CITY OF LONDON POLYTECHNIC

SIR JOHN CASS SCHOOL OF SCIENCE AND TECHNOLOGY

GEOGRAPHY

(B.Sc. Special ; External)

This is a record of the

GEOGRAPHY PRACTICAL WORK *done by*

Andrew James Hinder.

during the 1970 - '71 *Session.*

Signed S Wightman

Lecturer in Geography

Date 30-4-71

16224

The Development of Industry in the Stroud Area, with particular reference to the Establishment and Decline of the Woollen Cloth Industry.

A Field Study ~ Sept 2nd ~ 16th. 1970

THE DEVELOPMENT OF INDUSTRY IN THE STROUD AREA, WITH PARTICULAR REFERENCE TO THE ESTABLISHMENT AND DECLINE OF THE WOOLLEN CLOTH INDUSTRY.

A Field Study:

September 2nd to September 16th 1970.

Andrew Hinder.

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THE INDUSTRIAL ARCHAEOLOGY OF THE STROUD WOOLLEN INDUSTRY ;

A PERSONAL VIEW FROM 1970

Andrew Hinder

My own field observations of the industrial archaeology of the Stroud area in 1970 must strike the seasoned observer and scholar of Stroud local history as perfunctory, and on occasions plainly inaccurate. I therefore stress that my view of the industrial scene and the industrial archaeology of the area was a personal one, and inaccuracies must derive in part from the almost impossible task I set myself in writing this research theme for my Geography degree. My work was entitled 'The development of industry in the Stroud area, with particular reference to the establishment and decline of the woollen cloth industry : a field study.', and the introduction opened with the ambitious claim that ; ...

..... 'By using landscape evidence as far as possible, an attempt has been made to compile a history of industrial development in the Stroud area. Emphasis is placed upon the establishment and decline of the woollen cloth industry which has influenced the social and economic life of the area since the early 16th century.'

Clearly I must have been working with a very broad brush ,and such a claim must reflect youthful naivete or arrogance, but the reader is free to judge whether my observations have any validity in allowing a comparison of field evidence now in 1991 , and the field evidence I recorded in 1970.

I should also point out that the first two chapters of my account recorded the industrial structure as it was then in the Stroud area. A survey of each factory site recorded the company name, its products, and the numbers of employees, and I am sure that in view of the considerable economic and industrial changes since 1970, much of my account would be of interest to a student of contemporary economics. However it is the observations from three chapters devoted to the woollen industry which may be of the most interest, and the photographic record may provide some vivid evidence of architectural, industrial, and landscape change.

I must thank Mr Lionel Waldron who assisted me in my survey in 1970.

I must also thank Dr Ray Wilson who contacted me only last year to enquire about the whereabouts of this work. (I eventually discovered it in my loft). Dr Wilson also expressed interest and encouraged me to submit it for editing and publication.

Andrew Hinder

8/5/91

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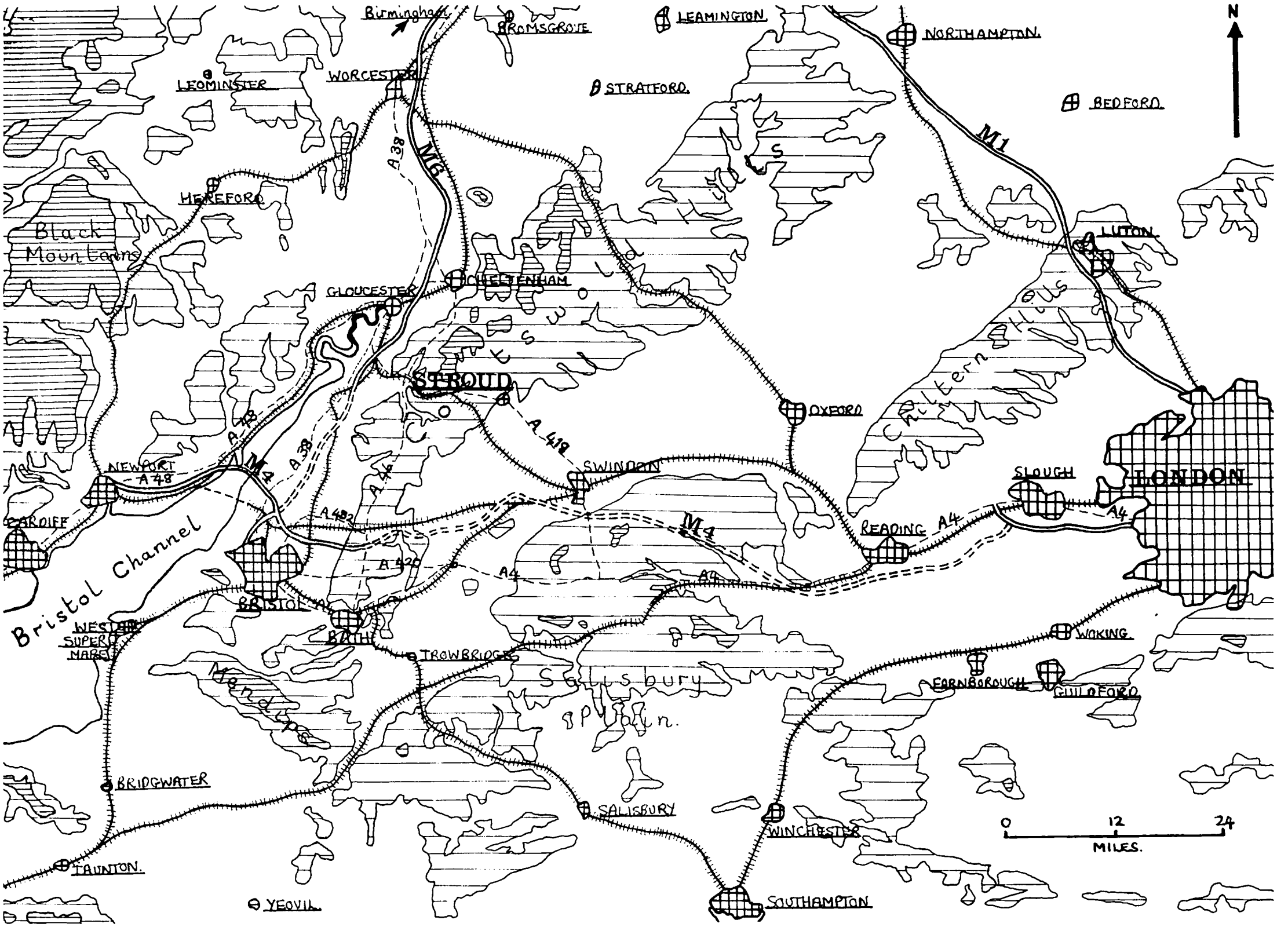
MAP 1.

The Stroud Area in Relation to Surrounding Centres of Population



Key

Scale : 12 miles to 1 inch.

- ..... Over 800 ft.
- ..... 400 - 800 ft.
- ..... 0 - 400 ft.
- ..... Urban area.
- ..... Motorway, part under construction.
- A38 ..... Major roads in the vicinity of Stroud
- ..... Railways.

INTRODUCTION.

The Purpose of the Study.

By using landscape evidence as far as possible, an attempt has been made to compile a history of industrial development in the Stroud area. Emphasis is placed on the establishment and decline of the woollen cloth industry which has influenced the social and economic life of the Stroud area since the early 16th Century. The new rural based woollen cloth industry, following an influx of Flemish and Huguenot weavers after 1515, was orientated to the production of broadcloth, and thus the availability of water power dictated the location of the new mills. Following the decline of woollen cloth manufacture in the 19th Century, subsequent establishment of other industries of the vacant mill buildings giving cheap factory space.

In the study of both the former woollen cloth industry, and the present industry, the Stroud area is regarded as the area drained by the River Frome and its tributaries. Map 1 shows this area in its regional setting, and Map 2 indicates the position of Stroud, Nailsworth, Chalford and other settlements within the area studied. All evidence of former extensive woollen cloth manufacture and also the present industry lies along these stream courses which deeply dissect the scarpland of the Cotswolds. Stroud is situated near the confluence of the east - west flowing River Frome and the north -east - south - west flowing Slad Brook. The Painswick Stream from the north, and the Woodchester Stream from the south, join the Frome further west, (Map 2).

Social and physical reasons have been given for the trends noted in the development of the woollen cloth industry. Consequently it has been necessary to outline the processes employed in the manufacture of woollen cloth in order to evaluate the contribution of the environment in allowing the establishment of the industry.

Methods Employed and Sources of Information Used.

As much information as possible has been obtained from landscape evidence including architectural features. Observations were made along each of the valleys concerned, noting both the nature of the present industry and evidence of past industry.

Sites of present industry have been noted, with consideration to the type of manufacture, its relevance in the local setting, and the building occupied which may give some clue as to the nature of the previous occupants. Questionaires were used to obtain information from each company. Questions included, the approximate number of employees, the major markets to which products are sent, origins of raw materials used in manufacture, and the date of acquisition of the premises. Questions were also included to determine the nature of occupation of the previous owners, if known, and the uses to which every building on the premises is put. Companies were generally co-operative in the completion of the questionaires, with the notable exception of B. W. Johnson and Son Ltd., of Nailsworth. Hence information referring to each company was obtained, allowing an accurate assessment of the structure of the present industry in the whole area. Additional information was also obtained by questioning the foremen or managers of each firm.

The use of documentary evidence has been kept to a minimum. However, industrial handbooks published by Stroud Council or Chamber of Commerce, give valuable data on the structure of industry, which could not be obtained from the field observation or questionaires. Some articles in past issues

AN EXAMPLE OF THE TYPE OF QUESTIONNAIRE CIRCULATED TO INDUSTRIAL CONCERNS.

1. MILL:

2. GR:

3. NAME OF COMPANY:

4. NATURE OF OCCUPATION OR MANUFACTURE:

5. APPROXIMATE NUMBER OF EMPLOYEES:

6. CATEGORIES OF EMPLOYMENT:

7. ORIGINS OF MAJOR RAW MATERIALS:

8. DESTINATION OF PRODUCTS:

9. DATE OF ACQUISITION OF PROPERTY:

10. NATURE OF OCCUPATION OF PREVIOUS OWNERS (IF KNOWN):

11. IS THE ORIGINAL MILL BUILDING STILL IN USE?

12. WHAT USE IS MADE OF THE MILL BUILDING? (WHETHER FOR MANUFACTURE OF STORAGE):

13. HAVE PREMISES OF MORE RECENT AGE THAN THE MILL BUILDING BEEN CONSTRUCTED? (APPROXIMATE DATE OF CONSTRUCTION IF POSSIBLE):

14. IF SO, TO WHAT USE ARE THESE PREMISES PUT?

of local newspapers give some indication of the financial state of many companies, which would not be revealed by field work. Publicity handouts obtained from many companies are very biased, and have only been referred to in order to establish the nature of articles manufactured at each installation.

However, these documentary sources have revealed information necessary for a complete picture of the present structure of industry to be obtained. A list of these sources used to supplement field evidence and the questionaires, is included at the end of this introductory chapter.

Reference to various published articles and to some documentary sources has however, been made when considering the characteristics of the former woollen cloth industry. In outlining the historical development of the industry based on field evidence, much supporting documentation has been used. Also for details of the processes involved in the manufacture of woollen cloth, it has been necessary to refer to books and articles. However, in all cases these sources are of secondary importance to field evidence.

In association with observations of the present industry, the architecture, site, plan and form of mill buildings was considered. Architecture of other buildings and landscape features were used to estimate therole of the environment in the establishment of the woollen industry. Considerations of building style of each mill allowed approximate datings, later to be correlated with documentary material.

The economic basis of the industry is reflected to some extent in the environment, but reference to documentation is necessary in some cases to elucidate some locational factors.

Alternatively folklore and reminiscence by the older members of society, are important sources of information which where applicable, have been used in preference to documentary evidence. Also, some of the lectures conducted by the Gloucestershire Society for Industrial Archaeology, have been a valuable source of information on former cloth manufacturing techniques and machinery.

The Form of Presentation.

The observations on the present industry and evidence of the former woollen industry have been divided in this account. Chapter One describes individual present-day factories within each valley, emphasising their social and economic basis in the Stroud area. Chapter Two examines the potential for further industrial development following a description of the present labour force, power resources and transport facilities. Maps are based on the O.S. 1 inch, $2\frac{1}{2}$ inch and 6 inch to one mile scale maps of the Stroud area. A liberal use of photographs ilistrates the sites and architecture of the factories.

The remaining chapters are concerned with evidence for the history of the woollen cloth industry. Chapter Three outlines within each valley the possible history of each mill or factory, using landscape and architectural evidence as far as possible. In the following chapter is an assessment of other landscape features, including disused mills, allowing some estimation of the former importance of the woollen industry. The main process involved in woollen cloth manufacture are outlined in Chapter Five so that the significance of the local environment as a locational factor can be realised, with the various stages in production demanding certain natural or social conditions.

In conclusion, using documentary evidence in a supporting role, a history of the woollen industry, leading up to the present industrial pattern is outlined.

Photographs are used throughout the account to illustrate distinctive landscape features and industrial sites whether used or derelict.

DOCUMENTARY SOURCES AND PUBLISHED ARTICLES REFERRED TO IN THE INVESTIGATIONS.

The Present Pattern of Industry.

Industrial Handbooks and Reports:

Burrows : "New and Existing Industries in the Stroud Valley" : Stroud Council Industrial Handbook.

R. Payne : "A Physical, Social and Economic Survey and Plan" : Gloucestershire County Council.

Stroud Chamber of Commerce : "Stroud; the Industrial Heart of Gloucestershire Cotswold Industries".

Stroud Urban District Council, Nailsworth U.D., Stroud Rural District Council : "Industries in the Stroud Valley" : Industrial Handbook.

Company Advertising Pamphlets and Booklets:

Air Plants Ltd., Leicester : "Fortis" : Brimscombe Iron Works, (heaters and fans).

L. J. H. Ballinger Ltd., Woodchester Industrial Site, (abrasive machine tools).

Batric Ltd., Griffin Mill Estate, Thrupp, (power tools, industrial tractors and trailers).

Cameron - Gardner, Woodchester, (ligting gear).

Fluid Transfer Ltd., Griffin Mill Estate, Thrupp, (valvesless industrial pumps).

George Waller and Son Ltd., Phoenix Iron Works (blowers and vacum pumps)

Newspapers:

Stroud News and Journal : March 13th 1969.

Stroud News and Journal : May 29th 1969.

The Historical Development of the Woollen Cloth Industry.

Books:

Edith Brill : "Old Cotswold" : David and Charles - 1968.

J. G. Espley and W. E. D. Young : "The Thames and Severn Canal" : Gazebo - 1969.

H. P. R. Finberg : "Gloucestershire Studies" : Leicester University Press.

H. P. R. Finberg : "The Making of the English Landscape : Gloucestershire" Hodder and Stoughton - 1955.

H. Household : "The Thames and Severn Canal" : David and Charles - 1969.

A. Smith : "Discovering Fokelore in Industry" : Shire Publications - 1969.

Sir D. Stamp and S. H. Beaver : "The British Isles; a Geographic and Economic Survey" : Longmans - 1963.

J. Tann : "The Industrial Archaeology of the British Isles : Gloucestershire Woollen Mills" : David and Charles - 1967.

J. Thirsk : "Essays in the Economic and Social History of Tudor and Stuart England" : from "Industries in the Countryside" : edited by F. J. Fisher. Cambridge University Press - 1961

D. Verey : "The Buildings of England: Gloucestershire: The Cotswolds" Penguin - 1970

Articles in General Circulation:

R. P. Beckinsale : "Factors in the Development of the Cotswold Woollen Industry" : Geographical Journal - 1937.

E. M. Carus - Wilson : "Evidence of Industrial Growth on Some 15th Century Manors" : Economic History Review, Volume 12 1959 - 1960

E. M. Carus - Wilson : "Trends in the Export of English Woollens in the 14th Century" : Economic History Review, Volume 3 - 1951

R. H. Kinvig : "The Historical Geography of the West Country Woollen Industry" : The Geographical Teacher - 1916.

R. A. Pelham : "The Distribution of Early Fulling Mills in England and Wales" : Geography - 1944

J. Tann : "Archaeology and the Factory" : The Local Historian, Volume 9, Number 4 - 1970

Gloucestershire Collection: Gloucester Archives:

Bristol and Gloucester Archaeological Transactions, Volume LXVI

Bristol University Department of Extra-Mural Studies (Gloucestershire Historical Studies) Numerous Volumes.

H. E. Hawker : "An Experimental Survey of the Wool and Woollen Cloth Industries with Particular Reference to the County of Gloucestershire" An unpublished surgey made from local records and other sources.

E. A. Moir : "Cloth Mills of the Stroud Valley" : An unpublished folder.

County Records Office:

Books, deeds, maps, plans, letters, notes, jottings.

Private Documents:

Gloucestershire Society for Industrial Archaeology Newsletters. Numbers 8, 10 and 14.

Colonel E. A. Airy : "An Outline History of Southfield Mill House, Woodchester".

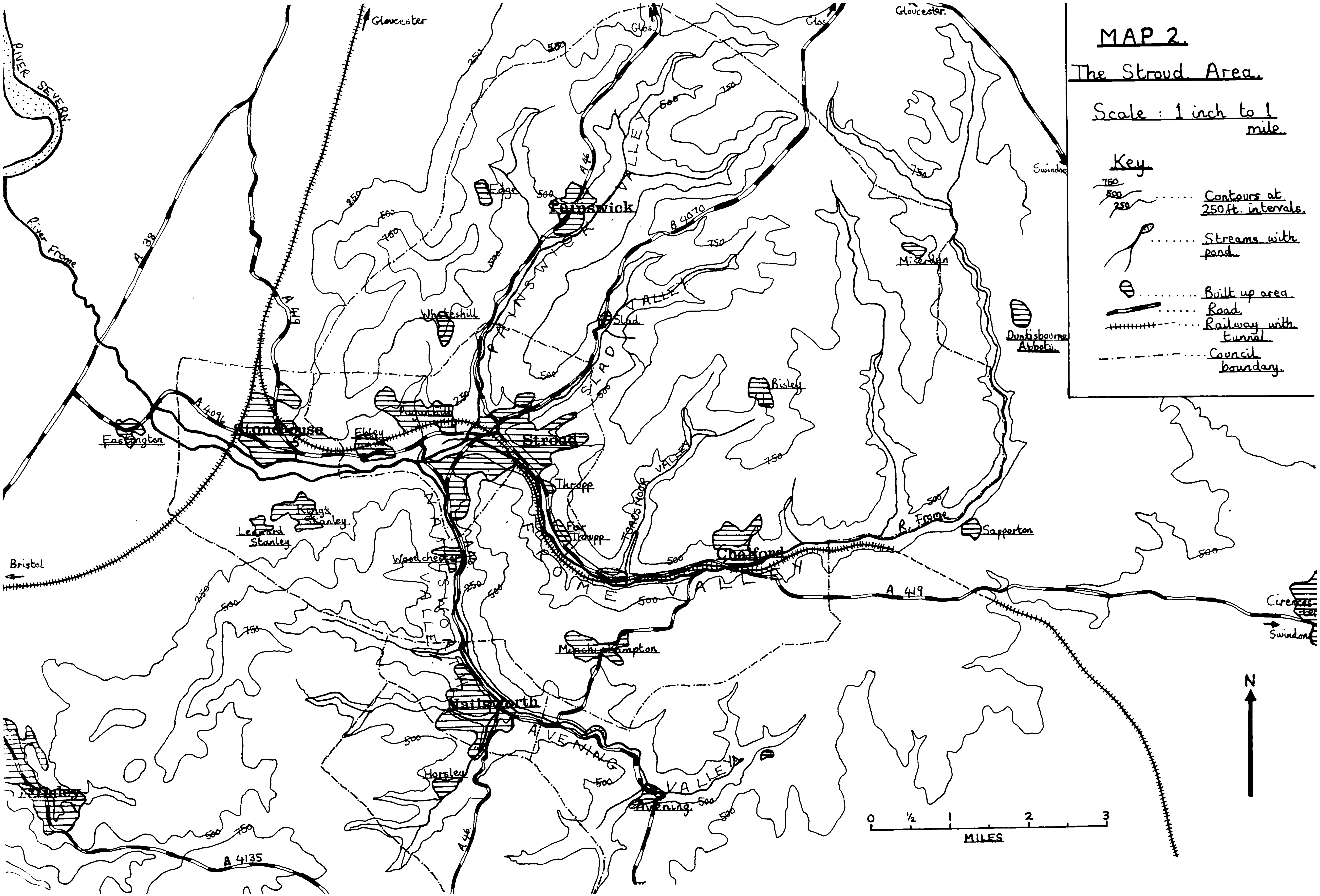
Legal documents and Parliamentary Bill drafts found on the site of Grist's Mill, Woodchester.

Newspapers:

Stroud News and Journal : 6th March 1969

Stroud News and Journal : 29th May 1969

Sunday Times Business News : 9th August 1970


MAP 2.
The Stroud Area.
Scale : 1 inch to 1 mile.
Key.
Contours at 250 ft. intervals.
Streams with pond.
Built up area
Road
Railway with tunnel
Council boundary.
RIVER SEVERN
River Frome
Gloucester
Glos
Swindon
Bristol
A 38
A 46
A 419
A 4096
A 4135
B 4070
Edge
Painswick
PAINSWICK VALLEY
Whiteshill
Slad
SLAD VALLEY
Miserden
Duntisbourne Abbots.
Bisley
Stonehouse
Eastington
Ebley
Stroud
Thrupp
Far Thrupp
TOADSMOOR VALLEY
FROME VALLEY
R. Frome
Sapperton
Chalford
King's Stanley
Leonard Stanley
Woodchester
NAILSWORTH VALLEY
Minchinhampton
Nailsworth
AVENING VALLEY
Horsley
Avening
MILES
0
1/2
1
2
3
N

CHAPTER ONE : THE STROUD AREA AND ITS INDUSTRY : A Site By Site Analysis Of The Present Industry, Using Questionaires And Landscape Evidence.

Despite the fact that there are more than 70 major firms in the Stroud area, employing an insured work force of around 22,000, the landscape has retained its rural characteristic. The sites of manufacturing industry in the deeply incised valleys of the River Frome and its tributaries are often within sylvan settings, with large unbroken areas of industrial development being notably absent. Photograph 1 shows the view obtained from Burleigh Court, Brimscombe looking north west up the Frome Valley, this type of landscape being typical of many of the valleys seen in the Stroud area.

During field observation, two transects were made, one of the Frome Valley and the three main adjoining valleys to the north, and another of the Woodchester Stream valley and its tributaries (see Map 2). This chapter outlines observations on the manufacturing industry, noted during each of these transects.

The Valleys of the River Frome and its Tributaries.

In the Vale of Berkeley to the west of Stonehouse (see Map 2), the first factory is seen in a west to east hourney up the valley of the River Frome in the direction of Stroud. From the bank of the Stroudwater Canal (Grid Reference : 794053 on O.S. 1 inch Sheet 156 and O.S. 2½ inch Sheet S.O. 70) a brick built mill complex can be seen (photograph 2). The occupiers of the premises, the Sperry Gyroscope Company Ltd., produce control equipment for naval guns and missiles, and instrumentation and control systems for the United Kingdom Atomic Energy Authority. I was informed by a foreman that work here also includes the design and development of printed circuits for special needs. The company is controlled by the Admiralty, and owing to the nature of occupation, further information was denied and entry forbidden. However it was revealed that the work force of skilled and technical staff had been reduced by over 300% over the last 3 years, with production being concentrated at the main establishment at Southampton. Such a highly technical industry, with no traditions in the area, and with no local labour experience in this type of production, has resulted in the failure of this industry to run economically.

Crossing the canal by a swing bridge a modern 10 acre industrial site was seen to the north of the A 4096 Claypits to Stonehouse road (Map 3). Here, the firm of Ransome, Hoffman and Pollard manufacture bearings for the aerospace industry. Products vary from tiny jewelled bearings to castings weighing several hundredweights. Control devices are also produced. No questionaire was returned from this firm, and further details were not supplied. However, it was apparent that despite a highly technical bias in both industries noted so far, the latter example was more dynamic, and had recently expanded its production and labour force. This was no doubt due to a greater willingness to vary the production of differing products according to demand.

