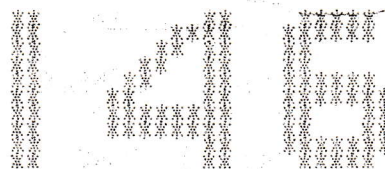


GLIAS

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NEWSLETTER



JUNE 1993

GREATER LONDON INDUSTRIAL ARCHEOLOGY SOCIETY

ISSN 0264-2395

Hon. Secretary: Bill Firth, 49 Woodstock Avenue, London NW11.

Hon. Newsletter Editor: Charlie Thurston, 1 Ely Gardens, Cranbrook,
Ilford, Essex. IG1 3NQ.

DIARY DATES GLIAS EVENTS

WHEN

WHAT

- June 7 GLIAS RECORDING GROUP MEETING at 6.30 pm. at Kirkaldy Testing Museum,
Mon. 99 Southwark St, S.E.1. All are welcome.
- June 12 FELTHAM MARSHALLING YARD. CANCELLED. This Recording Group visit is
Sat. CANCELLED.
- July 3 GLIAS BUS TRIP TO HARWICH Dave Perrett rides again; see insert of details.
Sat.
- July 5 GLIAS RECORDING GROUP WALK. Westminster to Victoria. Leader Bill Firth.
Mon. Meet at 6.30 pm. alongside Treasury Building, Junction Great George Street/
Parliament Square.
- Aug. 28 NATIONAL ARCHAEOLOGY DAY 10.00am to 5.00pm at the Ragged School Museum.
Sat. GLIAS events to encourage and explain IA.
- Sept 19 HOP FESTIVAL POPPERINGE - BELGIUM Not the last Hovercraft but if anyone is
Sun. interested contact Dan Hayton, 31 The High St., Farnborough, Kent, BR6 7BQ.
- Oct 9 IRON AND STEAM Concert of Industrial Music Morley College Westminster
Sat. Bridge Rd. SW1. Further details in next Newsletter.
- Oct 29 GLIAS 25th ANNIVERSARY DINNER The Old Refectory, University College, Gower
Fri. Street. Booking form in next Newsletter.

INDUSTRIAL HERITAGE YEAR WALKS. ORGANISED BY GLIAS.

- June 12 SOUTH OF THE BORDER - SOUTHWARK/BERMONDSEY. Leader David Perrett. Meet
Sat. at 2.30 pm. by Water Carrier Statue, north-east end of Blackfriars Bridge,
adjacent to exit from Blackfriars Underground station.
- July 10 MARKETS AND MEDICINE. Leader Sue Hayton. Meet at 2.30 pm. outside
Sat. Barbican Underground station.
- Aug. 14 GATEWAYS TO THE NORTH - KING'S CROSS. Leader : Charles Norrie. Meet at
Sat. 2.30 pm. in St. Pancras Station forecourt by steps down to St. Pancras Rd.
Kings Cross/St. Pancras Underground station.
- Sept. 4 THE EASTERN FRINGE; WHITECHAPEL. Leader : Tim Smith. Meet at 2.30 pm.
Sat. outside west entrance to Tower Hill Underground station.

OTHER EVENTS

- June 1 MONUMENTS AND STATUES. A walk, led by Brian Bloice. At 7.00 pm. from the
Tues. South approach, Westminster Bridge. (SLAS)

