

## CHAPTER II

### Genesis

The early history of the Lukens rolling mill is somewhat obscure because the correspondence of the business was not systematically saved until 1848. Still, an effort must be made to introduce the business in its early heroic period because it helps explain many of the attitudes and actions of the owners of the firm between 1850 and 1870.

In 1793 Issac Pennock, the son of a farmer, went into the iron business and built the Federal Slitting Mill at Rokeby, on Buck Run, about four miles south of Coatesville. He did this against the advice of his parents, who held that farming had a much better future.<sup>1</sup> In 1810 Pennock left Rokeby and, together with Jesse Kersey, a Friends minister, bought a saw mill sited on Brandywine Creek in Coatesville. They converted the saw mill into an iron rolling mill and called it the Brandywine Iron Works.<sup>2</sup> The mill rolled sheet iron, hoop iron and nail rods. The nails were finished at the mill while the other iron was sold to mechanics who fashioned it into finished goods.

Coatesville was an ideal site for a rolling mill. The Brandywine gave the mill its source of power. Coal and blooms were available from Columbia, thirty five miles distant. Coatesville also lay midway between Philadelphia and Lancaster on the improved turnpike that had joined these cities since 1794. Wilmington was twenty four miles to the south of Coatesville. Later, in 1833, the Pennsylvania canal system reached Columbia on the Susquehanna River, and a year later the Philadelphia and Columbia Railroad opened up, joining Coatesville with Columbia and Philadelphia. Thus the mill at Coatesville had access to power, raw materials and markets.

In 1816 Issac Pennock bought Kersey's share of the business and put his son-in-law, Charles Lukens, in charge of the mill.<sup>3</sup> Lukens had trained as a physician but had left that calling to work with Pennock at the Federal Slitting Mill and so was no stranger to the business of rolling iron. Lukens leased the mill from Pennock for four hundred twenty dollars a year, with the understanding that the mill would go to Lukens's wife, Rebecca, at Issac Pennock's death.<sup>4</sup>

After he became manager of the mill, Dr. Lukens modified the plant to enable it to roll wrought iron boiler plate.<sup>5</sup> This change, it is claimed, allowed the mill to

roll the first iron boiler plate in America. The records of the business show that this mill produced boiler plate by 1818.<sup>6</sup> Interestingly, some of the early boiler plate produced by this mill was exported to England for fabrication into locomotive boilers.<sup>7</sup>

1818

The Brandywine mill achieved another distinction in 1825 when it rolled the iron for the Codorus, said to be the first iron vessel made in America. The vessel had a keel sixty feet long and a hull nine feet wide and three feet deep. Lukens also rolled the boiler plate for the engine of the Codorus. The ship remained in intermittent river service for five years. Like many other pioneering efforts, this unusual boat was not considered a real success.<sup>8</sup>

Issac Pennock died in 1824, and the next year Dr. Lukens died and Mrs. Lukens found herself possessed of an iron works with no manager. Dr. Lukens had extracted a promise from his wife that she would continue the business after his death. Rebecca Lukens was then thirty one <sup>pregnant</sup> and the mother of three daughters. The finances of the business were in disarray and her family advised her to abandon the enterprise. She refused.<sup>9</sup>

This remarkable woman set about running the business even though it was faced with considerable difficulties.

There were two problems that required resolution at once. She needed a manager for the mill and she needed credit. Solomon Lukens, her brother-in-law, became her manager and worked with her until 1840. She paid him one thousand dollars a year to supervise the production end of the business.<sup>10</sup> Charles Brooke and James Sproul helped her by supplying her with blooms on credit.<sup>11</sup>

The business prospered under her direction, and by 1834 she had the resources available to completely rebuild the mill with a new dam, water wheel and furnaces.<sup>12</sup> The new mill worked well and its business increased until 1837, when two problems appeared.

The first of these was the Panic of 1837, which brought the mill to a stop and gave Rebecca Lukens a bad scare. On May fifth of that year she wrote to an old friend that

The difficulties of the times throw a gloom on everything. All is paralyzed - business at a stand. I have as yet lost nothing but am in constant fear and have even forbidden my agents to sell, not knowing who would be safe to trust.

I have stopped rolling for a few weeks and set my men to repairing the race dam and having a heavy stock manufactured already, I do not wish to increase it until times are more settled; but shall take advantage of the first gleam of sunshine to resume.

