

### Swings and roundabouts

**Victorian Gallopers.** Travelling fairs have traditionally relied on a bright and distinctive decorative style to attract public attention. The motifs used by showmen on their rides have usually mirrored contemporary events and fashions - heroes of the Boer War, racing cars at Brooklands and Teddy Boy haircuts will all have had their turn on the fascias of roundabouts and, later, dodgem car tracks. But perhaps because of the nomadic nature of showmen's lives, few historians have been able to get to grips with aspects of fairground life which lie behind the brightly painted wagons. The Fairground Society has existed for many years as a meeting point for enthusiasts, and many showmen's steam traction engines have passed into preservation when replaced by motor tractors. Sadly many historic rides have been abandoned when extensive repairs become necessary and in recent years dealers have responded to the appetite among collectors for carved fairground animals by breaking up rides and selling off individual components to different buyers.

Yet the archaeology of fairgrounds deserves more serious study than this. The engineering embodied in rides was highly specialised, evolving to meet rigorous requirements of simplicity, reliability and portability. Although in recent years showmen have tended to respond to competition by increasing the thrill factor in their rides, the safety record of travelling fairs has generally been good. Dismantling and reassembly at each change of venue gave opportunities for regular checks on wear of components, and the accidents that did happen were usually in fixed fairs like London's Battersea or Copenhagen's

Tivoli where rides worked for long periods on the same site.

There have been various invitations to establish a museum of the travelling fair some of which foundered on the prejudice that the subject was somewhat frivolous or beneath serious study. One such scheme was developed in some detail about ten years ago by London architect David Braithwaite, author on the subject and historian of the Burton on Trent firm of Orton and Spooner whose artists supplied some of the finest decorated panels and figures. Sadly the passage of time has seen many more rides broken up or sold overseas. Earlier this year the Fairground Heritage Trust was formed to create a permanent national collection of historic roundabouts, amusements and transport. The Trust's first major acquisition is a remarkable Victorian galloping horse roundabout with its original Tidman centre engine, Verbeek organ and road train. The ride was built by Savage of Kings Lynn, with a set of finely carved horses by Arthur Anderson of

Bristol, who was Britain's most distinctive and most famous fairground carver. The packing truck was built on a sub-structure taken from a farm cart, and the 1917 FWD lorry imported into this country from the USA during World War I survives on its solid rubber tyres.

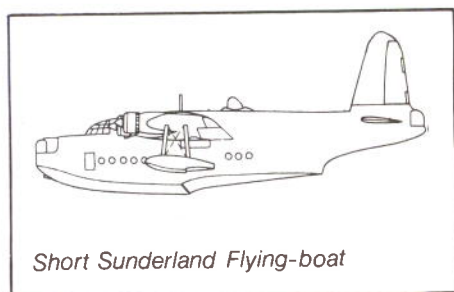
The ride was travelled by the Edwards family of showmen, and was looked after by Mrs Edwards while her sons and daughters managed other rides. When Mrs Edwards died some fifty years ago the ride was put into store in Swindon, and only recently have her heirs decided to part with it for restoration and preservation. The survival of such a roundabout without any alterations or serious deterioration since 1930s is remarkable. Recognising the determination of the Fairground Heritage Trust to preserve this ride permanently (it is not intended to operate it other than very occasionally, to minimise wear and damage) the National Heritage Memorial Fund has contributed generously towards its purchase and other major contributions have come from the Manifold Trust, the



Material World Charitable Foundation and the Science Museum Preservation Fund. The Edwards Gallopers are stored temporarily at the Science Museum outstation at Wroughton where restoration will begin shortly. Viewing will be possible on advertised Open Days during 1987. The ride and other items in the Trust's collection will be displayed in the proposed National Fairground Museum, for which a site is currently being sought.

John Robinson

As regular readers of the AIA Bulletin will know, the Southampton University IA Group have been interested for some considerable time in the fate of Short Sunderland/Sandringham flying boats in general and G-BJHS Sir Arthur Gouge in particular. *Bulletins* 10/1 (Autumn 1982) and 12/3 (Summer 1985) give earlier news, and the January 1987 edition of *Focus on IA*, the Southampton Group's newsletter continues the story ...



Short Sunderland Flying-boat

**Sunderland flies again ...** well, for about 50 minutes, anyway! On July 18th I was on board the escort boat on the lower reaches of the Medway for G-BJHS's test flight. It had taken an hour to taxi from its Chatham Dockyard mooring to Long Reach, where it took off in a westerly direction over the coal jetty at Kingsnorth Power Station. We anchored near the shore for a 2 to 3 hour wait while the flying boat was to fly around the south-east carrying out various tests to all its systems. Therefore, it was with some surprise that, with my teeth clamped round an apple, I saw this vaguely familiar shape in the distance less than an hour later.

"It's coming back", I informed the others, who didn't believe me for a while until the shape came closer and the Sunderland flew overhead with No.4 engine (Star-board outer) shut down. On the previous test flight in October 1985, No.1 engine had to be shut down after 25 minutes. Captain Ken Emmott made an excellent 3-engine landing and we went back to the dockyard, the faulty engine being fired up for the last mile to aid manoeuvring in the winding channel.

Knowing the cause of the port outer's failure, the engineer set to work on the engine and half an hour later had taken out the oil filter from the master rod bearing ... filled with shavings of white metal. With two engines suffering the same problem, doubts were expressed about the other two. A phone call to the USA revealed that the other engine was being stripped down, but the reason for the failure had not been found. Many suggestions were put forward, but even now the cause of the bearings' failures has not been discovered. The one spare had replaced No.1 engine and another was purchased to replace No.4 in August, but there were no further flights and the plane was beached and eventually returned to No.7 Covered Slip for the winter. Two further reconditioned engines have been acquired to replace Nos. 2 and 3 before the spring.

