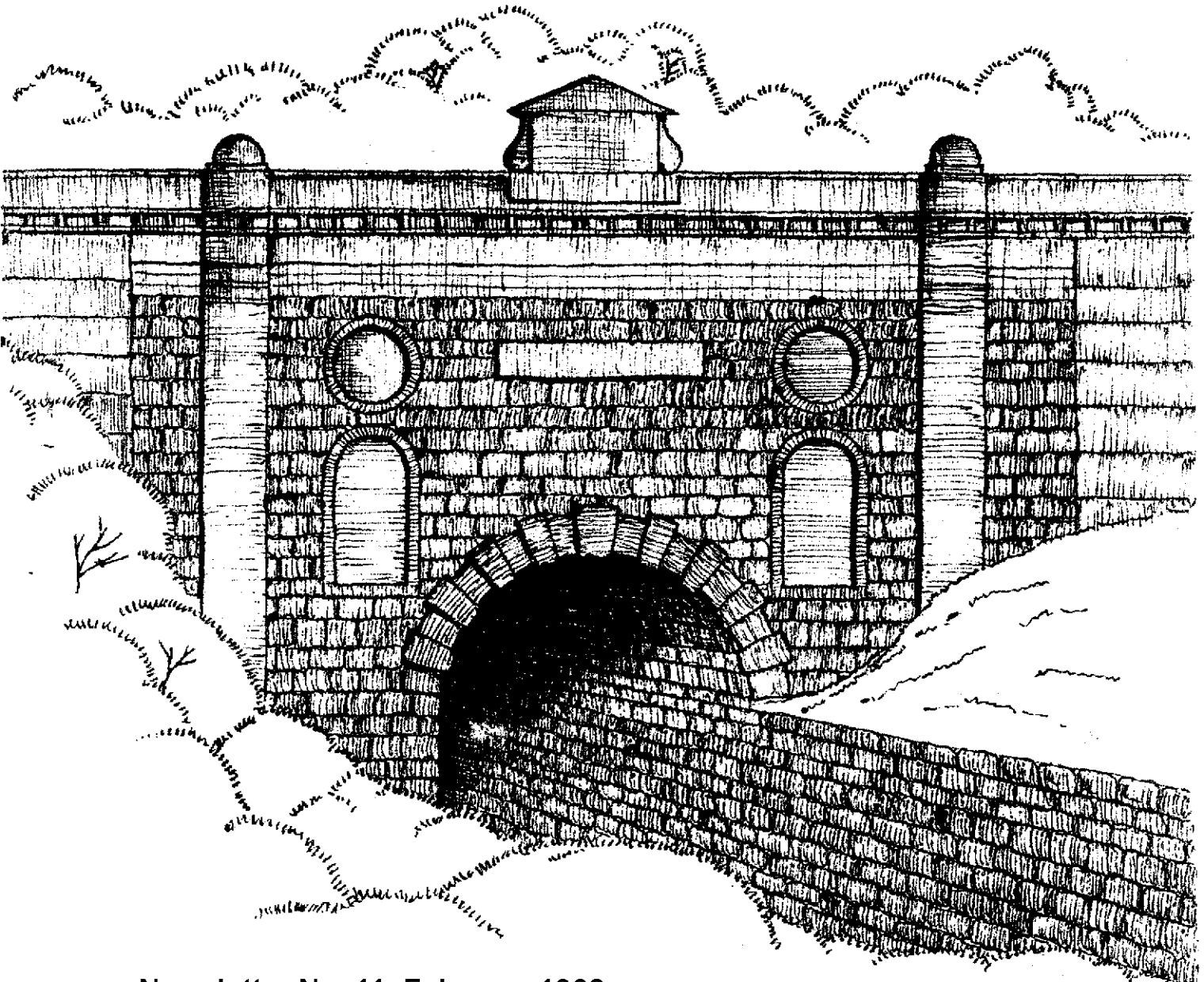
THE NEWSLETTER OF

THE GLOUCESTERSHIRE SOCIETY FOR INDUSTRIAL ARCHAEOLOGY



Newsletter No. 11 February 1968

GLOUCESTERSHIRE SOCIETY FOR INDUSTRIAL ARCHAEOLOGY

NEWSLETTER NUMBER 11 FEBRUARY 1968

CONTENTS

E D I T O R I A L

The first few articles in this number are devoted to industrial museums as this subject has lately become increasingly important for our Society. You will be glad to note that a Committee of Museum Curators has been formed to study four items, one of which is the requirement of industrial archaeology. We are the only society to be represented on the Committee.

At present, of course, the economic climate is rather dismal as far as museums are concerned. If, however, the spade-work is carried out now, we can but hope that conditions will have improved by the time the Committee's report is being considered. Until that happens the main drawback is that, due to lack of storage facilities, industrial items are being snapped up by museums outside the county or, worse still, scrapped.

No doubt all our members will have rejoiced in the news that the Government is making a grant towards the upkeep of our canals. We shall have to hope that it is not now withdrawn ! The Brecon & Abergavenny Canal and the Kennet & Avon will be putting forward their strong claims to a share of the money, but it is unfortunate that it is now too late to restore the derelict canals in this county.

The need for water recreational facilities in Gloucester-shire will be met by the rivers, the gravel pits and the Gloucester & Berkeley Canal. The commercial use of the latter is gradually diminishing as more and more oil is being pumped round the country through underground pipelines. If the Avonmouth Docks are enlarged and when the M5 Motorway is further extended, no doubt even the timber trade will be strongly tempted to leave the canal.

With little commercial revenue except for the supply of water to Bristol, the Gloucester & Berkeley may then have to rely on part of the Government grant to keep it operational. The canal, with little commercial traffic, will then give excellent recreational facilities. Finally, may I make a plea for the gradual transition of Sharpness from a port into a recreational centre, with Gloucester as an inland boat basin. Already I notice that the former sea training centre at Sharpness has been changed into a Y.M.C.A. recreation club for the Midlands.

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The editorial does not necessarily express the views of the Committee.

A COUNTY INDUSTRIAL MUSEUM

REPORT BY THE GLOUCESTERSHIRE SOCIETY FOR INDUSTRIAL ARCHAEOLOGY

1.1. Terms of Reference

At a Committee meeting of the Society on 11th April, 1967, it was agreed to set up a Museum Sub-Committee, with the task of submitting a report on a County Industrial Museum to the Chief Education Officer of the Gloucestershire County Council. The preparation of this report brought to light aspects of museum organisation in the county, some of which are included.

2.1. Summary of Conclusions

These are given here for ease of reference, and to act as an index of paragraphs in the report, where the reasons for these conclusions are explained.

The Gloucestershire County Council should be asked to consider setting up a Museums Committee, with the following responsibilities : 3.1.

- To consider the effect of a County Museum Service on existing museums. 3.1.1.
- To consider the functions of a County Museum Service. 3.1.2.
- To consider the need for expansion of staff and buildings. 3.1.3.

The case for an Industrial Museum, being the Society's prime concern, is examined in detail with the following conclusions :

There is need for a single Industrial Museum. 4.1.

The existing Museums in the County have no adequate Industrial Sections. 4.2.

The Stroud locality as a logical site for the Industrial Museum. 4.3.

3.1. Gloucestershire County Council and Museums

The Society realises that at the present time the County Council has no Museums Committee, and that without such a Committee there is unlikely to be any development in the

present state of Museums generally in the County area. By comparison the Libraries Committee and the County Librarian and her staff are steadily improving the County library service, to the satisfaction of the public.

The Gloucestershire County Council should be asked to consider setting up a Museums Committee, with the following responsibilities :

3.1.1 To consider the effect of a County Museum Service on existing Museums

The museums in this County, listed in paragraph 4.2. are owned by various local authorities, trustees, companies and private individuals; and great tact will doubtless be required to sell the idea of a Service. It will be possible only if the County Museums Service is such that all may benefit, without any loss of their existing independence. In view of this it is suggested that the main function of such a service would be administrative; providing liaison between existing museums to lessen the dangers of duplication or omission; and maintaining central indexes of contents and other relevant data.

3.1.2 To consider the functions of a County Museum Service

In amplification of the above, the Society offers its own views on the function of such a Service, particularly in respect of its value to Industrial Archaeology.

The function of a County Museum Service would be to aid and assist museums in Gloucestershire in the three basic functions of museum work :

A. To conserve material. In the fields of archaeology and industrial archaeology there is a grave danger that developments such as new roads, housing estates, and factory rebuilding can entirely destroy important sites before they have been adequately studied. A County Museum Service could perform a valuable function in maintaining an index of such sites and buildings; and bringing any threatened sites or buildings to the notice of the appropriate museums or societies, enabling them to take action to record and preserve where necessary.

B. To Educate. School children at primary education level occasionally undertake simple group projects in the higher forms, and their efforts could be stimulated by seeing relevant displays in local museums. At secondary education level, more detailed group projects are undertaken so that it is well worth while devoting a morning or an afternoon to transporting a coach load of children to relevant museums elsewhere.

At further education level, even more serious study for leisure or a career is necessary, and it is felt that there is a particular need here for specialised museums, or sections of museums.

Adults individually or in groups like this Society, are probably showing a greater interest in history and social life than ever before, and assisted by the very rapid increase in car ownership are prepared to visit museums at considerable distances, and even further afield in the case of specialist museums.

Finally, good museums have publicity value for this county, and should attract many visitors who travel through this area, lying as it does, near the centre of communications in the West.

C. To facilitate research. A responsible museum authority encourages its staff to engage in research. Less known but more important is the amount of time spent helping others to carry out research, and in gathering information that may subsequently be used by others. The institution of a museum service as envisaged, will facilitate research by students, and will minimise the existing study problems presented by the lack of fully-trained staff in smaller museums.

3.1.3 To consider the need for expansion of staff and buildings

There is an urgent need for staff to compile an accurate index of both archaeological and industrial archaeological sites, together with buildings of architectural significance, with detailed standard record cards, drawings and photographs of each site and building. An example of such an officer is the appointment of an Industrial Archaeologist on the staff of the Staffordshire County Council.

