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RAIFORD AND ABERCROMBIE: PENSACOLA'S PREMIER ANTEBELLUM MANUFACTURER

by LUCIUS F. ELLSWORTH

INDUSTRIAL ACTIVITY IN antebellum West Florida largely involved the exploitation of its timber lands and rich clay beds.¹ Florida brick companies of the period, like those elsewhere in the country, were relatively small-scale operations in terms of number of employees, amount of capital, or value of final product. Despite efforts to mechanize the industry most firms still followed the hand manufacturing process. Brickyards were located near an adequate source of clay and potential markets to avoid the cost of transporting long distances either raw materials or finished products. Although some interregional trade in bricks occurred, most firms produced for local or perhaps regional markets.

In the early 1850s, four of the six Florida firms operated in Escambia and Santa Rosa counties, drawing on the rich clay deposits along the Escambia Bay and Blackwater River. After the

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1. Of the thirty-eight manufacturers enumerated for Santa Rosa and Escambia counties by the federal census marshalls in 1850, only six were not involved in lumbering or brickmaking, U. S. Bureau of the Census, Seventh Census of the United States, 1850, Original Returns of the Assistant Marshall, Schedule 5: Products of Industry, Escambia County and Santa Rosa County, Florida. Hereinafter cited as CM 1850. See also James K. Polk, "Pensacola Commerce and Industry, 1821-1860," (M. A. thesis, University of West Florida, 1971), 33-35 and 46-104, and Ernest F. Dibble, *Antebellum Pensacola* (to be published spring, 1974), Chap. IV. Although Herbert J. Doherty, Jr., "Writings in Florida History on the Period 1821-1860," *Florida Historical Quarterly*, XXXVII (October 1958), 172, called for more studies of industry, only a few have appeared. See John A. Eisterhold, "Lumber and Trade in Pensacola and West Florida: 1800-1860," *Florida Historical Quarterly*, LI (January 1973), 267-80. William C. Lazarus, "A Study of Dated Bricks in the Vicinity of Pensacola, Fla.," *Florida Anthropologist*, XVIII (September 1963), 69-84, focuses on classifying and dating types of bricks and compiling a chronological list of brick makers.

profitable mid-1830s, business for the West Florida firms declined, and they did not begin to reestablish themselves until the 1850s. Gonzalez & Bonifay, the largest company, had a capital value of \$6,000 and utilized twenty-five laborers to produce annually 1,000,000 bricks worth about \$9,000. In spite of an extensive market throughout the Gulf coast region, the West Florida manufacturers continued to employ the slow hand process.²

The decision of the federal government relative to the defense installations on the Gulf of Mexico affected the Pensacola brick industry and brought new businessmen into the community. Following extended discussion, Congress in 1844, approved erection of two masonry and brick installations in Florida—Fort Taylor at Key West and Fort Jefferson on the Dry Tortugas.³ Hampered by a short season and engineering difficulties, progress proved slow, and by early 1851 only the foundation of Fort Taylor had been completed, using a meagre 40,000 bricks. Unreliable and costly transportation services between southern cities and the Florida sites forced the government to import bricks from New York. The failure of Congress to fund the projects retarded construction in 1851-1852, but when an appropriation was voted the following year the demand for building materials increased substantially.⁴ Because the northern bricks did not withstand the destructive action of the atmosphere, the corps of engineers compared the qualities and prices of bricks made in other areas of the country and finally decided to place their orders in Pensacola.⁵

Maintaining a steady supply proved difficult. When Pensacola manufacturers and shippers could not provide adequate trans-

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2. *Senate Documents*, 35th Cong., 2nd sess., No. 39, 20; CM 1850; Polk, "Pensacola Commerce," 75-82, 91-3; and Dibble, *Antebellum Pensacola*, Chap. IV.
 3. William H. Chase, *Memoir on the Defence of the Gulf of Mexico and the Stragetic [sic] Principles Governing the National Defences* (New Orleans, 1846), 5-12, and W. H. Hauer, "History of Fort Taylor, Florida," November 10, 1877, Records of the Office of the Chief of Engineers, Fortifications Division, Record Group 77, National Archives. Record Group 77. Hereinafter cited as RG 77. See also Jefferson B. Browne, *Key West: The Old and the New* (St. Augustine, 1912; facsimile edition, Gainesville, 1973), 74-79.
 4. Hauer, "Fort Taylor," and Lt. H. G. Wright, Annual Report for Fort Jefferson, September 30, 1851, RG 77.
 5. J. M. Scarritt to Wright, Dec. 17, 1853, Fort Taylor Records, Southeastern Regional Center of National Archives, East Point, Georgia. Hereinafter cited as FTR.

portation, the war department at first considered purchasing its own vessels. The corps of engineers, prior to August 1853, tried to lease ships and published its need throughout the Gulf coast region. In January 1854, Hiram Benner and Asa Tift, merchants and shipowners of Key West, offered to deliver 4,000,000 Pensacola bricks. After differences over the performance clause of the contract emerged, a stable supply was still not assured.⁶ The few Pensacola bricks that arrived were good, but the officer in charge of Fort Taylor reported not all were of the quality that he required.⁷ The difficulty of securing bricks became so acute that the department advertised extensively in New York newspapers for shippers and even considered manufacturing its own brick.⁸

Following these unsuccessful efforts to get bricks and with the demand rising, the war department reacted favorably to a proposal by Phillip H. Raiford and General Anderson Abercrombie of Alabama. Little is known of Raiford except that he volunteered for military service during the Mexican War and represented Macon County in the Alabama state legislature for one term in 1847. By 1853 he began acquiring property in Baldwin County along the east side of Mobile Bay between Blakely and Albermarle City. Part of the land came as a benefit for his Mexican War service, and the remainder he purchased for about \$10,000.⁹

Anderson Abercrombie, with his brother Charles, moved in 1832 from Hancock County, Georgia, to Russell County, Alabama, about six miles southwest of Columbus, Georgia. During the next two decades, Anderson became one of the leading plantation owners of the area, a well-known regional political leader, and a business entrepreneur who served as first president of the Mobile and Girard Railroad in 1850. A third Abercrombie brother, James, who had lived near Montgomery, Alabama, since 1815, purchased land in 1835 adjacent, to Anderson's property.

