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Article Summary: The Omaha White Lead Company was founded in 1877 to produce paint bases and lead protective coatings to sell in the urban-industrial Northeast. Lead was the standard base in paints and other coatings used to protect structures from wear and weather. The company continued as the Carter White Lead Company and manufactured white lead products until 1936, under the trade name Dutch Boy.

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Names: Charles W Mead, Charles B Rustin, Levi Carter, William A Paxton, Nathaniel Shelton, J P Gardner, A W Phelps, Edward J Cornish, David K Tuttle, James A McCreary, Frank Barker, H C Haskins, Selina Carter

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Photographs / Images: Omaha White Lead Company factory which burned in 1890; Levi Carter; Edward J Cornish; Patent drawings and information on patent of David K Tuttle and James A McReary; Letterhead of Carter White Lead Company

# THE WHITE LEAD INDUSTRY IN OMAHA, NEBRASKA

*By Mark D. Budka*

Following the Civil War, the opportunity to make money drew many men to the newly established cities of the Trans-Mississippi. Between 1870 and 1900 railroads, meat packers, flour millers, iron and steel companies, and

smelters and refiners moved into these cities to exploit the vast agricultural and mineral wealth of the West. Those who settled in Omaha hoped to make that city the industrial center of the region. Such companies as the Union Pacific Railroad, the Cudahy Packing Company, Omaha Milling Company, Paxton and Vierling Iron Works, and the Omaha Smelting and Refining Company resulted from this period of growth.

However, Omaha suffered stiff competition from Kansas City, St. Joseph, Sioux City, and smaller Missouri River communities.<sup>1</sup>

The ready availability of refined pig lead from the Omaha smelter inspired five of Omaha's entrepreneurs to found the Omaha White Lead Company in 1877. Its purpose was to produce white lead (lead carbonate) paint bases and red lead (red oxide of lead) and litharge

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*Omaha White Lead Company. This factory burned in 1890. A. T. Andreas, History of Nebraska, 750.*



(a yellowish-red oxide of lead) protective coatings to sell in the rapidly developing urban-industrial Northeast. The early Romans used litharge as a coating in the channels of their aqueducts. Lead was the standard base in paints and other coatings used to protect structures from wear and weather. Omaha White Lead, and its successor, the Carter White Lead Company, manufactured white lead products from 1877 to 1936.<sup>3</sup>

In 1877 a rich vein of silver-lead ore was found in Colorado's Cripple Creek basin. This rich strike made the city of Leadville, Colorado, a legend. The smelting companies in Denver, St. Louis, and Omaha quickly invested in these deposits. Profits were immediate and high. The refining of silver bullion and pig lead by these companies yielded a supply of mintable silver and industrial lead that encouraged expansion within the non-ferrous metallurgical industry.<sup>3</sup>

On December 29, 1877, Charles W. Mead and Charles B. Rustin, both directors of the Omaha Smelting and Refining Company, Levi Carter, a former overland freight shipper and Union Pacific contractor, and two other Omaha businessmen signed the articles of incorporation for a new business in the city of Omaha. The supply of pig lead available from the Omaha smelter suggested the feasibility of operating a white lead plant in Omaha. Omaha's position as a smelting and railroad center promised easy access both to the raw materials and to a market for white lead products. The new company was named the Omaha White Lead Company and its capital stock set at \$60,000 with a funded debt of \$40,000.<sup>4</sup>

By mid-1878 land had been purchased in southwest Omaha and a plant built where Twentieth Street crossed the main line of the Union Pacific Railroad.<sup>5</sup> The South Twentieth Street plant of the Omaha White Lead Company was in operation by August of 1878. It consisted of fifteen buildings built on a one-acre tract of



*Levi Carter. Courtesy of Historical Society of Douglas County.*

land with adjoining Union Pacific Railroad sidings. The main plant was a cluster of five buildings, including a two-story brick mill and a large one-story wood frame corroding room directly connected to the east side of the mill. To the west of the main plant were two frame warehouses and a paint cannery.<sup>6</sup>