Following the A 4096 east for a half a mile, a lane was taken which led south and over the canal by means of Nutshell Cridge. Two hundred yards south east of the canal a mill was encountered on the River Frome, (Grid Reference : 801047 on 2½ inch Sheet S.O. 80) (Map 3). This mill, Stonehouse Lower Mill, is occupied by the Stonehouse Paper Bag Mills Ltd., manufacturing paper bags, cardboard tubes, and polythene coated sachets. Approximately 30 men are employed here. Just to the south east of the mill, on the opposite bank of the River Frome, is the modern plant of Young and Wolfe Ltd., producers of casein plastics including knitting pins. About 60 employees are concerned in production and administration. Although the small modern prefabricated factory premises here, would suggest that it dates from only

PHOTOGRAPH 1 THE FROME VALLEY, NORTH WEST FROM BRIMSCOMBE

PHOTOGRAPH 2. BOND'S MILL, STONEHOUSE.

BRICK BUILT; WEAVERS WINDOW.

the last five years, Young and Wolfe have in fact produced plastics at this site since 1927. Both companies at this site are small family owned businesses with a small labour force. Availability of labour and the cheap factory site has allowed the establishment and persistence of these two types of industry here.

The only notable industry seen within the town of Stonehouse was the welding and construction of prefabricated oil storage tanks by the W. and R. Manufacturing Company of Upper Queens Road. 15 employees are concerned with contract orders from all parts of Britain. The only basis for this industry lies again with the availability of labour and a cheap factory site. All steel is imported from South Wales.

Upstream from Stonehouse Lower Mill, Stonehouse Upper Mill was seen from the Stonehouse to Leonard Stanley road. To the north of the original mill buildings (Grid Reference : 807047) extending up to the canal, new installations house a variety of manufacturing and distribution functions. Also, to the west of the mill new industrial premises are sited beside the Leonard Stanley road. Here, the firm of Kelsey Sparrow Ltd., manufacture household and industrial laminate tiles. There are 21 employees, some of which are involved in night shifts. The mill and its surrounding newer buildings accommodate two manufacturing concerns and six distributive and service industries. Stonehouse Engineering Ltd., are housed in a small outbuilding of the original mill, with only two employees engaged in precision machining. At present tyre presses being produced, require a high degree of machining accuracy, the rate of production consequently being low. R. Hook Ltd., manufacturers of agricultural implements, employ 17 men for general constructional work in a modern shed to the north of the mill. The occupiers of the mill are Engineering and Chemical Supplies Ltd., employing 7, and distributing chemicals in bulk. Coventry Factors Industrial Distributors and Cotswold Tools and Machines Ltd., are also occupiers of the mill, concerned with distribution and employing only a few men. Conair, distributors of air conditioning equipment, have 5 employees. The numerous distributive concerns reflect the dynamic state of the industry in this area, and its need for industrial and chemical equipment and supplies. The manufacturing concerns here have occupied cheap buildings or land adjacent to the mill that will allow considerable expansion in the future.

Turning to the south east, half a mile across Ryeford Meadows, the first of the three woollen cloth mills still in production in the Stroud area, was encountered. Here at Stanley Mill (Grid Reference : 812043) (Map 3). Marling and Evans Ltd., produce woollen textiles. All stages of production are completed here, with raw wool being imported directly from Australia and South Africa. The original mill is of long standing importance as a woollen cloth manufactory but only since 1920 has Marling and Evans Ltd., owned the site. Looms are located in a new block to the north of the mill, constructed in 1947 (Photograph 3), but all buildings are used for various stages in production. The 290 employees are engaged in the production of high quality broadcloth worsted, and tweed, much of which is exported to Europe.

Further north, adjacent to the Stroudwater Canal, Ryeford Sawmills Co. Ltd., occupies a site of a former cloth mill. (Grid Reference : 814046). 70 men are employed in sawmilling and the distribution of English hardwoods, which are obtained within a 40 mile radious of Stroud. Oak, ash, elm and beech are held in stock, and finished products include mine timbers, tool handles, pallets, stillages and oak panelling. Many wood craftsmen are thus included in the 70 men employed. This is one of the largest sawmills in the South West, relying on the local timber and having its own lorries for the haulage of these trees to the mill. Products are sent to South and Central Wales, South and South West England and the Midlands.

MAP 3.

Industries of the Stroud Area.

(Company Names).

Ransome, Hoffman, Pollard.
Sperry.
Stonehouse
Wood & R Manufg.
Stonehouse Paper Bag.
Young and Wolfe.
Kelsey Sparrow.
Stonehouse Engineering and R. Hook.
Ryeford Sawmills.
Marling and Evans.
KING'S STANLEY
LEONARD STANLEY
CASHE'S GREEN
PAGANHILL
Savory + Sons Ltd. 3mls. north in Painswick.
Stroud Brewery.
Townsends.
Chain saws.
Balbik
A.C. Estop.
Sheet Metal.
EBLEY
Gordon
Greenaway.
DUD-BRIDGE
Copeland Ch.
Severn Instruments.
Kent Ltd.
Hill Paul
STROUD
Stroud Metal Redler.
Marling and Evans.
Lewis and Hole
RODBOROUGH
Daniel's
B.P. Plastics.
Safari Caravans.
Stratford's Mill: Nash Eng.
Griffin's Mill Estate: Engineering. Watts Ltd.
Bond Worth.
FARTHRUPP.
George Waller.
Scott Entropp Ltd.
KACK HILL
Chalford Chairs
Chalford
Giftware Ltd.
Cape Asbestos
Doulton Ltd.
Walking Sticks / St. Mary's.
Critchley Bros.
Tucker Ltd.
Oak Mills Ltd.
R.F. Welding Ltd.
Air Plants Ltd.
Perkins
Benson's
BRIMSCOMBE.
Olympus
Hewins
WOODCHESTER
Bentley Ltd.
Arthur's Press Ltd.
Mortair Ltd.
Fenwarth
Ballinger Ltd.
Quaker Chemical Ltd.
Carr Tanning Ltd.
AMBERLEY.
Cameron-Gardner Ltd.
Newman-Hender Ltd.
Grist Ltd.
Yukon Co.
Contell Ltd.
MINCHINHAMPTON.
BOX.
J. King Ltd.
Hilliers
NAILSWORTH
Camberlain Ltd.
Pressboard Ltd.
Mumford Ltd.
Groberts
C+W Electroplating
B.W. Johnson
Little Stoke Eng.
W. Playne and Co Ltd.
Midland Fisheries.
500

N

Scale : 2½ ins to 1 mi.

0 ½ 1

ONE MILE

Key.

- 500 .... 500 foot contour.
- ..... Built up area.
- .... Road.
- ..... Railway.
- ..... Stream and pond.
- ..... Factory building.

Between the sawmills and Ebley Mill to the east, a new site to the north of the A 419 Stonehouse - Stroud road was noted (Grid Reference : 821047). This small 3 year old site owned by J. A. Gordon Ltd., employs 53 people and produces aerospace equipment. The design and manufacture of hydraulics, gantries sluices, and agricultural equipment is also enacted here. The raw materials of plastics, steel and aluminium are all machined and assembled at the site, and products are mainly for export. This plant is integrated in its design and production and is a highly technically biased industry.

However, south west of Ebley village, at Ebley Mill (Grid Reference : 829046), longer established industries occur. The mill building has been little altered (Photograph 4) and accommodates a branch of Marling and Evans Ltd., the woollen cloth manufactureres of Stanley Mill. However, here at Ebley Mill yarn is specifically produced, whilst at Stanley Mill emphasis is placed on the manufacture of cloth. Wool and man made fibres are combined in the production here, with the labour force of 60 being composed mainly of young women.

To the north of Ebley Mill on premises built in 1953 partly on an infilled section of the Stroudwater Canal, Daniel Greenaway and Sons Ltd., produce general printed material including magazines with colour lithography. The 200 employees are subdivided into 60 unskilled and 40 skilled workers. Paper is obtained from Sweden and Finland, and much of the trade is orientated to the export market.

Further east up the valley of the River Frome, the industrial complex at Dudbridge is in notable contrast to the rural settling in which the factories up to now have been noted. Here, where the Woodchester Stream joins the River Frome (Map 3), 4 major manufacturing industries, with one distributive concern are concentrated within 5 acres, and surrounded by 19th Century housing development. Pye Distribution Ltd., occupies Hawker's Mill which lies on the Woodchester Stream, and is thus described in the following section in this chapter (Map 3).

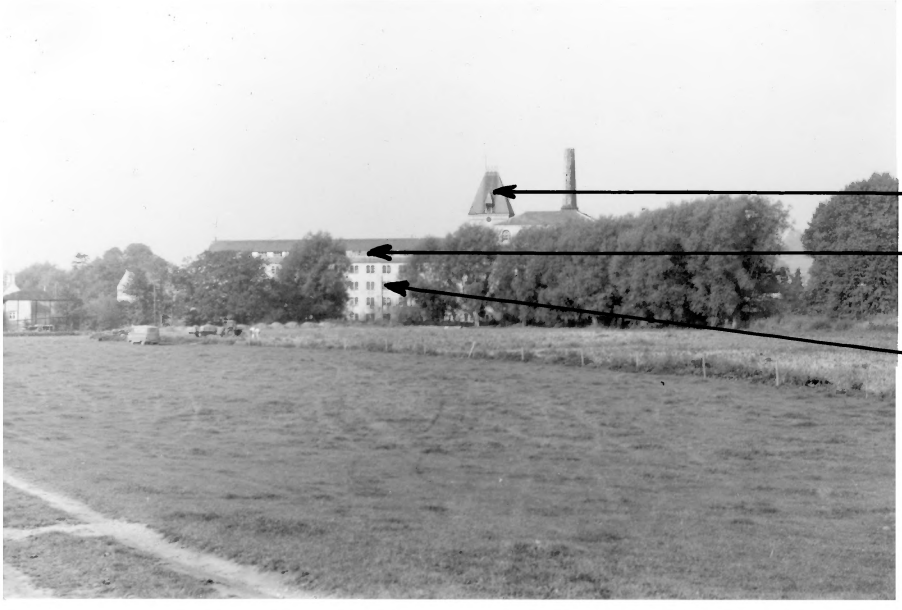
Beside the main A 46 road (Grid Reference : 835046) the Dudbridge Foundry is sited which is owned by Lewis and Hole Ltd., manufacturers of non-ferrous and iron castings for the engineering trade. Machine tool castings shell moulded and cored castings, pump and strained bodies, and valves are the main products made to individual specifications in iron, phosphor bronze, and aluminium. All types of steel are used, and the products are mainly used in local engineering firms, and so are indirectly exported. Hence the dynamic engineering industry of this area, with a constant demand for machine castings, has maintained the viability of the foundry. The 45 employees include machine and floor moulders, core makers, furnace men, and pattern makers.

On both sides of the River Frome, Redler Conveyors Ltd., concentrates on the production of mechanical handling equipment and conveyors, and also a standardised six-ton hydraulic crane. Conveyors, flour hoppers, and walkways are constructed and machined from the sheet steel and from rods and bars obtained from the Midlands and Scunthorpe. Gearing is imported. I was informed that over 80 tons of products were exported from this firm in one week, much being sent to Canada. Questionaires analysis reveals that 500 are employed in unskilled, semi-skilled and skilled categories, and a rapid expansion programme is envisaged in the future.

In the east of the Dudbridge complex the Stroud Metal Company are producers of non-ferrous castings and light press-work, with some electroplating and stove enamelling being enacted here. However,

PHOTOGRAPH 3 MODERN WEAVING SHED AT STANLEY MILL

PHOTOGRAPH 4. EBLEY MILL FROM THE EAST.



PHOTOGRAPH 5. LODGEMOOR MILL.

BLUE AND RED BRICKS

3 STOREY BUILDING

IRON FRAMED WINDOWS.

FIRE PROOF MILL.

PHOTOGRAPH 6. DYEING SHED AT LODGEMOOR MILL.

DYEING VATS

a current government contract forbade them to divulge any further information.

Nearby the Copeland-Chatterson Co. Ltd., is a major business systems manufacturer, producing punch cards and index cards for accounting machines. Plastic folders amd printed matter is also produced. I was informed that the company is rapidly expanding in order to cater for increasing demands for its products.

From the A 46 at Rodborough, mills can be seen along the valley bottom at Stroud. A lane leads down from the A 46 to Fromehall Mill (Grid Reference : 842049) which is occupied by Severn Instruments Ltd., manufacturers of electrical circuits.

200 yards upstream, Lodgemore Mill (Photograph 5) was encountered as the second of the existing woollen cloth mills seen in the Stroud area. Here, is Strachan and Co. Ltd., Broadcloth is the speciality of the company, and large quantities of uniform cloth are produced. All scarlets worn by the Guards are derived from this mill, and made. Merino broadcloth is imported from South Africa, and wool is imported from South Africa, and 60% of finished products are exported pricipally to Italy, the Middle and Far East. Both old and new processes are combined at this modernised plant, and small amounts of worsteds are produced as well as broadcloth. Dying is done on the premises (Photograph 6) and the finished cloths were seen outside the dying shed in covered racks. Over 200 are employed in finishing work.

At Lodgemore Mill, the Painswick stream enters the River Frome, and only three manufacturing premises being located along the valley of this stream. From the B 4066, south of Stratford Park, Stroud (Grid Reference : 847056) the new modern plant of Townsends Ltd., can be seen to the south (Map 3), on the site of Stratford Mill. The buildings date from 1960, and cattle and other livestock feeds are processed at these premises. The 70 employees are also concerned with the cleaning of seed, all products being distributed only in the local area.

Half a mile to the north up the Painswick Valley, on the right of the A 46 Stroud to Gloucester road, the Stroud Brewery is notable, being owned by West Country Brewery Holdings Ltd., All types of ale are brewed for the local area by a staff of 30.

The remaining factory in the Painswick Valley lies 3 miles to the north being anomalous in that it is isolated from any other industrial site. It lies in the deeply incised valley south east of Painswick, and occupies Brookhouse Mill (Grid Reference : 871095) which has been changed little since it operated as a woollen cloth mill (Photograph 7). Savory and Sons Ltd., the owners, have for long manufactured hair pins, pins and clips. The mill seen here represents the sole remaining pin mill in the area, this industry once being very important particularly in Painswick following the decline of the woollen industry in the late 19th Century. However production in the small here today, with only 10 people being employed.

Slad Brook enters the River Frome just to the east of Lodgemore Mill, and along its valley, four factories were noted on the outskirts of Stroud. All could be seen facing onto the B 4070 Stroud to Slad road.

A sheet metal press company working under contract for local engineering firms was noted in the Badbrook district of Stroud (Grid Reference : 853054). This is a family firm with a low production, only 4 employees working here. A. C. Estop and Co., in a modern two storey building, produce plastic bottles caps and high tension plastic brackets. This is on the site of Little Mill. I was informed that the labour was in a state of flux, but was currently

PHOTOGRAPH 7. BROOKHOUSE MILL PAINSWICK

(SAVORY AND SONS)

PHOTOGRAPH 8. SITE OF LITTLE MILL, STROUD (A.C. ESTOP AND CO)

MODERN BRICK BUILT FACTORY PLASTICS PRODUCTION

numbering 40 (Grid Reference : 855056) (Photograph 8).

Balbik Systems Ltd., occupy a mill a quarter of a mile to the north east. Here at New Mill (Grid Reference : 860057) co-operation was not forthcoming and nothing was learned of production or employment. I was later informed however, that the firm mainly concerned in industrial printing was about to be bought out, and the likelihood of industrial espionage was a very real apprehension prevailing here.

The remaining factory encountered in the Slad Valley produces chain saws. Here near the site of Peghouse Mill (Grid Reference : 862058) 60 people are employed in testing and manufacturing of chain saws. Most of the production is exported to Europe, Australia, New Zealand and Brazil (Photograph 9).

Returning south west along the B 4070 to Stroud, a survey of factory sites along the Frome valley was resumed.

To the east of the A 46 in thevalley bottom in Stroud (Grid Reference : 848050), the firm of Kent Lea Instruments Ltd., can be seen to occupy a portion of the old Wallbridge Mill on the far side of the disused railway viaduct. Arch premises are used in addition to modern sheds, next to the mill, and new office accommodation beside the A 46 (Photograph 10). The questionaire reveals that 240 in all are employed at this small site and production is concentrated on industrial flow measuring instruments. Two thirds of production is for the home market, much being sold in the Stroud area.

Overlooking the railway station in Stroud, the brick built Victorian premises of Hill, Paul and Co. Ltd were notable. 100 employees manufacture men's suits and jackets, 60% of production being exported. I was informed that at one time, production of cloth in the Stroud area met the requirements of the firm, but now Yorkshire cloth is used for all products.

The Frome Valley upstream of Stroud turns to the south, and no factory was seen, until at Bowcridge on the A 149 Stroud to Cirencester road, the Safari Caravan Co., Ltd., was encountered (Grid Reference : 85044). This firm is sited on a former mill which was gutted by fire in 1953. The modern brick built premises are used for the complete manufacture of caravans, with the 40 employees consisting mainly of cabinet makers wood machinists, painters, welders etc.

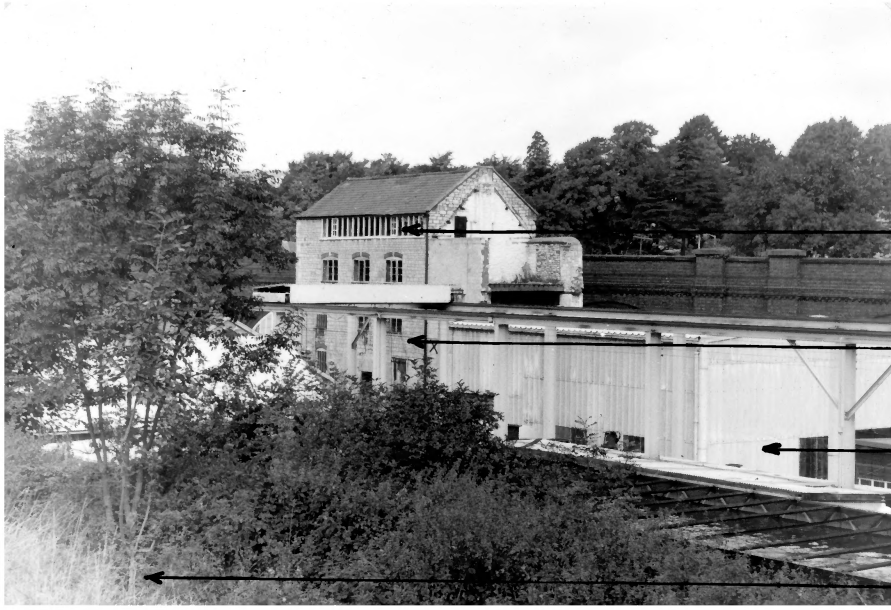
British aluminium with imported African obeche, Japanese oak and Swedish hardboard is used, and finished caravans are confined to the home market.

Half a mile south along the A 419, Griffin's Mill (Grid Reference : 859035) accommodates 9 various companies (Photograph 11). However, on further inspection it was found that only 3 were manufacturing concerns. Batric Ltd., occupy recently built sheds to th south of the mill building, and with a staff of 18, manufacture power tools, industrial tractors, and trailers. Some products are exported. Bodian Precision Engineering Co. Ltd., in a new block also to the south of the original mill, but to the other side of the River Frome employs 16 machinists for precision engineering. Again, this type of precision machining relies on local engineering firms for its markets, and none of its products are exported. The remaining manufacturer here is Fluid Transfer Ltd., contract work being carried out in metal machining. However, this 3 year old company with 12 employees has specialised lately in the production of valveless pumps for chemical and food production plants, and portable aircraft refuellers for Harrier jets.

PHOTOGRAPH 9. SITE OF PEGHOUSE MILL, SLAD VALLEY STROUD

CHAIN SAW FACTORY MODERN BRICK BUILT PREMISES.

PHOTOGRAPH 10. WALBRIDGE MILL FROM THE RACK GROUND STROUD.



Some is produced for export. The occupiers of the old mill building are concerned with distribution. Kristian Kirk Electric Ltd., are the sole distributers of Danish washing machines for the U.K. Paint, sheet metal and double glazing merchants also occupy this building, with motor mechanics and building merchants also operating from the mill.

Along this part of the River Frome, upstream from Thrupp, the valley becomes visibly narrower with steeper sides, and the industry becomes strung along the floor of the valley, based mainly on mill sites.

Like Griffin's Mill and also in the vicinity of Thrupp, Stratford's Mill (Grid Reference : 859038) occupied by a variety of companies, but manufacturing industry is represnted only by Nash Engineering Ltd., a small family company engaged in contract machining.

Motor repairs, sign writers and a coke merchant were also noted here.

A modern site west of the A 419 was noted (Grid Reference : 861034). Here, Watts Regulator (U.K.) Ltd., an American owned company, manufacturing air line filters, regulators and lubricators for compressed air equipment On enquiry it was found that the site was 5 years old and 50 people were employed. Exports are sent to every country in Eurpoe, except Italy, and also India, Australia, and South Africa.

100 yards to the south along the A 419, the large mill, Ham Mill, was seen, but the best view of this site was obtained from the canal bank to the south west (Photograph 12). Although not directly concerned with woollen cloth manufacture, it has survived the slump in this trade in this area, by specialisation in wool cording and spinning for a Yorkshire carpet company. Bond Worth (Stroud) Ltd., formerly produced Chenille carpets until 1954 when yarn spinning again returned to the mill for the first time since the 19th Century. The parent firm Bond Worth Ltd., of Stourport uses the yarn produced for carpet pile, English and Foreign wools being blended together and with Delfion/Nylon and Evlan. The industry here today is highly mechanised, but even so, a relatively large number are employed, although not as great as the 450 engaged before the war. No questionaire was completed, but notes handed out outlining a history of the mill divulged much useful information.

On the site if Thrupp Mill, now demolished, George Waller and Son Ltd., naming the site "Pheonix Iron Works" have 200 wmployees engaged in the design and construction of air and gas compressors, boosters and vacum exhaustors. This extensive modern factory, builds to individual requirements and a current order for Australia meant that the plant was very busy.

By taking a lane leading south across the River Frome Gough's Mill was seen to the south east (Grid Reference : 863027), there, Oak Mills (Timber) Ltd., occupying the original mill building, manufacture kitchen cabinets, using a workforce of 80.

Lying adjacent to the mill to the south west, on the opposite side of an infilled section of the Thames and Severn Canal, Brimscombe Iron Works was seen (Photograph 13). It was gathered that Air Plants Ltd., is a Leicester based company, manufacturing "Fortis" heaters and fans from Welsh sheet steel. 40 Employees are engaged in every stage of production here. Exports go to Europe, and much of these to Eire. The plant is made up of old corrugated iron sheds, but a new production site was being built on the infilled bed of the canal.

Proceeding along the towpath of the canal, Brimscombe Mills (Grid Reference : 866025) surrounding a mill pond were seen accommodating two

PHOTOGRAPH 11. GRIFFIN MILL, THRUPP.

PHOTOGRAPH 12. HAM MILL. THRUPP (BOND-WORTH. LTD)

A VIEW FROM THE CANAL BANK TO THE SOUTH EAST.

STONE BUILT MILL.

CLOTHIER'S HOUSE.

PHOTOGRAPH 13. "FORTIS" IRON FOUNDRY, SOUTH WEST OF GOUGH MILL BRIMSCOMBE

PHOTOGRAPH 14. THE PEROLIN CO. LTD., BRIMSCOMBE UPPER MILL.

companies, P. F. Welding Company occupies the more northely of the two mills, bordering the deep mill pond. Five employees are concerned with steel prefabrications and zinc and copper electroplating. The zinc and copper is obtained from local merchants, and all products are used in the Stroud area. This is another example of a metallurgical industry being established due to a demand by the local engineering concerns. "Perolin" producers of industrial detergents for metals in electrolysis, occupy the mill to the south (Photograph 14). ICI owned, this factory employs 14 in the various stages of chemical production. The mill has visibly greatly modified and modernised.

Just to the south east accross the Brimscombe to Minchinhampton road (Map 3) Brimscombe Port Mill and the side of Brimscombe Canal port has been occupied by Benson's International Systems Ltd., (Photograph 15). A good view of the side is obtained from near Burleigh Court (Grid Reference : 869019) and it was seen that new extentions were being constructed on the site of the former port. The 1956 edition of the O.S. 2½ inch sheet indicates the presence of the port, and it was later revealed that these new buildings are only 2 years old. 500 are employed in the production of loose leaf fittings and devices, using sheet steel and spring steel from the Midlands. 80% of production is exported. The mill building is now used only as offices, maintenance and a canteen.