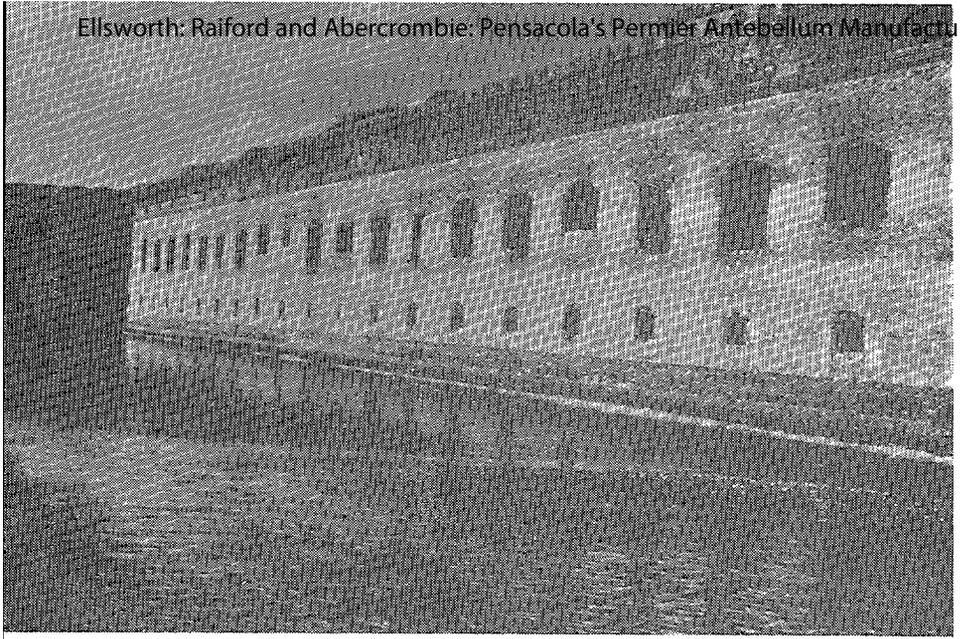
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6. Scarritt to Brig. Gen. J. G. Totten, August 21, 1853; Wright to Totten, September 1, 1853; Scarritt to Totten, January 8, 1853; Totten to Scarritt, January 21, 1854, RG 77; and Scarritt to Wright, December 17, 1853, FTR.
 7. Chase to H. F. Ingrahan, December 25, 1853, FTR.
 8. Scarritt to Totten, June 7, 1854; Wright, Annual Report for Fort Jefferson, September 30, 1854, RG 77.
 9. William Garrett, *Reminiscences of Public Men in Alabama* (Atlanta, 1872), 466-67, 756; Baldwin County Deed Book F, 353-55, 452; Baldwin County Deed Book N. S. No. 3, 9-10, Baldwin County Court House, Bay Minette, Alabama.

Although James owned a large plantation, his principle interest was politics. He served in the Alabama legislature throughout the 1840s, and voters sent him to Congress in 1851 and again in 1853. James and Anderson had other connections; Anderson's daughter Sarah had married James, Jr.¹⁰

The records do not show how Abercrombie and Raiford became partners or learned about the federal government's need for brick. When Raiford lived in the region of the Abercrombie's plantations, he had enough status to be elected as a representative to the state legislature, serving with James Abercrombie, Sr. As an investor in the Mobile and Girard Railroad, Anderson purchased land in Baldwin County along the Tensaw River. The proximity of Abercrombie's holding with Raiford's tract may have brought them together again. Neither man knew anything about the brick industry. Perhaps Congressman Abercrombie in Washington, D. C. had confronted the war department's problem and told his brother, or Anderson Abercrombie and Raiford might have heard through the Mobile business community.¹¹ Whatever the background, the two men decided early in 1854 to form a company to manufacture bricks for the federal government. To finance his share, Raiford sold the majority of his Baldwin County property.¹²

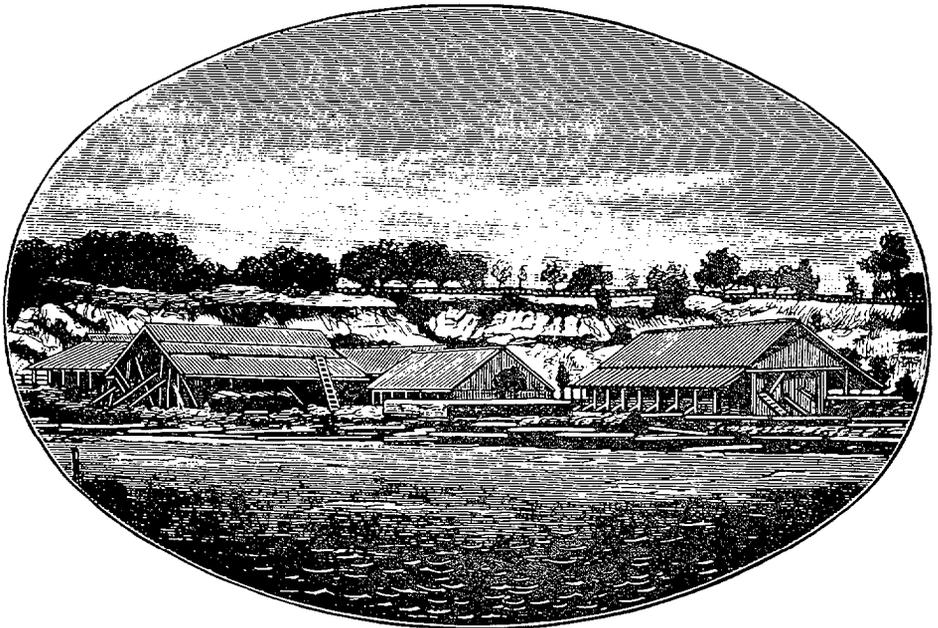
Raiford traveled to the nation's capital in early May 1854 to secure the federal business. At a meeting on May 15 with Brigadier General Joseph Totten, who headed the corps of engineers, Raiford offered to produce the bricks along the east side of Mobile Bay. But, he said that the company would locate the factory on the Escambia Bay if the federal government required a different source of raw materials. Totten told Raiford to communicate directly with the officers in charge of the forts because they were responsible for purchasing construction supplies. After

