

The Paper Mills of Coventry by Bill Jobbagy, May 2006

Two paper mills existed in Coventry in the early 1800's. They were among the 10-12 paper mills located in Connecticut at the time, though only East Hartford and Coventry had more than one. Paper was made by hand by essentially the same process used for 900 years. The raw material was cloth rags and water. The first mill was located on the west side of the Skungamaug River on the present border of Coventry and Andover. The second mill was located on the Mill Brook in the Village about where the Tracy Mill and Ackert Electric office is today.

The paper mill on the Skungamaug River was built in the 1790's by Elijah House. It consisted of a mill, dam and dwelling on about one acre of land. The ownership was split and changed hands several times until 1813 when Gideon Hollister consolidated the deeds and acquired full ownership. Mr. Hollister was born in Glastonbury in 1776 and settled in the Andover Society of Coventry in the early 1800's. His paper mill was a relatively large complex. The road leading by it from the Hartford-Norwich Turnpike (Route 6) to South Street was known for years as the Paper Mill Road. Today the road (Times Farm Road) dead-ends before reaching South Street. Gideon and his wife Mary had five sons and two daughters. Charles, his fourth son, remained in business with his father until the sale of the site. Gideon's fifth son, Nelson, worked as a paper maker with his father for a while but moved to Hartford in 1838. He became a successful dealer in paper stock and, along with his wife, were generous contributors to the Church and the Ladies Society.

An 1819 Gazetter for Coventry lists two paper mills. The 1820 Federal Census of Industry lists Hollister's paper mill using cotton and linen rags (16 tons that year) as raw material and employing four men and four children. The mill had a wet and a dry press and paid \$1,400 in annual wages. It produced writing (400 reams), printing (600 reams), and wrapping paper (200 reams) for a total value of \$4,200 (roughly \$70,000 in today's money). The site included a mill on the river, a bleach house, a woodhouse, a wagon house and a barn. Their residence was across the street. Significant remains exist today including many building foundations, a partial millrace, and a nearly intact stone and earth dam.

Mr. Hollister operated the mill until his bankruptcy in 1841 when the mill was sold to five Hartford investors. An 1845 State census shows the paper mill producing 312,000 pounds of stock and having 18 employees. A ream of paper sold for \$3.77 to \$4.20 each and deliveries were made to Hartford and Boston. In 1841 the machinery in the mill included rag cutters, pumps, paper presses, rag grinders, and a Fourdrinier paper machine. Inventory included cords of wood, casks of bleaching powder and several large bales of rags recently transported from the steamboat landing in Hartford.

There was a fire in the mill (now owned by Edgar Bartow of New York) in 1848 and an insurance settlement of \$2,000 was collected, though in 1852, the mill was sold to the insurance company. The insurance company immediately sold the site to a consortium of 5 individuals. The site included three dwellings, three barns, a bleach house, the mill and its machinery and utensils. These individuals took out a \$10,000 mortgage on the site so it appears the mortgagors (Hunter & Hill who live just to the south) felt there was a value to investing in the mill site. An 1857 map of Tolland County show the paper mill here. By 1859 six different folks owned the mill though it was still operating with three engines, a driver with calendars (mechanized rollers) and cutters and dusters. It was then consolidated in June of 1860 to F. Cowles. The value of the site was about \$6,000. Mr. Elihu P. Buell (of Hebron) acquired the mill through a foreclosure in 1863. Mr. Buell is shown on the Coventry Tax records for 1856-1863 with a mill assessed at \$1,000. By 1869 Buell has changed the mill to a cotton factory making twine and batting and the value of the mill is less than \$3,000.

An 1869 Map of Andover indicates a Twine & Batting Mill on the river, and also shows a Blacksmith's shop. The machines in the mill include a twister, a puncher, a lapper, a turning lathe, a machine with 128 spindles and a winder. Deed references continue to 1872 that mention the twine mill and after that the deeds only mention the property.

The paper mill on the Mill Brook in Coventry Village was built by Solomon Gilbert, a local merchant, in 1812. He was joined by Capt. Jeremiah Fitch and Charles McLean. The deeds indicate the mill site to be "5 rods south of the grist mill" which was located where the Teleflex building is today. The purity of the water was noted for making writing paper and paper for account books. Prior to the paper mill, Ebenezer Bacon operated a fulling mill (for cloth) on the site. The paper mill operated for 18 years with Calvin and Royal Manning being the last owners. The 1820 Federal Census of Industry lists the mill producing 1,430 reams of writing, printing and wrapping paper by hand. The Mannings (for which Manning Hill is named) leased the site to Alexander and Thompson for a time until 1830 when they sold it to Thomas and James Dyke and Jude Sabin. The mill was no longer producing paper at this time. More sophisticated mechanical paper making machines had emerged, and it is assumed that the owners did not or could not invest the capital required to upgrade the plant. Messrs. Dykes and Sabin converted the site to make cotton sheeting. In 1837 there was a widespread economic depression and the mill was sold to J.W. and John Boynton who operated the cotton mill until their bankruptcy in 1857.