- June 1 IA WALKS AND TRAIN RIDES IN GREATER LONDON. The first of six walks, at
Tues. 1.30 pm. For details tel City University on 071 477-8268.
- June 2 METHODS OF TRANSPORT OF THE DEAD 1400-1900 Lecture at the Linnean Society,
Wed. Burlington House, Picadilly. 7pm Entrance £2.00. Friends of Kensal Green.
- June 11 SUBTERRANEA BRITANNICA STUDY WEEKEND. The Forest of Dean. Details from
Fri. Malcolm and Barbara Tadd, 65 Trindles Rd, South Nutfield, Redhill, Surrey.
RH1 4JL, or tel : 0737 823456.
- June 13 RIVERS OF INTRIGUE. Bow Back Rivers walk, by Lee Valley Park, Essex.
Sun. Meet Three Mills car park, Bromley-by-Bow, E.3. (near Tesco's) at 2.0 pm.
Cost £1.
- June 16 EXCAVATION, GUILD HALL SITE. A presentation, following IAHS AGM at 8.0 pm.
Wed. at The George, Liverpool Rd, N.1. Tel : 071-833 1541. Non-mems. £1. (IAHS)
- June 19 TOWER OPEN DAY at Kew Bridge Steam Museum, Green Dragon Lane, Brentford,
Sat. Middlesex. Tel : 081-568 4757.
- June 20 IA COACH VISIT TO BIRMINGHAM AND WEST MIDLANDS. Cost £18. For details tel.
Sun. City University, London EC1. on 071-477-8268.
- June 20 GANTRY CRANE DEMONSTRATION from 11.00 am to 4.00 pm. Rural Life Centre,
Sun. Reeds Rd, Tilford, Surrey. (Repeated Aug. 15th) Tel : 0252 795571.
- June 23 CROYDON AIRPORT WALK from Terminal Building, Purley Way, at 7.00 pm.
Wed. Cost £1.75 (Repeated Sept. 5th 10.30 am). (Croydon Airport Society)
- June 24 BRITISH P.O. LETTER BOXES. Talk by Neil Lloyd at 7.45 pm. at St. Laurence
Thurs. Church, Catford, S.E.6. (LLHS)
- July 9/11 HISTORY OF ELECTRICAL ENGINEERING. At Warwick University. Fee £112. Further
Fri/Sun. information from IEE. (Institute of Electrical Engineers), P.O. Box 96,
Stevenage, Herts. SG1 2SD.
- July 10 OPEN DAY KENSAL GREEN CEMETARY from 2.00 pm. Guided Tours and exhibition
Sat. with special tour of the West London Crematorium.
- July 11 HISTORIC RIVER TRIP from St. Katherine's Pier to the Thames Barrier from
Sun. 2.00 to 5.00 pm. Cost £6.50. Led by Adrian Prockter. Apply to Ed. Dept.,
Museum of London, London Wall, EC2Y 5HN.
- July 17 CHILWORTH GUNPOWDER MILLS walk, led by Alan Crocker, at 2.30 pm. Meet at
Sat. Chilworth & Albury Station. For details tel : 0483 65821.
- July 17 CROSSNESS OPEN DAY from 10.30 am. to 5.00 pm. Donation £1.50. For details
Sat. from Michael Dunmow, tel : 081 303 6723.
- Sept. 4 TOWER OPEN DAY at Kew Bridge Steam Museum, Green Dragon Lane, Brentford,
Sat. Middlesex. Tel : 081 568 4757.
- Sept. 10 AIA CONFERENCE in Ambleside, Cumbria. Supporting programme Sept. 8-14.
Fri. SAE to Chris Irwin, The Book House, Ravenstonedale, Kirby Stephen. CA17 4NQ
- Sept. 18 TOUR OF BROMPTON CEMETERY 2.30pm details from Friends of Kensal Green, c/o
Sat. General Cemetery Co., Harrow Road, W10 4RA.
- Sept. 29 P.S. WAVERLEY arrives at Tower Pier at 6.00 pm. from Southend, and cruises
Wed. until Oct. 10. Details from 0446 720656/041221 6152.

EXHIBITIONS

RAGGED SCHOOL MUSEUM EXHIBITION until 4th July on Weds and Thurs. from 10.00 am. to
5.00 pm. "Queen Elizabeth Hospital for Children 125th Anniversary". At 46-48
Copperfield Rd, Bow, E3 4RR. For details tel : 081 980 6405.

KEW BRIDGE STEAM MUSEUM, Green Dragon Lane, Brentford, Middlesex, will be staging an Exhibition of photographs - 'Brentford Past and Present' from May 28th (Friday) until June 30th (Wednesday). The exhibition is being organised by Elizabeth Wood and is being held as part of the launch of two new GLIAS walks to Brentford. It will be open daily from 11.00 am to 5.00 pm. Details : 081 568 4757.

VISIT TO BIG BEN

On Friday 19th March a group of GLIAS members trooped through Westminster Hall to the base of the Big Ben clocktower, where we met our guide, Mr. Brian Davis. A third of the way up the 340 steps of the square spiral staircase of the tower we stopped to get our breath in a small room, which is used as a prison for those who give offence to Parliament (!) The last person to be incarcerated there overnight was Emmeline Pankhurst, in 1903, following her campaign for Votes for Women.

