

## **STROUDWATER CANAL CRANES (PART ONE)**

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### **Introduction**

The crane at Dudbridge Wharf is the sole remaining Stroudwater crane still in position (Figure 1 S083470481). Such cranes were essential for loading or unloading heavy and bulky cargoes like stone and engineering equipment. The Dudbridge crane lies just 200 metres to the west of the busy dual carriageway between Cainscross and Dudbridge and the top of the jib is in fact visible from that road. However, it is apparent that today its existence is largely unknown by local people. The crane has a cast iron base and frame about two and a half metres high and a wooden jib of about seven metres in length. The two castings that make up the sides of the frame are marked JOHN STEVENSON CANAL FOUNDRY PRESTON. It is known from records of the company of Proprietors of the Stroudwater Canal that in 1854 Stevenson was the supplier of a crane erected at Dudbridge Wharf.(1) The description of this crane closely resembles that of the present one. Since no reference has been found to any later crane at Dudbridge or to any other crane supplied by Stevenson it can be safely assumed that this is refers to the present one. It was not the first crane to be installed at Dudbridge and the Canal company had problems with its predecessors. In all there seem to have been at least four cranes at Dudbridge at different periods and at least three at Wallbridge. This includes one crane that was erected at both locations at different times.

A brief history of the cranes is given here. It is based mainly on the Company's records. A detailed description of the surviving structure at Dudbridge will be given in the 1995 Journal.

### **The Cranes**

#### **The First Two Wallbridge Cranes (1780 - 1848)**

The Stroudwater Canal was constructed between 1775 and 1779 from Framilode on the River Severn to Wallbridge Stroud, a distance of 12 miles.(2) It appears that initially a crane for handling cargoes was installed at Wallbridge but not Dudbridge. In April 1780 the company set the rates for using the crane at Wallbridge at 3d (1.2p) for every wagon and 2d (0.8p) for every cart loaded or unloaded. They also appointed John Kind to collect the charges.(3) Together these two items suggest that the crane was just coming into operation.

In November 1781 it was noted that Ben Pashley had valued the timberwork of "the old crane" at £3 and it was agreed that it

was not to be sold for under 10 guineas (£10.50) including the wheel and if it was not sold it was to be brought up to Wallbridge and preserved.(3) This crane may have been used in the construction of the canal but no other reference to it has been found so far. The following year, in August 1782, it was ordered that the Wallbridge crane "be altered and made capable of lifting greater weights with safety". (3) In May 1784 charges were set at 3d (1.2p) per ton for all weights under 2 tons and 6d (2.5p) per ton for any greater weight. (4)

The Company noted in April 1836 that the crane at Wallbridge wharf was "insufficient" and Mr John Holbrow, one of the members of the Committee undertook to make inquiries at Gloucester as to the price of a crane "competent to raise about 5 Tons".(5) Mr Holbrow reported in May 1836 that Mr Southam of Gloucester had a crane to dispose of that was capable of raising 7 tons at a price of £100. At the same meeting Mr Holbrow was instructed to purchase the crane. (5)

### **The First Two Dudbridge Cranes (1823 - 1846)**

In April 1823, some 44 years after the opening of the canal, the company agreed to "procure estimates for a crane at Dudbridge Wharf and cause one to be set up there". At the same time they specified that the charges for using it would be as in the previous section.(6) No reference has been found to the erection of the crane but in August 1837 the crane at Dudbridge is described as being out of repair and an inspection by a competent engineer ordered. The committee wished to know whether the crane at Dudbridge could be repaired, or adapted to raise at least 5 tons or whether it was "most desirable to have a new one, and also the price for a new one or second hand iron crane can be procured".(5) By December that year the Committee had received an estimate from Joseph Small for supplying and setting up a new crane at Dudbridge. (5) This was described as being of the plan and strength of that of Messrs Price and Co. The price was £125 using the cog wheels of the present crane and was later increased to £130 to include the masonry work.(5)

It is clear that Joseph Small was intending getting the castings for the crane from the firm of Isaac Marshall and Co. of Birmingham as they applied to the canal company to guarantee Small's order. (5) Small appeared at the next meeting of the committee where it was agreed to guarantee Small's order with Marshall's and Charles Hawker the Clerk to the Canal company was instructed to write to Marshall's to enquire the probable price of the castings. Hawker reported to the next meeting that it would be more desirable for Messrs Marshall to put up the whole crane. Joseph Small also attended and quite remarkably he agreed to be released from the contract he had with the company but wished to be employed to put up the crane.(5) An enquiry was placed with Messrs Marshall for the complete crane delivered to Dudbridge ready to be put up. The

timber work was to be of the best seasoned oak and Marshall's were in possession of models of the intended frame. A special meeting of the Committee was convened to consider Messrs Marshall's reply and they accepted a price of £155, some £25 more than their original contract with Joseph Small! (5) A payment of £4. 2s. (£4.10) was subsequently made to Small for expenses arising from a visit to Birmingham. (5)

### **The Later Cranes at Dudbridge and Wallbridge (1846 Onwards)**

In September 1846 the Committee learnt that the Wallbridge crane was worn out and enquiries were to be made concerning a replacement.(5) In December that year it was reported that Mr Waring of Gloucester had offered a good eight ton crane the principal part being made of oak for the sum of £105. It was also suggested at this meeting that the present crane at Dudbridge might be moved to Wallbridge and the new crane erected at Dudbridge. (1) A week later a sub-committee inspected both the cranes at Wallbridge and Dudbridge with Mr Waring in attendance. (1) It was concluded that the jib of the Dudbridge crane was not long enough and Mr Waring was asked to add to his estimate the cost of placing the new crane 18 inches (0.46m) nearer the canal and 4 feet (1.22m) to the east of the existing one. (1)