Whilst on a visit to the dockyard in early December I was able to talk to owner Edward Hulton about the Sunderland's future. The Australian airline QUANTAS has offered to sponsor it flying in their own country and want it to fly out there as soon as it is airworthy in the spring. Their representative is due to visit Chatham during January. As we have dubbed 1987 as "The Year of the Sunderland" - the first one flew in October 1937 - it would be preferable if it could stay in Britain at least this year to fly at air shows, but if the Australian offer is refused there still appears nowhere for it to go temporarily in this country. A final effort is being directed at Calshot, but the chances of returning there are virtually nil. Part of a building on the old Supermarine site at Woolston has been offered at an astronomical price, but this is thought to be unsuitable anyway. A deal with Chatham Council may be the only solution if they are still willing to help and Mr Hulton would agree to leave it there for at least five years. By the next newsletter we should know its fate - and if it has finally obtained its Certificate of Airworthiness.

Angela Smith

**First Funding Pledge received for Montgomery Canal Restoration.** Sir Leslie Young, Chairman of British Waterways Board, has welcomed the decision taken by Montgomeryshire District Council in November 1986 to back the restoration of the Montgomery Canal and to allocate £1 million over five years to the project.

Sir Leslie continued, "This lead taken by Montgomeryshire District Council is most encouraging. I am looking forward to hearing from other local authorities who are

involved with us and who have already expressed their support to this imaginative project. It would bring the equivalent of 360 new full time jobs and an extra income of about £7.7 million to the area each year".

Sir Leslie confirmed that the Board were on course to lodge the Private Bill in Parliament, which is necessary to provide the vehicle for restoration of the canal.

On leaving the M5 motorway just before Exeter at the Tiverton junction, one can very conveniently and rapidly make one's way to Coldharbour Mill at Uffculme, near Cullompton. The mill is sub-titled 'Working Wool Museum' and fully lives up to its description. Set on a corn and papermilling site going back to Domesday times, the present mill was bought in 1790 by Thomas Fox, a Quaker woollen manufacturer from Wellington in Somerset. The woollen mill was added two years later, and at the height of its prosperity, it employed 150 people directly and probably as many again



as "outworkers". By 1981 the labour force was down to 40, and it was decided to stop production and sell the mill. Local people established the Coldharbour Mill Trust and with help by way of mortgages from the Parish, District and County councils - and a contribution from the Development Commission and with active support of the Science Museum and other institutions - the buildings and machinery were purchased from Fox Brothers. Only 6 months later the first members of the public were admitted, and by the end of 1982 over 6,000 people had visited the mill. A visitor is able to follow each of the stages in the manufacturing process, from the raw wool to the finished product in the atmosphere of a Victorian factory. Many of the machines are working. The visitors tour commences with an audio-visual presentation, and the artifacts include an 18ft diameter breast shot waterwheel and a 300 horse power Pollit & Wigzell stationary steam engine fired by two Lancashire boilers - in use until 1981. The engine is believed to be the last drop valve horizontal cross compound of its type in existence.



The AIA Bulletin 13/3 (Summer 1986) carried a report by John Powell on the sad demise of the Jackfield 'free bridge', which has since been topped by a temporary structure to enable road traffic to continue across the River Severn. In an accompanying comment we expressed surprise that a Mouchel-Hennebique structure had suffered such a fate and wondered if perhaps, it had been consistently maltreated.

John has since sent us a copy of an article which appeared in *Concrete*, volume 7 number 12 (December 1973), written by Anthony Blackwell, Chief Bridge Engineer with the Shropshire County Council. It gives a brief chronological review of the life of the 'free bridge' up to date and confirms that constant flouting of weight and speed restrictions has continuously taken place. It also places on record the extremely responsible attitude of the County Council towards one of its more recent ancient monuments and we feel it is worthwhile reproducing in full.

**The Extensive** industrial development which covered both sides of the Severn Valley in the Ironbridge-Broseley-Madeley area of Shropshire was entirely dependent on the famous Iron Bridge for the all important river crossing.

When Councillor B Maddox, the Mayor, announced his intention in the early 1900s of raising funds to build a toll-free bridge over the River Severn at Jackfield, he was supported with enthusiasm by all sections of the community.

L G Mouchel and Partners prepared a design for a reinforced concrete open spandrel bridge comprising a centre span of 87ft with two side spans of 66ft. It appears from surviving drawings that the structure was originally designed as three open spandrel arches, but was amended to a central arch and two half-arches which merge into horizontal beams supported at their outer ends on the abutments. The two piers each consist of four precast piles capped well above normal waterlevel.

The bridge was designed to carry a UD live load of 140lb per sq.ft and a train of 5-ton axles. Work was carried out by the Liverpool Hennebique Company and the bridge was opened on 26 June, 1909.

By 1937 deterioration mainly in the form of exposure of the reinforcement was causing concern.

Live load tests with extensometers on the exposed steel then showed compressive stresses in excess of 15,000lb per sq.in in the steel near the springing of the main span ribs which was considered critical. It is interesting to

note that this assessment treated the whole structure as a continuous beam of varying section rather than a series of arches.

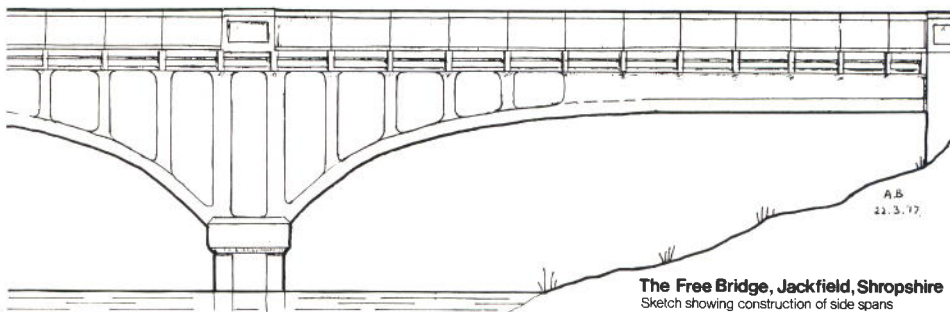
Ultimately, the gross vehicle limit was settled at 12 tons at 5 mph. At the same time the road became classified, and the bridge was taken over by the Salop County Council. A programme of remedial work was put in hand involving mainly the ribs and spandrel supports consisting of cleaning off spalled and crumbling concrete and flakes of rust from reinforcement. Where large areas of concrete were affected, new mesh reinforcement was hooked onto existing parts to act as anchorage for the new concrete.