We eventually reached the bells just before mid-day. The chiming bells, which precede the striking of the hour, were out of action, so when the hour began to strike it took everyone by surprise, even though we knew the time. The sound bow of the bell continues to vibrate long after the hour bell has been finally struck. Forty eight steps below the bells is the clock room where we saw the clock works. The mechanism for operating the chiming bells had been dismantled for maintenance. This is the part of the clock mechanism which was destroyed in 1976. The failure in 1976 was caused by the fly fan shaft of the chiming bells fracturing, which allowed the free fall of the one and a quarter ton driving weight to expend its energy by smashing the clock. The entire end of about four feet of the 20 inch lattice cast-iron girders was replaced, and the join is apparent but well matched to the existing frame. Not much of the pendulum can be seen apart from the cock and fly fan, the legendary pile of coins on the regulating tray is quite visible. The addition of one old penny (1 oz. weight) increases the going rate by 2/5 second in 24 hours.

Everyone found it an enjoyable experience to walk behind the very famous clock dials which are synonymous with the image of Great Britain. Our thanks to Mr. Brian Davis for a very interesting and well informed experience. This visit was very popular and had to be repeated in May. Apologies go to those members who were unable to get a place.

CHARLIE THURSTON

NOTES FROM BILL FIRTH

INDUSTRIAL HERITAGE YEAR AND CANALS 200

The English Tourist Board has published an Events List for Industrial Heritage Year covering the whole country and also five regional maps showing industrial attractions - Cumbria and N.W. England, Yorkshire and N.E. England, Central England, East Anglia and S.E. England, and South and West England. Copies can be obtained from :- Experience the Making of Britain, P. O. Box 151, London E15 2HF.

British Waterways has published an information pack covering the events in Canals 200 celebrating the 200th anniversary of 'Canal Mania'. Copies can be obtained from :- Customer Services, British Waterways, Willow Grange, Watford, Herts. WD1 3QA.

BRUNEL 150

Events in June and July include 'Drama Underground' at various London theatres and a special exhibition at the Institution of Civil Engineers. Details from Nicholas de Salis, Chairman of Trustees, Brunel Exhibition Rotherhithe, 20 Belmont Hill, London SE13 5BD. Tel : 081 318 2489.

SIR WILLIAM HALCROW AND PARTNERS

We have received a complimentary copy of the company's commemorative booklet, '125 Years of Halcrow'. This is distributed privately (i.e. you can't get a copy) but if anyone would like to see it please apply to the Hon. Sec.

BILL FIRTH

NOTES FROM BOB CARRBATTERSEA POWER STATION

At midday on Friday 26th February 1993 Sir Giles Gilbert Scott's famous art deco Battersea Power Station became the property of the Hwangs, a Hong Kong property-owning family. Mr. Victor Hwang, one of two brothers who have been negotiating the purchase of the site, has expressed an intention that the power station will not be demolished. Further developments are awaited.

REFURBISHED FINSBURY PARK TO BATTERSEA BUSES

The number 19 bus service running from Finsbury Park to Battersea was until 23rd April 1993 operated by London General red-painted Routemaster buses and exceptionally, a Routemaster painted in old style London General livery. Now Kentish buses have taken over the service with twenty maroon and cream refurbished Routemasters.

This is the first traditional open platform conductor-operated service to be put out to competitive tender and more can be expected. The Routemasters used by Kentish Bus are leased from London Transport. A bold route diagram on the side of the buses makes very clear where the number 19 runs and the distinctive new livery makes a number 19 bus stand out visually at a very great distance, even in central London. The continued use of Routemaster buses through extensive refurbishment, probably beyond the year 2000, can be regarded as a strong example of adaptive re-use. These aged buses, some dating from the nineteen sixties, are very much working industrial archaeology even if no longer in original condition.

WANDLE WATER MILLS

It might surprise Newsletter readers to learn that even now there are still four water wheels in situ on the River Wandle, at one time the hardest worked London river, with as many as 200 water wheels in use. At Ravensbury Mill, off Morden Road (TQ 265 682) there are two breast shot wheels inside the building. At present they are not accessible to the general public but it is hoped the mill will become the new home of the Wandle Industrial Museum.

Further north in Morden Hall Park you can see the paddle-less remains of a breast shot water wheel on the side of the 19th century brick and weatherboard East Mill (TQ 261 686) formerly used to grind snuff. The wheel on the corresponding West Mill was removed in 1968. The atmosphere inside snuff mills was choking and GLIAS members had experience of this in Sheffield during a visit to the working water-powered Sharrow Mills (see NL 107/4).