We do not know how to do without a

circulating medium. Everyone that has a dollar in silver hoards it up as if he never expects to see another, and our cautious people as yet are affraid [sic] of your small notes.<sup>13</sup>

The second difficulty facing the business was a lawsuit brought against Rebecca Lukens by her neighbors over her water rights. She successfully defended the suit and the mill was left to stand with its improvements intact.<sup>14</sup>

When Solomon Lukens retired from the business in 1840, Joseph Bailey, also a brother-in-law of Rebecca Lukens, replaced him. Bailey, like Solomon Lukens, was an iron master. This union was not as durable as the one before it and Bailey left in 1842 to be replaced by Abraham Gibbons, a son-in-law of Rebecca Lukens.<sup>15</sup> It is not known whether Solomon Lukens and Joseph Bailey were merely managers or Rebecca's partners. In any case, Abraham Gibbons did become a partner in 1844 and as the decade of the eighteen forties continued, Mrs. Lukens's role became increasingly passive. In October, 1847 Rebecca Lukens became a silent partner and the firm became A. Gibbons and Company. Two years later Gibbons took himself a partner, Dr. Charles Huston, who was also a son-in-law of Rebecca.<sup>16</sup> Huston, like his late father-in-law, abandoned medicine for the iron business.

→ A. Gibbons  
and co

The eighteen forties turned up a crisis for the business like each of the preceding two decades. In 1844 Rebecca Lukens's mother died and Pennock's heirs brought suit against Rebecca. The exact nature of the heirs' claims is not known, but Rebecca had to meet heavy payments to the claimants in order to make the property her own.<sup>17</sup> Mrs. Lukens must have run the business well up to that date, for by the time her mother died, she had accumulated a very considerable number of mortgages, bonds, and rent-paying properties. An entry in her personal journal dated January 4, 1844 shows that her annual rents came to \$1983. a year and that she had various mortgages and bonds worth \$28,561.<sup>18</sup> It must have been these resources that enabled her to settle the claims against her share of the estate.<sup>19</sup>

MARINA  
Pennock  
Jes

The fragmentary business correspondence of the eighteen forties shows that the mill was serving a national market. It sold the bulk of the iron produced through commercial agencies located in Philadelphia, Baltimore, New Orleans, New York, Albany and Boston. Further, by this date the mill had shifted its output to the specialized production of boiler plate. Nail and hoop iron production had ceased by the end of the eighteen thirties.

NATIONAL  
MARKETS

Not all iron sold through agencies. Aside from some trifling local sales, the mill also sold iron directly

to some manufacturers. Baldwin built locomotives of Lukens iron in 1836 and 1837.<sup>21</sup> In 1846 direct sales also supplied Ross Winans of Baltimore who manufactured several locomotives for the Baltimore and Ohio Railroad. The latter represents one of the few cases where Lukens sold iron on credit.<sup>22</sup> In spite of the fact that the venture was a success, the mill never sold iron on credit again.

Other sales were refused also. In 1842 Rebecca Lukens refused an agent's order for iron that was bound for the Boston Navy Yard. She and the partners who came after her were Quakers, and they consistently refused orders destined for military use until 1862. The agent knew of her pacifism and reassured her that "the iron is for making boilers for a steam engine for the rope walks - and not for any ships of war as you might have supposed by our first communication."<sup>23</sup> The answer to this explanation and the subsequent fate of the order are unknown.

*U.S. Navy  
charleston*

The transportation network of the eighteen forties was imperfect and vulnerable to the weather. In 1846 spring flooding ruined roads and breached canals in Pennsylvania. Both coal and blooms were denied to the owners when they were badly needed.<sup>24</sup> While it is impossible to find if this delay actually caused the loss of orders, this incident and others like it continued to worry the owners until rail service replaced the canals in the early eighteen fifties.

There was one financial scare in that decade. In 1848 Lukens's Boston agency found it very difficult to make its remittances. The Boston agency was Curtis, Leavens and Company and was by far the most active of Lukens's agencies. The firm was conservatively managed however, and as it turned out, it did not have to stand for a "shave in the street" and after some temporary embarrassment was able to meet its payments.<sup>25</sup> Aside from this incident there is no evidence of any serious financial pressure on the mill during the eighteen forties.

