Hetton-le-Hole Herald

The Newsletter for Hetton Local History Group

Volume .2..... Issue ...6..... Date..May 2011.....

Information & Calendar

Next meeting of the history group is Monday 27th June at 7 p.m. It is hoped that a speaker for Houghton Church can be arranged for that evening

Wednesday July 6th—an open air service for school children and interested parties will be held at Hetton Country park, 10 a.m. as a memorial to the 9 men who lost their lives in the Eppleton Colliery explosion.. All welcome to attend.

Before reading this article it is worth looking at a recent Video produced by Keith Cockerill located on the website entitled "The Sunderland Site", Page 009. A link to the site can be found on the Links Page on this website.

The transport of Coal to the River Wear

In the newsletter Vol 2, Issue 4 we discussed how the River Wear as well as helping the development of the coalfield during the 17th and 18th centuries also acted as a barrier to its development in that the river at the tidal estuary was very shallow and ships quite often were forced to load coal close to the river bar. It was necessary for flat-bottomed boats called keel boats to carry the coal from up-river down to the awaiting collier brigs at the river entrance.

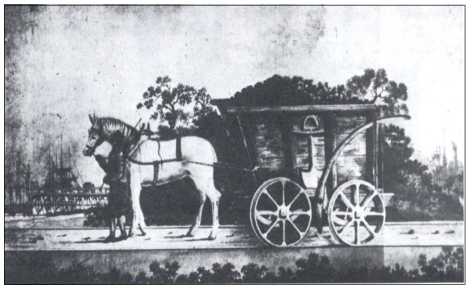
This meant that the coal had to be transhipped by hand, a lengthy and at times, a dangerous proposition, particularly during poor weather conditions. It also caused considerable delays and extra costs. Following the construction of the north and south piers at the harbour entrance the river also deepened so allowing the sailing brigs to load within the river itself and then sail safely out to sea.

For decades the keel boats had served the coal trade and were an integral part of the coal transport initiative. Initially the coal from the immediate hinterland of the river had served mainly local needs but by the 16th century there was a flourishing national and near continental coal trade. By 1750 a network of wooden waggonways had

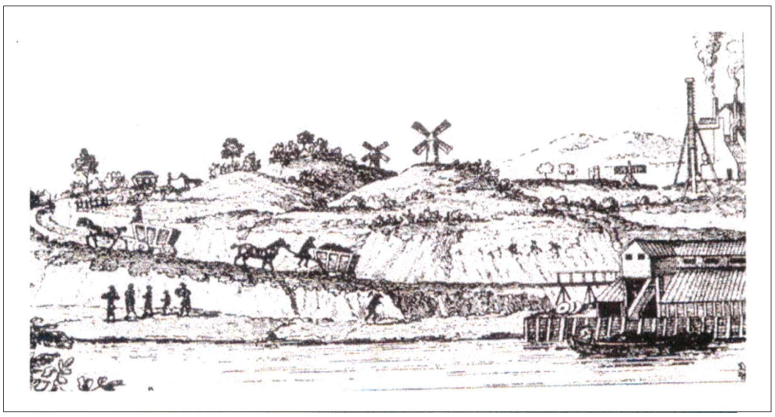
developed throughout the coalfield carrying the coal down to the rivers Tyne and Wear where it could be loaded into keel boats. The chaldrons full of coal relied upon horses to pull them but were seriously restricted where the land was not level, and as a consequence limited amounts of the mineral could be moved at any one time. These transport restrictions were happening when there was an increase in the demand for coal and led to a deal of frustration among coal owners.

However around 1710 Thomas Newcomen perfected his steam engine. Initially the engine was used to pump out water from the tin mines in Cornwall but within a few years its usefulness was appreciated by other mining ventures throughout the country. By the time of his death in 1729 about 75 engines were in operation in various parts of the country.

The Newcomen Engine was not an efficient machine and by 1775 there were about 900 in use many of which had adaptations to them. It was however down to two men Boulton and Watt to improve the engine and make it more efficient and less fuel hungry than the original. By



18th century Chaldron wagon pulled by horse



Gibson's Vignette showing coal transportation from colliery to staith in the 18th C.

adding an additional steam condenser the steam did not need re-heating to the same original level and then by making a dou-

ble acting machine where both the up the and down strokes

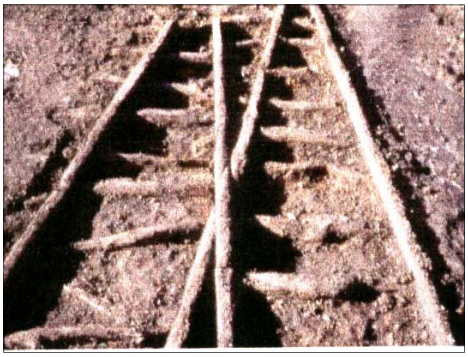


Photo of a wooden waggonway unearthed during demolition of the Fence Houses coke works early in the 21st C.

were power strokes making for a much more efficient machine.

