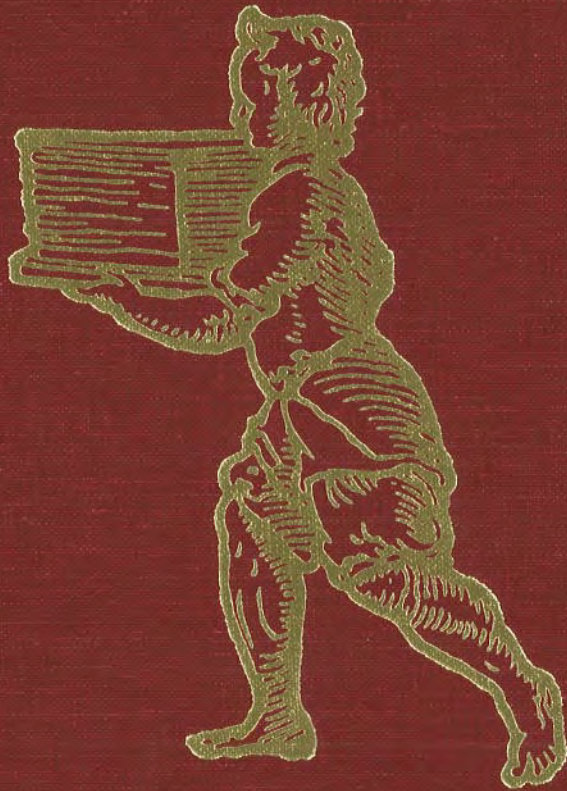


THE CURTIS PAPER COMPANY



THE CURTIS PAPER COMPANY:

From Thomas Meeteer to the James River Corporation

WHEN THOMAS MEETEER established his paper mill near the banks of the White Clay Creek outside Newark, Delaware, in 1789, he probably never imagined that it would still be in operation over two centuries later. Yet that is precisely what happened. Over the years, the mill has had several owners, the technology of papermaking has changed dramatically, and the village of Newark has become a city that surrounds the mill. Today, the Curtis Paper Company, owned by the James River Corporation, continues a long and proud tradition of papermaking.

CONSTANCE J. COOPER

I
1789 - 1847

IN THE EARLY 1780s Thomas Meeteer (1739-1812), a Quaker, left Chester County, Pennsylvania, to seek his fortune on the banks of the White Clay Creek. Little is known of his previous life, but he was probably not a trained papermaker. In 1789, he described himself as a yeoman, or average farmer; later occupational labels included papermaker, merchant, and gentleman. No matter what he called himself, Thomas Meeteer was enterprising and ambitious. Paper-making was one of his roads to success.¹

Meeteer made his first known purchase of land in Mill Creek Hundred (Delaware's equivalent of a township) in 1783. By 1797, he owned about 285 acres on both sides of the White Clay Creek, a little over one half mile from the village of Newark.² On this land, Thomas Meeteer developed a farm, a sawmill, a paper mill, and housing for his family and his workers.

The paper mill apparently began in 1789, for on January 1 of that year Meeteer ordered his first mold, with the watermark "TM & CO," from Nathan Sellers of Philadelphia. He also borrowed capital, built a dam in the White Clay Creek to provide water power, erected buildings, purchased equipment and raw materials, and hired skilled workers.³ Just two years earlier Joshua Gilpin and Miers Fisher had established their paper mill on the Brandywine River, the first in the state of Delaware. These were not, however, the first paper mills in the Delaware Valley; that honor belongs to William Rittenhouse's mill in Philadelphia, founded in 1690. It was the first in the American colonies, and the Philadelphia area was the center of the American papermaking industry until New England rose to dominance in the early nineteenth century.

At Meeteer's, as at all other mills of the time, paper was made laboriously by hand. Rags, the raw material, had to be sorted and

Samuel Nivin *Dr*
 To Sumaries *L 1. 10. 0*
 Tobias Biddle *Dr*
 To 1 Sifter *3/4*
 Capt. Thomas Boyse *Dr*
 To 12 lb Sugar @ 1/3 4.00 Coffee @ 2/2 17.19
 2 lb Candles @ 1/4 1/2 1.00 Tea 2/6
 Cash forty Dollars. 2 Gall F. Brandy @ 15/-
 Capt. Thomas Boyse To S. Nivin *Dr*
 To Cash fifty one Shilling 8d *L 2. 11. 1*
 Shop *Dr* To Thomas Mateer
 For 2 Reams first Cap paper @ 30/- }
 2 Reams Retrea #1. @ 25/- } *L 10. 0*
 Doct William M'echer *Dr*
 To 150 feet W. Pine Boards @ 15/-
 John Quenarit *Dr*
 To 1/2 Gall a Brandy 3/4
 1 Whip Thong 1/10
 Chester M'Guire D. To 5 lb Nails 2 1/2

