

# The Galena Axle Grease Factory 1884-2023

Researched and Written by Dr. Daryl Watson For The Galena Foundation

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Cover photo showing the front facade of The Galena Axle Grease Factory about 1912 (south addition on the right added in 1911; name changed to Galena Manufacturing Co. in 1915). Alfred Mueller Collection.

### Galena Axle Grease–1884-2023 July, 2023

#### **Samuel Frazer...An Inventive Mind**

Samuel Frazer emigrated from England in 1854 and came to the bustling city of Galena, Illinois, a place thought ripe with opportunities and possibilities (Figure 1). At first he moved a few miles across the state line to Buncombe, Wisconsin and with his brother Robert tried his hand at mining. It did not suit him, but a young lady in Galena, whose family had also arrived from England, did. They were married in 1856 (*Galena Daily Gazette*, 1 May 1899). Samuel, who was well-read with an inventive mind, had another passion. He had experienced firsthand the difficulty of finding a good grease for wagon axles and similar moving parts.



Figure 1. Whitefield's 1856 lithograph of Galena shows why migrants like Samuel Frazer were attracted to the city. Galena-Jo Daviess History Museum.

Finding a good grease today for mechanical things is not a big issue, but in nineteenth century America, it was huge. Galena at the time was a thriving city, hub for thousands of migrants moving westward and settling for what was to them, a new land. They all needed a better grease: for wagon axles, steam engines, mining equipment, agricultural implements—anything with moving parts in need of longer lasting and more effective lubrication.

The lubricants of the day were largely based on animal fats. Frazer had been studying those most commonly used and became convinced that he could come up with something better. After his marriage he went to work for the Ryan brothers and their pork packing plant along Galena's waterfront. It was while working here that he gained a large supply of lard with which to experiment. Having some success, he and his brother Robert started a small factory which they built just north of town near a lead smelter operated by Samuel Hughlett. An early advertisement in the *Galena City Directory for 1858-1859* highlighted Frazer's grease, along with "soap and candles" (Figure 2).

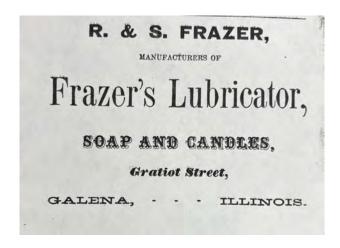


Figure 2. Ad for Frazer's new business near Hughlett's furnace (on Gratiot St., now Dewey Ave.), in the 1858-1859 City Directory.

The manufacturing of soap and candles was a natural outgrowth of the axle grease business, given the fact that animal or vegetable fats were used in the production of each. An almost unlimited supply of animal fat was available from the Ryan packing house and soap was simply a mixture of lard, water and lye (boiled wood ashes). The cheapest candles were made from animal fats but had an unpleasant odor while producing black smoke. People preferred candles made from beeswax or sperm oil (from whales), but these were more expensive.

The main business of the new company, however, was axle grease. Frazer soon developed what he viewed as a winning formula for his axle lubricant when he added a new (or newly processed) ingredient to others then commonly used. This was rosin oil, another name for resin, or pine sap. This was collected from the sap of southern pine trees, mostly the southern yellow pine. He had developed a way to distill the oil through heat and pressure. By combining this with lime, sal-soda (soda ash or sodium carbonate), palm oil and water, he came up with his winning formula. (https://cite.case.law/ill/121/147/). He applied for and received a patent for his creation in 1860. Interest in the new product, subsequently known as "Frazer's Lubricator," "Frazer's Grease," and later "Frazer's Axle Grease" (all the same product) became known throughout the region. Its

uniqueness was in replacing animal fats with the new rosin oil, thus giving it, he believed, superior lubricating qualities.

During this time Samuel Frazer had become familiar with a man named John Packard, who had come to Galena from Upstate New York in the 1840s. Packard started as a peddler, selling goods to rural residents. Peddlers, who used wagons to ply their goods throughout the hinterland, needed good axle grease—both for their own use and for that of their customers.

Packard soon found it more profitable to supply goods to other peddlers, building up a large and prosperous enterprise that branched into wholesaling and retailing, serving the entire region. But shortly before the Civil War he sold his interest in the Galena firm. It had an annual business estimated to be in the neighborhood of \$250,000, a huge sum for the time (*History of Jo Daviess County*, 1878, pp. 618-620).

During the War, and always an entrepreneur, Packard used some of his funds to try his hand at growing and selling cotton in northern Mississippi. Many northerners at this time did so at the expense of former plantation owners whose land had been taken over by Union forces. But Packard lost heavily and returned to Galena (*History of Jo Daviess County*, 1878, pp. 618-620). Still on the lookout for new investments, he sat down with Charles Perkins and Orvil Grant, Ulysses' youngest brother, and bought out the latter's interest in the Grant and Perkins leather store which had relocated from the Coatsworth building where Ulysses had worked (122 S. Main Street), to 103 N. Main, this in 1864.

Meanwhile, Samuel Frazer was formulating a plan to manufacture his patented grease in Chicago. Chicago was experiencing explosive growth during this period, this at a time when Galena's star was fading. This led Frazer to believe his business, already doing well, would do even better in the big city. He made the move in 1868. A partnership was formed with several Chicago heavy-weights, chief among them George B. Swift, who had grown up in Galena. Swift was an investor heavily involved in politics and would later become Chicago's Commissioner of Public Works and then Mayor. (https://en.wikipedia.org/wiki/George\_Bell\_Swift). The initial name for the new firm was Frazer, Swift & Company, soon changed to the Frazer Lubricator Company. (https://cite.cselaw/ill/121/147/).

But only two years later, in 1870, Frazer grew disillusioned with the partnership (and some of the partners) and sold his interest in the company and returned to Galena. As part of the arrangement, John Packard came into the Chicago firm by selling his interest in the Galena leather business to Frazer in exchange for the latter's interest in the Frazer Lubricator Company.

Frazer's interest in the firm, including the rights to his patent and name, was worth about \$17,500. This made Packard a key player right from the start. (https://cite.cselaw/ill/121/147/). The Chicago company immediately incorporated and Packard, with his shrewd skills, took a controlling interest and became its president. The company expanded rapidly and became extremely profitable. Soon "Frazer's Axle Grease" was dominating the trade. But Frazer, whose ties and loyalty to Galena were still strong, left Chicago behind and returned to his adopted home town. He was fully intent on developing a new and superior product, which he would manufacture in Galena.

For a short time Frazer worked in partnership with Perkins in the leather business, but also tried his hand again at lead mining, this time investing in some new leads that had opened up west of nearby Elizabeth, IL (*Galena Daily Gazette*, 1 May 1899). All the while he was working on a new and improved axle grease, with the intent of starting up a new factory, this time one closer to the railroad. Galena's river over the years had silted in so badly that few steamboats—and then only small ones—could make it up from the Mississippi, three miles distant.

Things moved ahead rapidly when Frazer received a patent for his new, improved axle grease formula in 1880 (https://cite.cselaw/ill/121/147/). With the help of George S. Avery, he was able to secure property on the lower end of Galena's Main Street at 513 S. Main (Figure 3).

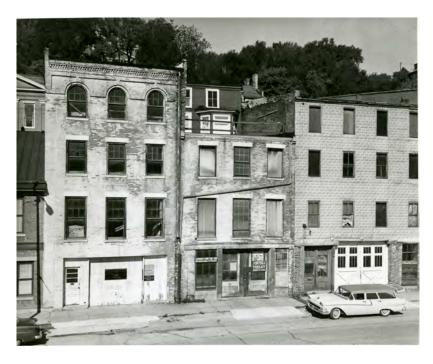


Figure 3. Middle bldg. (513 S. Main) was second location of Frazer's Galena factory, this from 1870 to 1883. Alfred Mueller Collection.