Further north still at the former Liberty Silk Printing works site, Merton Abbey (TQ 265 698) is a well restored undershot water wheel about 15 ft wide and 12 ft diameter, which would have developed about 15 horse power. This used to drive rinsing spools and dates from about 1840. To the south east of this wheel the former Liberty factory buildings are now bookshops and premises selling arts and crafts and there is a public house. A walk following the River Wandle can be recommended. (This is the current situation which has been verified recently on site by the writer personally.)

HOLLOWAY ROAD UNDERGROUND STATION.

In 1906 a spiral passenger escalator built by Reno Electric Stairways and Conveyors Ltd. was installed in a shaft at Holloway Road underground station on the Piccadilly Line. It was not a success and was probably unused by the travelling public. The first successful underground escalators were those at Earl's Court, installed in 1911. As part of the refurbishment work at Holloway Road it is intended to cut what remains of the spiral escalator there into sections and part will go to the London Transport Museum. The existence of remains of the pioneer escalator at Holloway Road is noted in Industrial Monuments of Greater London, Thames Basin Archaeological Observers' Group (1969), page 36.

SAILINGS FROM TOWER PIER

This year the MV Balmoral, 668 tons gross, built 1949, was scheduled to operate

passenger cruises from Tower Pier in the first half of May. The celebrated PS Waverley will be operating from Tower Pier from Wednesday September 29th when she is time-tabled to arrive at 18.00 from Folkestone. On Thursday September 30th she arrives at Tower Pier at 18.30 from Ipswich. Friday October 1st sees an evening charity cruise down to the Dartford Road bridge leaving at 19.30 and due back 23.00. The following Saturday morning, 2nd October, Waverley departs at 9.00 am for Tilbury, Southend and Whitstable. She also departs from Tower Pier on October 3rd (twice), 8th, 9th and 10th.

In addition PS Waverley will be operating in the Solent and South Coast area in September. MV Balmoral was scheduled to work the same area in the second half of May. For further details and booking, telephone 0446 720656 or 041 221 8152. Credit cards are accepted and if time is short tickets may be collected on board from the Purser.

BOB CARR

PLUTO

Over one year ago in NL 139, a question was raised concerning the origin of some of the pumps in the basement of Deptford East Power station (now demolished). It was claimed that these may have come second-hand from the PLUTO (pipe line under the ocean) project.

As far as I can determine, the last new plant to be installed in the original building of Deptford East station was in 1937. However, when the electricity supply industry was nationalised in 1948, the newly formed British Electricity Authority constructed a large extension to the power station, which became known as Deptford East HP (High pressure). The original building became the LP (Low power) station. It seems likely therefore that any pumps 'surplus to Government requirements' at the end of WWII, which were purchased by the BEA, could only have been installed in the HP station. Perhaps Bob Carr could clarify which part of the power station he has in mind.

We have now passed the 50th anniversary of the conception of submarine pipe lines across the English Channel to supply petrol to the Allied Armies of Liberation for their advance across France and Belgium into Germany. Two novel methods of conveying the petrol were employed; the first, known as HAIS (Hartley, Anglo-Iranian, Siemens) cable, and the second as the HAMEL (Hammick, Ellis) steel pipe. Two crossing points were chosen, one between Dungeness and Boulogne, the other between the Isle of Wight and Cherbourg. Eleven HAIS and six HAMEL lines were laid from Dungeness. Only four lines were installed from Sandown and Shanklin to the French coast but the distance involved was of course much greater.

The Isle of Wight pumping installation at Sandown consisted of sixteen reciprocating and two centrifugal pumps, and at Shanklin, eight reciprocating and two centrifugal pumps, these stations being cross-connected by two HAMEL line loops laid out to sea and back again. Thus if either of the installations at Sandown or Shanklin had been 'blitzed' the other could have taken over. At Dungeness, thirty reciprocating and four centrifugal pumps, designed for 1,500 lb. per sq. in. pressure, were installed at three well-dispersed sites along the coast and were fed from the land-line system.

The reciprocating pumps were made by Messrs. Frank Pearn Ltd. and delivered approximately 40 Imperial gallons per minute, when running at a speed of 45 r.p.m. They were driven by V-ropes by 60 h.p. 'Caterpillar' engines. The centrifugal pumps were made by Mather & Platt Ltd. and delivered 214 Imperial gallons a minute, and were driven by 500 h.p. motors.