In its first year of operation, the Omaha White Lead Company produced 1,000 tons of dry lead, employing twenty laborers in the plant, which operated twenty-four hours a day, seven days a week. Sales for that year amounted to \$150,000. By 1880 sales had reached \$250,000 and thirty laborers were employed. William A. Paxton, a notable Omaha industrialist, was elected president of Omaha White Lead during this period and Nathaniel Shelton, one of the company's founders, became secretary-treasurer.<sup>7</sup>

The 1880s proved troublesome to the nation's and Omaha's lead indus-

tries. Strikes at the Omaha smelter during 1880 and 1882 threatened the local supply of pig lead. The price of lead and white lead products dropped over the nine-year period from 1876 to 1885 due to the large supply of pig lead nationally. In 1884 the continued fall of lead prices prompted eastern smelters to sell their stockpiles of pig lead, thus forcing prices down further.<sup>8</sup>

The fall in lead prices and the corresponding drop in the price of white lead during the late 1870s and early 1880s prompted different responses among white lead manufacturers. The Adams White Lead Company of Baltimore failed. Several New York and St. Louis white lead interests founded a syndicate in 1884, which would eventually become the "White Lead Trust" under the name "National Lead Company." In Omaha Levi Carter, a member of the Omaha White Lead Company board of directors, tried to reorganize the company financially and economize its production methods.<sup>9</sup>

In 1878 Omaha White Lead had purchased from the Adams Company user rights to the "Dutch process," which utilized the heat generated by the interaction of acetic acid and the fermentation of tan bark to oxidize pig lead into lead carbonate or white lead.

In 1885, following the closing of the Adams plant, Carter became the owner of the Adams 1874 patent. Unlike the "Dutch" process, which corroded large plates of pig lead over a three-month period, this process could corrode atomized lead pellets in a matter of days [See page 95]. Lead pigs would be melted in a large furnace, then the molten lead would be granulated by a jet of high pressure steam as it dropped into a corroding cylinder. Acetic acid and carbon dioxide would be added to the cylinder to oxidize the lead. After its corrosion into lead carbonate, the white lead would be washed in water and ground into a fine powder for mixing with linseed oil as a white paint base. Carter intended to improve this corrosion process and incorporate it

into his newly reorganized business, the Carter White Lead Company.<sup>10</sup>

Omaha White Lead was bought by Levi Carter in 1885. The plant was closed and renovations were begun. The original corroding room was enlarged, and corroding cylinders replaced the stacks of corroding pots used in the "Dutch" process. A machine shop, a room for the granulating ovens, and several warehouses were added to the original plant. Thirty laborers were laid off during the renovation. When the plant reopened in August of 1886, twenty new jobs were added to the original thirty.<sup>11</sup> Prices in the lead and white lead markets leveled out during the late 1880s, and the demand for white lead products remained stable. By 1889 Carter White Lead was producing 9,000 tons of white lead annually. Payrolls amounted to \$58,000 a year.<sup>12</sup>

By 1890 Levi Carter had expanded his sales to cover the entire nation. Carter White Lead was by then the largest independent producer of white lead products. This frustrated the members of the New York-St. Louis white lead "trust." The syndicate, a conglomeration of lead interests that owned lead mines, smelters, and white lead plants, faced strong competition from the Omaha company. Carter, having altered the Adams process into a two-step procedure that took eight to twelve days, could produce white lead products in one-tenth the time required by the "Dutch" process used by the syndicate. The syndicate wished to purchase the rights to what was then labeled the "Carter" process, but Carter would not sell. Carter was successful because his process was faster. It was possible to buy pig lead from the Omaha smelter at the beginning of one week and by the end of the second have a finished product on retailers' shelves. The "Dutch" process did not offer this turnover rate, as it could be four months before the purchased pig lead was made into paint.<sup>13</sup>

On the night of June 14, 1890, a fire broke out in the South Twentieth



*Edward J. Cornish. (NSHS-P853)*

Street plant. Within a few hours, the entire one-acre plant was destroyed. Upon touring the site, Carter announced he would immediately rebuild the plant and continue to operate. Hoping to take advantage of this misfortune, the syndicate sent a representative to Carter, offering him \$500,000 for his process, less the \$80,000 he could receive from the insurance policies covering the plant. A stipulation of the offer was that Carter retire from the business and dissolve Carter White Lead. Carter refused. His decision to rebuild was three-fold: strong anti-trust factions within the Omaha business sector supported the cause of free enterprise within the city, a ready labor force was available, and most impor-

tantly, he could make more money in the long term by rebuilding than by selling out.<sup>14</sup>