Finally the vertical cylinder was put into a horizontal position and a pulling engine was developed. This engine known as a stationary engine was quickly adopted to a number of waggonways where chaldrons could be hauled together and so increasing the flow of coal to the staiths at the river side. The impetus to use stationary engines on waggonways rather than horses received a considerable boost following the Napoleonic Wars at the start of the 19th century when the price of horse fodder rocketed.

More importantly the demand for coal also increased around this time and more and more collieries were coming into production within the Durham coalfield.

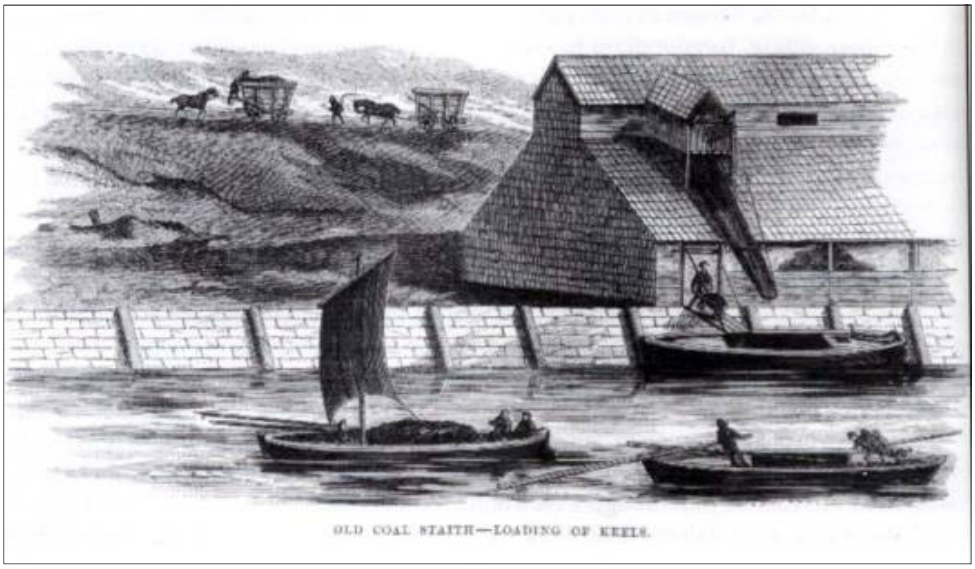
The importance of these early waggonways cannot be under-estimated since they added assurance to the development of the coalfield. Most of them made their way down to a river bank where the coals were stored in a staith before being sent down a shute into a keel boat. In later years an additional form of loading was applied, namely by a waggon drop. Here the chaldron was lowered by means of a swinging beam down to water level where it was emptied into the keel. This method was used to prevent damage being done to the keel boat as well enable the chaldrons to be emptied directly into the boats. It became common practice for buyers of coal to order specific coals from a particular colliery and this method of loading assisted the process.

So long before Hetton became an important source of coal and its important railway established in 1822 was not yet built, coal was being taken from a myriad of minor collieries in

the vicinity, many of which had been in production for more than 50 years. The early coal owners including the following, Lady Vane, later to marry Lord Londonderry, the Earl of Durham, Nesham, Peareth, William Bell and Company all invested in waggonways and staiths in order to get their coals to the coast. Later on, with the coming of railways proper, ownership of the collieries changed and many took on the mantle of the coal barons such as Lord Londonderry and Lambton (Earl of Durham). South of the river Wear Londonderry and Lambton fought to create the biggest coal empire while in the North around Washington Peareth soon dominated.

Extensive waggonways, many evident according to Gibson's map of 1788, were mechanised and improved as the decades passed during the 19th century. The advent of locomotives on these waggonways following Stephenson's Hetton experiment in 1822 merely added to their importance while at the same time becoming a proper railway system. The banks of the River Wear soon became filled with operating staiths and quays where boats could tie up. Most of the staiths were downriver of the village of Fatfield although the occasional location occurred between Fatfield bridge and Chester-le-Street. Many of the walls of the quays can be seen today, some of which have stood the test of

An old staith



time as well as flood and tide.

In 1826 a map of the River Wear was published by John Rennie showing all the staiths and quays from Washington to Sunderland. The keel boats were generally a little over 24 feet in length and powered by a square sail on a single mast. The boat was flat bottomed, broad and drew a shallow draught in order to negotiate the shallows or when coming alongside a river bank. They could also be pushed along by the use of a long pole with a forked iron prong on the end.