Avery was a proud Civil War veteran who rose quickly to the rank of major; he had fought with valor in numerous battles. After the War he returned to the family farm in Guilford Township and then moved to nearby Galena where he was elected Jo Daviess County Circuit Clerk. He was later appointed to the position of postmaster, a position he served for many years (Avery family file, History Museum). It was Avery who purchased the building (known as the old Beebe store) and prepared it for the new factory (*Galena Daily Gazette*, 1 November 1883). He would be a key player in the new company for many years.

It was soon found that a location sandwiched between Main and Bench Streets was not an ideal location. Cramped quarters, no room for expansion and lack of rail siding were all factors that came into play. And then there were worries from neighbors on Bench Street about the smell that might come from the new business. These were quickly addressed:

Mr. Frazer informs us that the ingredients to be used in the manufacture of his improved axle grease are purely vegetable, and that no fat nor tallow is to be employed whatever. The idea therefore, that the works are to be a nuisance to the neighborhood in which they are established, is a mistaken one. The only offensive (if it can be so called) matter to be used, is rosin, and the chimney of the furnace is to be of sufficient height to carry off whatever smoke and smell that may emanate from it, far above the houses on Bench street."

Galena Daily Gazette, 10 November 1883

The answer to the other issues came less than a year later, when Benjamin F. Felt, one of Galena's leading merchants and bankers, stepped in to help the promising new venture. It was Felt and his daughter, Anna, who later founded the Galena Public Library. As for the new axle grease factory, Felt purchased land along the Illinois Central tracks on the East Side, paying \$275 for lots 15 and 16 of Block 9 (Recorder's Office, Deed Book 54, pp. 51-52). He had purchased the lots from Eugine Estey, who had purchased them in 1871 for \$550 (Recorder's Office, Deed Book 34, p. 40).

Property values had fallen precipitously in Galena right before and during the Civil War, due largely to the mines playing out, the frontier moving westward, and a river trade hamstrung by continued siltation of the Galena River. All this was on top of the coming of the railroads, especially roads leading to and from Chicago. Many of Galena's elite would move to that city but there was still opportunity in Galena.

Officers of the new establishment were: President, Jacob Fawcett; Secretary and General Superintendent, G. S. Avery; Assistant Superintendent, T. M. Roberts; Foreman of Works, Samuel Frazer; and Treasurer, T. L. McDermott. All were prominent leaders in Galena's business community. The new firm was named S. Frazer & Co (*Galena Daily Gazette*, 1 November 1883).

Work on the new site began immediately while production on the old site continued uninterrupted. There was already on the new site a wood frame building known as Cook's grain warehouse, 100 feet long and 30 feet wide. A new factory building was to be erected immediately behind the warehouse. It was to be two stories high, 75 feet long and 40 feet wide. The *Gazette* reported that it would be "a strong, heavy building, especially adapted to manufacturing." (*Galena Daily Gazette*, 20 March 1884.) The large oak beams would be held together with large iron bolts, unlike earlier Galena buildings that used mortise and tenon joints held together with wooden pegs (Figure 4).



Figure 4. Axle Grease building showing construction details (one of the few sections still in good condition). January, 2023 photo.

The warehouse, adjacent to the Illinois Central sidetrack, would be renovated for shipping and receiving, an office, and storage rooms. Work was to be completed in only two months. In June of 1884 the old plant on Main Street was closed and all equipment was moved to the new facility (*Galena Daily Gazette*, 12 June 1884). The new building was painted red and a large sign with white letters proclaiming "Superior Axle Grease Factory" was erected (Figure 5). It was also noted that four giant kettles would soon be in operation at the factory, and with twenty car-loads of resin on hand (from New Orleans), things were ready to move ahead (Figure 6).



Figure 5. Photo of Galena Axle Grease Factory taken about 1912 (100 Monroe St.). Galena Public Library, Historical Collections Room.

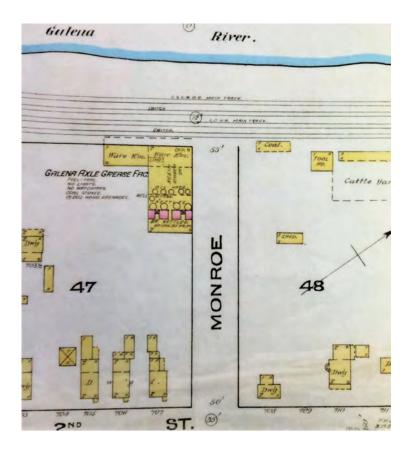


Figure 6. 1885 Sanborn Fire Insurance Map. Galena Public Library, Historical Collections Room

The Sanborn fire insurance maps are an excellent historical resource for existing construction materials. These maps were made and updated for most larger communities in the United States for many years. Those for Galena housed in the Public Library's Historical Collections Room cover certain years from the 1880s to the 1930s. The 1885 map noted five resin oil vats, four (huge) kettles, coal stoves, no lights, no watchman, and one-half dozen "hand grenades." The latter were chemical canisters to fight oil/grease fires. By 1893 they were sporting twelve hand grenades, in conjunction with two three-gallon hand chemical extinguishers, along with a steam engine for steam heat (Figure 7).



Figure 7. 1893 Sanborn Fire Insurance Map. Galena Public Library, Historical Collections Room

Production capacity was expected to rise exponentially along with a greatly expanded workforce, initially only twelve employees. The investors were convinced that the manufacture and distribution of Frazer's "Superior Axle Grease" on a large scale was at hand (*Galena Daily Gazette*, 20 March 1884; 8 May 1884; 12 June 1884; 18 July 1884). They were ready to corner the market.

#### A Small Legal Problem

There was one small problem, something that quickly became a very big problem. Frazer's old company back in Chicago, infuriated that Frazer was not only producing pretty much the same product in very similar containers, but was also using his name, both of which they had bought the rights to back in 1870. They filed suit in the Superior Court of Cook County for trade mark infringement. But Frazer proved he could be a very stubborn adversary. In fact, his obituary described him as one who stood up for his principles and "In the late war with Spain, without a moment's hesitation...advocated the cause of the United States..." (*Galena Daily Gazette*, 1 May 1899). He and his Galena company hired the local law firm of Sheean & McHugh and fought the suit. They lost, but abruptly filed an appeal (https://cite.case.law/ill/121/147/).

Meanwhile, the *Galena Gazette* proclaimed a victory (of sorts) for the Galena firm because they would be able to continue production of their new "Superior Axle Grease" although not with the name "Frazer" attached (20 July 1885). They repeated Frazer's claim that the 1880 patent for the new improved grease eliminated any tendency of his earlier patented grease (sold to the Chicago firm in 1870) to congeal, or "gum" under cold temperatures or when an axle or machinery was left idle for long periods (Figure 8). "It don't gum" became a key selling point of the new firm with advertising proclaiming the new grease would "lubricate more freely and last as long as a pound and a half of any other brand in the market." (*Galena Daily Gazette*, 20 July 1885). But another appeal to an Appellate Court went against Frazer. Still undeterred he insisted his company appeal again, this time to the Illinois Supreme Court.

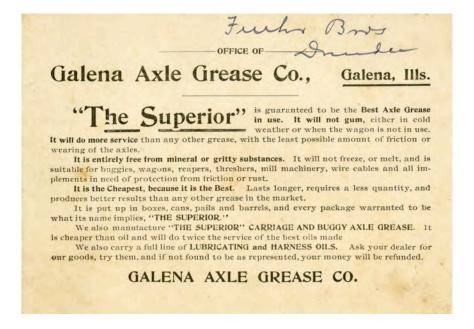


Figure 8. Galena Axle Grease Advertising Card featuring many qualities of their product, c. 1910. Terry Miller

Finally, in 1887, after three years of legal jousting, the Illinois Supreme Court upheld the rulings of the previous courts and ruled in favor of John Packard and his Frazer Lubricator Company. In a landmark ruling that is still cited in case law to this day, the Court ruled that the Galena firm could continue manufacturing their new improved grease, but without the name of Frazer associated with it. In making their ruling the court noted, among other things, that Samuel Frazer with his new firm had been using packaging and advertising quite similar to the Chicago firm and when taken together with the name "Frazer":

> ...was well calculated to mislead dealers not knowing there was more than one company engaged in the same kind of business, or not familiar with the marks by which the packages of the two establishments were distinguishable.

