

## **Paddington Works, Warrington.**

The 1893 map of Lancashire shows The Paddington Chemical Works off the Manchester Road on the banks of the Woolston Canal.

The Bruche estate was sold early in the last century by William Bankes of Winstanley, and was acquired by Jonathan Jackson, sailcloth manufacturer of Warrington. In 1820 a soap works was erected on part of the estate, and given the name of Paddington by Robert Halton, who became Jackson's partner in 1821. Three years later the excise officers of the crown recovered the sum of £6,340 against the partners for double duty upon soap surreptitiously made in a secret boiling-room of which no entry had been made in the excise books. The trade creditors of the firm taking alarm caused it to become involved in bankruptcy, upon which the partners' estates were sold. On 10 December, 1824, the Bruche estate was put up for sale and purchased for £19,200 by Thomas Parr of Warrington, whose son Thomas Philip died without issue in 1891, when the estate passed to his brother John Charlton Parr of Grappenhall Heys, the present owner. From: 'Townships: Poulton with Fearnhead', A History of the County of Lancaster: Volume 3 (1907), pp. 328-331.

The Warrington Guardian suggested - the name of Paddington was the invention of Robert Hatton, who erected a soap works on the site in 1820. What prompted the choice of name is unclear but an obvious guess would be a combination of Padgate and Warrington. Hatton had been sued for creating obnoxious smells in Warrington town with an earlier soap works, and had been compelled to move to the outskirts.

Notably the Paddington soap works featured in a case of conspiracy to defraud the Government of duty. Competitors had noticed that the Paddington soap was being sold at a price lower than their own of the same quality. A trap door was found by an officer, which led to a large vaulted chamber that contained contraband soap. The company was forced to pay £6,340 in double duty, and as a result they went bankrupt.

The Paddington Works later became the site of a glue works, and the smell from this works at one time was reported to be even more obnoxious than the original!

In 1823 the **BANKRUPTCY** of Robert Hatton and Jonathan Jackson senior, soap & candle manufacturers of Poulton with Fearnhead, was reported in The Liverpool Mercury ... and the **ACCOUNTS AND PAPERS** recorded the fiasco in 1826 ...

It looked like Jonathan Jackson was considerably inconvenienced by the bankruptcy. He lost his old manor house in Poulton with Fearnhead. Edward Baines **DESCRIBED** the sale to Thomas Parr in 1826/6 in his 'History of the County Palatine and Duchy of Lancaster' of 1836. Jonathan Jackson made his money from sailcloth manufacture. Always strategically important for Navy supplies, The Sailcloth Acts of 1736 & 1746 protected the local industry and big men in Warrington went big. Charles Foster confirmed, 'a third to a half of all sailcloth

made in Britain in the period 1750-80 came from the Warrington area' ... a credit to responsive business men in the area who were happy to put capital to work to achieve scale in a promising specialisation. Linen sailcloth used imported yarn from hemp & flax spinners in Ireland & Northern Germany woven locally in typically 2ft wide cloth, where labour costs were still relatively low in comparison to London. Jonathan Jackson triumphed in the technical organisation of large scale production.

An amusing postscript to the naming of Paddington & Robert Hatton was recorded in Pamela Sambrook's, 'A Country House at Work: Three Centuries of Dunham Massey' published in 2006. The author paints a **FASCINATING PICTURE** of the complex workings of the house and estate but fails to locate Robert Hatton, the candle & soap supplier, in Warrington and assumes his business was in Paddington, London!

In 1851 The Chester Chronicle announced the Paddington Bone Works was **SELLING** 'boiled bones' ...

In 1853 a company was established by Messrs Aspden & Royston with initial **ADVERTISING** in The Chester Chronicle.

In 1868 The Chemical Manufactories **LISTED** Christopher Royston at Paddington Works.

The Post Office Directory of 1876 **LISTED** W & C Royston as Soap & Chemical Manufacturers ...

Slaters Directory of Cheshire of 1895 **LISTED** William Royston & Co, Paddington Works, as soap, glue, size & bone manure manufacturers.

In 1903 The Chemist & Druggist announced the formation of a new **COMPANY** Edward Gorton (limited) to acquire the existing business at Paddington which Edward Gorton was running.