The case for an Industrial Museum, being the Society's prime concern, is examined in detail with the following conclusions :

4.1 The need for a single Industrial Museum.

It is not considered necessary to prove the value of preserving examples of artefacts from the past, this is generally accepted. The important aspect at the moment is to ensure that in addition to man's achievements in the arts and his self-expression in dress and the furnishing of his home, his working life is adequately represented. Our environment is in fact more shaped by industrial development over the past three centuries than by any other process, while over much of this period, this country was foremost in technological invention and development.

The transformation from domestic crafts to factory life was in part due to the growth in size of machinery, so a museum representative of industry must be on a scale capable of dealing with large exhibits. This scale of size makes formal preservation essential, for obsolete machinery of historical value cannot be given storage space indefinitely by private Companies and individuals. The ever increasing rate of change in recent years sees irreplaceable material being destroyed, because no facilities exist for preservation. Actually at the present time the Society has been offered as a gift a storage building in the Stroud Valleys, and may well decide to accept the offer, and to investigate the possibilities of a grant towards necessary repairs. Nevertheless, the Society considers that there is a most urgent need for an Industrial Museum. It is expected that the machinery collected would in time be adequately displayed, though the first priority is for immediate safe storage. However, an industrial museum cannot hope to house all that is necessary, as many items are impossible to move and will have to be represented by means of photographs, drawings, maps and models.

A case has been made in para 3.1.3 for staff to record sites and buildings and in this paragraph for an Industrial Museum. Now it is considered that ideally this staff should be working in the Industrial Museum because then objects too large to be moved into the Museum can be traced by means of the list of sites and the appropriate record cards, to their actual location in the County. To concentrate these facilities in one building would not only be ideal for all users of the Museum, but would obviously produce the most economic use of staff and buildings. Those in the County who live well away from such a Museum would feel a journey worth

while if the museum itself and the service offered were of the highest standard. Whilst space and weight and staffing preclude the likelihood of more than one industrial museum being formed, it is realised that Gloucestershire is a large county to be adequately served. This problem can however be largely overcome by the parent museum setting up permanent or semi-permanent displays in approved centres.

To illustrate the scope of an industrial museum, a list is given here of subjects and relics relevant to this County.

Agriculture	Mechanisation of farming, milking machinery, combine harvesters. Locations : Generally.
Extractive Industry :	Machinery for the quarrying and mining of : stone, sand and gravel, coal iron and other metals. Machinery for forestry. Locations : Forest of Dean. Bristol coalfield. Stone : Cotswolds and the Forest.
Heavy Industry :	Machinery for manufacture of iron and steel. Location : Forest of Dean.
Light Industry for a vast field that includes :	Machinery for manufacture of railway rolling stock (Gloucester), cars (Stroud) aircraft (Gloucester) tools (Gloucester, Stroud), textiles (Stroud Valleys) glass (Bristol coalfield), brewing (Cheltenham, Stroud, Stow-on-the Wold etc), flour milling (Stroud Valleys, etc.).
Service industry for another vast field that includes :	Building, including specialised housing and Workshops for the industries (textiles, Stroud Valleys) communications (postal, telegraph and radio). Water, gas and electricity services. Transport by road (obsolete toll houses, petrol pumps) by rail (rolling stock, signals). Water (waterways equipment) by air.

Care must be taken to differentiate between domestic crafts using simple tools and lighter machines in the home or small workshops, already represented in some Museums; and industrial

techniques using heavier machinery in the factory, not satisfactorily represented in any Museum in this County.

4.2 The existing Museums in the County have no adequate Industrial sections.

The museums listed here in order of importance are only those considered to have any material of relevance to Industrial Archaeology.

4.2.1 Bristol City Museum. Corporation property and open at normal times. Outside the County but included in first place because it has already got a Department of Technology and will have a considerable display area when the new museum is built. It is unlikely that any County Industrial Museum would attract away from Bristol those living, say, South of a line drawn across the county to include Chipping Sodbury.

4.2.2 Gloucester Folk Museum. Corporation property and open at normal times. A good collection with industrial material in the county, such as a nineteenth century wheelwright's workshop, pin-making machine, bells founded in Gloucester, models of cargo ships and canal boat weighbridge. Capable of small scale site development at rear.

4.2.3 Gloucester City Museum. Corporation property and open at normal times. Practically no permanent industrial material but included here because its Curator administers the Folk Museum and the exhibition spaces are occasionally used for temporary exhibitions, of which one of the most successful was an exhibition showing the development of the bicycle. Probably incapable of site development.

4.2.4 Stroud Museum. Trustee and County Council property and open at normal times. Considerable collection of small objects covering local industries. Owns early cloth fulling stocks from a mill at Cam and a shearing machine, both stored by local mills in hopes of expansion. If the College of Art could be rehoused at the Technical College the site is capable of development by altering and extending the lower floor level for large objects and using the existing upper floors.

4.2.5 Tewkesbury Museum. Corporation property and open at normal times. Contains horse-drawn tramroad, rails and wheels, model Great Western Railway broad gauge trains. Probably incapable of development.

4.2.6 Snowshill Manor. National Trust property and open only at limited times. Contains a collection of bicycles and model farm carts. Probably incapable of development.

4.2.7 Skyfame Limited Aircraft Museum, Staverton. Company property and open only at limited times. Unique collection of early aircraft, particularly World War 2. Probably capable of development.

4.2.8 Dowty Railway Preservation Society Museum, Ashchurch. Company property and open only at limited times. Twentieth century locomotives and rolling stock. Probably capable of development.

4.2.9 Arlington Mill, Bibury. Private property and open only at limited times. Milling machinery set up in old corn mill. Probably incapable of development.

4.2.10 Round House, Chalford. Private property and not open to public except by appointment. A good collection of small objects made or used in the village. Incapable of development.

None of these museums has adequate displays to show the full scope of industrial history in the County.

.3 The Stroud locality as a logical site for the Industrial Museum.

The Stroud Valleys are considered nationally to be an area of outstanding industrial interest because of the early large-scale development of the textile mill from smaller domestic units, concentrated in these Valleys. There were at one time about two hundred mills for corn and cloth. Of these a few are still in use for their original purpose, many more are in use for later industries that have moved into the area, and some are derelict or in ruins. Other industries, particularly engineering and woodworking, developed as a result of the textile industry, while canal, road and rail transport are all well represented in the area.

Geographically this area lies in the very centre of the County, and is easily accessible from Cirencester, Tetbury, Nailsworth, Stonehouse, Gloucester and Cheltenham.

The Society originated in the Stroud Valleys for the excellent reason that this area has had an unusually interesting industrial history, and this has attracted a number of people interested in these matters, some of them specialists in their own field. There is in store in various places, a growing number of large and small industrial relics. In short there is the knowledge, enthusiasm and material to get a new museum under way.

Although there are other areas of industrial importance in the County, such as the Bristol coalfield and the Forest of Dean they do not have the advantages given by the Stroud Valleys as an environment for the Industrial Museum.

Possible sites are :

4.3.1 The Industrial Museum could be incorporated in the existing Stroud Museum if extended. The adjacent land is County Council property. An extension of the activities and administration of Stroud Museum to be housed in that part of the building now used as an Art School would have the added advantage of a central site, and a resident caretaker.

4.3.2 A new building on a site already owned by the County in the Stroud Valleys. The County owns sections of the former Thames & Severn Canal, and the advantage of this proposal is that as new constructions can be made to suit the exact requirements of a specialised museum it is likely to be more economic than conversion work. Furthermore, it is possible that water can be incorporated in the scheme for operating a water wheel and providing the correct setting for a waterways display.

4.3.3 A converted mill building in the Stroud Valleys. It again is possible that if a suitable mill could be acquired water would also be available. Certainly the atmosphere of a genuine mill building would provide an excellent background for an Industrial Museum being in itself an important relic of a great era in local industry.

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Museum Sub-Committee
Gloucestershire Society for
Industrial Archaeology
July, 1967
Hon. Secretary
Dr. T.E. Edwards
c/o ICI Fibres Limited
Gloucester

Interest in Industrial Archaeology began in this county in September 1963 with a conference in Stroud. Shortly after, the Society was formed with the following aims : To stimulate interest in, record, and where appropriate, preserve items of industrial archaeology, particularly in the County of Gloucester. The Society has been active in promoting lectures throughout every winter, in collaboration with the Extra-Mural Department of Bristol University arranging educational excursions and fieldwork to record visible remains, and publishing a sizeable quarterly Newsletter, and collecting relics which should ultimately find a home in a museum.

THE OXFORD CITY & COUNTY MUSEUM AT WOODSTOCK

Our society has for some time been advocating the formation of a County Museum and it was therefore interesting to see the Oxford Museum, opened a year ago in a pleasant Georgian house opposite Woodstock Church, with the village stocks by the entrance. Also it will be remembered that a year ago a society visit was made to the Staffordshire County Museum at Shugborough Hall.

Oxfordshire is predominantly an agricultural county and it is therefore not surprising that the exhibits principally show country crafts. There is however one room devoted to industry, mostly the manufacture of cars, but there are also exhibits on blanket and glove making.

The three rooms mainly devoted to crafts include carpentry and stone quarrying tools; a blacksmith's forge rebuilt in the museum; agricultural implements; tools for wheel making; an example of thatching together with all the tools and a Cotswold roof of Stonesfield slates. Other rooms show domestic articles, geology and trowelling exhibitions.

The standard of presentation is good and fortunately without the annoying gimmicks which are often so distracting. This is therefore a modest collection which I understand will be supplemented by larger exhibits to be shown on or around the lawn in the rear. Behind the lawn is the schools loan collection housed in a new timber building only recently opened.

During the first year the museum has had 38,000 visitors, many being school children who have come in coaches from all over the county. With regard to the loan collection, a van takes requested exhibits round to the various schools which are allowed to keep them a fortnight.

G.N. Crawford.

ROAD AND RAIL TRANSPORT GALLERY

SCIENCE MUSEUM, LONDON

In Newsletter no. 2 I mentioned that the Water Transport Gallery of the South Kensington Science Museum, then recently opened, consisted of diorama after diorama and one lost all sense of scale. In the new Road & Transport section this is remedied and the contrast between the 'Caerphilly Castle' and a diesel prototype and the models is dramatic in the extreme. Unfortunately, however, instead of continuing the excellent type of dioramas illustrating shipping, the rail models are just shown starkly in glass cases, with no imagination at all.