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10. Bible, Abercrombie Family, in possession of William Abercrombie, Pensacola, Florida; F. L. Cherry, "The History of Opelika and Her Agricultural Tributary Territory," *Alabama Historical Quarterly*, XV (Summer 1953), 243-49; Anne Kendrick Walker, *Russell County in Retrospect* (Richmond, 1950), 105, 108, 157, 1373; Garrett, *Reminiscences*, 555-57, 761; Willis Brewer, *Alabama: Her History, Resources, War Record and Public Men* (Montgomery, 1872), 513. Lelia Abercrombie, *The Abercrombie Family* (Pensacola, 1962) contains excerpts from various printed accounts.
 11. Walker, *Russell County*, 171-72, and Baldwin County Deed Book F, 265-66.
 12. Baldwin County Deed Book F, 453-54.



Construction of Fort Jefferson (above) and Fort Taylor required millions of bricks and created the principal market for Pensacola manufacturers in the 1850s. Courtesy of National Park Service, Fort Jefferson.

According to local tradition, Raiford and Abercrombie erected these brick-making facilities along the bluffs of the Escambia Bay. (W.D. Chipley, *Pensacola and its Surroundings Illustrated*, Louisville, 1877, reprint 1962, p. 18).



J. W. Gray,

Brick Machine.

N^o 21,186.

Patented Aug. 17, 1866

Fig. 2.

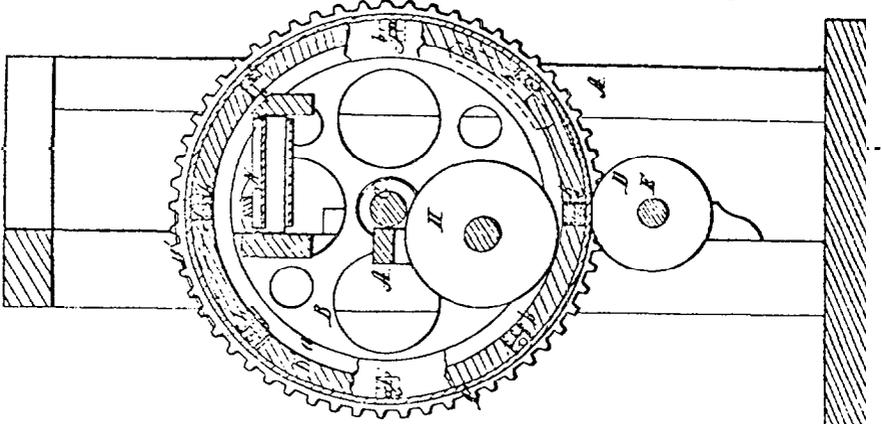
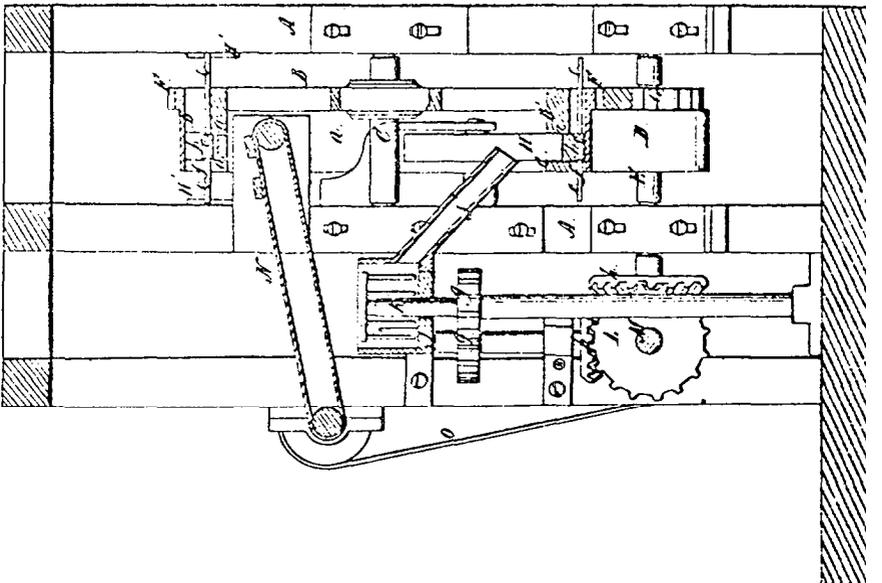
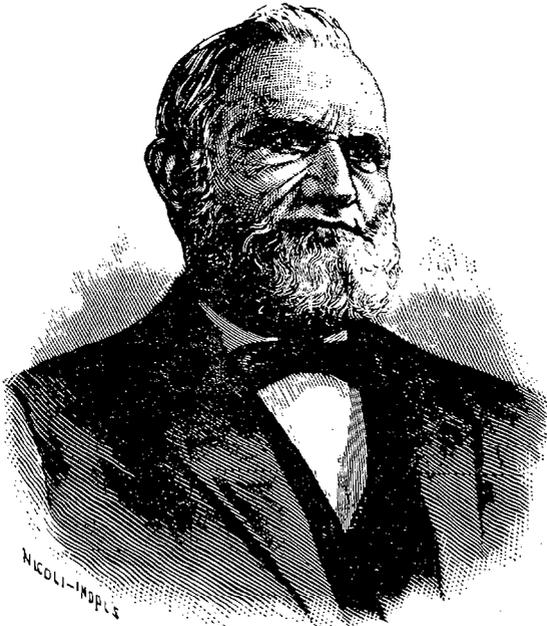


