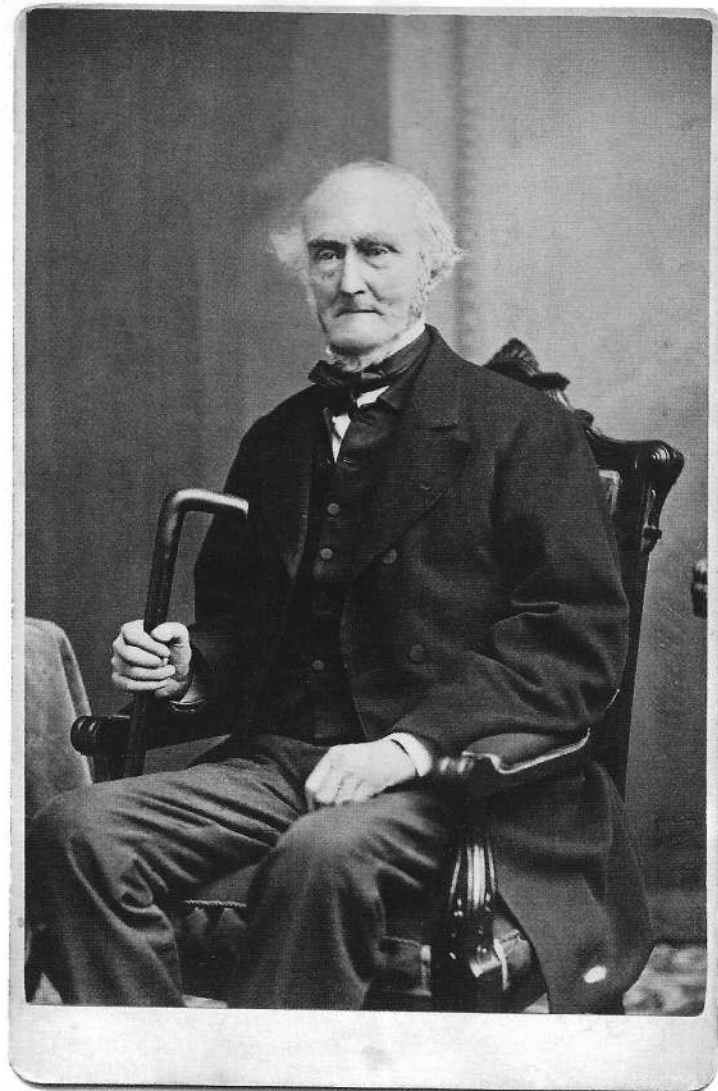


The Tile King

People laughed at a Finger Lakes farmer's idea, but it changed the course of agriculture.



BY JOHN ROBORTELLA

You wouldn't guess it by the name. But something as mundane-sounding as drain tiles actually changed the course of farming in the United States and made one local farmer—ridiculed at first—famous and prosperous.

John Johnston was an unlikely entrepreneur. Born in 1791 in Scotland to a family of sheep farmers, Johnston arrived in New York City in 1821. The following year, he bought 112 acres of land in Fayette, south of Geneva and overlooking Seneca Lake—the frontier of the new nation at the time.

He built a home here for his wife, Margaret, and their seven children, named it “Viewfields” and later bought more land to bring his homestead to 320 acres.

How did a son of sheep farmers buy

so much land? It was cheap. The fields were considered too wet to plant, and underground springs added to the water problems. The water made early spring planting out of the question, and winter wheat crops would freeze.

But Johnston remembered what his grandfather had advised him back in Scotland: “Verily, all the airth needs draining.” Johnston recalled seeing fired clay drain tiles laid underground in the fields in Scotland, acting as channels to allow excess water to seep in and flow downward toward a lake or stream on lower ground.