Lack of imagination, in fact, is typical of the whole gallery and there is no attempt at all at integration which is now often seen in the better layouts. Why, for instance, could not a timber station platform have been erected alongside the locos, and the waitingroom, signal cabin and signal gantries combined with it. This would obviate the need for the narrow

overcrowded staircase to the loco footplates and would make the whole layout more interesting.

Other items shown include cycles, motor-cycles, sledges, fire-engines, cabs and carriages, cars, old locos, an Underground coach and a tramcar. In a gallery, models and drawings of bridges are exhibited.

To be kind to the display staff one feels that so much money was spent on building the new wing that very little was left for exhibition purposes.

Editor.

THE WELSH FOLK MUSEUM
ST. FAGANS, CARDIFF

Naturally the emphasis in this interesting 'open-air' museum is on the crafts but, besides several milestones, a toll-house and a tannery at present being erected, there is one building of particular interest to us. This is the Esgair Moel Woollen Factory built about 1760 in Brecknockshire and removed stone by stone to St. Fagans.

The factory was a comprehensive mill where all the processes of cloth manufacture were concentrated, and today, in a small area 92 ft. by 18 ft. 6 ins., on two floors, one can see all these processes actually in operation.

The visitor can examine the dye vats heated by wood fires; the willy built by J. Haley & Sons of Dewsbury in the 1840's for disentangling the wool, and the carding set of the mid-19th century consisting of a scribbler-carder and condenser-carder joined by an Apperly intermediate feed. This mechanism, patented by Messrs. Apperly & Clissold of Dudbridge, is thought to be the only one of its type now working. The carders consist of fine wire teeth set on leather fillets fixed on drums and the scribbling machine delivers long fragile slivers of wool. The condenser reduces the thickness of the strands.

This wool is too weak and thick for weaving and is therefore transferred to the spinning machine for twisting and compressing the wool onto bobbins. The machine here is a hand mule built about 1830 by a Montgomeryshire millwright, John Davies. If the wool is required for blankets it is next passed through a twister

T O L L H O U S E S

From time to time plans of toll houses have been published in the Newsletter. These of the one at Mythe Bridge, Tewkesbury, came to light when the house was recently up for sale. (Facing this page)

G.N.C.

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continued from previous page ...

to produce three-ply wool.

After the wool has been through the warping frame to obtain the correct length of warp, it is transferred on to one of the two looms at Esgair Moel, one being 88" wide and the other 54". Both have four treadles and patterns of considerable complexity can be woven. If the cloth is required for suitings it is taken downstairs to the fulling mill with its pair of wooden mallets, dating from approximately 1830, to thicken the cloth. Other cloths are scoured to get rid of oil and dirt by being fixed on rollers in a long trough.

The cloth for suitings has its nap raised by teazles and is then sheared in a cropping machine. This latter is of interest to us as it bears the inscription 'Lewis, Patent No. 1757'. Both scoured and fullered fabrics are hung on a tenter frame, situated behind the mill, for drying. Finally the cloth is put in a heated press.

All the machinery is driven by a water-wheel 100 inches in diameter, situated in the centre of the building and fed from a trough.

G.N. Crawford

CONTRIBUTIONS and LETTERS for the next issue will be welcome and should be sent to :

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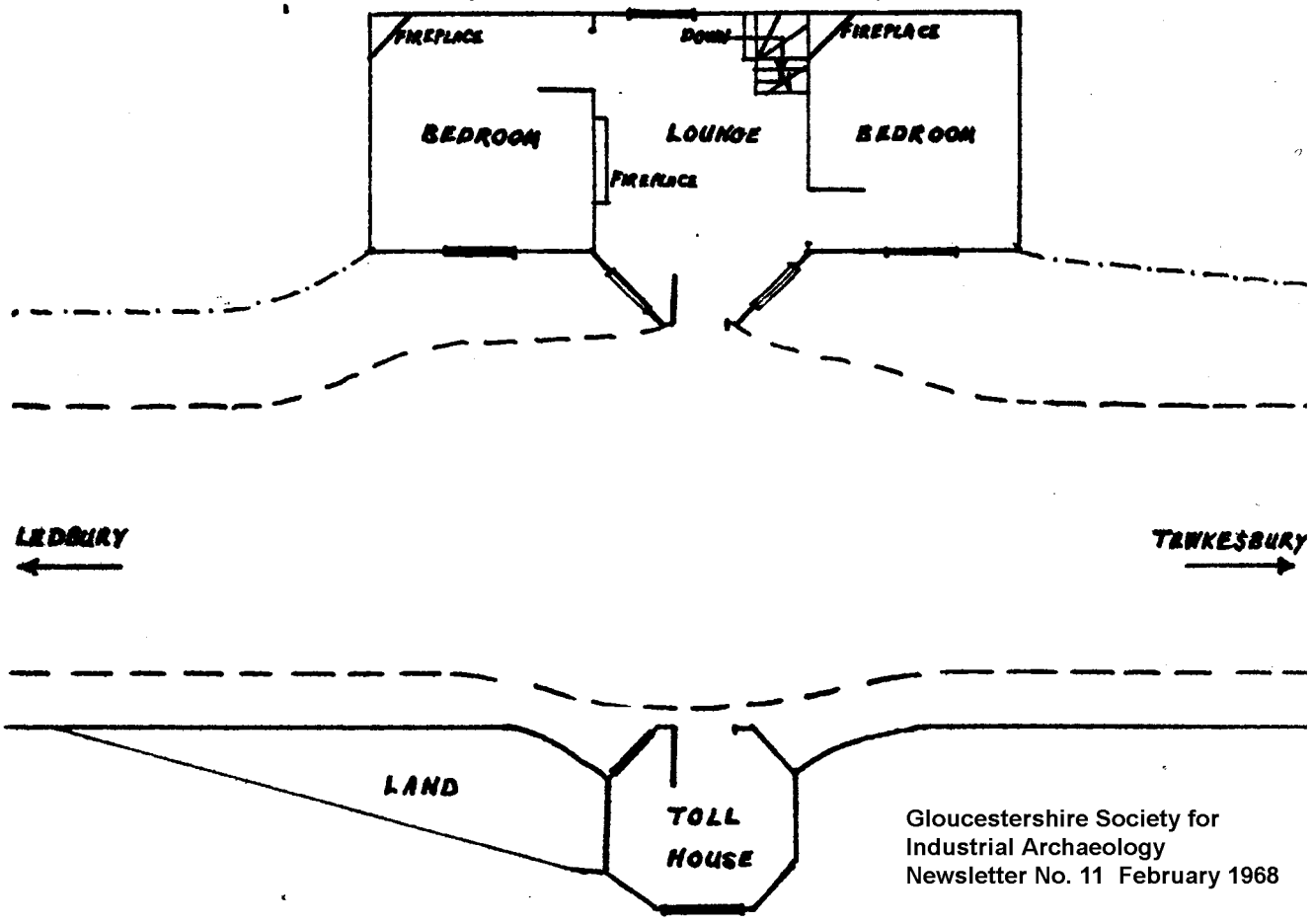
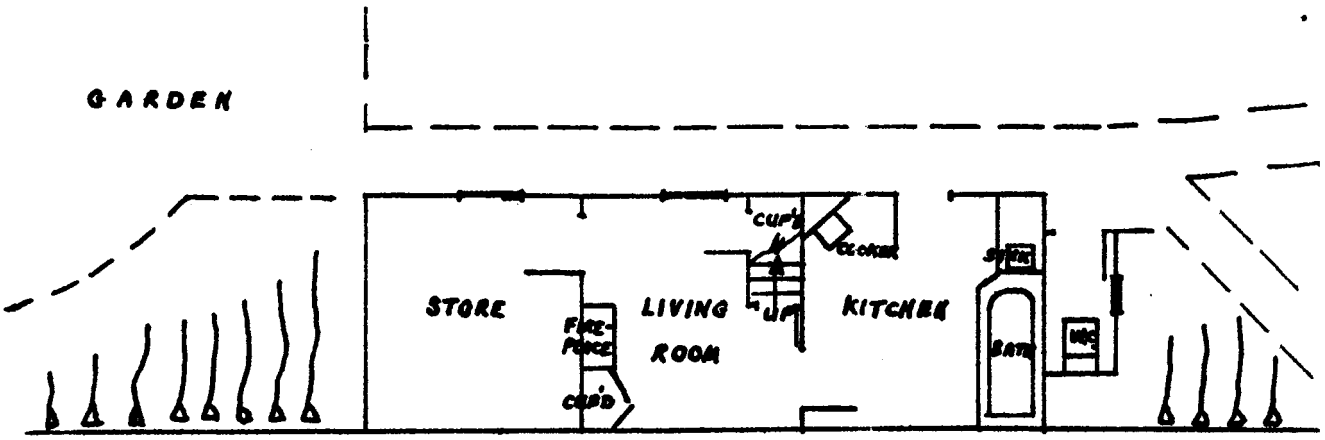
Shire Hall, GLOUCESTER.

TOLL HOUSE, MYTHE BRIDGE, TEWKESBURY



FIRST FLOOR AT ROAD LEVEL

SCALE – EIGHT FEET TO ONE INCH



GROUND FLOOR BELOW ROAD LEVEL

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TO CUTTING A SCREW THREAD

Many years ago, when about nine or ten years of age, I remember watching my Grandfather, who to me seemed very ancient and very clever, turn a screw thread for use on a bench vice, in the following manner.

Using a treadle lathe, the head speed controlled by a simple bob-weight governor (à la steam engine of his era), he used a piece of tailors chalk to mark the pitch of the male thread on the prepared shaft. He stopped the lathe occasionally to correct the run of the chalked mark to keep the helix constant. Being satisfied with the helix he had marked, he then put a tool in the tool stock (which I would now say was approx. to an Acme thread), and made several dummy passes. Being satisfied that he now had the 'feel' of the helix he was about to cut, he took his first cut down the shaft. This was taken I believe between the chalked marks, so that he still had the marks as a reference. After many passes he stood back and with the shaft still rotating put a gauge made of sheet metal, with I think two tooth forms cut on it along the length of the thread. I am now (some 30 odd years later) not sure if he was chasing the thread or not, but the gauge did not have a handle, so I don't think he could have been.

