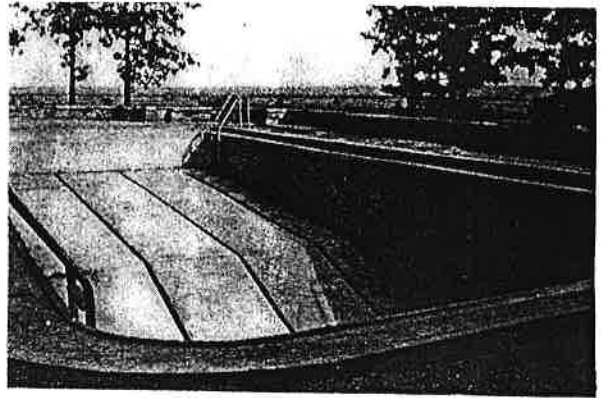
HIGH SCHOOL, UNIVERSITY CITY, MO.
FERRAND & FITCH; TRUEBLOOD & GRAF, ASSOCIATED ARCHITECTS
MARTIN ENGINEERING CO., ENGINEERS.
MURCH BROTHERS CONSTRUCTION CO., CONTRACTOR.

Telephone Exchanges



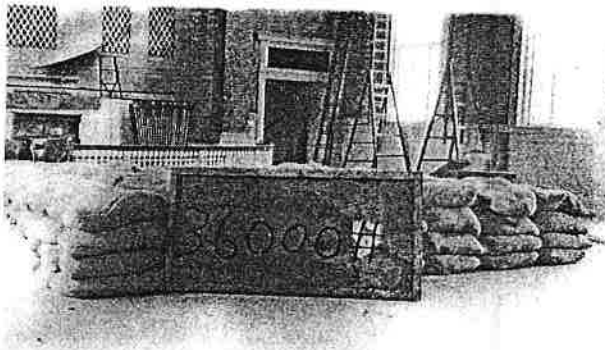
TELEPHONE EXCHANGE BLDG., EVERGREEN ALA.
A. T. HARTFORD, ENGINEER, SOUTHERN BELL
TELEPHONE CO. W. C. SPIKER, CONSULTING
ENGINEER, ATLANTA, GEORG. A.
UPCHURCH CONSTRUCTION CO., CONTRACTORS,
MONTGOMERY, ALA.

Swimming Pools



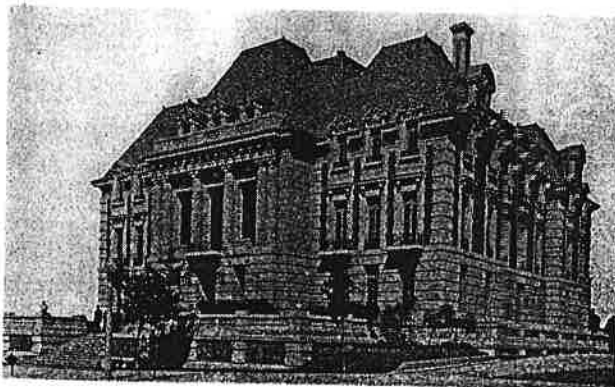
MOYDELL SWIMMING POOL, KIMMSWICK MO.
HIGBEE BROTHERS CONSTRUCTION CO.,
CONTRACTORS, ST. LOUIS, MO.

Churches



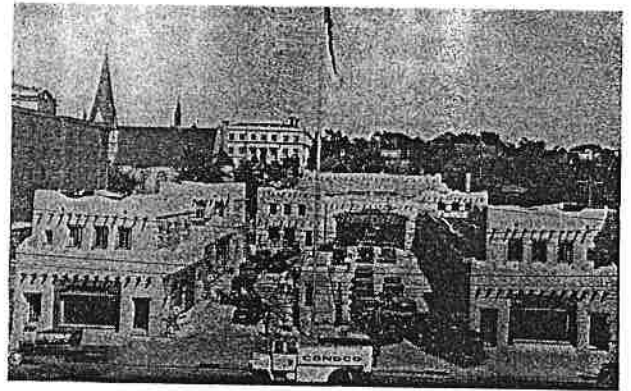
SCRUGGS M. E. CHURCH, ST. LOUIS, MO.
CONTAINS LARGEST UNSUPPORTED FLAT
CONCRETE SLAB IN THE WORLD.
FERRAND & FITCH, ARCHITECTS.
GEORGE BIRKLAND & CO., ENGINEERS.
FRUIN-COLNON CONTRACTING CO.,
CONTRACTORS.
RED-D-MIX CONCRETE BY GENERAL MATERIALS CO

Insurance Buildings



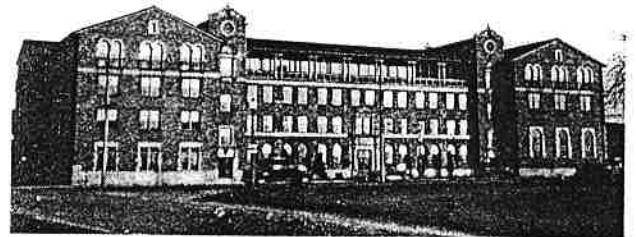
CENTRAL STATES LIFE INSURANCE BUILDING,
ST. LOUIS, MO.
T. P. BARNETT CO., ARCHITECTS.
TAXIS & BECKER, ENGINEERS.
MCCORMACK-COMBS CONSTRUCTION CO.,
CONTRACTORS.

Auto Laundries



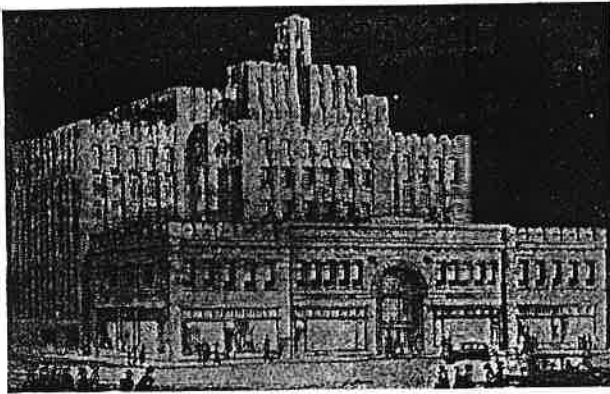
WESTERN GILLESPIE AUTO LAUNDRY,
DENVER, COLO
L. E. HEGENBERGER, ARCHITECT.