(https://cite.case.law/ill/121/147)

Despite the setback the Galena paper announced that the ruling would "not interfere in any way with the Galena company's business" (Galena Daily Gazette, 13 May 1887). They were right. Frazer and the Galena company complied with the ruling and filed for incorporation as the Galena Axle Grease Co. with a valuation of \$20,000 (Recorder's Office, Deed Book 58, p. 501). The directors remained the same, but with this incorporation they were able to offer shares of stock in the company to the public. Production ramped up, but the *Chicago Herald* (a paper controlled by Chicago's political machine, which included several of Frazer's original investors, most notably George B. Swift), couldn't resist another shot at Frazer:

> ...'Mayor Roche says he believes Mr. Swift [newly appointed] will make a good Commissioner of Public Works...[but] the opinion of Mr. Frazer, the inventor of the famous axle grease, could not be learned, because that gentleman is dead.' (Galena Daily Gazette, 28 April 1887)

Not to take this lying down, the *Galena Gazette's* editor proclaimed that Frazer was not at all dead, but in fact was the new "Mayor elect of Galena" and was "running a big axle grease factory" in the city, and moreover, was "the original Sam Frazer, of axle grease fame..." (Galena Daily Gazette, 28 April 1887). Frazer and his factory moved full speed ahead (Figures 9 and 10).



Figure 9. Samuel S. Frazer about the time he became mayor of Galena, 1887-1888. Galena Public Library, Historical Collections Room

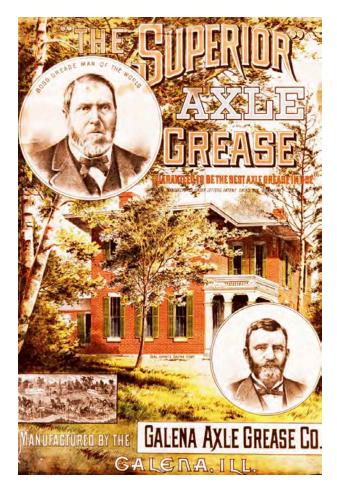


Figure 10. Superior Axle Grease poster with Boss Grease (Samuel Frazer) and U.S. Grant, c. 1890. Frazer was not shy about tapping into the Grant connection. History Museum.

Sales were off to a good start as workers were added and further improvements were made. A complete set of the firm's early business ledgers is housed in the Galena-Jo Daviess County Historical Society's museum. From these we learn that a small but very active sales force of six men was criss-crossing the Midwest. They were taking orders from various businesses, mostly farm related, both large and small.

A typical entry from August of 1903 carefully noted the orders coming in each day. Most were small, but they added up (Figure 11). Total sales attributed to the sales force amounted to about \$22,000 in 1888 and six years later, in 1894, over \$27,000 (Axle Grease Merchandise Sales Order Books. History Museum. A 90.1.2a-c). And mail orders from customers (both businesses and individuals) added to the tally (Figure 12). As a sign of the company's prosperity, it was noted in 1910 by the *Gazette* that the company had never paid less than a six percent annual dividend to its stockholders since its inception (*Galena Daily Gazette*, 20 February 1911).

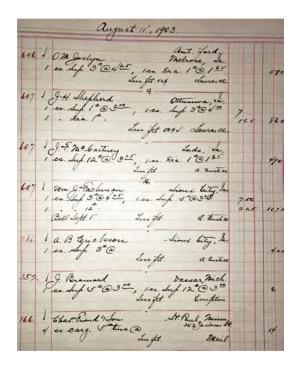


Figure 11. Axle Grease Merchandise Sales Order Book. 11 August 1903-p. 760. History Museum



Figure 12. Galena Manufacturing card asking for mail orders. Circa 1920s. Terry Miller, State Historic Sites Office

The largest stockholder for many years was George Avery, who owned 173 shares in 1912, each worth \$100 (History Museum, Axle Grease Journal B. 90.1.3c). The 6 percent dividend that year netted him \$1038 (not only was he one of the original investors but also the company's secretary/treasurer. It should be noted that the average wage for their 16 employees averaged \$40-\$60 per month.

Samuel Frazer had passed away in 1899, but left the company in good hands. Daniel L. Eustice, who had started with the company as a salesman in 1884, was the new superintendant and later president of the company. He was more than up to the task. His family had come from England to Elizabeth, IL and then in 1854 to Galena (*Galena Daily Gazette*, 15 June 1920). Daniel would be the first of three generations to run the company (Figure 13). He was very mechanically inclined and invented various labor-saving machines for the company, including an automatic mixing, filling and weighing machine, which was soon being manufactured for some major industrial giants, like Standard Oil (*Galena Daily Gazette*, 27 May 1905).



Figure 13. Daniel Eustice family - Daniel and Charlotte with Alfred, Mary, and Charles. Galena Public Library, Historical Collections Room.

Daniel worked closely with another inventive mind, that of machinist Charles Westwick, of Galena's Westwick Foundry family. It was the foundry, established in the 1850s and still in operation today, that produced many of the pieces for the new production machines. It wasn't long before the Axle Grease firm established their own machine shop, enticing Charles to join their firm and take charge of the new shop. He was greatly aided by Daniel Eustice's son, Charles, who was a trained engineer. Their patents became the property of the Axle Grease firm which considerably enhanced the value and visibility of the company (Figure 14).

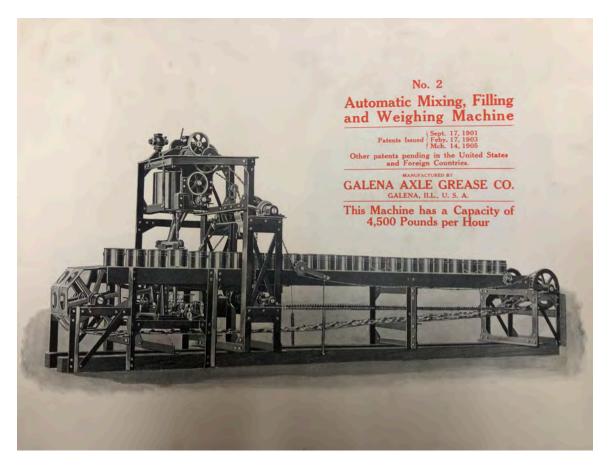


Figure 14. Galena Axle Grease Co. Patented Automatic Fixing, Filling and Weighing Machine - circa 1915. Galena History Museum.

Two other factors were influencing the direction of the Galena Axle Grease company. Sales of the original Frazer axle grease were declining while sales of petroleum based products were increasing rapidly. Rockefeller's Standard Oil and other oil companies had refined their products, such that they had become far superior to anything before. In the process these companies had created monopolies to shut out any type of competition. And then there was the coming of the automobile. Almost overnight, Model T Fords appeared seemingly everywhere. The Galena Axle Grease

company had seen the handwriting on the wall. They had already started to incorporate petroleum products into their lineup, including a line of metal pails—and their bails, or wire handles (Figure 15).



Figure 15. Axle Grease building interior showing mixing equipment, circa 1920s. Terry Miller, State Historic Sites Office.

Business was good—along with the nation's economy overall—so in 1911 a major expansion began. In February manager Eustice left for an extended trip throughout the East "to visit and inspect some of the most modern plants of the country, for the purpose of getting ideas for the enlargement of the local plant to about four times its present capacity" (*Galena Weekly Gazette*, 2 February 1911). He was planning a "modern fireproof building" for the south side of the old 1884 axle grease building, one that would be 50 x 100 feet in size (*Galena Weekly Gazette*, 20 February 1911). But the company wanted more support from the city and railroad, even suggesting they might move entirely out of Galena if better inducements were not forthcoming. They had, it seems, already received several offers from other communities (*Gazette*, 20 February 1911). With 31 employees, and probably the largest payroll in Galena, their wishes were not to be taken lightly.