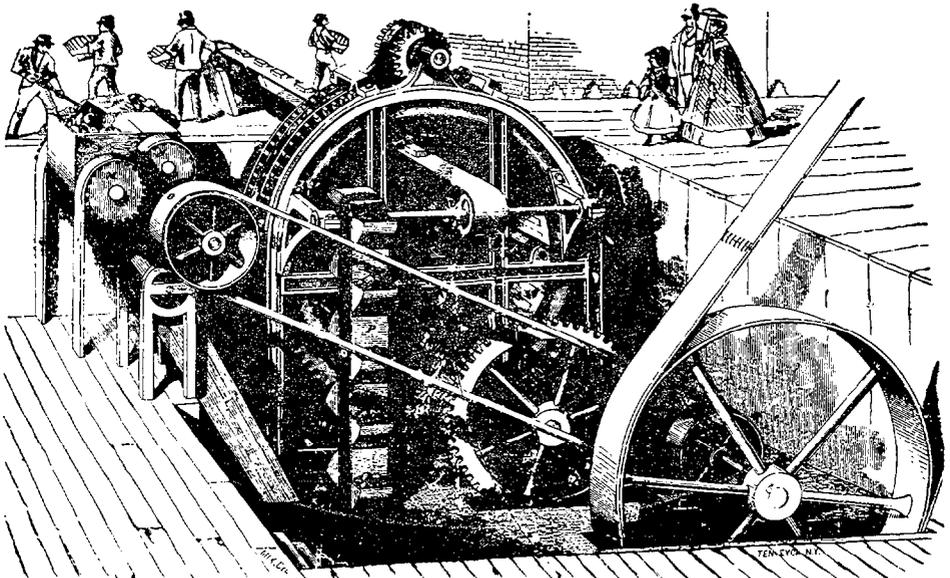
Fig. 1.

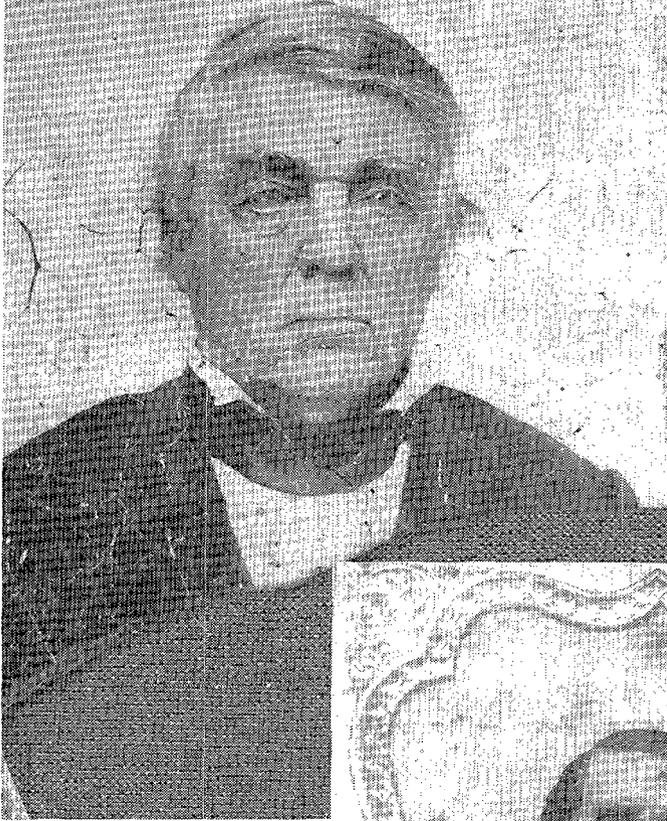




John W. Crary, inventor of machine which mechanized the operations of Bacon and Abercrombie. (J. W. Crary, Sr., *Sixty Years a Brickmaker*, Indianapolis, 1890).

Scientific American depicted the brickmaking system developed by John W. Crary. (*Scientific American*, IV, January 5, 1861).





Congressman James Abercrombie headed the Alabama family which went to Pensacola to make bricks for the federal government. Courtesy of Pensacola Historical Museum.