Entry from daybook of the store of Samuel and David Nivin at Christiana Bridge, Delaware, recording the purchase of paper from "Thomas Mateer & Co," September 3, 1797. (Courtesy of the Historical Society of Delaware.)

washed. Clean white rags were the best, for they made the whitest paper. Colored rags had to be boiled in an alkaline solution and exposed to the sun to be bleached. The clean rags were rolled into balls and kept moist for six to eight weeks during which they distintegrated into pulp. Then the pulpy rags were macerated in either a huge mortar and pestle powered by hand or by water, or in a more efficient machine called a Hollander beater, also powered by water. The resulting pulp was mixed with clean water and was ready to be made into paper.

The vatman, the most skilled worker in the mill, made each sheet of paper individually with a mold, which was a wire screen that had a removable deckle, or border, around the edge. He dipped the mold into the pulp. As he raised it, a thin layer of pulp stayed on the mold and much of the excess water drained off. The vatman removed the deckle and passed the mold to a worker known as the coucher, who turned it over onto a piece of felt and pressed it so that the sheet of paper adhered to the felt. The vatman and coucher continued this process until they made a stack of 144 sheets and felts, which were still wet. An experienced vatman could make three to seven reams, or 1,440 to 3,360 sheets, of paper in a day.

At this stage the entire stack of paper was placed in a giant press that took considerable manpower to operate. This squeezed out the water and forced the fibers of the paper more tightly together. Another worker, the layman or layboy, separated the stacks of sheets and felts. After two or three more pressings, the paper was taken to a drying room where each sheet was hung up to dry. The paper was then dipped into sizing, a gelatinous substance that coated it so that it took ink better, followed by another sequence of pressing and drying. After this, the sheets went through wooden cylinders called glazing rolls to give them a smooth finish. The final steps were trimming the sheets to the desired size and packaging them in quires (24 sheets) or reams (480 sheets).⁴

By 1796, Thomas Elms and Joseph Webb were associated with Meeteer. They may have been the "& Co" of the watermark of 1789. The nature of their relationship is unknown, but Elms and Webb were involved in the management of the mill, and Elms was also a part owner. The three men may have been partners, but Meeteer was the dominant figure. By now the mill was well established and an appropriate place for a young apprentice, one Benjamin Vangezell.⁵

The mill's history becomes complex and somewhat troubled after 1800 as Thomas Meeteer took his sons and son-in-law into the business and opened a book and paper store in Baltimore. Meeteer's sons first joined him in the paper mill in 1800. By late 1801, T. Meeteer and Son opened a bookstore in Baltimore. In early 1804, the partnership of T. Meeteer and Son in Baltimore was dissolved and replaced by S. Meeteer and Armstrong, Thomas Meeteer's son Samuel and son-in-law John Armstrong. At the same time, Thomas Meeteer sold his entire property in Delaware to Samuel for £2,650 (approximately \$7,300). Armstrong also joined Samuel Meeteer in managing the establishment in Delaware. Thomas Meeteer had moved to Baltimore and apparently wanted to give up these enterprises.⁶

In 1805, Samuel Meeteer tried to sell the property on the White Clay Creek. The newspaper advertisement for the sale provides a detailed description of this agricultural and industrial complex. Of the 300 acres of land, about 100 acres were in woodland, another 100 were cultivated, and the rest, it was said, could easily be brought into cultivation. There were two orchards, one of 150 old trees and another of about 300 new, grafted trees. Farm buildings included a large log and frame barn with stone stables underneath and "three large barracks."

The paper mill on the White Clay Creek had three vats, although only two were in use. If all three were in constant use, the

mill might produce nine to twenty-one reams of paper per day. The supply of water was sufficient to run three vats most of the year, "and the whole machinery is in good condition." As a further inducement, the mill was touted as "possibly in as convenient a part for carrying on the paper-making business as any in the United States" because of easy access to land and water transportation. Both the Delaware River and the Chesapeake Bay were within easy reach, although the Chesapeake was slightly closer. The sawmill, on another stream, is mentioned briefly as being "also in good order."