Everything fell into place because construction began only three months later. The old storage building, which had formed the south wing of the factory, was moved to the north side, while the modern, fully fire-proof building, would become the new south wing (*Galena Daily Gazette*, 13 May 1911). It would house the office, automatic filling machines and can and handle making machinery (Figure 16). The same article declared that the factory buildings "will be a credit to the city."

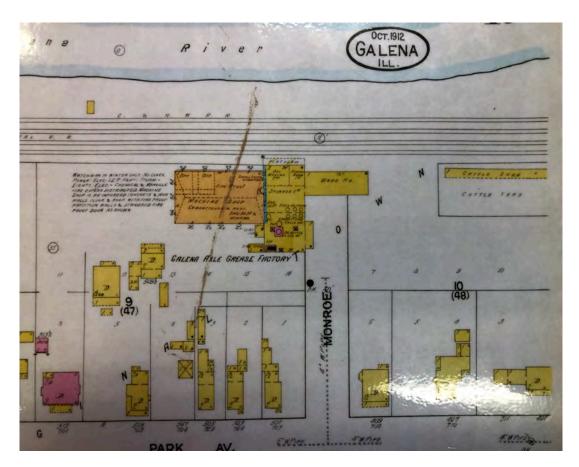


Figure 16. Sanborn Fire Insurance map for 1912 showing newly constructed south wing still in use today. Galena Public Library, Historical Collections Room.

Given the diversification of the company, it was becoming clear that the old name was no longer satisfactory. Accordingly, the directors in 1915 called for a special meeting to change the name of the corporation to the Galena Manufacturing Company (*Galena Daily Gazette*, 22 January 1915). The stockholders approved and the signage on the factory was immediately updated, reflecting—the directors hoped—a flood of prosperity.

#### A Flood...of Water

The Galena River had always been problematic. During the early years it had been the head of navigation into the lead mines and had destined Galena to be the largest port north of St. Louis. The boats of the time could navigate its narrow curves and occasional shallow spots. But over time, as mining and farming cut down trees and dug up the soil, eroded soil and silt began filling in the river channel. Even as early as 1840, steamboats were struggling during low water. The coming of the IL Central Railroad in 1854 marked the beginning of the end of the river trade, but not of the floods, which grew with frequency and intensity.

At first the floods were from the Mississippi River backing up, but as siltation increased the flooding increasingly came from the watershed of the Galena River. Severe floods came in 1892, 1896, 1914, 1915, 1916, 1929, and the worst of all, in 1937 (*Report of Floods in the Galena River Valley* by Jeanne LeBron, 1937. History Museum).

The flood of 1914 saw several feet of water over the floor of the J. W. Westwick Foundry, and though not mentioned in the LeBron report, the Axle Grease factory must have had just as much. Imagine the consternation when the floods of 1915 and 1916 were even worse, the losses of which exceeded all previous floods (Figures 17-20). Strong sales for the Galena Manufacturing Company continued, however, and though damage slowed production for a time, the company remained in a strong financial position. And they were still looking to expand.

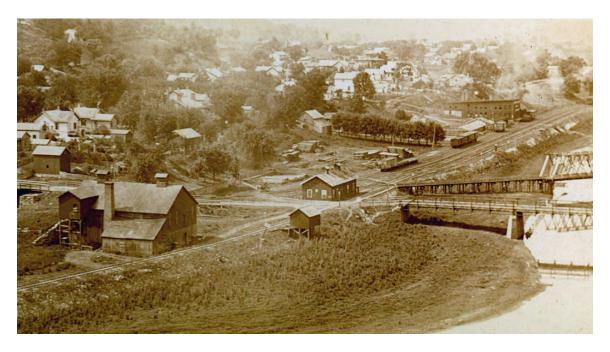


Figure 17. East Galena from Shot Tower Hill in 1892, showing how vulnerable riverfront businesses were to floods. Galena Axle Grease is in upper right. Alfred Mueller Collection



Figure 18. Flood of Sept. 26, 1915 hit Galena industry hard. Galena Iron Works lost heavily in 1914,1915 and 1916, as did the axle grease factory. *Reports of Floods in the Galena River Valley* by Jeanne LeBron, 1937.



Figure 19. Floods of 1914, 1915 and 1916 hurt Galena's flood prone industries. Westwick Foundry (above), Galena Iron Works, Galena Taylor Lumber, and Galena Manufacturing were the biggest losers. *Reports of Floods in the Galena River Valley* by Jeanne LeBron, 1937.



Figure 20. Flood of 1929 shows IL Central switch bridge in foreground and Galena Manufacturing in background. *Reports of Floods in the Galena River Valley* by Jeanne LeBron, 1937.

A meeting between the IC Railroad, Galena Manufacturing Co., Farmers Cooperative Bureau (located just north of Adams St.) and the City, resulted in a tentative decision to have the railroad sell lots 7-12 of Block 10 to Galena Manufacturing. These lots were located just to the north of the manufacturing company and had been used by the railroad for stockyards. And when C. L. Watson of Scales Mound, "a big stock man and breeder of fancy cattle" offered to erect at his own expense a new sales pavilion where the relocated stockyards would be moved, everything was ready (*Galena Daily Gazette*, 12 July 1921). Interestingly, those lots—largely undeveloped—were originally purchased by the railroad for only \$350. (Recorder's Office, Quit Claim Deed dated 12 May 1922, pp. 301-302.)

An article in the *Daily Gazette* for December 13, 1921 noted the installation of a new 15,000 gallon tank (the second one that year) for the storage of Superior Lubricating Oils. This brought their total of these large tanks to eight, with six under cover. It was enough to "fill the crank cases of a solid procession of automobiles more than one hundred miles long." Given the success of this new "Superior" product line, it was expected that ten more tanks would be needed. A new warehouse was already being planned for the soon-to-be acquired railroad property. The company was already running 24 hours a day (*Galena Daily Gazette*, 18 May 1922).

Two years later the paper reported that three more tanks had been installed, each 30 feet tall, for a total capacity of 45 thousand gallons (Figure 21). They were mounted at the rear of the plant, "on three mammoth cement bases." The article concluded: "The oil department is but one department of this thriving factory" (*Daily Gazette*, 19 July 1924). More improvements came the next year:

The offices of the...plant are being modernized in the very latest style. New window casings have been installed, while the walls are to be refinished in most harmonious colors. Tile floors are being laid in the offices and the hall. ...When completed this office will be among the most attractive and efficiently furnished...in the city.

(Galena Daily Gazette, 6 October 1925).

It was also noted that the heating plant had been overhauled, the work having been done by the foreman of the grease an oil department.

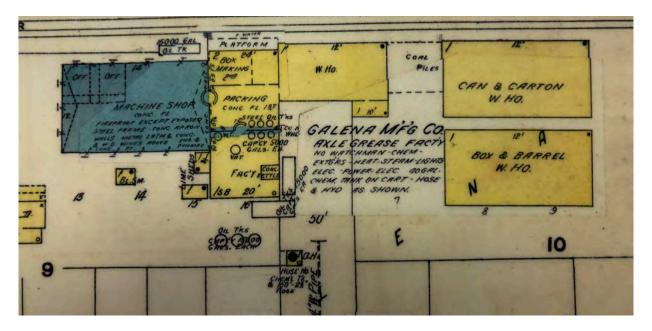


Figure 21. 1924 Sanborn Fire Insurance map, Galena Public Library, Historical Collections Room.

Given the feverish pace of the economy and stock market during this time—later to be known as the "Roaring Twenties" it may not be surprising that demand continued to grow as Americans took to the road and farmers took to the tractor. "Orders are going from this factory in car load lots in rapid succession," reported the *Gazette*, "and the plant is working full time." (*Daily Gazette*, 5 March 1926.) A second new warehouse (50 by 150 feet with concrete floor and foundations) was being planned for the property acquired from the railroad, and in 1928 it became a reality (*Daily Gazette*, 20 November 1928).