James Abercrombie, Jr., supervised the operations of the Abercrombie family brickmaking business. Courtesy of Pensacola Historical Museum.
<https://stars.library.ucf.edu/fhq/vol52/iss3/3>

the meeting, Totten reported the proposal to the officers. Mentioning that Benjamin Fitzpatrick, United States Senator from Alabama, and Congressmen James Abercrombie and Alexander Stephens had highly recommended Raiford and Anderson Abercrombie, Totten described Raiford as "a gentleman of high intelligence and standing."¹³

For the next several weeks, Raiford worked to secure the contract. He wrote the officers in charge at the forts and sent to Key West a ship's captain, J. P. Smith, to negotiate directly. Smith indicated that the partners would make and deliver to the fort 6,000,000 bricks of Escambia clay at the rate of \$21.00 per thousand. Expressing reluctance to contract with unknown and inexperienced people, both officers agreed to accept the 'representations of the Department.'¹⁴

While Smith negotiated in Key West, Raiford lobbied in Washington, D. C. particularly to overcome two minor problems: the objections of some influential Florida property owners to the proposed restriction to Escambia Bay clay, and confusion over the proper person to execute a contract created by the sudden illness and death of one of the officers in charge. The deliberations led to a formal contract dated August 24, 1854.¹⁵

According to the contract, Raiford and Abercrombie agreed to deliver at \$21.00 per thousand 3,000,000 bricks to each fort. Because of the immediate need for bricks and the length of time anticipated to build a brickyard, the contract permitted the owners to supply 400,000 bricks produced by other companies. Each brick was to be made from Escambia Bay clay, to measure ninety cubic inches, to be of uniform size, and to meet the quality standards established by the officers in charge. The war department clearly expected to receive bricks which were especially strong, homogeneous in content, and capable of withstanding the effects of the hot, humid, salty air.¹⁶

To insure compliance, the war department instructed Major

13. Totten to Scarritt, May 15, 1854, RG 77.

14. J. P. Smith to Scarritt, June 5, 1854; Totten to Scarritt, June 20, 1854; Wright, Annual Report for Fort Jefferson, September 30, 1854; RG 77.

15. Totten to Wright, July 27, 29, August 15, 1854; Totten to Phillip H. Raiford, August 1, 1854; Totten to General Anderson Abercrombie, August 15, 1854; J. D. Rurtz to Raiford and Abercrombie, October 2, 1854; RG 77.

16. Wright, Annual Report for Fort Jefferson, September 30, 1854, RG 77; Wright to Chase, July 20, 1854, FTR.

William Chase to establish the quality and to secure specimens which reflected the standard. After reviewing bricks manufactured in Pensacola, Chase selected ones with the proper characteristics. These samples formed the basis for accepting or rejecting the product of the new business.¹⁷

Despite Anderson Abercrombie's early involvement, including his signing the initial contract, other men quickly assumed the leadership of the venture. In fact, Abercrombie was not a formal participant in the firm; rather his son, John G., became a partner. Raiford handled many of the specific arrangements in Mobile and Pensacola for establishing the manufacture. Anderson's son-in-law, James, Jr., also came to West Florida, bringing with him some of the family's slaves to construct the brickyard. When the army raised conflict of interest charges, James, Sr., became a silent investor. His principal role emerged as the firm's spokesman in Washington.¹⁸ Thus, the four partners in the company were Phillip Raiford, John G. Abercrombie, James Abercrombie, Sr., and James Abercrombie, Jr.

Fulfilling the contract proved very difficult for Raiford and Abercrombie. After agreeing to locate near Pensacola instead of Mobile, the firm had trouble finding a suitable site. Because the partners had no interim source of supply, they could not deliver during 1854. Added to these woes was an additional order in early December for 300,000 bricks due within three months.¹⁹ The office of the corps of engineers warned that for non-compliance its representative would "promptly declare the contract void."²⁰ Congressman Abercrombie visited Brigadier General Totten in late December to assure him that the firm had incurred great expense and would make "every possible effort to fulfill the contract . . . and with the greatest promptitude."²¹

As the pressure to perform intensified, the company tried to furnish bricks made by such other Escambia Bay manufacturers as George Willis and Henry Slayback. When these men could

17. Totten to Raiford and Abercrombie, October 2, 1854; Chase to Totten, October 14, 1854, RG 77.

18. Capt. Donald Leadbetter to Totten, September 2, 20, 1854; Totten to Chase, December 26, 1854, RG 77.

19. Leadbetter to Totten, September 2, 20, 1854; Totten to Wright, September 8, December 23, 1854, RG 77; Chase to Abercrombie and Raiford, December 2, 1854, FTR.

20. Totten to Raiford and Abercrombie, December 21, 1854, RG 77.

21. Totten to Chase, December 26, 1854, RG 77.

not produce enough satisfactory brick, the contractors received permission to ship from Mobile. The war department even suggested that the Pensacolians purchase bricks from the Lake Pontchartrain region.²² The firm for almost two years relied upon these various sources of supply.

Raiford and Abercrombie resolved another problem during the first six months of operation— the procedures for inspecting brick. To avoid shipping inferior bricks which the military would reject, the partners wanted the army to inspect the bricks at Pensacola. Recognizing the validity of the suggestion, Major William Chase interceded on their behalf and secured the assignment of an officer who lived near the brickyard. The Pensacola firm assumed the expenses of this inspector and agreed to take extra precaution to prevent the breakage of the bricks in shipment.²³

Transporting bricks to the forts continually proved troublesome. Because of the shallowness of the upper Escambia Bay and the treacherous conditions near Fort Jefferson, vessels with less than a ten-foot draught were most desirable. Few captains of small boats seemed interested in transporting the bulky bricks in the Gulf of Mexico. Owners who were willing were frequently unavailable at the proper time because of shortages of crew members, the need for repairs, or more lucrative business in other ports.²⁴ Despite these difficulties, the Pensacola manufacturers employed such schooners as the *Frederick Sheerer* and *Lucy Whitham* to carry bricks southward.²⁵ The solution to this problem occurred in 1858 when the Key West firm of Tift and Company agreed to make the shipping arrangements.²⁶

The army insisted that Raiford and Abercrombie appoint an agent in Key West to oversee the wharfside unloading and the

22. Totten to Chase, January 8, 1855, RG 77; Chase to Raiford and Abercrombie, March 25, 1855, FTR.

23. Chase to Totten, October 14, 1854; Totten to Chase, December 26, 1854, RG 77.

24. Wright, Annual Report for Fort Jefferson, September 30, 1855, RG 77; Felix Senac to Raiford and Abercrombie, October 3, 1856, FTR.

