The Leeds & Liverpool Canal
Historical Information

Operating the Boats
Until 1873, the fleet of general cargo boats leased by the railways in 1851 was slowly run down and the canal’s warehousing remained unimproved. In 1851 the carrying plant was valued at over £13,000; by 1874 its value was just £3,343. One of the leaseholders, the Lancashire & Yorkshire Railway, abused its monopoly of transport in East Lancashire to such an extent that local mill owners and merchant petitioned the canal company to end the lease. This they did in 1873, and over the following thirty years there was considerable investment in facilities for handling general cargoes and in building up a large fleet of general cargo boats. Flyboats carrying general cargo operated day and night over the whole length of the canal. Much of the traffic came from Liverpool, and boats started from there each evening for a specific named destination such as Leeds or Burnley, with cargoes also being accepted or delivered to and from intermediate warehouses. Steam boats were introduced in the 1880s, and these would tow two or three unpowered boats behind them. Horses were stabled at the lock flights for moving the unpowered boats up or down the locks. A regular timetable allowed cargoes to be sent efficiently, and the canal provided effective competition to the railways. In fact the L&YR had to lay off staff at Burnley after the canal re-entered the carrying trade.

General cargo carrying, a brief history
Merchandise traffic on the Leeds & Liverpool Canal has always been handled separately from bulk cargoes, boats for the former requiring coamings around the hold so that cargoes could either be covered by sheets or by wooden hatches. In the early nineteenth century, two main companies developed; the Union Company of Mr Robert Hudson and partners from Leeds, and the Liverpool Union Company based in Lancashire. Both operated over the full length of the canal, sometimes with flyboats working non-stop pulled by two horses. Little is known about these ‘union’ companies, but they may have been some form of co-operative grouping. Private companies also carried general cargoes, such as Tyrer & Glover who were probably based in Burscough, the main centre for the families of long-distance boatmen.

Railway competition started in the 1830s between Liverpool and Wigan, with the canal company setting up their own private company, Stanley & Tatham, to encourage trade on this section of the canal; Stanley was the canal’s engineer and Tatham their agent in Liverpool. The 1847 Carriers Act finally allowed canal companies to operate their own fleets, and in 1848 the Leeds & Liverpool took over the two Union companies and Tyrer & Glover as they were all suffering considerably from railway competition. A total of 45 boats and 108 horses were acquired at a cost of £9199. Three years later the merchandise traffic on the canal was leased to a group of railway companies, and they took over a fleet of 51 boats, 107 boat horses and 18 delivery horses for £10,582.

The rental from the railway companies, around £40,000 per annum, allowed the canal company to accumulate extensive financial reserves although the merchandise carrying fleets, particularly those of bye-traders, were slowly run down. The railway companies’ income in 1872 from canal traffic amounted to £16,000, so they were paying £24,000 to ensure other traffics went by rail. In that year, a group of East Lancashire mill owners approached the canal company complaining of the service provide by the Lancashire & Yorkshire Railway to Blackburn and Burnley, and asking the canal to resume as carriers. This they did in 1874 when just 22 boats and 22 horses were returned to the them by the lessees.

Work was soon in hand extending the fleet, with second-hand boats possibly purchased from Ince Hall Coal & Cannel Company who had just given up using the canal. New boatyards, such as Hodson’s at Whitebirk (Blackburn) were also encouraged, and the fleet rapidly increased in size. Money was also expended on improvements to warehousing, and on deepening the most heavily used sections of the canal: up the Aire Valley to Shipley, and from Liverpool to Burnley. This allowed steam boats to be introduced; the towage of three or four dumb boats by a cargo carrying steamer was to become a feature of the canal company’s carrying trade.

Tonnages increased rapidly from 321,729 tons carried an average of 13.78 miles generating £34,000 in 1874 to 494,676 tons carried an average of 32.71 miles generating £48,000 in 1883. By that time, the Lancashire & Yorkshire Railway was laying staff off in Burnley because the canal had taken so much of their trade. One way this was achieved was by regular fly boats. The system was introduced in 1880, with boats from Liverpool to specific destinations working non-stop to a timetable. They had precedence at locks, and were painted with ‘Flyboat’ on their bows to ensure this, together with a blue flag with ‘Flyboat’ in white. Boatmen in Lancashire did not argue over the flyboats getting preferential treatment, but those in Yorkshire did, with several being taken to court before they acquiesced to the new byelaw governing the passage of flyboats at locks.

Steam power had been tried in the 1840s, but it was not until 1871 that it was used regularly after four tugs were purchased possibly for the Wigan to Liverpool coal trade. Steam towage was used for the merchandise trade
from 1875 when William Alsop of Preston supplied an iron tug and six iron dumb boats. Four years later William Wilkinson, an engineer from Wigan, best known for his steam tram engines, converted the dumb boat *Despatch* to create the canal’s first steamer capable of carrying cargo and towing dumb boats. By 1886 there were eleven steamers in operation, with the number increasing regularly. Steam tugs were also introduced for towage through the canal’s two tunnels, at Foulridge and Gannow, from 1879. In 1883 a committee was set up to compare the costs of steam and horse towage, increased investment in steam boats being the result. A variety of engines were used over the years; usually they were twin cylinder in V formation working simply, though a few had compound twin cylinder V engines, sometimes with condensers. Boilers were of the Field type, made by Houghs of Wigan. On this type of boiler, which are quick steamers, a number of twin concentric boiler tubes, the external one capped, hang down into the firebox to provide a large heating surface. As canal water was used, sediment settled in the capped ends causing the tube to fail. Over several years, four men died from boiler explosions on the canal, then filters - boxes filled with sponges - were introduced to remove the sediment before the water entered the boiler. Subsequently there were few problems, though routine maintenance was essential. The engines were extremely robust, ideal for canal use, and many survived into the 1950s.

In 1884, the most important flyboats, those working day and night, were from Liverpool to the main towns. Steam flys worked to Leigh, Blackburn and Leeds, though horses were still used extensively elsewhere: on the two Wigan flys (four horses), five Burnley flys (9 horses) and two Bradford flys (two horses based at Stockbridge). Steam fly boats often towed these dumb boats most of the way, with horses used for shorter parts of their journeys. A further 15 horses were allocated to fly boats, with 67 for slow boats, those working just 16-18 hours per day. Two horses were kept at Wigan to help boats up and down the flight, a system which was to be extended later. Stabling was provided by the company at all its warehouses as well as the odd stable elsewhere. These were just for company horses and not for bye-traders.