While there is no evidence of real economic hardship during these years, the owners made sporadic attempts to control the market in order to maintain a measure of stability. On two occasions the Lukens mill entered into price agreements with neighboring mills. In 1845 Lukens and one other Coatesville mill agreed not to raise prices in order to maintain their place in the New York market.<sup>26</sup> In 1847 the Lukens mill along with the other neighboring mills agreed to hold prices at a high level (six and a half cents a pound) in a flat market.<sup>27</sup> Neither of these agreements was very durable; they lasted only a few weeks. But this kind of cooperation was tempting, and efforts in that direction would be tried again in the eighteen fifties.

There was another way to promote stability and prosperity in the iron industry and Rebecca Lukens and



Abraham Gibbons, along with the other iron masters, launched into the high tariff campaign of 1844 with a will. The partners gave their whole hearted support to the Whigs and Henry Clay. Rebecca Lukens's ardent enthusiasm for Clay moved her to write the following poem:

Hail to the omen of a brighter day,  
 When freedom's bugle sounds the name of Clay.  
 Arouse then Patriots with a general voice.  
 Proudly proclaim him as a 'nation's Choice'.<sup>28</sup>

At the same time, the Boston agents informed Rebecca Lukens that "We have a great Whig gathering here 19th inst. and should be glad to see your Mr. Gibbons here providing our orders will not be thereby retarded."<sup>29</sup> Gibbons went on to Boston, but his travel and Rebecca Lukens's poetry went for nought, and their fears that the tariff would be revised downward came true in 1846. In June and July of that year the existing correspondence crackles with talk of the tariff and the proposed amendments, but the iron industry failed to gain any exemption.<sup>30</sup>

While in the mid eighteen forties the owners had sought to maintain profitability by limiting competition, their agents after the election in 1844 thought that Lukens should seek prosperity by expanding its productive capacity. In 1845, Curtis, Leaven and Company begged that a puddling furnace be added on to the existing plant.<sup>31</sup> One year later,

the New York agent William Kemble proposed that Lukens buy their own blast furnaces. Kemble observed that "You will never be independent until you make one half of the pig iron you require for making your blooms."<sup>32</sup> Lukens ignored these kinds of proposals, but they never ceased until Lukens put a new mill into operation in 1870. The agents of course would have borne none of the costs or risk of expanding the size of the plant.

Perhaps one of the reasons why the mill operations were not expanded was that the owners had other business interests. Sometime between 1838 and 1842 Rebecca Lukens opened a store and a warehouse which combined the functions of a depot and freight agency.<sup>33</sup> The store and warehouse employed four men between them. The store sold to owner, employee, and outsider alike, with no price difference to any customer. The warehouse charged a uniform freight rate to all users, including the rolling mill. Given this, it seems that Rebecca Lukens acquired or built these new businesses simply because they were profitable. Diversity of interest did not trouble her. In any case, the practice was not then unusual. In January, 1848, a man named Coopes of Kennett Square invited the mill owner to add a lumber selling agency to the existing businesses.<sup>34</sup> This offer was declined.

These two supplemental operations never exceeded a small fraction of the dollar volume business of the mill. Still, the store and warehouse required managing that most inevitably have been done at the expense of the main operation. This supposition is reinforced by the closing of the store in 1844 and the warehouse in late 1848. Evidently, the new partners felt that a concentration of effort would enhance their prospects in the iron trade.

38-47 670  
42-48 1045  
38-48 1045  
42-48 670

Rebecca Lukens retired from active management of the business in 1847 and sold a part of her remaining interest to her partner Abraham Gibbons, who in turn took a new partner, Charles Huston, M.D. in 1849. The price of the business is unknown for the contracts between the various partners of the mill have not survived, but the Census of Manufactures of 1850 shows that the mill represented a capital investment of sixty thousand dollars. It is safe to assume that she got a price that was proportional to the share of the business she sold and to the capital investment figures given for 1850.

Rebecca Lukens apparently did not sell the real property of the business to Gibbons. After her death the books show entries charged to the heirs of R. W. Lukens, but the figures are small, never amounting to more than several hundred dollars. Further, there is one source which indicates that she devised a part of the estate to

her two surviving daughters. Shortly after Rebecca Lukens's death in late 1854, one of her daughters, Isabella, wife of Charles Huston, bought up the shares of her sister Martha, who was wed to Abraham Gibbons.<sup>35</sup> At the same time, Huston was buying Gibbons's share of the business, so that the bulk of the enterprise was, for a time, almost wholly owned by the operator of the mill.