Institutions



CENTRAL DEAF INSTITUTE, ST. LOUIS, MO.
WM. B. ITTNER, ARCHITECT.
DICKIE CONSTRUCTION CO., CONTRACTORS.

Lodge Buildings



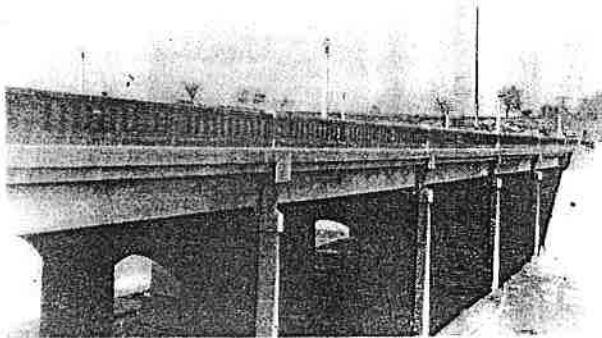
PYTHIAN BUILDING, ST. LOUIS, MO.
TRUEBLOOD & GRAF, ARCHITECTS.
BRUSSEL & VITERBO, ENGINEERS.
DICKIE CONSTRUCTION COMPANY,
GENERAL CONTRACTORS.
A. D. GATES CO., CONCRETE CONTRACTORS.

Newspaper Plants



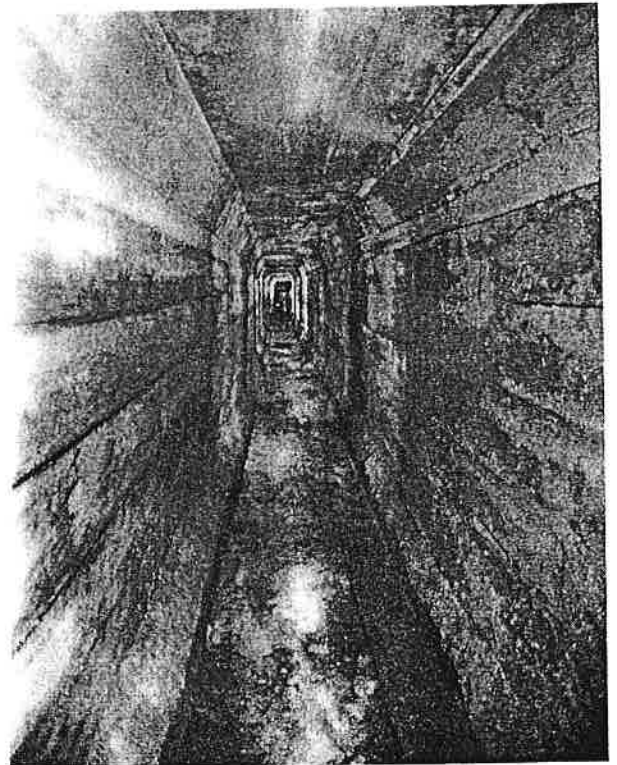
GLOBE DEMOCRAT BUILDING, ST. LOUIS, MO.
MAURAN, RUSSELL & CROWELL, ARCHITECTS.
MARTIN ENGINEERING CO., ENGINEERS.
FRUIN-COLNON CONTRACTING CO.,
FOUNDATION CONTRACTORS.
WESTLAKE CONSTRUCTION CO.,
SUPERSTRUCTURE CONTRACTORS.
RED-D-MIX CONCRETE BY GENERAL MATERIALS CO.

Viaducts



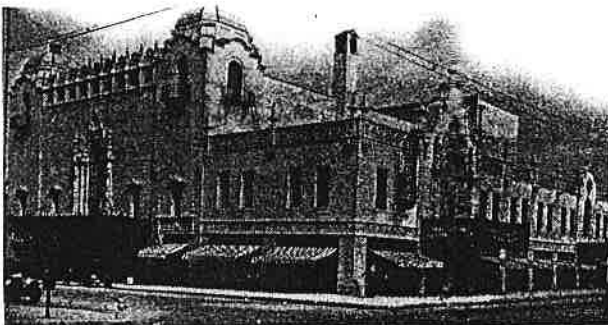
BRIDGE OVER RIVER DES PERES AT MORGANFORD
ROAD, ST. LOUIS, MO. CITY OF ST. LOUIS,
DEPT. OF BRIDGES AND BUILDINGS, ENGINEERS.
BLACKBURN CONSTRUCTION CO., CONTRACTORS.

Tunnels



SUBMARINE CABLE LANDING TUNNELS,
ST. LOUIS, MO.
(POWER LINES UNDER MISSISSIPPI RIVER FROM
CAHOKIA STEAM GENERATING PLANT TO
ST. LOUIS)
DESIGNED AND BUILT BY
ELECTRICAL DISTRIBUTION DEPT.
UNION ELECTRIC LIGHT & POWER CO.

Theatres



COLEMAN THEATRE, MIAMI, OKLA.
BOLLER BROTHERS, ARCHITECTS.
KANSAS CITY, MO.
RUCKS-BRANDT CO., CONTRACTORS, TULSA, OKLA.

BARNSDALL ADMIX—97½% Active Silica (SiO₂).

BACTERIOLOGICAL

TESTS

The Seneca Tripoli Filters Give

These Results.



Goose-Neck FILTER.



By A. J. REYNOLDS & Co., Chemists, Lawrence, Kansas. There are numerous foreign substances which contaminate water. The ones generally found which are dangerous are, viz: organic matter, nitrates, ammonia, excess of chlorides and basic elements which cause hardness.