The 1880s and '90s saw a large investment in cargo handling facilities, well over £100,000 being spent on new warehousing, lifting machinery, and canopies to allow goods to be transhipped in the dry. The most important of these developments was in Liverpool, where the old terminus was abandoned as part of a local authority scheme to build Pall Mall, a new road from the city centre out to the expanding north docks. The canal company benefited by the construction of modern warehousing along the new street as well as in Leeds Street. The company’s head office, destroyed in the Second World War, was also here. The north docks were also served by warehouses at Bankhall (1875) and Bootle (1884). It was considered more cost-effective to carry goods by road from the docks to the new warehouses as canal boats could only pass slowly through the docks. Some cargoes did go into the docks for direct transhipment to waiting ships. Textile machinery was the most important as the manufacturers did not like their goods to wait on the quayside where it could be damaged. Instead it was stored in canal warehouses near to the manufacturer and only brought down to the docks for loading. Most general cargoes were from the ports to inland destinations, so this return traffic was treated with great care and expedition.

Investment was not just in large warehouses. Small towns, such as Rufford, Barnoldswick and Rodley had new small wooden warehouses, though the development of large warehouses for specific trades were of more importance, such as the cotton warehouse at Wigan and the wool warehouses at Shipley. Cargo handling machinery was also improved with steam, gas and diesel engines to power hoists, and these were later converted to electricity. Cranes were fitted to most wharfs, the largest being at Liverpool, at Blackburn, probably for the Yates & Thom Lancashire boiler traffic, and at Rodley, where two crane manufacturing companies were based.

In 1896 the merchandise tonnage carried exceeded 600,000 tons for the first time, with each ton carried over 36 miles on average. However, the Rates & Tolls Order, which brought canal tolls into line with railways, resulted in a reduction, average rates declining from ½d per ton per mile to around 0.45d per ton per mile, which reduced the canal's income from carrying. To compensate, an improved system of operation was introduced in 1900, with regular returns being sent from all stations giving details of the operation and location of individual boats. To facilitate this, boat names were removed and they were given numbers instead. Departure of boats was regulated to ensure that they did not arrive at their destination on Saturday night or Sunday, and thus remain idle for a day. The number of boatmen was also reduced in some cases where it was considered that the work was easy enough.

It required 180 boats in service for the full operation of the flyboat scheme. There were also several tugs: *(51) Naiad*, worked between Gargrave and Bingley, with *(52) Doris* and *(53) Siren*, working between Wigan and Manchester. Subsequently *51* worked between Wigan and Blackburn together with tugs *54*, *55* and *56*, while tug *57* worked the Skipton pool and *58* the Burnley pool. Steamers towed any dumb boats between Wigan and Manchester.
The steamers or tugs towed three or four dumb boats, and in Lancashire where the locks are in flights there were company-owned lock horses stationed for towage of dumb boats through the locks. 12 or 13 were at Wigan (though boats were often held up for want of a horse), 3 were at Johnsons Hillok, and 3 at Blackburn (3rd horse partly for carting). On the original scheme further lock horses were based at Bank Newton, Gargrave, and Bingley. It was then decided to base horses at Foulridge for the Yorkshire dumb boats. A ‘horse marine’, one of a number based in Foulridge, would lead the horse, thus reducing the crew needed on the boat. No horses were based at Barrowford locks, so the steamer crew could help dumb boats up the locks and even through the tunnel if the cargo was urgent. Otherwise, horses could be sent from Foulridge, with boats towed through the tunnel by the tunnel tug, the timing of the tug being set to suit the arrival of flyboats. The horse marines would work throughout the Yorkshire end of the canal, leaving horses in stables as necessary and travelling by train to pick up another horse and boat as required.

In 1900 there were 103 boat horses (like the boats, the horses were also numbered), the depot at Burscough being provided for the storage of proven and as a hospital for sick horses. Farmers at Burscough took horses which required a rest or after sickness and used them for working on the land. No charge was made either way. Harness sets were also made at Burscough, and though they were numbered, they were not kept for a particular horse. Feed for two days was supplied to boats as they passed, and a proven boat supplied company stables along the canal weekly. In 1919, proven was brought from Burscough to Foulridge where it was stored and then supplied to boats in 60 lb lots. Foulridge supplied Barrowford, Burnley, Gargrave and other Yorkshire stables, some 21,780 lbs per month.

The terms of employment for boatmen in 1900 stated that they would be paid fortnightly on Fridays. ‘Subsist’ was paid the following Thursday to men on the slow boats, those on steamers or flys could only get this under exceptional circumstances. Weekly wages ranged from 33s/6d for a steamer captain to 21s/- for the mate on a slow boat. A range of fly money could be paid to slow boat men depending on the distance travelled, such as 6s/- Leeds to Skipton.

Despite being comparatively well paid, there were some strikes. The first was in September, 1911, (the canal was partially closed because of a drought at the time) with the Boatmen’s Union in Liverpool involved. New conditions were step up, but unrest continued and there was a further strike from December, 1911, to February, 1912. Finally, in February, 1913, the boatmen in Liverpool complained that they were expected to work normally on Sunday. A number refused, supported by union officials, O’Grady and Ben Tillett. The company took the men to court, saying that by refusing work they were breaching their contract. Forty boatmen were sued successfully, with their last week’s wages withheld and 2s/- costs.

The number of boats continued to increase, from 123 in 1891 to 176 in 1902. Improvements in towage were also tried, with Mr Barcroft from Newry testing his boat Mourne fitted with his semi-immersible propellors in 1904. It was not a success. A Gardner diesel engine was fitted to steamer Humber in 1905, but again this was not successful as its stoke of 12 inches was considered too long, creating excessive vibration. Then in 1906, Col. Thom from Southport proposed using gas engines running on compressed gas from cylinders. He suggested building plants alongside the canal to compress the gas and to exchange cylinders as boats passed. None of the schemes could compete with the canal’s highly economical steamers.

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The war also saw the canal coming under Government control from 1st March, 1917, with the company receiving their average net revenue for the five years up to 1913. This made no allowance for the drastic increases in wages during the war, leaving the company in difficult financial circumstances when Government control ended in August, 1920. It was the cost of maintaining their carrying fleet, employing some 650 boatmen, agents, warehousemen, and the expense of maintaining the fleet which led to the decision to stop acting as carriers. Other canals, such as the Rochdale and Shropshire Union, came to the same conclusion, that inadequate financial compensation from the Government forced them to stop carrying.

