

THE UPPER PARTING TAR WORKS, SANDHURST, AND ASSOCIATED TRANSPORT ARRANGEMENTS

By Hugh Conway-Jones

The Upper Parting tar distillation works was on the east bank of the River Severn where the channel divides around Alney Island 2½ miles north of Gloucester. (Grid Ref 822215) The site had formerly been a brick yard run by William Rees jnr, who had worked with his father on building the North Warehouse at Gloucester (1). The tar works was established by William Butler in 1860 with the aim of extracting useful products from the crude tar formed as a by-product of making gas from coal. The tar was heated to drive off volatile components, and these were condensed to form products such as light oils and creosote, leaving a residue of pitch. Butler had the necessary expertise as he had been manager of a tar works at Crew's Hole, two miles up river from Bristol Bridge. This had been set up in 1843 to provide creosote for preserving the sleepers on Brunel's Great Western Railway. For the new venture at Upper Parting, Butler obtained financial backing through a partnership with Charles Bird, a Bristol grocer, and they traded under the name William Butler & Co. Butler moved his family to Gloucester, and at the time of the 1861 census, he was living in Kingsholm and employing 17 men and 3 boys. The works foreman was Butler's younger brother Jesse, and a clerk in the office was Charles Bird's eldest son Robert, who later that year married Butler's daughter Emma (2).

Not long after the works were established, news came in 1863 of a disastrous fire at the Crew's Hole tar works, which destroyed much of the plant. The owners were not keen to continue with such a risky enterprise, and William Butler and his partner were able to purchase the site. Butler therefore moved back to Bristol to supervise the rebuilding, taking Robert Bird with him, and he installed Charles Bird's second son George as manager at Upper Parting. Around the same time, Butler's brother Samuel moved to Sandhurst and reopened the brick yard adjoining the tar works for a few years (3).



An aerial view of the Tar Works c1950.

For most of the life of the tar works, the crude tar was delivered by boat and pumped to a large round storage tank which had steam heating coils to keep the tar fluid. Distillation was carried out in a pot still - an iron vessel heated underneath by a coal fire and having a pipe from the top passing through a water-cooled condenser. The output from the condenser was collected in a receiver which was changed manually as distillation proceeded. The first products to be collected were light oils. Initially, these were of little value, but in later years they were sent away for making paints, dyes and a wide range of chemicals. Further heating gave a mixture of oils referred to as creosote, which was much in demand for the preservation of wood. A combination of creosote and soft pitch was sold as tar, and the residue of hot pitch was pumped to a storage area where it almost solidified. Much of this pitch was sent to plants in South Wales to be made into patent fuel. The site also included various storage tanks, a boiler house to provide steam for the many pumps and heating coils, and a cooperage area where barrels were prepared for dispatching liquid products (4).

Transport by Water

The site at Upper Parting beside the River Severn had been chosen to facilitate the collection of crude tar and the dispatch of products by water. Barges towed by tugs collected crude tar from gas works at Gloucester, Tewkesbury, Worcester and places further up the River Severn. Tar from the Forest of Dean was brought by rail to Gloucester and then by barge to Upper Parting. When one barge was being moved away from the quay at Gloucester, a crewman walking along the top of the barrels unfortunately missed his footing, fell into the water and was drowned (5). The records of the Stroudwater Canal Company show that Butler & Co owned several horse drawn narrow boats that collected 20 to 25 tons of gas tar from gas works at Stroud, Cirencester and sometimes Swindon. The early boats, *Tar Boy*, *Dehli* and *Dispatch*, may just have carried the tar in barrels, but they were replaced by *Endeavour* and *Sarah* which were probably tankers (both registered at Gloucester c1880). From 1867, one of the regular masters working this traffic was James Thomas of Gloucester, and he was followed by his son James and grandsons Harold and Elijah, who between them worked on the company's boats for around ninety years. These boats were also used to deliver creosote locally, and James Thomas (snr or jnr) was in charge of *Sarah* in 1895 when his mate suffered a tragic accident while on the way from Upper Parting to Nicks & Co's timber yard south of Gloucester. The two men were walking along the deck using shafts to push the boat under Llanthony Bridge when the mate's foot slipped and he fell into the water and was drowned (6).