In 1890 the East Omaha Land Company and its railroad subsidiary, the Omaha Bridge and Terminal, began selling industrial tracts northeast of downtown Omaha. East Omaha, located on a bend in the Missouri River, was separated from Omaha proper by Cut-Off Lake, later to be named after Levi Carter. This oxbow had been created by a shift in the river channel, leaving a portion of Iowa on the Nebraska side. East Omaha occupies the land between the eastern edge of Cut-Off Lake and the Missouri River. It was here that Levi Carter relocated the Carter White Lead plant in 1890.<sup>15</sup>

Plans for the new plant were drawn up by J. P. Gardner of Omaha. The contractor was A. W. Phelps and Sons, also of Omaha. The new plant was located between northeast Twenty-first Street and Omaha Bridge and Terminal siding Number Five at their intersection with Locust Street. Twenty-one buildings were called for, mainly of fireproof brick construction. The two-story office building stood on the north end of the plant. The plant itself consisted of eight interconnected buildings dominated by the four-story mill and drying building located at the northwest corner of the complex. To the south was the immense three-story corroding house. This building covered an area of 15,000 square feet and housed 139 corroding cylinders on two levels. Each of these cylinders were three feet in diameter, six feet long, and made of white pine. The plant's capacity was set at 10,000 tons of white lead yearly. Total cost of construction was \$200,000.<sup>16</sup>

Sales yielded a profit of \$52,587.09 in 1891, the first full year of production at the new plant. Fifty men were employed by the company around the clock on two shifts, seven days a week. The following year, Carter's profits doubled, nearly covering the cost of the new plant's construction. The 1890s appeared to promise good business for

the white lead industry.<sup>17</sup>

In 1893 sixty-seven percent of Carter White Lead's products were shipped east of the Mississippi River. This record prompted Levi Carter to amend the company's Articles of Incorporation in May of that year to include the building of another plant in West Pullman, Illinois, on Chicago's South Side. Despite a major market panic that year, the business depression that followed, falling profits, and the diminishing value of white lead against the price of pig lead, plans to build the West Pullman plant went ahead as scheduled. Although profits remained low over the next four years, compared to the 1892 high of \$117,969.57, land and building materials were purchased in West Pullman and Chicago and by 1896, the new plant was completed.<sup>18</sup>

Throughout the rest of the 1890s and into the new century, the total market value of white lead products would increase as would Carter's sales. However, the price of pig lead would sharply increase, preventing a high profit margin. This again prompted the white lead syndicate to offer Carter a purchase proposal. National Lead Company of New Jersey, the combined conglomerate of formerly independent New York and St. Louis lead interests, offered Carter \$1,000,000 for the entire capital stock and physical plant of Carter White Lead. Carter, upon considering the offer, refused to sell for less than \$1,500,000.00. H. C. Haskins, who represented National Lead, considered this too high. Despite the increase in the price of pig lead in 1902, sales had again put Carter's profit margin over the \$100,000.00 mark during that year. Although National Lead would continue into 1903 to push for a buyout, Levi Carter wished to remain independent of the syndicate.<sup>19</sup>

Between 1896, when the West Pullman plant was opened, and the death of Levi Carter in November of 1903, the operations of the East Omaha plant were suspended twice. The first plant closing occurred in April of 1899. Heavy spring rains throughout the Missouri

River Valley caused widespread flooding. On April 24 flood waters inundated North and East Omaha. The grade and tracks of the Omaha Bridge and Terminal Railroad were undermined and washed out at several points, prohibiting the shipment of pig lead from the smelter. Locust Street was flooded, stopping street car and vehicular traffic to the East Omaha factories. Although the East Omaha plant itself was not flooded, the inability of the workers to get to the factory and that of the railroad to supply it prompted management to close the plant until the flood subsided.<sup>20</sup>