25. Pensacola *West Florida Times*, January 6, 20, 1857; *Pensacola Gazette*, January 24, February 7, March 7, 14, April 18, May 30, June 30, July 18, 25, August 15, 27, September 5, 19, October 3, 10, 17, 31, November 14, December 12, 15, 1857. See also John Sanders to Raiford and Abercrombie, March 6, 1857, FTR.

26. A. F. Tift to Bacon and Abercrombie, March 24, 1858, Tift and Company Letter Book, Monroe County Public Library, Key West, Florida. See also letters from Tift and Company to Bacon and Abercrombie, June 25, July 29, November 27, December 19, 1858, January 11, 1859.

subsequent delivery of the bricks to the forts. When the government paid for shipments, the agent would also serve as the official receiver so that the government would not risk sending drafts to Pensacola. Throughout most of the era, the brick makers employed James C. Clapp for this purpose.²⁷

The creation of their own facility remained the most perplexing difficulty for the partners. The firm evidently rented and then purchased an old brickyard along the Escambia Bay. Relying upon the advice of a local brickmaker who agreed to supervise the yard, the new business used the traditional hand technology.²⁸ Inclement weather slowed the progress of building and then operating a kiln, but, by early June 1855, the company began delivering its first product to the forts.

These bricks were definitely substandard, breaking easily in handling and crumbling under heavy pressure. Major William Chase, who had extensive knowledge of bricks for fortifications, suggested that the material was too sandy and contained foreign substances, had been improperly tempered, and had been poorly moulded and inadequately fired. Attributing the shoddiness to inexperience, Chase accepted the bricks.²⁹ When he wrote his annual report several months later, he still did not anticipate a satisfactory shipment. Chase stated: "The bricks of their own make have not been equal . . . either in quality of material or manufacture. The defect of material, if it is one, is owing [*sic*] to the character of the clay . . . that of manufacture results from want of experience or care."³⁰

Because the shortage of bricks severely hindered military operations, Major Chase traveled to northwest Florida in November to visit Raiford and Abercrombie and to secure bricks from either Pensacola or Mobile. Chase's observations did not alter his earlier plan to cancel the contract.³¹ Upon his return to Key West, he

27. Chase to Raiford and Abercrombie, March 10, June 25, 1855; Senac to Raiford and Abercrombie, September 27, 1856, FTR.

28. Chase to Raiford and Abercrombie, January 25, March 25, 1855, FTR; J. W. Crary, Sr., *Sixty Years a Brickmaker* (Indianapolis, 1890), 35-6; Escambia County Deed Book M, 76-7, Escambia County Records, Pensacola, Florida. Hereinafter cited as ECR.

29. Chase to Wright, June 14, 1855, FTR; William Chase, Brief Memoir, June 30, 1855, RG 77.

30. Wright, Annual Report for Fort Jefferson, September 30, 1855, RG 77.

31. Totten to Chase, November 16, 1855; Chase to Totten, November 4, 1855, RG 77.

wrote to the partners that their product was “utterly worthless for our purpose” and their constant failure to deliver bricks forced him to no longer depend upon them “for a regular supply of bricks.”³² Chase agreed to buy bricks from the company if it would send some of the proper dimensions and quality.

The struggling Pensacola firm tried to improve. First, the company, hoping to have a better quality raw material, abandoned the yard and purchased another one along Escambia Bay. When this move failed, the company hired several different yard superintendents. None of these men, however, could produce what was needed from the sandy layer of clay bricks that were hard or strong enough to meet the government's standards. Impressed with the integrity if not the technical ability of the owners, the corps of engineers promised, nonetheless, to purchase at least 500,000 bricks from Raiford and Abercrombie during the first quarter of 1857.³³

Internal management problems further plagued the company. The costs of buying additional property, maintaining more than 100 slaves, and supporting owners who had anticipated revenue from sales of their bricks soon produced a shortage of money. To overcome this lack of cash, the firm turned to the executors of the Joseph Forsyth estate. Using twelve slaves for collateral, the company on May 26, 1856, borrowed \$6,000 payable within twelve months. Five months later the firm again borrowed \$4,000 from the executors. On at least five other occasions between 1858 and 1861, the company used the same technique to raise funds for operations.³⁴

The inclusion of a non-family member in the partnership had not been a happy decision. Evidently, the Abercrombies, in part, blamed Raiford for the failures. Responding to the hostility, Raiford in March 1857, sold for \$8,000 his interest to John E. Bacon, a son-in-law of James Abercrombie, Sr. Because Bacon remained in Columbus, Georgia, the daily supervision of the reorganized

32. Chase to Raiford and Abercrombie, December 22, 1855, FTR.

33. Crary, *Sixty Years*, 35-6; Senac to Raiford and Abercrombie, September 27, 1856, FTR; Deed, December 18, 1855, Escambia County Deed Book M, 272, 411, ECR.

34. Escambia County Deed Book M, 286, 339; N 256, 258; O 263, 311; P 65, ECR; Day Book, Estate of Joseph Forsyth, 43, 74, 76, 78, 90, 91, 103, 112, 117, Folder 64, Special Collections, John C. Pace Library, University of West Florida, Pensacola.

company, Bacon and Abercrombie, fell to John and particularly James, Jr.³⁵ Regardless of these problems, the prospect of large orders and an investment totaling almost \$75,000 encouraged the men to remain in business. They soon hired as superintendent John W. Crary, an experienced brickmaker who had most recently worked in Biloxi, Mississippi, on a project for the federal government.