For more distant deliveries, the output from the works was taken away by barges, some having sails for use when out in the open waters of the Severn estuary. William Butler and his company owned several such vessels, including *Ann*, *Concord*, *Mary Ann*, *Aurora* and *Willie* (7). The light oils were taken to Butler's main works at Crew's Hole, Bristol, for further refining, and creosote was delivered to timber merchants around the Severn estuary. Much of the pitch was taken to the Crown Preserved Coal Company at Cardiff to be mixed with small coal and pressed into briquettes which were in demand all over the world. Some of the vessels returned with coal for the works. Coal was also collected from Bullo Pill dock, on the west bank of the Severn south of Newnham, using barges which came all the way by river, avoiding the toll for using the Sharpness Canal (8).

One difficulty concerning the works being on the river bank was that any seepage of noxious liquids could harm the local fishing interests, and the company tried hard to avoid this happening. In 1887, however, some pollution did percolate through the river bank in three places and several fish died nearby. The matter was taken to court, but the magistrates recognised that the company had done much to prevent percolation and they only imposed a nominal penalty. Other minor incidents occurred in later years (9).

In August 1889, William Butler retired from business and left the active management of the company in the hands of his three sons who had been associated with him in his enterprise for many years. They were primarily concerned with the main works at Crew's Hole, Bristol, and George Bird continued as the manager at Upper Parting. In November 1905, the business was registered as a private limited liability company under the style of Wm Butler and Co (Bristol) Ltd (10). Meanwhile, a rival chemical works was established at Sharpness, but it only operated for a few years – see Appendix.

Early Twentieth Century

In the early twentieth century, the works at Upper Parting continued as a primary distillation centre with some products being sent to Crew's Hole for further refining. The works produced creosote and pitch as separate products, but the growth of motor traffic on the roads created an increasing demand for road tar, made from a combination of the two, and this became a major output of the works. The collection of crude tar and the distribution of products continued to make much use of water transport, helped by the introduction of motor tanker barges. By 1911, the company were using *Kathleen* based at Upper Parting, *Jolly* and *Darby* based at Crew's Hole and *Carbolate* that would operate between the two. An interesting feature of the first three of these barges was a horizontal steering wheel that could be adjusted in height to allow the steerer to stand at a raised level to see over barrels when they were carried on the deck. Before *Carbolate* was ordered, *Jolly* made a trial run all the way up the River Severn to see if it would be possible to avoid paying the toll on the Gloucester & Sharpness Canal. On a big tide, the barge travelled at about 20 mph, following just behind the bore. On approaching Framilode, however, the engine's water jacket became so clogged with sand and mud that the engine seized. Fortunately, repairs were carried out in time to complete the trip to Gloucester before the ebb tide set in, but after this experience, it was decided that it would be safer to use the canal. Also in 1911, *Marie* was added to the narrow boat fleet (11).

Sailing vessels were still being used to deliver pitch to South Wales, but concern was growing about the time taken by each voyage and the cost of wages. In 1914, therefore, the Company



Tar barge Kathleen with barrels on the deck and a barrel being transferred by the derrick crane.

invested in a motor vessel called *Kingsholm* which could carry 40 per cent more cargo with greater regularity. During an early trip down the Gloucester & Sharpness Canal, *Kingsholm* collided with a span of Purton Lower Bridge and broke its spindle. The skipper claimed that the bridge had not been opened properly, but the bridge-man said the accident was due to the skipper reaching over the bridge rail while still moving to pay off the hobbler who had accompanied the vessel walking down the towpath. *Kingsholm* did not make many more trips because she was

commandeered for war service and was torpedoed in the Bay of Biscay. The sailing vessels continued to operate into the 1920s (12).

In the 1920s, crude tar was collected from gas works at Gloucester, Sharpness, Stroud, Brimscombe, Evesham and Worcester, and some was picked up from railway tanker wagons at Gloucester docks. The main vessels used were the motor barge *Kathleen* and the narrow boats *Marie* and *Sarah II* (first registered at Gloucester in 1923), often in the charge of a member of the Thomas family who had served the company since the 1860s. The principal output of the works was road tar, of which a million gallons were supplied yearly to the county councils of Gloucestershire, Worcestershire and Herefordshire. The tar was sent out in barrels, using a stock of 8000 which were returned for cleaning and reuse (13).