1914 Whitakers Red Book - Edward Gorton of Paddington Works, Warrington - Manufacturers of gelatine, glue, size, grease and manure. Speciality: glue free of grease and acid. Employees 50. Company established 1852.

In 1917 Paul Fisher, born in Llandudno in 1878, capped a distinguished career with an appointment as Analytical Chemist with Messrs Edward Gorton Ltd and The Paddington Chemical Co Ltd, Warrington.

The London Gazette confirmed Edward Gorton was also involved in the **CHEADLE CORNS MILLS** before 1921 ...

In 1922 and there were **ADVERTS** for Sodium Salicylate ...

In 1931 a **FIRE** broke out at Paddington Works causing £20,000 worth of damage ...

1952 'Fire kept in Check'. Fire broke out in the salicylic acid plant at the Warrington Chemical & Drug Company Ltd of Manchester Road, Paddington, near Warrington, early on 21 May. The works, which are situated on the banks of the Woolston Canal, are a subsidiary of Edward Gorton Ltd. The Warrington

Chemical & Drug Company manufactured 'Aspirin' but the primary business of Edward Gorton Ltd was glues.

1958 The Manufacturers Manual LISTED the Gorton companies. The main Paddington Works manufacturing glues, gelatines, greases, fertilizers & aspirin and the Branch Works at Sutton Weaver manufacturing photographic and edible gelatines.

In 1964 the Gorton family cashed in on all their hard work and sold out to John Wallace.

In 1970 John Wallace sold out to Smithfield and Zwanenberg.

In 1973 S & W Berisford took over.

So what was going on at Paddington Works just off the Manchester Road, on the banks of the Woolston Canal?



### **Terry Goodwin Processed Cows -**

In 1950 young 16 year old Terry Goodwin abandoned life as an apprentice French polisher earning 15/- a week and landed a well paid job in the thriving animal products industry at Edward Gorton's glue factory in Warrington. Paid by the hour for as many hours as you liked, the work was hard, but always interesting, and there was enough in the wage packet every week for good living and the awesome task of bringing up and educating four strapping lads ...

A military career was a possible alternative as dad, 28 years, and granddad, 29 years, both had distinguished service in the Lancashire Regiment. It was also rumoured Terry could have made a living out of soccer, during the 1950s he starred with local teams; Monks Sports & Woolston Wanderers ... but looking back the animal products industry was both satisfying and lucrative ...

Terry tells the story -

On the face of it processing rotting cows was a less than glamorous occupation but there were valuable and sophisticated products to be made from every part of the cow carcass; nothing was wasted. And there were always hoards of eager customers around for an **UNBELIEVABLE VARIETY OF QUALITY PRODUCTS**; it seemed it was possible to recover and sell everything! The key issues were obtaining a constant supply of raw materials with a minimum of degradation & loss of value ... there was also the thorny issue of minimising waste & the associated environmental problem ... the animal products industry had a proud record of enterprise and success which has been strangely unrecorded by most industrial historians ...

**Tanning** - way back in antiquity animal carcasses provided not only, concentrated meat proteins for sustenance but also, processed hides for warmth & protection. Undoubtedly the first part of the carcass to be processed and recovered was the hide. For sure, horns were used for vessels & receptacles and bones were carved into needles & ornaments and even hair was used for mortar & building but these weren't really *processed*. In the **TANNERIES** hides had to be *processed* if leather was to be useful ... the tanneries always tended to be a separate specialised activity ... and Warrington became famous for its tanneries. Eventually processes were developed to recover a multitude of goodies ... Paddington Works on Manchester Road was typical ...

**Material Collection** - in the early days materials came from the butchers via horse & carts and rag & bone men; later canals, railways & imports lengthened and widened the supply chain ... raw material procurement always seemed to be an issue as demand outstripped supply ... demand for butcher's waste? ... who would believe it!