This article has only touched on some of the main events of the time. For a fuller account see the paper 'Operation Pluto', read before the Royal Society of Arts, by A.C. Hartley on 14th November 1945.

BILL MCNAIR

NOTES FROM MALCOLM TUCKERTHE LONDON CANAL MUSEUM

The London Canal Museum opened a year ago on Rattlebridge Basin, King's Cross. It presents the story of the Regent's Canal, in particular, and hopes to show much more in due course. A former Carlo Gatti ice house and stables, it has two large ice wells circa 1860 in the basement. It is open from 10.00 am to 4.30 pm. most days except Mondays, at 12/13 New Wharf Road, London N1 9RT (tel 071-713 0836). The museum is run voluntarily, and it needs part-time (paid) staff and helpers. Anyone who might be interested in helping please contact Malcolm Tucker (071-272 7160).

SCIENCE MUSEUM RESERVE COLLECTIONS

The Science Museum is closing its store in the warehouse at Hayes, which GLIAS visited in August 1975. The larger objects are packed up awaiting transfer to the store at Wroughton Airfield, near Swindon, while more portable items have been moved to the old Post Office Savings Bank headquarters at Blyth Road, W.14. next to Olympia, which we visited in June 1991.

Members of the Newcomen Society visited Blyth Road in March this year, and saw various items that have been transferred there since the GLIAS visit. Machine tools, under the care of Michael Wright, include for instance (Sir) Marc Brunel's remarkable series of block-making machines of 1802 onwards from Portsmouth Dockyard, and stock-making machines of 1853 by the Ames Manufacturing Co., Massachusetts, which were used until recently at The Royal Small Arms Factory at Enfield, to shape the woodwork of rifles.

The bulk of the civil engineering, mechanical handling and mining collection under the care of Robert McWilliam is now, or will be, housed at Wroughton, for reasons of size. The smaller items have been shoe-horned into metal racks in a mezzanine store at Blyth Road and arranged in the order of the Universal Decimal Classification (!) They include various models which have been on display in former years, from roof trusses and arch-centering to earth-moving machines, coal tipplers and irrigation sluices. There are also some full-size samples of building materials, and fastenings of all sorts from doorlocks to zip fasteners. Building services, public health and water supply are covered, and include a large collection of water meters.

The mining collection covers all aspects from shaft sinking to ore dressing, with some intriguing models, although there is an excess of safety lamps and breathing apparatus. Robert very much regrets that post 1960 full-face mechanisation of the coal mines is not represented, and he fears never will be, as equipment is abandoned underground.

The Science Museum is aware that the major part of its collection will never be put on public display, and it is anxious to encourage more access to the reserve collections, both by organised parties, and by individuals with particular interests. The computerised catalogue of the collections is available in the Science Museum Library for all to refer to.

IRON ROOF OVER BOILER HOUSE, KEW BRIDGE WATERWORKS

Contractors have recently completed a major overhaul of the iron roof of the former main boiler house at Kew Bridge Waterworks (Kew Bridge Steam Museum). This was the first stage of a programme to repair all the roofs of this group of Grade I listed buildings, to English Heritage specifications, and contrary to Newsletter 144, the historic fabric has been scrupulously kept, apart from broken slates, etc. Discreet repairs have been made to the metalwork, with local strengthening - there had been damage from heavy objects hung from the tie bars.

Erected in 1837, the wrought-iron roof trusses are of particular interest. They are examples of a design that was simple to construct and therefore seems to have been quite widely used in the period circa 1815 to circa 1845, until ousted by more sophisticated designs developed for railways and dockyards. The essential feature is that they are constructed entirely of flat bars, with bolted connections. At Kew

there are 3 spans, each of 23 feet, in the configuration nowadays known as a Fink truss (with two inclined hangers from the apex to near the third points of the tie bar, and short struts from there to the centre points of the rafters). The rafters are nominally 3 inches deep by three eighths of an inch thick, a size that was standard in all the roofs of this type that I have come across and indicates a common origin. Iron battens to support the slates, one and a quarter inches by three eighths, are wedged into half-inch deep notches in the rafters, which are at 3 foot 3 inch centres. The apex has a cast-iron gusset plate with sockets into which the rafters are bolted, a feature patented in 1815 by Richard Tomlinson of Bristol, who may have originated this family of trusses. The story may be traced back further to Thomas Pearsall's trusses of 3 inch by one eighth inch hoop iron, patented in 1811. The various examples I have found have differences in the details, and at Kew boiler house the inclined hanger bars are not connected to the gusset plate but to the rafters on each side, and cross over each other like scissors.