Mid Twentieth Century

By the 1940s, the importance of water transport was declining as greater use was made of road tankers. However, boats were still being used to collect crude tar from Worcester gas works, and the procedure is remembered by Chris Russell who often went on the narrow boat *Marie* with his father during the school holidays. The *Marie* was towed up river by the motor barge *Jolly* (which had replaced the *Kathleen*). Being too wide for the Worcester & Birmingham Canal, the *Jolly* had to wait in the river at Worcester while the *Marie* was towed by a horse the short distance up the canal to the gas works.



Tar Barge Jolly towing narrow boat Marie on the way to Worcester to collect crude tar.

Once moored at the wharf, a pipe was swung out over the hatch, and 25 tons of warm tar flowed down by gravity into the hold. That load was taken back to the river where it was pumped into the *Jolly*, and the procedure was repeated to fill the *Jolly* to her capacity. Then a third trip was made to fill the *Marie* before both vessels returned down river to Upper Parting, where the tar was pumped ashore (14).



Reuben Russell in charge of narrow boat Marie on the Worcester & Birmingham Canal

The crude tar was pumped into a large tank, and from there it flowed to a huge storage well where it was kept warm by a system of steam pipes. The steam came from the nearby boiler house which also provided steam for the many pumps around the site. A big building near the boiler house was the fitting shop. From the well, the crude tar was pumped to the stills which separated out a range of products leaving a residue of pitch. By this time, most of the products were sent away by road, but there was still an old derrick crane beside the river, formerly used to load barrels on to boats. Contaminated water from the site was purified by passing through a big lake in a former brick pit, then through a smaller lake and finally through some withy beds before flowing into the river at the south end of the site. Occasionally, some contamination entered the river, and then fishermen from



The site of the tar works in 2005 viewed from the river.

downstream walked up to the works to complain. The manager's office was beside the river near the north end of the site with the laboratory and stores adjoining. To the north were two semi-detached houses, one occupied by under-manager Sammy Thomas (son of Harry who worked on the boats). In the middle of the river frontage were two more semi-detached houses, one occupied by the yard foreman Charlie Baldwin and his family (15).

According to Charlie Baldwin's son Norman, additional stills were installed during the Second World War to increase the output of tar that was needed for airfield runways. The fumes from the works were thought to be good for some chest complaints, and people from Gloucester suffering from whooping cough and the like walked up the towpath to fill their lungs. This provided Norman with an opportunity to earn some pocket money, showing families around the works. One disadvantage of the site was that it was liable to flooding. The access road crossed low ground, and when this became impassable, lorries bringing crude tar were diverted to the river bank near the Globe Inn about half a mile downstream. There the tar was loaded into the *Jolly* to complete the delivery to the works. Employees also had to be ferried in and out by this means. For the two bad floods in 1947 and 1954, the whole works were flooded, and some residents in the cottages had to be evacuated from the upstairs windows (16).

The Final Years

Following the nationalisation of the gas industry, Butler & Co went into partnership with the South West Gas Board, and in 1952 the works at Bristol and Upper Parting began trading as Bristol & West Tar Distillers Ltd. In the late 1950s, developments in road transport led to the phasing out of tar collection by water to Upper Parting. In the late 1960s, as town gas was gradually replaced by natural gas, there was a large reduction in the availability of crude tar, which led to the closure of the works at Upper Parting in 1972. The site was then used by the Cleansing Services Group until they suffered an explosion and fire in 2000 (17). After a major

clean-up, the area is now occupied by Ronson Reclamation. The boiler house chimney has been retained and the ruins of the office can be seen, but the wells have been filled in and all other plant removed.

Appendix – The Sharpness Chemical Company

For a few years around the beginning of the twentieth century, Butler & Co had a local rival in the business of distilling gas tar. Sharpness Chemical Works was set up by Joseph Anderson in 1899 on a site adjoining the existing gas works (Grid Ref 674030). In 1903, however, an explosion caused the end of a 6ft diameter vessel to be thrown out of the premises, and the contents of the vessel caught fire which cut off access to the control valve, allowing more fuel to feed the fire. At the same time a large open tank of pitch became ignited, creating dense columns of smoke which caused much apprehension in the neighbourhood (18). Later that year the business was taken over by Thomas Clayton of Castle Bromwich, whose existing firm specialised in the carriage of gas tar in the Midlands. However, the venture was evidently not successful as the business was wound up in 1908 (19).

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