P. Hewins Ltd., were noted nearby at the Brimscombe Port Foundry, 90 men being employed in casting iron and non-ferrous metals. Again, the castings are used only locally, being assembled into machine tools and indirectly exported. Ingots, steels scrap and pig iron (from Stanton and Stavely) is obtained from the Midlands and South Wales.

A footpath alongside the River Frome led to Bourne Mill, situated next to a viaduct carrying the main Gloucester to Swindon railway (Map 2). Only small service trades were sited in this very small mill, including screenprinters, metal polishers and a country craft studio.

The valley of the River Frome now becomes orientated west to east from Brimscombe, east to Chalford (Map 2).

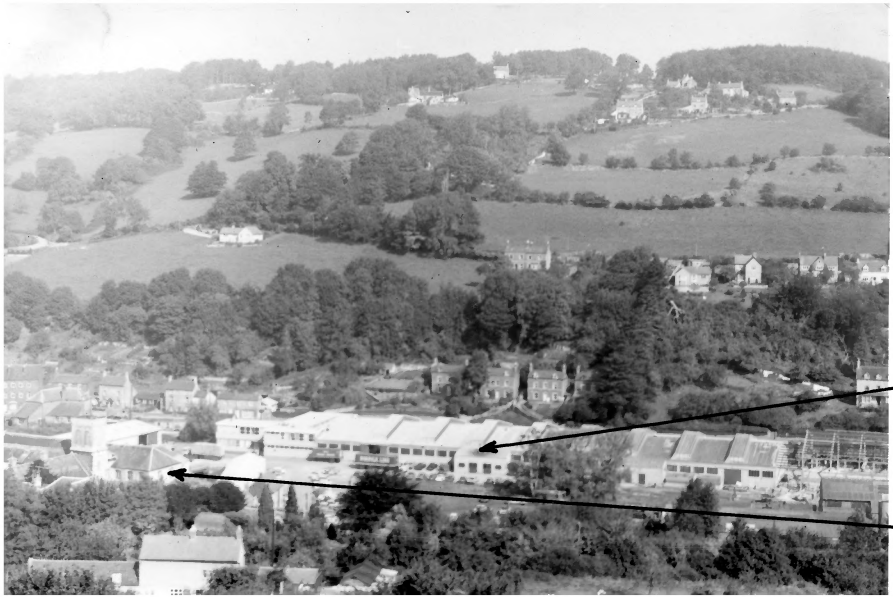
300 yards along the A 419, the deeply incised ad well wooded Toadsmoor Valley was noted. The point where its stream enters the River Frome is shown on the O.S. 2½ inch map. However, today, a modern factory was seen here, owned by Critchley Bros. Ltd., who are also owners of a factory site 200 yards upstream on the site of Wimberely Mill. This mill due to its unsafe nature was also demolished, so that the plastics firm now has a 20 acre complex½ (Photograph 16). Plastica conduits and cable makers are produced by 300 employees, and 20% of products are exported.

Just to the north of Critchley a modern site, the Olympic Varnish Co., was seen. This small factory employs 25 in the production of insulating lacquer for covering fibreboard and paper used in motor cars, suitcases, television backs etc. ICI and B.P. Shell supply the chemicals and 10% is ecported. The board is obtained from Austria, Germany or Scandinavia.

In the deeply incised north south trending Toadsmoor Valley, two factories were noted. 300 yards north up the valley from the A 419, Gussage Mill, Tucker Products Ltd., employs 6 men for woodturning. Tool handles are the main concern, and the mill has been little modified.

One mile further north, a mill was seen on the floor of the narrow deeply incised valley, surrounded by woodland.(Photograph 17). Here, Scott-Entropp Ltd., produce aniline dyes and inks from chemicals obtained

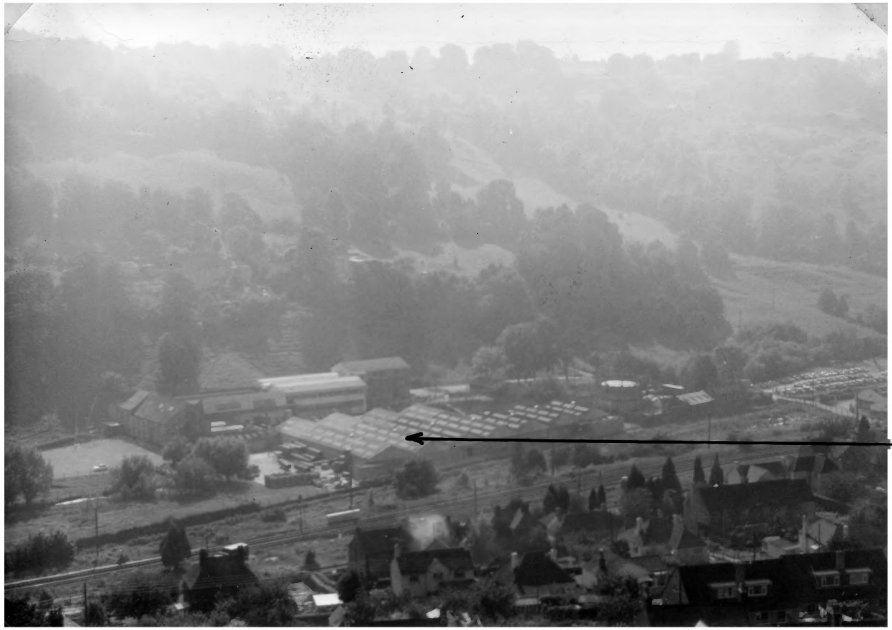
PHOTOGRAPH 15. BENSON'S LTD.; ON THE SITE OF BRIMSCOMBE CANAL PORT A VIEW FROM THE SOUTH, AT BURLEIGH COURT



MODERN PREMISES ON PORT SITE

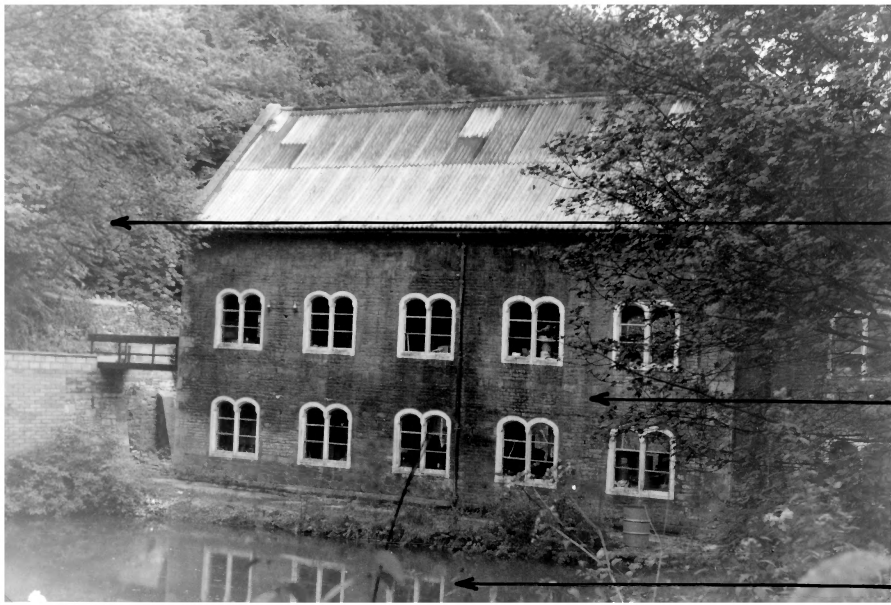
BRIMSCOMBE PORT MILL.

PHOTOGRAPH 16. CRITCHLEY LTD. ON SITE OF WIMBERLEY MILL, BRIMSCOMBE A VIEW FROM BLACKNESS HILL TO THE NORTH OF THE SITE



CRITCHLEY. LTD ON SITE OF MILL

PHOTOGRAPH 17. SNOW'S MILL, SCOTT ENTROPP INKS LTD., TOADSMOOR VALLEY.



STEEP WOODED SLOPES

2 STOREY MILL: MULLIONED. WINDOWS

MILL POND.

PHOTOGRAPH 18. ST MARY'S MILL, CHALFORD A VIEW FROM THE WEST ON THE CANAL BANK.

POSITION OF WEAVERS WINDOW

5 STOREY STONE MILL.

from ICI. 10 men are employed in this family business, with the owner living nearby. The isolation of this factory served only by one minor road, is striking, and is even more anomalous when considering the nature of its production. There seems to be no economic or social basis for this type of industry here, as all chemicals must be imported from outside the area.

Continuing up the Frome Valley, a half mile from Critchley's, St. Mary's Mill can be seen from the canal bank (Photograph 18). It appears to be disused, but walking sticks have been made here for over 100 years. Frank Madeley, a stick bender for 42 years explained how first the sticks of any wood type are heated in wet beech swadust and then bent in vices heated with gas jets (Photograph 19). 36 dozen sticks can be bent in a day, but the position of the knots or "eyes" in the bend of the stick affects the strength of the walking stick. The gas jets result in a high temperature in the workshop. Six wood turners then turn and carnish the sticks, many of which are sent to hospitals.

To the east, within Chalford village (Grid Reference : 893025) Cape Asbestos employs 100 in a corrigated asbestos sheet and pipe plant. However, production is to be favoured at the Durham and Watford plants of the company, and this factory is seon to close. Most are modern buildings, except for the Victorian brick mill building seen from the Hyde road (Photograph 20). Heating, pressing and cutting of asbestos is carried on here, and before the run-down of labour, 300 were employed. The asbestos is mixed with water and cement to a liquid which is sprayed into sheets; 8 coatings giving a $\frac{1}{4}$ inch of solid asbestos.

Here in the valley floor at Chalford is a complex of factory buildings, some of which were noted to be vacant. Chalford Chairs Ltd., occupy a small part of this industrial complex, having occupied the premises for 30 years. 12 employees manufacture finished upholstered furniture and setees etc. Wood and Belgian and British nylon and wool fabrics are the raw materials used.

West of this, adjacent to the A 419 bridge over the River Frome (Grid Reference : 896025), Doulton Filters Ltd., construct filtration and powder equipment with 32 being employed. Facing this site, on the opposite side of the A 419 Giftware Ltd., operate a small plant with 20 workers manufacturing glass fibre giftware including table mats. Export is worldwide.

This completed the survey of industry in the Frome and adjoining valleys to the north.

The Valleys of the Woodchester Stream and its Tributaries. (The Nailsworth Valleys).

From the confluence of the Woodchester Stream and the River Frome at Dudbridge (Grid Reference : 834045) (Map 3), a multiplicity of industry as varied as that in the Frome Valley was noted, down to Nailsworth in the south.

To the east of the A 46 Bath road at Rodborough, the 8 acre site of T. Daniels was noted. Here, an old established engineering firm concentrate on the manufacture of hydraulic presses up to 1000 tons, vacum formers and injection moulding machines. In 1962 it was made into a public company after private ownership by Unochrome International, and now with a workforce of 800, it is the second largest sole employer in the Stroud area.

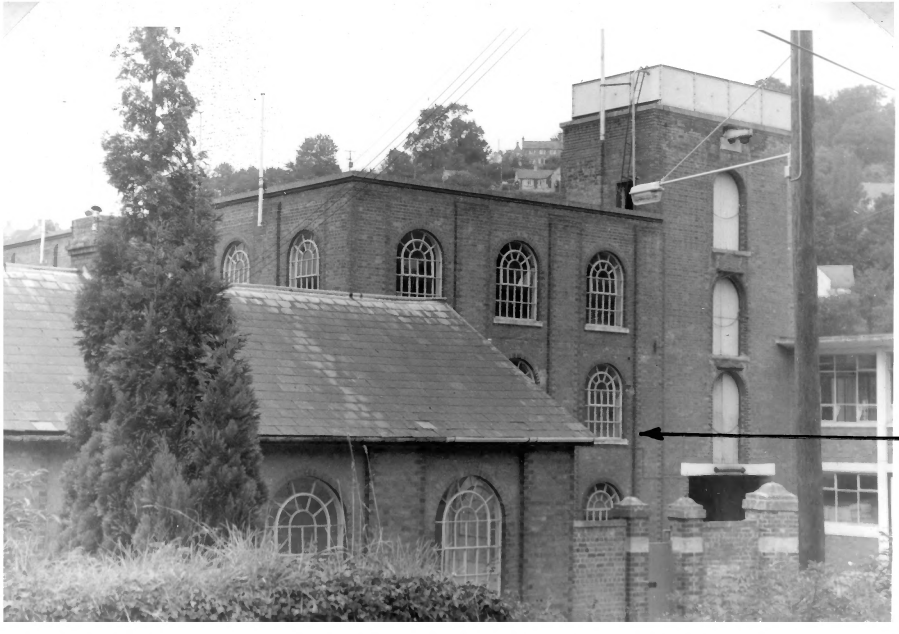
PHOTOGRAPH 19. WALKING STICK PRODUCTION AT ST MARY'S MILL.

WET BEECH SAWDUST FOR HEATING STICKS

FINISHED STICKS

GAS HEATED VICES FOR STICK BENDING

PHOTOGRAPH 20. CAPE ASBESTOS LTD ON SITE OF THE CHALFORD MILLS COMPLEX



3 STOREY BRICK PREMISES STEEL FRAMED WINDOWS : POSSIBLY AN ORIGINAL MILL BUILDING.

50% are skilled labour in machining, fabrication and assembly on this 8 acre site between two main roads (Map 3). Plate and sheet steel is imported from South Wales. 40% of products are exported.

To the south and on the opposite side of the A 46 sited beside the Woodchester Stream itself, B.P. Plastics Ltd., are the largest sole employers in the Stroud area, 900 being employed here. The firm, B.P. Chemicals (U.K.) Ltd., B.P. Plastics Dept., maunfacture plastic moulding materials and extended sections, with some foamed plastic for packaging. Products are sent to moulding firms in the U.K. and in Europe, and buttons manufacturers throughout the world are supplied with casein. PVC is obtained from the B.P. plants at Barry and Welwyn and Styrene from New Zealand.

The 900 employed include development staff of chemists and engineers, fitters, electricians and toolmakers.

From Staffield housing estate to the south east, a good view was obtained of the B.P. Plastics plant, and Daniels engineering plant (Photograph 21).

Further south up the Nailsworth Valley, a half a mile along the A 46 Bath road, Rooksmoor Mill was noted. Here, mail order and distributive companies were occupiers of the mill, with approximately 10 employees working here. Lawrence Lipsey and Co. Ltd., kapok packagers are part-occupiers.

At Woodchester, Woodchester Mill (Grid Reference : 843028) is the premises of The Bentley Piano Co. Ltd. All stages in the manufacture of pianos are to be found here, 120 employees being occupied in the various stages. Woodworking, polishing and the making of strings, hammers, and actions are all carried out. The pianos are sold all over the world with the exception of the Iron Curtain Countries and China. An excellent view is obtained of the site from the valley slope to the east (Photograph 22).

Just east of Woodchester Church, 300 yards south along the A 46, on the site of Southfield's Mill, corrugated iron sheds house Arthur's Press, producers of colour magazines and also general printed matter. 40 workers are employed here.

Continuing south up the Nailsworth valley which is deeply incised and narrow, a number of companies occupy the Woodchester Industrial Site. Portair Products Ltd., vent engineers occupy the diminitive Churches Mill with 5 employees, and across the minor road to the south, two companies occupy the new site (Grid Reference : 841023). L. J. H. Ballinger make abrasive machine tools, with designing also carried out here. Fenworth Ltd., occupying one modern block, with a new building seen under construction, and 4 shop floors in all, produce light engineering castings. 100 are employed here at this site.

On the opposite east bank of the Woodchester Stream, beside the A 46, Quaker Chemical Co. Ltd., was noted, 20 being employed in the refining of specialised lubricating oils. The premises seen here, are brick built and formerly housed a saw milling company. Oil and chemicals are obtained from the U.S.A. and Holland as well as from British ICI and B.P. Plants.

300 yards to the south, Frogmarsh Mill (Grid Reference : 841017) was noted just north of the bridge carrying the A 46 onto the western side of the Woodchester Stream. The Carr Tanning Co., Ltd., leather tanners, have

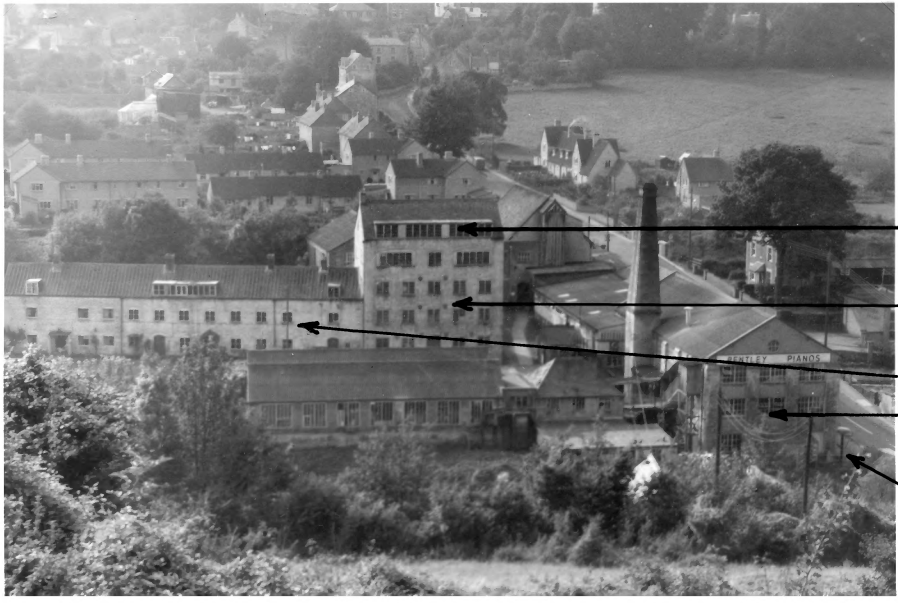
PHOTOGRAPH 21. LIGHTPILL MILL A VIEW FROM THE SOUTH EAST AT STANFIELDS ESTATE

DANIEL'S LTD

B.P. PLASTICS LTD.

ORIGINAL LIGHTPILL MILL (3 STOREY STONE)

PHOTOGRAPH 22. WOODCHESTER MILL. A VIEW FROM THE EAST (BENTLEY PIANOS)



WEAVERS WINDOWS.

5 STOREY WEAVING SHED

WEAVERS COTTAGES

REBUILT MILL

SITE OF FORMER BUILDINGS.

EXAMPLES OF RAW WOOL AND FINISHED FLOCK FROM FREAMES MILL, WOODCHESTER.

RAW WOOL

FINISHED FLOCK.

EXAMPLES OF RAW WOOL AND FINISHED FLOCK FROM FREAMES MILL, WOODCHESTER.

RAW WOOL

FINISHED FLOCK.

PHOTOGRAPH 23. FROGMARSH MILL, SOUTH WOODCHESTER (CARR TANNING LTD)

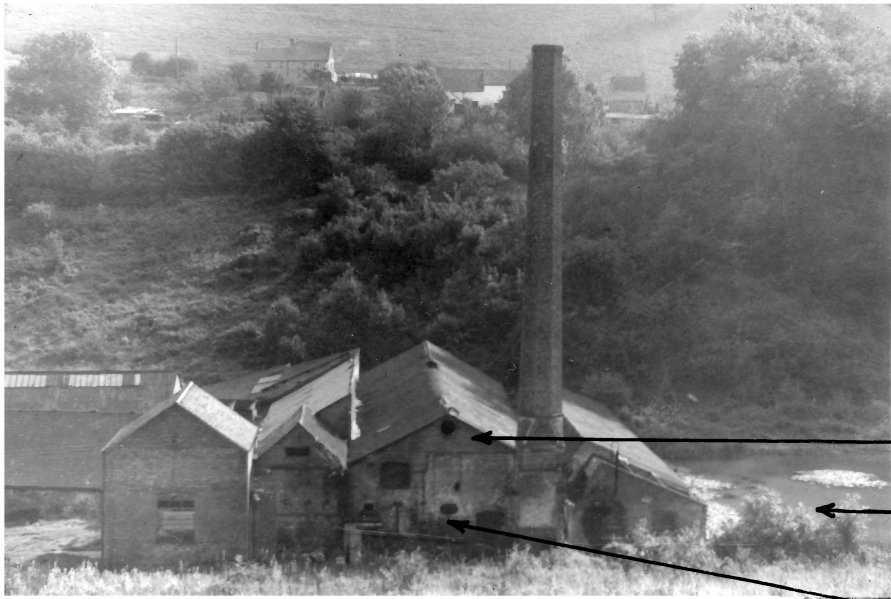
3 STOREY STONE MILL.

WOOL DRYING TOWER

PHOTOGRAPH 24. NEWMAN ~ HENDER LTD. A VIEW FROM THE SOUTH

PHOTOGRAPH 25. FREAMES MILL, INCH BROOK

VIEWED FROM THE NORTH (M. GRIST LTD)



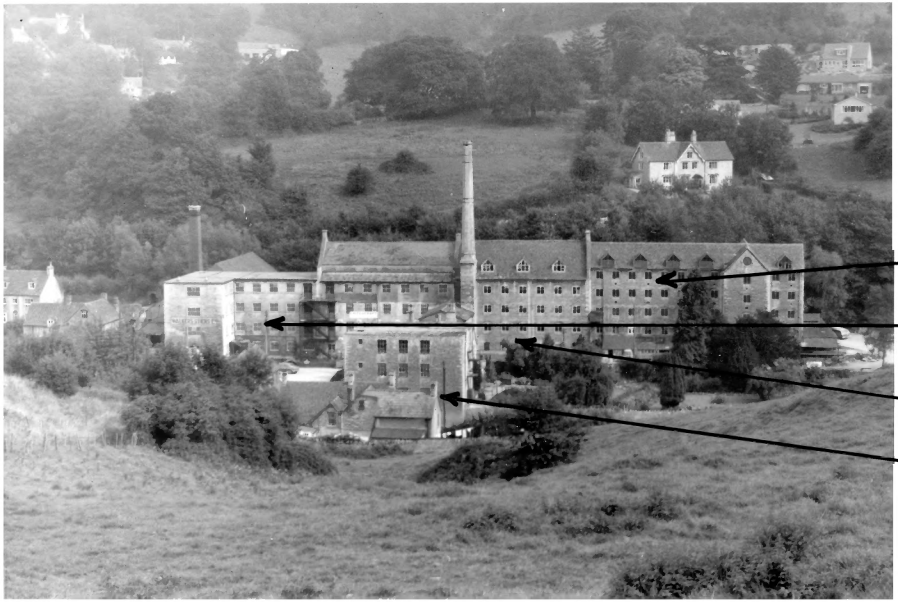
LATE 19th CENTURY BRICK PREMISES

MILL POND

SOME DEMOLITION

PHOTOGRAPH 26. DUNKIRK MILLS, NAILSWORTH

VIEWED FROM THE WEST



5 STOREY MILL (STONE)

YUKON COIL CO

OLDEST PART OF MILL

CONTELL LTD

THE 3 AGES OF CONSTRUCTION ARE VISIBLE

65 workers employed in sorting, tanning, dyeing, drying, finishing and trimming skins. Skins are obtained mainly from this country, but some are imported from New Zealand, South Africa and Persia. The synthetic dyes and tans are obtained from British Chemical plants. Distribution is worls wide (Photograph 23).

The two large companies of Cameron Gardner Ltd., and Newman, Hender and Co. Ltd., occupy 5 acres on the former sites of Merrett's Mill and Dyehouse Mill. Cameron Gardner Ltd. (Grid Reference : 842014) manufacture hydraulic loading equipment, exports being mainly to Europe. 30 skilled workers are included in the employment total of 60. The original Merrett's Mill can be seen here, although modern sheds occupy much of the site.

Newman, Hender and Co. Ltd., produce forged steel valves and fittings. The whole site is occupied by buildings post 1945 in age, and there is no evidence of the original mill in existence. 250 are employed here (Photograph 24).

The narrow Inchbrook Valley entering the Woodchester valley from the west (Map 3) has one mill, Fream's Mill, still concerned in the production of woollen flock (Grid Reference : 839008). It is very poor in repair (Photograph 25), and only the more recently constructed sheds seen to the east of the mill are used. Here carding of raw wool is done by 2 employees using 5 antiquated machines dated 1872, and manufactured in Huddersfield. The mills owned by Matthew Grist Ltd., scour and card wool for the bedding trade. New Zealand raw wool is obtained, and the finished flock is sent to bedding companies in the Midlands. Production has dropped drastically here over the past 10 years, and the state of the buildings and the morale of the owner, M. Grist, reflects the recent decline of this mill. This is a remnant of a once important industry, before the requirements of flock declined and latterly ceased in the Stroud area. An example of raw wool, and finished flock is included.

