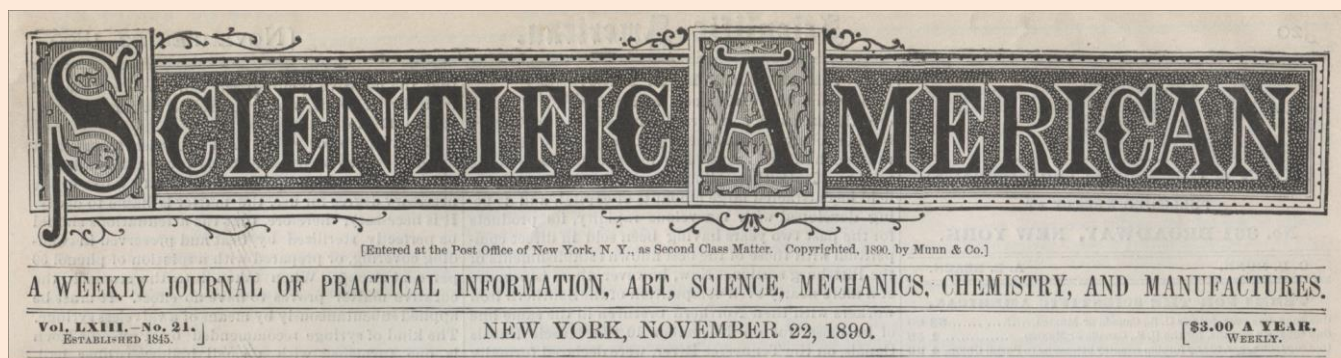


# “Bluestone Sidewalks”

(Bluestone quarried in the state of New York)

*Scientific American*, Vol. LXIII, No. 21

New York, November 22, 1890, pp. 328



This article, which begins on the next page,  
is presented on the Stone Quarries and Beyond web site.

<http://quarriesandbeyond.org/>

Peggy B. Perazzo

Email: [pbperazzo@comcast.net](mailto:pbperazzo@comcast.net)

August 2013

## “Bluestone Sidewalks”

(Bluestone quarried in the state of New York)

*Scientific American*, Vol. LXIII, No. 21, New York, November 22, 1890, pp. 328

“Of all the diverse industries in building material there is, perhaps, none larger, yet none about which so little is known as the bluestone industry. New Yorkers walk day by day over the smoothest bluestone sidewalks in the world, yet, if asked where they come from, the majority will say, ‘I’m blessed if I know.’ The huge slabs come from the quarries in much the same shape that we see them as sidewalks. The stone known as Hudson River bluestone is the blue, fine-grained, compact sandstone, and the belt of country whence New York gets her slabs in nearly one hundred miles long in this State, stretching from the Helderberg Mountains in Albany county across Greene and Ulster counties, taking in a strip of both Orange and Sullivan counties, and across the Delaware River into Pennsylvania. In Albany and Greene counties the ledge bearing good stone is narrow, as it is also in the town of Saugerties, Ulster county, being found only on the east and east-southeast foothills of the Catskill Mountains, where it is bounded on the east by the older limestone formations and on the west by the conglomerate and quartzose formations of the Catskill range. The belt widens in the towns of Kingston, Woodstock, Hurley, Olive, and Marbletown, in Ulster county, and in them the quarries are widely distributed over the plateau which borders the Catskills on the southeast. To the northwest and in the valley of the Esopus Creek quarries have been worked for forty years, and that part of the town of Hurley known as Jewellville, or West Hurley, has had the best and most profitable quarries. One quarry at West Hurley, known as the Great Lawson Quarry was worked by Lucius Lawson for more than thirty years. It is asserted that more than \$2,500,000 worth of flag and other stone has been taken from that hole. More than fifty acres of ground, in more places to the depth of forty and fifty feet, have been worked over, and the broken stone, or refuse, from the quarry known as rubble, has been piled up in banks, in some places an eighth of a mile in length and 100 feet in height.

“That probably was not only the most famous but the most profitable bluestone quarry ever opened, and Lucius Lawson, now in the stone business in Chattanooga, Tenn., was once a millionaire. Unfortunate speculations in land and the work of draining the great Beaverkill Swamp, in Ulster county, involved Mr. Lawson to such an extent that a few years ago he failed, and lost not only his quarry, but every dollar he possessed in the world. For many years, while Lawson worked the quarry, the ground was owned by the late General Daniel Tompkins Van Buren, of Plainfield, N. J. and Lawson paid a quarry rent of so much a foot for the stone taken out. General Van Buren received more than \$200,000 in percentages, or, as it is called, ‘quarry rent.’ From this quarry probably more stone for sidewalks in this city has been taken than from any three quarries in the bluestone belt.