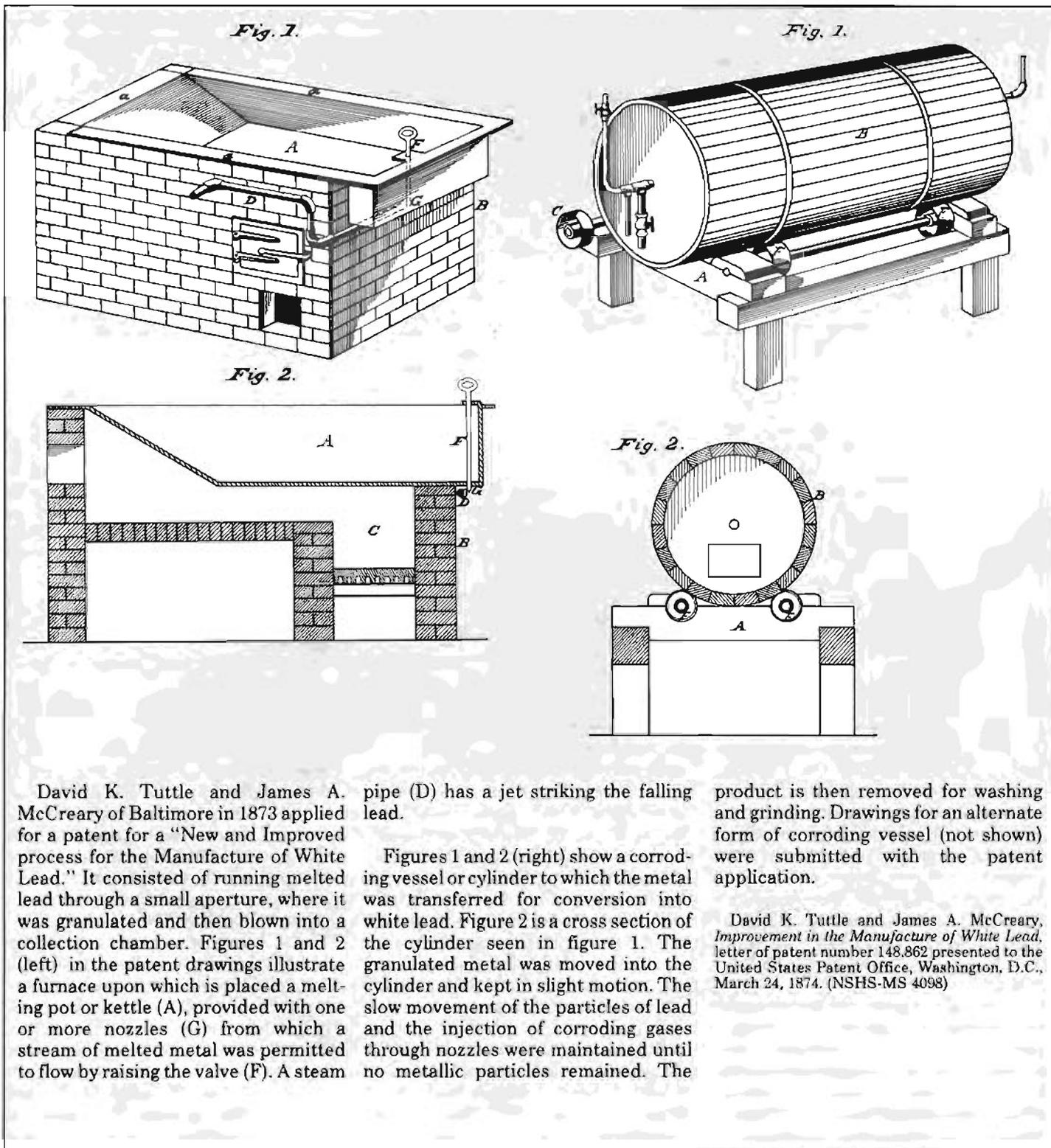
Following the May 1899 resumption of work at the plant, management again closed it in 1900. The continued devaluation of white lead during the 1890s prompted management to economize in production and labor in order to maintain its profit margin. The total annual capabilities of both the East Omaha and West Pullman plants were 30,000 tons of white lead, with East Omaha capable of 10,000 tons per year and West Pullman capable of 20,000. Actual production during the period amounted to only one-third of this capacity. The West Pullman plant could easily absorb East Omaha's proportion of manufacturing. And it was now possible for the company to cheaply ship Chicago-made white lead products to the East Omaha plant warehouse for storage and sale. The location of the West Pullman plant was located on the Chicago-Blue Island branch of the Illinois Central Railroad. In December of 1899 the Illinois Central completed its Chicago-Council Bluffs, Iowa mainline. In order to cross the Missouri River into Omaha, the Illinois Central leased the Omaha Bridge and Terminal Railway on which the East Omaha plant was located. This allowed Carter White Lead to ship its Chicago products to Omaha at the established minimum rate between the two cities, eliminating the costly and time-consuming transfers of other Chicago-Omaha carriers. Both of these measures allowed the company to con-