Some of Rebecca Lukens's personal correspondence has survived, and portions of it indicate that her feelings toward her work and subsequent retirement were mixed. Some of her personal journals and account books also exist and those of the mid eighteen forties reflect enthusiasm for her work. She listed her assets in January, 1844 and found that her rent income was \$1983.00 a year and that the mortgages and bonds she held were worth \$28,561.00.<sup>36</sup> These journals hint at a sense of personal triumph and satisfaction with her affairs. Debts are not simply listed; they are written out in full, thus:

My rents are as follows  
 Mill 1,200 per year Warehouse 200 - Storehouse  
 150,  
 Saddler shop 18...  
 Also Geo Fleming has \$5,500 of my money  
 Alban Hook owes me 5,000  
 Solomon Lukens owes me 6,300  
 John Mitchel owes me 6,000<sup>37</sup>

The world seemed her oyster at that time, but tragedy was not far off, for in 1845 her daughter Anne died in childbirth.

Her diary shows a grief that did not mend but lasted until she died.

After the death of her daughter and her retirement from business, everything turned to ashes. On December 1, 1850 she wrote in a poorly kept diary that

I look over my life with regret - So many opportunities of being useful and doing much good utterly neglected and now at this late approach of time it seems allmost [sic] a hopeless task to redeem the errors of the past or strike out a new path for the future.<sup>38</sup>

The next entry in that diary came over a year later and it shows that while she thought her past was an error in some unspecified way, it still attracted her and she missed her old life badly.

I believe that having passed so many years in constant excitement has had a very deleterious effect on me - it was a stimulant to my existence and now I feel the want of something to give an impetus - a spur to the routine of everyday life - and not finding this I become apathetic and indifferent to all around me. It is an incubus I greatly desire to shake off.<sup>39</sup>

This bleak assessment of her active life is terribly harsh and, to any outside observer, terribly unfair. Her efforts in her chosen life as a business woman were brilliantly successful in spite of grave difficulties in the beginning.

Her accomplishments were remarkable. She had

finished the pioneering work of her husband by establishing her mill's reputation for high quality boiler plate. Next, she quickly shifted the mill's output from nails and hoop iron to boiler plate. The new plant she built in 1834 ran well and remained essentially unchanged until 1855. Two years after she retired from active work the mill she made, the partners she took, and the market she cultivated combined to give Lukens its best year ever with a production run of nine hundred forty four tons. That mark would stand for another twelve years. She left the business flourishing in the hands of chosen capable successors. Finally, when she died, her personal estate was valued at \$107,952.28.<sup>40</sup> Judged as an entrepreneur, her achievements are remarkable and undeniable.

There is no explanation for her sense of failure. It cannot lie within her work and it does not seem appropriate to assign it to her personal life. Her letters and diaries reveal her as a loving mother, concerned for the welfare and happiness of her children and grandchildren. Her daughters and sons-in-law returned this affection and enjoyed her trust. Even so, Rebecca did not enjoy her retirement. A conventional speculation is tempting here. It is that continued working, the thing she knew best, would have muted her grief and would have stilled her impulse to look back with regret. She may have quit her work too soon.

CHAPTER II

<sup>1</sup>The Iron Age, CXXXVI, No. 1 (July 4, 1935).  
Lukens One Hundred Twenty-Five Years Young, pp. 41-42.

<sup>2</sup>Lukens Mss. Accession 50, Box 4. Eleutherian Mills Historical Library, Greenville, Delaware. Hereafter cited as Lukens.

<sup>3</sup>Ibid. The plant at that time was valued at \$14,000.

<sup>4</sup>Ibid.

<sup>5</sup>Ibid.

<sup>6</sup>J. B. Pearse, A Concise History of the Manufacture of Iron in the American Colonies... (Philadelphia, 1876), p. 180, and Lukens, 3. Dec. 30, 1818.

<sup>7</sup>Pearse, pp. 180-181.

<sup>8</sup>American Neptune, X, No. 3 (July, 1950). The iron for the hull was only one twelfth of an inch thick which may account for the ship's short life. See Lukens, Box 4, for the original order.

<sup>9</sup>Lukens, Box 4.

<sup>10</sup>Account Book of R. W. Lukens, May 4, 1844. M.S.S. No. 76206. Chester County Historical Society, West Chester, Pennsylvania.

<sup>11</sup>Lukens One Hundred Twenty-Five Years Young, p. 44, and Lukens, Box 4.