The bridge gave good service, and no trouble was experienced during the war, but by 1961 further areas of steel were becoming exposed. The situation was, however, not as serious as in 1939.

The structure seems remarkably resilient in coping with loads which must result in stresses far in excess of those considered

ings, suggests that a number of oversize vehicles do manage to make their way across. The pilasters at the north end of the bridge take the brunt of these encounters and have been replaced with short lengths of precast block wall, which transmit no impact to the rest of the structure and are fairly easily rebuilt.

In 1969 a spandrel support developed a 45-degree crack, about midway between top and bottom, representing the classic shear of failure of a strut in compression. Taking the thrust on dead-shores each side, the column was opened up and it was found that a somewhat inadequate stirrup system, further weakened by corrosion had permitted the main reinforcement to bow outwards. The stirrups were renewed, providing adequate section, and the concrete made good, with Certite polyester resin-bonded concrete, requiring a minimum period of road closure. At the same time, a number of isolated cases of spalling were filled with Certite. All these repairs remain



critical by Mouchel and Partners and the Ministry of Transport in their assessment of 1938. Nevertheless, in a busy industrial district occasional over-loading must be a source of worry to the maintenance engineer. The general impression of slenderness is perhaps the secret of the inherent flexibility which must result in a distribution and dissipation of stress.

Following revision in the 1960s, of the Motor Vehicles (Construction and Use) Regulations pressure was brought to bear on the Salop County Council to revise the weight restriction to 14 tons. After a very close look at figures and influence lines this was turned down. Overloading and subsequent prosecutions continue.

As the bridge connects roads running along each bank the approach at each end consists of a right-angled turn. Demands to improve these conditions cannot be met beyond a certain point as the restriction constitutes a fairly positive deterrent to attempts by the larger articulated lorries to make the crossing. A fairly steady run of work for the welder, straightening and repairing the wrought iron, vertical infill and parapet rail-

in sound condition.

At five-yearly intervals the river bed, round the piles forming the piers, is inspected by a diver and, when necessary, any scour depression which may have formed is filled with rocks. Tree trunks and other debris, washed down at flood time, have to be removed quickly from the piers to avoid undue lateral pressure. The addition of dolphins, however has never been seriously considered.

Particular attention is paid to the maintenance of a smooth running surface on the bridge deck, as constant flouting of the 5 mph speed limit makes the impact element of the live loading one of considerable relevance.

There is naturally constant pressure for the bridge to be widened and strengthened or replaced. The structure hardly lends itself to modification, leaving replacement as the only solution. The problem would then become one of siting the new structure in a gorge which comprises a complex geological situation with earth movement evident everywhere, the site of the bridge being the only apparent stable spot.

It is to be hoped, however,

that this historically-important reinforced concrete structure may be preserved, as in the case of its older neighbour, Iron Bridge, when the plans for a new bridge finally come to fruition.

I am indebted to Mr R J Mare, MC, BSc, FICE, FIMunE, County Surveyor of the County of Salop for permission to produce this article.

Chatting to colleagues it really is surprising to find how many people relate industrial archaeology to those districts which have...or used to have... heavy metallurgical, chemical or ship-building industries. It is interesting to comment that anyone wearing a traditional lever movement wrist-watch, particularly one which needs winding every day, is carrying industrial archaeology around with them, and this remark is not usually challenged, just received in a thoughtful manner. But the inference is still there that IA and visible factory remains are invariably connected with kinds of places pictured in such TV programmes as 'Where we used to work'.

In this context it is interesting to receive a copy of the **Suffolk Industrial Archaeology Society Newsletter** and read the following piece.

**Suffolk does not really have an industry** - you have to go to the Black Country for industrial archaeology. How often has that been said by people who have not really stopped to think about the matter.

Members who were taken on a tour of Glemsford by local historian Richard Deeks on a Sunday morning in October will have realised that there was in fact a good deal of industry in that village, which became a silk manufacturing centre when the silk manufacturers sought to cut their costs by moving out into the rural areas from the traditional silk-weaving centre at Spitalfields, in the 18th Century a hamlet near London. It lies just to the east of Liverpool Street station and still contains some of the houses occupied by the Huguenot silk weavers.

As Richard Deeks explained, the parish authorities sought to solve a local unemployment problem in the 1820s by building a small factory and inviting manufacturers to move to Glemsford to occupy it. Most people would consider the provision of light industrial units by local authorities to be a 20th Century phenomenon, but obviously some people had the idea long ago.

Perhaps it was the presence of the silk manufacturers that persuaded a local firm in Glemsford to adopt the production of machinery for the textile industry and thus to add to the industrialisation of

this once thriving village, which in the 19th Century was by no means the typical East Anglian agricultural settlement.

It is not difficult to think of other places in Suffolk which, though they might have started out as no more than farming villages or market towns, became in the 19th Century industrial towns more typical of other areas than of East Anglia. Leiston was an unremarkable and tiny village when in 1779 Richard Garrett began the production of edge tools there, but in the course of the following century it grew up into a small town surrounding the Richard Garrett engineering works, an enterprise which grew to employ more than 100 people and in its heyday made Leiston a prosperous community.

Its prosperity seems to be largely in the past and Leiston is now an unemployment black spot, but Garrett's Town Works, or a small part of it, has a bright future as an industrial museum which will almost certainly bring a stream of visitors to the town in years to come.