solidate its manufacturing at Chicago, close the East Omaha plant, and cut its operating expenses.<sup>21</sup>

With the suspension of production at East Omaha, the labor force was laid off with the exception of the engineering crew, the warehouse staff, the sales staff, and upper management. The economy achieved is best illustrated by contemporary payrolls of the Chicago plant. The total payroll, excluding sales and management, for August 11, 1900, amounted to \$444.10 for fifty blue-collar employees. As the East Omaha plant also employed fifty laborers, the payroll can be assumed to be similar. By laying off all the laborers in the corroding and grinding departments at East Omaha, it was possible to cut blue-collar wages to approximately \$47.30 a week. This figure would include the wages of two engineers on two shifts daily to maintain the plant and one warehouseman keeping records of East Omaha sales and shipments from Chicago.<sup>22</sup>

Following Carter's death on November 7, 1903, the Carter White Lead board of directors elected Edward J. Cornish to the presidency. Cornish had been the Carter family's attorney and close friend. Cornish's reputation as a former member of the corporate law firm of Barker and Cornish left him in good standing with the stockholders of the company. Cornish set about to expand Carter White Lead's production and to ensure his own position within the industry. He proceeded to reopen the East Omaha plant and gain a foothold in the Canadian white lead market.<sup>23</sup>

By January of 1905, the East Omaha plant was again in full operation, and land had been purchased in Montreal to build another 20,000 ton-plant. This new plant was built to the specifications of the West Pullman works and was operating at the end of that year. It was the first and only white lead coroder in Canada. Cornish contracted with the Canadian Smelting Works of Trail, British Columbia, and the Canadian Pacific Railroad to supply



David K. Tuttle and James A. McCreary of Baltimore in 1873 applied for a patent for a "New and Improved process for the Manufacture of White Lead." It consisted of running melted lead through a small aperture, where it was granulated and then blown into a collection chamber. Figures 1 and 2 (left) in the patent drawings illustrate a furnace upon which is placed a melting pot or kettle (A), provided with one or more nozzles (G) from which a stream of melted metal was permitted to flow by raising the valve (F). A steam

pipe (D) has a jet striking the falling lead.

Figures 1 and 2 (right) show a corrodng vessel or cylinder to which the metal was transferred for conversion into white lead. Figure 2 is a cross section of the cylinder seen in figure 1. The granulated metal was moved into the cylinder and kept in slight motion. The slow movement of the particles of lead and the injection of corrodng gases through nozzles were maintained until no metallic particles remained. The

product is then removed for washing and grinding. Drawings for an alternate form of corrodng vessel (not shown) were submitted with the patent application.

David K. Tuttle and James A. McCreary, *Improvement in the Manufacture of White Lead*, letter of patent number 148,862 presented to the United States Patent Office, Washington, D.C., March 24, 1874. (NSHS-MS 4098)



Letterhead of Carter White Lead Company. The Omaha plant is shown at top right. (NSHS-MS-4098)

him with pig lead. Canadian Smelting was apparently the only smelter in Canada and was then under government control. With three plants operating by 1906, Carter White Lead could meet nearly one-half of North America's demand for white lead products.<sup>24</sup>