Report of Water Examined:

This was hydrant water running through a filter, making a good palatable water. Completely removed nitrates.

1. Organic matter, none.
2. Nitrates, none.
3. Ammonia, none.
4. Chlorides, no excess, 2 grs to gallon.
5. Other impurities, none.

Department of Physiology, Ohio State University.

COLUMBUS, OHIO, JUNE 13 1895.

GENTLEMEN: I herewith submit reports of examinations made of water filter through Tripoli Stone Filters. In the first examinations, water was used which contained five thousand bacteria per cubic centimetre. This was passed through the plates in the usual way. Two of the latter were kept in the incubator at degrees C. At the same time control plates were made of the unfiltered water. These latter showed a most luxuriant growth after two days, while plates from filtered water remained sterile for the period of observation—five days. In the next experiment water containing about 250 bacteria per cubic centimetre was used. But this was forced through the filter under pressure. Plates were made in gelatin and agar as before, the agar plates being kept in the incubator 37 degrees C. After three days while the plates from the unfiltered water showed a very free growth, those made from the filtered water were sterile. This showed that no germs passed through, either with or without pressure.

A. M. BLEILE, M. D.

The Seneca Tripoli Stone Filter.

BRIXTON, 12 KNOWLE ROAD, LONDON, S. W., March.

I hereby certify that I have practically tested the Seneca Tripoli Filter and find that it renders water sterile. Brixton water yielded, before filtration, 28 colonies of bacteria per cubic centimetre, whereas, after filtration through the Tripoli Stone filter, it was sterile, or free from bacteria. I have pleasure in recommending this filter.

A. B. GRIFFITHS, PH. D. F. R. S.

W. E. GARRIGUES, Chief Chemist and Manager.

Long Distance Tel. 2155

The Duquesne Chemical Laboratory.

Analytical Chemists and Chemical Engineers, Standard Building, 511 Wood St.

PITTSBURG, PENNSYLVANIA, APRIL 12, 1897.

GENTLEMEN:—Following is the report on the samples of water taken by me from the regular city supply, also after it passed through a filter. Two filters were tested in this manner, one having just been started and the other having been in use four months. The chemical analysis, made to show animal and vegetable pollution, includes the amount of ammonia, albuminoid ammonia and oxygen required to completely destroy such pollution. The bacteriological analysis is a count of the total number of living microbes in ten ordinary drops of the water. This test was repeated in duplicate in the case of the filtered samples. The results obtained on analysis following:

Ammonia	0.03	0.02	0.02
Albuminoid Ammonia	0.02	0.00	0.08
Oxygen consumed	0.64	0.50	0.64

The figures represent parts of the impurities in one million parts of water. On cultivation, the hydrant water showed 890 bacteria in 10 drops. That from the old filter 0, 2 and 4 in three tests, and from the new filter 3, 3 and 7. The above shows that the number of living microbes present have been reduced 99.6 per cent; the ammonia is reduced 30 per cent; the albuminoid ammonia 57 per cent, and the oxygen consumed 64 per cent by passing through the filter; making the originally very bad water equal in cleanliness and purity to the best spring water. These results cannot be surpassed by any system of filtration of which we are familiar. Respectfully submitted,
W. E. GARRIGUES



American Tripoli Co.,
Manufacturers of Tripoli Filters, 68 Seneca, Missouri.

Thomas T. Luscomb - Manager 1885 - 1914



TRIPOLI, An Unusual Stone
TOM LUSCOMBE, An Extraordinary Man

History Of

"Seneca Standard"

Tripoli

Tom Luscombe slowly wrapped the last piece of soft white stone and told his assistant to nail up the crate for shipment. Then he carefully lettered the address: Mr. Thomas T. Luscombe, Building of Manufactures and Liberal Arts, World's Columbian Exposition, Chicago, Illinois. He would travel on the same train with this important cargo to arrive in Chicago the week before the official opening of one of the most outstanding world's fairs ever held in the United States.

Luscombe was destined to see and hear wonders he had never dreamed of. The trip would become the turning point in seeing his dreams realized. The year was 1893 and Tom Luscombe had invested all his savings and borrowed to the hilt to buy the holdings of the Monarch Tripoli Company in the small town of Seneca in southwest Missouri. He had organized and incorporated the American Tripoli Company just a year before. His small exhibit at the fair might bring new customers. He was enthused about the possibilities; he needed new outlets for his products.

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He had carefully planned each detail of his small exhibit with charts and samples of the product. Tripoli was a light porous rock which had been found to have qualities which made it a good polishing compound. In this capacity he showed its ability to polish metal.

... the pressure type and sipnon filters.

Only a handful of people stopped by his exhibit, but those who listened to Tom Luscombe were impressed with the unique qualities of the stone which was referred to as "cotton rock" by the natives of southwest Missouri. Most onlookers took a sample and moved along to explore the other amazements on display.

Tom Luscombe did not anticipate the marvels that other exhibitors brought to the fair. Electricity was the magic discovery everyone was excited about..its impact would begin the industrial revolution. He was in awe at the demonstration of an inventor, Thomas A. Edison, and his sound machine called a phonograph. Another great sensation of the fair was the first steel Ferris wheel. Yes, Tom Luscombe was among giants.

One of the first visitors to his meager exhibit booth was a Mr. George Zucker who represented M & T Chemicals, Inc., of New Jersey. He was very impressed with the product and took samples back to him company. The following month Mr. Zucker's company sent an order for five 200 pound burlap bags of Seneca Standard. It was to be used in the buffing compound for finishing non-ferrous materials.

This was followed by more and more orders, and soon the men who mined the stone and milled it were working from sunup to sundown.

Mining the porous stone was no easy task. First was the removal of the overburden--the timber, earth and rocks above the needed product. This was done with teams of horses and scrapers. School boys were hired for some of the "stripping" and it was removed with picks and shovels and wheel barrows.