Seven houses were on the property. A recently completed brick house near the paper mill was two stories high with two rooms on each floor and a kitchen and cellar underneath. A large two-story frame house had three rooms per floor and "a shed and draw-well of excellent water under the roof." Adjoining this was a two-story stone kitchen wing, twenty-two by twenty-eight feet, with three rooms on the second floor and a cellar underneath. The other five small dwellings were for tenants on the farm and families employed in the paper mill.⁷

This complex operation in Delaware, along with the store in Baltimore, provided income from farming, industry, and commerce. Operating in the larger regional economy, the store probably provided the major outlet for selling the paper. The saw-mill was most likely a seasonal, local operation that allowed Samuel Meeteer to harvest his own woodlands or saw logs for other people in the area. In a predominantly agricultural society, the farm provided a solid foundation.

With its seven houses, the operation created a complex network of human relationships, too. Two of the workers' dwellings were for tenants on the farm. The other three were suitable for "families who are to be engaged in the paper making business," which suggests that women and children worked alongside their husbands and fathers. In 1800, the census taker saw the entire operation as

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The will provides for six children or their offspring. One son had totally disappeared. Another had died, leaving a widow and two children. Meeteer's only daughter, Ann Meeteer Armstrong, was a special concern. Her marriage to John Armstrong had failed and the terms of her inheritance required that she have nothing to do with him. To his son-in-law, Meeteer left one dollar to satisfy any claim that "he may or can any way pretend to have" in the estate.

Mercy Meeteer was well provided for, but she would forfeit most of her inheritance, along with her position as executrix and guardian of her minor son, George Brown Meeteer, if she remarried. She made that very choice in April 1813, not long after her husband's death in September 1812.¹²

Three sons, Samuel (1776-1838), William (1787-1833), and George Brown Meeteer (b. 1805), inherited the land, mills, and houses on the White Clay Creek. Samuel and William continued the establishment on the White Clay Creek and the store in Baltimore. Their brother struck out on his own and had a mill for bark, grain, plaster, and lumber on the Christina River by 1832.¹³

William Meeteer lived in Baltimore and ran the book and stationery store, which operated until 1842, while Samuel managed the paper mill, sawmill, and farm in Delaware. Despite his various responsibilities, Samuel apparently saw himself primarily as a papermaker. The brothers seem to have had a stronger commitment to the paper business than their father did, for they owned another paper mill near Rockville, Maryland, from 1800 to 1816.¹⁴

The tax assessment for 1816 and the industrial census for 1820 provide another glimpse of the property. By 1816, the Meeteers had increased their land holdings considerably. The main property was the 368 acres that they had inherited from their father, 150 acres of which were improved and the rest in woods and wasteland. Buildings included a stone and wooden dwelling, three

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log houses, a stone barn, a stone smokehouse, wooden outbuildings, one stone outbuilding, twelve brick outbuildings, a sawmill, and, of course, the paper mill. The Meeteers owned another tract of 152 acres in Mill Creek Hundred, with 52 acres improved and the rest in woodland. This property had a log house. The assessment also listed a male slave aged twelve who was to serve sixteen years and then be freed.¹⁵ This was a common practice, for even though slavery was dying out in the state, Delawareans were not yet ready to abolish it completely.

According to the industrial census for 1820, the mill had three vats in operation and used seventy tons of rags per year, at a cost of \$5,000. Twenty-one men, twenty-eight women, and seven children whose combined annual wages totalled \$7,330 worked there. Because of the depression following the Panic of 1819, both sales and cash flow were slow.¹⁶

One of the Meeteer's papermakers, Chrispin Taylor by name, stands out from his anonymous coworkers. In 1816, he was assessed for thirty-two acres, twelve of which were improved and the remainder unimproved. There was a log house on the property, and Taylor owned one cow. In a society in which most people did not own land, Taylor was fortunate enough to have both land and a trade. His land happened to adjoin his employers', and in 1818 he sold twelve acres to the Meeteer brothers for \$1,800. This was a very good price, for the Meeteers had paid about \$47 an acre for other land two years earlier. Taylor signed the deed with a mark, but his wife Elizabeth, signed with her name.¹⁷

The next view of the operation comes from a survey of American industries done in 1832, known as the McLane Report because it was administered by the secretary of the treasury, Delawarean Louis McLane. In his response to the request for information, William Meeteer estimated that his mill produced

about \$22,000 worth of paper annually. American rags were used almost exclusively, at a cost of \$11,000. The labor situation had changed since 1820, for now only thirty-four people were employed at a total cost of \$5,000 per year. Eight were men, compared with twenty-one twelve years earlier. The rest were women and children. Other workers "employed around the establishment" cost the Meeteers \$2,500 to \$3,000 per year in wages. In Meeteer's words, "of the families employed in the works, there is about 70 persons, large and small besides the 34, in all 104." He was not optimistic about the prospect for the paper business. In his view, the production of paper in the United States had increased more than 25 percent in the past ten years and the price had declined by 20 percent.¹⁸