#### **The Roaring Twenties Become the Depression Thirties**

Many believed that after every boom would come a bust, but no one believed the thirties would be the worst bust the nation would ever experience. First came the 1929 stock market crash, followed by tighter money, job lay-offs, foreclosures, bankruptcies, and then for some, soup lines. Galena was no exception. And to make things many times worse came the most devastating flood in Galena's history. It was not a good time for the Galena Manufacturing Company

Sales slumped as the company sought to adjust. A couple of invoices sent to the city's fire department are revealing. The first, on older letterhead, was for an order of grease and motor oil; the total bill coming to \$3.95 (Figure 22). The letterhead proudly advertises axle, cup and transmission greases, along with various types of motor and other oils. Even Fly Spray was available.

But a second invoice sent six months later has an updated letterhead highlighting "WIRE BAILS—FILLING MACHINES" (Figure 23). This appears to be a reflection of the increasing emphasis the company was placing on one department that continued to do well. The fact that the bill was for only "cutting off fire hose tubes" may be an indication of an effort to keep some workers busy rather than laying them off. By contrast, the company during the 1920s had men working full time just changing the oil in automobiles.

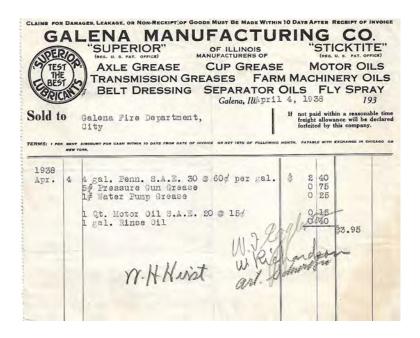


Figure 22. Invoice for Galena Fire Dept. with letterhead advertising various products, even Fly Spray. Terry Miller, State Historic Sites

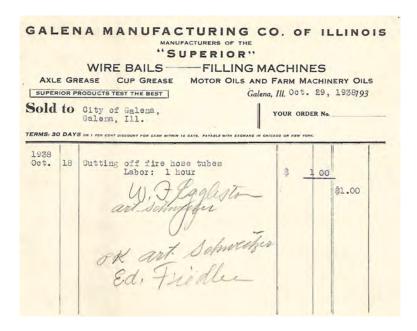


Figure 23. Galena Fire Dept. charged one dollar for cutting off fire hose tubes. Letterhead advertised product lines. Terry Miller, State Historic Sites

The old weather adage "when it rains it pours" would have been a good theme for the depression years. The seasonal rainfalls had become of concern as dry weather and dust storms began to invade the lower Great Plains, a region soon to be known as the "dust bowl". But the upper Midwest was not immune; the years 1934 and 1936 proved to be the driest on record. It was during the winter of 1936-1937 that the drought broke. Record snowfalls were followed in February with warm temperatures and heavy rains. With the ground still frozen, the run-off into the Galena River and its tributaries was extremely rapid.

After a 1.6 inch rainstorm on February 20, an ominous alarm was sounded upstream from Galena as the river reached flood stage in record time (*Report of Floods in the Galena River Valley* by Jeanne LeBron, 1937, p. 21). By evening, the merchants in Galena were rushing to their Main Street stores to move goods to higher levels. Many worked through the night, or until the water was waste deep. Some returned to dry ground via canoes and rowboats paddling along Main and Commerce Streets. The worst came the next day when the river crested at a stage of 27.67, or 2.67 feet higher than the previous record which occurred in March of 1916 (Figures 24 and 25).



Figure 24. Flood of 1937, showing Commerce Street with DeSoto House Hotel on the left. Alfred Mueller Collection



Figure 25. Flood of 1937 showing Galena Manufacturing buildings with Grant Park in lower right. Black line shows maximum extent of flood waters. *Reports of Floods in the Galena River Valley* by Jeanne LeBron, 1937.

Devastation was everywhere. During the night, several employees at the Farmers Exchange building, on the East Side just upstream from the Galena Manufacturing buildings, tried escaping when their rescue boat overturned and two were drowned. Galena Manufacturing had previously been evacuated but the water continued to do its damage. When the worst was over and everyone was taking stock, it was reported that the heaviest loser among Galena's businesses was:

...the Galena Manufacturing company, makers of can filling machinery, wire bails and buckets. Thousands of dollars worth of wire, stock and delicate machinery were damaged in the flood. Mr. Charles Eustice stated that the company would still be at work salvaging materials damaged in the flood six months afterward. (LaBron, p. 24)

The company never completely regained its footing after the flood. Many businesses were still hopeful, however, that a new flood control project initiated by the federal government (spearheaded by powerful U. S. Congressman Leo Allen, who was a resident of Galena) would solve the flooding problem. A levee was planned for the west side of the river and a smaller one for the east side, which would provide protection for the Galena Manufacturing factory. [Note: A levee protects land that is normally dry except during a severe flood; a dike protects land that would normally be covered by water. Both terms are frequently used interchangeably.] The plans for Galena, however, were changed due to cost-benefit considerations and the East Side levee was reduced to a small earthen structure immediately around the factory.

To make matters worse, no one at the plant had been notified of the change in plans by the Army Corps of Engineers. C. Palmer Eustice, the third generation of the Eustice family to run the company, protested vehemently. He declared that his company would sue the city for any damage resulting from future flooding, adding that it was likely the plant would have to be abandoned if a complete wall along the East Side, as originally planned, was not built. And finally, he stated that not only would the company sue the city for the value of their property in Galena, but also for the cost of moving to another city (*Galena Gazette*, 10 July 1969).

These were strong words, but the younger Eustice—neither the inventor nor the diplomat that both his father and grandfather had been—had sparred with the City before. His letter to the City protesting the flood control plans (Appendix A), while listing the benefits of their factory to the city and its residents, also revealed some hard feelings from previous years:

In return for the privilege of helping support Galena we have asked practically nothing, and received practically nothing, not even good streets for access to our plant

(Letter to the City, dated 6 August 1940. Terry Miller, State Historic Sites files).

Eustice worked diligently to make sure that his concerns were conveyed to government engineers, and various legislators and local business interests. The Illinois Central Railroad was also interested in seeing more protection for their tracks on the East Side. The lobbying had the desired effect; the East Side levee would be built, but at a much lower level than the one to protect the other side of the river. [Interestingly, due to an engineering error the west side levee was built several feet higher than necessary for a 100-year flood.]

Another delay in Galena's hope for protection came in the form of World War II. Nationwide, projects like Galena's were put on hold until the end of the war. There was, however, a silver lining. Demand for Galena Manufacturing products increased as the war dragged on. Ironically, it was the Second World War that finally put an end to the most devastating depression in American history. Funding for the flood control project, again with the help of Congressman Allen (who later became chairman of the powerful House Rules Committee under president Eisenhower), was formally authorized by an act of Congress in 1947. Construction began in 1948 with completion in 1951 (Figure 26).



Figure 26. Galena Levee in the 1980s. Galena Manufacturing center left of image. Flood protection was complete for the west side of river but marginal for the east side.

It was in 1955 that the *Galena Gazette* did a feature article on the status of the "wire factory" as many were then calling it. The headline read: "Former Galena Axle Grease Plant Makes Wire Handles for Use on Many Kinds of Glass and Metal Containers" (*Galena Gazette*, 18 January 1955). The factory by this time had specialized

in the production of wire handles. "The firm," the article noted, "emphatically does not make containers, bailwoods, nor the steel wire which it uses by the mile." And then, as if to make the point even stronger, the article further declared: "It makes one product only —the wire handles or segments of handles used on containers of all kinds."