<sup>12</sup>Ibid.

<sup>13</sup>Robert W. Wollcott, A Woman in Steel (New York, 1940), pp. 20, 21.

<sup>14</sup>Lukens, Box 4.

<sup>15</sup>Ibid.

<sup>16</sup>Ibid.

<sup>17</sup>Ibid.

<sup>18</sup>Journal R. W. Lukens, M.S.S. No. 76206. Chester County Historical Society. This is a remarkable document. It shows that she got annual rents of \$1200 from the mill, \$200 from the warehouse, \$150 from the storehouse, \$18 from a saddler's shop, and an average of \$15 a year from each of ten dwellings she owned. Combined with this kind of information, one finds also travel expenses for her daughters, various small household expenses, and similar minutia.

That she was a shrewd business woman is demonstrated by a curious little note in the journal dated Jan. 4, 1844. The note reads: "By putting out 1439 dolls, I make this sum 3,000 - which on the spring I can do." The nature of this anticipated transaction is not known.

<sup>19</sup>The estate of Issac Pennock was contested at the death of Issac's wife Martha, in 1844. At issue was the division of the remainder of the estate. The Pennsylvania Supreme Court held that the estate of Issac Pennock was held in absolute trust by his wife so long as she lived, and that the trust did not have to be apportioned among her heirs with mathematical precision; that equity could be served by giving greater or lesser amounts to the survivors as Martha Pennock saw fit.

Rebecca Lukens was in possession of a farm and the Brandywine Iron Works, at a valuation of \$11,000 before the death of her father and after her husband Charles died, Rebecca Lukens paid her father's estate \$9,842.89. Mrs. Lukens operated the mill from 1825 onwards as if it were her own in fee simple. The claims that were supposed to have been brought against her must have been settled out of court, for there is no record of litigation against her in Orphan's Court. The claimants against her were not identified.

<sup>20</sup>Lukens, 20. Blotter. Passim. The last mention of nails is dated June 10, 1837.

<sup>21</sup>Ibid., 39. pp. 20 and 250. May 13, 1837.

<sup>22</sup>Ibid., 184. Jan. 31, 1846. Ross Winans to Lukens and Gibbons.



- <sup>23</sup>Ibid., 180. Sept. 13, 1842. Curtis, Leavens & Co. to R. W. Lukens.
- <sup>24</sup>Ibid., 184. March 1846. Incoming mail, passim.
- <sup>25</sup>Ibid., 186. Aug. 22, 1848. Curtis, Leavens to A. Gibbons.
- <sup>26</sup>Ibid., 183. May 13, 1845. Wm. Kemble to Lukens and Gibbons.
- <sup>27</sup>Ibid., 185. Nov. 11, 1847. Wm. Kemble to A. Gibbons.
- <sup>28</sup>Journal R. W. Lukens, M.S.S. No. 76207. Chester County Historical Society.
- <sup>29</sup>Lukens, 182. Sept. 9, 1844. Curtis, Leavens & Co. to Lukens and Gibbons.
- <sup>30</sup>Ibid., 184. June and July passim.
- <sup>31</sup>Ibid., 183. Feb. 10, 1845. Curtis, Leavens & Co. to Lukens and Gibbons.
- <sup>32</sup>Ibid., 184. Feb. 5, 1846. Wm. Kemble to Lukens and Gibbons.
- <sup>33</sup>The ledgers, journals, and daybooks are all missing from this period, as is all the correspondence. The journal and ledger series recommence in April, 1842 and both have entries marked "Warehouse" and "Store" from that date until 1849.
- <sup>34</sup>Lukens, 186. Jan. 1, 1848. L. W. Coopes to A. Gibbons.
- <sup>35</sup>Lukens, Box 4.
- <sup>36</sup>Journal R. W. Lukens, M.S.S. No. 76206. Chester County Historical Society, West Chester, Pennsylvania. Jan. 1, 1844.
- <sup>37</sup>Ibid.
- <sup>38</sup>Diary of R. W. Lukens, M.S.S. No. 31,837. Chester County Historical Society, West Chester, Pennsylvania. Dec. 1, 1850.

<sup>39</sup>Ibid., Jan. 7, 1852.

<sup>40</sup>Statement of the amounts and disposition of the estate of R. W. Lukens, Oct. 1, 1855. Copy of original document furnished by my friend Eugene DiOrio, Coatesville, Pennsylvania.