The revised estimates in January 1847 were £112 for the crane plus £53 for moving the old crane to Wallbridge.(1) The jib of the new crane was also to be 2.5 feet (0.76m) longer than the old one. The order was placed but in July of that year the Committee was not satisfied that the crane would meet its specifications and they held a site meeting with Mr Waring. No conclusions were reached and Mr Waring agreed to test it with a six ton load when called upon. (1) In August Waring wrote asking for payment for the crane. The Committee agreed that they would conduct a trial as soon as the time for the contract was completed.(1) Captain William Clegram, the Engineer to the Gloucester and Berkeley Canal Co was engaged to carry out the test in the presence of the Warings and members of the Committee. This took place on 20 September 1847 and a test piece weighing 7 tons 18 cwt (7.9 tonnes) was used. However, "the crane had not raised the load from the ground when one of the main wheels broke and the shaft had bent."(1) The Company then entered into a legal agreement with the Warings for Clegram to act as the arbitrator in the dispute. (1,7) Clegram found in favour of the Company and it was agreed they should only pay £135 for the crane which after allowing for Clegram's expenses and other costs meant that only £126.50 was actually paid to Warings. In January 1848 the crane was strengthened with iron bands and a notice fixed to it limiting loads to 5 tons, specifying that it should not be worked by less than 3 men or use the crane for material lying more than 20 feet (6m) from the base of the crane.(1) It is interesting to note that at the same meeting the Company "ordered that our clerk do keep

his watch by Railway time for regulating the meeting of the committee in future."

All seemed well at Dudbridge until six years later when Mr Driver the Company's surveyor reported that the crane at Dudbridge had broken down again. He was instructed to make inquiries about a new one and at the next meeting in May 1854 six tenders were read. The committee selected one from Mr Stevenson of Preston as the most eligible. Two members of the Committee, Thomas Croome and George Beard were deputed to correspond with Mr Stevenson and proceed with the order if the replies were satisfactory.(1) They were also empowered to fall back on the estimate of Messrs Stothart and Co if necessary. Clearly the Committee was in no mood to delay the procurement of a new crane for Dudbridge.

One month later Croome and Beard reported placing an order with Stevenson with delivery in one month. It was also ordered that the ground around the crane be paved with "Bristol stone".(1) By August the new crane had been erected and found to work satisfactorily. (1) However, things did not go completely smoothly. The minutes show that Stevenson presented his bill for £211. 14s. 6d. (£211.72) and this was authorised for payment subject to Stevenson "disposing of the claim for carriage sent in by Messrs Holmes and Co". (1) One can only assume that he did not as the accounts show that only £200. 18s. 2d. (£200.91) was paid to Stevenson.

Nothing relating to cranes has been found in the minute books for the next 34 years until February 1889 when it was reported that the chain broke when a boiler was being lifted for Sir William Marling and Co. The Committee considered a claim from Marling for £8. 15s. 0d. (£8.75) and after taking legal advice they most reluctantly agreed to pay.(8) They ordered a five ton restriction be placed on the crane and also considered testing the chain.(8) Later they ordered "a form be prepared as a protection from traders who lift in excess of five tons".(8)

In February 1905 the crane chain at Wallbridge was ordered to be removed as it was felt not to be reliable. (9) In November 1908 the Dudbridge chain was forwarded to Messrs Connop Bros at Cradley Heath for annealing and testing and any repair found necessary. The report said that the chain was 70 feet (21.4m) long, links 15/16 inches (23.8mm), weight 5 cwt 3 qtrs (288kg) and was tested to about 9 tonnes. (9)

Unfortunately in March 1913 it was reported that an employee of Abdella and Mitchell, the Brimscombe boat builders (9) had suffered an accident when the Canal Company lent the crane to the firm to lift a boiler. Correspondence then ensued regarding the fencing of the cogwheels and the clerk was ordered to implement recommendations if possible. The crane

today has rudimentary guards on these parts and they may date from this time.

It is clear that Abdella and Mitchell were making use of the Dudbridge crane after World War 1 as they contributed £5 (almost half) to the bill from Joseph Bloomer and Sons for testing and partly renewing the chain. (10)

### Concluding Remarks

In 1954 the Stroud water Canal was officially abandoned. The base of the Wallbridge crane was visible about 15 years ago,(11) but this is no longer the case. Happily, the Dudbridge crane survives in near working order and a detailed description will be given in next year's Journal.

At present the Dudbridge crane is secure in the transport yard but only the top of the jib is visible from the tow path. The suggestion has recently been made by the Chairman of the Company of Proprietors of the Stroudwater Canal that the existing wall could be re-sited near the crane such that the crane would be again visible from the canal towpath. (12) It would of course be necessary to provide stout railings to protect the crane and any interpretation panel from vandalism. It would be expensive to display and at the same time safeguard the crane but it is an idea that is well worth exploring.

### Acknowledgements

The author wishes to thank:

Mr C.H.A. Townley, Mr J.R. Simmons, Mr B Wiggall, Mr D Ashley,  
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### References

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- 2 Handford, M.A., 1979, The Stroudwater Canal, Alan Sutton.
- 3 GRO D1180 1/1.
- 4 GRO D1180 1/2.
- 5 GRO D1180 1/4.
- 6 GRO D1180 1/3.
- 7 GRO D1180 8/4.
- 8 GRO D1180 1/7.

9 GRO D1180 1/8.

10 GRO D1180 1/9.

11 Handford, M.A. and Viner, D.J., 1984, Stroudwater and Thames and Severn Canals Towpath Guide, Alan Sutton.

12 D. Ashley, 1993 Private Communication.



Figure 1: The Canal Crane at Dudbridge.