Upon Crary's arrival in early 1857, he immediately improved the hand manufacturing process in order to fill the outstanding orders. The change came none too soon as the officer in charge of Fort Taylor had sent an agent to Pensacola, Mobile, and Charleston to determine the best source of supply. After reviewing the revised operation of Bacon and Abercrombie, the agent reported that it now produced bricks of a quality which the war department would accept. The firm received orders for more than 1,000,000 bricks and promises of additional business if it delivered promptly.³⁶ Despite Crary's years of experience and his initial success, he could not get the brickyard consistently to yield the desired product.³⁷

To make bricks of the quantity and uniform quality required by the military, Crary started to mechanize the process. Keeping the nature of the demand firmly in mind, he designed and built a system which automated and shortened many of the manufacturing steps. Crary's innovations included a dry press moulding machine, a pugmill that was attached to the moulding machine and supplied mixed pulverized clay directly to the moulder, and a kiln which in physical design and the placement of the bricks within permitted more control of the heat during firing. Unpatented was a portable revolving conveyor belt for transferring the bricks from the moulder to the interior of the kiln. The power source consisted of a stationary steam engine of about ten-horse power and shafting and leather belting.³⁸

35. Escambia County Deed Book M, 427, ECR.

36. J. W. Crary, Sr., "Reminiscences in the Old South from 1834 to 1866," 52, typescript copy, Pensacola Public Library, Pensacola, Florida; Sanders to George Willis, January 5, 1857; Sanders to Raiford and Abercrombie, February 9, March 6, 1857; Sanders to Jules A. Blanc, March 10, 1857, FTR.

37. Sanders to Raiford and Abercrombie, April 8, 1857, FTR.

38. *Scientific American*, IV (January 5, 1861), 1-2; Patent #20, 146, May 4, 1858, Patent #21, 186, August 17, 1858; Crary, *Sixty Years*, 9-10, 14, 62-67.

Crary worked throughout 1857 installing and eliminating technical problems of the system. He later noted that "when the machine first started, some minor parts gave way, were soon improved and repaired; after which the machine was run with uniform efficiency and success."³⁹ Some of the bricks continued to be inferior, but, by early 1858, Bacon and Abercrombie was producing an adequate supply for the federal government. Their quality proved superior to the available hand-moulded items in smoothness, solidity, and finish. Captain D. P. Woodbury, officer in charge of Fort Jefferson, repeatedly tested Crary's bricks, and he reported them better in strength and in ability to withstand pressure than other bricks.⁴⁰

In addition to a substantial improvement in quality, the innovations reduced the number of workers and time required to make bricks. Crary claimed that only twenty workers operated his system and his normal daily output was 40,000 bricks. To make the same number by hand required sixty to seventy workers. Because the machine-moulded bricks did not have to dry for several days before firing, the press both shortened this time and eliminated the need to have rain-proof drying areas. Only crude, open-sided sheds to protect the clay before pulverizing were necessary.⁴¹

Because of Crary's innovations, Bacon and Abercrombie in March 1858, finally reported the successful resolution of their technological problems, "having just completed at great expense our extensive improvement for supplying the Government with brick."⁴² A business recession and a shortage of military construction funds, however, discouraged the federal government from entering into another long-term contract. To circumvent this difficulty and to recover some of its financial investment, the owners suggested that they make 1,000,000 bricks for Fort Taylor. According to the proposal, the federal government would pay only if Congress appropriated adequate funds. Secretary of War John B. Floyd on April 1, 1858, approved the proposal for both

39. James Abercrombie to G. A. McIntyre, May 1, 1866, Printed Copy, Pensacola Historical Society, Pensacola, Florida.

40. *Ibid.*; Crary, *Sixty Years*, 14.

41. *Scientific American*, IV (January 5, 1861), 2; Crary, *Sixty Years*, 9-11, 17-18, 21-22, 32, 51-53, 87, 112.

42. Bacon and Abercrombie to C. B. Hunt, March 6, 1858; RG 77.

forts; therefore, Bacon and Abercrombie manufactured throughout 1858 and 1859.⁴³

The final reorganization of the company occurred in 1859. John G. Abercrombie withdrew from the firm in April, selling his share for \$15,000. At the same time, James H. Clanton, another son-in-law of James Abercrombie, entered the business as a silent partner investing cash and slaves. The elder James Abercrombie, whose wife had died the previous year, decided to sell his Alabama plantation and join his family in Florida. Although he "was quite advanced in years and somewhat feeble," he purchased a plantation on the Escambia River where he lived until his death in the summer of 1861.⁴⁴ While he did not actively participate in the company, the presence of the well-known family patriarch added financial stability to the firm. William K. Hyer, a new son-in-law of James, Jr., became an office employee. The 1859 reorganization of Bacon and Abercrombie resulted in the younger James's gaining sole control of the management and all partners being related through birth or marriage to James Abercrombie, Sr.⁴⁵

Using the mechanized process, Crary and the Bacon and Abercrombie Company produced more than 16,000,000 bricks for the federal government before the Civil War disrupted operations. Until that time, the government paid for each shipment upon receipt at the forts.⁴⁶ The firm, remaining loyal to the South, refused to furnish bricks after February 26, 1861, and the decision effectively terminated manufacturing.⁴⁷ When the Confederate commander ordered, in March 1862, all Pensacola industries burned, the company reported "the entire Brickyard property has been destroyed by fire."⁴⁸ Following the Civil War,

43. Wright to Bacon and Abercrombie, April 2, 1858; D. P. Woodbury, Annual Report for Fort Jefferson, September 23, 1858; June 28, 1859, RG 77.

