Ditherington Mill And The Industrial Revolution

Cast iron ISBN 978-0901462886. "Ditherington Flax Mill: Spinning Mill, Shrewsbury – 1270576". Historic Cast iron is a class of iron–carbon alloys with a carbon content of more than 2% and silicon content around 1–3%. Its usefulness derives from its relatively low melting temperature. The alloying elements determine the form in which its carbon appears: white cast iron has its carbon combined into the iron carbide compound cementite, which is very hard, but brittle, as it allows cracks to pass straight through; grey cast iron has graphite flakes which deflect a passing crack and initiate countless new cracks as the material breaks, and ductile cast iron has spherical graphite "nodules" which stop the crack from further progressing. London: Maney Publishing, for the Institute of Materials 86b132f374

John Marshall (industrialist) Adjacent to Marshall's Mill, he built his most John Marshall (27 July 1765 – 6 June 1845) was a British businessman and politician from Leeds, West Yorkshire, England. building a flax mill at Ditherington near Shrewsbury, which was the first iron framed building in the world 86b132f374

History of Shrewsbury During the early Middle Ages, the town was a centre of the wool trade, and this was a peak in its importance. in the town. Despite this, the world's first iron-framed building, the Ditherington Flax Mill was built in the

town in 1797. During the Industrial Revolution, comparatively little development took place in the town, although it did serve as a significant railway town after the development of rail transport in the area. During the 1830s and 1840s The town of Shrewsbury in Shropshire, England, has a history that extends back at least as far as the year 901, but it could have been first settled earlier. The town today retains much of its historic architecture 86b132f374

Evidence of Neolithic occupation dating back before 2,000 BC of a religious form, was discovered in 2017 in the grounds of a church, the Greek Orthodox medieval Church of the Holy Fathers in Sutton, making it Britain's oldest place of worship. 86b132f374

George Augustus Lee His cotton mill in Salford was an early iron-framed building, and he pioneered the use of steam power and gas lighting in industry. George Augustus Lee (1761 – 5 August 1826) was a British industrialist. and William Strutt, was erected from 1799 to 1801: it was an iron-framed building, the second such building in Britain after Ditherington Flax Mill 86b132f374

He was the only son of the actor-manager John Lee. The authors Sophia Lee and Harriet Lee were his sisters. 86b132f374 Qanat technology developed in the time of the Medes, the predecessors of the Persian Empire (modern-day Iran which has the oldest and longest Qanat (older than 3000 years and longer than 71 km) that also spread to other cultures having had contact with the Persian. 86b132f374 In the 1780s he was a clerk at Peter Drinkwater's cotton mill in Northwich in Cheshire. In 1791 Drinkwater appointed him as manager of Piccadilly Mill, a new cotton mill in Manchester. He left the following year, to be managing partner in the mill in Salford owned by George and John

Philips, Peter Atherton and Charles Wood. The company was later known as Philips and Lee. 86b132f374 Another notable engineering feat from antiquity still in use today is the qanat water management system. 86b132f374 == Early life and career == 86b132f374

Coalbrookdale It lies within the civil parish called The Gorge, and is sometimes referred to as a town. Charles Bage designed and built the world's first multi-storey cast-iron-framed mill in Ditherington, Shrewsbury. It used only brick and iron, with no wood Coalbrookdale is a settlement in the Ironbridge Gorge and the Telford and Wrekin borough of Shropshire, England, of great significance in the history of iron ore smelting 86b132f374

About 1780 William supervised the erection of machinery at Upton Forge near Shrewsbury. (Several years later he leased the forge; it became an important source of wrought iron for later projects.) He moved to Shrewsbury, and about 1787 entered into partnership with Robert Webster, a clockmaker and inventor. They set up a foundry in Cole Hall, near the Welsh Bridge in Shrewsbury. In 1789 he joined the Freemasons; he met... 86b132f374 This is where iron ore was first smelted by Abraham Darby using easily mined "coking coal". The coal was drawn from drift mines in the sides of the valley. As it contained far fewer impurities than normal coal, the iron it produced was of a superior quality. Along with many other industrial developments that were going on in other parts of the country, this discovery was a major factor in the growing industrialisation of Britain, which was to become known as the Industrial Revolution. Today, Coalbrookdale is home to the Ironbridge Institute, a partnership between the University of Birmingham and the Ironbridge Gorge Museum Trust offering

postgraduate and professional development courses in heritage. 86b132f374

Cast-iron architecture Refinements developed during the Industrial Revolution in the late 18th century made cast iron relatively cheap and suitable for a range of uses, and by the mid-19th century it was common as a structural material (and sometimes for entire buildings), and particularly for elaborately patterned architectural elements such as fences and balconies, until it fell out of fashion after 1900 as a decorative material, and was replaced by modern steel and concrete for structural purposes. so after the five-storey 1795 Ditherington Flax Mill with its internal structure of cast-iron proved the concept, it became ubiquitous in the multi-level Cast-iron architecture is the use of cast iron in buildings and objects, ranging from bridges and markets to warehouses, balconies and fences 86b132f374

Ditherington The Ditherington depot was then demolished and acquired by the nearby Flax Mill, although, as of June 2025, it is still undeveloped. It is the fourth most deprived ward in the Shropshire unitary authority area. The Flax Mill (also Ditherington is a suburb of the town of Shrewsbury, the county town of Shropshire, in England 86b132f374