It is interesting to note that during the two-year period E. J. Cornish presided over the Carter White Lead Company, he invested heavily in the National Lead Company with money he received from Carter White Lead and Levi Carter's widow, Selina Carter. According to the financial records of Carter White Lead, E. J. Cornish purchased no less than \$41,050.00 in National Lead stock. Numerous letters between Cornish and the New York offices of National Lead suggest that relations between the two companies were cordial. National Lead, having for years tried to eliminate Carter White Lead, probably welcomed Cornish's interest and encouraged his investments.<sup>25</sup>

In February of 1906 Edward J. Cornish reached an agreement with the National Lead board of directors. Carter White Lead was brought under the control of National Lead as a subsidiary, while the officers of the Carter Company maintained their offices in

exchange for Carter White Lead's entire capital stock and the rights to the "Carter" process. Cornish became a member of the National Lead board and played a significant role in its development as its president from 1916 until his death in May of 1938.<sup>26</sup>

With the merger of Carter White Lead and the National Lead Company, Omaha's days as a white lead manufacturer were numbered. Throughout 1906 and into 1907, the Carter White Lead board kept the East Omaha plant in operation. However in 1907, the companies representing the paint interests of National Lead decided to amalgamate their products under one name: Dutch Boy. From 1907 on, Carter White Lead produced Carter Lead Based Paints only out of their Chicago plant and sold them through Dutch Boy distributors. The Carter White Lead board continued to meet in Omaha every year as required by Nebraska law, but its significance as a Nebraska company died with the closing of the East Omaha plant in 1907.<sup>27</sup>

In 1910 National Lead appraised the value of the East Omaha plant at \$203,592 for insurance purposes. Apparently the buildings were kept up between 1910 and 1920. In 1926 Carter White Lead sold off its East Omaha properties. A special meeting of the

Carter White Lead board of directors was called for February 24, 1926, for this purpose. The plant was sold for \$7,000 to the Platte Valley Cement Tile Manufacturing Company the following month. The buildings were gradually torn down during the 1930s and 1940s.<sup>28</sup>

In its twenty-nine years as an independent, Carter White Lead strongly controlled a national industry. Omaha's central location nationally, its significance as a major transportation hub, and the proximity of its connecting railroad lines to lead resources and to white lead markets lent to the company's success. In holding the patents to an innovative and expedient method of lead corrosion, coupled with Levi Carter's conservative business practices, Carter White Lead was allowed to hold its independent status against the National Lead monopoly and name its own price for consolidation.

The dissolution of the Carter White Lead Company as an Omaha industry in 1907 lay not in the financial hard times of the 1890s or the Panic of 1907 but in the shrewd ambitions of Levi Carter's business lawyer and executor, E. J. Cornish. The powers Carter White Lead held over the syndicate bought Cornish his long-standing place as president of National Lead after Car-

ter's death in 1903. The 1907 closing of the East Omaha plant was a result of its obsolescence and small productive capacity. This was in comparison to Carter's newer plants in Chicago and Montreal and later plants owned by National Lead itself.

Carter White Lead Company, founded under the auspices of Nebraska law in 1886, remained a separate subsidiary of National Lead until 1936. Its demise in 1936 was merely a matter of corporate consolidation into the parent company. Today, only the name of the 1874 process improved by Levi Carter in 1885 remains. Concern over the toxicity of white lead resulted in the development of titanium dioxide paints following World War I and by 1940, white lead was not in common use. Lead paints are still used as a protective coating for ship hulls and other restricted industrial uses. The Carter process used today in manufacturing lead paint, although technologically improved, still bears the name of the man who owned its original patent for nearly a quarter of a century, Levi Carter of Omaha, Nebraska.<sup>29</sup>

## NOTES

<sup>1</sup>Lawrence H. Larsen and Barbara J. Cottrell, *The Gate City* (Boulder, Colorado: Pruett Publishing Company, 1982), 61-88; Edward Sterba, *Buildings of the 80s in Omaha* (Omaha, Nebraska: Standard Blue, 1976), 80-81, 92-93.

<sup>2</sup>Articles of Incorporation of the Carter White Lead Company, Feb. 26, 1878; Levi Carter to H. C. Haskins, Feb. 22, 1899, MS4098, Records of the Carter White Lead Company, State Archives, Nebraska State Historical Society, Lincoln (hereafter cited as Carter White Lead Collection). M. R. Moore, B. C. Campbell and A. Goldberg, "Lead," chap. in *The Chemical Environment*, vol. 6 of *The Environment and Man Series*, ed. John Lenihan and William W. Fletcher (New York: Academic Press, 1977), 67.

