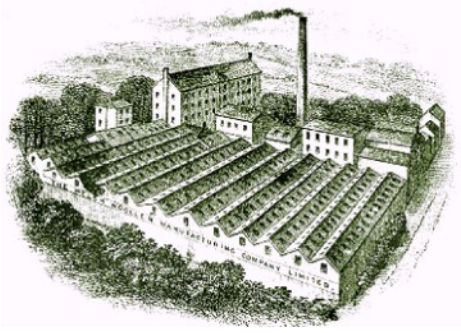
Newtown Enters the Steam Age

John Evans, Curator.

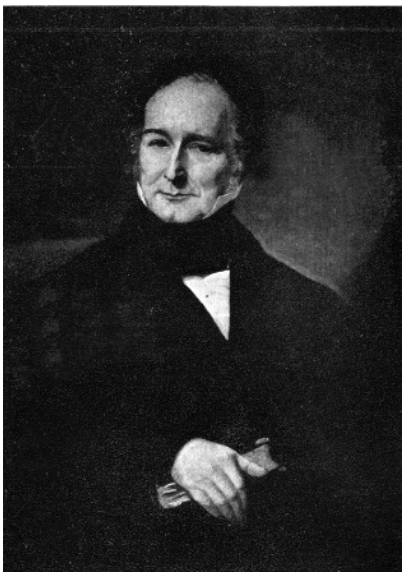
This painting by Edward Salter of 1879 shows Newtown's steam age well under way. Several factory chimneys are belching out thick black smoke from their boiler houses, and an express steam locomotive approaches the railway station. But when, exactly did Newtown enter the steam age?



The Cambrian Mill in a 19th Century print

It is often claimed that Newtown's flannel industry was slow to adopt steam power, which meant that the sound of the handloom could be heard in the town until the very late nineteenth century. It also meant that the town's most important industry, despite its appellation as *The Leeds of Wales,* would never seriously rival its Yorkshire competitor. Indeed, the northern giant had turned to steam much earlier. In Leeds, John Gaunt installed a 38 horse-power steam engine in his Farsley Club Mill in 1838. In Huddersfield the Starkey Brothers had built a huge factory even earlier. It carried out all the stages of manufacture from the scribbling of wool to the finishing of cloth under one roof. In 1833 it employed 535 people, and was powered by three 28 horse-power steam engines. Within two years there were 70 power looms installed there producing cloth at a quarter of the cost and in half of the time of a hand-loom weaver. It was not, however, until 1856 that Newtown flannel manufacturer Samuel Morgan opened the Cambrian Mill close to the canal basin. This was Newtown's first steam mill and by local standards it was a huge factory, employing up to 300 workers bringing all the stages of flannel production, apart from

fulling, under one roof and thus opening a new chapter in the town's manufacturing history.



William Pugh of Brynllywarch was one of Newtown's greatest benefactors who strove to promote the town as a manufacturing centre

Yet, the steam engine had made an earlier appearance in the town. In 1836, William Pugh of Kerry, "a gentleman of an active and speculative character"[1], had installed a steam engine powering eight looms in his five-storey mill which he had constructed alongside the canal basin the previous year. A notice to let of 1836 provides us with some detail of Pugh's new manufactory. Described as being "situated on the Canal near Newtown", it consisted of a ground floor room, 95 feet by 21 feet 10 inches, attached to which is a newly erected steam engine, of the most improved construction, and of power adequate to work a scribbler; and carder with billy, mules and looms, sufficient to answer the carding engine; to the steam engine are attached all necessary connections for driving the above machinery". In addition, there were four further floors "of similar dimensions to the ground floor; and a tenant may also be accommodated". The advert goes on to explain that "the market of Newtown is at present very inadequately supplied with coarse goods; and it cannot be otherwise, as long as the manufacturers depend upon water power so miserably deficient as the Severn is in dry seasons. During a part of the present year they have been obliged to send their wool at great expense and inconvenience to considerable distances, to undergo the necessary preparatory operations; added to which, the use of power looms, and other improved machinery worked by steam, has given their rivals in the North of England so great an advantage over them that they will lose the market altogether, unless the competition is carried on with more spirit and energy."[2]

Newtown's new Flannel Exchange, completed in 1834, was financed by Pugh

He offered to rent his engines out to enterprising flannel manufacturers at £100 per annum. Pugh had grandiose plans for transforming Newtown into a serious rival for Yorkshire. The steam mill was to be his way of recouping his loses from his other financial ventures, including the extension of the canal from Garthmyl to Newtown and the building of the Long Bridge and the Flannel Exchange. Unfortunately, his creditors lost patience and he was declared bankrupt shortly after the completion of his new mill "without a piece being woven".