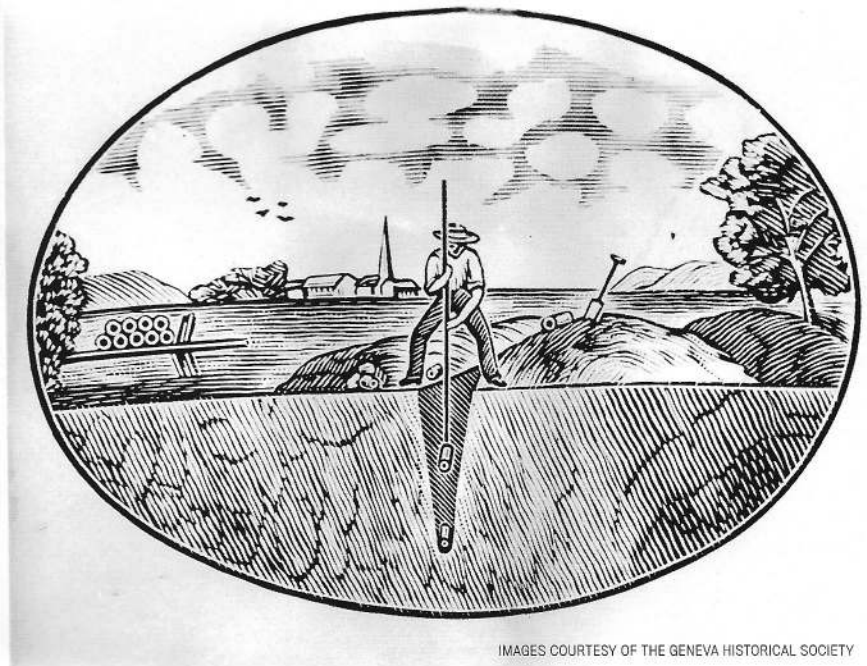
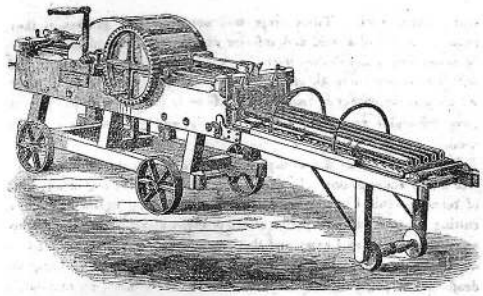
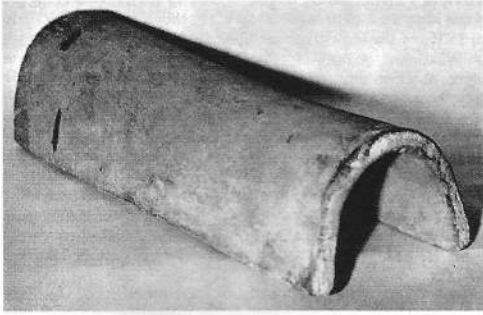
So in 1835, he had two pattern tiles sent to him, then took them to James Teall, who was “carrying on the brick business at the foot of Seneca Lake,” as Johnston described it later. Teall

was unable to master the technique, so Johnston tried Benjamin F. Whartenby, a crockmaker and potter in nearby Waterloo, who produced 3,000 for him. Johnston installed them in 1838.

His neighbors thought he was crazy. They laughed to see him “burying crockery.” They called his project “Scotch Johnston's Folly.” They said the tiles would be crushed under the ground, or would freeze. Others said the tiles would dry out the land or even poison the soil.

Johnston installed Whartenby's tiles on a 10-acre plot—a swampy bog where only a mere five bushels of wheat per acre had been harvested previously. Those 10 acres produced 50 bushels per acre instead of five.

The neighbors quickly changed their opinion.



IMAGES COURTESY OF THE GENEVA HISTORICAL SOCIETY

The idea that helped make commercial farming possible: a drain tile from Johnston's day, and illustrations of a tile machine and of the installation process in the 1800s.

Long story short, by the time Johnston retired from farming, he had installed 72 miles of tiles on his land. Most likely the tiles brought water downhill into Seneca Lake.

John Delafield, a New York City banker, bought a nearby farm and paid \$200 for a Scragg's Patent Tile Machine from England—the first delivered to the United States. Delafield installed it in Whartenby's factory with an arrangement that Whartenby could use the machine if he gave Delafield one quarter of all the tiles produced.

At first, farmers were a little "shy," as they expressed it, "not caring to bury their money in the ground," according to Teall's 1892 recollection. "But the good results of tile drainage soon showed for itself." Johnston used his own success as an example, telling farmers that his tile had paid for itself in one or two years through higher-yield harvests.

Whartenby made 180,000 tiles in 1848 and 840,000 tiles in 1849. By 1871, there were 10 drain tile-making factories in the

Waterloo area alone; by 1882, there were 1,140 tile factories throughout the United States. Johnston had started a farming revolution.

But he was not a man of means. He borrowed the money to buy his drain tiles and repaid the loans with proceeds from his successful harvests. He attributed his success to "D, C and D"—"dung, credit and drainage." Beyond the use of tiles, he was one of the first to recycle and spread manure over his acreage for fertilizer.

Robert Swan, an apprentice, married Johnston's daughter, Margaret, and moved onto the adjacent Rose Hill farm. In 1851, Swan started installing drain tiles on Rose Hill. In 1852, he hired labor to complete 91,000 feet of trenching, tile installation and backfilling, all in 100 days.

Liberty Hyde Bailey (1858-1954), co-founder of the American Society for Horticultural Science, wrote in *American Gardening* in 1893 that the "Johnston farm and Rose Hill are together perhaps the most important spot in American agriculture."

That's because the use of drain tiles helped transform agriculture from self-sufficient family farming to profit-based businesses, according to the "Early American Republic" course at Hobart and William Smith Colleges in Geneva.

Johnston promoted tile drainage throughout his life. He spoke at agricultural events and published articles in newspapers and journals such as the *New York Herald Tribune* and *The American Farmer*. Researchers consult those to this day, according to Alice K. Askins of the Geneva Historical Society, the organization that now owns and operates the John Johnston Home and Rose Hill Mansion as museums.

Johnston died in 1880 at the age of 90. As recently as 2003, the family that owned the farm reported that many of Johnston's lines were still in working order. And Askins says the paths of the Johnston tile lines can sometimes be seen from the air by those flying over the former Johnston farm off Route 96A on the east side of Seneca Lake. **R**