It was this specialization that was keeping the plant and its workers (numbering between 15 and 25 depending on number of orders) going. It appears the original two-story axle grease building was not being fully utilized, being used mostly for storage and miscellaneous work (Figure 27). It was the one story south wing, built in 1911, that was the heart of production (Figure 28). "The main working area," the *Gazette* reported, "is filled with a maze of wire straightening, bending, shaping and clipping paraphernalia which defies description by the layman" (*Galena Gazette*, 18 Jan. 1955). The same, although on a smaller scale, might be said today.



Figure 27. Galena Manufacturing wire workers on break in the original 1884 section. Photo taken circa 1948-49 because a newspaper headline tacked to the back wall erroneously declares Dewey win over Truman. Alfred Mueller Collection

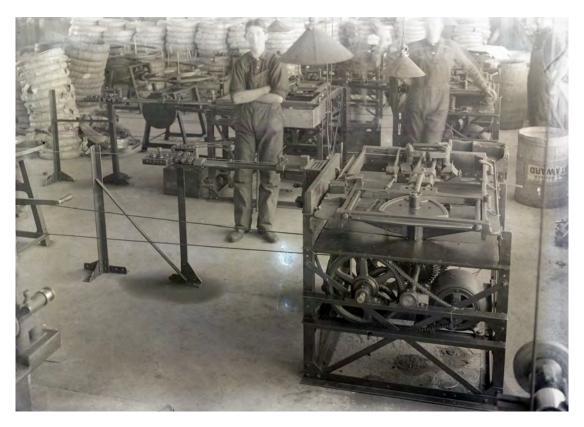


Figure 28. Galena Manufacturing interior showing wire workers in the newer 1911 addition turning wire into wire handles for pails circa 1920s. Terry Miller, State Historic Sites.

#### More Rough Times as the Eustice Family Steps Down

In the 1960s the Galena Manufacturing Company was still in business, but was not growing. It suffered more flood water damage in another serious flood, that of 1965. Their workforce was on a slow decline, with only 12 left by 1971 (*Galena Gazette*, 2 Sept. 1971). Some of the older workers were ready to retire. Palmer Eustice had given his all but wasn't getting any younger. He and the other directors decided it was time to sell the company. The buyer was H. F. McCoy, a respected businessman very active in the community and a Galena native. The Gazette's editor was happy to see the transfer of ownership: "We feel that McCoy has performed a public service for Galena in keeping this industry in the city. It looked as though we might have to go outside of town to get a buyer" (*Galena Gazette*, 2 Sept., 1971).

The first order of business was a new name, which accordingly became Galena Wire Products, Inc. They paid \$19,000 for the company (Recorder's Office, Deed Book 188, p. 736). McCoy became the new president, and immediately expressed optimism about the company's future. But the future was not bright and only six years later the directors of Galena Wire Products, whose president was then William Barrett, sold their interest in the firm back to a newly incorporated Galena Manufacturing Company, Inc. (Recorder's Office, Deed Book 210, p. 44).

And then, only six months later, in June of 1978, the directors sold lots 8-10 of Block 10 to Norma J. Davis (Recorder's Office, Warranty Deed 147639). These were the lots north of the original axle grease building, and contained two large but aging, if not neglected, warehouses. (The city acquired these lots in October of 2020 and had the buildings demolished.) The company, unfortunately, was still not growing, and suffered more flood waters in 1993 (Figure 29).



Figure 29. Galena River flood of 1993 and Galena Manufacturing Co. (Davis Warehouse closest to camera.) Original Photo by Ed Ganshirt (part of Galena Public Library Collection).

The earliest building permit issued to Galena Manufacturing by City Hall is dated 2/8/1984 and was for cleaning up and rewiring the machine shop (City Hall Building Permit File for Galena Manufacturing). It involved installing a 200 amp, three-phase entrance service to the 1911 south wing. Another permit application, filed on 4/3/1984, was for a 100 amp circuit for an injection mold machine. Daniel Houy was listed as the applicant. A permit for more substantial work was filed in November of 1985. It involved the updating and repair of the only remaining warehouse, this on the north side of the original axle grease building. A new roof and new siding were approved.

By 1990, the directors of Galena Manufacturing were Gary Greene, President; Rick Heid, Secretary; Mary Wilson, Treasurer; Everett Lunning, Director; Joan Thompson, Director; and Steve Diskin, Director (Recorder's Office, State of Illinois Domestic Annual Report, No. 201569).

More substantial work—again for the wire manufacturing south wing—was to "re-cover the walls on rear of building with vinyl siding and paint red to match concrete. Build an overhang on wall and install soffit and fascia and re-tar roof." This application was dated 5/13/17 and Mike Greene signed as the applicant. While these permits were the only ones found in the city's building department files, they are all for the adjacent buildings on the north and south sides of the original 1884 axle grease building. It appears the slow decline of the original building was the work of many years of neglect by many owners as business declined and priorities changed. It no longer served the needs of changes in the company's product line and this, combined with periodic flooding, took its toll.

#### The Galena Axle Grease/Galena Manufacturing Co. Today

Today (2023) the workforce is down to three and only the warehouse on the north and the manufacturing wing on the south are actively being used. The historic 1884 middle section has giant holes in the roof (Figure 30) and a portion of the rear wall has collapsed (Figure 31). Long term leakage has caused rotting of much of the wooden support structure—posts, rafters, joists and flooring (Figures 32 and 33). Various "stuff" is strewn everywhere and movement anywhere is difficult if not hazardous. Interestingly, a large amount of old machines remain strewn about. Most appear to date from the nineteen teens and twenties, but some may be older, like the large vertical tanks, several of which had their footings and support beams later reinforced with concrete (Figures 34 and 35).



Figure 30. Aerial shot of roof of orginal axle grease building (middle) as of 2022. Galena Manufacturing and City of Galena building files.



Figure 31. Galena Axle Grease looking at east wall against hillside. Photo taken January, 2023.



Figure 32. Axle Grease building showing gaping holes in roof. Photo taken January, 2023.

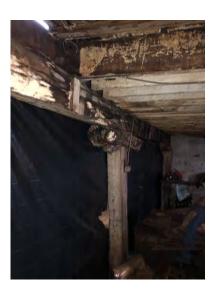


Figure 33. Axle Grease showing condition of beams and joists. Photo taken January, 2023.



Figure 34. Back lower Level of Axle Grease looking east. -showing two tanks with concrete support posts. Photo taken January, 2023.



Figure 35. Axle Grease, first floor-looking southwest. Photo taken January, 2023.

The exterior of the structure is literally falling apart, as can be seen in the photos. Figure 36 shows the condition in 1946, only a few years before work by the Army Corps began on the levee. Figures 37-39 show the present condition as of January, 2023.



Figure 36. Galena Manufacturing buildings in 1946, as planning begins for levee construction. U.S. Army Corps of Engineers photo.



Figure 37. Galena Axle Grease building (1884) looking northeast. Building on right is 1911 addition, still in use. Photo taken January, 2023.



Figure 38. Galena Manufacturing looking northeast. Building on right is 1911 addition, still in use. Photo taken January, 2023.



Figure~39.~Original~Axle~Grease~building~looking~southwest.~Building~on~right~is~warehouse.~Photo~taken~January,~2023.

In conclusion, there can be no doubt that the Galena Axle Grease/Galena Manufacturing Company has significant historical associations and was a player not just locally but nationally as well. There really are three identifiable periods in the history of the firm. The first and perhaps most significant was 1884-1911—the time of Samuel Frazer and a few years thereafter. This was the period of "axle grease" production and the original 1884 building. 1911 was the construction of the south wing, strictly for the production of metal cans and wire handles, along with the automatic filling and weighing machines invented by Daniel Eustice. The name change to Galena Manufacturing in 1915 represents well the change in production to containers and regular petroleum products.

This second time period lasted from about 1911 to the end of World War II, or 1945. It included incredible growth during the 1920s but significant decline during the depression years of the 1930s, along with flooding and increased competition from elsewhere.