The unfortunate thing is that I was not present when he cut the nut, but it was on the shaft when I next went into the workshop several days later, but I believe he cut this also. How, I have no idea, but the old craftsmen had many tricks up their sleeves which we unfortunately do not comprehend nowadays. The need is not present with modern machinery.

He was trained as a Millwright during the 1880's with Johnsons of Standlake, where there is an old corn mill over the River Windrush. This has since been converted to a private house, but they have retained much of the old mill, and have old photographs of the mill in the house.

He then went to Burton-on-Trent area with Thorniwell and Warren's and worked at making and installing overhead winding machinery for the coal mines in the Midlands.

During retirement he lived at the farm in Standlake near Witney where the mill is situated and later at Cheltenham with my parents. I still use the wooden workshop as a garden shed. His name was William Burchell and he died in 1940.

W.A. Keightly

GLOUCESTERSHIRE MACHINERY
in the
1 8 6 2 E X H I B I T I O N

The International Exhibition in London in 1862 displayed the products of 275 British engineering firms making machinery, other than agricultural machinery, ranging from locomotives to washing machines. Among the many books published describing the exhibition D.K. Clark's "The Exhibited Machinery of 1862" is a useful source of information of equipment of the period.

While studying this book, in conjunction with one volume of the exhibition catalogue, it was thought that some notes on the Gloucestershire contributions might be of interest, though these are singularly few, James Ferrabee of Brimscombe, James Apperley of Dudbridge and the Gloucester Waggon Company being the only firms represented.

Ferrabee of the Phoenix Ironworks showed the widest range of products with three pieces of textile machinery, a steam engine, a range of lawn mowers and his adjustable spanner. James Apperley concentrated more on textile machinery and though the catalogue lists oiling, feeding, carding, condensing and grinding plant, very little description is given of most of them.

We are told "Messrs Apperley and Clissold exhibited a machine in which the lubrication of the wool was performed on the feeding table of the carding engine. It has not yet been much used." The condenser is not described but the feeder "lays the sliver obliquely across the travelling lattice of the intermediate card, doubling it back and forward from side to side to form a continuous fleece."

Ferrabee had far fuller treatment in both the "Exhibited Machinery" and the catalogue, which describes his "vertical steam engine with overhead crank. It has a separate expansion piston-valve working in a chamber behind the ordinary slide, controlled by the governor, which acts upon a link motion worked by two eccentrics as in a locomotive, on the principle of Allan's straight-link motion. The cylinder, 10" diameter with 18" stroke is fitted with a steam jacket cast on it. The exhaust steam is discharged into a cistern formed in the base, to heat the feed water." (Fig. 1)

The most important of Ferrabee's textile machines was his "very ingenious machine for forming 'bats' of fleece and for feeding endless 'bats' to carding engines." (Fig. 2)

The first conveyor is pivoted at A and hinged at B with the free end moved to and fro across the second conveyor D by the carriage C , which feeds the fleece through a pair of rollers onto the second conveyor. By adjusting the speed of the two

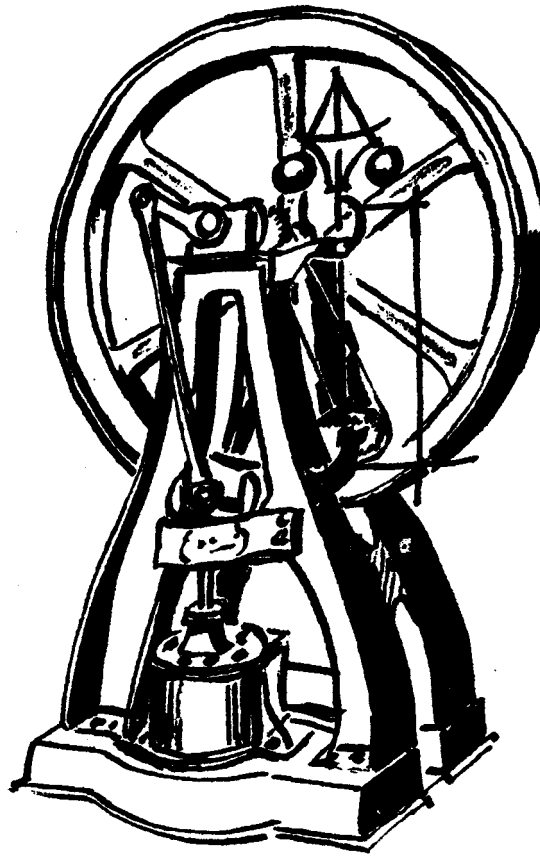

Fig. 1.

Vertical Steam Engine

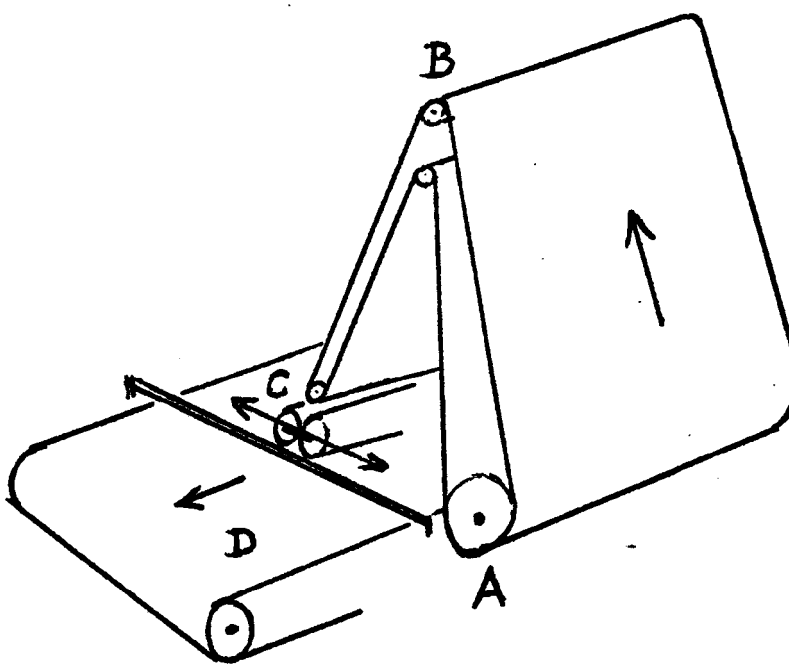

Fig 2

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conveyors and the carriage the degree of overlap of the fleece on the second conveyor can be controlled, while the change of direction of the fleece produces a more thorough combing of the fibres in the second carding engine.

It was pointed out that "this feeder answers excellently for mixing coloured wools before entering the finisher card."

The other textile machines shown were a "Patent Fulling Machine adapted for woollen cloths which vary in bulk and character, intended to obviate wrinkling in the process of fulling" and a "perpetual shearing machine for finishing the cutting of fine woollen cloths."

For shearing of another nature Ferrabee showed a range of eight mowing machines, from the M.1 "The 'Handy' Lawn Mower which a Lady may use with ease" at £4. 10. 0 through the M.5 (two men) to the M.8 (horse) at £20. 0. 0.

The owner of any of these would presumably have found Ferrabee's Adjustable Spanner, also exhibited, a useful tool.

The county's final engineering contribution to the 1862 Exhibition was the Gloucester Waggon Co.'s railway waggon "with an iron body, designed for discharging coal into ships."

Gloucestershire apart, one cannot be other than fascinated with this book; its steam engines, from relatively functional designs such as Ferrabee's to constructions resembling Doric temples rather than factory plant; its locomotives, including one with its fore-end built on a sledge and its drive through spiked wheels, for use on the ice of the Neva in Russia; its fine illustrations, making one wonder how many men were employed producing the wood cuts for such books. As a book, it is a tribute to the steam engine, the power behind most of its machines. The power, which in words spoken in 1856 can "draw out, without breaking, a thread as fine as gossamer, and lift a ship of war like a bauble in the air. It can embroider muslin and forge anchors, cut steel into ribbons and impel loaded vessels against the fury of the winds and the waves."

R. L. Rose

W O O L W E I G H T S

On the first floor of the Gloucester City Museum is a display of woolweights, part of the large bequest to the museum by the late Mr. Stanley Marling, a member of the well-known family of clothiers who lived at Selsley.

From the Middle Ages the English wool trade had been an important contributor to the national prosperity, and not surprisingly, it was early recognised by the Crown as a lucrative source of revenue by taxation. The assessment and collection of the wool tax or "TRONAGE" was in the hands of the "TRONATOR", an itinerant official who was issued with a set of weights, usually each of 7 lb (the clove) though some were 14lb (the stone), making 4 or 2 to the "TOD" of 28 lb. The Royal Arms seem to have been generally used on these weights, a tribute possibly to the value of wool to the Royal and National Exchequer. The weights were paired and connected with a leather strap so that they could be slung over the back of the tax collector's horse when visiting farms etc. to weigh the wool and collect the duty.

The authenticity of the woolweights was guaranteed by the verification marks of the Founder's Company stamped on the border of the weight. The local mark for Bristol was C.B. with a superimposed crown. The letter "A" indicated Avoirdupois and was usually accompanied by a dagger and an ewer, the latter being adopted from the Arms of the Company.

The weights shown in the display cover four reigns, starting with William & Mary (1689 - 1694) which have a large number of verification marks. The weight of Queen Anne's reign is stamped 1708 and the verification marks include a VII at the bottom to indicate the weight. There is a weight of George I's time which has rectangular holes for the strap instead of the usual round. The rectangular shape certainly fits the strap better and it would be interesting to know why a round hole was preferred. The remainder of the weights are all from George III's reign; a 7 lb weight with eight verification marks; a pair of 7 lb ones with the strap attached and finally 14 lb weights with one of the verification marks a rose showing that it may have been used in Yorkshire.

Examples of very early weights are not known as, when a new set of weights was required, the old weights were called in and melted down. The three periods of the reform of these weights were in the reigns of Henry VII, Elizabeth and the Georges. The 1495 Statute of Henry VII stated that the cost should be borne by the king's purse and brass weights were to be used. Local

continued on page 20 ...

BOOK REVIEW

TRAVEL & TRANSPORT IN GLOUCESTERSHIRE VILLAGES 1850 - 1950.