Another industrial town in the heart of Suffolk's farmlands is Stowmarket, which was once a thriving centre of the malting trade and with a brewery which exported India pale ale across the seas. The rise of the fertiliser industry brought further employment in the 19th Century and that led quite naturally to the setting up of the guncotton works which suffered such a disastrous explosion in 1876 - the current ICI cellulose paints plant is a descendant of the same industry.

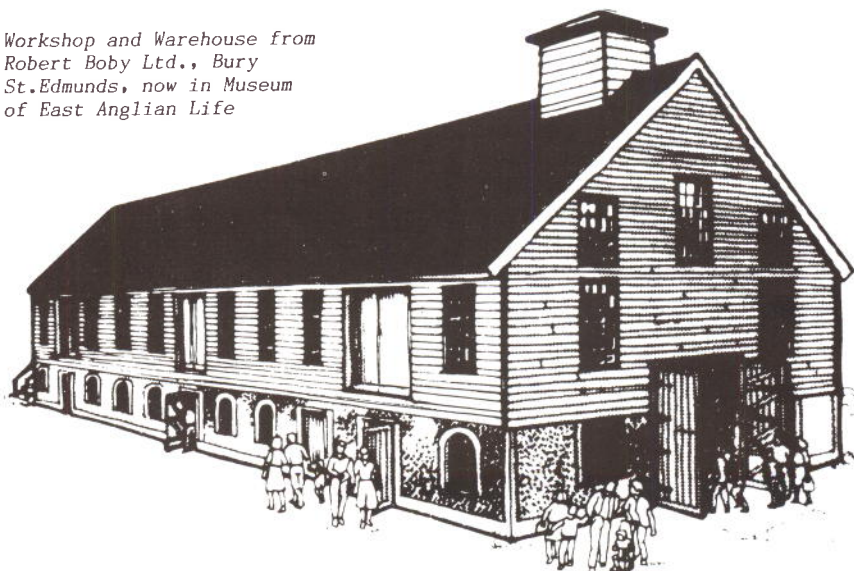
It is by no means inappropriate that the Museum of East Anglian Life at Stowmarket should be turning its attention to the region's industrial past as well as endeavouring to tell the story of rural life as people generally imagine it.

**Old Ordnance Survey Maps, Alan Godfrey, Gateshead.** A Series of over a hundred titles, many of North of England towns which comprise the sheet itself on a scale approximately 15ins to the mile, a background note and extracts from the directories for certain streets. Two recent examples are those for *Salford Docks* (1905) and *Old Trafford* (1905). The former will be of particular interest because of the proposed closure of the upper end of the Ship Canal and the Salford Quays Development Scheme which is transforming the dock area into a Leisure and Recreation complex. As Chris Makepeace who contributes the historical notes has explained, the rise of the port began at the turn of the century with the formation of Manchester liners, the Ordsall and Weaste areas experienced mushroom growth and all this encouraged the De Traffords to sell their land for Industrial Development. The design of the docks and associated facilities is discussed but it is a pity not more is said about the dock buildings which apart from the steel and concrete storage warehouses in No.9 have largely been destroyed.

The Old Trafford map/folder is of less interest to the Industrial Archaeologist since only part of the Trafford Park Industrial Estate is shown and many of the factories are not identified. What the map does show is urban development in Trafford and Stretford and the considerable number of open spaces that survived at that date including the Royal Botanical Gardens (replaced by White City - itself now closed) and several cricket grounds in addition to Old Trafford (Lancs CCC), one of which became MUFC and another the grounds of the new Stretford Town Hall.

A D George

Workshop and Warehouse from Robert Boby Ltd., Bury St. Edmunds, now in Museum of East Anglian Life



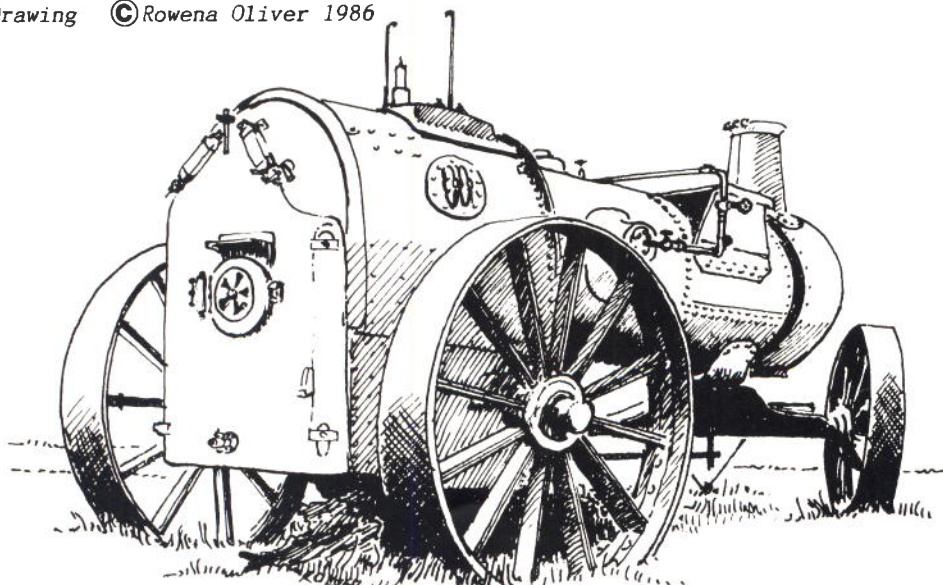


The Local Society publication to receive honorable mention in this issue is that produced by the **Surrey Industrial History Group**. The SIHG is a Group within the **Surrey Archaeological Society** but issues its own *Newsletter*, promotes its own programme of activities and obviously gives a great deal of pleasure to many enthusiasts. The *Newsletter* is a splendid production, always attractive in appearance, put together with loving care, and packed with interesting news items and short articles. These, although inevitably centred on activities in Surrey are far from parochial in their coverage and often send this commentator searching for an OS map of the area concerned. Perhaps also to make a mental note to visit sites mentioned the next time we are bound for the channel ports. Issue 36, January 1987, contains a crowded diary (sixteen items until the end of March) nine news items, six book notices, seven short (or not so short) articles on current research topics and the customary delightful drawing by Rowena Oliver.