It was then hauled by team and wagon to long drying sheds where it was left for a year or more to cure.

Later it was crushed and ground into a flour, put in wooden

barrels or burlap bags and hauled by wagon to the railroad where it was loaded and sent to its destination.

Just after the turn of the century business had increased to a point that Tom Luscombe decided it would be more economical for the mill to be nearer the railroad. Land was purchased and a new mill was built adjacent to the Frisco railroad tracks. The market had expanded, and Tripoli was being shipped to many overseas markets.

A hand operated dump for the convenience of the dry rock haulers did away with back-breaking shoveling. New packing methods were used. More men had to be hired because of increased production.

Tom Luscombe was a good manager and enjoyed a place of prominence in the community. He took an interest in civic affairs and gave several acres of land to the city for a park which was named for him. He had come a long ways from his birthplace of Devanshire England to establish himself in this small community which was bordered on the west by Indian Territory.

Luscombe retired in 1914 and in 1919 The Barnsdall Company of New York purchased the company.

In 1938 fire destroyed the mill and when it was rebuilt was equipped with all the latest grinding and screening machinery.

The mill was operated by electricity instead of the old wood and coal fired boilers. The new dryer was gas-fired where perfect heat control could be maintained. It was furnished with protective measures to keep dust to a minimum.

Huge trucks were purchased that would carry ten to twelve tons of raw material to the plant. Mechanical loaders were used to hasten the job. It was modern in every sense of the word.

In 1969 to commemorate the 100th anniversary of the discovery of Tripoli deposits, a brass plaque was placed on the original site where it was found. This plaque records the dates of all important events in the development of this unique formation called Tripoli.

Since 1950 the American Tripoli Division has become a branch of the Carborundum Company of Niagara Falls, New York. Their business is primarily an international materials system company, which transforms wood, rock, and ores into materials never found in nature.

the end --by Virginia Brady Hoare 1979

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T R I P O L I

Unfortunately the name "TRIPOLI" is not in any sense a technical name, and hence conveys no idea of its chemical nature or the uses.

From the best information that I have been able to obtain in regard to the name, it seems that formerly there was imported into Europe and America for certain purposes a fine grained pure Silica Stone from Tripoli - a state in northern Africa - and it was imported under the name of simply "TRIPOLI STONE" - in the same manner as the BRICK was formerly imported under the name of BATH BRICK.

When, therefore, this material which we find in Newton County, Missouri, and the eastern edge of Ottawa County, Oklahoma, was first introduced, it was sold under the name of "AMERICAN TRIPOLI STONE" indicating that it was useful for the same purposes as the TRIPOLI STONE already familiar to the trade. Later, for the sake of brevity, it came to be known simply as "TRIPOLI".

There has always been a difference of opinion among geologists as to the origin of this soft porous stone, some holding that it was originally a highly siliceous limestone from which the lime had been dissolved out by the action of water. Limestone weighs about pounds to the cubic foot. Tripoli weighs seventy pounds to the cubic foot, so they argue that if the original limestone contained per cent of Silica, and the lime was dissolved out, there would be left an almost pure Silica (Oxide of Silicon) weighing seventy pounds per cubic foot, and now known as TRIPOLI.

Others believe that originally the stone was the common flint (or chert) of this district, and the action of water - probably hot water - had dissolved out the other elements, leaving "TRIPOLI" as a porous almost pure Silica. They point to the hot springs in Arkansas as proof of the reasonableness of their theory.

Still, others believe that TRIPOLI - being almost pure Silica, was deposited in ages past by hot water flowing over the limited area in which it is found from hot springs or geysers, just as there are now deposits of Silica being formed from some of the geysers in Yellow Stone Park.

The first theory of its having originally been limestone seems to be disproved by the fact that no where in any of the quarries or prospect holes that have been opened up has there been found any imprint of shells or other fossils, such as are invariably found in limestone deposits.

If the third theory were true that it had been deposited by water highly impregnated with Silica and flowing from hot springs or geysers, the material would be in a solid mass, unbroken by either lines of stratification or irregular seams. So since the deposits are broken by lines and seams in much the same manner as the common flint - and often conforming with the slope of the hills, et cetera, it seems most likely that TRIPOLI was once common chert of this district from which the other elements have been leached out by the action of water - possibly hot water - leaving light almost pure Silica Stone of a porosity of infinite fineness.

It is often remarked as being strange that these deposits are always found upon the broad hilltops and not in the lower ground, but it is possible that the deposits originally covered almost the whole area and that it has been carried away from the lower levels and valleys by erosion of the surface waters.

The deposits of TRIPOLI of course have been known ever since the first settlers came to this region, and until it came to have a commercial value it was known on account of its light weight and natural whiteness as "COTTON ROCK". It was not until about 1870 that it came to have any value, but about that time small shipments began to be made to St. Louis to a firm of mineral grinders who made use of small quantities.

About the same time too, it was discovered that it was so porous and the pores so infinitely fine that it was useful for filtering water, and the natural stone was cut into convenient shapes for use in household filters.

To prove its efficiency as a filtering medium, several years ago we had a series of tests made with contaminated water and special bacteria cultures, and the chemist showed that the water wherein a special culture of Typhoid Bacilli had been made, when forced through the stone under pressure, came through absolutely sterile. He made altogether one hundred tests, and in all those with the Typhoid Culture, the water came through the stone perfectly pure and the lowest efficiency he got from any of the tests with different bacteria was 98%.

That use for the TRIPOLI, however, has never been great. The greater part of that sold is ground into flour of different grades - from fifty to two hundred mesh for use in buffing compositions; for finishing metals that are to be plated, and for metal polishes, abrasive soaps and powders.

During the last few years the greatest use for TRIPOLI has been for a foundry parting - that is, a facing and parting for the molds in brass and iron foundries. It is also used to some extent in rubber products, especially in insulating compounds. It is used also to some extent as a mineral absorbent for chemicals, et cetera.