In its general commentary on the paper industry in Delaware, the McLane Report considered the Meeteer mill to be a "respectable manufactory" ranking between the Brandywine Manufacturing Company, now owned exclusively by the Gilpin family, and two smaller establishments. For comparison, the Gilpins employed twenty men at \$300 per year each, ten boys at \$150 each, and fifty women at an average of \$70 each, bringing the total payroll to \$11,000. Wages for other laborers and carpenters were \$1,000 per year. The average work day was eleven and three-quarters hours. The owners provided a school for the children and night school for the employees in the winter.¹⁹

The Brandywine Manufacturing Company used 100 tons of rags valued at \$26,000 and produced \$60,000 worth of paper annually. The mill had three paper engines (probably beaters for preparing pulp) and one paper machine. In 1817, thanks to the mechanical genius of Thomas Gilpin, this mill produced the first machine-made paper in the United States. Thomas Gilpin's brother Joshua had visited England and Europe in the late eighteenth and early nineteenth centuries and studied the new

papermaking machines being developed there. Using this information, Thomas Gilpin designed a papermaking machine based on the invention of John Dickinson, an Englishman. It used a revolving cylinder partially submerged in a vat of pulp. The pulp adhered to the cylinder, and when the cylinder emerged from the vat the pulp transferred to a felt and then went through a series of press rolls to squeeze out the water. This was a major advance, but Gilpin's machine did not come to dominate papermaking as the Fourdrinier machine later would. Whether the Meeteer mill ever acquired a Gilpin machine is unknown, although one might have been used there.²⁰

At the other end of the spectrum, John Fales's small establishment on the Christina River, begun in 1830, employed four men and one boy. The mill produced 1,500 reams of brown paper and 500 reams of better quality paper per year. The mill used 25,000 pounds of coarse rags and 13,000 pounds of fine rags annually.²¹ These three mills represent the range of possibilities in the last years before the Fourdrinier machine changed papermaking from a craft to an industry.

The partnership of the Meeteer brothers ended with William's death in 1833. He left a widow and four daughters, three of whom were still minors. Samuel Meeteer died in 1838, survived by a wife and eight children, six of whom were minors. The mill was apparently in operation until 1841, when Samuel Meeteer's heirs decided to sell his property to settle the estate. In 1843, Joseph E. Perry of Mill Creek Hundred bought the mill and twenty-one acres of land for \$6,000.²² From this point on, the paper mill was an industrial property only and not part of a larger complex.

The brief period of Perry's ownership is a complete mystery. It is unknown whether he operated the mill or not. The only certain

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fact is that whatever he was doing, he did not succeed. By 1847, he was deeply in debt and the paper mill, by now run down, was to be sold by the sheriff. It proved to be just the right challenge for another pair of brothers, George B. and Solomon M. Curtis.²³

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II
1848-1926

THE CURTIS BROTHERS came from a papermaking family in Massachusetts. Their father, Solomon Curtis (1766-1818), established a paper mill in Newton Lower Falls in 1791. Of his nine sons who lived to adulthood, eight followed him into papermaking.²⁴ Allen and William Curtis continued their father's mill, and it was there that the brothers who moved to Delaware learned the business.

In 1828, the Curtises installed two Fourdrinier papermaking machines, imported from England, in their mill. This placed them among the earliest American users of the new technology. First patented in England in 1806, the Fourdrinier machine operated like a conveyer belt. Pulp poured from a vat onto a continuously moving wire screen that passed over and through a series of rollers that pressed and dried it until the finished paper rolled onto a spindle at the end. With this machine the vatman no longer had to dip a mold—and his hands—into the pulp to make each individual sheet of paper. Brute force was no longer needed to press the water out of paper. The machine could make a continuous sheet of paper of almost any length and as wide as the machine. By the mid 1840s, almost all of the paper produced in America was made by machine.²⁵

The career of George B. Curtis (1810-1859) took him from mill to mill. He preferred the initial phases of setting up and starting the mill to the routine of day-to-day operation. In his travels, he came upon the abandoned Meeteer mill, which looked like a wonderful opportunity for him and his brother. Solomon M. Curtis (1818-1904) was working at a mill in New Hampshire when he received the summons to come to Delaware.²⁶