The Leeds & Liverpool’s fleet was sold off piecemeal, though traffic was divided amongst four companies. Hunt’s of Leeds took over traffic to and from the city, Hunt & Page looked after the Leigh traffic, with two new companies, Lancashire Canal Transport and Ben Walls looking after the Lancashire and Yorkshire traffic respectively. Smaller bye-traders also bought boats, but some were in a poor state and were passed to the engineer’s department. There they were used as bank boats, though a few ended their days sunk as training walls on the tidal River Douglas.
John Broadbent, Canal Transport Ltd Manager

This is part of a transcription of an interview, circa 1970, with John Broadbent, who started work in the canal office in Liverpool around 1900, and who continued to work on the canal even after nationalisation in 1948. The interviewer was Norman Walls of the canal carrying family. The text has been edited very slightly.

Leeds and Liverpool Canal in the year 1900

In 1900, at Pall Mall, where I was employed, there was an absolute bustle of activity. Import traffic and export traffic used to flow through, and we had close on 100 boats in commission. The loading berths were all marked with the different stations and the horse-drawn vehicles, which they had in those days, came into the particular wharf where the goods had to be put.

There were no electric cranes in those days, they were what we used to class as mandraulick. That was that they had to be handled by the men. They had to wind up the hoists, bales of cotton, whatever was being loaded into the boats, all had to be lifted by hand. Even up to weights of 10 ton, such as large cases of machinery that used to come in for export.

In the office everything was recorded. The railway system probably today is something that flowed on from what the canal did in the days when they had passengers on the boats, because they had regular timetables for the passenger boats going through Wigan. That was long before the railways had started and they had a fare schedule and also stopping places. It is recorded in the Annals of Maghull that a sick woman was dispatched from Maghull to Wigan by passenger boat for a cost of 1/10d. The boats called at Burscough, and the coaches met the boats there and took the passengers who wanted to go to Southport and other places; they took them there by coach. There was also a regular service between Liverpool and Crosby, two boats a day each way. They took passengers in that direction.

In Leeds & Liverpool carrying days, the boats were all, practically all, drawn by horses. There were one or two tugs or steam barges with the boilers and so forth that went as far as Wigan. There was also a regular Bradford fly-boat. It had four men on board and they never stopped. You used to get to Bradford in about four days. The Wigan fly also used to go each day — that was loaded with cotton for Eckersley’s mill at Wigan, and the canal boat used to get to Wigan ready for discharging each day as soon as the mill open, and it could beat the railway by a matter of about 3 hours.

It took a week to get to Leeds, and the men that were on the boats travelling that far, they had to be provided with food to come back. Their wives would bring a hamper to our office in Pall Mall and ask us to send it on to them. They baked them cakes and sent them a few odds and ends of groceries, and they came back then after being away for a fortnight. Well of course as things went on later and the younger generation took hold, they did not want to be away. They wanted to be tying up every night so that they could get home, and the result was that it rather disrupted things because the older man wanted to get on with the job and the younger ones just wanted to stop.

I can recollect the days of the directors meetings of the Leeds & Liverpool Canal. They arrived in the afternoon for a meeting which started at 3 o’clock. They carried on till about 4:30 and then they adjourned and partook of hotpot which was specially made by the [warehouse] keeper’s wife. The keeper lived on the premises. Then, later, they resumed the board meeting, and it was my job as an office boy in the Manager’s Department to have to go and take the letters to the main post office in Victoria Street, Liverpool. If they wanted a cab, I had to go to the Exchange Station and get a handsome or four-wheeled cab according to what the particular director wanted, to take them back to the hotel, and the usually stayed in Liverpool overnight, and if there was any business that have to be completed, it was completed next morning.

The boats were all recorded in a Boat Book, on the same system presumably as a railway companies. Each boat had a weigh bill and also each station had a form on which they had to state the time the boat arrived there and what time it left. By that means the boats could be traced through to whatever destination they were going to, and also recorded on the particular way back. These were all recorded in the book, in the Boat Book we called it, and if there was any special duties that they had done outside the ordinary normal work such as legging through Foulridge tunnel or Gannow tunnel then they’ve got extra pay for that, and if there had been any unusual delay, well you could always ask the man what he had done between such and such a station because of the length of time he had taken.

The same way, provender was mixed at Burscough and was handed over to each particular boat as it went through to feed the horse, and by the same means, if provender ran out before it should have done, then there were enquiries about that, because there were a number of pubs on the canal bank, almost practically in every town. These pubs, they had stables and stable horses and our men used to get rid of some of the provender to the publican. There were often prosecutions because one thing about it was that the horses had to be properly looked after. When they got to a
station, they had a rest. They used to travel perhaps about 20 or 30 miles and then there was a change of horses and their shoulders were inspected, and if any horses had sore shoulders, then the boatman had something to answer for, because there was a steady pull and if the shoulders were sore they had apparently been driving them a bit quicker than the normal time.

On the canal bridges, for navigation, there was a 'striking' mark. It is a white line down the centre of the bridge and that was where the boatmen made for. Now when you come to a bridge where towing path went underneath, then the line was some further over to allow for the space of the towpath, and at each bridge they used to have rollers so that when the horses were going through towing the boat, the rope did not rub against the side of the bridge and get torn, and the horses, of course, always made for the further side of the bank. They kept along by the hedge. Many people probably thought that it was a tremendous load to tow but the main part was in getting the boat started; that was the biggest strain on the horses, because after that it was more or less a steady pull without too much exertion.

There are different branches of the canal, one runs to Rufford from Burscough; one also went through Liverpool locks to get over to Birkenhead, and also on the Rufford branch you could get to Preston; you dropped out of the canal into the River Douglas and then from there you went on to Preston where, at one time, there was quite a lot of wood pulp traffic came in, and that was taken up to the different mills round the Blackburn area.

Also there was one particular trader who lived in the area who used to buy the old boats off the canal company when they were more or less getting finished, and he used to fill them with stone, take them down the Rufford branch and sink them on the revetment wall at Preston. Now when they took the boats down and dropped them out of the canal Tarleton, then they got into the River Douglas and they were sunk on the revetment wall. Now that was a wall to keep the channel open for navigation. So that was one of the reasons why these boats were always sunk on the revetment wall to stop, as much as possible, any silting up in the particular channel that got the boats through to Preston docks and it was probably within two or three times a year that these particular old boats were sold to this one particular trader who filled them with stone and then presumably the River Authority or somebody concerned were telling where exactly the boats wanted to be sunk and then they dealt with that part of the matter, presumably. The trader would probably finish when he handed the boat over to the River Authority.