“There are quarries along the Hudson River at New Baltimore, and, thence southward, at Coxsackie and Catskill, and near Rondout, but they are not of the typical bluestone, but of the softer gray sandstone of the Hudson River slate formation. The quarries at Palenville and vicinity, West Saugerties, Boiceville, Phœnicia, Woodland Hollow, Shandaken, and Pine Hill are undoubtedly in the Catskill group of rocks. In working the quarries there is much variation in the

thickness and nature of the overlying earth and top rock that must be taken off before the good stone is reached. The work of removing the top is called stripping, and the heavier top the less profitable the quarry. The many openings in the bluestone belt indicate that the whole territory is underlaid with beds of bluestone, but in large areas the stone is of inferior quality, or the thickness of the ledges is not great enough to warrant their working at a profit. The custom is to lease the land at a certain royalty a square foot of stone taken out, which is generally half a cent a foot. Few of the quarries are worked by companies, and fewer still on a large scale. Nearly all are worked by individuals, or by the associated effort of two or three men of small capital, or by the laborers uniting with no capital other than their tools and labor. Generally a loading derrick worked by hand power and a small hand pump form the equipment. At the larger quarries lifting derricks worked by horse power are employed to hoist the stones from their beds, while at the shipping docks loading derricks are used.

“In quarrying, the rock is thrown down or broken by the use of common blasting powder until the stratified beds of flat and regular stone are reached. These beds run in regular blocks, being separated by thinner blocks known as cat faces. The large blocks are split apart in convenient sizes by the use of plug and feather wedges, driven in lines of shallow holes. The natural division planes, or joints, are taken advantage of in cutting the blocks. These joints, or seams, are generally vertical, or nearly so, and run in two systems, the one parallel to the strike of the beds or the ledge also, and the other at right angles to the first, and in the direction of the dip of the beds. The former make the successive headers of the quarry, while the latter are known as end joints. Where the blocks are regular and well defined the blocks are readily cut into rectangular shaped sizes for patterns, sidewalks, crosswalks, and curbing stones. The layers of stone range from one inch to three feet in thickness, the top beds being thinner generally than those deeper in the quarry. In working into a hill, bedding planes, or division seams, frequently disappear, and two or more layers merge into one heavy slab. In most cases these thick strata can be split apart along the planes of bedding, and the cap layer is lifted off by means of wedging on the edges. The size of the stone is always determined by the natural joints, and frequently layers sixty feet long, twenty feet wide, and ten inches in thickness are lifted from the beds. The facilities for handling and shipping limit the size, and such monsters are immediately broken into smaller sizes. It is customary to use the thinner stone for town or village sidewalks, while the thicker layers are worked into curbing, crosswalks, window and pier caps, sills, and flagging.

“The slabs are sent from the quarries to tide water at various points along the Hudson River, Wilbur, in the city of Kingston, being the principal shipping point. The stone is trucked from three to ten miles over heavy stone tramways built especially for the purpose. In this city a span of horses drawing a load of five tons is a sight, yet on the stone roads from the quarrying districts into Kingston an everyday sight is a span of horses hauling a load of ten or eleven tons, and frequently three horses hitched abreast have taken loads of stone weighing fifteen tons to the dock.

“One monolithic monster, now in the yard of Osterhondt Brothers, at Wilbur, is 20 by 24 feet 9 inches, 10 inches thick, and it weighs several hundred weight over twenty tons. It was quarried about four miles from Kingston, at Sawkill, and is probably the largest stone ever brought safely to tidewater, it being several feet larger and more than three tons heavier than the great stone in front of the Vanderbilt residence at Fifth Avenue and Fiftieth Street, this city, that stone being 15 by 20 feet and 8 inches thick. The monster is so large that it may have to be cut in two for a

buyer, as it is larger and wider either way than any sidewalk in America. To cut it will detract from its actual value about 20 per cent. In its present shape it is practically dead money to its owners on account of its immense size. It came very near meeting disaster several times before it was safely removed. Although the quarry is only about four miles from the river, and the road mostly down grade, the truckmen were three days in moving it to tidewater, and during that time three trucks were broken down. Eight horses drew it, although four could have hauled the weight. It was thought safer, however, to have double that number. One side of a toll gate had to be taken down to allow it to pass through, and in crossing the bridge at Esopus Creek at Kingston it had to be turned up on its edge to an inclination of about fifty degrees to clear the side trusses of the bridge.