A Tour of the River,Fatfield to the Victoria Viaduct

A short distance to the west of the location of Charteshaugh Colliery on the southern boundary of Washington it is possible to see old stone walls which formed part of an earlier staith. This was the site of the High Donnison Staith. These staiths are easily viewed from the southern bank close to the Charteshaugh Bridge carrying the Washington Highway.

The new Highway bridge

Next to it and partially removed by the Highway bridge was the Allan Staith.

The John George Lambton staith

A short distance to the east of the bridge is the South Moor staith and a little farther

on the John George Lambton staith.

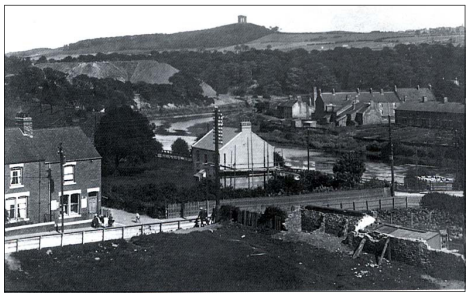
The staith was a long low building made of timber. It is here that the coals were stored when there were no keels to load or they were delayed by the tides. This storage area often allowed the collieries to continue to produce coal. The keels tied up below a spout, down which the coals were poured into the keel. This work was characteristically carried out by women and girls who filled wheelbarrows with coal from within the staith. This work was an alternative to working underground, a common practice for women in the 17th century.

A photo from the 1920s shows Fatfield riverside

In the background the now modernised pub in Fatfield village

A photo taken in the 1950s shows Fatfield village and the staiths below Charter-shaugh Colliery headgear and the river-side staiths close to the village.

At the east end of the John George Lambton staith was located a public house where the keelmen often gathered to eat or partake of a pint of ale. Then followed the staiths at Fatfield village.



North Biddick with the Penshaw Staiths on the far river bank

The Fatfield bridge which is close to Worm Hill did not exist in earlier times, there being a ferry and ford at this point. The latter was used at low tides since on the south side of the river, west of the present bridge, was a set of staiths called the Penshaw Staiths. Coal from the Penshaw and Shiney Row collieries were loaded at this point. Most of the waggonways leading to this point have

Penshaw Staith to the right of the Fatfield bridge abutment

now been destroyed or covered up. To the east of the bridge was built the Thick Staith used by the Nesham family, owners of the collieries at Newbottle and Philadelphia. The etching above shows the spouts used by I D Nesham.

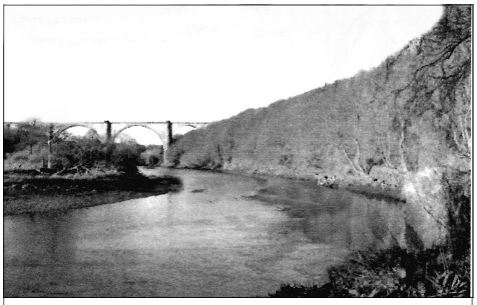
Location of Thick Staith on the right bank and North Biddick on the left bank. Penshaw monument in the background.

There is a tunnel in the background from which full coal chaldrons emerge on to the staith. There is possibly artist's licence with the presence of

The Dog Hole staith used by Londonderry to ship coals from his Rainton, Pittington and Sherburn collieries

collier brigs since they would only be able to reach this point on the river at very high spring tides.

There were many shoals and sandbanks in this location and these restricted the keel-boat movements up and down the river. It was to the Dog Hole that Lord Londonderry brought his friend the Duke of Wellington while the latter was opening the Londonderry Railway. The Party had travelled by special railway wagon from Littletown



Dog Hole to the right and the Victoria Via-

via Rainton to this location. The Duke in 1827 was given a demon-

stration of the new method of loading keels when the waggons were lowered down to the keel before releasing the coal. Lowering and raising the wagons necessitated the use of a counter-balance and brake system fitted to the staith. This method protected the keel while not breaking up large lumps of coal when emptied into the keel.

The picture below shows the ferry steps, as they are today, at the Lower Lambton Staith a short distance to the east of the Victoria viaduct. It was from this staith that Lord Lambton shipped his coals having brought them from numerous collieries in the Bournemoor and Lumley areas as well as locations around Sherburn and Pittington.

Eventually as the years rolled by, after 1825 the railways began to play a much more important part in the transhipment of coal, both in and out of the region. Ships also became larger and thus carried more coal and as a consequence greater loads of coal had to be moved. By 1825, Sunderland as a port, was suffering from congestion and due to large tolls being made against coal owners Lord Londonderry embarked in 1827 on the building of a new port at Seaham Harbour as well as a new railway to carry the coals to that destination. Lambton was also considering new locations on the River Wear.