South east of Inchbrook at lower Forestgreen, overlooking the Nailsworth valley from the west, the extensive Dunkirk Mills can be seen in the valley bottom (Grid Reference : 845005) (Photograph 26). Here, only one manufacturer occupies the mill, in the northern end. The Yukon Coil Co., are producers of commercial and industrial refrigeration equipment, with a staff of 15 engaged in welding, turning and fitting. The steel is obtained from Gloucester merchants. The remainder of the mill lies vacant for the southern part which is occupied by a building and plumbing firm, employing 50 labourers and carpenters. Contell Instruments Ltd., occupies a building to the west of Dunkirk Mills by the side of the A 46. Here, lighting control equipment is produced by 8 employees. Metal work used is of local manufacture, whilst all electrical equipment except semi-conductors are of West German or Swiss origin.

Half a mile up the Nailsworth valley, Egypt Mill beside the A 46, grinds oats, barley and maize using diesel power and electric power. 25 tons of oats and barley are ground in one week. Only 2 men work here. All grain is locally grown.

Within the town of Nailsworth a large industrial site of corrugated iron sheds lies over the site of the confluence of two converging streams, the Avening Stream from the south east, and Horsley Brook from the south west. The site can be seen to the north from the A 434 (Photograph 27). (Map 3), with two companies occupying the premises being partly on the site of Nailsworth Mill. A fibreboard manufacturer, E. A. Chamberlain Ltd., uses waste paper to manufacture products used in the shoe, automotive, luggage, gasket and printing industries. This company occupies premises fronting onto the Nailsworth to Minchinhampton road, at the site of the former

Nailsworth Mill. Pressboard Ltd., theother company occupying this site use some of the fibreboard manufactured next door together with hardboard in order to produce motor car panels and fibreboard moulds and containers. A total of 380 people are employed in both companies.

Following the Avening valley south eastwards, two factories were noted. Half a mile along the A 434 from Nailsworth, Spring Mills (Grid Reference : 859994) (Photograph 28) are occupied by Little Stoke Engineering Ltd., manufacturers of overhead travelling cranes, ships cranes, hoppers and all types of lifting equipment. The 36 employees include skilled engineers, semi-skilled workers, labourers fabricators and design and supervisory personnel. A work force of 80 is envisaged in the near future. The finished cranes are sent to all types of industry and to shipping firms.

One mile up the Avening Valley, Longford's Mill was encountered. A good view of the mill and its large pond was obtained from the east (Photograph 27). Here, the third and last woolen cloth mill seen in the Stroud area, is situated. The owners William Playne and Co. Ltd., produce a varied range of all types of woollen and worsted cloth, including naval doeskins, venetians, motor and boottee linings, and piano, roller, printing and tennis ball cloths. 75% of products are exported, emphasis being on specialised high quality goods. The intense specialisation at this mill, which is relatively isolated in comparison to other former woollen cloth mills, has allowed the successful survival of woolen cloth production here. The Playne family has owned Longford's Mill since 1759, and pride of ownership and tradition could have played some part in the maintenance of the industry.

Returning to Nailsworth, industry was noted in the Newmarket and Horsley Brook Valleys.

In Nailsworth itself, the Mumford Engineering Co. Ltd., was noted. This firm of general engineers supplies Newman, Hender Ltd., and Cameron-Gardner of Woodchester with steel and aluminium constructed boxes and frames. Machinists, and welders constitute the work staff of 8 (Photograph 30).

West of Nailsworth, in the Newmarket Valley (Map 3), Groberts Ltd., manufacturers of laboratory and Library furniture occupies Lot Mill (Grid Reference : 841996) (Photograph 30). A staff of 45 is concerned with the joinery, finishing and polishing of furniture (Photograph 31).

300 yards further up the valley, Hillier's bacon curing factory is sited in a modern factory on the steep valley side. 260 are employed here in all meat and cookery trades, with a research section being incorporated. Meat products are distributed to within a 100 mile radius of Nailsworth.

In the Horsley Valley (Map 3), four companies were noted. C. and W. Electroplating Ltd., in Nailsworth itself was seen to occupy a small back-street workshop. Their products are depatched only to local engineering firms.

B. W. Johnson Ltd., occupy Lock's Mill in the manufacture of switch boards and wiring equipment and leads for the Post Office. Co-operation was notably lacking here.

Gig Mill (Grid Reference : 844987), 200 yards further south up the Horsley Valley was accessible only by means of returning into Nailsworth town centre and proceeding south along the B 4058. Here, A. E. and T. Dipple Ltd., manufacture general sheet metal fabrications mainly for local markets. 38 workers are employed in skilled and semi-skilled categories (Photograph 32).

PHOTOGRAPH 27. SITE OF NAILSWORTH MILL

(PRESSBOARD LTD.)

E. A. CHAMBERLAIN. LTD.

PRESSBOARD LTD

CORRUGATED IRON SHEDS.

PHOTOGRAPH 28. SPRING MILLS, AVENING VALLEY

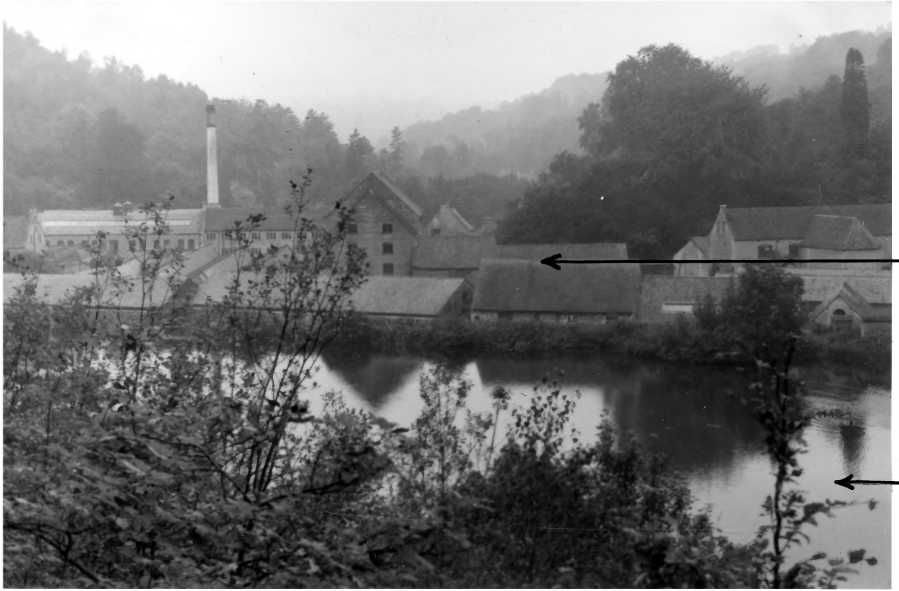
(LITTLE STOKE ENGINEERING)

HOLCOMBE MILL

3 STOREY STONE MILL.

PHOTOGRAPH 29. LONGFORD'S MILL (W. PLAYNE LTD)

A VIEW FROM THE A 454 ROAD TO THE EAST

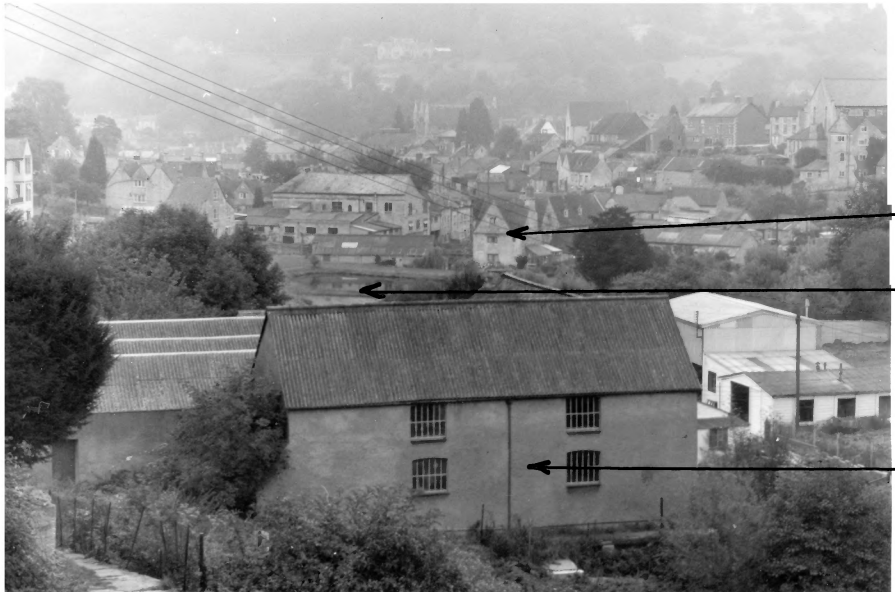


PHOTOGRAPH 30. DAY'S MILL, NAILSWORTH

3 STOREY STONE MILL

PHOTOGRAPH 31. LOT MILL, NEWMARKET VALLEY. (G ROBERTS LTD)

PHOTOGRAPH 32. GIG MILL, NAILSWORTH (DIPPLE LTD)



CLOTHIER'S HOUSE

MILL POND OF LOCK'S MILL (JOHNSON. LTD)

2 STOREY MILL : COVERED STONEWORK.

Lower Horsley Mill is occupied by one of the more unusual industries noted in the Stroud area. The valley floor has been dammed giving numerous small ponds along a half mile stretch of the valley. Here, the Midland Fisheries breed and rear coarse fish and trout for the restocking of depleted waters (Photograph 33 and 34). Larvae are imported from Canada and are then bred first of all in the mill building and then inponds. The fish are later sorted, with various ponds holding fish of certain ages.

The site by site examination of industry in the area had been completed by this stage, and it was then possible to distinguish some degree of broad categorisation in this field. The following chapter outlines the broad characteristics of the structure of present industry in the Stroud area.

PHOTOGRAPH 33. LOWER HORSLEY MILL (MIDLAND FISHERIES)

PHOTOGRAPH 34. NURSERY PONDS AT THE MIDLAND FISHERIES.

PONDS CONTAINING FISH OF VARIOUS AGES

Key

Scale : 2½ ins. to 1 mile.

 ..... Roads.

 ..... Built up area.

..... 500 ft. contour.

N.B. Letter notations mark the position of a factory site.

E ..... Engineering. (mechanical).
El ..... Electrical engineering.
P ..... Plastics, paints, and chemicals.
C ..... Woollen cloth and association production.
W ..... Wood and asbestos products.
F ..... Foodstuffs and milling.
M ..... Metallurgical products.
Fu ..... Furniture.
T ..... Paper, and leather tanning.
N ..... Printing.

Key

Scale : 2½ ins. to 1 mile.

 ..... Roads.

 ..... Built up area.

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M ..... Metallurgical products.
Fu ..... Furniture.
T ..... Paper, and leather tanning.
N ..... Printing.

MAP 4.

The Distribution of Manufacturing Industry

Stonehouse

Ebley

Dudbridge

Stroud

Rodborough

Thrupp

Woodchester

South Woodchester

Nailsworth

Brimscombe

Chalford

500

N

0 ½ 1

ONE MILE

CHAPTER TWO : THE GENERAL CHARACTERISTICS OF EMPLOYMENT, POWER SOURCES, AND TRANSPORT AS THE BASIS FOR FUTURE INDUSTRIALISATION: With Employment Figures Obtained by Questionaire Analysis.

Following the observations of each industrial site in the Stroud area, as outlined in the previous chapter, it is possible to arrive at some conclusions on employment in specific industries. The questionaires presented much valuable information on employmnet totals, allowing an assessment of the relative importance of each type of industry, in terms of the numbers employed. This chapter outlines the possible future for each category of industry, following a summary of the trends in industrial employment, revealed by questionaires analysis. The nature of power supplies and transport facilities in the area, which can affect the establishment and viability of industrial sites, is also stressed.

Trends in Industrial Employment.

The Industrial Handbook of 1964, published jointly by the Stroud and Nailsworth Urban District Councils and the Stroud Rural District Council, quotes the population of Stroud as approximatley 19,000. Including the 29,000 population of the Stroud Rural District and Nailsworth with a population of 3,800 the Stroud area of 51,800 inhabitants possesses an ample labour pool for its varied industries. The council boundaries are indicated on Map 2. However, the insured working population of approximately 22,000, around 8000 (36%) of which are women and girls, includes many people resident outside the Stroud area. B.P. Plastics south of Rodborough the largest single employer in the area, and many other larger concerns, attract labour from afar afield as Gloucester, or Swindon, 27 miles to the south east. William Playne and Co. Ltd., cloth manufacturers of Longford's Mill (Grid Reference : 867992) have 5 of their workers travelling daily from Malmesbury, Wiltshire, 10 miles to the south. Much of the labour is resident within 20 miles of Stroud.

However, the 22,000 insured workers, include many employed in distribution, administration and service and catering occupations. A total of 7276 workers is obtained for all the factories which complete a questionaire, and those which stated an employment quota on enquiry. A total for the number from each industrial concern noted in the Stroud area, whether by means of questionaire completion or by a verbal statement.

By far the largest employers amongst the industries noted are the mechanical and electrical engineering concerns. 3197 (44%) of the 7276 workers obtained by questionaire totalization are employed in the category of manufacturing industry, with 1183 employed in the electrical engineering category. T. H. and J. Daniels of Rodborough (Grid Reference : 840043) are concerned both in the manufacture of heavy engineering products, including hydraulic presses up to 1000 tons, and in electrical engineering products including transformers. This firm, combining both electrical and mechanical engineering is the second largest single employer in the Stroud area, 800 semi-skilled and skilled workers being employed. The skilled labour constitutes 50% of the work force. However the majority of engineering companies employ less than 100 workers (Map 5).

The second largest employers of the manufacturing industries are those concerned with plastic products. This category also includes a few plants concerned with raw chemical and paint and ink manufacture. 1390 people are employed in this sector of manufacture in the Stroud area, constituting 19% of the combined total of 7276 workers for all industries. B.P. Plastics

Ltd., employs 900 workers in all stages of plastic and chemical production and research, and is the largest single employer in the area. Apart from Critchley of Chalford, employing 300, all other plastics and chemical manufacturers employ less than 100 workers (Map 6).

13% of the working population in the Stroud area is concerned in cloth or woollen production. This category not only includes employees of woollen cloth mills, but also those employed in the cloth finishing or tailoring company of Hill, Paul and Co. Ltd., of Stroud, employees of Bond Worth Ltd., specialising in wool carding or spinning, and the two employees of Matthew Grist's flock mill at Inchbrook (Map 7). A total of 952 workers are included within this category. It is significant that despite the relative decline of the woollen industry, questionaire analysis has shown that the wool and woollen cloth processing and finishing industries are still the third largest employers in the Stroud area.

Two pressboard companies in Nailsworth, with Carr Tanning Ltd., of Woodchester and the Stonehouse Paper and Bag Mill Ltd., are included within the category of paper and leather tanning industries. 475 employees in this type of production constitute 70% of the total workforce of the Stroud area. 380 are employed in the two pressboard companies at Nailsworth and 30 at the Stonehouse paper mills (Map 8).

Food processing and milling employs 367 workers, 5% of the total workforce in the Stroud area. The five industrial sites concerned with this production include Hillier's bacon curers, pie and sausage manufacturers Stroud Brewery Ltd., and a number of grain and cattle cake mills including Egypt Mill, Nailsworth, employing 2, and Townsend's modern milling plant at Stroud employing 70 workers.

There is also a multiplicity of smaller firms specialising in consumer foods for local markets. Such firms include an ice-cream factory at Nailsworth with 5 employees, and numerous dairies (Map 9).

333 workers are employed in firms concerned with the finishing of wood and asbestos products. Although this is a slightly lower figure than the quota of employment for food processing and milling, seven firms are concerned with wood finishing as opposed to five major firms concerned with food processing. Four of the seven companies have a labour force of between 50 and 100 employees, with the Cape Asbestos plant at Chalford employing 100. Redundancies are forthcoming at this factory, and hence the workforce in this category of industry will continue to decline as it has done, during the previous 5 years. The Ryeford sawmills employ 70 employees including skilled carpenters and joiners for finished wood products. Tool handles and general joinery for local use features as a major sector of the wood finishing industry in the Stroud area. The production of walking sticks at St. Mary's Mill (Grid Reference : 887022) is an unusually antiquated process, 7 employees being concerned (Map 10).

Printing of newspaper and periodicals, allied in the case of Copeland-Chatterson Ltd., to the production of filing cards and systems, employs 240 personnel in two companies. Copeland-Chatterson Ltd., of Dudbridge employs 200, and Arthur's Press on the site of Southfield's Mill, Woodchester (Grid Reference : 843026) employs 40 workers (Map 11).

Furniture production in three seperate companies employs 2% of the total industrial working population in the Stroud area. Included within this category are the 120 employees of the Bentley Piano Co Ltd., of Woodchester Mill (Grid Reference : 843029) (Photograph 22). The other two companies, engaged in furniture manufacture, the Chalford Chair Co Ltd.,

and Groberts Ltd., of Nailsworth, employ 12 and 45 personnel respectively. Whilst Groberts specialise in office and laboratory furniture, the Chalford Chair Co Ltd., produce upholstered domestic furniture (Map 12).

The ninth and final category of manufacturing industry is one which possesses the lowest work force of any of the industries noted in the Stroud area. Metal smelting and electroplating, although an indispensible supporting industry to the varied and extensive machanical engineering production sites in the area, nevertheless has a workforce of only 145 (less than 2% of the working population of the Stroud area). Lewis and Hole Ltd., of the Dudbridge Foundry, producers of ferrous and non-ferrous castings employ 90 moulders, pattern makers and furnace men. Nearby, the Stroud Metal Co. Ltd., producing castings as well as electroplating products, employs 45, whilst two small electroplating companies distributing to local firms, one sited in Brimscombe and the other in Nailsworth, each have 5 employees (Map 13).

Maps 5 to 13 indicate the number of employees at each site, for each category of manufacturing industry.

Map 4 shows the distribution of various industries noted in the Stroud area. Apart from the inferences gained of the structure of industrial employment from the questionaires, information from local industrial handbooks was valuable in assisting the appreciation of employment structures.

The 51,800 population of the Stroud area does not entirely contribute to the insured working population of 22,000, as many workers commute to the area, mostly from within a 20 mile radius. 36% of the workforce are women and girls. However, the questionaires reveal that only 7276 of the 22,000 are employed in manufacturing industry.

Four companies employ over 500 personnel, (Map 14), and of the total of 67 manufacturing companies, 46 employ under 100 workers. The woollen cloth and wool industries feature as having the largest percentage of their sites with a labour force exceeding 100, with 5 out of 7 sites exceeding this labour total. Even with recent modernisation and mechanisation of woollen cloth production, this is a significant trend (Map 7).

The Stroud Industrial Handbook of 1964 quotes the unemployment figure as 0.6% this being relatively static, and the smae for both male and female workers. There is a constant and unsatisfied demand for skilled labour, and only a slightly lesser one for semi-skilled labour.

The adjoining maps, tables and diagrams illustrate the employment data obtained from the questionaires, the characteristics of which have been outlined here.

Power and Transport.

The manufacturing industries observed throughout the Stroud area depend mainly on electricity and fuel oil for their sources of power. Electricity consumption for industry in the Stroud area was 45 million units in 1964, and recent increase in demand for electricity as a source of power, has been closely related to the growth and expansion of industry. In 1961 the Midland Electricity Board completed a £350,000 scheme to standardise the local power distribution system. The scheme involved the conversion of 257 miles of overhead lines, and

underground mains and 641 transformer sub-stations with a total capacity of 73,000 kVA.

Such improvements have aided the growth of the light engineering industries which have recently expanded in the Stroud area. New electricity plant has also been installed to improve and increase the efficiency of industrial power supplies. The atomic power station of Berkeley has increased electricity supply in the area, but to attain the most economic usage, it has been necessary to spread the existing load more evenly throughout each 24 hour period. Inducements are offered to industrial consumers by way of maximum demand tariffs, so that the average price of electricity used is decreased as the load is spread. Approximately 80% of all manufacturing industry in the Stroud area relies both on electricity and fuel oil as its source of power.

Industrial consumption of gas is approximately one million therms per annum. A vast proportion of manufacturing industries utilise gas as a fuel somewhere in their manufacturing process. Some processes utilising gas noted during the transects of industry in the Stroud valleys include the heat treatment of valves and ball and roller bearings, and gas heated extrusion moulds for plastics. Heat treatment in the varied engineering industries and in the production of walking sticks at St. Mary's Mill was gas and specialised scientific industries also utilise gas for fine brazing and steel tempering. Gas heating is used in forced air-circulation for the drying of casien products. Foundry casting, welding and brazing is a significant consumer of gas. The textile industry utilises gas heating for the singeing of woollen textiles, and the food industries use gas for cooking.

Electricity utilisation and availability has risen over the past 15 years to oust coal and belittle the importance of gas despite the recent conversion to North Sea gas. Both electricity and fuel oil, together contribute 80% of the power used in industry in the Stroud area.

Water power has long since been absolescent as a source of power for industry; however, industrial processes demand water, particularly in chemical and plastics production. The cooling of plastics extrusion and other light engineering equipment requires much water constantly circulated. Critchley Bros. Ltd., takes water directly from the River Frome for the cooling of its extrusion equipment, but this was the only company noted in the area, directly using river water. The North West Gloucestershire Water Board, formed in 1964 by an amalgamation of smaller boards, supplies the industries of the Stroud area, and endeavours to provide for any additional need of industry. Industrial consumption of water exceeds 950,000 gallons daily.

The Stroud area is rather remote from the main centres of industry and population (Map 1). However, trunk roads link the nearby major towns, so that raw materials for industry can be brought in, and the products sent out to distributive centres and market areas. The majority of industrial freight is carried by road, with only a small proportion being received or sent by rail. The A 46 links Stroud with Bath, with the M4, joining this road 18 miles south of Stroud. The completion of the M4, east to London, will greatly aid future industrial development. The M4 already provides an easy route to and from South Wales and north Bristol, and was eased the import of Welsh Sheet steel for the engineering and mettalurgical industries in the Stroud area. Some engineering firms have iriginated from the West Midlands, their recent re-siting in the Stroud area having been facilitated by the ease of transport afforded by the M5 motorway, north from Cheltenham. This motorway also allows ease of transit of raw materials south from the Birmingham area, and ease of distribution of finished products.

With the completion of the motorway system, the Stroud area will be in a favourable situation in proximity to the M4 London to South Wales, and the M5 Birmingham to Bristol motorways. The ease of transport will possibly encourage further industrialisation.

The local road network is of a sufficiently high standard to allow good communications both as regards transport of local materials and labour. The A 419 links Stroud with Gloucester 9 miles to the north, and Swindon also a distributive and markets centre 27 miles to the south east (Map 1).

Bus services serve to transport workers throughout the area, and regular services links all settlements in the area as well as providing links with major neighbouring urban areas peak hour services are co-ordinated to give connections to various factories.

British Rail operate passenger and freight facilities from Stroud and Stonehouse to London, Gloucester and Cheltenham. Freight sent from either Stroud or Stonehouse can be delivered to London Docks, Bristol Docks or South Wales the following day. Passenger services between London and Cheltenham stop at Stroud, and there are connections from Gloucester to Birmingham and Derby. However, it is the recent development of the motorways which will most benefit and increase the scale of industrialisation in the area, allowing a greater mobility of materials and population.

Possibilities for Further Industrialisation.

The good road communications in and around the Stroud area, could, for future industrialisation, make available an even larger pool of labour than exists at the present time. The impending completion of the M4 and M5 motorways will also encourage new industries to be set up, exploiting the good facilities for raw material import and distribution.

Engineering and electrical industries occupy 27 of the 67 industrial sites in the Stroud area, the majority of these being old mill buildings. This sector of industry is one which occupies the highest percentage (40%) of sites in the area, and clearly exemplifies the use made of old mill buildings in providing sites for modern industry. Only 5 of the 27 engineering firms are housed in completely new sites of a post 1900 date, although modern additions have been made to many premises.