Illustrations can either make or mar a small circulation publication, invariably (for obvious reasons) produced on a tight budget. Half-tones (photographs) are difficult, and unless one has access to many 18th or 19th century books, line drawings quite often have copyright restraints. Apart from their aesthetic appeal, Rowena Oliver's drawings can produce satisfactory answers to recognition problems. In *Newsletter* 35, November 1986 the following drawing and query appeared.

*This old engine is standing rusting away at the entrance to Sandy Farm Shop between Farnham and Seale. Does anyone know anything about it? Is anyone interested?*

Drawing ©Rowena Oliver 1986



Agricultural steam engine near Farnham (SU 877 468)

In the current issue it was answered ...

**The Engine at Sandy Farm Shop, Farnham.** Following Rowena Oliver's 'Sketchbook' feature in *Newsletter* 35, which showed an agricultural steam engine, Tom Evans has provided the following information:

It is a Marshall of Gainsborough machine minus the tall chimney, steam cylinder and other working parts between piston and flywheel. In the form shown the boiler part was used for raising steam for sterilising soil. To do this the soil was piled up and a steam pipe connected to the boiler applied steam to the heap.

According to Charles Muddle, provender miller of Ashington, West Sussex who has one of these machines, they were converted by Barrows of Banbury, Oxon. He also has a working Marshall engine which in comparison with the Farnham machine is identical apart from the wheels, which on the Muddle example carry the Marshall name. Charles Muddle's machine was exported to Australia in 1917 and he bought it after it was returned to the UK. He intends to refurbish it in the original livery and exhibit it at shows, perhaps doing some threshing. The Shire publication *Horse-drawn Farm Machinery* also says that portable engines were used for heating glasshouses.

Rowena Oliver comments that close inspection of a photo she took of the Farnham engine reveals a name on the wheels which could indeed be Marshall.

The SIHG *Newsletter* is produced quarterly, is A5 (149mm x 210mm) in format, being produced from A4 sheets, usually three, folded and stapled. It is edited by Glenys Crocker, 6 Burwood Close, Guildford, Surrey GU1 2SB, and is a credit to

all concerned. Finally, as a taster to the delightful short notes the SIHG *Newsletter* contains, we reprint a piece by Alan Crocker on...

**The Water Tower at Ash Railway Station.** During the summer, tree felling prior to site redevelopment revealed the existence of an ivy-covered water tower, dating from the 1850s, near the former locomotive sheds at Ash Station, on the S E Railway's Reading to Tonbridge line. The tower consists of an elegant brick building surmounted by a cast iron tank bearing the maker's name: "Barratt, Exall and Andrewes, Engineers, Reading". Adjacent to the building is the associated well, which may still contain the original pumping equipment. At first this would have been powered by a steam engine in the tower, which now houses an electric motor.

Railway water towers are now very rare and this one probably only survives because it has become hidden by tall trees. Ken Cole who rediscovered it has, more or less single handed, stripped away the ivy and contacted various societies who might be able to assist in recording and conservation work or in resiting the tower adjacent to a preserved steam railway. SIHG agreed to record the tower and this task has been undertaken by Iain McLaren. We are also arranging for the well to be surveyed and if appropriate for the pumps to be salvaged. Meanwhile the Swanage Railway Society have plans to dismantle the tank and re-erect it in Dorset.

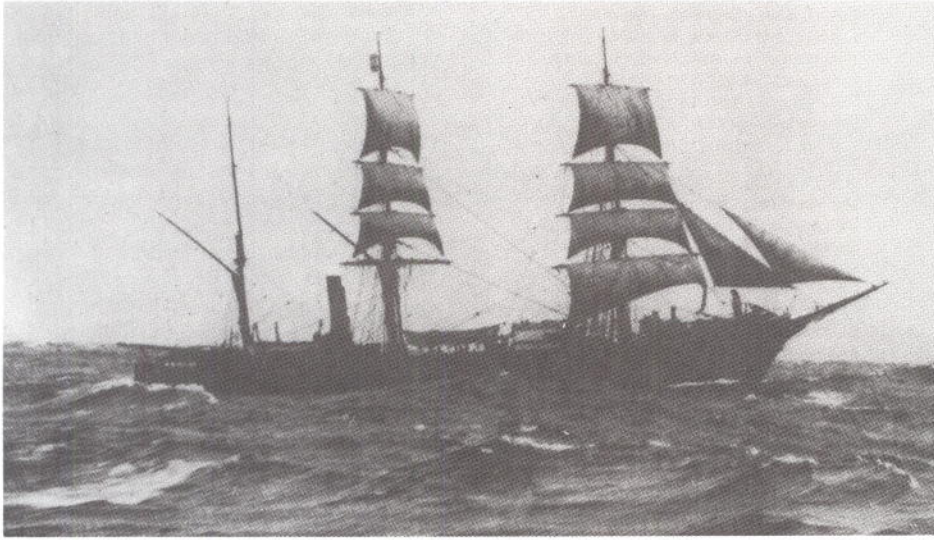
Alan Crocker

**Discovery Refloats.** In December 1986, the famous Antarctic Exploration ship *Discovery* was refloated following her 7 week 'dry-docking' at Victoria Harbour Dundee.

Originally planned to last 6 weeks the docking was extended to allow completion of caulking. This involved an additional 1000 linear feet of hull planking. Ship's Master, Bill MacGregor has been more than satisfied with progress.