In 1950 raw materials were mainly collected by lorries calling at butchers shops and abattoirs. Paddington relied on daily collection schedules which were organised around South Lancashire; not only local Warrington but as far afield as Bolton, Bury, Horwich, Preston & Blackpool ... Gortons bought a 'bone round' from a group of drivers up in Bolton ... contracts were negotiated with these established franchisees who operated on a cash basis; an initial 'float' was used to pay the butchers and at the end of the day the 'take' was weighed at the factory and paid for by Gortons. This system was often difficult; the control of cash and the price negotiation often disrupted smooth operations.

Gortons did not collect in Cheshire in the south until they acquired Rookery Bridge business in the 1960s. The factory was closed down but there was great hope for the 'bone round'. However the contract drivers had other ideas and challenged the price offers and, following a fractious dispute, Gortons established their own fleet of competitive collection lorries ... but they never established a foothold in the cut throat local dealings with the butchers and the initiative was abandoned.

**Bone Grinding** - after 1800 and Davy's recommendation in 1813 to improve agricultural yields by the application of bone manure, grinding plants sprang up everywhere often where water power was available for crushing; however there was always horsepower and after 1776 & steam engines the location of grinding plants was more flexible. Many factories introduced product enhancements as treated bones produced more soluble super phosphates for manures ... and dietary supplements.

But Paddington was predominantly a glue factory. The received raw materials were collected from the butchers as separated bones and fat. At the factory the fat went straight to the fat plant but the raw bones were first crushed to dust and 1½ inch pieces by steam belt driven roller mills.

**Steam** - the boilers were the heart of the factory. Paddington used steam from three Lancashire fire tube boilers for process heating, energy for the drives and steam pumps. It was a cracking boiler house with economisers and the lot. Coal came to Padgate Station from the Lancashire fields around Wigan & St Helens. One of Terry's jobs was carting the coal from the station 5 or 6 miles to the factory ... initially with horse and cart, but later tipper trucks took over. It was heavy hot manual work stoking the boilers. The wharf on the Woolston canal was not used ... except for water ...

**Glue Production** - animal glues, both bone glues and skin glues, were essentially unrefined gelatine. This natural adhesive glue was manufactured from animal waste & off cuts, mainly hide waste, 'fleshings', from the tanning processors. During processing the fibrous animal hide structure first becomes 'rubber' like and as the temperature rises becomes amorphous gelatine. Further heating resulted in some degradation and such residues were used as glue. The first patent in the adhesives sector was granted in England for the manufacture of a joiner's glue in ?? Glue products were most profitably sold during the war for aircraft fabrication. After the war synthetics and imports significantly dominated markets and local production declined.

Specialised chrome glues were a mixture of glue and chrome alum; either potassium or ammonium dichromate. On drying these mixtures became very insoluble and could be used as cements for glass, or for waterproofing material fibres.

At the Paddington Works the crushed ground bones went upstairs in bags to the 'benzene' plant where they were loaded into two revolving steam jacketed cast iron 'cookers' with a central rotating shaft processing 8 tons every 24 hours. After charging and heating, hot benzene was pumped in to a controlled level. Benzene fumed off the unpressurised cooker and was collected in a condenser and recovered for reuse. After 1½ hours the fat & benzene were drawn off. The fat and benzene were the pumped to an evaporator and the benzene recovered. Two or even three runs were taken off and the fourth run was 'weak', the last remnants of fat need 12 hours in the cookers ... waste not want not! The process

was complete when the rotating charged could be heard to 'rattle'. The final phase involved recovering the residual benzene with injected steam. A final hour dried off the residue and all was well when dust settled on the sight glass. The contents were bottom discharged into four trolleys, like railway trucks which could be pushed by hand into the 'polishing room' where a big revolving drum sieve separated the 'bones', from the smaller 'dust' ... the small stuff was bagged off ground down and sold as animal feedstuff, 'bone meal', and the larger fractions of bones, 'polished bone', were destined for glue production.

The polished bones went up to the six 'digesters', four in a row and two 'twin digesters', which were filled with 8 tons of bone, the lid was shut and in sequence they were first blown through from the top with very low steam pressure, any residual condensate with any residual smell of benzene was discarded into the canal via settling pits. Quality was important and a minimum of waste was unavoidable. Then followed pressurised steam heating at 20 for five minutes which was vented through the roof before the introduction of clean hot water digestion for 10 minutes. The liquor was then run off; this was the best grade. Six repeats at increasing pressures to the last one which lasted 1½ hours and resulted in a very weak liquor. The liquors were run through a four section one effect evaporator which concentrated the 'glue' to 48-52%.

