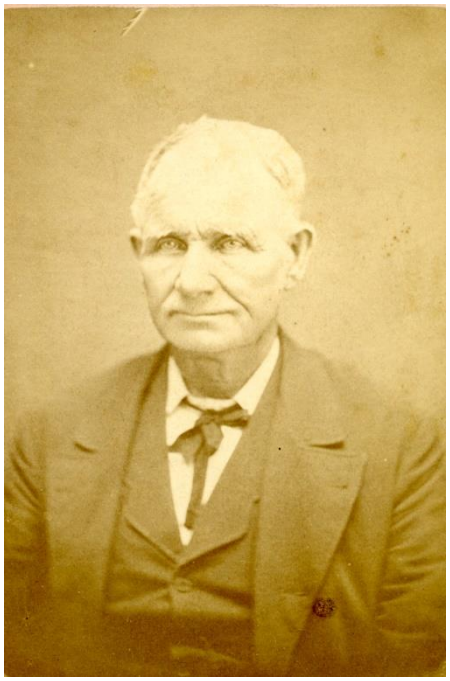
THOMAS TRENCH,
PAPERMAKER AND INVENTOR

W. M. Baillie

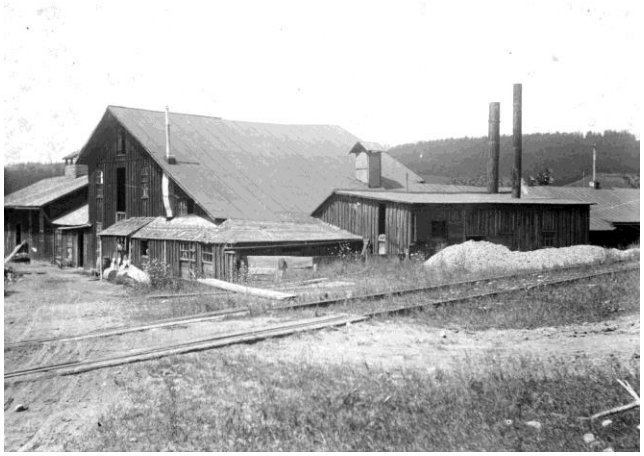


Thomas Trench (1807-1897)

Thomas Trench is a forgotten man—a Columbia Countian who was a first-rate achiever but who no one locally has ever heard of. He invented a printing machine which is the "granddaddy" of all the major commercial printing presses now in use, but he never reaped the rewards of that invention: other inventors got the glory and the profits.

Trench was born at Schenectady, New York on April 1, 1807, and in his teens moved to Ithaca, NY, where he ran a paper mill for his father. While at Ithaca, taking up on his interest in selling paper, he invented a printing machine which could be attached directly to a newly-made stream of paper.

In 1840 he came to Columbia County and took over a grist mill at Mill Grove just west of Light Street (now a stone quarry). Soon he converted part of that mill to make paper (using the water power to turn the blades in the large pulp vats), and in 1842, with his family's help, he bought the 35-acre mill property. In 1847 he became the sole owner. He settled his family in a large house near the mill and took a regular part in community affairs.



The Paper Mill in the 1890s.

He developed papermaking there on a large scale—in 1852 he ran ads seeking 100 tons of straw to make pulp—and with a broad range of products, as he advertised in the Columbian in 1844:

PAPER! PAPER!

THE subscriber having established a PAPER MILL at MILL GROVE, near Bloomsburg, Columbia County, where he has the latest IMPROVED MACHINERY, and having followed the business for twenty years he is confident he can furnish as good paper as any in the Country and on as reasonable terms to Printers, Merchants and Lawyers, or any persons who may want the article. He also keeps constantly on hand Attorney's Cap, Fool's Cap, Letter, Writing, Printing and Wrapping paper of all kinds. Also, an assortment of SCHOOL BOOKS. Also, Blank Book, Extra bound, Full bound, and half bound of all sizes, and assortment of writing books &c. He is ready to exchange the above for Paper or Books, for Rags or Sizing.

THOMAS TRENCH.

Millgrove: February 26, 1844

He continued to run a grist mill at the site also, advertising in 1855 that he had newly refitted that facility with three "run" of grindstones. On October 7, 1856 the mills were destroyed by fire. He promptly rebuilt even larger, and later received a disputed insurance payment of $3,000.

After the Civil War he opened an office and warehouse at Wilkes-Barre, where he hired an agent and advertised (in *The Luzerne Union*), speaking particularly to mine superintendents: "Having thoroughly overhauled my Paper Mills, near Bloomsburg . . . I am now prepared to fill all orders for Wrapping, Dry Blasting and Water Proof Paper, on short notice and at fair prices." He could ship paper to that warehouse by the North Branch canal. (Railroad tracks came directly past his mill much later, in 1887.) His business prospered and he grew wealthy.