There was also a connection from Leigh to Manchester. Now there was quite a bit of traffic passing between Manchester docks and the Leigh branch of the canal, and the traffic could then pass through to Leeds or wherever it was necessary to go. Also the traffic could be taken through to Manchester to go into ocean vessels and the same applied at Birkenhead. There were two large river barges moored in the dock at Birkenhead which belonged to the canal company, and in those days they also owned a tug called the \textit{Warrior} which used to tow the boats between Stanley Dock and Birkenhead. If the traffic was not taken direct into the boats at Birkenhead, it was put into the vessels that were there in the dock and then later transferred into the oceangoing vessels.

I did mention about the boat records and the provender records, and also we had to keep stock books for goods that were in stock and when they were delivered, then they were marked off. We used to issue advice notes to all the traders and shipping firms in Liverpool that were concerned in traffic that had come down by the canal and that allowed for 48 hours free storage. After that the insurance was up to the consignee, that is the people to whom the goods were going, and they had to arrange about delivery and so forth. On Monday, it was nothing if you did not go around to about 30 or 40 different places because, if you look at the figures of the tonnage that was being transported along the canal, you will see that the best part of three quarters a million tons of traffic was passing, merchandise traffic, and that there was quite a big trade going on in the port of Liverpool.

Later things seem to deteriorate. The boatmen, the captain got 28 shillings per week and the mate 24 shillings a week; on top of which, of course, you could make a little bit extra in legging through the tunnels or doing various other odd jobs; then, of course, with the advent of the war, 1914 to 1918, things changed. They came under government control. The warehouses and everything else were left mainly for the storage of government traffic, in some cases rather unfortunately because although they kept the space free, often there was very little that was put into store. It was transported as quickly as possible.

During the war, they had what was known as the 'Hulliard Navy'. They were more or less reinforced canal boats and if a boat wanted to go from the Mersey to the North Sea, then it went through the canal. We had instructions that if any papers came for the particular boat that was going through, they had to be sent as quickly as possible to the officer in command. The boats were manned by about half a dozen people, half a dozen men and an officer, and they went...
through the canal, and it fell to my lot to have to track these people through. Within half an hour of leaving, there were certain papers came through and I had to get along. I went out as far as Maghull and waited till the boat came along and delivered the papers over.

In the last war, getting ready for D-Day, there were tanks and infantry landing craft stored in the basins at Liverpool. They could not be seen because of the warehouses round about on the branch canal which went up to Vauxhall Road. Naval chaps used to come round to 'rev' the engines up occasionally. Nobody used to see much of them coming; they used to come probably when it was dark. Then, on getting ready for D-Day, the boats all disappear from Liverpool, and there were very few people on the way that ever saw them. There was only one person in Maghull that had any recollection of the boats coming through Maghull; but they were all square bows, and the result was that getting around Burnley and those places, although there was a 4 mile an hour speed restriction on the canal for ordinary boats, those particular vessels did not worry and the result was that they washed water over and flooded housing, warehouses and other things. Anyway they went through without any apparent mishap on joined up wherever they were required for D-Day.

So you can see that the canal, which runs right across England and rises to a height of 487 feet at the summit and then drops again into the Humber, or drops into the Aire and Calder Navigation and then gets into the River Humber for Goole and Hull where again there is a lot of traffic that comes through, import traffic and I suppose, through the Aire and Calder, plenty of export traffic, but of course we finished mainly with our particular traffic at Leeds.

All these traders, private traders they were called, they owned their own boats and they made their own arrangements with what ever they carried to the different mills; that is if they were taking in the Liverpool area and particularly round Litherland to the gasworks, they made their own arrangements overcharges for tolls and so forth. Having made their own arrangements with the different works concerned, then they charged the tolls themselves and also the wheeling-up charges. They used to get about 2d a ton for wheeling-up from the boat into the boiler house of the mill or factory or where ever it was.

When the canal was built, the land was purchased from different landowners, and of course when you go back 200 years, there were very large stretches of land that were in the hands of a few people; different Lords, Lord Sefton, Lord Derby, Marquis der Castillia, all these different people, and there was a privilege attached to the owners of that land, and that was that they could have soil, manual, stone or whatever it was they wanted for the improvement of their land taken by the canal, and they had to give a certificate to the company, a copy of which you will hear about later and that entitled them then when that was produced to take the traffic free of toll along the canal. Now it was free of toll but whoever the soil or sand or manure was going to, they had to pay, of course, for the transport, that was the boatman's wages and whatever other charges he would make for delivering the traffic and these boats were discharged at various sections along the canal, mainly, of course, in the Liverpool area; it went as far as somewhere in the region of Burscough, not much further on than that but other traders traded further on, of course, and they probably had the same arrangements about delivering free of toll to these other various places, forms, and of course that could cover a large area; because if the land had been owned at the time when the canals cut through by the same owner, he could of course get some of his money or and other things taken to further distances away from the canal than what one would anticipate. Now the lock keepers who were responsible for seeing that boats went through the locks, they also had to record what time the boats went through, and to say that the locks were properly filled and properly dealt with.

If we go back to 1921, that was about the time after the war when things were getting pretty bad because when the Army started selling all their vehicles, there were quite a number of people who purchase them and knowing little about transport, they cut in at ridiculous rates and that was one of the prime reasons why the canal and also the railways suffered very considerably because they had their rates compared with what was being charged by these individuals who were apparently putting nothing on one side for depreciation or replacement of the vehicles and the result was that when the vehicle needed to be replaced, they just simply faded out; they were just simply charging for the day; but some of the larger concerns, of course, they got a hold and the canals and railways simply had to cut rates.

In those days, the early days from the 1900s, there were two conferences, there was the Mersey Ports & Manchester District Conference and the West Riding Conference, these were comprised of the different railway managers and canal managers and they had their meetings three or four times a year and they decided on policy regarding rates and whatever was necessary for the well-being of the particular industry. Now in that particular day there might be
huge consignments of goods, sometimes a up to about 500 tons, coming into the port and traders used to ask 'Well, what about a special rate?' So the conference would agree on a special rate. Now the canal always had a preference over the railways. We had differences in rates of allowances from 10d to 1/3d against the railway rates i.e. the lower rate had 10d in favour of the canal and the high rate 1/3d, or in the special circumstances of those bigger rates, well possibly a little more. They were arranged on each particular occasion as the traffic came along.