Gloucestershire Community Council : 28 pp. : Price 2/6d

This is the second of the "I remember" booklets published for the Local History Committee from material obtained by the Women's Institutes. These reminiscences are even more interesting than the first and include eight photographs of which I especially liked that of the opening of the Coleford-Monmouth line in 1883, showing numerous dignatories sitting in open trucks, and also that of the last day of the Poolway Turnpike, Coleford in 1888.

The first chapter is titled 'The River' but this also includes items on the Berkeley & Gloucester Canal, giving the names of craft which carried passengers and goods. Until the 1930's many of these boats were towed by donkeys or mules but two brothers are remembered who could drag 20 tons from Sharpness, one brother dragging , the other steering.

There is a short chapter on 'Canals', with the most useful facts coming from Bitton, followed by a longer section on 'Highways'. This includes items on turnpikes, the village carrier, outings and bicycles. There is an amusing paragraph on a cloth weaver of France Lynch who, having finished a bale of cloth, piled it into a wheelbarrow and wheeled it into Stroud with his wife, in her best clothes, sitting on top going for an outing.

The section on Railways has the observation that the railway was the arbiter of industrial growth or decay. Where local people were enterprising enough to risk their money on the building of a railway, as in the Nailsworth, Chalford and Dursley valleys, the cloth industry survived, or its mills were adapted to new industries. With no railway, such places Wotton, Uley and Painswick became rural backwaters. Further south, Marshfield also dwindled in importance.

The chapter on 'Motor Buses' should really be included under 'Highways', as it includes a description of road construction in the 1920's, and the final section is titled 'The Post' which also includes notes on newspapers. Nailsworth recorded that in 1856, before scarlet mail boxes became general, some householders were designated as Letter Receivers, and had a box fixed on their gate for the convenience of neighbours.

G.N.C.

SUMMER EXCURSIONS, 1968

The provisional programme has been arranged by your Committee, as follows :

31st MARCH (afternoon)	Visit to sites in the Forest of Dean, including a charcoal works, tramway and stone mine. Led by Mr. G. Higgs.
20th APRIL	I.A. sites in Shropshire such as lead mining near Bishop's Castle, Jones' maltings and Salop canal H.Q. at Shrewsbury. Mr. D.E. Bick and Mr. J.M. Strange will lead.
4th & 11th MAY (Saturday morning)	Postlip Paper Mills near Winchcombe.
19th MAY	Visit to canals in the Birmingham area, including, it is hoped, a canal trip. Leader : Mr. K.C. Dunham of the Staffs. & Worcs. Canal Society.
15th JUNE	Swindon Railway Museum and railway housing together with a visit to Arkell's Brewery at Stratton St. Margaret. Leader : Mr. J.M. Strange.
13th JULY	Visit to I.A. sites in South Gloucestershire.
15th SEPTEMBER	Gloucester - Hereford Canal.
26th OCTOBER	Birmingham Science Museum at a 'Steam weekend'. Possibly combined with a visit to the Kidderminster forge.

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It is also hoped that Miss Chatwin will take a party round Cheltenham ironwork and other local visits may be arranged later.

Continued from page 18 - (Woolweights)

M.P.'s took them to 43 named towns and received for this duty 2s. a day. Testing was done by the mayor or chief officer at least twice a year and marked to certify correctness. Of Henry VII's reign there are only 2 or 3 examples remaining; no weights are known to have survived before this date and none after George III.

G.N.C.

'GLOUCESTERSHIRE WOOLLEN MILLS' by Jennifer Tann

In issue no. 10 of the 'Newsletter' a book review of Dr. Tann's book was published, the reviewer concentrating his attention on the Dudbridge mills. In addition Messrs. L.F.J. Walrond and F.T. Hammond have also noted corrections and additions as follows, principally concerned with the Chalford area. Mr. Hammond says that at least twentytwo waterwheel sites have been discovered in Chalford alone, most if not all of which were at one time making contributions to the local woollen industry. As about half that number is referred to, there would appear to be further research required.

pp.57 & 136 - Block 19 and not 29 survives at Sheppard's Mill, Uley.

p. 175 - The plate showing the early weavers windows at Frogmarsh, Woodchester, is of 19th century insertions.

p. 190 - Ballinger's Mill, Chalford must be almost a century later than the early 18th century quoted.

p. 194 - Edward Lambert Trotman should be Edward Trotman Lambert. Charles de Barry & William Rudolph were not two persons but the same individual bearing the somewhat lengthy name of Charles William Rudolph de Barry, who married the young widow of John W. Jones of The Grove, Chalford. Jones, the eldest son of Nathaniel Jones, had a part of Seville's Mill for his silk-throwing business, a branch of which he sustained at Oakridge.

p. 196 - Obadiah Smart Baker should read Obadiah Smart, a baker. His father William Smart and brother James had been engaged in the cloth trade, while Obadiah was a baker & grocer of Beaufort House. At Holiday's Mill (now Arnolds Designs Ltd.) the Smarts were followed by William Chapman, a silk thrower, and later by Sidney Cox. There was norelationship or association between them as seems to be implied in the text. The date of the Iles-Peach settlement is the 29th June, 1763 and not in the 1730's as written.

p. 195 - Ralph Randall had a very small mill near the present Aerox Ltd. premises, fed by a stream emanating from Penny Hill and conserved in two pounds of water which were destroyed at the making of the railway. He lived in Thanet House, Chalford, and was succeeded in business by Messrs. Webb & Commeline, and later by William Toghill, who became successively bankrupt.

p. 196 – Sevilles Mill and Clayfield Mill are not identical premises, in fact they are nearly a mile apart. At the former mill Nathaniel Jones succeeded the bankrupt Innells, and continued there making cloth (with his batchelor brother) until just before his death in 1875. Confusion seems to have arisen since Nathaniel Jones had a hand in so many Chalford properties. William Smart had been his tenant at both Sevilles and Clayfield Mills before acquiring Halliday's Mill. Clayfield Mill is almost certain to be the site of the mill cited on page 190 as taking water for its external waterwheel from a culvert, the railrace being taken under the canal & discharged into the River Frome. Clayfield Mill was destroyed by fire and remained a wreck until converted into its present form by R.K. Liddiatt, a Chalford builder.

p. 198 – Ashmeads Mill The name Charles Ismell given in the text is a Pigot's Directory misprint for Innell. Charles Innell had compelled his brother to buy out his share in Sevilles Mill so that he (Charles) could commence on his own account at Ashmeads. He lived at The Corderries in lavish style but got into difficulties and left Chalford for London. John Knight mentioned in connection with Ashmeads was a Chalford man who became Mayor of Gloucester and was a relative and trustee of J. W. Jones previously mentioned.

Twissel's or Baker's Mill The pile of stones and signs of demolition means nothing for till recently the occupier was a builder and house restorer.

p. 202 – Pitchcombe Mill 19th century maps show that the artificial manure works run by Peter Mathew & Son (correct spelling 'Matthews') had little or nothing to do with this mill and stood on the opposite side of the road.

G.N.C.

A.M. Simpson - CANAL TUNNELS IN THE WEST MIDLANDS

The lecturer commenced by describing the equipment his team used in exploring canal tunnels in Gloucestershire and the Midlands. It consisted of a fibreglass canoe, inflatable dinghies, Lilos, lined rubber suits (the water temperature was invariably 48°F), life jackets, rope, Nife cells for helmet lights, wide-angled lens camera with electronic flash both kept in a polythene bag, and mud-walkers (a cross between skis and snowshoes) for negotiating the treacherous mud.

Mr. Simpson said that canal tunnels were constructed because it was difficult to pump water to the summit. The present water level was determined by three factors (a) the amount of rainwater entering, (b) leakage from springs, (c) dams at the entrances or elsewhere. The floor of puddled clay was often semi-circular but at Sapperton the floor is level.

Linings vary from the natural rock to three layers of brick. At first ordinary red bricks were used and there were many failures, so later blue engineering bricks lined the tunnels. The vertical shafts used in the construction were sometimes lined with brick and sometimes left unlined, and sealed by spanning an arch across and filling in. This often led to failures. Later, some shafts were left open with just a grating on top. Other failures were due to sideways pressure on tunnels.

The exploration of the Sapperton Tunnel on the Thames & Severn Canal was dealt with in great detail and Mr. Simpson pointed out that this tunnel has one outstanding feature for the explorer - an inn at either end ! He then showed how the tunnel's features related to the geology of the rocks through which it was driven.

From its Tunnel House entrance, the tunnel of inverted 'U' shape goes three-quarters of a mile through limestone after which it enteres a dome of soft-grey shale. In this area 74 chains from the entrance (the chains are chalked on the walls) the first fall, 22 yards long, was met with. At just over a mile into the tunnel, large springs probably indicated the second crossing of the limestone-shale boundary . To prevent wall erosion by these springs, the wall here was concreted by Gloucestershire County Council and the springs flow through 8" salt-glazed pipes.

At chain 100 they were back in limestone and this central section of the tunnel was unlined, in contrast with the remainder which had a lining three bricks thick. The height of this section

proved that barges could not have been 'legged' through against the roof and any legging must have been against the walls.

At the second mile the tunnel entered another shale strata and a little way into this, at chain 165, the passage was completely blocked. From the Sapperton end, there is a fall only 8 yards from the entrance.

In the walls there are holes, three yards apart, which were used for inserting timbers in connection with the roof construction. There are also occasional slots on both sides for placing boards so that sections could be pumped out. Marked on the wall every 13½ yards are the positions of subvaults which were built to prevent the floor being forced up. However, limestone cracks leaked and the problem of water supply was never really solved. The lecturer said that he had arranged for a geologist to see the tunnel next February.

Mr. Simpson next described the Newent-Dymock tunnel which is very beautiful in places with its 'curtains' formed of calcium carbonate, sometimes with iron staining, on the walls. At the Newent end there is Keuper sandstone and at the Dymock, Keuper marl, and where they meet there has been a failure. One unusual feature is that there is a square shaft.

Mr. Simpson finished by showing numerous more colour slides of the Dudley and Harecastle tunnels. Although tunnels are rarely associated with beauty, the lecturer's slides showed a world of colour which in fact could be seen only on the screen and not on the site, as the photographs were made by successively illuminating consecutive lengths of the tunnel on a single exposure.