Previous to the war there were well established agencies for TRIPOLI in most of the countries in Europe, and the foreign demand constituted about 30% of the total sales. So for business reasons - as well as the greater humanitarian reasons - we are anxiously waiting for the ending of the great war when we can again make shipments to our customers abroad.

In color the TRIPOLI is naturally a pure white, but in many of the quarries the Oxide of Iron from the clay which overlies the deposits and fills the seams and openings, has been carried into the stone by absorption and by circulation of water through the porous material; so that the color varies from the pure white to a decided rose color. This permits of trade being established on the different

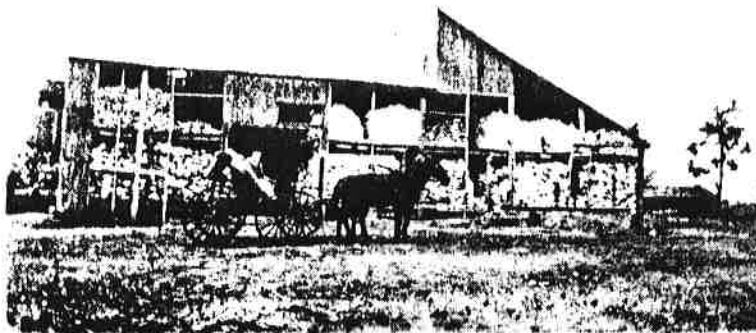


colors for different purposes or to aid in giving a desired color to the product in which TRIPOLI is used. Thus the color becomes a sort of trade mark.

Two of the largest firms in the manufacture of buffing composition are located at Newark, N. J. One of these firms uses in its product the red (or rose) TRIPOLI, which gives his product a decided red color, and the other firm uses only the light cream which gives his product a light grey color. Anyone familiar with composition who sees a brick of the red would at once think of the George Zucker Company and if he saw a brick of the grey in a factory he would at once conclude that it came from the Hanson & Van Winkle Company.

Chemically, there are perhaps twenty or more products of the earth that are almost identical with TRIPOLI. Fullers Earth - Infusorial Earth - Glass Sand - Silica - Kiesselghur, and others, all show an analysis of 98% or higher of Oxide of Silicon - the most common material in the composition of the earth - and yet none of these have the peculiar physical qualities which give TRIPOLI its small place in the world's industrial economy. Neither will TRIPOLI take the place of many of these other materials. For instance, Fullers Earth is used in clarifying mineral and vegetable oils and while TRIPOLI is almost identically the same chemically, has almost the same specific gravity and in many ways almost the same as Fullers Earth, still there has been no way found of using TRIPOLI so that it will clarify the oils.

TRIPOLI seems to have its own little niche in the industrial world, and although a comparatively small one, it is a very definite one.



Tripoli Drying Shed, 1900

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YEARS OF PROGRESS

Manager 1885 - 1914

Mr. Thomas T. Luscomb was born in Devonshire, England and came to Toronto, Canada as a young boy. He worked for the Canadian customs for several years and left Toronto, moving to Orchardville, Ontario, and went to work for a Mr. Orchard, who was General Merchant for several years. He was then sent by Mr. Orchards to the United States to Carrollton, Missouri to open up a General Merchandise store and after several years came to Carthage, Missouri and opened a General Merchandise store of his own.

He became interested in Lead and Zinc mining in the Tri-State area and operated several mining properties.

He then became interested in Tripoli and one can say that Mr. Luscomb is responsible for the real development of the business, as before he purchased most of the land and the plants in the area which were operated by individual owners there was no concerted effort to find new uses, other than Filter Stones and cleansing powders.

He organized the American Tripoli Company in 1892, built a new mill with new equipment both for producing powdered Tripoli and Filter Stones. The Exhibit that Mr. Luscomb had at the Worlds Fair in Chicago in 1893, was what actually gave Tripoli its start, and developed new uses for this unusual Non-metallic mineral.

Manager 1914 - 1919

Robert Ornduff, for many years connected with the tripoli industry was born March 22, 1873 at Odessa, Mo.

He became manager of the firm in 1914 and remained with the company until it was sold to Barnsdall in 1919.

Prior to joining American Tripoli he was sales manager for Leggett and Platt Coil Springs Co. of Carthage. He reorganized and expanded the operations, opened new quarries, enlarged and built new mill and opened distribution over the nation and into foreign countries.

After selling his interest he became interested in shallow oil operations in Kentucky. About 1921 he moved to Seattle, bought an interest and became manager of the Morris Plan Bank. He later moved to Oregon and bought a small plant manufacturing willow furniture. In the early 1930's he organized a small company which produced a limestone product. He retired at Portland, Oregon and died there March 11, 1948.

Manager 1919 - 1937

Glenn Van Buren Levings was born October 19, 1873 in Pottsdam, N. Y., the son of Mr. and Mrs. Myron W. Levings.

He attended school in Boston, Mass. and after finishing high school went to school in New York and became an assayer and chemist. He worked in New York until April 1896, then went to Parral, Chihuahua Mexico as an assayer and chemist for a mining company, seven days mule back ride from Parral.

Later Mr. Levings became a mining engineer and was manager of the El Rayo mine for several years.

In 1914 he left Parral for a few days visit in El Paso, Texas, but the railroad was blown up by Pancho Villa bandits and he decided not to go back. A few months later he went to the Union Mines near Elko, Nevada. In 1919 he returned to El Paso.

He came to Seneca in November 1919 as manager of the American Tripoli Co., then owned by the Barnsdall Corporation of New York. He died May 24, 1937 in Joplin, Mo.

Manager 1937 - 1968

Everett H. Dobbs, a native of the Seneca area started to work for the American Tripoli Company, May 16, 1922, as an Assistant Bookkeeper. He was made Secretary-Treasurer, in 1925, and became Vice-President & General Manager in 1937.