After the war and after the trouble with road transport, the boatmen, of course, wanted an increase in their wages and the result was that a strike occurred. Now the Leeds & Liverpool Canal was formed as a toll-taking concern and not as a freight earning concern, before the union came along. There was a conference at Burscough with the different delegates and the trade union representatives which lasted a week and dealing with the boatman; every night the day's record of what had been agreed that particular day was typed and handed over to each one of the delegates the following morning and also to the union representative, and they were agreed as being correct. Then eventually they had to go to the trade union officials in London, and in those days it was Ben Tillot and Mr O'Grady, to decide as to what had to be done. It was made pretty clear to the men, who at the time were making a demand for £1 a week extra and less hours, that the canal company could not afford it because the traffic was certainly in those days declining. The news came back from London to say that the company should accede to the request of the men, and the result was that it was decided that the men should all be dismissed, the traffic part of the canal could be closed down and the boats should be sold. The boats were sent into Liverpool and they were sold to the various traders who bought them out, delivering traffic in the Leeds area, the Bradford area, the Lancashire area and locally towards the Manchester area.

Questions were raised in Parliament as to why the canal had closed this particular branch of the business, but although there were quite a number of discussions in Parliament, they can of course be traced back because they will be in Hansard, whatever was said in Parliament, they could do nothing about it because being a private toll-taking company, they could simply close down the carrying trade which they themselves had sponsored at will.

The boatmen had already been on strike about pay and conditions in May 1913. The strike mentioned here may have been in November 1920, when boatmen refused to accept new pay and conditions following the end of the war. However, it was lack of Government support for re-furbishment of the canal company’s fleet and other costs resulting from the war which probably resulted in the end of carrying by the canal company in 1921.

Boatmen came out on strike again in May 1945, possibly with boatmen on the Bridgewater Canal, because of changes to pay and conditions being forced upon them after the war.

Boats at the Liverpool terminus in the 1900s, when John Broadbent started on the canal.

**John Hunt & Sons Ltd, Leeds-Based Carriers**

This is the transcription of an interview with Richard Hunt, of Messrs. John Hunt & Sons Ltd. His father started a general cargo carrying business on the canal in 1921, after the collapse of the canal company’s carrying business.

In 1921 when the Leeds & Liverpool Canal ceased their carrying activities my father, Mr Henry Hunt, of John Hunt & Sons (Leeds) Ltd. who had been carrying, on an inland waterway carrying business from Hull [to Leeds] since the middle of the 18th century, was approached by Mr Garnett, who was the Leeds agent of the Leeds & Liverpool Canal and who was the man who dealt with the trade in the Leeds area. Mr. Garnett asked my father if he would consider starting up a carrying business between Leeds and Liverpool because Mr. Garnett would become redundant with the discontinuance of the carriage between Liverpool and Leeds. Mr. Garnett held the view that there was traffic which
he knew of and which could be retained if my father would consider going into this business. After looking into the matter, my father decided that he would have a go and he purchased 5 barges or boats from the Leeds & Liverpool Canal and took a lease on the Leeds warehouse premises of the Canal Company.

The traffics which Mr. Garnett had looked after for the Leeds & Liverpool Canal Company were primarily sugar from Tate & Lyle of Liverpool, sugar and barley which came to Leeds for Tetley's Brewery and there was also a quantity of cocoa beans which went to Rowntree & Co. of York. Much of the sugar was for the Leeds Industrial Co-operative Society who used to have a very large weekly order, and on Friday mornings the wharf was full of Leeds Co-op Society horse vehicles collecting the sugar.

Having bought 5 boats as a start, when the trade developed a further 5 boats were acquired and later a further 5 and then 5 boats were actually built for the trade so that we finished with 20 barges operating between Liverpool and Leeds and vice versa. There was little traffic available for return loads, but the Company were carrying cement from G. & T. Earle of Hull to Leeds, and when we started carrying from Liverpool to Leeds, we managed to persuade G. & T. Earle to open depots on the Leeds & Liverpool Canal and the cement was brought in 100 ton barges to Leeds and transshipped on to the small craft for going forward on the Leeds & Liverpool Canal. Depots were opened at Shipley, Bingley, Keighley, Skipton, Burnley, Blackburn, Wigan and Leigh, and this provided a useful traffic by way of return loads to get the boats back to Liverpool without having to send them back 'light'.

All the boats were horse-drawn, and my father, who was always interested in horses, used to go in for, when he could find them, clean-legged animals and he bought a number from the Douglas Corporation in the Isle of Man where they had been pulling the horse-trams which used to run along the front at Douglas. These horses were very suitable for the job of pulling the boats and the price varied between £30 and £50 when we could find them.

The business was not particularly profitable but it did provide a certain amount of work for the barges bringing the cement from Hull, and to that extent was worthwhile. The amount of profit on the 20 barges would not average more than £650 to £700 per annum over the period when the business was carried on.

In 1929 we were approached by Mr. Davidson, the General Manager of the Leeds & Liverpool Canal with a view to joining into a new Company to be formed to amalgamate all the individual carriers on the waterway. The Leeds & Liverpool Canal Company's idea was that they would take 51% of the shares in the new Company, leaving the individual carriers with 49% - thus giving the Leeds & Liverpool Canal Company in control. We were not particularly interested in this proposal but the fact that we were lessees of the warehouse premises in Leeds which were necessary for the trade from Liverpool and that the lease was coming towards its close, we should have been in the position that had the lease not been renewed or had it been only renewed at an enhanced rental, we should not have been in a position to carry on the trade. And we did, therefore, agree to the proposal. We understood at the time that the proposal came about originally because the Company which was operating in the Blackburn area was in some financial difficulty and might possibly have had to go out of business had nothing been done to keep it going, and the idea of the Board of the Leeds & Liverpool Canal Company was that they were only interested in keeping it going if they could amalgamate all the carriers.

In March, 1930, as a result of the proposals I have just referred to, a Company was formed under the name of Canal Transport Ltd. with the Leeds & Liverpool Canal Company holding 51% of the shares. John Hunt & sons Ltd. received 5,500 x £1 shares in payment for the largess and equipment which they handed over. Mr. R. H. Hunt became a director of the newly formed Company along with Mr. Ben C, Walls of B. C. Walls Ltd. of Skipton, Mr. Leonard Rawsthorne of the Lancashire Canal Transport Company, together with Mr. Davidson as the General Manager and the Chairman of the Leeds & Liverpool Canal Co., Mr. R. W. Wickham as the Chairman of the new Company. Canal Transport continued to trade until 1948 when nationalisation of transport took place and the waterways themselves were nationalised in the name of British Waterways - Transport Division, following the acquisition or nationalisation of the waterways, themselves, the outside shareholders of Canal Transport Ltd., were asked to dispose of their shares to the waterways authority, and ultimately, after a good deal of haggling, a par value of £1 per share was paid.
In 1939, the BBC produced a radio programme of interviews with canal people. Originally it was just to be about the Aire & Calder Navigation, but then the L&LC was included. The interviews were all transcribed, and the copies are still in the L&LC Correspondence files. Presumably management wanted to ensure that the canal was portrayed in the best possible light. The following are the main interviews by boat- and wharfmen, which give some insight into how the canal operated at that time.