The struts at the quarter points are pairs of flats, spaced slightly apart and rivetted together, for greater resistance to buckling. For the rafters, the narrow bar section is relatively inefficient in compression and bending, but the battens provide lateral stability and it served well for moderate spans. James Wellington of Bristol built several longer span roofs of wrought-iron flats in the 1820s with mixed success, and his 60 foot span roof over the Brunswick Theatre, Wellclose Square, collapsed on the opening night, 28th February 1828, with loss of life. (His rafters there were only 1 inch deeper than at Kew, but the immediate cause of failure was the hanging of a carpenter's shop and two tiers of flies from the roof tie bars, without the designer's knowledge.) More efficient angles and tees were not widely used in roofs until the 1840s, probably for reasons of availability and expense. Although Charles Fox introduced tees in his trend-setting but expensive roofs over Euston Station in 1837, pairs of flats spaced apart with a timber sandwich were used by experienced engineers on some 50-foot spans well into the railway age - (Bricklayers' Arms Station 1843, King's Cross Goods Station 1850, Saltaire Mill 1853), implying a continued economic advantage for simple forms and details. At Battersea Waterworks, Kirtling Street, GLIAS members recently found 17 foot span trusses, possibly of 1846, in which the struts and battens were light rolled angles but the rafters were still 3 inch by three eighths inch flats. There are two other iron roofs at Kew Bridge, on the 1837 engine house and the 1846 boiler house extension. It's worth going and having a look above one's head.

RESTORATION IN ISLINGTON

The former cattle market in Islington is to be restored. Should you know the whereabouts of any of the cast-iron bulls heads which adorned the piers and are about one foot tall, complete with horns, David Gibson (tel: 071 226 2207) would like to know, so that copies can be made.

GUNPOWDER MILLS AT WALTHAM ABBEY - CORRIGENDA

I'm afraid there were two misprints in NL 145 (April 1993), page 6. On the 8th line of the 4th paragraph, it should read that 'English Heritage is reviewing all the structures for listing and scheduling'. Also on the 5th line of the 2nd paragraph it should say 'high and low level leats'.

MALCOLM TUCKER

FROM THE NEW RIVER ACTION GROUP

Construction of the new wells is finished and testing will be complete by Easter. The first pump-houses, at Hoe Lane North, Ridge Avenues North and South, Bethune Road, Lordship Road and Green Lanes are almost completed and work started in March on those at Hazelwood Lane, Whittington Road (Alexandra Palace), Station Road, Hornsey Sluice House and Eade Road.

Work is also in hand to return to use the wells at the old pumping stations at Hoe Lane South and Highfield Road, which are to be renovated, as will be the old

well-house at Hornsey Campsbourne. Water has been flowing from the original source of the New River, Chadwell Spring, since early November last year when the groundwater levels recovered. The area is now in its normal condition. LETTER TO THE EDITOR

From Michael Robbins, who writes :

The two volumes of A History of London Transport By Professor T. C. Barker and Michael Robbins have, we think, been a good deal consulted by GLIAS members from time to time. A list of corrections to the first (1963) volume was included in the second (1974); now Professor Barker and I think it is time to compile and issue a similar list for volume II (the Twentieth Century to 1970), together with any further errata for volume I. Would any GLIAS member who has spotted mistakes of fact or serious omission of information please send a note on these points within two months of publication of this Newsletter ? The address is : Michael Robbins, 7 Courthope Villas, London S.W.19 4EH. It would be helpful if authority could be given for proposed corrections, either by reference to published sources or personal knowledge.

When the list is completed, we mean to send a copy to everyone who has originated an accepted correction, and to inform the Editor of the Newsletter how others may obtain copies.

MICHAEL ROBBINS

BOOK REVIEWS

THE ROYAL ARSENAL COOPERATIVE SOCIETY has produced a guide to its archives. This details the different branches that have been merged into RACS, a brief history of each, and what remains. 'A Brief History and Local Guide to the Archives of the Co-operative Wholesale Society, South East Retail Group' by Ron Roffey is published by their Membership and Education Department, 132-152 Powis Street, Woolwich, S.E.18. (price not known - but very little). For visits to their archives ring 081-854 2000.