Of the remaining 40 companies only 4 are housed in premises which have not been concerned with woollen cloth manufacture, and none of these are post 1900 in date. Hence it seems that the major basis for modern industry in the Stroud area has been the availability of cheap factory premises afforded by the disused mill buildings. As a result there is no significant spatial zonation of specific industries as a response to certain geographical advantages. Industries have occupied mill premises as they have become available or when the companies have thought it fit to take advantage of the cheap sites. Only 8 factories are sited to the north of the River Frome, with the majority of industry being sited in the Nailsworth and Frome Valleys, both served by major roads. Thus the availability of good transport facilities has also been a factor in the encouragement of the present industries.

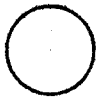
The 5 modern sites are all concerned with light engineering, and it is this sector of industry which is most likely to benefit from the forthcoming improvements in road communication. However, if further expansion is to be realised, the construction of new sites is necessary as all mills are at present occupied. Despite recent economic difficulties suggested by Mr Anthony Kershaw M.P. to be the result of high taxation, new incoming

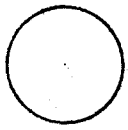
industries will encounter a virile well balanced and complementory industrial structure, with a large labour pool and improving transport facilities. This present structure will encourage further development despite the fact that cheap mill sites are no longer available.

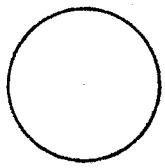
Key for Maps 5 to 14.

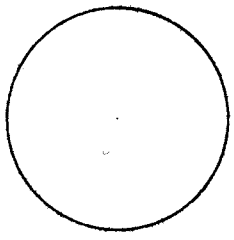
Scale : 2½ ins to 1 mile

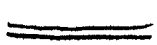
 ..... 0 - 25 employees.

 ..... 26 - 50 employees.

 ..... 51 - 100 employees.

 ..... 101 - 250 employees.

 .... 251 and over, employees.

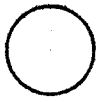
 .... Roads.

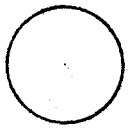
 ..... Built up areas.

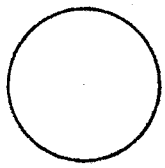
Key for Maps 5 to 14.

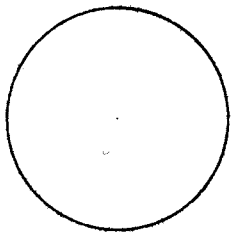
Scale : 2½ ins to 1 mile

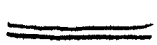
 ..... 0 - 25 employees.

 ..... 26 - 50 employees.

 ..... 51 - 100 employees.

 ..... 101 - 250 employees.

 .... 251 and over, employees.

 .... Roads.

 ..... Built up areas.

MAP 5

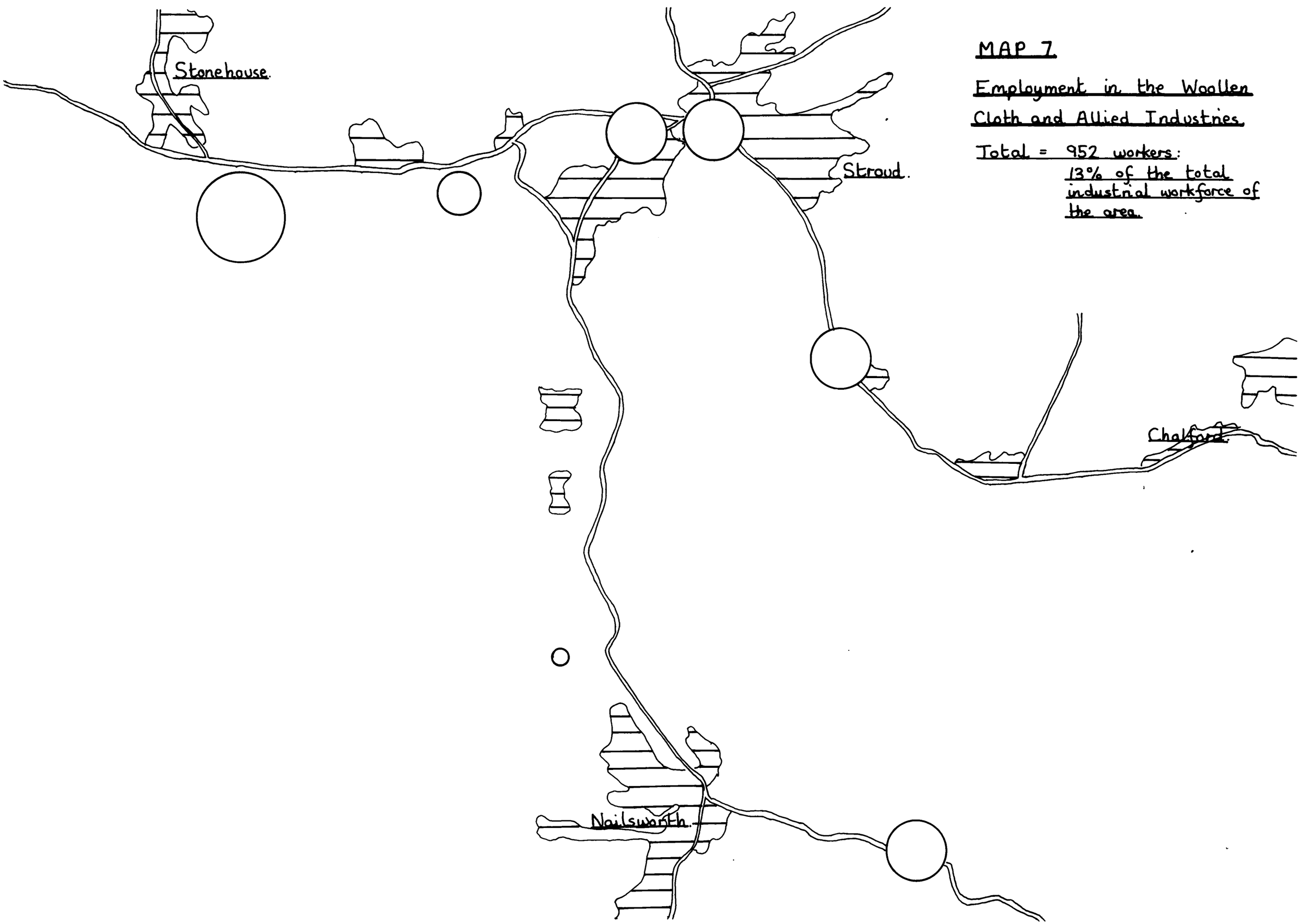
Employment in the Mechanical and Electrical Engineering Industries.

Total = 3197 workers :
44 % of the total industrial workforce

MAP 6.

Employment in the Plastics, Paints, and Chemical Industries

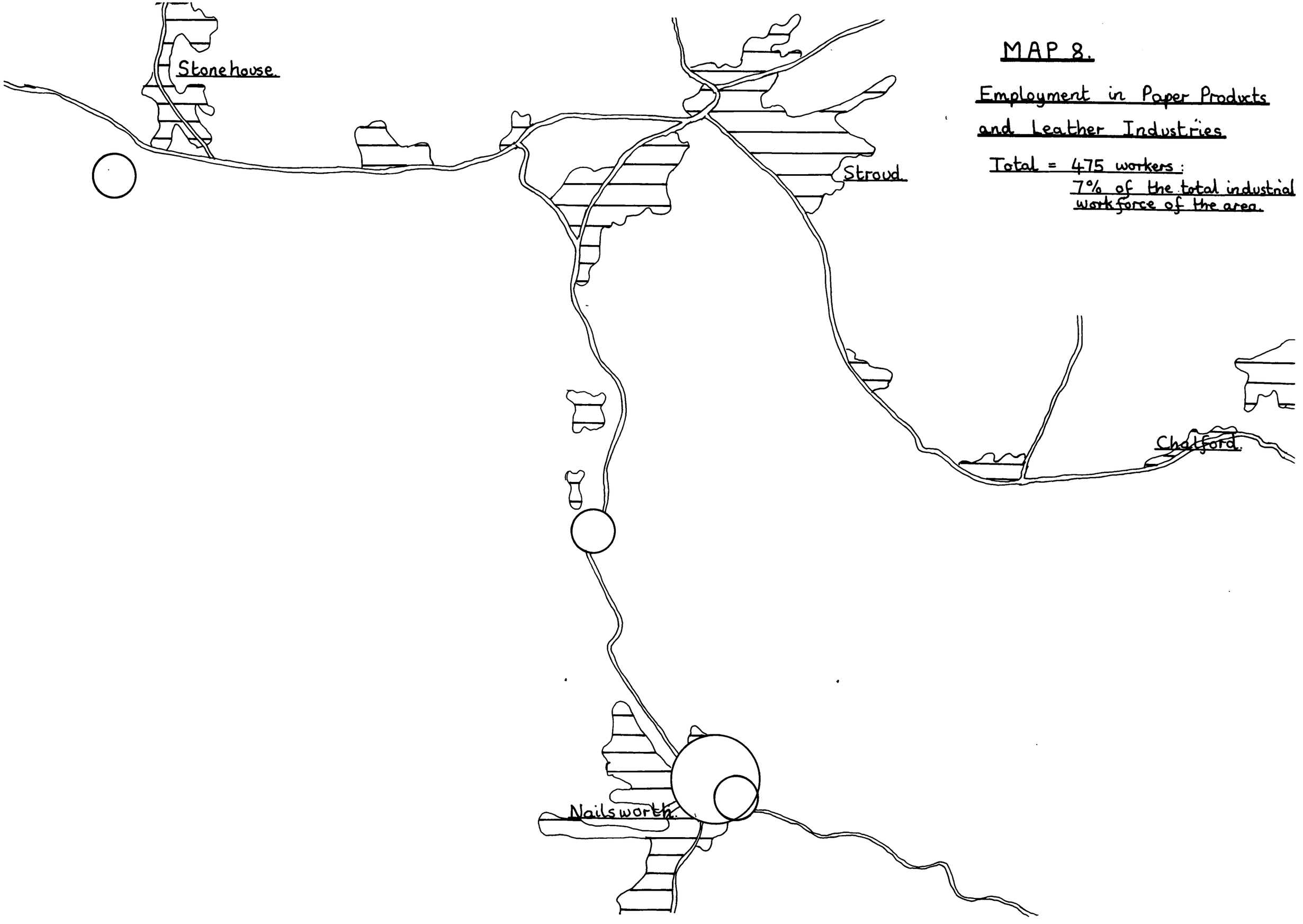
Total = 1390 workers:
19% of the total workforce of the area.



MAP 7

Employment in the Woollen Cloth and Allied Industries.

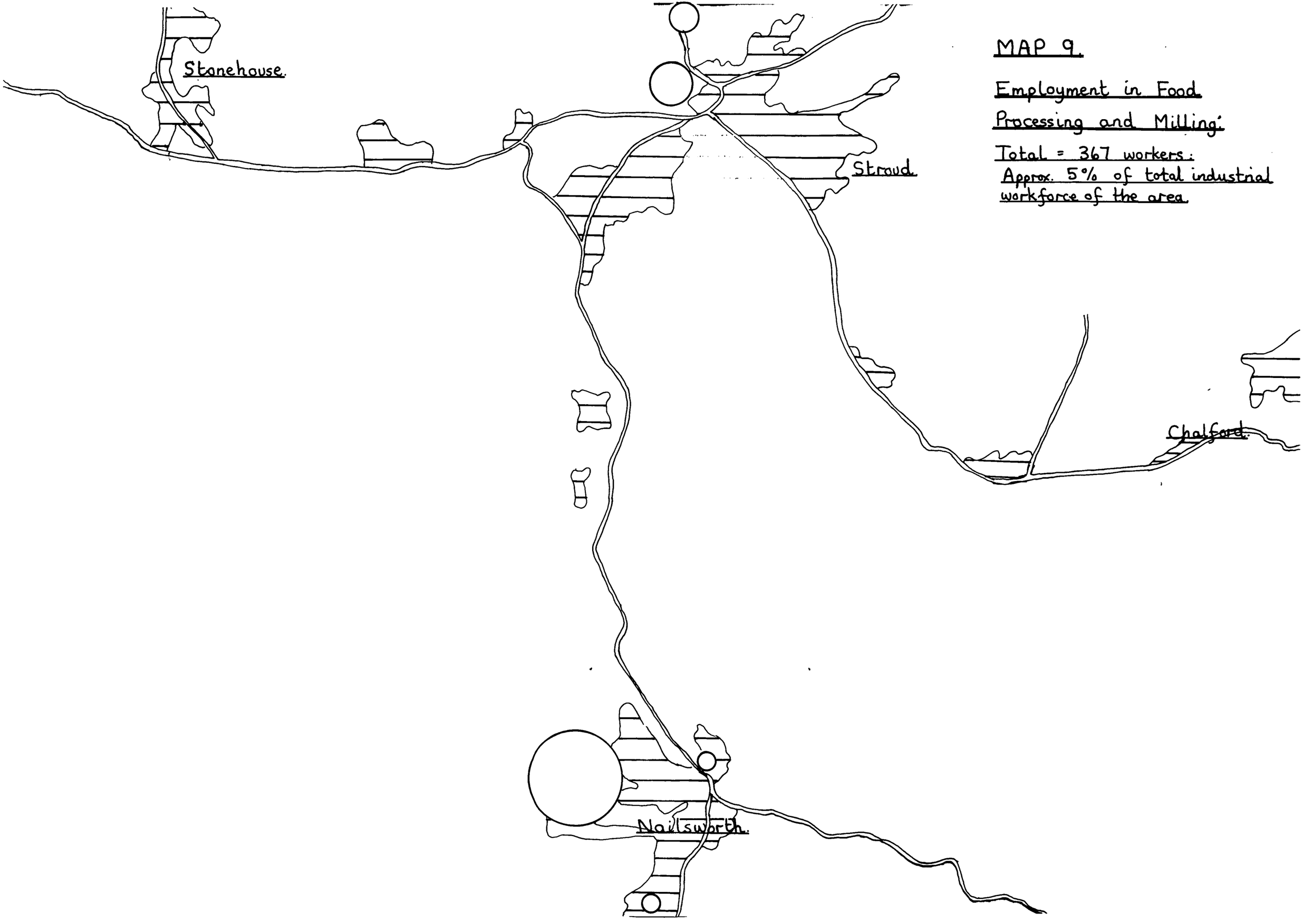
Total = 952 workers:
13% of the total industrial workforce of the area.



MAP 8.

Employment in Paper Products and Leather Industries

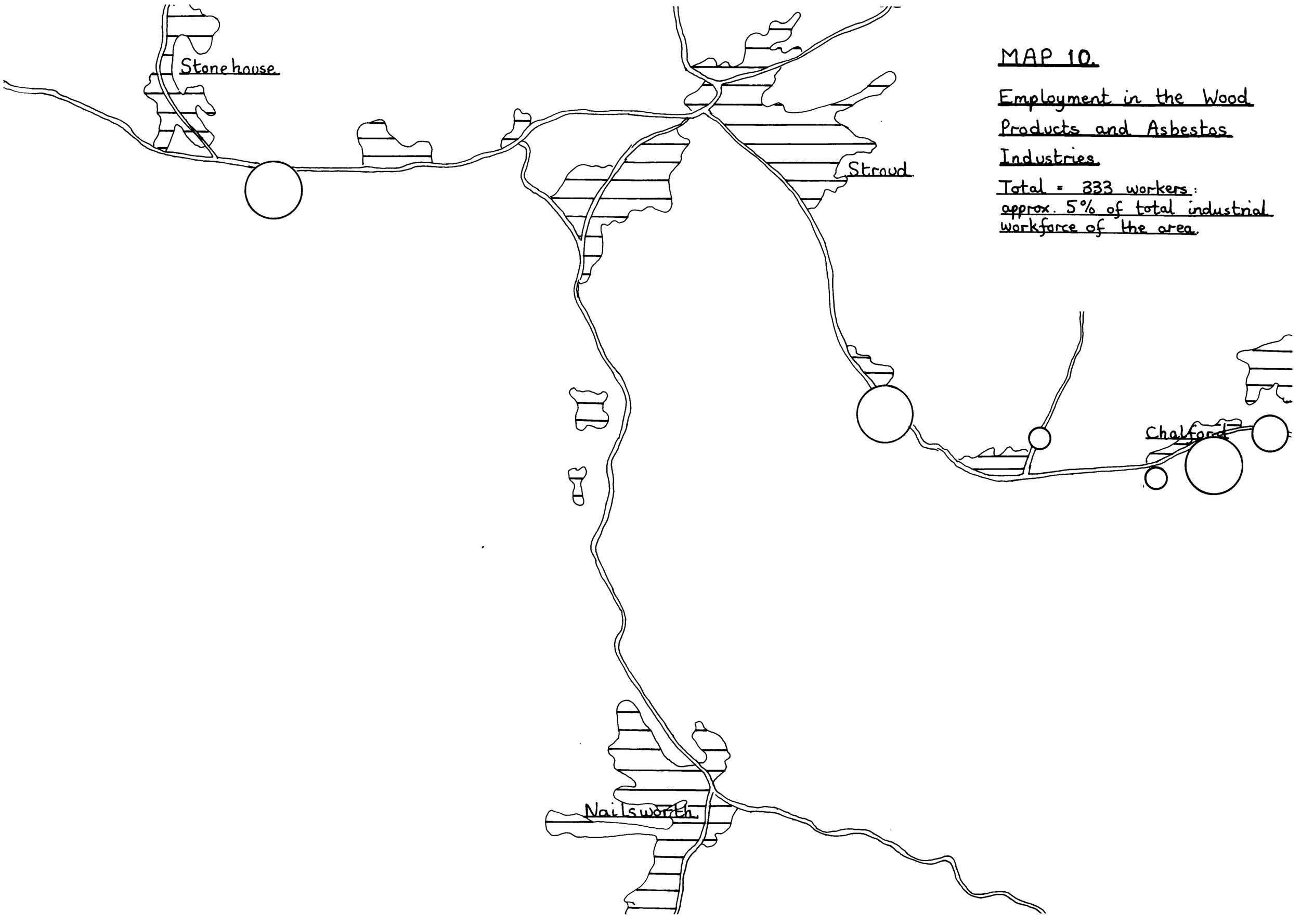
Total = 475 workers:
7% of the total industrial workforce of the area.



MAP 9.

Employment in Food Processing and Milling:

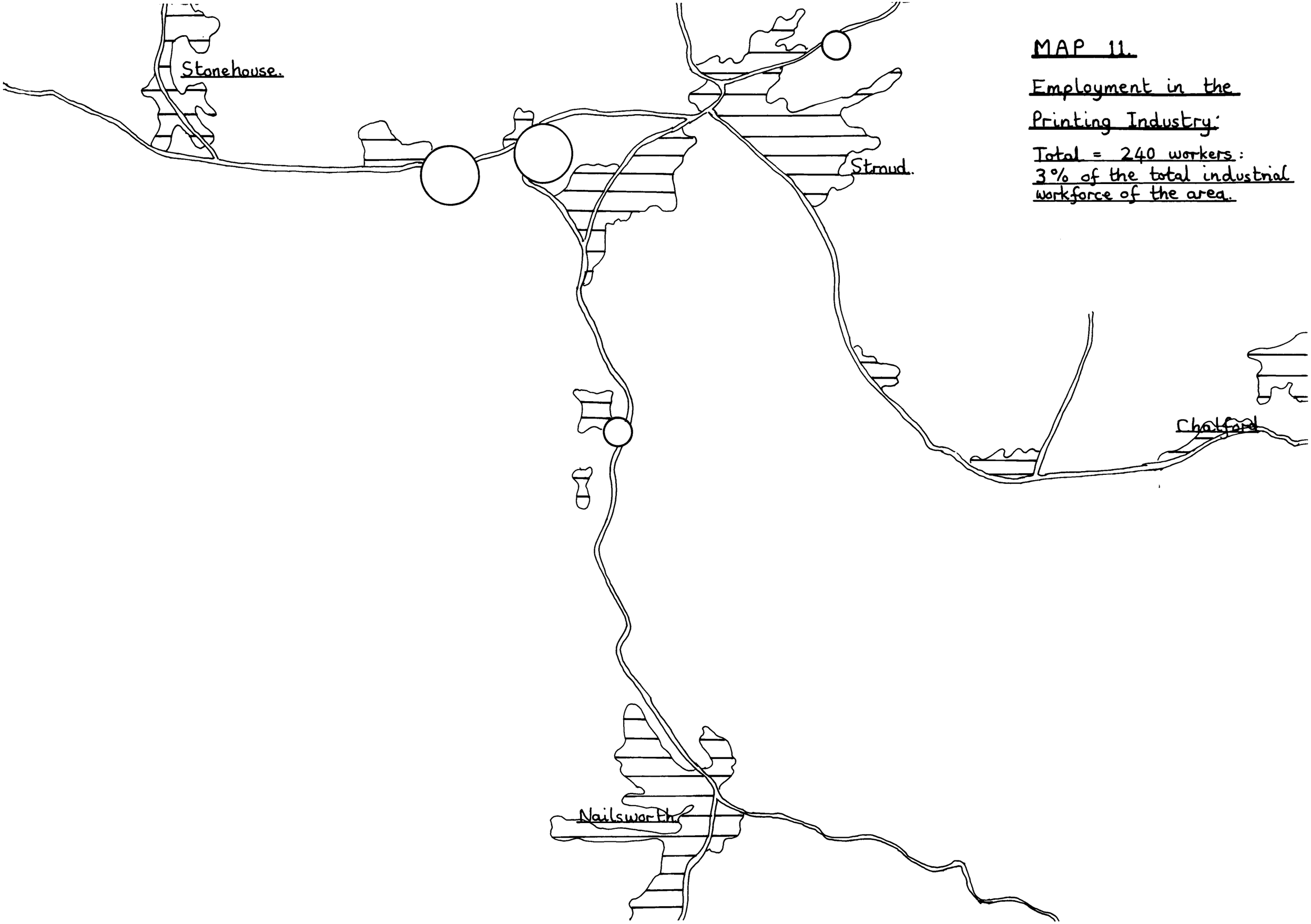
Total = 367 workers:
Approx. 5% of total industrial workforce of the area.



MAP 10.

Employment in the Wood Products and Asbestos Industries.

Total = 333 workers: approx. 5% of total industrial workforce of the area.



MAP 11.

Employment in the Printing Industry:

Total = 240 workers:
3% of the total industrial workforce of the area.

MAP 12.

Employment in Furniture Manufacture

Total = 177 workers: approx. 2% of total industrial workforce of the area.

Stonehouse

Stroud

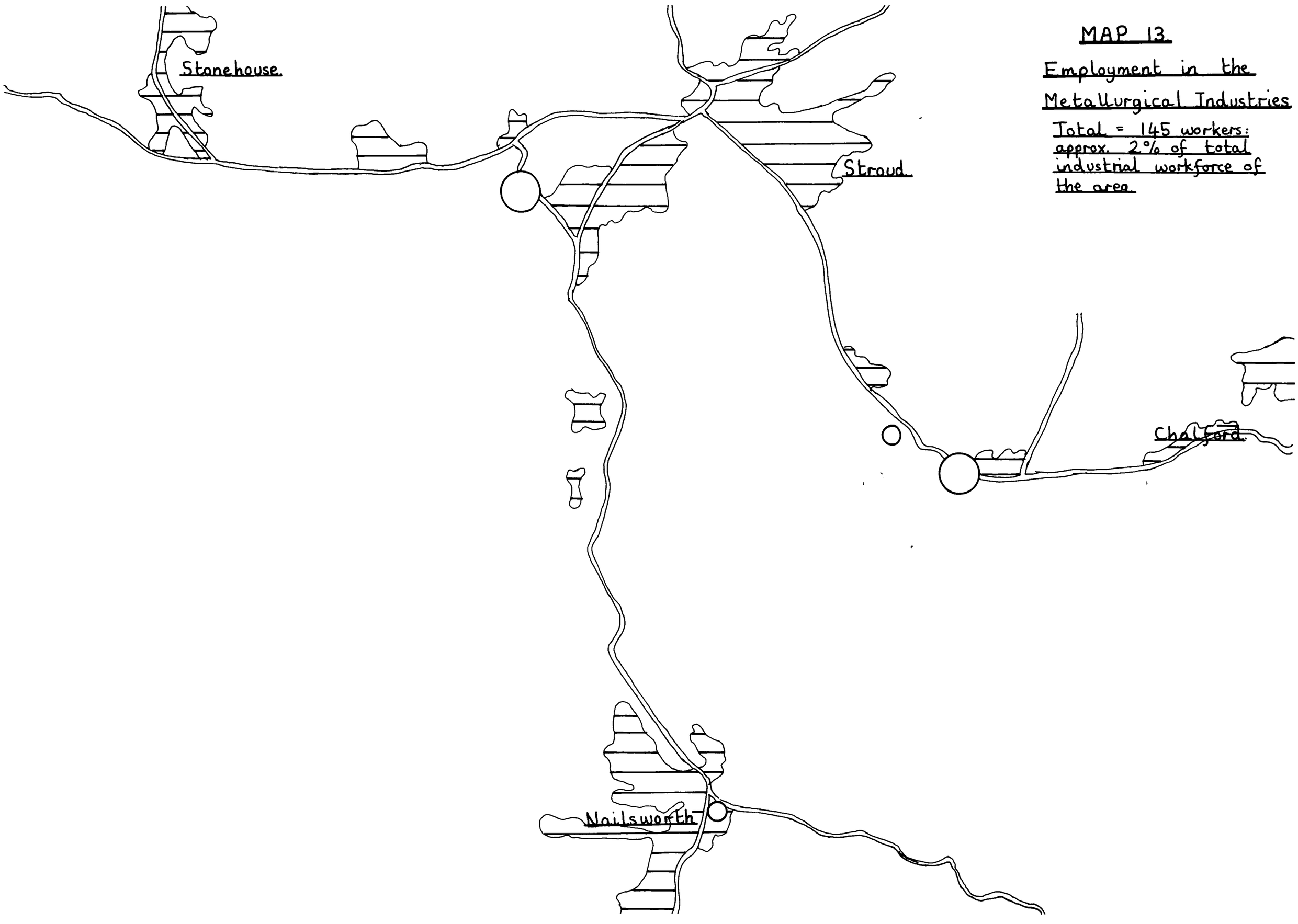
Chalford

Nailsworth

MAP 13.