The mill saw limited activity until 1888 when Eugene Tracy acquired the site and began a nearly 40 year use of the site to make shoddy, a re-cycled wool. The Great Depression of 1929 caused the mill failure, and it was taken over by the town for back taxes. The town used the site for the volunteer fire department and town garage until 2001 when it was purchased by its present owner, Tim Ackert.

The first paper mill in America was established in 1690 near Philadelphia by William Bradford and Nicholas Rittenhouse. They made their paper by hand. By 1810 there were 185 paper mills in the new United States. Connecticut had 10-12 paper mills at this time. The raw material was essentially cotton or linen rags collected primarily from the larger cities. Higher grades of paper were made from white rags of a good quality linen. The lower grades were made from colored cotton and linen rags. "Grade One" paper was reserved for writing paper, documents and atlases. Grade Two was for newspapers, and Grade Three was reserved for wrapping paper, wallpaper, stiffening boards for bonnets, etc.

The first step to making paper is to sort the rags by color and quality and thoroughly wash them. Darker rags are then bleached. In the early 1700's, bleaching was accomplished by simply boiling the rags in lime or other alkaline solution. By the 1780's, chlorine was discovered as a bleaching agent. Chlorine bleach resulted in a yellowish-brown paper and required an artificial coloring agent to lighten the color. The damp rags were rolled into balls and kept moist for several weeks to allow them to ferment and partially disintegrate. The next step was to grind the rags into a pulp. Here's where water powered machines came into play. Early grinding was essentially done by pounding with large shafts and later by a beating similar to cleaning a rug.

All hand made paper was produced in a mold. The mold varied in size from about 14 by 16 inches up to 26 by 30 inches. A mold was made from two oblong wooden frames. One frame had wires going the long way and spaced closely together. The second portion of the mold, called a "deckle", had wires spaced about one inch apart and perpendicular to the wires in the first mold. The two molds fit snugly together. The skilled workman that handled the molds was called a vatman. He held the main section of the mold horizontal and dipped it into a vat of pulp. Upon removing the mold from the vat, the excess water drained, leaving damp pulp on the wire mesh. He then joined the second part of the mold in a "sandwich" and shook the assembly sideways several times to remove the remaining water.

The next workman was called a coucher (pronounced “koocher”) and his job was to take the wet paper out of the mold by carefully turning it over onto a piece of felt. He repeated the process until he had a stack of felt and pulp about 144 sections high. This stack was called a “post”. It is from this origin that many newspapers bear the word “post” in their titles. The post was compressed by a screw press to remove the remaining water and compact the pulp fibers together. Next, a “layman” peeled the paper from the felt and laid the paper on a fresh sheet of dry felt. He created another post for compressing the paper. After this posting process was done three times, the paper was taken to an upper floor where a series of racks allowed the paper to be hung and dried.

After drying, the paper needed to be further treated. At this point it was too absorbent and ink placed on the paper would easily blotch. The treatment consisted of dipping each sheet of dried paper into a vat of sizing. Sizing was made from animal parings (bits of flesh scraped off the hides) boiled into a gelatinous liquid. The sized paper was then returned to the felt posting process to remove any excess sizing. Finally the dried paper was laid on a slab of marble and rubbed with an agate or soapstone to work in the sizing and smooth the paper. A good shop could produce up to 1,500 pieces of paper a day.

By the early 1800’s a papermaking machine was used that mechanized much of the process. The machine was invented by a Frenchman, Nicolas Robert, in 1798 and refined by Englishmen Brian Donkin for Henry and Sealy Fourdrinier. The machine has since been called a Fourdrinier machine. The first machine of this type was imported from England in 1827. The second was built in Connecticut by George Spafford of North Windham in 1829 and sold to Amos Hubbard of Norwich Falls. The Smith & Winchester factory in South Windham Village (started by George Spafford and James Phelps) made paper making machines from 1830 into the 1900’s. The Fourdrinier machine used a continuous wire screen to replace the hand molds. The pulp is picked off the wire screen by a felt roll and then through a series of squeeze rollers, then to a series of drying rollers. The paper was scraped off the drying rollers onto a winding roller (the calendar) that insured the paper was of consistent thickness and grain. The process used today is very similar to the original Fourdrinier process and most paper is now made from wood pulp, though cloth and cellulose fibers are used as well.

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