MARY MILLS

ENGLISH LOCAL STUDIES HANDBOOK. Compiled by Susanna Guy, University of Exeter Press. 1992. pb. 343pp. £11.95.

A useful reference book which lists, by county and by London Borough, addresses and telephone numbers of local studies collections and libraries, record offices, and museums. Included in the listing are local history journals and local history societies, (including GLIAS!) Would be an especially useful source when trying to track down information sources in an unfamiliar area.

ON LAMBETH MARSH, THE SOUTH BANK AND WATERLOO. By Graham Gibberd. 175pp Gibberd. 1992. £12.00.

A large format paperback produced to a standard of printing and illustration rarely seen in books on local history. This book must become the standard text on this area which is hardly among the better-known parts of London. Chapter 3 deals specifically with the rise and fall in industry - river industries, breweries, vinegar works, pottery, iron works and the home of Coade Stone.

WITH DISASTROUS CONSEQUENCES : LONDON DISASTERS 1830-1917.

By Wendy Neal. Hissarlik Press. 1992. hb. 270pp. £14.95.

The book thankfully avoids the sensationalist approach of 'disasters' books and the author takes care to draw out lessons learnt from each case and has drawn extensively on primary sources. A substantial part of the book deals with industrial disasters including explosions at Brunner Mond's TNT factory at Silvertown, the Erith gunpowder magazine, and several fireworks factories in Lambeth. Among the other disasters included are the sinking of the 'Princess Alice' at Woolwich and the launch of the 'Albion' at the Thames Ironworks.

The book has a lengthy foreword from Dr. Ken Hines who has had much experience of treating casualties from modern disasters in London and has been one of the pioneers of 'immediate care medicine' in such circumstances.

PERKIN IN THE EAST END OF LONDON. By David Leaback. 40pp. Authentica Pubns. 1991. Any history of the chemical industry cannot fail to include the work of the East Ender, William Perkin. It was his experimental work which resulted in 1856 in the discovery of the first synthetic aniline dye - mauveine - a discovery which was to transform the dyestuffs industry and have much wider impact in the growth of the organic chemicals industry. Dr. Leaback, a GLIAS lecturer a few years ago, has published more of the results of his studies of Perkin. Whereas his 'East London Papers' article (Issue 12, 1989, pp2-16) traced Perkin's earlier life from birth in Shadwell through to his discovery of aniline at the age of 18, this later booklet gives more detail of his chemical work and sets it in the broader context of the chemical industry in London.

Regrettably Britain did not capitalise on the potential of organic chemistry - it even had to purchase dyes for army uniforms from Germany during the First World War - albeit via the Netherlands!

THE LOST RIVERS OF LONDON. By Nicholas Barton. Revised edition 1992. hb. 167pp. £15.95.

This highly regarded and unique study needs hardly any introduction. It first appeared 30 years ago and has now re-appeared in a revised edition. The text has been updated, the number of illustrations has more than doubled and their presentation has greatly improved with the larger format book.

EXPLORING THE REGENT'S CANAL By Michael Essex-Lopresti. KAF Brown Books. 1990. 88pp. £6.95.

Another book by the author of 'Exploring the New River'. The writer has guided walks for the Inland Waterways Association along both the New River and the Regent's Canal and lectures frequently on both topics. This well-researched book combines the history of the construction and use of the canal with a comprehensive description of the present-day route. Certainly recommended.

GREAT EASTERN IN TOWN AND COUNTRY. Vol. 2. by Chris Hawkins. hb. 92pp. Irwell Press. 1991. £14.95.

Vol. 1 was noted in Newsletter 134. The second volume further raids the store of excellent atmospheric photographs of the Great Eastern lines. Liverpool St. station occupies about half the book and the Alexander Palace branch and East Suffolk lines the remainder. All the illustrations are from the days of steam - or should it be 'smoke' as far as Liverpool St. is concerned?

WEST HAM 1886-1986. London Borough of Newham. 1986. 192pp. £4.50.

This substantial paperback which does not appear to have been noted in the Newsletter previously is still available in local bookshops. The main text is from the Victoria History of the County of Essex, supplemented with illustrations and commentaries by Frank Salisbury. Industry, docks, and transport figure strongly in the book, as it should in a borough which was the most important industrial area in the south of England.

DON CLOW.

HYDRAULIC BUFFER STOPS

The report into the Cannon Street crash of 8th January 1991 focussed some of its attention on the inadequacy of the buffer stops. Cannon Street was fitted with a type of hydro-pneumatic buffer stop with what appear to be short-stroke telescopic rams. They have now been augmented by friction buffers.