Employment in the Metallurgical Industries

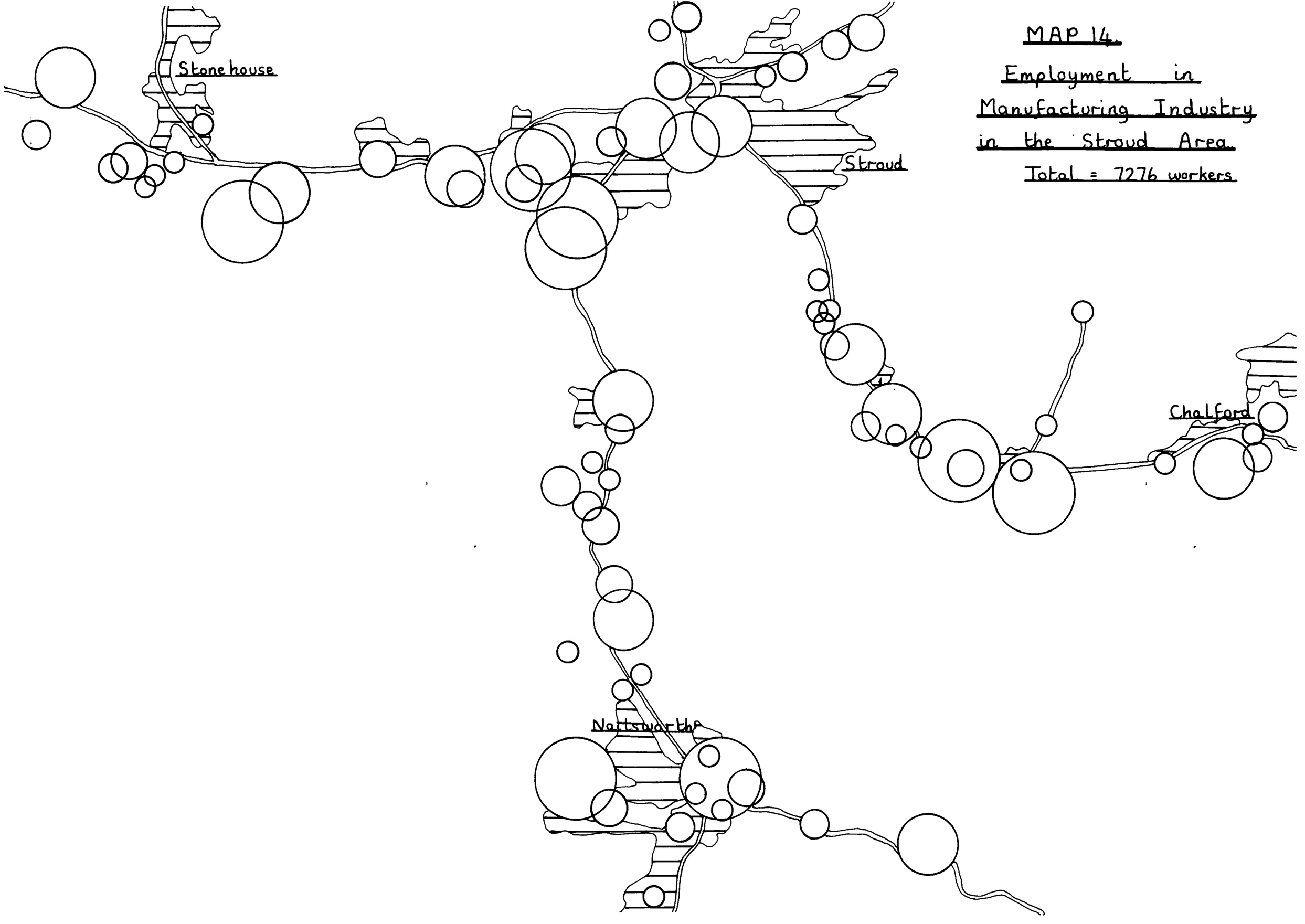
Total = 145 workers: approx. 2% of total industrial workforce of the area



MAP 14.

Employment in Manufacturing Industry in the Stroud Area.

Total = 7276 workers



CHAPTER THREE : INDICATIONS OF THE FORMER EXISTENCE OF A WOOLLEN INDUSTRY : An Historical Consideration for Each Mill Site Using Architectural Evidence.

Each valley in the Stroud area was examined for evidence of the former existence of the woollen industry. The architecture of mill buildings aided an assessment of the history of the industry, and this was supported by other landscape evidence.

This chapter outlines observations on the architecture and site of each installation, and using these observations as far as possible, attempts an outline history for each site.

The Valley of the River Frome.

The rise of woollen cloth manufacturing industry in the 16th Century resulted in a dependence on water power for the fulling or felting of woollen cloth. Consequently fulling and later the complete production of broadcloth from raw wool was enacted at mill sites which developed into factory sites, as opposed to the pre-industrial mills which were initially established. The processes envolved in the production of woollen cloth, are outlined in a subsequent chapter.

The first of the many cloth mills noted along the River Frome was encountered just west of the A 38, south of Whitminster. Here, Fromebridge Mill, (Grid Reference : 769073) used as a cattle feed store by an adjoining farm, is composed of two parts, lying parallel to the mill leat (Photograph 35). The older southern part of two storeys is mostly brick built, but incorporates some of an earlier stone construction. The northern extension is again brick built but of three storeys, with an attic, and dates probably from the mid 19th Century. Two external iron wheels (Photograph 36) on the west side of the older part of the mill provided power for this corn mill, which continued milling using electrical power until 1967. Black slag lumps can be seen in the stonework in the older part which reflects its use as a wire rolling and tilting mill from 1777. In the early 18th Century four corn mills are recorded at this site, and in the mid 16th Century the site was occupied by a fulling and corn mill.

One mile further upstream, north east of Eastington Village, Meadow Mill was seen in an isolated situation 500 yards from the A 4096 Stroud to Clay Pits road (Map 15). The three storey brick building is in four sections, the original water powered block having been replaced by a modern construction. Adjoining this is a workshop block, an engine house with a tall brick stack and the weaving shops. This is a 19th Century mill site, built in 1820 and used for weaving. The engine house indicates the later use of steam power, amd a coal wharf can still be seen by the Stroudwater Canal to the north where coal was unloaded. Records of 1904 indicate that production was concentrated at Meadow Mill, as Charles Hooper, the owner, had closed his other nearby properties of Millend Mill and Churchend Mill. By 1906 the mill was closed. Today it is used by Cameron-Gardner of Woodchester as an equipment store.

Further east for a distance of 3 miles, the River Frome is braided, having 4 mills on its northern distributary and 3 mills on its southern distributary. Situated on the southern watercourse just to the east of Eastington Village (Map 15), the derelict Millend Mill was seen (Photograph 37). It is a five storey Cotswold Stone built mill with later brick additions and improvements, and its stone mullioned windows are indicative of a building style seen in many other mills. An engine house adjoins the south eastern wing having a short chimney. Before its recent use as an engineering company store it operated as a flour mill. A bill of sale of 1869, following the abandonment of the site by Charles Hooper advertised that it was capable of employing 200 people. In the mid 19th Century Hooper used the mill for fulling, bleaching and drying after Henry Hicks and Sons occupied the mill for a term of 45 years between 1785 and 1830.

Fulling was carried on here in 1552 when Richard Clutterbuck leased the premises from John Sandford.

South of the A 4096, 1½ miles east of Eastington, Bond's Mill was noted situated on the northern distributary of the River Frome (Photograph 2). Access was restricted to these premises which are owned by the Sperry Gyroscope Company, but a good view of the site was obtained from the canal bank to the north. It is a brick built mill complex, with long windows in the upper storeys of some buildings suggesting that the former emphasis on weaving in the late 19th Century. Much of the present building, apart from modern additions, dates from the late 19th Century, despite the fact that the site has been used since the early 18th Century.

PHOTOGRAPH 35. FROME BRIDGE MILL, WEST OF THE A 38.

PHOTOGRAPH 36. MILL WHEEL AT FROMBRIDGE MILL.

Beard's Mill, to the south east on the southern distributary, lies adjacent to the Gloucester to Bristol railway line. (Grid Reference : 795049). Although today it is a private house, its extensive site, with many outbuildings suggests its importance as a fulling mill. The main water-powered mill was demolished in 1910, but a 19th Century three storey stone building with fire bays remains. A brick built dyehouse salso exists, of four sections. One section has no windows, but long parallel openings in the wall can be seen in the ground and first floor which are now bricked up. These allowed the circulation of air in rooms used for drying cloth. The eastern section with loading doors was probably used as a storehouse, and the western part was domestic, probably inhabited by the mill manager. The other part of this block, has large windows, and thus was probably functional as a weaving shed. Two large clothier's houses and workers cottages adjoin the site. This mill was certainly functional in 1680, when it is mentioned in a list of tithes of Eastington parish.

The next mill encountered in the survey of sites up the River Frome valley was Stonehouse Lower Mill (Grid Reference : 801046). Ruins were seen next to the hatches to the west of the present mill building suggesting that the site was more extensive at some time in the past. Old stone walls and arches occur adjacent to the 3 storey brick built mill of the late 19th Century date. The present owners, the Stonehouse Paper and Bag Mills Ltd., occupies the remaining main building. Cloth production ceased here in 1906, after a peak of production in 1889 when 150 looms were operative in Stonehouse Upper and Lower Mills under the ownership of Davies, Son and Evans. In 1586, this mill, then called New Mill, consisted of one corn mill and one fulling mill under the same roof. Cloth was entirely manufactured here for the first time in 1820, with production and equipment steadily throughout the 19th Century.

400 yards upstream, Stonehouse Upper Mill (Grid Reference : 806047) today houses a variety of distribution and manufacturing industries. Modern sheds lie to the north of the mill which is a four storey brick building with lofts and a centrally placed staircase on the west wall. The mill dates from 1875 when it was rebuilt after the destruction of the original mill by fire in 1847. Two two-storey ranges lie parallel to the main mill building, and the nearby engine house has a tall brick stack (Photograph 38). A bell cupola is an interesting feature of the north side of the mill, and I was informed by the foreman of the site that until 1925, the bell was rung every morning to call the employees to work. W. H. Vowles and Son Ltd., a Bristol based brush manufacturer occupied the premises from 1925 until 1967.

South eastwards across Ryeford Meadows, on the southern distributory of the Frome, Stanley Mills were seen. The main mill is a five storey brick built building dating from 1812 - 13, and was one of the first fireproof mills in England. The floors are composed of brick arches on iron beams, over which is laid stone paving, and the original iron doors are still intact. Within the main building, traceried iron arches supported by cast iron colums serve to support the brick arches. These are dated 1813 and were brought from Ironbridge by barges following the River Severn and the Stroudwater Canal (Photograph 39). The iron framed windows are of a Venetian style in the central part of the mill with some cast iron colums being incorporated (Photograph 40). Extensive use of ironwork of such an early date is highly unusual, and for no other mills in the Stroud area, were such building methods adopted. The proximity of the canal has possibly encouraged the importation of this iron from the Benjamin Gibbons foundry at Ironbridge. Generally the mill is built in

PHOTOGRAPH 37. MILLEND MILL, EASTINGTON

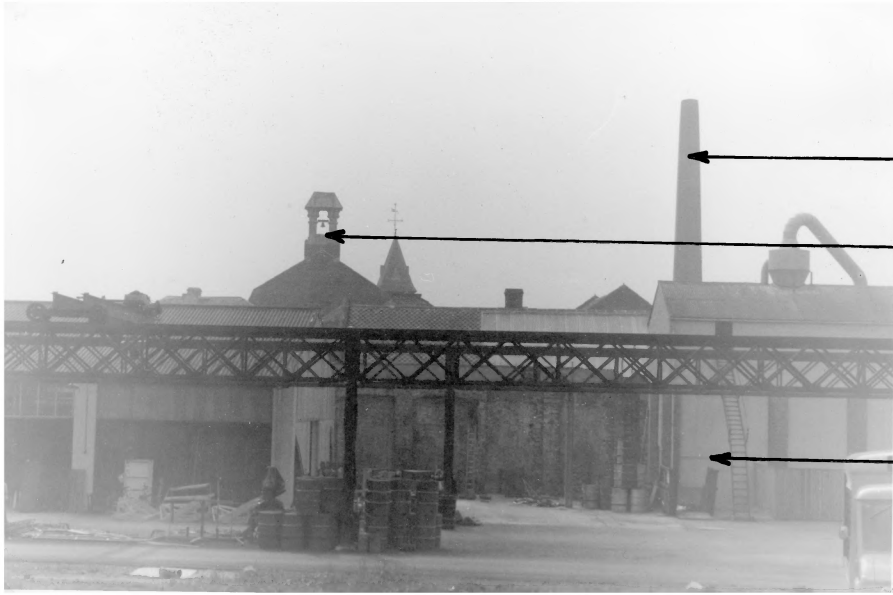
SLATE ROOF

4 STOREY STONE MILL.

MULLIONED WINDOWS.

BRICK BUILT ADDITION.

PHOTOGRAPH 38. STONE HOUSE UPPER MILL



BRICK STACK

BELL CUPOLA, ON ORIGINAL MILL

AGRICULTURAL IMPLEMENTS MANUFACTURE IN MODERN PREMISES.

PHOTOGRAPH 39. STEEL PILLARS WITHIN STANLEY MILL (MARLING AND EVANS)

DATED 1813

FIRE PROOF MILL.

PHOTOGRAPH 40. GEORGIAN MILL BUILDING AT STANLEY MILL

STEEL PILLARS

VENETIAN WINDOWS (IRON FRAMED)

STONE QUOINS (ALTERNATE)

the Georgian style, with the brickwork being cornered with stone quoins of alternating length, and the windows having keystones and voussoirs (Photograph 40). The north western extension of the complex was seen to embody an earlier style of building, this being part of the original mill. The oldest part of this adjoins the 1813 building, and is a four storey Cotswold stone building with stone mullioned windows. A later addition lies adjacent to this and is constructed with brickwork between freestone pillars (Photograph 41). The windows of this section are wooden mullioned and its style is indicative of a later age. Weavers cottages built of Cotswold style lie to the north. In addition to the three main buildings styles seen in the mill complex, a modern weaving shed (Photograph 3) built in 1947 lies to the north east (Plan 1). Grist and fulling mills have been recorded at this site since 1563, and in 1688 formed part of the marriage settlement between Jasper Clutterbuck and Katherine Nash. A knapping mill was added in 1761, and in 1783 John Holbrow leased the site. In 1802 Paul Wathen acquired the premises before it was sold to George Daniel Harris and Donald Maclean in 1813 when the extensive rebuilding comenced. Marling's became owners until 1920 when the present occupiers P.C. Evans Ltd., took over the premises.

Between 1854 and 1871 Stephens Marling made many improvements to Stanley Mills, including the construction of a power loom shed, a gig mill house and a new boiler shed. In 1866 Clutterbuck's house was converted into the cottages seen today, and in 1867 condensing engines and an 80 h.p. turbine were installed. In 1889, 180 looms were at Stanley Mills, producing mainly worsteds.

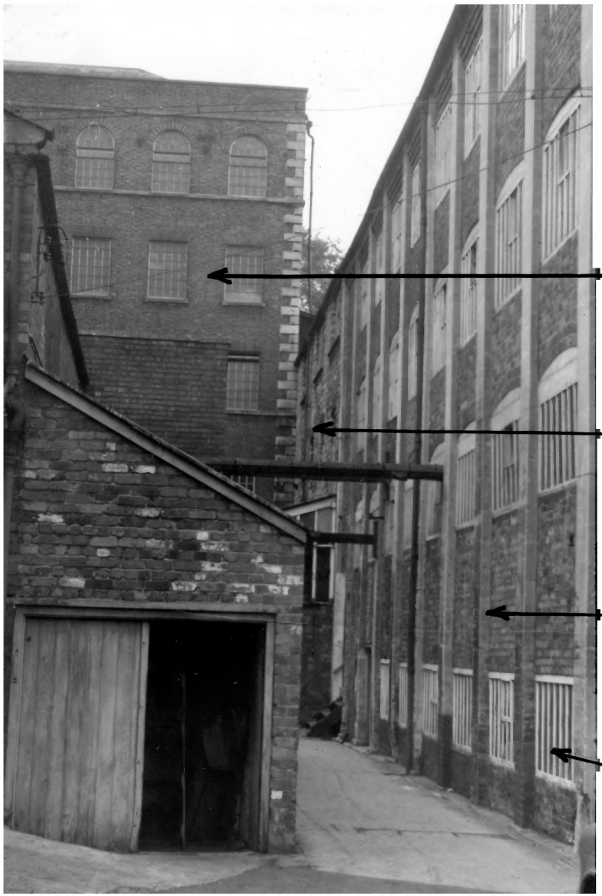
Ebley Mill and Stanley Mills have been united since 1854 under the Marling family and are still complementary to each other. Yarn is produced at Ebley, whilst Stanley Mills concentrates on the production of woollen cloth. Ebley Mill stands 1 mile further up the Frome Valley.

300 yards north of Stanley Mills, the few remains of Ryeford Mill were notable as the remaining mill on the northernmost distributary of the River Frome. The Ryeford Sawmills now occupy the site in modern corrugated iron sheds, as the original mill was obviously unsuitable for swamilling. Two parallel single storey buildings remain which were either dyehouses or air store. In 1853 John King sold the property as a corn mill, and in 1819 it had a dual purpose as cloth and grist mill. Between 1717 and 1819 the mill was soley concerned with fulling.

Following the A 419 Stonehouse to Stroud road eastwards for $\frac{3}{4}$ of a mile the village of Ebley was reached, to the south of which Oil Mill was noted. Here the River Frome is unbraided (Map 15). The name of the mill is derived from its original foundations as a rope and linseed oil mill in 1723. By 1820 James Lewis was operating the premises for fulling, and in 1840 it became a flour mill. The three storey single range mill has a wing running east at the north end and a west wing at the south end. The lower storey is built of stone, with the upper two storeys of later brick reconstruction. Reflecting its use as a flour mill, a weather-board lucomb was noted on the west wall. Water still passes beneath the building through two mill wheel sumps, as well as flowing around the south end of the premises. Today it is used by a corn and seed merchant for storage.

By walking 300 yards eastwards along the banks of the Stroudwater Canal, Ebley Mill was seen (Grid Reference : 82046) (Photograph 4). This is a five storey mill, built of coursed freestone with wide stone mullions dividing the windows. A six stroey tower by G.F. Bodley in 1862, has a steeply pitched slate roof surmounted by an iron rail and weathervane and containing a bellcote. This lies at the north end of the mill, and

PHOTOGRAPH 41. STANLEY MILL : OLDER BUILDINGS



LATEST GEORGIAN BUILDING

OLDEST STONE BUILT BUILDING.

LATER BUILDING: STONE PILLARS WITH BRICK INFILL.

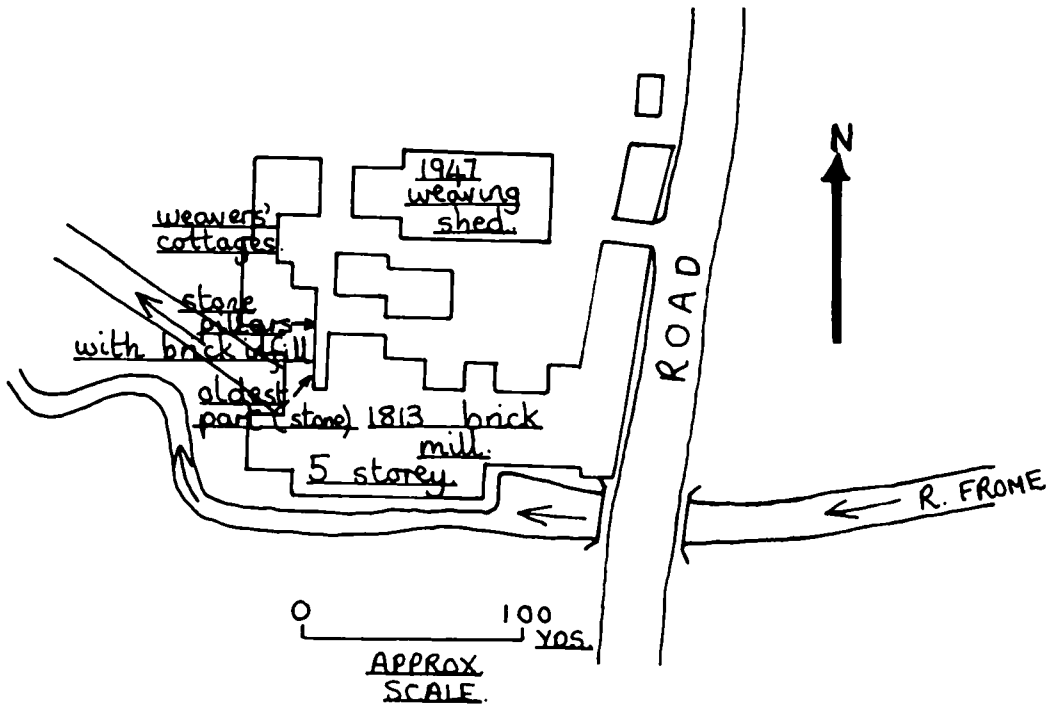
WOODEN FRAMED WINDOWS.

PHOTOGRAPH 42. REDLER CONVEYORS, DUDBRIDGE

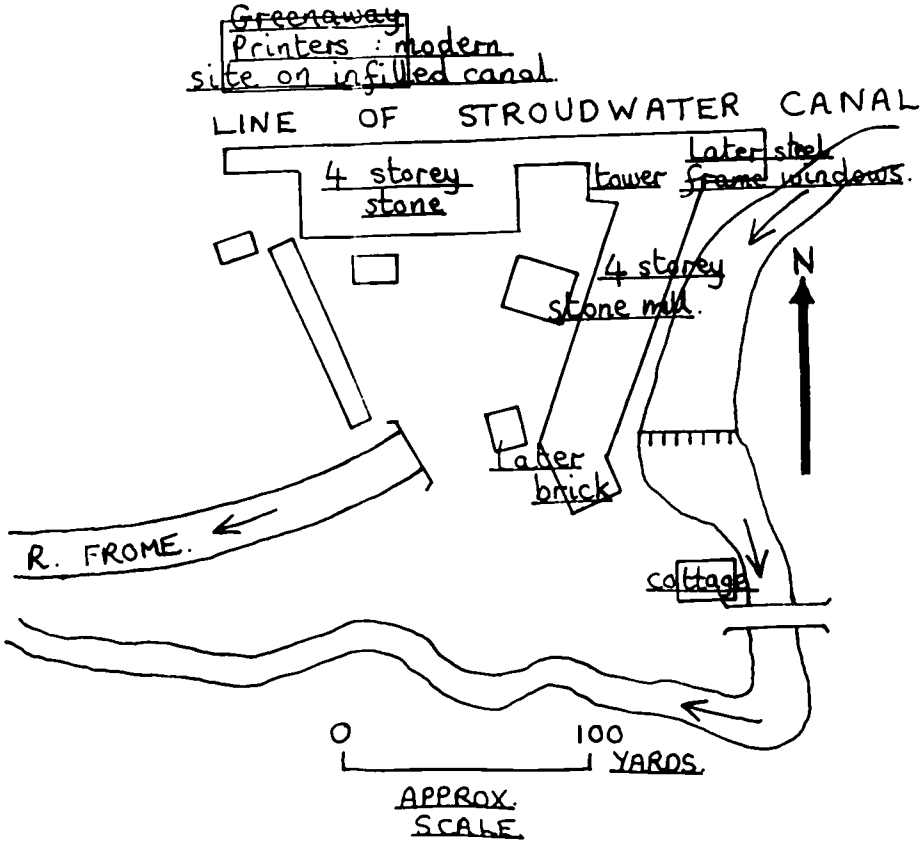
MODERN OFFICE BLOCK ON SITE OF FORMER WOOL DRYING SHED

A.46.