<sup>3</sup>James E. Fell, Jr., *Ores to Metals* (Lincoln: University of Nebraska Press, 1979), 83-94.

<sup>4</sup>*Ibid.*, 73; Articles of Incorporation, Feb. 26, 1878, Carter White Lead Collection; "White Lead Works Burned," *Omaha Daily Bee*, June 15, 1890, 2.

<sup>5</sup>Mortgage, Jan. 17, 1883, Carter White Lead Collection.

<sup>6</sup>*Ibid.*, "White Lead Works Burned"; *Insurance Maps of Cities and Towns in Douglas County, Ne-*

*braska* (New York: Sanborn Map Company, 1887), 34.

<sup>7</sup>"White Lead Works Burned"; Sterba, *Buildings of the 80s in Omaha*, 82-83.

<sup>8</sup>Ronald M. Gephart, "Politicians, Soldiers, and Strikes," *Nebraska History* 46 (June 1965): 94-116; Fell, *Ores to Metals*, 118-20.

<sup>9</sup>Petition to the Senate and House of Representatives of the United States of America in Congress Assembled, n.d.; Levi Carter to H. C. Haskins, Feb. 22, 1899, Carter White Lead Collection; Ernst Von Halle, *Trusts, or Industrial Combinations and Coalitions* (New York: Macmillan and Company, 1895), 329; Fell, *Ores to Metals*, 129-30.

<sup>10</sup>Contract between Adams White Lead Company and Omaha White Lead Company, May 18, 1882; Petition to the Senate and House of Representatives, n.d.; Articles of Incorporation, Dec. 28, 1885; Levi Carter to H. C. Haskins, Feb. 22, 1899, Carter White Lead Collection; David K. Tuttle and James A. McCreary, *Improvements in the Manufacture of White Lead*, Letters Patent Number 148,862, United States Patent Office, Washington, D.C., Mar. 24, 1874.

<sup>11</sup>Levi Carter to H. C. Haskins, Feb. 22, 1899, Carter White Lead Collection; *Insurance Maps of Cities and Towns in Douglas County, Nebraska* (New York: Sanborn Map Company, 1890), 20; "White Lead Works Burned"; Sterba, *Buildings of the 80s in Omaha*, 19.

<sup>12</sup>"White Lead Works Burned"; Sterba, *Buildings of the 80s in Omaha*, 19.

<sup>13</sup>Sterba, *Buildings of the 80s in Omaha*, 19; "Levi Carter's Temptation," *Omaha World-Herald*, June 17, 1890, 1; Fell, *Ores to Metals*, 129-30; Alexander Stewart, "White Lead," in *Rogers' Manual of Industrial Chemistry*, ed. by C. C. Furnas, Sixth Ed., vol. 2 (New York: D. Van Nostrand Company, 1943), 1021; H. C. Haskins to Levi Carter, Feb. 27, 1899; Levi Carter to H. C. Haskins, Mar. 4, 1899, Carter White Lead Collection.

<sup>14</sup>"White Lead Works Burned"; "Levi Carter's Temptation."

<sup>15</sup>"The New Bridge Project," *Omaha Daily Bee*, Jan. 19, 1891, 8; Elmo Bryant Phillips, "A History of Street Railways in Nebraska" (Master's Thesis, University of Nebraska, 1944), 407-13; East Omaha Land Company, *East Omaha, The Manufacturing Center of Omaha, Nebraska*, 1890, map collection, Nebraska State Historical Society; Specifications for East Omaha Plant, 1890, Carter White Lead Collection.

<sup>16</sup>Specifications for East Omaha Plant, 1890; contract between Carter White Lead Company and A. W. Phelps and Sons, July 17, 1890; Coats and Burchard Company Appraisal of East Omaha Plant, May 7, 1910, Carter White Lead Collection; Omaha Bridge and Terminal Railway Company, *Parts of Omaha and East Omaha*, 1911, map collection, Nebraska State Historical Society.