"When estimating below waterline work it is virtually impossible to get it absolutely right. You just can't see exactly what needs doing. I am delighted that we have been able to stick so closely to the original programme. *Discovery's* hull has been hosed and scraped clean and it has had four protective coats of primer and paint applied after caulking was finished. We have had to exceed our original budget by £3,000, but it was essential to get this work done now, while she was out of the water".

*Discovery's* restoration is just one of the projects being undertaken by the Dundee Heritage Trust and it's sister organisation, Dundee



*Discovery under reduced canvas.*

*Picture from Maritime Heritage.*

Industrial Heritage. The successful dry docking marks the first phase of the restoration works. It has cost £38,000 and a further £500,000 is required over the next three years to completely restore the historic vessel.

The dry-docking contract was undertaken by Dundee based Caledonian Fabrications who were assisted by skilled shipwrights from McKay's boatyard Arbroath, where wooden vessels are still constructed.

In addition to the contract work the Heritage Trust's own team has completed a thorough plank by plank survey of *Discovery's* outer hull. This has been painstakingly drawn and fully documented. Helping with this crucial task were Ship's Mate, Hugh Scott, and volunteers John Waters and Gill Phillips.

An ex-Admiralty ammunition barge may seem a strange location for a 46ft **Bristol Channel pilot cutter** named *Cariad*. But this is indeed the case, and now that *Cariad* is safely in her new home, a roof has been erected over the ammunition barge so that the Plymouth Community Boatyard Project can restore the vessel for future display at Exeter Maritime Museum. The boat was built at Pill near Bristol in 1904 and worked as a pilot cutter until about 1920. She was later used as a cruising boat for many years, and was eventually brought to Exeter from Gravesend. *Cariad* was built of pitch pine on oak and was a gaff cutter rigged with a bowsprit of about 15ft. The intention is to restore her to full sailing condition so that she can eventually take young people adventure sailing. A 30 hp diesel engine is to be fitted as an auxilliary motor. It is possible that the scheme will be expanded to include the restoration of a trading ketch which was built at Clovelly Bay, Turnchapel in 1907 - but which is at present in Denmark.

#### **South Devon Atmospheric Railway.**

This example of Isambard Kingdom Brunel's ingenuity, set up in the mid 1840's, was one of four railways operated throughout the world on this principle - the others being in London, Paris and Ireland.

It was not, therefore, surprising that when demolition of the only surviving building - the pumping house at Star Cross - was threatened, there was an outcry. Luckily, the building was purchased by a Mr & Mrs Forrester, and much restoration work has now been done - including the installation of a miniature version of the railway, and an audio visual display to give the history of the railway.

A major complaint by Mr. Forrester has been that while he has spent £90,000 on the project, he has only received two grants of £750 each. Apparently he was assured that grants would be available from the Historic Buildings Council and the English Tourist Board, but problems arose when it was discovered that a clause in the purchase deed required Mr Forrester to repair the roof within two months of completion of the purchase. Unfortunately, if repairs were carried out to what was a Listed building, the Historic Buildings Council grant was unobtainable. Thus, when repairs were carried out a legal obligation was observed and Mr Forrester was financially penalised. This hardly seems the intended result of the legislation. Do other members have any similar experiences, perhaps with happier endings?

A legal problem hangs over the **Graywell Tunnel** which took the Basingstoke canal westward from the Thames. At  $\frac{3}{4}$  mile in length, it was the third longest canal tunnel in southern England but part of it collapsed 55 years ago. The

Listing of the tunnel as a site of special scientific interest has however, nothing to do with industrial archaeology - but rather because of its designation by the Nature Conservancy Council as Britain's best hibernation site for bats. The tunnel was built nearly 200 years ago, and 500 bats were found clinging to the tunnel walls in February 1986. The Surrey & Hants Canal Society accepted a grille being placed across the entrance to the tunnel on the understanding that it would not be a permanent barrier. It is thought that there would be several million bats still remaining in Britain, although the numbers of all 15 native species are dwindling as hibernation sites are lost. Can the Basingstoke canal enthusiasts successfully work out a way of allowing boats through the Graywell Tunnel without disturbing the bats? The naturalists think it "a very dangerous gamble". The Canal Society, however, is convinced that the navigation rights given by Parliament in the reign of George III have survived. The question is, does bat protection legislation override the navigation rights?

**Kings Haven**, the Royal Ordnance Depot at Weedon in Northamptonshire chosen as a refuge for King George II and his family during the Napoleonic Wars, was bought in recent years by Kentish Homes who proposed a mixture of commercial, residential, retail and industrial uses for the site. Redevelopment plans were drawn up in conjunction with Architects, Campbell, Zogolovitch, Wilkinson & Gough, which included the conversion of the blast-houses into studio homes, building a colonnade of new houses fronting the Grand Union Canal (which passes through the site) and adapting other Listed Buildings for use as a business park. This might well have proved to be an acceptable solution for the site, subject to consideration of the detailed plans. However, Kentish Homes has now decided that "its other commitments do not allow it sufficient time to devote to Kings Haven" - and so the site is again for sale at £1.25m.

The **Settle to Carlisle Railway Line** is in a different category. Attempts by British Rail to close the route - because (among other reasons) Ribbleshead Viaduct was said to require expenditure of £2m., drew forth a storm of protest. The Secretary of State for Transport has to decide on the future of the route next year, but in the meanwhile, five local authorities, headed by Cumbria County Council, are to pay British Rail £72,500 to provide two stopping trains a day between



Skipton and Carlisle for a year. The local authorities are to be congratulated on translating wishes into action - and if the line is saved by a "need" being demonstrated, then the £72,500 will be seen to have been the cheapest investment imaginable.

The Ironbridge based research and professional training centre until recently known as the Institute of Industrial Archaeology has changed its name to **The Ironbridge Institute**. Based at Coalbrookdale, alongside the famous old furnace, the Institute jointly administered by the **Ironbridge Gorge Museum Trust** and the **University of Birmingham** is presently preparing its 1987 Short Course Programme and an advance copy lists some twenty-one events ranging from a one day course about the effects of *Health and Safety Legislation* in museums and similar organisations to a three day stint on *Interpreting Historic Sites*.