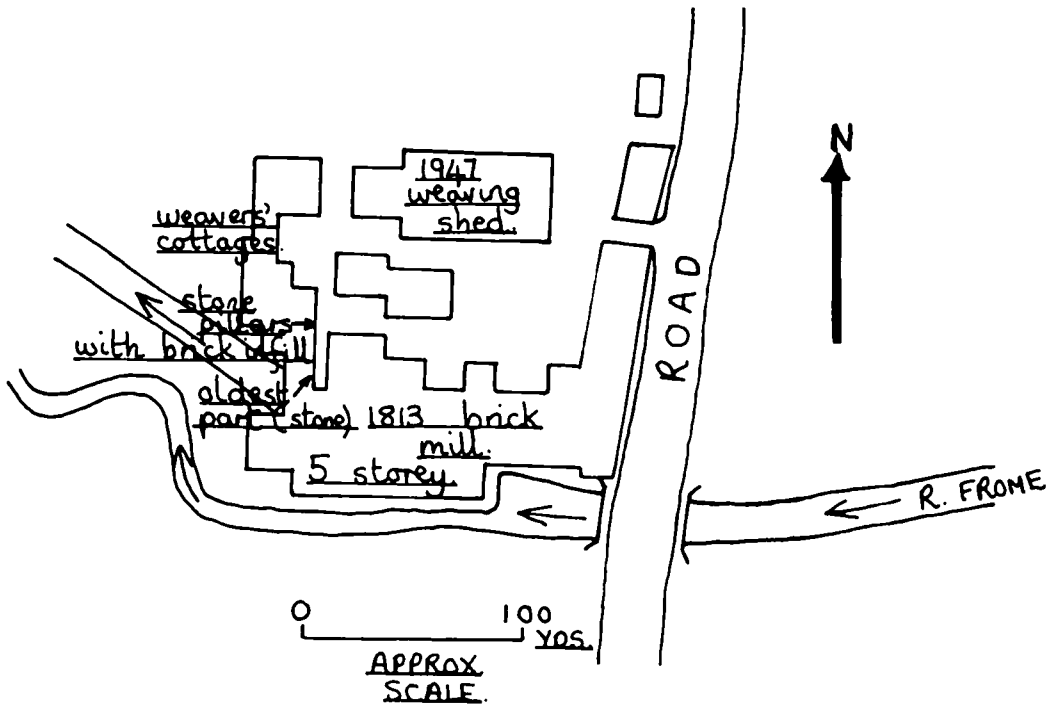
SKETCH PLAN 1. STANLEY MILL



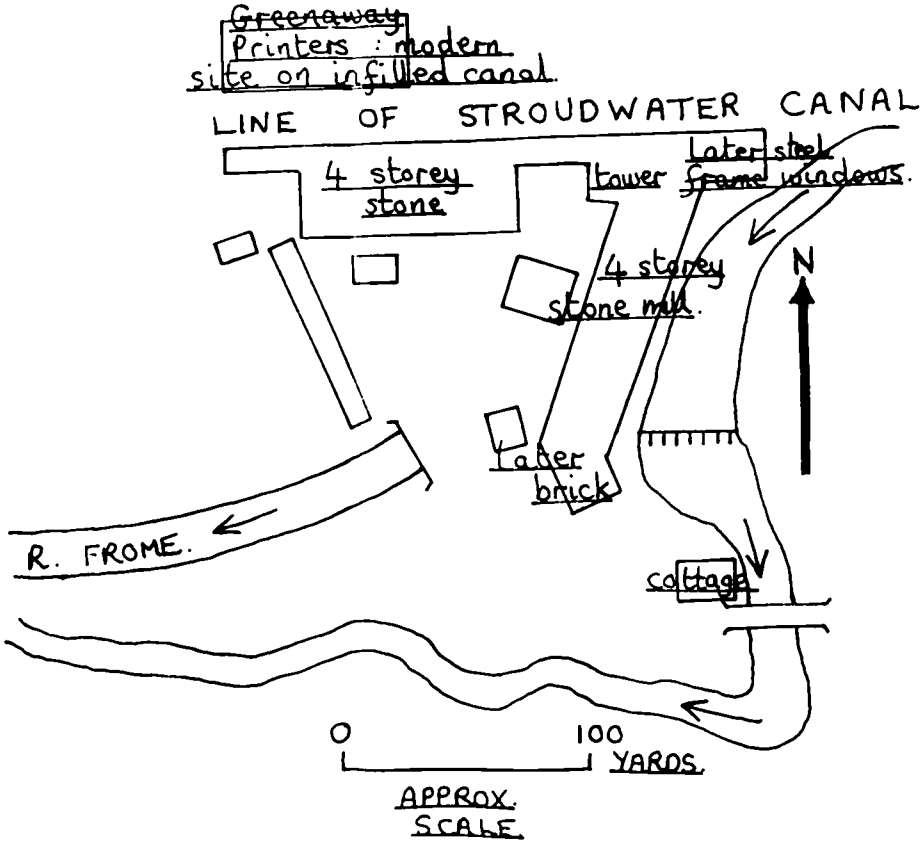
SKETCH PLAN 2. EBLEY MILL



SKETCH PLAN 1. STANLEY MILL



SKETCH PLAN 2. EBLEY MILL



closely resembles a turret of a French chateau (Photograph 4). A tall chimney to the north, marks the position of the engine house. To the west, a long bay of four storeys lies at right angles; and like the main mill building is roofed with slate. Round-headed windows are a feature of the northern wing. The building materials are suggestive of an early date, bu the style of construction, apart from the mock turret indicative of the Victorian era, suggests an early 19th Century date. Until 1854 when the premises were combined with Stanley Mill, under the ownership of P. C. Evans Ltd., successive owners had steadily increased its productive capacity. It was a double mill site for corn and fulling from 1537 to 1820 until specialisation led to 71 hand looms being established here in 1840 under the care of six resident families (Plan 2).

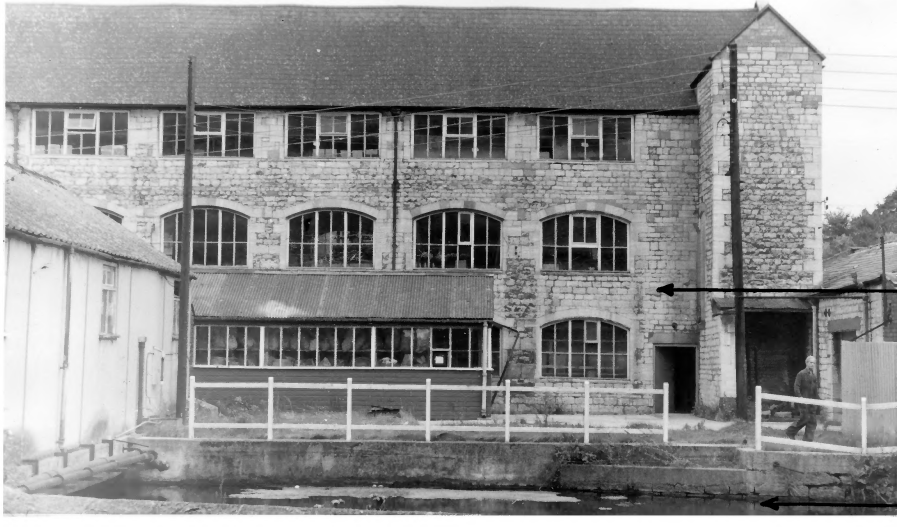
Few of the original buildings of Lower Mill, Dudbridge, remain amongst the industrial complex that exists here today. A three storey stone building beside the river, facing the main A 46 road, contrasts with later early 20th Century brick in buildings. This building has a slate roof and segmental-headed windows each with five vertical glazing bars. Further along the A 46 to the north, a modern office block was noted (Photograph 42) and I was informed that it occupied the site of a wool drying shed. The stone built building is the only remnant of a mill cpmplex which until 1933 was concerned with the production of woollen cloth and carpets. Since 1933 there has been considerable reconstruction to house the engineering firm of Redler Conveyors Ltd.,. Also, a plaque dated 1910 indicates that some rebuilding occurred when the site was concerned with woollen cloth manufacture. In 1814 a fulling mill, and a corn mill occupied this site. Corn milling was carried out here before 1685 when a fulling mill is first recorded.

The Copeland - Chatterson printing company occupies a large square Georgian styled house, this probably being the clothier's house.

The next mill site 400 yards further east up the River Frome, is Fromehall Mill, but in order to visit the site it was necessary to follow the road eastwards to Rodborough and turn off the A 46, just to the south of Stroud. Fromehall Mill (Grid Reference : 843048), best examined from beside its millpond to the east, is a four storey Cotswold stone building, with eight bays. The mullioned windows and a steeply pitched roof contribute to an estimation of the date of construction as early 19th Century. The older part of the building lies disused, whilst later brick reconstruction and additions of the late 19th Century house an electrical engineering company. Corrugated iron sheds lying empty, were noted to the north of the mill, these having been constructed in the early part of this century. A 19th Century stone building to the north with decorative stone quoins replaces a former dwelling house (Plan 3). Until 1967 the premises were used for cloth manufature under the ownership of Strachan and Co., of the nearby Lodgemoor Mill. In 1891, there were 57 looms operative at this site since the 16th Century, with the Halyday family acquiring the site in the 17th Century. The premises changed hands many times until in 1828 Nathaniel Marling became the owner. In 1865 Josiah Strachan took over both Fromehall and Lodgemoor Mills until 1967 when Strachan and Co., concentrated their production at Lodgemoor.

Lodgemoor Mill (photograph 5) was seen 200 yards further east. Here cloth production of all types persists in an extensive mill complex incorporating buildings of varied styles and ages. This is in part due to a series of fires which occurred during the 19th Century. After fires in 1801, 1807 and 1811 a new mill was built in 1814 equiped with both steam and water power. However, in 1871 this new mill was completely destroyed by fire, and the mill seen today in red and blue brick (Photograph

PHOTOGRAPH 43. LODGEMOOR MILL : OLDER MILL BUILDING

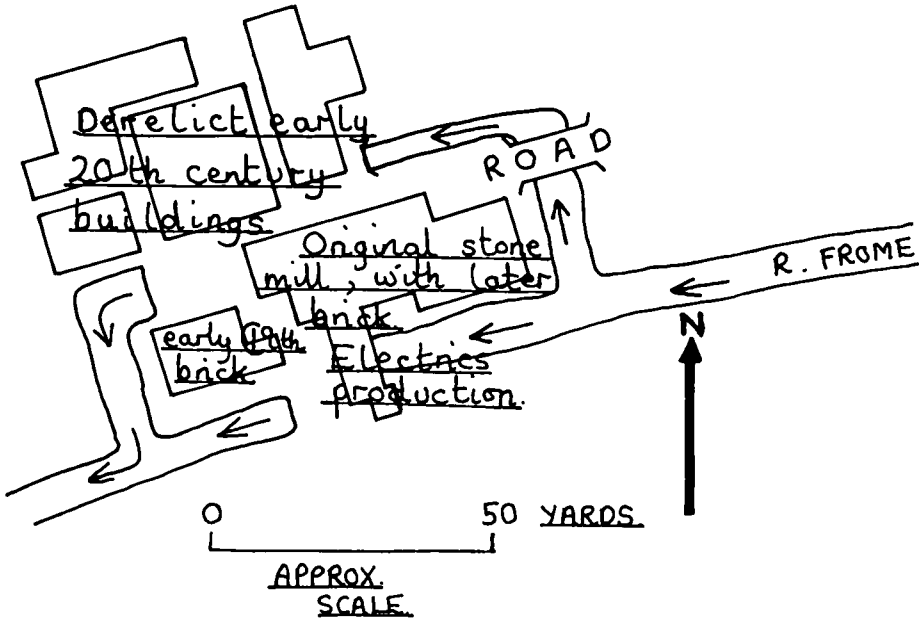


3 STOREY STONE MILL ADJACENT to CANAL

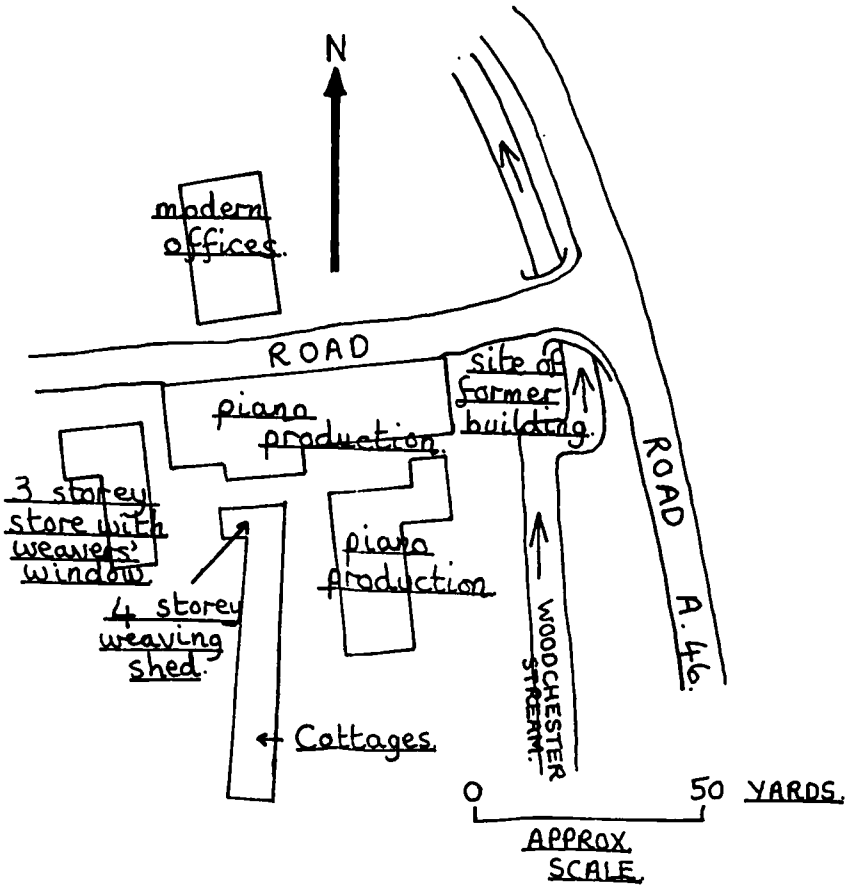
R. FROME

PHOTOGRAPH 44. CLOTHIER'S HOUSE AT LODGEMOOR MILL

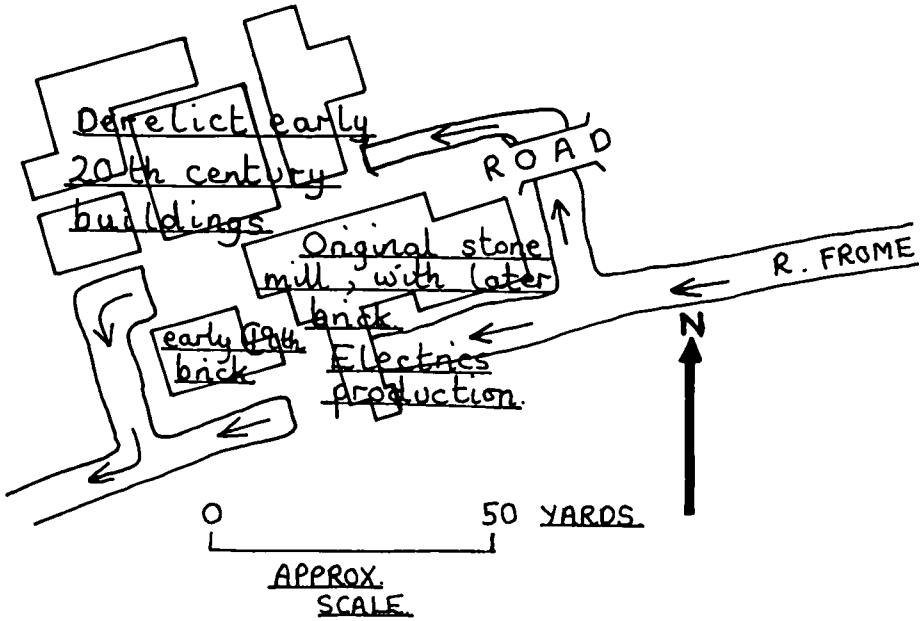
SKETCH PLAN 3. FROMEHALL MILL



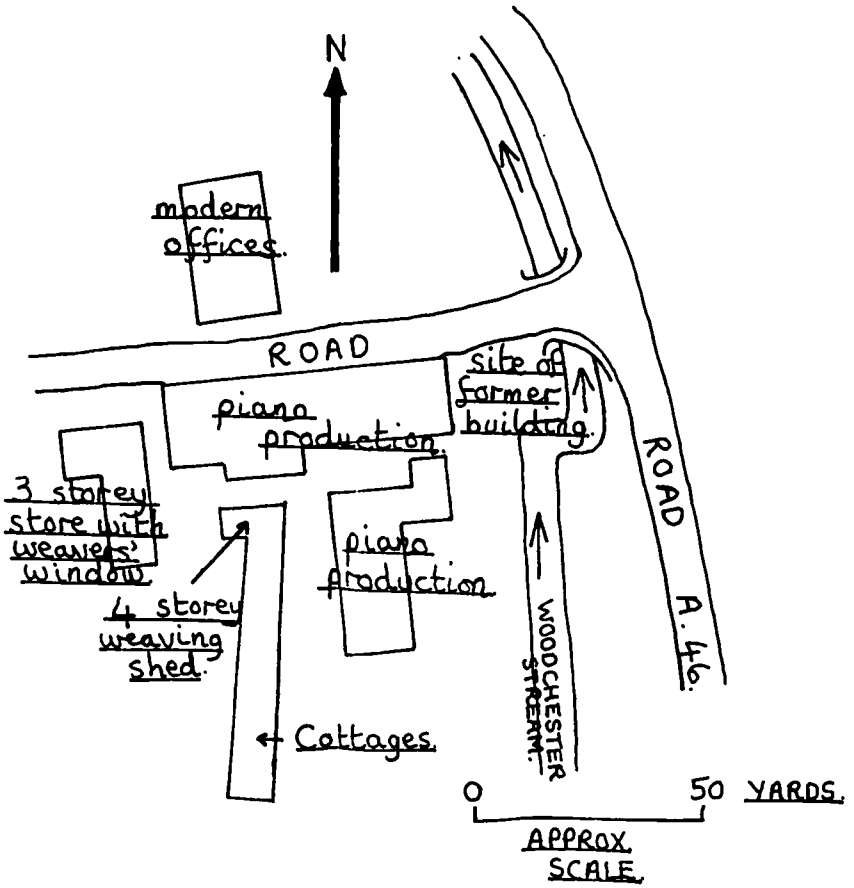
SKETCH PLAN 4. WOODCHESTER MILL



SKETCH PLAN 3. FROMEHALL MILL



SKETCH PLAN 4. WOODCHESTER MILL



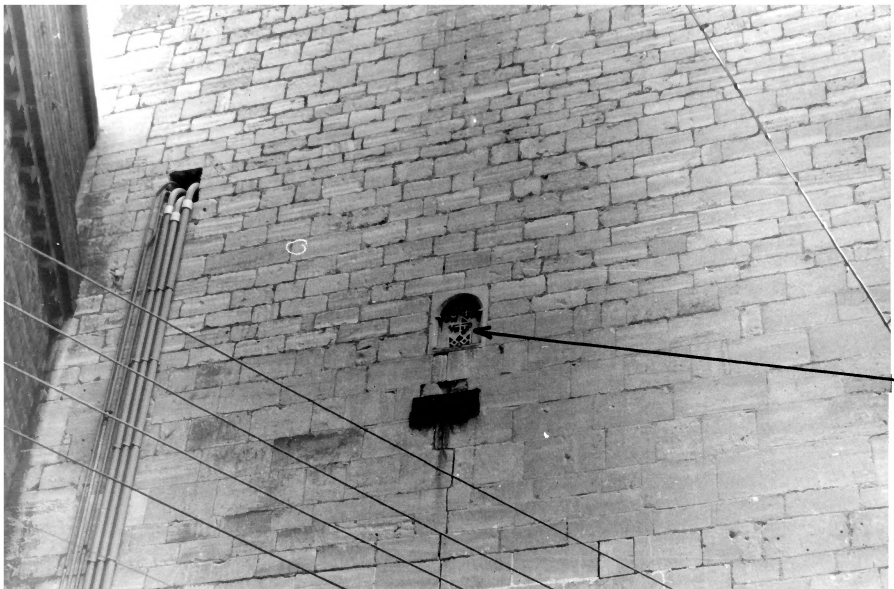
5) was constructed in 1875. A range of stone three storey workshops were noted, parallel to the canal towpath to the north, these presumably having survived the series of fires in the 19th Century (Photograph 43). The fine 18th Century millowner's house also survived the fires, and is at present used as an office block (Photograph 44). The house lies to the west of the mill buildings and is in typical Georgian style, constructed of Cotswold stone. It is of three storeys and ten bays with modillion cornice and blocking course, and windows with moulded stone architraves. The doorway has a rusticated surround with Ionic colums. The large, florid clothier's houses of the 17th and 18th Century reflects a newly found wealth in the woollen cloth industy at this time.

Wallbridge Mill stands further upstreams to the south east of the A 46 road and south of Stroud (Grid Reference : 847050). A date plaque on the north west side of the four storey stone built mill indicates that reconstruction or complete rebuilding occurred in 1646 (Photograph 45). However, records indicate a mill at this site well before that date, and an Inquisition Post Mortem dated 1640 mentions a fulling mill with 5 acres of land here as part of the manor if Achars in Rodborough. Part of the mill was demolished in 1896 to make way for a single track railway, now disused from Stonehouse to Stroud, but Howard and Powell Ltd., later re-acquired the property to continue cloth production here until a few years ago. In 1960 Kent Lea Instruments occupied the site, and alterations to suit their production site requirements have, in 1969, necessitated further demolition of the mill (Photograph 10). From the slopes to the south east of the mill, which at one time were used as a rack land for the drying of wool on wooden trestles, a good view is obtained of the site, and of the weavers window in the upper storey of the original mill building (Photograph 10). The wooden mullioned windows and slate roof are later additions to the original 17th Century stonework.

South east of Stroud at Bowbridge the site of Bowbridge Mills (Grid Reference : 857044), was seen. I was told by a foreman at the site, now occupied by the Safari Caravan Co., that in 1954 fire completely gutted the site, and the present building visible today is a new construction in brick and steel (Photograph 46). Some of the original Victorian iron framed windows have been incorporated in the new building and some of the old Victorian iron pillars have been used in the internal construction. Some of these pillars both plain and patterned were seen lying in the grass behind the building (Photograph 47). Before the acquisition of this property in 1957 by the caravan company, carpet manufacture was carried out here by T. Bond-Worth Ltd. Since the fire in 1954, the roof has been modernised the chimney shortened and extensive reconstructions have been carried out. However, the marks of old woollen hopper shelters can be seen between the upper storey windows on the front of the building (Photograph 46). This reflects its former use as a spinning mill until 1957, with the marks indicating where the raw wool was hauled up into the premises. Another clue to the former use of this lay in the piles of debris being recovered from the foundations of a recently demolished tool store next to the canal. Here, amongst old bricks and iron scrap, the foreman had recently recovered an old black beer bottle, which by its colour is indicative of the 18th Century.