<sup>17</sup>Coats and Burchard Company Appraisal of East Omaha Plant, May 7, 1910; Financial Statements, Dec. 31, 1891, Nov. 31, 1892; Chicago Plant payrolls, 1897-1901, Carter White Lead Collection.

<sup>18</sup>Increase in Sales Record, 1902; Amended Articles of Incorporation, May 19, 1893; Financial Statement, Nov. 31, 1892, Carter White Lead Collection.

<sup>19</sup>Financial Statements, 1891-1900; Purchase Option between Carter White Lead Company and H. C. Haskins, National Lead Company, 1899; H. C. Haskins to Levi Carter, Mar. 7, Mar. 20, 1899; Levi Carter to H. C. Haskins, Mar. 18, 1899; Statement of the Affairs of the Carter White Lead Company Ending with Nov. 30, 1902, Carter White Lead Collection; Fell, *Ores to Metals*, 129-30.

<sup>20</sup>"Levi Carter, Pioneer Capitalist and Philanthropist," *Omaha Sunday Bee*, July 19, 1908, pt. 3, 1-2; "Six Hundred are Homeless," *Omaha World-Herald*, Apr. 25, 1899, 1.

<sup>21</sup>U.S. Dept. of Commerce and Labor to Carter White Lead Company, Oct. 3, 1904; Comparative Sales for Chicago for the Year 1900-01; Comparative Sales for the Year, Omaha, 1901; Contract Between Illinois Central Railroad and Carter White Lead Company, June 9, 1925, Carter White Lead Collection; "Will Use the North Bridge," *Omaha Daily News*, Jan. 16, 1900, 3; Robert Selph Henry, *This Fascinating Railroad Business* (Indianapolis: The Bobbs-Merrill Company, 1943), 335-56.

<sup>22</sup>Chicago Payroll, Aug. 11, 1900, Carter White Lead Collection.

<sup>23</sup>"Levi Carter, Pioneer Capitalist and Philanthropist"; Biography of Edward Joel Cornish in *The National Cyclopaedia of American Biography*, 1935 edition, 50; Letter and Statements of Chicago Plant Shipments, 1904, Carter White Lead Collection.

<sup>24</sup>Memorandum of Agreement between the Canadian Smelting Works and Edward J. Cornish, n.d.; Specifications of Chicago Plant, n.d., MS3295, Barker Family Company Business Records, State Archives, Nebraska State Historical Society, Lincoln (hereafter cited as Barker Family Collection); Letter and Statement of Chicago Plant Shipments, 1904; P. M. Carter to E. J. Cornish, Mar. 27, 1906, Carter White Lead Collection.

<sup>25</sup>E. J. Cornish to L. A. Cole, Aug. 25, 1906, Carter White Lead Collection.

<sup>26</sup>Letter to the Stockholders of Carter White Lead Company, Feb. 27, 1906, Barker Family Collection; Cornish Biography.

<sup>27</sup>E. J. Cornish to Charles W. Ferguson, Jun. 17, 1907, Carter White Lead Collection; P. J. Van Buren, regional manager, Dutch Boy Paints, Middleburg Heights, Ohio, to author, Nov. 1, 1988; Arthur C. Wakeley, ed., *Omaha: The Gate City*, vol. 1 (Chicago: S. J. Clarke Publishing Company, 1917), 226-27.

<sup>28</sup>Plant Appraisal, May 7, 1910; J. J. Morseman to J. A. Board, Feb. 24, 1926, Carter White Lead Collection; Register of East Omaha Land Company Subdivision Addition to Omaha City, *Deed Book*, vol. 22, Register of Deeds, Douglas County Courthouse, Omaha, 105-07.

<sup>29</sup>Articles of Incorporation, Dec. 29, 1885; M. D. Cole to J. J. Morseman, Jan. 7, 1937, Carter White Lead Collection; W. M. Morgans, *Outlines of Paint Technology* (London: Charles Griffin and Company), 29; Moore, Campbell, and Goldberg, "Lead," 67-68; Edward J. Dunn, Jr., "Lead Pigments," chap. in *Pigments*, ed. Raymond R. Myers and J. S. Long, vol. 3 in the *Treaties on Coatings Series* (New York: Marcel Dekker, Inc., 1975), 333-417.