**Duties of a Wharfinger**

About 36 years ago I joined the staff as a boy and have progressed by stages to my present position. My duties (with the aid of staff) consist of the receipt and delivery of goods, warehousing goods, the forwarding of outward goods in addition to the administrative duties of the depot.

In the morning arrangements must be made for the unloading of barges which have arrived with cargo, goods have to be checked for quality and condition and delivery arranged for goods consigned direct to customers. A large proportion of the goods, such as sugar for the large refining firms, cattle and poultry foods for milling firms, raw cotton, wool, cement for the building trades, etc., are sent to our depots to await orders, and such goods are held by the company in their capacity as warehousemen. Advice of the arrival of such goods must be sent to the owners or consignees, in order that they may effect the necessary insurance. Delivery is then made in accordance with written instructions received and in some cases periodic returns of deliveries and stocks on hand are furnished. By this means not only are goods made readily available to the customer, but the storage capacity of the country is fully utilised. There are a number of works situated alongside the canal and to these delivery is made direct by barge, but the supervision of these barges comes under the wharfinger’s duties while they are in his area.

As regards goods forwarded by barge, in the case of my own depot these consist primarily of manufactured goods, machinery, etc., for export to all parts of the world and having unloaded my barges I can now proceed to load up goods for dispatch. Barges can make contact and deliver goods direct to ships, both ocean-going and coastwise at five different ports on the east and west coast, so it will be readily seen that full information as regards tidal working has to be at my disposal in order that I may arrange that barges are given time to arrive at ports in time to ‘catch the tide’. It is not sufficient to know your proverb, it must be observed. I have to forward to our agents at the various ports full particulars of all goods forwarded, number of packages, marks and numbers, weight and charges, and in cases where goods are consigned FOB many other particulars for customs purposes, also particulars of any package of exceptional weight so that appropriate lifting tackle can be arranged.

Now as regards administration. To ensure efficient working of boats, close contact with the central control office must be maintained and any boats empty and available for cargo must be notified to them. Similarly they may advise me the boats due to arrive with goods, so that arrangements can be made for their early discharge. This is very important to efficient working. A wharfinger has at his disposal facilities for the delivery of goods to customers. These may be horse-drawn or motor vehicles. In my own case, our peculiar circumstances and needs make horse-drawn vehicles the most satisfactory and it will be appreciated that some knowledge of horses is essential, also an ability to make the best use of plant at my disposal in case of a rush of business or difficulties due to bad weather and roads. At certain times and periods there are statistical returns for head office to be compiled and rendered. For the purposes of the Factory Acts every wharf is considered to be a Dock and the same regulations govern the loading and unloading of a barge as of a ship or liner and I must know these regulations and observe them.

Anyhow, I have just heard the exhaust of a diesel engine as the last barge went on his way, all the horses are bedded down and contentedly eating their evening meal with that steady crunch, crunch. which tells of a good appetite and good health, the boy has gone to the post, the preliminary arrangements for morning have been made and I am free to go home. Given good business it is a full and interesting life. I like it.

**The Life of a Boatman**

From my experience of a boatman’s life, I think it is one of the most healthy to find. The work is not what you would call very labourious, but at the same time it calls for practical knowledge of the canal you are working on, to make you competent in the handling of your boat, especially at night time going through locks and knowing where bridges are situated.

For a young man to settle to a boatman’s life, I don’t think he could choose a more healthy life, but he must not expect to be at home every night, but to compensate this on every boat he is supplied a cabin, bedding and cooking
utensils free; so it is up to him to make everything comfortable and home from home, which is quite easy under the circumstances. I think that under these circumstances it is far more healthier than these long distance road-motor travellers, who have no accommodation provided for them in any way. Say for instance one of our boats loading at Liverpool for Leeds, he passes through various central towns in Lancashire and Yorkshire. If he thinks fit, he can work himself to be in any of these towns for a night’s enjoyment, then off again the next morning, and they are seeing something fresh all the time he is travelling, and enjoying himself at the same time.

Speaking from my own experience of the life, which is about 45 years, during this time the working conditions of a boatman have certainly been considerably improved, with the diesel engine and every boat self-propelled. The life of a boatman is not half so monotonous as it was in the days of steam on the canal, when he had to be towing 3 or 4 boats along with him, then at every lock he had to wait for them being worked through which meant hours wasted for the power boat’s crew, and it certainly caused plenty of unsatisfaction with the men, and that is why I firmly believe in each boat being self-propelled, which allows the crew of any boat to get a good day’s travelling done in the time he would have had tom wait for the boats in tow to work through the locks after him.

Furthermore, the morals of the boatmen in general have been uplifted during the last 25 years. He has a very queer disposition to the people who think they know him, but actually do not. If any one who knows the disposition of a boatman and at the same time knows how to work with him, to me he is one of the best to work with, and I know if worked properly he will be falling out with you and of course telling you what you are in strong language, but he will be doing what you want him [to] at the same time, which is quite typical of a boatman.

As I have stated previously, the life and working conditions of a boatman are quite as good as any other working class employment, the life is far more healthy, far more enjoyable than plenty of other work, and for a young person who can settle down to it, I cannot name any work as healthy. If I was young again I certainly would go back to the life, because you know what work is required of you to do when you start on a journey, and you go and get on with it in your own way and nobody interferes with you, so what more can you require than this. (R Sutton)

Annual Holidays 1904

Holidays had to be taken when and where possible, and it is uncertain what holiday boatmen were entitled to, or if they were paid for them. This letter gives the details for office staff in 1904. General maintenance on the canal, such as replacing lock gates, tended to be done in April, May or June, either at national holiday times or when the long summer days gave plenty of time for the work. Boatmen held up by such work may have taken a holiday then, though gate replacement rarely lasted more than a couple of days.