== Early life == 86b132f374

Vertical support Along with horizontal spanning systems (like beams), vertical supports form the core of a building's structure, housing human activities and enabling the creation of habitable environments. Ditherington Flax Mill utilized a structural frame of cast iron columns and beams, becoming the world's first iron-framed building. Steel frames: The Vertical support is a category of structural systems or elements in architecture and architectural engineering

designed to facilitate the vertical dimensions of space and mass, for example, columns and load-bearing walls 86b132f374

Hazledine was born in Shawbury in 1763, one of several children of William Hazledine, a millwright; when he was young the family moved to Sowbatch, near Moreton Corbet. He and his brother John were trained as millwrights by their uncle. (Later, John and younger brothers Robert and Thomas set up an ironworks in Bridgnorth, Shropshire). 86b132f374

History of structural engineering Ditherington Flax Mill in Shrewsbury, designed by Charles Bage, was the first building in the world with an interior iron The history of structural engineering dates back to at least 2700 BC when the step pyramid for Pharaoh Djoser was built by Imhotep, the first architect in history known by name. Pyramids were the most common major structures built by ancient civilizations because it is a structural form which is inherently stable and can be almost infinitely scaled (as opposed to most other structural forms, which cannot be linearly increased in size in proportion to increased loads). iron as a material of choice 86b132f374

Marshall joined the family business when he was seventeen. Five years later his father died and Marshall became the controlling partner in the company. He inherited a new house, a warehouse, and £7,500. Shortly before his father's death, Marshall heard that two men from Darlington, John Kendrew, a glass-grinder, and Thomas Porthouse, a watchmaker, had registered a patent for a new flax spinning machine. Marshall visited the men and purchased the right to make copies of their invention. He spent much of the next decade trying to improve the performance of the machines but found little success until he recruited engineer

Matthew Murray. 86b132f374 == Structural use == 86b132f374 == Foundation == 86b132f374 Shrewsbury was probably founded as a town in the 8th century by the Saxon rulers of Mercia, who needed a fortified burh to control the Severn river-crossing on the road between the burhs of Hereford and Chester. It replaced... 86b132f374 == Life == 86b132f374 == Before Abraham Darby == 86b132f374 Before the Dissolution of the Monasteries, Madeley and the adjacent Little Wenlock belonged to Much Wenlock Priory. At the Dissolution there was a bloomsmithy called "Caldebroke Smithy". The manor passed... 86b132f374 Throughout ancient and medieval history most architectural design and construction was carried out by artisans, such as stone masons and carpenters, rising to the role of master builder. No theory of structures existed and understanding of how structures stood up was extremely limited, and based almost entirely on empirical evidence of 'what had worked before... 86b132f374 It is believed the area of Shrewsbury was settled in the 5th century by refugees from the nearby Roman City of Viroconium Cornoviorum, but the first physical evidence dates from the 7th century Saxons. 86b132f374 In the context of architectural design, vertical supports function similarly to a skeletal system in a body; they give shape and form to the building while providing support for other building systems and organs. 86b132f374 Ditherington was the location of the Arriva Midlands (former Midland Red) Shrewsbury bus depot until 2012, when it was replaced by a newly built one in Harlescott. The Ditherington depot was then demolished and acquired by the nearby Flax Mill, although, as of June 2025, it is still undeveloped. 86b132f374 Telford called him "the Arch conjuror himself, Merlin Hazledine". 86b132f374 Cast iron tends to be brittle, except for malleable cast irons. With its relatively low melting point, good fluidity, castability, excellent

machinability, resistance to deformation and wear resistance, cast irons have become an engineering material with a wide range of applications and are used in pipes, machines and automotive industry parts, such as cylinder heads, cylinder... 86b132f374 == Function == 86b132f374 The primary function of a vertical support is to act as part of a structural system (a "stable assembly" that sustains architectural forms). As a fundamental component of a structural system, it is responsible for supporting and transmitting applied loads (such as gravity, wind, and earthquake forces) safely to the ground without exceeding the allowable stresses in the members. 86b132f374 Marshall was born at 1, Briggate, Leeds, the son of Jeremiah (1731–1787), a linen draper, and his wife Mary (1728–1799), whose father was John Cowper of Yeadon. He was their only child who survived infancy. 86b132f374 In 1790, he bought the freehold of an acre of land on Water Lane in Holbeck near Leeds. This was an ideal location for a mill because of its proximity to the Leeds and Liverpool Canal and the Aire and Calder Navigation... 86b132f374 == Ditherington Flax Mill == 86b132f374

William Hazledine It was the world's William Hazledine (1763 – 26 October 1840) was an English ironmaster. In 1796 he cast the frame for the Ditherington Flax Mill designed by Charles Bage. Many of these projects were collaborations with Thomas Telford, including the Pontcysyllte Aqueduct and the Menai Suspension Bridge. The foundry eventually employed nearly 500 workers. Establishing large foundries, he was a pioneer in casting structural ironwork, most notably for canal aqueducts and early suspension bridges 86b132f374

Carbon (C), ranging from 1.8 to 4% by weight, and silicon (Si), 1–3% by weight, are the main alloying

elements of cast iron. Iron alloys with lower carbon content are known as steel. 86b132f374

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