From the late 1940s to the present, the firm has seen a continuing decline in employment, along with product line changes. It moved to all wire-fabricated products, which entailed the name change to Galena Wire Factory, only to change back to the Galena Manufacturing name six years later. In the early 1990s, the company began production—which continues—of wire reinforcement spacers for round and box culverts. There are only two factories left in the U. S. producing these. The Galena firm's spacers are sold all over the U. S., Canada and beyond (personal communication with Mike Greene).

From a historical perspective, the story of the early years of the company is one that needs wider circulation. It has not only local but regional—if not national—significance. Frazer's "Axle Grease" was the last major lubricant prior to the introduction of good petroleum products, which soon made everything else obsolete. (Although plant-based lubricants are now making a comeback for environmental reasons.) The business records and advertising materials housed in the Galena-Jo Daviess County Historical Society archives would provide a fertile starting point for further research for anyone so inclined.

Galena has long been recognized as a major mining and steam boating boom town that flourished prior to the Civil War. It had a wealth of small industrial shops and factories including foundries, breweries, sawmills, and flouring mills. But even after the war and economic decline the town saw some of these industries continue, along with the emergence of others, including another foundry (Lemfco), the Galena Iron Works, the Bender Bridge and Iron Works, a greatly expanded Ryan packing house, and of course the Galena Axle Grease factory. The latter's product gained national name recognition because of the founder's name and his patents, despite legal wrangling between the two companies that he founded. Samuel Frazer passed away in 1899 in his brick home at the

corner of Mars and Dodge (Figure 40), but like so many associated with Galena, his legacy lives on.



Figure 40. The home (corner of Dodge and Mars) where Samuel Frazer spent his final years. He passed away at the age of 75.

# Acknowledgements

This is the fourth historic structures report commissioned by the Galena Foundation. The Foundation is a not-for-profit organization "with the mission to initiate and/or provide financial support for community projects which preserve, enhance or nurture Galena's heritage, culture and quality of life." It was founded in 1981 and has established an enviable track record ever since. Previous reports have been done for the McGowan-Delihant House, St. Mary's School, and the Marine Hospital. In addition, a similar report on Turner Hall was compiled and included in a formal historic structures report, also funded in part by the Foundation.

This latest report is for the old Galena Axle Grease Company (100 Monroe St.), which in 1915 became the Galena Manufacturing Company. Similar in nature to the historic properties mentioned above, a large amount of historical research was necessary to document the history and relevance of this endangered property. This research, as always, was helped along by the assistance of many others. Below is a list:

The archives of the Galena-Jo Daviess County Historical Society once again proved invaluable. Volunteer archivist Kris Chapman and her helpers were able to pull out much valuable material. They not only have lots of good photographs and advertising materials, but many company ledgers of the original Axle Grease factory.

The Galena Public Library and their Historical Collections Room is always a great resource. Historical Librarians Steve Repp and Dale Glick were always willing to help, as were volunteers Craig Albaugh and Tim Doser. In fact, Tim had already put together an index of *Gazette* articles relating to the Axle Grease story and made it all available to the city and to this researcher.

A great help is their collection of Galena historic photos, part of the Illinois State Library's Digital Archives website. Many photos are from the Alfred W. Mueller Collection. They have also been digitizing the old Galena papers (with grants from the Galena Foundation) for the Illinois Digital Newspaper Collections, an ongoing project. Their site is indexed—an invaluable aid for searching through old newspapers.

The Recorder's Office and Circuit Clerk's Office at the Jo Daviess County Courthouse must also be thanked. As usual, Karen Zehr at the Recorder's Office was always ready to help track down deeds and property transactions over a 165 year period. The staff at the Circuit Clerk's office was also very helpful; their wills and probate records go back to the very beginning of the county and are an invaluable source of information.

Terry Miller, Site Superintendant for the Galena State Historic Sites office, and his archivist Jamie Loso, have always helped to make their files and photos readily available for researchers. They have a large collection of photos, including many from the Alfred W. Mueller Collection, as well as various other files with additional information on various individuals, organizations and sites.

The City of Galena staff also offered valuable assistance, particularly Jonathan Miller, whose office holds the city's many building and zoning department files. These were helpful for the more recent actions involving the Axle Grease property. And thanks also to Gary Greene, the current owner of the Galena Axle Grease Company, and his son Mike for so willingly making the factory available for photographs and explaining the current operation and production.

And once again, special thanks must go to Beth Baranski, who took care of putting this report into final form and running off multiple copies for everyone.

There were many other individuals, too numerous to mention, who also helped. But, as always, special thanks must go to the Galena Foundation Board, who remain committed to the preservation of Galena—its culture, history and its architecture.

Daryl Watson, Historical Researcher

#### Appendix A.

#### Palmer Eustice Letter to the City dated August 6, 1940

"SUPERIOR"
WIRE BAILS
"SUPERIOR"
FILLING MACHINES



### GALENA.ILLINOIS

August 6, 1940

City of Galena Galena, Illinois

Gentlemen:

Word reached us recently of an act by representatives of the City of Galena that we can interpret only as a decidedly unfriendly gesture toward our Company. We consider the action particularly unfriendly because we tried unsuccessfully to get the facts from the officials of the City of Galena, but could get the truth of the matter only by going to the U.S. Government.

We refer to the proposed plan for flood control of the Galena River.

This spring this plan contained provision for a sea wall on both the east and the west sides of Galena River. We know this to be true because we were shown the blue print by one of the engineers. Recently, without our knowledge, the wall for the east side protecting our Company was eliminated from the plan. While the change may have been made solely by the engineers, we believe that this action was known to the officials of the City of Galena as well as to the members of the Flood Committee. So far as we know the City of Galena entered no protest, and what is worse, they did not tell us so we could enter our own protest.

There is absolutely but one answer as to what will happen when a wall is placed along one side only of a river. That answer is that the water level within the confined area will be raised above previous levels. As to the net result of this to the Galena Manufacturing Company, it means that not only we get absolutely no protection from floods, but a condition is created

City of Galena ......Page 2

that inflicts upon us far greater flood damage than ever before. Even though the wall that does the damage is built by the U.S. Government, they carefully stipulate that all responsibility for this damage is to be assumed by the City of Galena.

We are certain that damage, and what is more, very great damage, will result under the present plan. For all such damage we will sue the City of Galena. If the damage proves to be as extensive as we expect, it is quite possible we would have to abandon our present location. In that event our property would become absolutely valueless and we would therefore expect to sue the City for damages equal to the full value of the abandoned property, plus costs of moving to another location.

In this connection it is interesting to note that Galena has available no other suitable industrial site above flood level and with railroad facilities. This means that any move would necessarily be out of Galena. This would be a loss to Galena in a number of ways; the loss of a good sized payroll; the loss of some citizens; increased unemployment; a reduction in purchasing power; a direct tax loss; and an indirect loss in taxes due to further shrinking of taxable values, which shrinkage already is pinching Galena financially.

It is hardly necessary to point out that such a loss to Galena would constitute just as real and just as serious a damage to the merchants of Galena as the physical damage inflicted by the waters of a flood. For this reason we believe that it is to the best interests of the entire City of Galena to co-operate with us in preventing the adoption of a scheme as unjust as the present proposal under consideration at Washington.

From time to time the City of Galena or some of its civic organizations have made commendable efforts to secure new industries for Galena. We are in hearty sympathy with such efforts, but sad to say the results have not benefitted Galena. It is not necessary to enumerate these ventures, as they are well known, and it suffices to say they were chiefly successful in fleecing the citizens of Galena of their hard earned savings.

On the other hand we present for your consideration an established concern, the Galena Manufacturing Company, with the longest record of steady and uninterrupted operations of any industrial concern in the City of Galena, and with a long record of adding to the prosperity of Galena. Incidentally, the money spent and the wages paid in Galena are not obtained from this community, for over 99% of our income is brought into Galena from outside of Jo Daviess County.