In addition the Ironbridge Institute provides a twelve month full-time course leading to the University of Birmingham's *Diploma in Industrial Archaeology* which with additions leads to a Master's degree in Social Science, and this coming autumn will launch Master's and Diploma courses in *Heritage Management*.

One gets the impression from the literature that the **Institute**, after an exciting exploratory period is now well and truly established to provide practical training and academic qualifications for people in what is becoming a growth area of the economy.

**Painters Pit Ventilation Furnace** is situated in the Golden Valley, Bitton, near Bristol. Although the main work of restoration at the furnace was carried out during 1984-5, by members of the Bristol Industrial Archaeology Society, repairs were still needed on the higher levels of the chimney. This work was finally completed by the Autumn of last year and the small group of BIAS enthusiasts responsible received formal recognition of the value of their project when Kingswood District Council staged an 'official' firing ceremony by the District Council Chairman Ian Smith, at the end of September.

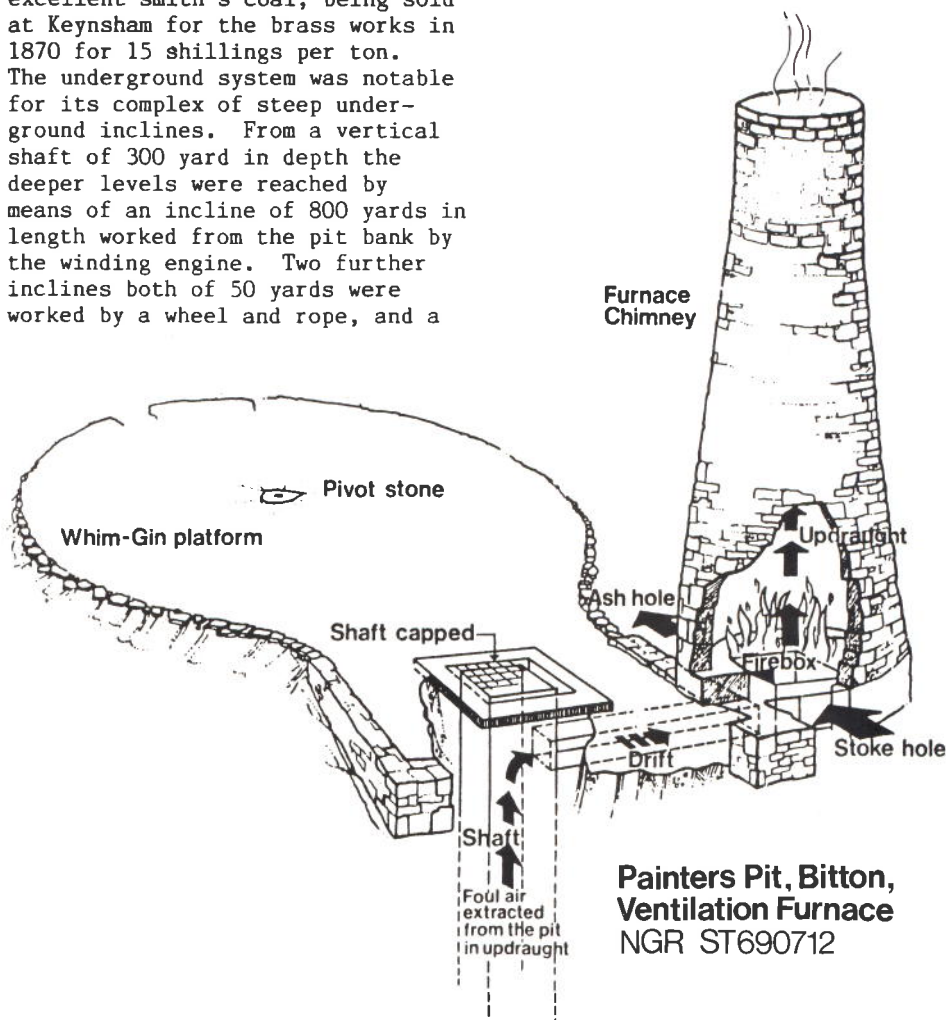
The furnace and its chimney is situated at a coalpit opened about 1730 and abandoned some forty years later. The shaft was later to become known as Painters Pit. By the end of the century the Brain family had started Old Pit nearby and by 1830 had dug New Pit on the opposite flanks of the Golden

Valley. During the mid-nineteenth century they had repaired and adapted the old shaft of Painters Pit to aerate the whole underground system by erecting the ventilating furnace beside the original shaft. Thus Old Pit and New Pit formed the downcast shafts with Painters Pit becoming the upcast shaft and emergency exit.

The Golden Valley pits worked four seams, mill-grit, rag, buff and parrot, the latter said to be excellent smith's coal, being sold at Keynsham for the brass works in 1870 for 15 shillings per ton. The underground system was notable for its complex of steep underground inclines. From a vertical shaft of 300 yard in depth the deeper levels were reached by means of an incline of 800 yards in length worked from the pit bank by the winding engine. Two further inclines both of 50 yards were worked by a wheel and rope, and a

the collieries in the Golden Valley in the late 1820s but never got further than a line on a map.

At the site of the ventilation furnace, the 17ft diameter circular horse-walk of the whim gin is now revealed, complete with central pivot stone. The chimney has a drift shaft linked to the main shaft nearby, which has now been safely capped. The firebox at the base of the chimney created the



**Painters Pit, Bitton,  
Ventilation Furnace  
NGR ST690712**

final incline of 60 yards up which manual labour was used to drag puts of coal from the deepest parts of the works at a total depth of 640 yards, the total length of shafts being 960 yards. The group of pits were always operated on a shoestring, using second-hand equipment and with little maintenance. This state of affairs resulted in many accidents and at least fifty deaths are known to have occurred between 1830 and 1890. Like most local collieries, firedamp was not a problem so open lights were always used, tallow candles being issued to the miners with their weekly pay. Coal was moved by road for short distances or hauled to a wharf on the Avon at Swinford to be loaded into barges. An extension of the Avon and Gloucestershire horse-drawn tramway was projected from Avon Wharf to

updraught which kept a current of air flowing through the whole system and is believed to be the last example of its type existing at coalworkings throughout the country. The site was listed Grade II in November 1984. Intending visitors should note that it is situated in a private field through which the owner has kindly allowed access but great care should be taken with crops in the approaches.