Lionel F.J. Walrond - THE SITING OF MILL PONDS

As an introduction, Mr. Walrond reminded us of the six different types of waterwheel for which waterpower was required; undershot, low and high breast, overshot, pitch back and, finally, horizontal. Remains of the latter had been found in Ireland and Scotland but it was only in the last few weeks that three fragments had been found below the stream at Nailsworth, the first evidence of their existence in England or Wales. Mr. Walrond is waiting for experts to date these oak remains, which include a shaped blade 14" long resembling an Edwardian crumb tray.

cont ....

On the smaller tributaries the stream was simply dammed to form a pond and Newmarket Mill above Nailsworth is a typical example of a direct flow mill. Thus mill buildings parallel to the sides of a valley indicate a later date. Direct flow could be dangerous after heavy rain if all the water went under the building and similarly it could weaken the gable if the overflow was on one side. It was preferable to have the overflow well away from the mill. Twin ponds are also occasionally found, one working the wheel for the cloth part of the mill and the other used for the corn portion.

The parish boundary was usually in the centre of the major streams and thus the mill was generally placed on one bank, an exception being Church's mill at Woodchester. Difficulties arose with sluices and having to provide a weir to direct the water towards the wheel. The solution was to tap the stream further up its course and provide a water channel called a leat to the wheel. The next rebuilding of the mill would be on this leat and the indirect flow type was thus started. Good examples of this can be found at Beard's Mill near Stonehouse and Ile's Mill, Chalford. The width of the leat would vary according to the number of waterwheels it had to serve, being very wide at Dunkirk Mill where there were five wheels. Here a mill was pulled down higher up the valley when more power was required. In some mills, e.g. Bourne near Brimscombe, the leat is wide enough to be classed as a pond.

Where mills were close together it was not possible to lengthen the leat or pond so they were widened to give the greater power required for the increased mechanisation of cloth manufacture. With some mills the leat formation became very complicated e.g. Vatch, Bliss and Monk's Mills.

A third method of getting the water to the wheel was by trunking as can be seen at Compton Abdale Mill. There was an elaborate example of this type at Chalford but no structural evidence remains.

Finally, Mr. Walrond dealt briefly with the position of roads in relation to mill ponds. They could be at the head of the pond e.g. Egypt; on the mill dam e.g. Brookhouse, Damsell's and Washbrook; and on the mill-tail e.g. Dunkirk, Chances and Woodchester. However he considered this subject required more research.

G.N.C.

PRESENT CONDITION OF THE MILLS OF THE SEVERN VALE

A visit was made in October 1967 to mills mentioned in Miss Davies's article in Newsletter no. 10, and the following notes were made, together with the site map reference :

NORTON MILL (SO 867248)

This three-storey brick corn mill with a tile roof has its loading doorway on the Gloucester-Tewkesbury road. Attached to the mill at right angles is the small brick miller's house, at present empty. The arched opening to the wheel has now been bricked in and the Chelt flows in a course deepened by the Severn River Authority some distance away.

TREDINGTON MILL (SO 901297)

Besides the group of buildings known as Mill House, there is Mill Cottage on the opposite side of the road and a short distance towards the church is Mill Farm which owned Mill House. At Mill House the remains of the mill are now only one storey high, the remaining two floors having been pulled down after the Second Great War with the aid of German prisoners of war. These walls were 3 ft or 4 ft thick and in a dilapidated condition. The undershot wheel was metal with wooden buckets which branches in the millstream broke off. The wheel was in a basement; when the mill was demolished all the machinery and millstones were buried in this basement, though there is one millstone on the front lawn. Water power changed to steam and there was a stack. The millpond has been filled up.

STOKE ORCHARD MILL (SO 917278)

By a large square dovecot complete with boxes is this brick two storey mill with basement. The wheel and all machinery, except for some shafting and the timber hoist wheel, have been taken out. On the garner floor, however, the bins remain. It looked as though the internal wheel was undershot.

In an adjoining single storey building were the remains of a forge complete with many of the tools.

SLATE MILL, BODDINGTON (SO 891265)

All the machinery, the wheel and sluices have been removed from this high three storey brick mill with two storey house attached.

cont ....

BODDINGTON MILL (SO 894257)

On the opposite side of the road to the Manor is this three storey brick mill, attached to a very much older half-timbered building forming the upright of a 'T'-shaped building.

BODDINGTON HOUSE MILL (SO 896253)

The house is dated 1840 and a cowshed 1846 and it is probable that the mill was built between these years. A large brick mill of three storeys, with a little shafting remaining, the external wheel has now gone with only the axle left in the pit.

WITHYBRIDGE MILL (SO 905246)

The brick mill with its clay tile roof and the adjacent timber building with its corrugated iron roof are beginning to deteriorate.

It is hoped to visit the remaining mills mentioned in the article when the present restrictions, due to foot and mouth disease are lifted.

Editor.

THE JOURNAL OF INDUSTRIAL ARCHAEOLOGY

VOLUME 4 - NUMBER 3

This Journal now has over a hundred pages in each number and lately has had one long important article in each. In this issue David Lloyd contributes forty pages, including photographs, on Railway Station Architecture, ending with a valuable schedule of notable stations.

Of local interest is an article on 'A Gloucestershire Mill in South Africa'. In Bathurst a mill established by Samuel Bradshaw is being restored and an appeal was made for information on Bradshaw and also on the type of machinery the mill was likely to contain. Mr. Brian Smith and Dr. Ryder together identified Samuel Bradshaw and Mr. Kenneth Ponting answered the second part of the query.

In the Notes and News section mention is made of an appeal launched by the Kennet & Avon Trust for funds to restore the Crofton Pumphouse which our Society visited when following the course of the canal.

cont ....

A note illustrated with a photograph refers to the end of the Sharpness Railway Bridge, the first of whose spans was lifted on the 24th August by a 500-ton German floating crane.

There are also two photographs of the broad gauge carriage which was built into a cottage at South Cerney and is thought to have been built for the Bristol & Exeter Railway in the late 1840's. In the photograph showing its removal to the Bristol Museum, the influence of the horse-drawn carriage is clearly seen.

One of the longer articles is by Dr. R.A. Buchanan on 'The National Record of Industrial Monuments' giving the history of the C.B.A. cards and the present number of cards filled in by each county. The cards are copied in triplicate at the Centre for the Study of the History of Technology at Bath University, one copy going to Mr. Wailes, the consultant to the C.B.A. on Industrial Monuments; another to the Royal Commission on Ancient Monuments and the third to the National Record of Industrial Monuments. Every card is classified according to its county, its industrial grouping and item number.

Dr. Buchanan does, however, remark that the quality and quantity of these cards is extremely uneven and asks that cards are filled in clearly in dark ink with a grid map reference and any illustrations drawn on the back. He says that it is important not to rely on photographs as these do not Xerox well. Many important items are still not recorded though often minor ones are.

G.N.C.

STROUD NEWS CENTENARY EDITION - 2nd NOVEMBER, 1967

This edition of the paper included several articles, prints and photographs of interest to the industrial archaeologist. There is a photograph and description of the large fire at the Woodchester Piano Works in February 1938 which unfortunately destroyed one of the finest mill buildings in the County.

There is also a history of the firm of Messrs. T.H. & J. Daniels of Lightpill, which was founded in 1840 for smithing, forging and manufacturing wrought-ironwork. Gradually the engineering side of the business expanded and steam engines were produced for the various cloth mills and other industries. About this time also, an iron and brass foundry was started.

One interesting print shows the working conditions for seamstresses at Messrs. Holloway Bros. Kendrick Street Workshop in 1849.

MINUTES OF THE THIRD ANNUAL GENERAL MEETING HELD AT STROUD COLLEGE OF ART ON FRIDAY 22nd SEPTEMBER 1967

The following 1966/67 officers and Committee members were present together with 20 other members :

Mr. N.P. Newman (Chairman)
Messrs. C.H.A. Townley
W.G.H. Robins
R.H. Pullan
G.N. Crawford
L.F.J. Walrond
D.E. Bick
N.C. Ferry
Miss A. Chatwin
T.E. Edwards

Apology for absence was received from Mr. Rose.

1. Technical Book Display

Prior to the main business, Mr. Rogerson, the County Technical Librarian, had provided a display of a wide range of publications on mining.

2. Minutes of the 2nd A.G.M.

These were accepted and signed by Mr. Townley.

3. Chairman's Report

The increasing popularity and strength of the Society had, Mr. Townley said, been reflected in the number of members (170), the wide range of lectures given at Stroud, Cheltenham and Gloucester, and in the support given to the various excursions made by the Society.

The recovery of the engine at Gloucester Docks was described in some detail, and Mr. Townley asked for volunteers to come forward to assist in the preservation of the engine in its temporary home.

The wide interest shown in the unveiling of the second Society plaque at the Hop Pole Inn, Cheltenham on the site of the terminus of the Gloucester-Cheltenham Tramroad was mentioned. This was the second plaque unveiled by the Society and there were plans to unveil further ones at an appropriate time, probably annually.

During dismantling of the engine at Glos. Docks the complete records of the Severn Navigation Commissioners had been discovered. These were now being categorised prior to safe storage.

Other activities of the Society included the presentation of a report detailing the need for a museum for items of I.A. interest in the Area, and the highlighting by the Society of the need for restoration of an old toll house (Evesham-Tewkesbury Road) and of historic milestones. The possible publication of a gazetteer for North Gloucestershire, showing items of industrial archaeological interest was mentioned.

Mr. Townley thanked all the officers and Committee members of the Society for their good work during the year, and the previous Secretary, Mr. Eastwood, who had done much valuable work for the Society.

4. Treasurer's Report

Mr. Pullan reported on the healthy financial state of the Society. Subscriptions and donations totalled £106. 14. 2d., profits from Tours £25. 11. 8d, and a sum of £7. 0. 7d from the sale of Christmas cards. The balance stood at £173. 12. 9d. The Chairman thanked the Treasurer for his report and the accounts were accepted.

5. Secretary's Report

The 'regular' change of Society Secretary had continued. At mid-year Mr. Eastwood resigned and Dr. Edwards took his place as acting Honorary Secretary. The valuable work done by the previous Secretary was noted.