The hydraulic buffer was patented by Alfred A. Langley, chief engineer of the Great Eastern Railway, in 1880 (Patent No. 4449 of 1880). Manufacture was taken up by Ransomes & Rapier of Ipswich and the first examples were installed at Liverpool Street and Fenchurch Street. Each cylinder, 12 inches in diameter by 4 feet stroke, was filled with water. The piston had slots through which ran tapered bars. As the piston moved backwards the slots became smaller, increasing the pressure of the water at the back of the cylinder, bringing the train to a halt. A supply of water at 35 psi to the front of the cylinder allowed automatic re-setting after use. The first version had cross-heads or beams across the buffer end but these were soon

abandoned. Later versions had a stroke of at least 5 feet, which Ransomes regarded as the minimum to stop a train travelling at 6 m.p.h. Indeed Ransomes were very critical of the London & North Western Railway version which had a stroke of only 2 feet 6 inches, describing it as 'practically useless'. The LNWR's first hydraulic buffers, at Manchester Exchange, had a stroke of only 2 feet.

There are still a few hydraulic buffers to be found in London. Waterloo has the best collection, every platform from No. 1 to No. 17 being fitted with Ransomes & Rapier examples each of 7 foot stroke. They date from 1909/10 and are said to be capable of stopping a 400-ton train at 10 m.p.h. Recently friction buffers have been placed in front of the hydraulics. Hopefully this is not a prelude to their removal. At St. Pancras there are hydraulic buffers at the ends of platforms 5, 6 & 7, but the cylinders are hidden inside timber covers. The GWR fitted hydraulic buffers by Ransomes & Rapier on three new platforms at Paddington - No. 12 in 1913, No. 11 in 1915 and No. 10 in 1916. These too survive.

There are a few examples on London Underground. On platform No. 1 at Baker Street the two cylinders are concealed behind a wall. Projecting piston rods are connected by a timber beam to which are attached two timber buffers. The timber beam is supported by a frame which runs on four small wheels on the rails. Platform 4 has a similar pair, but with the cylinders exposed to view.

Another type found on London Underground is the single, oil-hydraulic cylinder centrally placed between the rails. There is a supporting wheel, with its own rail, at the buffer end. Buffer stops of this type can be found at Ealing Broadway, Platforms 7, 8 & 9. They are by Ransomes & Rapier and dated 1891. Similar devices can be seen at Queen's Park (at the end of one of the tracks through the western shed), at Mansion House (at the east end of platform 2) and at Putney Bridge.

Does any member know of other surviving hydraulic buffers in London? Anyone who wants to see an LNWR example will have to travel to Rugby or Crewe.

TIM SMITH

ALL CHANGE AT KINGSS CROSS AGAIN

With the abandonment of BR's original plans for the Chunnel link, Union Railways a BR subsidiary has bounced back with two further proposals. Sounds familiar, then read on. The line follows a more northerly route through Kent and crosses the Thames at Thurrock following the existing Tilbury line to Barking. From Barking west two variants are proposed. The first tunnels through to Stratford, a major works site, and potential station, crosses the Lea in tunnel and then approximately traces the North London Line until it emerges on the southern pair of lines west of Mildmay Park. NLL services are diverted to the northern lines and stations west of Dalston Kingsland and some bridges will be rebuilt. It then curves off the NLL route through the NW corner of King's Cross Goods Yard and into St Pancras Station. The northern group of gasholders and St Pancras waterpoint would be lost. International facilities will be located to the rear of St Pancras Chambers and access in the barrel vaults. As Eurostar trains are longer than the trainshed it is uncertain how the extended platforms would be canopied. The rumoured threat to St. Pancras lock has gone, though St. Pancras Basin might be lost during construction. The subsurface station is retained, but for Thameslink only.

The alternative route is underground all the way west from Barking runs north of version 1 to the Stratford site and then south under Victoria Park, roughly along the canal before sweeping in a curve under Finsbury to interconnect with planned subsurface station.

Significantly, the line is not to be promoted by the new public enquiry procedure, but by a hybrid bill in Government time. GLIAS is currently working on a walk for the Goods Yard area, but there should be adequate time to do it before work starts.

CHARLES NORRIE

AUGUST NEWSLETTER

Please note that items intended for inclusion in the August Newsletter should reach the Editor if possible by July 8th.