In 1941 he also became Vice-President & General Manager of Barnsdall Mining Company, which included all mining properties of Barnsdall Oil Company with properties in Missouri, Kansas, Arizona, Colorado, Idaho and New Mexico.

In 1948 after the merger of Barnsdall and Sunray Oil Company American Tripoli Company was sold to J. C. Miller, Dean Osborn and Mr. Dobbs and he continued to remain as Vice-President & General Manager.

The Carborundum Company purchased the American Tripoli Company in January 1954 and he continued as General Manager of this Division until his retirement, November 1968.

Manager 1968

Robert H. Dobbs, son of Everett H. Dobbs, and a native of the Seneca area, attended high school in Seneca, graduating in 1955. He then graduated from the University of Missouri with a Bachelor of Science degree in Industrial Engineering in 1960. Intermittently during his university studies, he was in the U. S. Army and he subsequently received an honorable discharge.

In January, 1961, he was employed by The Carborundum Company, Coated Abrasives Division, as a Sales Engineer covering the State of Arkansas and parts of Louisiana.

In 1964, he became affiliated with Georgia-Pacific Corp., Tri-State Mill Supply Division, as Manager of the Machine Tool Division.

In 1965, he again became affiliated with The Carborundum Company, American Tripoli Division in Seneca, as a Sales Engineer and subsequently, in 1967, became General Sales Manager. Also in 1967, he attended Penn State University, State College, Pennsylvania and graduated from their Executive Management School.

In 1968, he was made General Manager of the Division.

CARBORUNDUM



Tripoli Plant Burns!

Building, Equipment and Contents Are A Total Loss - Fire Was Discovered About One A. M., Friday

Cause of Big Blaze Unknown - Fire Department Keeps Blaze from Spreading - Pumice Plant and Office Are Undamaged

Fire which broke out shortly after one o'clock, early Friday morning, completely destroyed the big tripoli plant in Seneca, in the southwest part of town.

The plant, owned by the Barnsdall Tripoli Corporation, a subsidiary of the Barnsdall Oil Co., was the biggest industry in Seneca, and gave employment to several score men.

The company's pumice plant, just across the street east from the tripoli plant, was unharmed.

The new office building, just to the west of the tripoli plant, was also unharmed. The office building is constructed of tripoli stone, and is a fireproof structure.

The fire evidently started in the interior of one of the large 'hoppers' in the center of the plant.

Employees had been working in the hopper Thursday, re-lining it, and otherwise repairing it. Cutting torches had been used in the work, it is said, and, while it is entirely conjecture, it might have been possible that a spark had been left, later smoldered, and, finally, broke out into a blaze.

The hopper is like a large oversized bin, and is almost airtight. The fire could have smoldered along for a few hours before breaking through, as it evidently did.

According to Bert Cooper, night watchman, who went to work at midnight, and who discovered it and turned in the alarm, the fire was right in the top of the hopper, and, once it broke through, very quickly spread throughout the big building, right up under the roof.

The Seneca fire department made a quick run, and got water on the blaze right away, but the fire was too big, and the structure was so large, that the two streams of water turned on it could not do more than merely sizzle in the fiery furnace.

Everett Dobbs, general manager of the plant and business, had left Seneca early Thursday morning, on his way to Grants, New Mexico, where his company also operates a pumice plant.

John Ebert, sales manager for the corporation, stated early this morning that the loss of the plant entailed a damage of around seventy-five thousand dollars, and that there was about ten thousand dollars worth of finished product stored in the mill, all of which is a total loss.

Mr. Ebert stated that the plant was partially covered by insurance, but that no estimate could, of course, be made at this time as to the damage the corporation will suffer.

The fire was one of the most spectacular in Seneca's history. The entire building was one big mass of blaze, and, even if there had been half a dozen fire departments on the job, nothing could have been done to save it.

The Joplin fire department and the department at Neosho were called, and asked to help, but neither of them came.

'Hot' electric wires furnished some spectacular fireworks for a time, until a nearby switch was pulled, thus eliminating that danger. Later, Mr. Knapp, local Empire District Electric Co. manager, turned off all the power in town, for a time, until the burned and broken lines could be trimmed from the lead wires.

Conjecture was rife among the townspeople at the fire as to whether the plant might be rebuilt. The tripoli plant furnishes the livelihood for many families here.

The plant was a modern one, and had been made practically free from 'dust,' an obstacle which every plant dealing in silicate products has to fight. Barnsdall had spent some eighty thousand dollars, during the past few years, in eliminating trouble from the dreaded 'dust' in its plant.

The company has leases on considerable land in the Seneca community, where the tripoli rock is mined. The rock is peculiarly a product of this section.

After the stone is gotten out of the ground, it is placed in long sheds, for 'curing.' Barnsdall has about a hundred of these sheds, located on lands north and west from town.

After curing, the rock is hauled to the mill here in Seneca, where it is ground, to varying degrees, and shipped to manufacturers in the East, who use it for various finished products, including automobile polishes, and other similar abrasives.

Sales of the product are made only to such manufacturers, and to buyers abroad.

Seneca firm sold

SENECA — American Tripoli Co., a company which has been in Seneca for 113 years, has been sold to Warburg Pincus Inc., a New York City investment firm, according to Alan Bates, manager.

The firm was originally owned by the Corborundum Corp.

Bates said, "Nothing has changed except the ownership. We still have the same office staff and same hourly employees. Nothing has changed."

He said the firm has been in Seneca for 113 years and is the only plant of its kind in the world.

The firm furnishes tripoli to companies making buffing and rubbing compounds. "When you go to a dentist to have your teeth cleaned, chances are that the material the dentist uses to buff them has tripoli in it."

He said, "We ship all over the world to Africa, Europe, New Zealand, anywhere that has companies which manufacture buffing or polishing compounds."