“The bluestone industry gives employment to a vast body of skilled and unskilled laborers. It is estimated that from New Baltimore on the Hudson to Pond Eddy on the Delaware, at least 20,000 men are employed directly in the various branches of the work, not including those employed on railway trains, stone barges, sloops, and canal boats moving the stone from tidewater to market. Ulster county, being the largest producer, employs the most men, and quarrymen, stone cutters, laborers, teamsters, stone measurers, handlers, and machine workers will number at least 7,000. Ordinarily the pay of the men who work at the various branches of the business is good. Stonecutters get from \$3 to \$5 a day, while the pay of the other branches of skilled and unskilled and machine labor runs from \$1.50 to \$3.50 a day. When there is a depression in the bluestone trade everything comes to a standstill in the city of Kingston, so badly is business affected.

“The stone, after a superficial dressing at the quarries, is stacked or piled at tidewater. Slabs requiring further dressing are taken to the cutting sheds, where they are cut into the various shapes and finally tooled. Large stones are put on large bed planers and planed smooth. Others are put under saws composed of strips of thin boiler iron, under the edge of which is kept a quantity of sharp wet sand, and sawed into slabs of the required sizes. Stone for special purposes is put upon a huge, flat, revolving plate of iron, the surface of which is fed with sand and water, and not only rubbed smooth, but also highly polished. After having been delivered in the city, very little or no work is necessary, except fitting to the various purposes for which it is used. There are, however, many yards in New York and vicinity that buy the stone in the rough and dress it, but less is done every year, owing to labor disturbances, but more to the Union Bluestone Company, a trust which controls the business along the Hudson River front between New Baltimore and Kingston. In 1889, the estimated value of the bluestone product of New York State, with that of Pike and Wayne counties, in Pennsylvania, was \$1,800,000, of which full 75 per cent came from the district between Kingston and Catskill.

“In many localities quarries have been worked out, that term being used when the top rock is so heavy that to take it off will not pay. They have been abandoned, but lately a new use has been found for the refuse stone, and a company has been buying rubble banks. It has been discovered that the argillaceous and often highly silicious nature of the rock makes it highly desirable for macadamizing, and in some of the quarries huge crushers are now used in crushing the refuse. A crusher working on the mountain of rubble in the great Lawson quarry has a capacity of 300 car loads a day. Immense quantities of the coarser grades are being used in this city for concrete, while much more of the pea coal, or gravel, size is being used in the parks and by private parties for the top dressing of drives and roads.

“Among the men who made fortunes in the bluestone business were William B. Fitch, Michael Hallihan, Lucius Lawson, Nathaniel Booth, the Sweeney brothers and James V. Cummings. Hallihan was rich when he died, but Fitch was poor. Nathaniel Booth has lost his property. Lucius Lawson is trying to make another fortune at Chattanooga, Tenn. Perhaps the most notable person ever interested in the traffic and quarrying of bluestone is John Fletcher Kilgore, of Passaic, N. J. He was originally a teamster on the Ulster county plank road, and he hauled stone from his father’s quarry to the docks at Wilbur. Kilgore and George Waters, of Kingston, developed the great quarries along the Delaware in the years succeeding the war, and Kilgore has made and spent several fortunes. He controls the Delaware stone traffic.”

~ ~ ~ ~ ~

Below are some links to articles that present information about bluestone, the building stone:

“**Bluestone**,” (Wikipedia)

<http://en.wikipedia.org/wiki/Bluestone>

“**Our Bluestone Sidewalks**,” *Manufacturer and Builder*, October 1879.

<http://digital.library.cornell.edu/cgi/t/text/pageviewer-idx?c=manu;cc=manu;rgn=full%20text;idno=manu0011-10;didno=manu0011-10;view=image;seq=00232;node=manu0011-10%3A1>

“**Hudson River Bluestone**,” *Manufacturer and Builder*, June 1889.

<http://digital.library.cornell.edu/cgi/t/text/pageviewer-idx?c=manu;cc=manu;rgn=full%20text;idno=manu0021-6;didno=manu0021-6;view=image;seq=00146;node=manu0021-6%3A1>

“**Bluestone Sidewalks**,” *Manufacturer and Builder*, April 1891.

<http://digital.library.cornell.edu/cgi/t/text/pageviewer-idx?c=manu;cc=manu;rgn=full%20text;idno=manu0023-4;didno=manu0023-4;view=image;seq=00086;node=manu0023-4%3A1>

“**The Great Bluestone Industry**,” by Henry Balch Ingram, *Popular Science Monthly*, Volume 45 July 1894

[http://en.wikisource.org/wiki/Popular\\_Science\\_Monthly/Volume\\_45/July\\_1894/The\\_Great\\_Bluestone\\_Industry](http://en.wikisource.org/wiki/Popular_Science_Monthly/Volume_45/July_1894/The_Great_Bluestone_Industry)

**Bluestone: A Valuable Piece of Kingston History**, by Friends of Historic Kingston

<http://www.fohk.org/preservation/bluestone/>