Preservatives were added to the dark honey coloured glue in heated holding tanks before pumping to the two cooling sheds.

Terry's first job at Paddington was in the Glue Department where the glue was run off into galvanised 'tins', 3 ft long 9 inches wide 8 inches deep where the glue cooled & solidified and was taken in trucks to the girls in the packing room where it was immersed in hot water, taken out of the tins and cut in half and then 'the cake' was machine cut into slices, like slices of bread, before being dried off on wire nets in a oven ... for a week ... before being packaged in hessian sacks read for sale.

**SISSON BROS**, paint manufacturers in Hull, were a large customer of 'cake glue'. Other customers wanted a product which dissolved more easily and the cake was ground to increase the surface area; others wanted a glue which didn't froth, and this variant involved an anti foaming additive.

The residual bones in the digesters were like 'powder between finger and thumb' ... the material was taken out and stacked 6ft by 20ft high in bays to dry off before being bagged up and sent off to the potteries to make 'bone china' when mixed with China clay ... the best, you can see your finger through it! Any residual dust from the bays was collected and sold as 'bone meal' for the garden ... very good for roses!

Great care was taken over the fire risk ... no clogs with steel tips! And never mind the stink it was a job and it paid well! If you got on with the job and produced the goods Gortons never bothered you ... they were a successful company.

This production process involved the traditional methods which had been going on for years and were undoubtedly similar to the operations employed at **THE WEAVER REFINING COMPANY**; Edward Hindley's factory at Acton Bridge.

An innovation at Paddington was the manufacture of 'pearl glue'. In this process instead of running the glue into the 'tins' to solidify it was pumped high up to a 'drip tray' full of pierced holes through which the glue 'dripped' into an 80 ft tower full of refrigerated 'white spirit'. Considerable effort went into the design of the holes with nipples which formed the desired clean break of spherical shape of the dropping pearls ... magic! The jellied pearls were shaken out of the white spirit, which was recovered, while the pearls went on to be dried. The drier was a massive contraption, 30 foot tall 60 yards long with six layers of belting with rakes ... the resulting dried product was bagged off a hard pearls of glue ... easy for the customer to handle and melt! Egor was the brand name with an elephant logo!

**Oils & Fats Recovery** - oils, fats and greases were recovered from all material by heating and solvent extraction with benzene.

Steam was used to heat up material in pressurised? agitated? 'cookers'. Oils & fats were runoff sieved, filtered and cooled to stop degradation. The remaining mixed solids 'greaves' were valuable as animal feeds.

The recovered oils & fats products had extensive markets as food additives and for lubrication & preservation but most of the Paddington product went for making soap at Crosfields, just down the road, and to Levers at Port Sunlight. The 'tallows' were graded by colour, the better the colour the better the price.





Terry discovered a magnificent photo of the Gortons Glue Factory from the 1980s. Several of the factory buildings can be clearly seen. They all had a load of stories to tell before they were demolished in 19??.

Terry Goodwin worked in every department at Gortons up to the 1970s building up his expertise. Due reward came in the early 1970s when he was sent off as manager of a newly acquired factory; **C H SMITHS** at Red Bank, Manchester. Gortons had secured a big contract for raw materials from the Manchester abattoir; 10 tons per day ... all good clean bones ... the capacity, close by, at Red Bank was needed!

Around this time new facilities for meat & bone meal production only were put in at Paddington as synthetics decimated the glue trade. Five spanking new fully automated perchloroethylene cookers ... nothing was touched by hand ... this was a new era for the Paddington Works ... the days of benzene fumes were over ...

Shortly after this drama Gortons were taken over by Granox, a big firm in Widnes, part of the S & W Berisford Group. In 1963 Granox, then a private family firm, had been **ACQUIRED** by Smithfield & Zwanenberg who were taken over by Berisfords in 1973 ... and then by, 'the enemy', Prosper de Mulder in 1980.