The tours and excursions in 1967 were reviewed in some detail. These had been generally well supported with around 50 members usually taking part, although a record 150 members and friends had gone on the Severn Steamer Trip. It was a little disappointing that only a few members had travelled to South Wales for the weekend visit, but unfortunately it had been arranged during the holiday period. The successful reciprocal visit of the S.E.W.I.A.S. to Gloucestershire was mentioned. The Acting Secretary asked for members having specialised knowledge or experience on subjects of industrial archaeological interest to come forward, with the view to leading parties in fieldwork. Whilst individual Society members were active there was no co-ordinated Society activity.

Membership had risen during the past year from 149 to 170, and showed signs of continuing to grow.

6. Alteration to Rules to Permit an Increase in the number of Committee Members

Rule 3 stated that the officers of the Society shall consist of President, Chairman, Honorary Secretary and Treasurer together with a Committee of six ordinary members. It was proposed that in view of the increasing scope and extensive geographical nature of the Society's activities the

number of ordinary members should be raised to ten. After discussion this was agreed.

7. Election of Officers

Three ballot forms had been returned, and these proposed that the 1966/67 Chairman, Treasurer and Acting Hon. Secretary should continue in office. No new officers were proposed from the floor. The Meeting accepted that these officers should continue in office for the year 1967/68.

Nominations for ordinary members were then received. Two new nominations were received and seconded; these were Messrs. J.M. Strange and G. Higgs. It was agreed that the new ordinary members of the Committee would be Miss Chatwin and Messrs. Crawford, Robins, Bick, Walrond, Strange, Rose, Ferry, Parsons and Higgs.

8. Activities 1967 - 68

The Secretary asked for suggestions for excursions from the floor of the house. Suggestions were :

Severn steamer trip (repeat)
Museum of Rural Crafts, Reading
Birmingham Canal System
Birmingham Museum
Little Avon Mills
Wickwar Cider Factory
Postlip Paper Mills
Site of old Mill on River Avon
Pithead workings in Mendip (N.C.B.)
Lead Mines in Wales
Sites in South Wales
Sites in Forest of Dean

These would be pursued by the Committee.

9. A.O.B.

1. Christmas Card

The Chairman reminded members that Christmas Cards would be available from the Society as last year.

2. Summer Meetings

A discussion took place on the value of summer lectures, etc. as a means for ensuring continuity of interest during the summer. It was generally felt that this would not be particularly well supported, and that the existing excursions provided for some continuity. It was agreed, however, that spring and summer evening excursions could be valuable and would be pursued.

3. Newsletter

Mr. Robins suggested that our Newsletter, which contained much material of a high standard, did have an amateurish format. The format and printing of other publications, sometimes containing material of lesser value, gave an impressionable, professional touch to them. The Meeting agreed that an effort should be made to improve the format of the Newsletter, providing that the cost was not excessive.

Mr. Newman, the President, generously offered to give the Society a special favourable quotation for the printing of the Newsletter. This offer was gratefully accepted by the Society and would be pursued by the Committee.

Finally, the President, on behalf of members, thanked all Committee Members for their continuing good work in maintaining the progress of the Society.

After the final business of the Meeting had been completed, Society Members showed slides of industrial archaeological interest.

STROUD SIXTY YEARS AGO

In the Stroud News & Journal of November 9th 1967, Mr. R.L. Rose of High Spinney, Ruscombe, wrote asking for information relating to Dudbridge Iron Works. The Journal, in its issue of November 23rd., said that it was grateful to Mrs. A.J. Cooper of 125 Gloucester Road, Stonehouse, for lending them an illustrated guide of Stroud and neighbourhood produced by the 'Stroud News' in 1907.

Among the articles on local business enterprises was one on Dudbridge Iron Works which stated that it was established in 1891 under the name of Humpidge & Snoxell, the members of the company being James D. Humpidge, H. Theo Humpidge and G.E. Snoxell. In 1894 the company amalgamated with Holborow & Co. under the title of Humpidge, Holborow & Co. and three years later Messrs. Holborow and Snoxell left the firm. In 1899 the Dudbridge Ironworks Co. was formed, the directors being H. Theo Humpidge (chairman), T. Graves Smith and Francis J. Platt.

There were several interesting references to other firms. In 1904 Godsell's Brewery bought Cranham Brewery and three years later Dursley Brewery. Cranham Brewery had been run at the Royal William by William Sadler Hall.

continued on following page ..

INTERESTING CONVERSIONS

of

INDUSTRIAL MONUMENTS

Many large historical industrial buildings, especially breweries, maltings, warehouses and mills, are at present in danger of demolition due to amalgamations and take-overs. These buildings are usually very solidly built and can with a little imagination be converted for other purposes. Although purists might disagree with these conversions, at least we have the external walls and roof trusses left and a detailed survey would have to be made of the existing building in order to carry out the alterations.

One such conversion was recently reported in 'The Daily Telegraph' when the biggest indoor ski run in Britain was opened at High Bullen, Wednesbury, Staffs. The 64 ft slope is built on a timber framework inside an old brewery and consists of 1,000 plastic 'snowflakes'.

A more important conversion was completed in June 1967 at Snape in Suffolk. Here some malt houses had become redundant and were very successfully changed into a concert hall for the nearby Aldeburgh Festival. A restaurant has been included and the hall is also used for recording sessions which illustrates the quality of the acoustics (see article in 'The Architect's Journal, 13th September 1967).

I have seen three or four articles recently written on the proposed demolition of the important warehouses at the Albert Dock in Liverpool. 'The Brick Bulletin' of September 1967, for instance, has devoted the whole eight-page issue to this controversial matter and includes some good colour photographs. Various people have prepared schemes which convert part of these warehouses into industrial and maritime museums and also offices, but the development company that purchased the site wants to demolish everything.

One wonders whether some redundandant buildings in Gloucestershire can also be converted. For example, many members will have noticed that the former Stroud Brewery is now for sale. Are there any buildings in this complex which could be saved from possible demolition ?

G.N. Crawford

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continued from previous page ...

Jefferies & Sons of Stonehouse and Dudbridge announced that since 1903 they had been entrusted with an order to supply any quantity of bricks they could produce for Government Works on Salisbury Plain.

CORRESPONDENCE

MECHANICAL ROAD TRANSPORT OF THE EARLY 19th CENTURY.

Sir,

In connection with my work, I have made certain inroads into the history of Transport on the British roads. I have discovered that the West of England was well ahead in the development of the early type of steam-coaches. In Gloucestershire this method of travel began to become popular.

I find that one Trevithick an engineer as early as 1801 invented a steam carriage which although ungainly so pleased him on the trial run that whilst celebrating he forgot to turn it off and the boiler ran dry and the contraption exploded. He started a new one but never finished it; he went abroad and never returned.

A Dr. Gurney built a road steam carriage in 1827, a heavy locomotive of 12 horse power. It could carry eighteen people at a speed of ten m.p.h. and was so successful that he actually ran a service in the west of England. In 1829 he travelled from London to Bath and back at an average speed of 15 m.p.h.

But much public opinion was against him, together with emnity from the Railway promoters, and hostile mobs attacked his coaches with stones and iron bars, and what with heavy road tolls, he went out of business, selling out to a Sir Charles Dance. The latter ran a successful service of steam coaches between Gloucester and Cheltenham a distance of nine miles in fortyfive minutes.

It seems that quite a number of companies were formed in the 1830's to run steam coaches both in London and the Provinces, and a Dr. Church ran a service from London to Birmingham. His steam carriages could take up to 50 passengers at the then unheard-of speed of 20 m.p.h. This is hard to realise when one thinks of the awful, rough-surfaced tracks with almost no restrictions or control, and hardly any Highway code. So dangerous did it become that the 'Red Flag Act' of 1865 put a stop to the Steam Carriages by reducing their speed in the country to four m.p.h. and in built-up areas to two m.p.h. This of course killed the development for all time and the horse resumed its importance until the day dawned for the internal combustion engine.

There must be those of your readers who can enlarge on this period of history of the West of England and many stories of great interest might be told, which may have been passed down by word of mouth and father to son. It would be good to know if this is so.

Frank Mills
17 Olney Road
Beacon Park
MINCHINHAMPTON
GLOS.

GAZETTEER OF INDUSTRIAL MONUMENTS IN GLOUCESTERSHIRE

It is intended to form a selected list of industrial monuments in the county and each item listed will include a map reference and a short description. In order to limit the gazetteer to reasonable proportions it is not at present intended to include sites of former monuments. The gazetteer will be divided up into the following sections; under each section examples of sub-headings are given :

1. Agriculture - farm machinery, forestry & fisheries.

2. Extractive Industry - coal, copper, lead, iron, stone, sand, gravel and clay (bricks).

3. Heavy Industry - foundries, heavy engineering, rail rolling stock manufacture, engines and bell foundring.

4. Light Industry - glass, lime, pottery, brewing, pins, candles, cotton, silk, cloth, tanning, sticks, paper, clay pipes, chocolate, boot & shoe, cars, tools, aircraft, dyeing, cider, plastics, corn milling, light engineering and shot making.

5. Transport -
   - (a) Road - turnpikes, toll houses, bridges and milestones.
   - (b) Water - canals, ferries, docks, harbours, quays, bridges, aqueducts, warehouses, tunnels, public houses, offices and lengthsmen's houses.
   - (c) Rail - stations, signal boxes, bridges, tramways, tunnels, viaducts and loco sheds.
   - (d) Air - aerodromes

6. Service Industry -
   - (a) Building - dwelling/workshops, workhouses & industrial housing
   - (b) Communications - postal, telegraph, radio & street furniture
   - (c) Public Utilities - drainage, water, gas, electricity & street furniture.

continued on the following page .

WHEN HORSES BEAT THE MOTOR BUS

The Stroud News & Journal of 2nd November 1967 had an interesting interview with a Mr. Bill Mauler who has been driving buses and coaches for fifty years. In 1917 he started as a conductor with Messrs. Arnolds whose buses ran from Nailsworth to Stroud.

He remembers a Thornycroft driven by coal gas carried on top in a huge white balloon. This 14-seater coach had a chain drive, solid tyres and wooden wheels. There was also a Rickneild and a bus known as the 'seventyfive' which required a large amount of petrol. But the Thornycroft was used the most.