GALENA MANUFACTURING COMPANY August 6, 1940

City of Galena ......Page 3

In return for the privilege of helping support Galena we have asked practically nothing, and received practically nothing, not even good streets for access to our plant.

However, there is one thing we do definitely demand, and that is a square deal from the City of Galena. For the City of Galena to permit the erection of a wall on the west bank of Galena River, throwing all of the flood waters into our plant, is decidedly not a square deal, and constitutes a potential danger which can only result in damages for which we will hold the City of Galena strictly accountable.

It therefore lies with the City of Galena to decide whether they are willing to assume the risk of heavy damage suits, or whether they are willing to go to half as much effort to retain an established industry as they would to attempt to secure a new and uncertain industry.

Very truly yours,

GALENA MANUFACTURING COMPANY

President

CPE/RET

# Appendix B.

# Additional Photos of the Galena Axle Grease/Galena Manufacturing Company and Their Products



Figure 1. Popular ads like this one were used to promote Frazer's original axle grease by the Chicago company he had started and then left. Galena History Museum



Figure 2. Chicago-based Frazer Axle Grease sign,1880s. Similar advertising by Galena Axle Grease company led to a lengthy lawsuit. antiqueadvertising.comfree-antique-price-guideantique-signsfrazer-axle-greasesign-2



Figure 3. Superior Axle Grease Pail-c. 1880s. Galena History Museum (A1967.048.01)

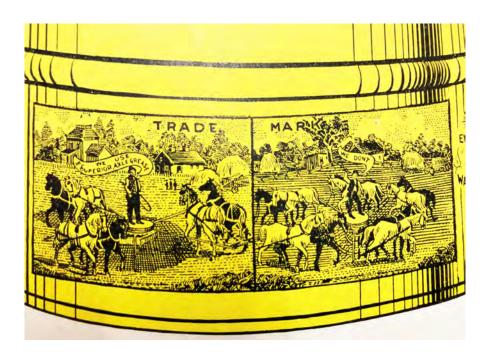


Figure 4. An ad for Superior Axle Grease showing superior performance over competitors. Galena's grease would let 3 teams do the work of 5 teams that had used competitors' grease. History Museum (A1967.048.01)



Figure 5. Patriotic themes were frequent among Galena Axle Grease product lines, as seen with Uncle Sam Axle Grease Products-c. 1918. Galena History Museum (A1967.048.01)

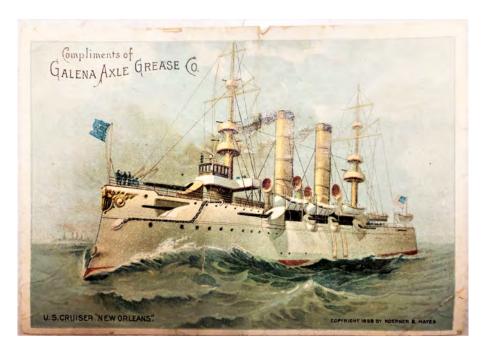


Figure 6. Patriotic Advertising Card-USS New Orleans-1898-History Museum (A1967.048.01)

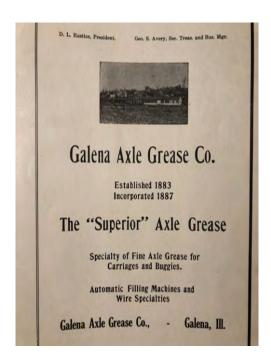


Figure 7. Advertisement for Galena Axle Grease Co. circa 1910. Galena Public Library

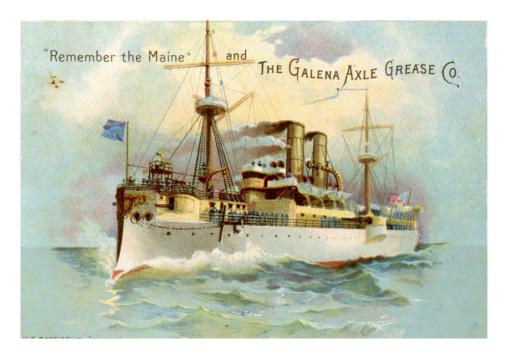


Figure 8. Galena Axle Grease Advertising Card-Spanish American War, 1898. Terry Miller



Figure 9. Axle Grease Display Sign c. 1900. History Museum - O 1989.03620



Figure 10. Galena Manufacturing ad from Galena Weekly Gazette 27 Nov. 1924 (Alfred Mueller Collection)

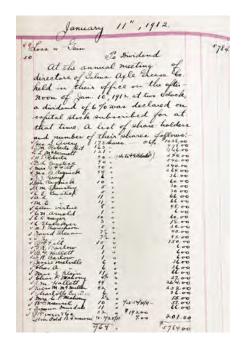


Figure 11. Axle Grease Stockholders and Dividends paid for Jan. 11, 1912. History Musuem - A1990.001.03



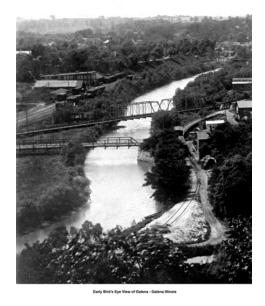
Figure 12. Palmer House at corner of Meeker and Broadway where Samuel Frazer and family moved for a short time. 1.23.2023



Figure 13. Home of Mrs. S. Frazer at 513 Mars after her husband's death



Figure 14. Galena Superior Axle Grease looking east - c. 1910. Terry Miller



Figure~15.~Looking~south~from~Shot~Tower~Hill~with~Meeker~St.~bridge~and~Chicago,~Burlington~and~Quincy~RR~bridge,~with~Axle~Grease~just~beyond.~Circa~1895



Figure 16. 1937 air photo with black lines showing extent of flood waters



Figure 17. Galena Manufacturing Buildings looking south in 1946



Figure 18. Galena Manufacturing looking southeast circa 1940s. Terry Miller



Figure 19. Galena Manufacturing and ILCRR looking north in 1946

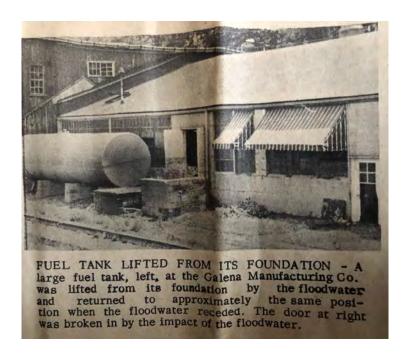


Figure 20. Galena Manufacturing showing damage to tank in 1969 flood. Galena Gazette 10 July 1969



Figure 21. Galena River Flood of 1993 and Galena Manufacturing Co. buildings. Galena Public Library, Ed Ganshirt photo



Figure 22. Axle Grease showing one of original tanks. Lower level looking northeast



Figure 23. Galena Axle Grease looking north, first floor. 1.1.2023



Figure 24. Original Axle Grease bldg. showing Mike Greene under deteriorated beams and joists. 1.11.2023.



Figure 25. Axle Grease bldg. Southeast corner looking east. 1.11.2023.



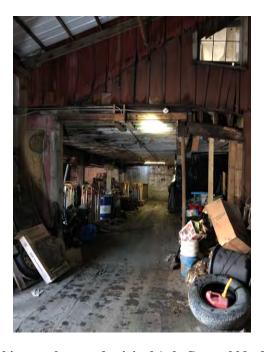
Figure 26. Galena Manufacturing-south addition looking west. 1.11.2023.



Figure 27. Axle Grease south addition where fabrication work continues as of 1.11.2023. Andy Willis in picture.



Figure 28. Axle Grease showing 1911 south addition where fabrication work continues as of 1.11.2023.



Figure~29.~North~warehouse~looking~south~toward~original~Axle~Grease~bldg, Note~old~roof~line~of~previous~north~addition.~1.11.2023.



Figure 30. Galena Manufacturing with Grant Park and walk bridge in background. 1.11.2023