24th August 1904, Alfred Peploe Esq, L&LC Co Pall Mall, Liverpool

Dear Sir,

Referring to your letter of the 19th inst, I have pleasure in stating that we allow:

10 days Annual Holiday to our Agents, Clerical Staff, Canvassers, and Inspectors;
7 days to the Gaugers, whose week of duty includes Sunday, and;
6 days to the Principal Foreman at 4 of our Traffic Depots and to the Stablemen each of whom receive no payment for Overtime.

The Porters and Carters on the weekly permanent Staff at Manchester alone are allowed 3 days and 2.5 days respectively, in Whit Week, in addition to Good Friday and Christmas Day. These men work, as found necessary, on each Bank Holiday but are paid a full days wage whether required to work or not.

All other men on the weekly permanent Staff are allowed with full pay, Christmas Day when it falls on a week day, Good Friday, and whatever portion of each Bank Holiday the exigencies of the traffic requirements permit of.

Yours faithfully,

C R Dykes
Cargoes on the Canal

Import and export goods were expected to form important traffics when the canal was first promoted in 1768. Through Liverpool would come wool, grain and hides from Ireland, and raw materials from America, whilst linen yarn, tin plate, timber and potash would arrive via Hull. The lack of a direct link into Liverpool’s docks until 1846 did hold back trade through Liverpool, though boats carrying coal for export from Wigan used the Bridgewater Canal and then sailed from Runcorn down the Mersey to the docks. This reduced handling, the coal being transshipped directly from barges into ships. Other cargoes had to be carried by horse-drawn wagon between the canal terminus and the docks, increasing the possibility of damage or theft.

Goods were specifically advertised as being carried ‘in one bottom’ to Hull, and trade through Hull was an important aspect of the early years of the canal. Until the canal was completed in 1816, goods were more likely to be delivered to East Lancashire from Hull than from Liverpool. In 1810, the Blackburn Mail listed the cargoes arriving weekly at Blackburn after the canal opened to the town, and yarn appeared regularly. This may have come from Keighley, which was the main centre for cotton spinning at the time, but it may also have been imported from Saxony or other European countries. The flying shuttle had dramatically increased cloth production, and spinning technology was only just beginning to catch up, so yarn could have been sourced from abroad.

At first, both raw wool and cotton would have been important cargoes, but by the end of the nineteenth century cotton had declined in importance. By then spinning had become to a large extent centralised around Bolton and Oldham, the mills of East Lancashire concentrating on weaving. Woven cloth was a high value item and not really suitable for carriage on the canal. It had to be printed or bleached, and print works were often up narrow valleys away from the canal where there were good supplies of clean water. Around 1900, the canal did try to introduce a pallet system for carrying cloth, but this was never really successful, and railways were the main carrier of textile products.

Wool was a different matter. Imported wool was an important cargo until the 1950s, and warehouses specifically for this trade were built at Stockbridge, Shipley and Bradford throughout the first half of the twentieth century. Wool was imported through both Liverpool and Hull, though the former was more important. From Hull, wool was carried by the Aire & Calder Navigation to Leeds from where it was often taken to Bradford by the Navigation’s own road vehicles after the closure of the Bradford Canal in 1922.

Export cargoes provided return loads, with the company encouraging them by draw-backs on rates, though boats often returned to Liverpool or Leeds empty. Textile machinery was perhaps the most important export cargo, with manufacturers in Blackburn, Accrington, Burnley and Keighley all using the canal. Warehousing was provided specifically for this trade. Machinery was easily damaged on dock quaysides, and because of its light weight it was often the last item to be loaded onto a ship, so an efficient transport system was needed for its protection. It was stored in canal company warehouses and only delivered to the docks in time for it to be loaded directly from boat to ship. Prior to containerisation, ships would often stop several weeks in port for unloading and loading, so it was easy to give a couple of day’s notice before the cargo was needed for loading — ust enough time for it to be carried by canal from East Lancashire to Liverpool. Not only did this reduce damage, but it also avoided charges at the port.

Grain was the one general cargo not carried by the canal company, with the flour millers having their own boats specifically for this trade. The two main companies were Ainscoughs of Burscough and Parbold, and Applebys of Blackburn, Clayton-le-Moors and Burnley. The boats were similar in design to the canal company’s merchandise boats, but iron and steel boats built in the 1930s for grain had hatch covers instead of sheets to protect the cargo from water damage.
**Boatyards on the Leeds & Liverpool Canal**

Liverpool basin: A drydock was available here until the basin was rebuilt during the enlargement of Exchange Station in the 1880s. Alongside was a wet dock used for gauging boats.

**Bankhall**
Built by J Parke & Sons Ltd. in the 1930s after Pugh's at Bootle had closed. Using a small arm near Bankhall warehouse, it comprised a removable slipway for pulling boats out onto the bank. There were very limited facilities, the iron beam used for a kelson being bent by raising one end the required height, weighting the beam and then building a fire around it, producing a gently upward curve at the beam end.

**Bootle**
J G Pugh Ltd. Side slip near Coffee House Bridge. Closed in the 1930s.

**Lydiate**
Lunds had their yard with slipway here, operating well into the twentieth century.

**Haskayne**
A boatyard is shown on the 1802 survey of the canal to the S-W of the bridge on the Wigan side of the Ship Inn.

**Burscough**
The drydock at the top of the Rufford line was probably built at the same time as the canal. In the early twentieth century it was used by J Tyrer until his slipway opposite was opened, possibly in the mid-1920s. James Mayor used the drydock in the 1950s and ‘60s, particularly after giving up the Wigan yard.

**Tarleton**
Side slip on site of the Douglas Navigation half-tide lock below the current tide lock; used by Mayors until c1910 when they moved to the present site above Tarleton Lock on the old railway interchange.

**Parbold**
Drydock on the outside of Parbold turn on the proposed main line of the canal. Early users could have been Cartmells, who built and repaired boats for Winstanley Collieries. Later operators were J Sheldon who docked Richard Williams’ boats. The yard closed in the late 1930s or early 1940s.

**Dean**
Drydock shown on the 1802 canal survey on the site of the present second lock.

**Crooke**
Boatyard on the Liverpool side of Crooke Hall Inn. Closed following subsidence caused by mining.

**Wigan**
Ormandy & Co. repaired boats for Winstanley Collieries in the mid-19th century at a yard on Wallgate, near to Seven Stars Bridge.

**Wigan**
Two slipways built in the 1880s during expansion of the canal company’s fleet. The buildings alongside were used for maintaining the steam engines used in the boats. New boats built between the slips and the bottom lock. The yard was leased to Mayors from 1933 until the early 1950s.