44. Garrett, *Reminiscences*, 556; Escambia County Deed Book N, 258, O, 220; File 2250, June 23, 1863, Circuit Court Records, ECR; Russell County Deed Book L, 95, Russell County Court House, Phenix City, Alabama.

45. Bacon and Abercrombie to Woodbury, January 10, 1860, RG 77; Escambia County Deed Book P, 64, 65, ECR.

46. Crary, *Sixty Years*, 37; Jared A. Smith to General A. A. Humphreys, February 7, 9, 1876, RG 77.

47. Letter from Abercrombie and Company to Captain M. C. Meiggs, February 28, 1861, cited in Albert Manucy, "A Constructional History of Fort Jefferson, 1846-1877," 1961, 38. Typescript copy loaned to author by National Park Service, Region One.

48. James Abercrombie to A. E. Maxwell, March 12, 1862, in possession of Mr. K. S. Hudson, Pensacola, Florida.

all that remained of the once thriving business were "2 steam boilers and boiler fronts; 1 large driving wheel with belt attached; a portion of a patent brick machine and 3 brick kilns."⁴⁹

Crary's dry press machine established the production standards for Pensacola brick manufacturers who dominated the brick industry in Florida and the Gulf coast in the 1850s and 1860s.⁵⁰ Crary continued to improve the system, and after the Civil War sold the patent rights. Although other advances in manufacture, particularly cut bricks, would eventually replace the dry press process, Crary's innovations had regional and even national impact for several decades.⁵¹

Demand factors created by the federal government's need for brick had led to these innovations. Organized specifically to supply this market, Raiford and Abercrombie failed for two and a half years to overcome technological problems. These difficulties originated in a shortage of skilled craftsmen who knew how to make large quantities of bricks by hand that met federal standards. The company eventually decided to hire an experienced brick maker.

This action brought John W. Crary directly into the brickyard where he personally confronted and slowly solved the technological problem. Although Crary could make excellent hand-made products, he devised a system of manufacture which reduced the number of skilled workers required. If a shortage of craftsmen had not been the obstacle, Crary could have relied upon more than 150 slaves which his employers had brought with them from Alabama.⁵² Or, Crary could have rented blacks who were widely

49. Sheriffs Sale, July 16, 1868, File 3848, Circuit Court Records, ECR.

50. Deed, June 16, 1859, Escambia County Deed Book P, 272 ECR; U.S. Bureau of the Census, *Eighth Census of the United States, 1860, Manufactures*, III (Washington, 1865), 57-58.

51. Patent #67,728, August 16, 1867; Deed, March 17, 1866, Escambia County Deed Book P, 610, ECR; Crary, *Sixty Years*, ix, 9-10, 77; A.B. MacDowall, "Brick," *Encyclopedia Britannica* (London, 4th ed., 1929), IV, 116; and *Sixteenth Annual Report of the United States Geological Survey*, Vol. 4, pt. 4, "Technology of the Clay Industry," by Heinrich Ries, *House Documents*, 54th Cong., 1st sess., No. 5, 530, 539. Charles T. Davis, *A Practical Treatise on the Manufacture of Bricks, Tiles, Terra-Cotta, Etc.* (Philadelphia, 1884), 73-74, 164-5, 177-8, acknowledges the adoption of dry press machines but attacks the desirability of using the machines.

52. U. S. Bureau of the Census, *Eighth Census of the United States, 1860*, Original Returns of the Population Schedules, Schedule 2: Slaves, Escambia County, Florida.

available in Pensacola.⁵³ The brickmaker instead developed a system which required only two or three skilled laborers for every twenty workers. In addition to replacing the hand temperers and moulders his machines reduced the menial labor needed to transport the raw materials from the pulverizer to the moulder and then to the kiln. Even with Crary's efforts to control the firing of the brick, this stage proved most susceptible to human error. Of the 102 workers in 1859 one-third were women.⁵⁴ Most of these laborers no doubt worked at digging the clay, setting the moulded bricks in the kiln, taking the bricks from the kiln to the boats for shipment, and performing household duties for the owners and workers.

According to the Census of Manufacturers in 1860, Bacon and Abercrombie ranked as the largest brick manufacturer in Florida, producing annually 8,000,000 bricks worth \$60,000.⁵⁵ Both its large size and its mechanized manufacturing process marked the Pensacola firm as atypical compared with the other state brick-makers. That Bacon and Abercrombie sold more than ninety-five per cent of its annual production to the federal government further distinguished it from its regional competition. In addition to three federal patents, the company gained the public recognition of both the prestigious Franklin Institute of Philadelphia and *Scientific American*.⁵⁶ No other West Florida business even in lumbering received as much national recognition as this premier antebellum Pensacola brick manufacturer. The prospect of making bricks for the federal government had not only created an important company and technological innovation, but the business opportunity had introduced the influential Abercrombie family to Pensacola.

53. Polk, "Pensacola Commerce," 96-7.

54. U. S. Bureau of the Census, *Eighth Census of the United States, 1860*, Original Returns of the Assistant Marshall, Schedule 5: Products of Industry, Escambia County, Florida.

55. U. S. Bureau of the Census, *Eighth Census of the United States, 1860*, Raw Returns, Census of Manufacturers, Florida; *House Misc. Documents*, 38th Cong., 1st sess., Un., 57-58.

56. Patent #20, 146, May 4, 1858; Patent #21, 186, August 17, 1858; Patent #67, 728, August 13, 1867; Committee on Exhibition [the Franklin Institute], *Report of the Twenty-Sixth Exhibition* (Philadelphia, 1859), 37; and *Scientific American*, IV (January 5, 1861), 1-2. The medal given by the Franklin Institute is presently in the possession M. M. Crary, Sr., of Bluff Springs, Florida.