The motor bus set out fifteen minutes later than a horse bus and there was therefore often a race to Stroud, but more often than not the latter arrived first. Almost every journey, the Thornycroft broke down either on Caincross Hill or at Rowcroft, on entering Stroud, and the passengers then had to start walking.

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continued from previous page ...

It is hoped that our members will co-operate in this work and let Ian Parsons or the Editor have a list of their favourites. Information is especially required of places in the Cheltenham area and the northern and eastern parts of the county.

C O L O U R S L I D E S

New members may not know that there is a collection of 35 mm. colour slides, illustrating various aspects of I.A. available on free loan for short periods. A large number of slides, covering items not well represented in the collection have recently been added and these are starred in the list. The slides cover the following subjects :

AGRICULTURE : Farm roller

EXTRACTIVE INDUSTRIES : *Free mine, Forest of Dean
*Crawshay colliery, Troedyrhiw

C O L O U R S L I D E S (continued)

HEAVY INDUSTRIES : *Gun's Mill, iron furnace

LIGHT INDUSTRY :

CLOTH :
- Frogmarsh Round Tower, Woodchester (2 slides)
- Woodchester Mill (2 slides)
- Strachan's Mill Offices, Stroud
- Monk's Mill, Alderley
- Brimscombe Mill (2 slides)
- New Mill, Kingswood, Wotton-U-Edge
- Ebley Mill, Stonehouse
- Malmesbury Mill (2 slides)
- Stanley Mill interior (2 slides)
- Dunkirk Mill, Woodchester
- Port Mill, Brimscombe
- *Stanley Mill, exterior
- *Longford's Mill, Nailsworth
- *Southfield Mill house
- *Painswick Mill house

CORN :
- Bidston Windmill, Birkenhead
- Rossett Watermill, Flintshire
- *Egypt Mill, Nailsworth

SHOT :
- Door Plaque, Bristol shot tower
- *Warmley, shot tower ?

BREWING :
- *Stroud Brewery offices
- * " " mash tub
- * " " maltings
- * " " tools for maltings
- * " " maltings interior
- *Tetbury Brewery
- *Tewkesbury Brewery
- *Cirencester Brewery
- *Stroud maltings, Painswick road.

CAR MANUFACTURE
- *Hampton Car, made at Dudbridge

TRANSPORT

ROAD :
- Traction Engine
- Road repair cart ?
- Conway Bridge
- Newport transporter bridge
- Footbridge, nr. Ross-on-Wye
- Over Bridge (3 slides)
- Mythe bridge
- Woolpack Inn, Slad, sign showing milestone
- Milestone, Bath - Glouc.

C O L O U R S L I D E S (continued)

TRANSPORT

ROAD :
- *Butterow tollhouse
- *Cainscross tollhouse
- *Claypits milestone
- *Bredon milestone

WATER :
- Pontoysllte aqueduct, Acrefair
- Warehouses, Sharpness docks
- Wallbridge lock, Stroud
- Warehouses, Gloucester docks (2 slides)
- Canal junction, Saul
- Thames & Severn Canal offices, Brimscombe
- Tunnel Inn, Coates
- Avoncliff aqueduct
- G.S.I.A. plaque, Brimscombe Port
- Kennet & Avon canal
- Crofton Pumping Station, K. & A.
- *Dudbridge wharf crane
- *Bridgekeepers house, Berkeley Canal
- *New Passage hotel
- *Bullo Pill harbour
- *Tunnel entrance, Coates
- *Pontcysllte aqueduct drained
- *Wallbridge canal office, Stroud
- *Lydney harbour
- *Melingriffith beam engine

RAIL :
- Midland Stables, Stroud
- Sudbrook Pumping Station, beam engines
- *Lydbrook Viaduct
- *Kemble Pumping Station
- Waggon boiler, Coalpit Heath
- *Sharpness rail bridge (2 slides)

SERVICE INDUSTRY :

BUILDING :
- *Stanley Mill workers housing

COMMUNICATIONS
- Ironmonger's sign, Wotton-U-Edge
- *Warwick pillar box
- *Cheltenham pillar box

If any members have any slides or duplicates they wish to donate to the Society your Committee will be very pleased to receive them.

COUNTY INDUSTRIAL MUSEUM

PROGRESS UP TO DECEMBER 1967

As our Society has grown, it has become obvious to many members and particularly to the Committee, that in order to maintain enthusiasm in recording items of interest in the County, especially those transportable items that could be preserved, it would be essential to obtain somehow a store or simple museum of our own.

Various schemes have been proposed and at least two actual offers of buildings were pursued, but rejected. The unpalatable fact remains that all societies tend to be run by a keen minority, but this is simply not enough to purchase or rent a property, and to improve and maintain it. Even if the Society were given a property, and only asked to run it, the annual income from subscriptions would not pay the bills for heating and lighting.

At a committee meeting in November 1966, the Treasurer, Mr. Pullan, said there was a meeting in Cinderford of interested parties to discuss a museum in the Forest of Dean. No subsequent development seems to have taken place. The Chairman, Mr. Townley, said that at the next committee meeting he wished to discuss a museum for the Stroud area.

At this meeting in January 1967, it was agreed that more determined effort should be made to obtain a museum for exhibits now in store, somewhere in the Stroud district. The Curator of the Stroud Museum, Mr. Walrond, said that there was to be a meeting soon between the County Education Officer, Mr. Milroy, and the Stroud Museum Committee to discuss the future of this museum.

The Society committee met again in April and concluded that the only hope was to persuade the County Council to consider a museum for industrial exhibits, possibly in the Stroud area. Accordingly a Museum Sub-Committee was set up, with the task of preparing a full report, and submitting it to Mr. Milroy.

After three or four meetings, this Sub-Committee submitted the final draft of their report 'A County Industrial Museum. Report by The Gloucestershire Society for Industrial Archaeology' to the committee meeting in July, when it was approved with minor changes. As usual the typists at ICI Fibres did a grand job and the report was retyped once again, copies run off and two sent to Mr. Milroy. As this Report is to be Society policy for the future a full copy of it is included in this Newsletter.

Further elaborations of its conclusions is considered unnecessary.

Two further copies of the report were sent to Mr. Milroy, for forwarding to the Clerk of the County Council who had shown great interest in aid to museums in the County. Tragically, the Clerk died before the first important meeting took place.

This meeting on 16th October 1967 in Shire Hall, Gloucester, was convened by the Chairman of the County Council, Major Birchall, those present being : the Chairman of the Education Committee, Alderman Little, two other county councillors, the Deputy Education Officer, Mr. Adams, and a solicitor from the Clerk's Department, together with councillors and museum curators from Gloucester City, Cheltenham, Tewkesbury, Stroud and Cirencester, the Chairman of the South West Area Museum Council and Director of Bristol City Museum, Mr. Warhurst, and finally two members of the Society's Museum Sub-Committee, Mr. Rose and Mr. Parsons.

A paper prepared in the Education Department suggesting how a County Museum Service, including a loan service to schools, could be approached, was discussed and the following was resolved :

'It was agreed to establish a Working Party of Curators together with a representative of the Gloucestershire Society for Industrial Archaeology, with the Deputy Chief Education Officer of Gloucestershire as convenor, and a finance officer and a legal officer to advise them, and to ask them to make a survey of the existing museums in the county and the problems they are facing and in the light of their findings to report on the following matters :

1. How best the needs of areas at present not served by museums can be met.
2. Whether there is need of any further local museums in the county.
3. The requirements of Industrial Archaeology.
4. The financing of an integrated museum service.'

This meeting was reported to the Society committee meeting in November when it was agreed that Mr. Crawford and Mr. Parsons would alternate as G.S.I.A. members on the Working Party of Curators, subject to this Party agreeing to this arrangement (subsequently Mr. Rose stated that his employers would allow him to attend, and it is now intended that one of these three will attend meetings, depending on their availability).

Mr. Parsons pressed for members to bring to his attention all items of potential interest including photographs. This was particularly important if the needs of industrial archaeology were to be pressed at the Working Party.

B O O K L E T S

FINCH BROTHERS FOUNDRY, STICKLEPATH, OKEHAMPTON, DEVON.

J. Kenneth Major. Pub. David & Charles 16 pp. 1967 Half-a-crown.

Excellent account of the foundry, which is at present being converted into a museum, illustrated by clear photographs and good plan.

THE STEAM ENGINE.

R.J. Law. Pub. H.M.S.O. 32 pp. 1965 Half-a-crown

A very large number of facts are condensed into this account of the development of the steam engine. Good photographs and diagrams.

THE ESGAIR MOEL WOOLLEN MILL.

J. Geraint Jenkins. Pub. National Museum of Wales. 36 pp. 1965 Half-a-crown

Very useful for all interested in the processes and technical terms used in the manufacture of cloth. Numerous photographs.

THE HISTORY OF TECHNOLOGY, INDUSTRY & COMMERCE.

Catalogue 4. Pub. Dillon's University Bookshop, Malet St., London W.C.1. 56 pp. 1967 Free.

Many interesting secondhand books are listed here.

NEW BOOKS & STOCKLIST, DAVID & CHARLES

July 1967 to January 1968 32 pp. 1967 Free.

A list of Industrial and Transport books which continue to be published in large numbers. A new journal 'Transport History' is to be published in 1968.

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In conclusion, it was agreed that the Society should ask for one central museum, rather than distribution of items in existing museums. The first meeting of the Working Party has been convened for early February.

I.M. Parsons

B O O K L E T S (continued from previous page)

SCOUT MOTORS OF SALISBURY 1902 - 1921

Jeremy P. Farrant. Pub. Salisbury & S. Wiltshire Group for I.A. 24 pp. 10 photographs 5/-

This account of a company which lasted nearly as long as Hampton Cars of Dudbridge, though over an overlapping period, is full of interesting facts but at the same time very readable. The photos show that generally a high standard of design was achieved, though the Pullman Scout Bus was rather spoilt by two seats on the roof, seats which were extremely exposed. After some searching, I managed to find Bemerton, the site of the second factory, on the 1" O.S. map; a small map would have been useful. The booklet has been well produced with a good cover and copies can be obtained from the author's brother, Mr. J.H. Farrant, c/o County Treasurer's Dept., Shire Hall, Gloucester.

G.N.C.

N E W M E M B E R S

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