Joan Day

**The Heavitree Brewery site** at Exeter has been used for brewing since 1790, latterly involving an amalgamation with the nearby Crowson's Brewery, but brewing and bottling ceased in 1970 when the Company decided to carry on trading in wines and spirits and retain their public houses but buy in beer

from other brewers. The site has now been acquired by the house building division of the Exeter based EBC Group which intends to build 56 one and two-bedroomed sheltered retirement apartments on the site. As a sop to conservationists, the demolished site and new development are apparently to be known as "The Maltings". The Association has already contacted the Exeter IA Group to ensure that an adequate record of the site and buildings is made before demolition.

**Manchester at War.** A pictorial account 1939-45 by Clive Hardy, Ian Cooper and Henry Hochland.

Archive Publications 1986 £5.95 pp 112.

This is mainly a photographic record of life in Manchester and Salford during the second World War. There is a general introduction to the political background of the outbreak of war, a short section on evacuation and a more informative chapter on civil defence including the well known ARP which seen in retrospect was quite an elaborate organisation and involved many ordinary people in considerable social and welfare responsibilities for the first time. The AFS crews are also described, and the Balloon Barrage (although we are not told where the balloons were made eg Manchester Ice Rink and City Hall) nor how effective it was. There is a detailed reminder of the food rationing programme and then a good account of the main air raids on the twin cities in December 1940. Here some of the photographs will be more familiar to readers from previous souvenir editions. The bombing seems to have been more concentrated than in Coventry - probably aimed mainly at the Docks, Trafford Park and the Railway Stations. The Docks at War and the Aircraft Industry in Trafford Park are well covered in a later section though it should be emphasised that there are no personal accounts of war workers or dockers which might have been illuminating, since by and large the text is not too closely linked to the illustrations in the book. There is in some ways rather more insight into the 'feel' of the times to be gained from a study of the various whole front pages of the daily and evening papers reproduced here.

A D George



Janet Spavold's  
Societyspot

**AIA Affiliated Societies Report.**  
In spite of the difficult timing

of the representatives' meeting at the Conference at Loughborough, 10 societies were represented and others had passed comment to me during the weekend. We will try in future to avoid such difficulties. A request was made for Hoffman kilns on their sites and this produced a useful list as a starting point; I will keep it open a little longer so if you do know of any Hoffmans, or their sites if demolished, please let me know. After discussion, the societies represented agreed to display and distribute AIA publicity and we hope others will do so too. The AIA really does need to institute a drive for membership and publicity through affiliated societies would enable us to reach a wider market. We are grateful for the assistance offered.

Comments were offered on the special issue bulletin to the effect that a general introduction on the AIA and its purpose would be helpful; that costs of postage could be a burden and the Association was asked to consider the weight limits of such issues; that some sets had to be repackaged and some had incorrect addresses. We have taken note, but I would point out that if you don't inform our Membership Secretary (Stuart Smith at Ironbridge) when your officers change we will supply incorrectly. But there were some appreciative comments too.

I am following up the list of societies who have returned their slips for voting rights in the hope that the confusion of the last AGM will not recur. My apologies are due for this; I should have anticipated it.

We are receiving a steady trickle of responses to the request for assistance if needed for the Endangered Sites Officer. My thanks to those who have responded; if you intend to but haven't yet, please do so.

Nottinghamshire IAS sent me some recent material including a detailed industrial trail and the results of a survey of Nottingham's IA, with a list of 888 sites. Such long term detailed work deserves congratulations; contact the Secretary, Ron Hodges, 44 Wadham Road, Woodthorpe, Notts NG5 4JB if you are interested in a copy.

Sussex IAS has a useful short piece in *Newsletter* 52 on the activities of different members of the Jessop family (contact R G Martin 42 Palmes Avenue, Saltdean, Brighton), while the Yorkshire AS (Industrial History Section) *Newsletter* 24 carries a report of an important conference to discuss the future of Saltaire.

We hope to welcome a new group to AIA this year, the Dorset IA Society. Although the March

affiliated societies weekend is not intended as a mini - September conference and is designed to be of particular assistance to Society officers, it has been pointed out that other AIA members may find some topics of particular interest. If this is the case we would not wish to bar non-officers from attendance so here are some details of the next. It will be held at Ironbridge on March 20/21/22, 1987 with a semi-social gathering in the New Inn on the evening of the 20th. Saturday's main speakers will be a professional tour and visits organiser, our new Endangered Sites Officer (d.v), and Dr Edwin Course on the value and purpose of adult education groups and local societies to IA. On Sunday there will be a series of short sessions on the structure of IA; the keeping of indexes; recording; grants and other subjects proposed by delegates. Write to Stuart Smith at Ironbridge for details.

*Journal of the Norfolk Industrial Archaeology Society* - Volume 4 No 1, 1986. The recent *Journal of the Norfolk Society* concentrates on herring curing in Great Yarmouth, a history of the Norvic Shoe Company, Norfolk Milestones and a description of the Waterhouse at Houghton. This latter structure is a series of three shafts from which water has been pumped by both animal and diesel power to supply the Houghton Estate. The system certainly dates back to 1797 and deserves further study. Further details of the Society and the publication can be obtained from the Editor, I M Manning 223 St Faith's Road, Old Catton, Norwich, NR6 7AP.

## AIA Bulletin

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