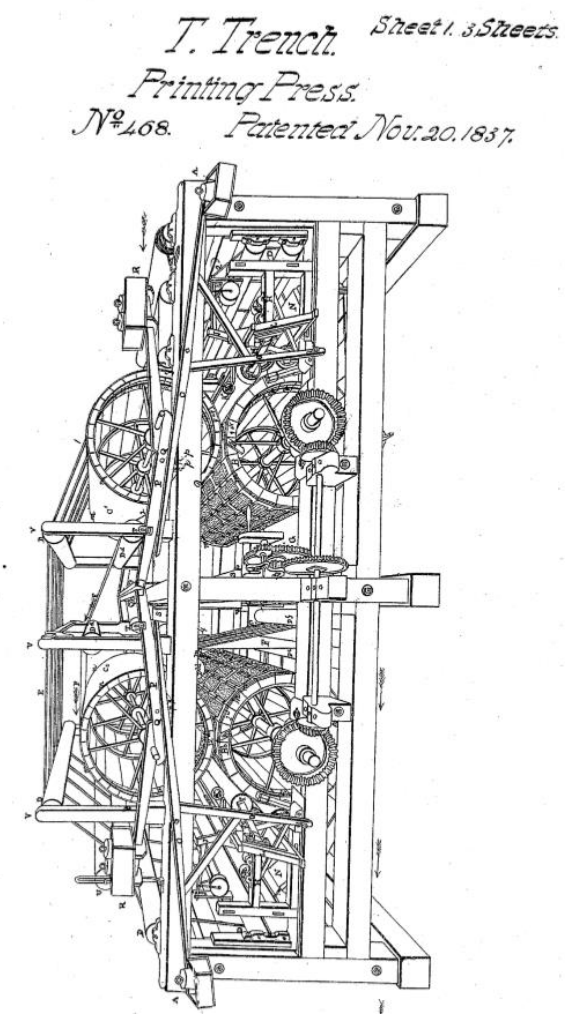
He was restless, however, and looked for new fields to conquer. In 1881 he traveled all the way to San Francisco to scout out opportunities, but in the event he went instead to Florida. In 1883 he moved his family to Leesburg, Florida, northwest of Orlando, and began to buy up orange groves and other properties. He earned enough as a landlord to live comfortably until his death at home in Leesburg in 1897.

The Mill Grove 35-acre property he sold in January 1883 to Jacob Henry Maize. Ten years later it was sold to James M. Shew, who operated it for many years, and his son-in-law Robert J. Ruhl after him.

James Shew house near the Paper Mill; it was probably built by Thomas Trench.

We need to turn back to view the one greatest accomplishment—and missed opportunity—of Trench's life, his big invention: a practicable rotary printing press. Since Gutenberg, for three hundred years printing had been virtually unchanged—printing one side at a time on sheets of paper not too large to be handled readily by a single worker. The revolutionary idea was to print from a rotating cylinder on a continuous moving roll of paper—which allowed eventually an increase in speed from a thousand single sheets a day to a hundred thousand complete large newspapers in an hour.

Trench developed his complicated design and had a prototype built at a machine shop in New Jersey (see his drawing for his patent application). That his new press was workable is evident from this notice in the New York Evening Post of April 25, 1837:



A drawing of Trench's press, redrawn from his patent application of 1837.

NEW PRINTING PRESS.—One of our most ingenious and worthy mechanics, *Mr. Thomas Trench*, has invented a new Printing Press, which will eclipse every thing of the kind heretofore put in operation. It is intended for stereotype plates, and will work off fifty reams of paper, of mammoth size, per day. It is intended to be attached to paper mills, and will print as fast as any mill can manufacture, without any other help than that required to manufacture the paper. The register [alignment of pages], by a simple regulation, can easily be changed, and made perfect. We have now a sheet in our office, worked on the new press, twenty-six feet long, printed on both sides at a time, in a quarter of a minute. The sheet contains two books of 160 pages each.

Similar is this report from *The Long-Island Star* published at Brooklyn on April 2, 1838:

New Printing Machine.—Mr. Thomas Trench, of Ithica [sic], New York, is constructing his patent Printing Press at the Speedwell Works near Morristown [New Jersey]. The Jerseyman mentions that it is to be attached to one of the Paper Mills in the place, and describes it as follows:

> The Press takes the paper immediately from the Paper machine, prints it on both sides, and passes it through drying cylinders, which presses in smooth: thus, in one operation, and within the space of *three minutes*, the pulp is taken from the mill, and a book, of 356 pages is ready for the binder. The paper is printed in one continuous sheet, thus a whole edition can readily be printed, rolled up, and sent any distance. Mr. Trench had on his Press *"Cobb's Juvenile Reader,"* of 216 pages, of which he presented me a sheet of about 70 feet, neatly printed, and which can be examined at our office.
>
> This new printing machine will cause a complete revolution in the art of printing, and greatly diminish the price of standard works and select books. Hereafter, we suspect, orders will be given for Bibles, Spelling Books, &c, &c, by the *mile*, instead of the *volume* as in former times.

The writer's prediction was "spot on" with regard to the price reduction that rotary presses would cause, and the increase in productivity, so that editions of half a million book copies are now easily completed in a week by large print firms. The rotary press became almost universal in the print industry.

What these newspaper writers didn't predict is that Thomas Trench's name would not be associated with the invention of this device, in fact, would be wholly forgotten. His press was workable, and it was awarded U.S. patent: #468 on November 20, 1837. But it didn't lead to commercial success. Instead, a press patented ten years later (July 24, 1847, #5,199) carried the day, and its inventor, Richard M. Hoe, is generally credited with devising the first practical rotary press. Wikipedia's article, for example, on "Rotary Press Printing" declares flatly that "Rotary drum printing was invented by Richard March Hoe in 1843." Wrong! It was invented by Thomas Trench in 1837.

We can't determine now why Trench's machine didn't come into wide use. The idea—of a rotary press printing a continuous sheet of paper—was not original with Trench, but it seems that his device was the first *workable* example of that concept, a decade before Hoe's. Whether due to lack of capital for development, or technical problems, or the inventor's focus on paper-making rather than printing, Trench's patent was lost sight of and forgotten.

Despite this disappointment, Trench ended his days in comfortable retirement in sunny Florida. He died at age 90, on June 23, 1897. His son brought his body on the train North to Bloomsburg for burial next to his wife Clarissa in Old Rosemont Cemetery.