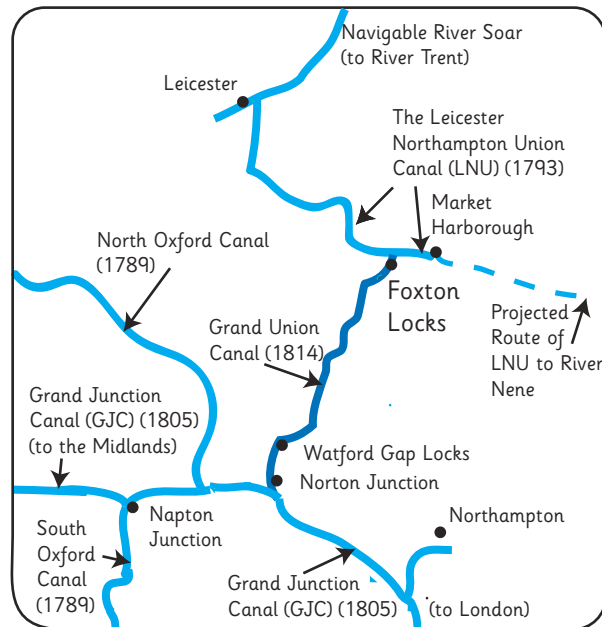


Do you know why the flight of locks at Foxton was replaced by an inclined plane?
Read on to discover more...



In 1929, the Grand Junction, LNU & Grand Union canals were taken over and renamed the Grand Union Canal.

Grand Union Canal - Leicester Section

During the later years of the 18th century, many places in England were connected to each other by a network of canals and rivers. These waterways carried raw materials (e.g. iron ore, coal and wood) and manufactured goods (e.g. paper, pottery and iron beams) between industrial centres and towns where people lived, like main roads today.

Why was the canal built?

The navigable River Soar already linked Leicester with towns on the River Trent. In 1793, a new waterway was started, to run from Leicester to the River Nene in Northampton, and called the Leicester Northampton Union Canal (LNU). This was completed as far as Market Harborough before the owners ran out of money. A new canal was proposed to run from the LNU at Foxton near Market Harborough to the Grand Junction Canal (GJC) at Norton near Daventry. The GJC was one of the main canal routes in the country, linking London with canals in the Midlands. The new waterway was called the Grand Union Canal and included the 10-lock staircase at Foxton. The canal opened in 1814.



The top gates of one lock form the bottom gates of the lock above.

Why were Foxton Locks built?

The new Grand Union Canal was 22.8 metres (75 feet) higher than the LNU with a steep hill to climb. To get boats up and down the hill a flight of 10 locks was built. Each lock shared its top and bottom gates to make a 'staircase', with a passing pond at the half way point. All the locks on the canal between Leicester and London were 4.5 metres (14ft) wide but to save money and water the locks at Foxton and Watford Gap were built narrow, just over 2 m (7ft) wide. The locks on the main waterway could hold boats of up to 22 metres (72 feet) in length.

The locks took around 45 minutes for each boat to go through, and if there was a queue, the boatmen sometimes had to wait for 5 hours. However, this was much faster than the horse and cart, the only other form of transport at the time. A horse could pull 20 tonnes of cargo by boat but only ½ tonne on a cart. Roads were often in poor condition, turning into mud in the winter, in which case carts could get stuck.

Each boat used about 30,000 gallons (150,000 litres) of water to get through the locks (enough for a bath every night for a year!). In times of drought, the canal could run short of water.



The inclined plane carrying boats up and down the hill.

What is an Inclined Plane?

By the end of the 19th century (about 100 years after most canals were built), railways linked the entire country and were taking trade away from the canals. The canal companies wanted an improved waterway, which could use wider, horse drawn boats carrying 50 tonnes each. Because the locks at Foxton and Watford Gap could only be used by narrow boats, it was decided to build boat lifts designed by Gordon Cale Thomas to replace the narrow locks. The lift at Foxton would take only 12 minutes for a wide boat (a barge) or a pair of narrow boats to go up or down the hill. In addition, it used only a fraction of the water used by the locks.

Building the Inclined Plane

In 1898, J & H Gwynne and Co. of Hammersmith in London were employed to build the lift at Foxton. All the building work was done by hand. It was hard and sometimes dangerous. According to Foxton parish records, one of the navvies (the name for canal builders, short for navigators), George Robinson, was killed by a fall of earth. His work mates had a collection to pay for the funeral at St Andrew's Church.



A boat full of day-trippers
going up the inclined plane

How did the inclined plane work?

The lift had two big tanks (like giant bath tubs), which ran on rails up and down the hill. The tanks were full of water and balanced each other even if one contained boats and the other only water.

Each tank was 24.3 metres long and 4.5 metres wide. They were connected together by steel cables 17.5 cm in circumference - as big as a man's wrist! The cables went round a large drum driven by a small steam engine, so that as one tank was wound up the hill the other was lowered down.

Three men were needed to run the lift - one at the bottom, one at the top and one in the engine room to drive the engine and stoke the boiler. The steam engine boiler was fuelled by coal which was delivered by boat.

The Foxton Lift opened on 10th July 1900. The total cost was £37,500 (£2,400,000 in modern money!).

The lift inspired other inclined planes in Europe, some still in regular use.



Today, Foxton Locks is a very popular location with boaters

The decline and closure of the inclined plane

The locks at Foxton were closed when the lift opened in 1900, but the planned lift at Watford Gap was never built. As the locks there were narrow, wide boats could not be introduced. In 1909, the locks at Foxton were rebuilt for use at night and were re-opened. By then, steam powered boats were in common use. They could only carry 12 tonnes of cargo but, by travelling non-stop through the night, they could compete with rail traffic for the lucrative parcel trade. The Foxton lift was expensive to operate, partly because the engine had to be kept going all the time. By 1911, it was decided to close the lift to save money, and all the traffic had to use the locks.

In 1927, the chimney was demolished and a year later all the machinery was sold for scrap metal. By 1929, the canals between London, Leicester and Birmingham had been taken over and renamed the Grand Union Canal. With improved road transport after World War 1, trade on both the canals and railways declined. The canals were used extensively until the 1960s, but transport of goods declined and many canals closed. Today, the waterways are used mainly for leisure.