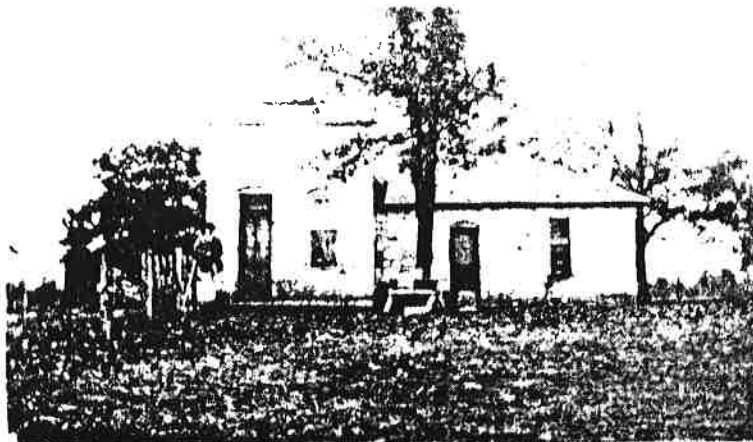
He explained that tripoli is a mineral that is found only in the 4,000 acres of quarries owned by the firm, most of it in Ottawa County in northeast Oklahoma.

"We observed our 100th birthday in Seneca 13 years ago," he said, and "we hope to be here for a long time."

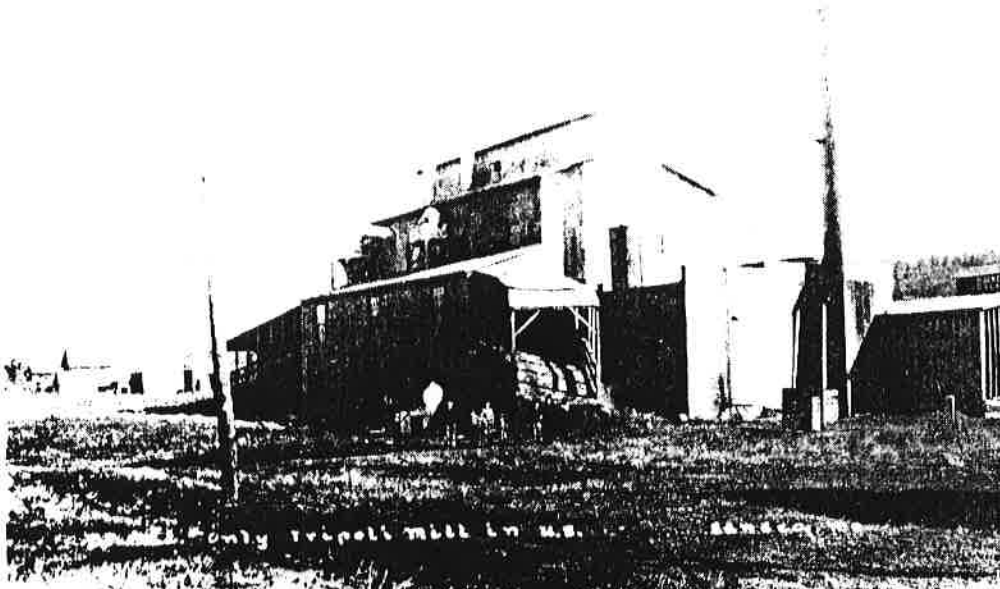
July 1982



The Ornduff family about 1910
The big house on Tripoli Hill



First American Tripoli Office



AMERICAN TRIPOLI INC.

History

As long ago as 1850, the word "Tripoli" was said to be an earth of red, gray or yellow color found in Tripoli, North Africa; hence the name. The Missouri-Oklahoma deposits were first discovered in 1869 in Newton County, Missouri, and as the material had an appearance similar to that in North Africa, it was called Tripoli.

The Missouri-Oklahoma type Tripoli deposits were first worked in 1871. A small mill was built to cut the crude stone into bricks which were sold as "American Bath Brick" used for scouring and polishing purposes.

The first important use was in the manufacture of a Tripoli filter stone for which it was peculiarly well-suited and its production constituted the principal activity until 1915. Due to improvements in water systems throughout the world, there is no Tripoli sold for this purpose at the present time.

In recent years, the major use for the powdered Tripoli has been in buffing compositions used in finishing nonferrous metals.

Another large use is the abrasive base for lacquer finishing compounds and leading automobile polishes. Other uses include foundry parting, fillers, detergents, cleaners, floor sweep, wood finishing, polishing cloths, insecticides.

Geology

The Missouri-Oklahoma type Tripoli deposits are of a sedimentary origin found in the Boone formation of Lower Mississippian age. They occur in horizontal beds, varying in thickness up to 15 feet. They have not been subjected to any appreciable faulting and no folding or crushing. They remain in their original condition except for the removal of soluble alkaline salts by percolating surface waters where the conditions have been favorable.

From the structure and general appearance, it seems evident it was deposited, not as a settling of small crystalline particles, but as a flocculent colloidal silica, together with alkaline salts which were much more soluble than those in the neighboring siliceous limes. As more pressure was gradually exerted by increasing thickness of the deposits and the overlaying strata, the flocculent colloidal silica was compressed into a smaller volume, with a tendency to develop a microscopic wavy, flow-like structure. The minute pores or capillaries could easily have been formed by the pressing out of the excess moisture in the flocculent colloidal silica.

The varying proportions of silica and lime originally in the different areas account for the wide extremes in the present physical properties of the various deposits in Missouri and Oklahoma. It explains the wide variations in the porosity of the mass as well a variation in particle size and structure of the present silica on which the commercial usefulness of these various types is so dependent.

Both primary and secondary chert are found in many of the deposits. In some instances they destroy the commercial value of the deposits. The primary chert occurs as interbedded layers and nodules. The secondary chert is the result of a later deposition of silica (held in solution in the deposit) in the more or less vertical cracks and fissures of sufficient age. Occasionally it partially fills voids of irregular shape.

