

Additional information on the textile industry and the Industrial Revolution

The Industrial Revolution moved forward with such force because of two important developments: in 1769 James Watt improved the steam engine from the previous basic designs, giving it enough power to drive large machinery. At the same time a Lancashire spinner named James Hargreaves was also having ideas to improve the speed at which spinning could be performed.

In 1764 Hargreaves developed the “Spinning Jenny”, increasing spinning capacity eight fold for each machine. These machines were still hand driven though which limited the speed at which they could spin.

In 1769 Richard Arkwright developed a system using water power to drive the spinning and created what was known as the “water frame”. The water frame could spin only the strong yarns though compared to the Spinning Jenny which could do the more delicate yarns.

In 1779 Samuel Crompton invented a machine called the “Mule” which combined the power and efficiency of the two previous inventions to create a machine which could spin any kind of yarn at high speed.

The final stage in the revolution of the textile industry was the invention of the steam driven “power loom” in 1785 by Edward Cartwright which speeded up the weaving process. The production of cloth and fabrics could now keep up with the extra yarn that was being produced.

The first steam-powered spinning mill opened in Bradford in 1800. Over the next twenty years a further 39 were operating by steam. Bradford traded fabrics and woollens with countries all over the world. New fabrics and machines for processing wool were invented in Bradford and the large fortunes that were made were sometimes used to develop the city.

Mill owners commissioned the creation of public parks, houses and halls. The fame of the owners were, and still are, legendary, with many of the streets being named after them throughout the city. One such famous mill owner was Samuel Cunliffe Lister. His mill, Manningham Mills, was founded in 1838 and eventually made Lister one of the city's most famous faces, a multi-millionaire and the provider of thousands of jobs in the city. His mill was famous for fabrics such as silk and chiffons and in particular for its velvet. The original Manningham Mills (Lister's mill) were destroyed by fire in 1871 but the new Manningham Mills was the largest and most imposing textile building in the north of England. Today they remain a dominant feature of the skyline with a chimney reaching 250 feet into the air.

Leeds also had a growing industry and population. By around 1838 there were 106 woollen mills employing 10,000 people. The textile trade was great with huge mills being created as the industry grew. One of the largest in the world was Armley Mills, the earliest record of which dates from the middle of the 16th century. By 1788 Armley Mills had five water wheels to power the equipment. In 1840 John and William Gott took over the business from their father Benjamin. They introduced the first steam engine to Armley Mills in 1850 to supplement the waterwheels which continued operating into the 1860s. In 1969 the mill closed and was bought by Leeds City Council to preserve it because of its historic importance. The mill was re-opened in 1982 as Leeds Industrial Museum.

Despite the success of Armley mills over the second half of the 19th century, the woollen industry in Leeds declined due to competition from other growing towns like Bradford. But all was not lost; another textile related industry appeared to take its place using the space in the mills. The ready-made clothing industry was born and flourished in Leeds with some companies that became household names, such as Burtons. By 1911 a quarter of women workers in Leeds were employed in the clothing industry.