Pugh's attempt at applying steam power to weaving was met

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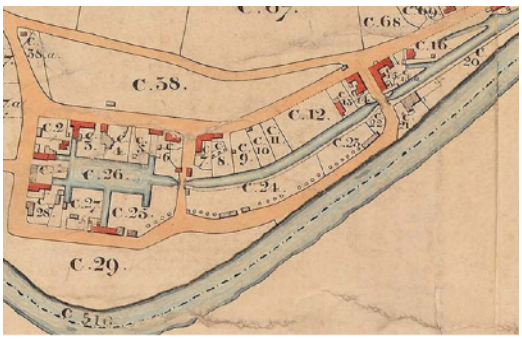
[1] *Hand-loom Weavers Report,* Part V, p. 554. London 1840

[2] *The Shrewsbury Chronicle,* 22 July 1836



A section of the Tithe Map of 1841 showing the River Severn and the canal basin. Pugh's new steam mill can be seen at C15 towards the top right. It was strategically placed on the canal to ease the transportation of coal to the factory.

with scepticism by both workers and masters alike. The former, fearing the effects that mechanisation would have on their wages and their jobs, the latter wary of the extra costs involved in transporting expensive coal by canal from the north-east Wales coal mines, 50 miles away. The masters were also sceptical of the quality of flannel produced by power looms. Evidence provided to Parliamentary Commissioners who visited the town in the late 1830s who were compiling their 'Handloom Weavers Report', pointed out that Yorkshire cloth produced on power-looms was designed for the export market and was much coarser in finish than the superior Welsh flannel which was sold for the home market. They further argued that "the power-loom does not work with the tenderness of a skilful human hand: damage may be instantly done which will take the weaver two hours to repair. Although the advantages from steam appear to be enormous, it is not in reality the case: practice is far different from the theory".[3]

An early 19th Century carding engine. Note the drive shaft and belt at top left which transferred the power from the steam engine or water wheel.

Despite the setback of applying steam power to weaving, there is evidence that the steam engine was already being used in the preparatory stages of spinning. At about the same time that Pugh was experimenting with power looms in his new mill another 'manufactory' was being updated. This was the 'Dingle Manufactory situated off the Dolfor Road on the southern edge of the parish of Newtown. Here, a water powered corn and fulling mill had been established, probably at the end of the eighteenth century and enlarged and modernised in the 1830s. On 26 April 1839[4] an auction was held at *The Unicorn Inn* for the sale of the factory which was described as a "substantially brick built manufactory" consisting of a mill and five dwelling houses, two of which had been "newly erected". The mill, powered by "a stream of water", was capable of driving two carding engines and a willower. In addition there were also three manually operated slubbing jacks. But the most interesting piece of machinery in the mill was a 5 horse-power steam engine, "quite new", which was probably installed to power a second carding engine which is also listed among the machinery on offer. The addition of a steam engine was no doubt in order to overcome the perennial problems of a drop in production caused by the variability of the mill stream's flow in times of drought.

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[3] *Hand-loom Weavers Report,* Op.cit.

[4] *The Shrewsbury Chronicle,* 19 April, 1839

But the Dingle Manufactory was not the earliest example of steam power's use in the flannel industry. For that we need to go back a further twenty years, to the early years of flannel production. This was a time when the industry was expanding out of the water-powered manufactories and into purpose built accommodation in the heart of the town. The 1822 *Pigot's Trade Compendium*[5] is the earliest trade directory we have for the nineteenth century. By this time, the number of flannel manufacturers in the town numbered 54. In addition to these, and listed under 'miscellaneous', is a Thomas Owen who was operating a steam carding machine. Thomas, obviously, profited from his steam carding engine as by 1829 he is described as a Flannel manufacturer[6]. He may have been a relation of John Owen who is listed in the same directory as a woollen carder at the Dingle Factory. Thomas's business, however, was not situated in the Dingle. Instead, it was one of four to be found in Water Street. Water Street, or Water Lane, derived its name from the Green River which flowed at its southern end before joining the River Severn at what is now the Gravel Car Park. The Lane is marked on the enclosure map of Newtown Green of 1795[7](below), which is orientated to the south. Today, we know it as Frolic Street. Thus, it was here, in a newly built flannel factory in the first twenty years of the nineteenth century, that Newtown's steam age truly began.

[5] Pigot and Co., *London & Provincial New Commercial Directory for 1822-23, Manchester 1822, pp. 727-728*

[6] Pigot and Co., *Directory of North Wales,* Manchester 1828, p. 1169

[7] NLW, *Dyffryn Llanfair [and] Newtown Green [enclosure awards and maps]*, Roller Map A215 10/7/4