It is in no sense an altered chert, as was at one time assumed from the fact that primary chert occurs in the deposits. These chert occurrences are identical with those in the neighboring siliceous limes. X-ray spectra and polarized light examinations show the two particles to be quite distinct, although they may be found side by side. The present "Tripoli" is not a product of alteration, decomposition, or disintegration; it is simply the original silica remaining after the soluble alkalies, which constituted a considerable portion of the original mass, had been removed. It has very evidently experienced little change from its original condition other than an evident hardening and an increased density.

At one time it was thought to be closely related to the Novaculites of Arkansas; but later x-rays show it to be more like the chalcedonies.

While there are many varieties of "Tripoli" resulting from differences in porosity and particle size, the Missouri-Oklahoma type Tripoli deposits are the only ones that have attained any real economic importance. It is therefore evident that the physical structure and size of the "natural" particle, rather than the relatively slight differences in chemical analyses, are the important factors which determine the commercial value of these various types and the uses for which each is best fitted. The color varies widely in the Missouri-Oklahoma deposits, due to the adsorption of iron from the descending surface water, from a light "cream" to a dark "rose".

Characteristics

The Tripoli deposits in the southwest corner of Missouri in Newton County and the northeast corner of Oklahoma in Ottawa County, located in the vicinity of Seneca, Missouri, contains an unusual and peculiar form of silica which has not been found any other place in the world.

Its outstanding characteristic is the physical structure of the individual particle. The particle structure of the Missouri-Oklahoma type Tripoli accounts for the market.

It is a soft, friable, porous, double-refracting silica of the chalcedony variety. The particle is porous, has a fibrous structure, no sharp edges or corners, and an average size of less than .01 millimeter. It varies from 90 to 98% SiO_2 with less than 1% free silica in the form of quartz. It has ignition loss of 1% and fractional percentages of iron, alumina, lime, etc.

It is found in two natural colors, Rose and Cream. In the case of the Rose color, the iron will run as high as $3\frac{1}{2}\%$ in the darker colors.

Specific Gravity varies from 2.15 to 2.56. On the MOHS hardness scale, Tripoli is between four and five.

The porosity of the crude Tripoli is 45% and the powdered Tripoli varies from 63 to 68%, according to fineness. Absorption of water by weight is 35% for the crude Tripoli and 52% for the powdered. Oil absorption by weight varies from 48% to 52%, depending upon fineness.

It exhibits the characteristic silica adsorption; but due to its greater surface area, this is correspondingly more active than with the denser silica. Its adsorption of iron from descending surface waters causes variation in color. It also adsorbs manganese; but where this has occurred, it is confined to the lower parts of the deposits, which indicate the manganese was not derived from the overlaying soil.

Under favorable conditions the light color, or Cream, can be heavily charged with negative static electricity. The Adsorption of iron in the Rose color reduces static supercharges.

Production

Quarrying

Tripoli deposits are generally located on heavily wooded land not suitable for farming. The deposits range from 6 to 12 feet in depth, lying under overburden of 4 to 12 feet. They will sometimes cover up to a few acres, with no tripoli around or underneath the deposit.

The first step is to remove the timber and overburden. This is accomplished with a bulldozer which removes everything down to the surface of the tripoli deposit. The surface is carefully cleared to prevent contamination by earth or clay.

The second step is to rip the deposit, again using the bulldozer. The rippers in the rear of the bulldozer are placed by pressure down into the raw material and the material is broken down into particles no larger than one foot in diameter. At this stage, the raw tripoli is ready for hauling to storage.

The third step is to haul the crude material to 100 ft. x 100 ft. drying sheds. Because of the natural absorption characteristics of tripoli, it will absorb up to over 45%; the raw crude will contain up to 25% moisture when it is first removed from the ground. The best means of removing the moisture is by open-sided sheds utilizing air flow for drying. The crude will remain in these sheds for up to six months to remove as much of the moisture as possible.

The final step is to haul the material to the milling process, where the crude is crushed, dried, sized, and packaged.

Milling

There are five basic steps to processing Tripoli. They are crushing, drying, grinding, sizing, and packaging.

1. **Crushing** - Crushing occurs after the semi-dried material is hauled and dumped into a feeder pit which directly enters the crusher. The material is then crushed to a size of no larger than two inches in diameter. After crushing the material, it is then elevated to one of four 100-ton holding tanks.
2. **Drying** - After crushing, the raw material will still contain approximately 10% to 15% moisture. The removal of this remaining moisture is the drying stage of the producing process. Drying is accomplished by a semi-direct fire rotary dryer. The entry temperature of 2,800 degrees will dry the material, which is being tumbled as it moves through the rotating 75 foot long dryer. The exit temperature of the material will be approximately 250 degrees.
3. **Grinding** - After drying, the raw material is elevated through a hammer mill into a 15 foot tube mill for grinding. The grinding occurs first in the hammer mill which grinds the material to less than one-half inch. It is then elevated to the tube mill for final grinding. The tube mill is lined with extremely hard flint 9 in. bricks and also contains ten tons of 3 in. rounded hard flint cubes. Grinding occurs when the Tripoli is pounded between the two hard flint surfaces. The ground tripoli is then elevated to our classifiers for sizing.
4. **Sizing** - Once ground materials are classified by a a 5 in. by 10 ft. hummer screen. Double ground, air floät, and premium products are classified by air separators. Any oversized product will re-enter the production process. After classification, the finished materials are conveyed to our packing system.
5. **Packaging** - Finished products are packaged almost entirely in 100 pound bags. Bags are filled and then palletized automatically for shipment. 2,000 pound bulk bags were introduced in 1991 and are presently available.

Products

Tripoli is available in both rose and cream colors and six sizes for each color; the coarsest being the once ground product at a typical 84.3% -200 mesh Tyler Screen Analysis, and the finest being the 15 micron products.

Typical screen analysis, typical particle distribution, and typical chemical analysis are included for reference.

Material Safety Data sheet information covering all tripoli products is also attached.