**Wigan**
Drydock above the bottom lock, probably built early 19th century.

**Wigan**
Double slipway above the bottom lock was built in the early 1950s as part of the maintenance depot, including lock gate production, for the whole canal. Closed c1980.

**Dover**
Sideslip operated by T & W Wells.

**Wigan**
Boatyard for Ince Hall Coal & Cannel Co at lock 18, probably closed in the 1870s when the company sold its fleet.

**Aspull**
Three slipways owned by Wigan Coal & Iron Company on the offside just passed the first bridge above Wigan Locks. There was also a timber yard and saw mills, with the office/house still standing.

**Walton Sumit**
Drydock shown on the 1850 OS map.

**Riley Green**
Covered and open side slips operated by J & J Crooke until c1963, later used for pleasure boat construction till c1980. Shown as a timber yard on the 1845 OS map, and continued as such alongside boat building.

**Blackburn**
Drydock, later converted to wet dock and site now covered by Cobble factory. Evidence of entrance on offside.

**Whitebirk**
Covered sideslip operated by T & J Hodson from c1880 to c1963. Site demolished April 1983.

**Church**
Boatyard on Leeds side of Church swing bridge, closed c1870.

**Burnley**
Dockyard shown on 1845 OS map on offside near Burnley Barracks. Probably closed c1920.

**Burnley**
Finsley Gate slipway used by the canal company for maintenance, but may have first been used by John Birley.

**Burnley**
Drydock at Bank Hall originally worked by Birleys from early 19th century. Site developed when Bank Hall Colliery built, and closed c1963. Towards the end it was used by Hodson’s of Whitebirk as needed.

**Burnley**
Dockyard shown on Leeds side of Colne Road Bridge until mid-19th century.

**Salterforth**
Sideslip 200 yards on Liverpool side of Salterforth Bridge. Also undertook agricultural repairs.
Skipton  Slipway at junction with Springs Branch used in nineteenth century and operated by Fawcett Bros until the late nineteenth century.


Apperley Bridge: Sideslip on offside below swing bridge operated by Thomas Avery in 1927 and Canal Carriers Ltd of Shipley from 1930s to 50s.

Leeds  Two drydocks with boat building area between docks and river. Operated by W Ryder & Co., who were also timber merchants, from the 1930s.

The majority of boats using the canal were built from wood, the page from the specification, below, giving details of the size and type of wood. Metal boats were tried towards the end of the 19th century, but were not made in any number until the 1930s. Even then, there were far more wooden boats on the canal than iron or steel ones. To maintain all the wooden boats, there were boatyards all along the canal, and the list on the opposite page gives the main ones, though there were others. On the following pages are drawings on an 18th century wooden boat as used on the Liverpool section of the canal, and one of the later steel motor boats.

### Leeds and Liverpool Canal Company.

#### SPECIFICATION for (Round Sterned) WOOD BOATS.

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length from stem to sternover all</td>
<td>61 6</td>
</tr>
<tr>
<td>Depth of Hold</td>
<td>42 0</td>
</tr>
<tr>
<td>Width over outside of Bows</td>
<td>14 1</td>
</tr>
<tr>
<td>Depth of Hold inside of Coomings</td>
<td>11 1</td>
</tr>
<tr>
<td>Height at Midships, from underside of Keel to top of Gunwale</td>
<td>4 5</td>
</tr>
<tr>
<td>Sheer at each end</td>
<td>1 6</td>
</tr>
</tbody>
</table>

(And as per Moulds or Model supplied)

- **Keel:** Keel to be of Rock Elm in one length, 10 in. x 3 in.
- **Keesons:** Main Keelson to be of English Oak, 10 in. x 10 in., one length, to extend forward and aft as far as practicable, fastened with one ¾ in. bolt and nut through each Flooring and Keel.
- **Side Keesons:** to be of Pitch Pine, in one length, 10 in. x 3 in.; one on each side of Keelson, fastened with one ¾ in. bolt through each framed timber.
- **Stem and Stern Posts:** Stem Post 10 in. x 6 in., Stern Post 9 in. by 6 in., both of English Oak, “grown to form,” each properly fitted to the Keel, Dead-wood and Apron, and secured with ¾ in. bolts and nuts. Dead-wood to be 6 in. deep, 4 ft. 6 in. from inside of Stem and Stern Post, and 3 in. deep 8 ft. from Stem and Stern Post. A Stanchion piece “grown to shape,” to be fitted to Dead-wood and Apron at ¾ in. and be well secured with ¾ in. bolts and nuts.
- **Dead-wood, &c.:**
  - **Frames:** All Frames to be of English Oak, the floor timbers to be in one length. Floor and Top timbers 5 in. x 3½ in. to the bilges, tapering from the bilge to the gunwale 2½ in. square and spaced not more than 1 ft. 6 in. centres, in each frame to be supported with Footocks 3 ft. long x 4 in. x 3 in., “grown to shape,” and properly secured to the side timbers and floors with ¾ in. bolts and nuts. Floors and Footocks to be properly bolted through and secured to the Keel and Keelson with ¾ in. bolts and nuts.
- **Outside Flanking:** Bottom-planking to be of Pitch Pine; 3 planks 1 ft. wide x 2 in. thick on each side of Keel, to be next to the ends (from the Blase) with English Oak planking; 2 in. thick. Bow and Stern timbers English Oak planking 2 in. thick continued up to Gunwale. Bilge planking of Rock Elm, four planks on each side 7 in. x 9½ in. thick.

2 in. planking from Blase to top Strake of Quebec Oak, sound and free from any defects, in as long lengths as practicable and well crossed in the Blase. Gunwale or top strake to be 7 in. x 2 in. Quebec Oak, with one length each side of Bow and Stern of English Oak—passing the fore and aft beams one timber towards midships, and to be polished.

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**Augers**

**Caulking mallet and irons**

**Pole plane**

**Braces**

Produced by Mike Clarke for the L&LC Society
This drawing is of a 72 feet long boat as used on the Liverpool length of the canal in the late 18th century, and is taken from an original dated 1787. It was for a horse-drawn boat, and the fine shape at bow and stern would make it an easy boat for a horse to pull. 'Flat' was the term used to describe such boats, including sailing ones, in the Merseyside area.
This drawing is a drawing for the steel boats Dee and Weaver, which were built at Pimblott's yard in Northwich. There are slight differences between these boats and Kennet, particularly the design of the stern, but they are essentially similar boats. The cabin chimney is incorrectly placed, and should be on the deck just behind the bow cabin.