It is a half pint bottle with the inscription "Freame Eagle Brewery" One Pint Imperial upon it. Freame's brewery was in fact at this site before Bond - Worth Ltd., bought the premises for wool spinning. Iron rings noted in the wall next to the canal suggest that at one time the canal was used for the import of raw materials and for the despatch of products. A modern concrete wall now obscures a view of the wharf, which, only forty years

PHOTOGRAPH 45. DATE STONE AT WALBRIDGE MILL STROUD

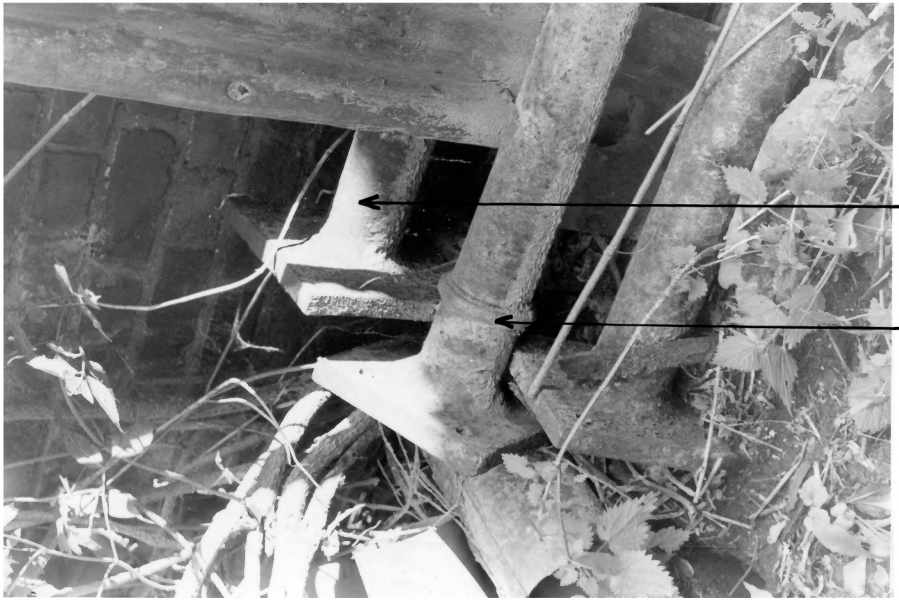


PHOTOGRAPH 46. BOWBRIDGE MILL (LOWER)
RECONSTRUCTED

MARKS OF FORMER WOOL HOPPERS.

ORIGINAL STEEL FRAMED WINDOWS

PHOTOGRAPH 47. ORIGINAL IRON PILLARS OF LOWER BOWBRIDGE MILL



PHOTOGRAPH 48. BOWBRIDGE MILL.

ago was used to bring coal to this site for steam engine power. Before brewing was carried out at this site, fulling mills were operative since the early 17th Century.

Upper Bowbridge Mill could be seen from the A 419 Stroud to Swindon road, 100 yards south east from the site described above (Photograph 48). It is a two storey stone building, roofed with slate and with Tudor type horizontal headed mullioned windows. Loading doors occur on the first and attic floors. The south west side of the mill however, exhibits later Georgian additions, and reconstructions to the windows. A long dormer window occurs in the attic. The building is now derelict, but has been used from the 17th Century until the late 19th Century as a fulling mill.

By proceeding 500 yards south along the A 419 to Thrupp Stafford's Mill was noted. Occupied by a number of distribution firms, the site consists of a number of 19th Century brick and stone buildings, with a tall brick stack indicating that steam power was used at one time (Photograph 49). Victorian iron framed windows are incorporated throughout the site. Cloth production ceased in the 1880's following the establishment of steam power here in 1872 by Joseph Stanton. A fulling mill owned by Lawrence Clutterbuck was recorded at this site in 1720, but as far back as 1571, records show that a Richard Stafforde, fined for producing defective cloth, worked a mill at this site.

Griffin's Mill (Grid Reference : 859035) occupied by a variety of manufacturing and distribution companies, is again a late 19th Century brick built mill with iron framed windows. During this century it has been an aircraft factory, and a sawmill since 1858. Since 1638, when Thomas Griffin operated two fulling mills and a gig mill here, until the late 18th Century, the Griffin family have been owners of this site (Photograph 11).

Ham Mills encountered 200 yards further to the south are now in the possession of Bond - Worth. The stone built buildings, are adjoined by a whitewashed clothier's house, considerably older than the present mill. Today, carpet pile is manufactured here, following the sale of the premises to the present owners by Alfred Ritchie in 1899. "Brussels" and latterly "Chenille" was manufactured with a small spinning plant, as noted before, being established at Bowbridge Mills. The destruction of Bowbridge in 1954, together with the elimination of Chenille carpets, resulted in yarn spinning once more returning to Ham Mills, where it is now flourishing. Before Alfred Ritchie was the owner of this site, producing woollen cloth, Nathaniel Marling owned the site from 1846 to 1860. Due to the shortage of water in the River Frome in summer a steam engine of 30 h.p. was installed by Marling to allow 45 additional power looms to be operative by 1836. The Webb family owned Ham Mill from 1601 to the mid 18th Century. A mill was established at this site long before the first documentary record of ownership by William Webb in 1601. The name is of considerable antiquity, being derived from "Doleman's Home", or "Doleman's Ham", later to be contracted to Ham Mills. However, the present buildings date from 1815, destruction of the original premises by fire necessitated a complete reconstruction of the site. Buildings were also added by Bond - Worth Ltd., in 1889 (Photograph 12).

Further up the River Frome to the south east (Grid Reference : 863029), nothing remains of the original Thrupp Mill, but fulling was carried on here from the 17th Century until John Ferrabee acquired the site in 1828. Ferrabee modified the site considerably in order to house his foundry, which became renowned for the production of textile machinery. Presumably there was a great demand for his own patented products in the Stroud area, and

PHOTOGRAPH 49. STAFFORD'S MILL, THRUPP

SQUARE STONE STACK

DISTRIBUTION FIRMS

STONE BUILDING. STEEL FRAMED WINDOWS.

PHOTOGRAPH. 50. BRIMSCOMBE UPPER MILLS

several of his surviving fulling machines can be seen in Stanley Mills. By 1876 George Waller occupied the site which had been long since known as the Phoenix Ironworks, and since 1956 the company has completely modernised the premises.

By walking along a lane which led south across the River Frome, Hope Mill was seen (Grid Reference : 864027). This is a four storey building, with wooden framed windows and a steeply pitched slate roof. An attic storey is lit by long weavers' windows, and until recently there was a bell cupola on the roof. Some 19th Century workshops adjoin the mill including the Fortis Iron Works nearby.

Workers' cottages were noted at the site which dates back to 1540 as a fulling mill, when it was known as Gough's Mill until 1814 when the premises were rebuilt. Briefly in the 1870's it was used for silk throwing but later resumed woollen cloth production until this century when it has been operative as a sawmill and joinery business.

Brimscombe Lower Mill (Grid Reference : 866025) and Brimscombe Upper Mill were seen from the canal bank. Today, the two premises are occupied by an electroplating company and ad industrial chemical concern. (Photograph 14). Many late 19th Century brick built sheds were noted, and neither of the original main mill buildings exist today although the mill pond is still present.(Photograph 50). In 1920 Marling and Co. Ltd., amalgamated with P. C. Evans and Sons who had owned the premises since 1858, but cloth manufacture did not persist here for long, and the partnership continued up to the present day in Stanley and Ebley Mills. The buildings seen across the millpond (Photograph 50) are probably those of the dyehouse of the Upper Mill, dating to the early 19th Century.

Just to the east of the Brimscombe to Minchinhampton road (Map 2), a large, late 19th Century stone built mill was noted (Photograph 51), with iron framed windows and a slate roof. This was a typical self contained woollen cloth mill of the factory system operative in the 19th Century. John Ferrabee, of Phoenix Ironworks fame, owned the premises from 1843 when it reputedly had an 18 h.p. steam engine installed. The mill remained in the Ferrabee family until in 1871 it was bought by P. C. Evans as an extension to the Brimscombe Mills, latterly owned by the consortium of Marling and Evans, the property was sold in 1940 to two more cloth manufacturing companies, until Benson's Tool Company of Birmingham became occupiers from 1948. The company today uses the mill as an office block, a maintenance shop and a canteen, whilst a modern site best viewed from Burleigh Court to the south (Photograph 15), houses the production plant. The fact that the mill noted above is known as Brimscombe Port Mills, and the Thames and Severn Canal being terminated at both ends of the modern factory site by recent gravel infill, suggests the former existence of Brimscombe Canal Port. The 1952 edition of the O.S. 2½ inch sheet S.O. 80, indicates an extensive wharf area which existed until 1966 when it was filled in and the canal offices and warehouses demolished to make way for the modern tool works (Photograph 15). The buildings were formerly of a grand Georgian style, but all that remains now is the wharf-keeper's cottage standing to the east of the road junction. This cottage is occupied by a retired boatman who worked on the canal when it was still navigable at the turn of the century. In order to record the site of the port, a plaque was incorporated in the south wall of the modern factory (Photograph 52), by the Gloucestershire Society for Industrial Archaeology. It states "Site of Brimscombe Port headquarters of the Thames and Severn Canal Co., incorporated 1783. Here were offices, warehouses, canal basin and weigh-bridge. An important transport centre for over a century". Beneath this,

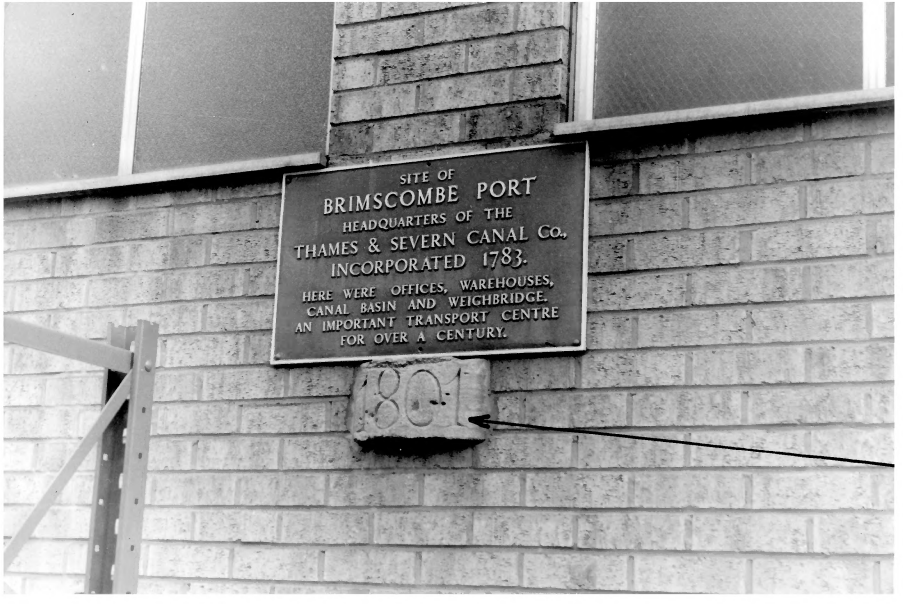
PHOTOGRAPH 51. BRIMSCOMBE PORT MILL

3 STOREY STONE MILL

STEEL FRAMED WINDOWS

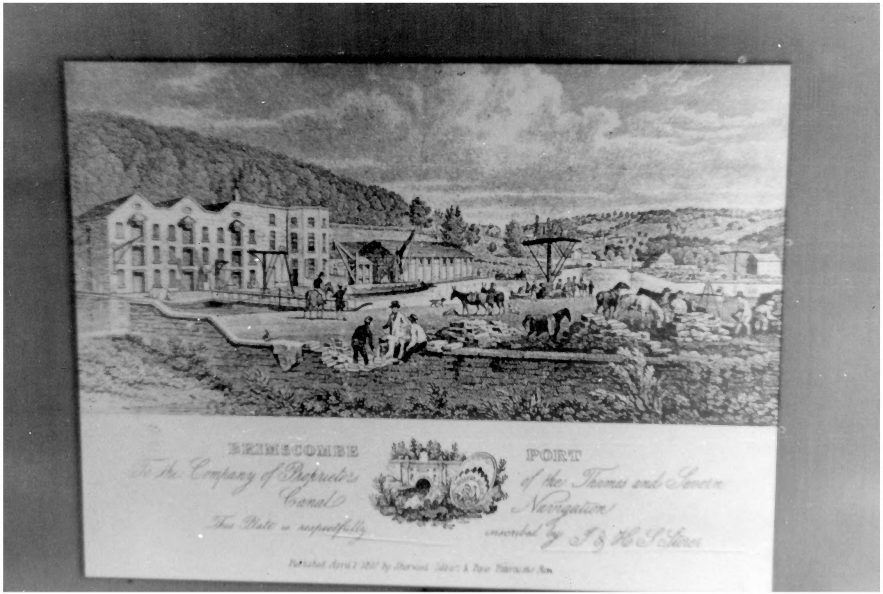
R. FROME.

PHOTOGRAPH. 52. PLAQUE INDICATING THE SITE OF BRIMSCOMBE PORT



DATE STONE OF CANAL WHARFE BUILDINGS.

PHOTOGRAPH. 53. PRINT OF BRIMSCOMBE PORT IN THE FOYER OF BENSON LTD



PHOTOGRAPH 54. BOURNE MILL, BRIMSCOMBE

an original date stone marked 1801, records the age of construction of the original buildings. In the foyer of the new building, occupying the port site a large print of the port as it appeared in 1826, was seen and photographed (Photograph 53). It is reproduced from "Delineations of Gloucestershire", by Storer and Brewer published in 1826. The history of the canal and its effect on the woollen industry, will be discussed in a later chapter.

Bourne Mill lies between the canal to the north, and the railway viaduct which carries the Stroud to Swindon railway line across to the north side of the River Frome (Grid Reference : 873022). It was seen to be a four storey narrow stone building, with horizontally headed stone mullioned windows on the lower floor, indicative of a late 18th or very early 19th Century date. (Photograph 54). However, upper storeys have segmentally headed windows with vertical glazing bars, this being indicative of the mid 19th Century. The date of construction of the premises can be estimated as between 1830 and 1850, with some outbuildings, probably of the same date, being functional as a gig mill and stores at one time. Today the premises are used by distribution companies, following its use earlier this century for the production of walking sticks. In 1867 Richard Grist was producing flock here, following occupation of the site by Dangerfield and Foot, silk throwsters.

Critchley Bros. Ltd., plastics manufacturers, have demolished both Dark Mill and Wimberley Mill to make way for their modern factory, and nothing now remains of the original mills. Wimberley Mill was demolished only four years ago, and had been used in 1894 as a pin mill by Critchley Bros. Cloth production ceased in 1867, and from 1879 to 1894 Lyddiatt and Co., were producing sticks here. Dark Mill was also a saw mill, following its use as a gun felt factory under Reeves and Co., in 1870.

Half a mile further up the valley of the River Frome, St Mary's Mill was seen from the canal bank (Photograph 18). It is an impressive four storey stone mill, with eight bays and a covered weavers window in the attic of the west side. All windows are divided by mullions in the Cotswold tradition, and a rack house and wool stores are incorporated in the site. The premises today are used for the production of walking sticks, for over 100 years. Frank Madeley a stick bender here for 42 years, recalled to me the time when the tramway seen in the grounds of the mill (Photograph 55) was used to haul wood by manpower, from the sawmill, through an arch in the mill and up to the second storey where the wood was trimmed and turned. The tramway operated until 1958, when 18 men worked here, instead of the 6 now employed.

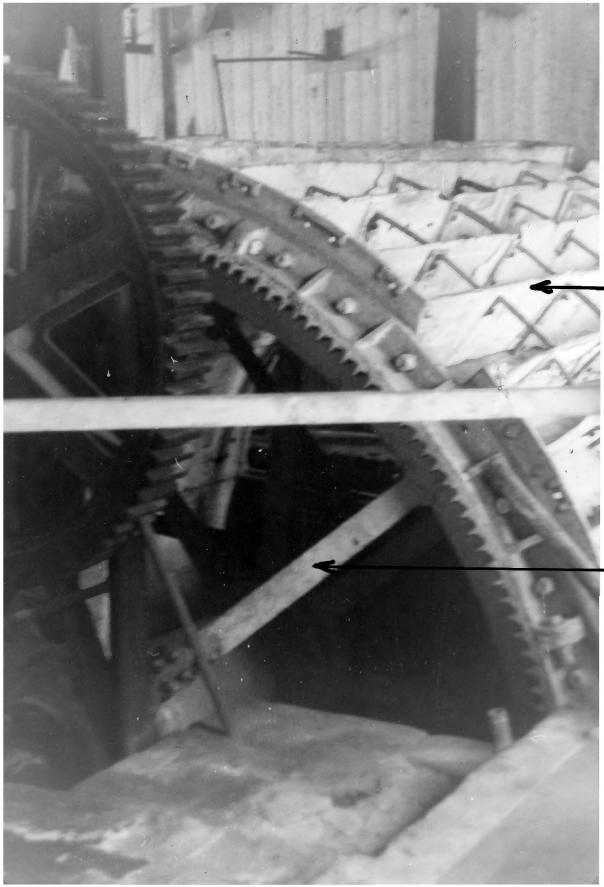
In the basement of the mill building a large mill wheel was seen (Photograph 56) which Frank assured me was the largest in the Stroud area and was capable of 100 h.p. The wheel has iron spokes and wooden paddles, and until 10 years ago was capable of work, like most wheels seen in the area it was driven by an undershot current.

In 1874 the mill was leased to W. G. Grist for flock manufacture, following ownership by the Clutterbuck family for fulling. A Grist Mill as well as two fulling mills and a gig mill were to be found at this site in 1594. Within the basement, next to the rusting saw mill, a fine beam engine was seen, in perfect condition. This is capable of running at any time, but now the saw mill is disused and all sticks are imported, so that it has not been run for the previous 12 years. A fine clothiers' house was seen to the east of the mill, and is of an early 18th Century date. It is a very good house with a high balustraded parapet and a shell-hooded doorway.

PHOTOGRAPH 55 ST MARY'S MILL, CHALFORD, THE TRAMWAY

TRAMWAY USED TO TRANSPORT WOOD FOR WALKING STICK PRODUCTION TO THE MILL BUILDING

PHOTOGRAPH. 56. WATER WHEEL IN ST MARY'S MILL



East along the A 419 at a distance of 200 yards from St. Mary's Mill, Iles's Mill could be seen from the road. This mill is a small and neatly built stone building, with mullioned windows of the early 18th Century with architraves and keystones. In the north wall is a doorway with a fine shell hood on carved wooden consoles. A 17th or early 18th Century date is suggested by the building style. The three storey building now serves as cottages, but in 1879 C. Grist was making flock and shoddy here, following a brief period as a walking stick factory.

An early 18th Century mill in stone, with a double hipped roof could be seen beside the road at this point. It has a double hipped slate roof, with horizontal headed mullioned windows. This mill, Ballinger's Mill was once driven by a small culvert from a spring on Brown's Hill (Map 15), but it has long been derelict.

Within Chalford village to the east, Wooling's, Bliss Mill, New Mill, Mugmore Mill, Spring Mill and Wood Mill, once constituted an extensive mill complex. However, today nothing of this remains and asbestos, furniture and valve production is carried out at this site which is predominantly early 20th Century in date. Woollen cloth production ceased here in the late 19th Century.

However, to the west of the Chalford to Minchinhampton road, Chalford Mill is still in evidence as a large three storey range, in stone, astride the stream, with a slate roof. From 1524 until the mid 19th Century, fulling was carried on here; today it is used as a depot for the electricity board.

Just to the east of the A 419 where it crosses the River Frome, Stoneford Mill was seen as a four storey mill with the lower two storeys of stone and the upper two of brick. The roof is of slate and the small windows are wooden framed Nearby, Smart's millhouse of Georgian style, is named after the Smart family, owners of the site from 1830 to the late 19th Century. At present it lies disused. Frome valley was $1\frac{1}{2}$ miles east of Chalford, next to a small minor road leading to Frampton Mansell. Here the valley became very narrow and steeply sided, and the number of mills here had notably diminished. This could be due to the difficulty of communication in such a narrow valley, and it is significant that the majority of mills are sited where the main route from Stroud to Swindon follows the valley floor east of Chalford (Map 2). Here at Frampton Mansell, Twissel's Mill (Grid Reference : 915029 $2\frac{1}{2}$ inch sheet S.O. 90), occurs as one small industrial building lying to the north of the stone building , a gabled clothier's house (Photograph 57). The house is a fine structure with mullioned windows, and a stone roof and dates from the 17th Century. The old mill has a slate roof, and its leat had been filled in by the present owners of the house. Once used as a builders' yard, the mill is now a garage for the private house. The long mill pond is bounded by steep wooded slopes and enhances the attractiveness of this part of the valley.

No other mill occurs in this more remote part of the Frome valley. No doubt water power was insufficient to accommodate such a large number of sites as occurs further sownstream.

However, four miles further upstream, Edgeworth Mill was seen, these premises having recently been used as a corn mill. No records exist of it ever having been used for fulling. A flock mill did however, exist near Miserden but there are no remains of this. Its site is two miles north of Edgeworth, and is noted in 1832 as being "a capital overshot corn and flock mill drawing 2 pairs of stones". This mill (Map 15) is strikingly remote

PHOTOGRAPH 57. TWISSEL'S MILL FRAMPTON MANSELL

PHOTOGRAPH 58. PAINSWICK, VIEWED FROM BULL CROSS TO THE SOUTH EAST.

from other sites concerned with woollen production.

The Valleys of the Painswick Stream and its Tributary, the Wash Brook.

The Painswick Valley has very few mills compared with the vast number along the River Frome. This is no doubt due to the weaker stream which occupies this valley, as the original fulling mills depended heavily upon a strong and reliable stream flow in order to power their stocks. Also the Painswick Valley is more rugged with fewer flat valley bottom sites that would allow the establishment of large mill complexes of the type that occur along the River Frome (Photograph 58). Consequently, although the A 46 today follows the valley north from Stroud, communication would have been difficult in the 16th Century when the majority of mills in this area were being established.

Stratford Mill (Grid Reference : 847054) and Salmon's Mill (Grid Reference : 847061) have both been demolished to make way for modern factory sites. No evidence of either mill remains, although the 1952 edition of the O.S. 2½ inch map clearly marks the existence of Stratford Mill with a mill pond on the site of a present day car park. A brewery occupies the site of Salmon's Mill.

One and a half miles north up the Painswick Valley (Map 15), the first of the original mill buildings was seen. However, here at Small's Mill, Pitchcombe, little can be deduced of its history as it is a very poor state of repair, with most of the building having collapsed (Photograph 59). In 1838 Matthew Rice, manufacturing superfine cloth here, complained that the 14 horse water power obtained in winter varied to only 7 h.p. for four months in the summer, and the summer water supply was also very irregular. By 1879 T. Hooper was making umbrellas here, cloth production long having ceased due to the inadequate water power.

Kings Mill near the confluence of the Wash Brook and the Painswick Stream, (Grid Reference : 860089) (Map 15), has been much altered, and demolished. I was informed by the owner of the premises, now a private house that the main mill once lay to the left of the drive on what is now a very stony garden (Photograph 60). The present building is 'L' shaped and in stone, with weavers windows on the second and third floors. Hence its former use as cloth mill is proven, but by 1863 it was used by Joseph Williams and Co., as a pin mill. This firm was still using water power for its production in 1900, the inadequacy of the water supply being steadied to some degree by the use of a mill pond. All mills further up the valley have a pond in which water was accumulated during the night to give a powerful head of water for the next day's production.

The Wash Brook flows down into the Painswick Valley from the north west, and has two mills along its course. Washbrook Mill (Grid Reference : 857095) was visited by taking the A 46 into Painswick and turning east along the minor road through Ham Butts (Map 15). The mill and house are a single range of three sections with different roof levels. Over the doorway in the centre of the mill is the date 1691 with the initials H.W.A. (Photograph 61). This refers to a Mr. Hawkins, reputedly a clothier of this mill. The mill is now a private house.

Little Mill was encountered just 200 yards upstream. It has been recently improved and modernised as a private house but the original horizontally headed stone mullioned windows have been retained (Photograph 62). Edward Baylis produced braodcloth at this very small mill in 1820.

PHOTOGRAPH. 59. SMALL'S MILL. PAINSWICK VALLEY.

DERELICT AND OVER-GROWN MILL BUILDING

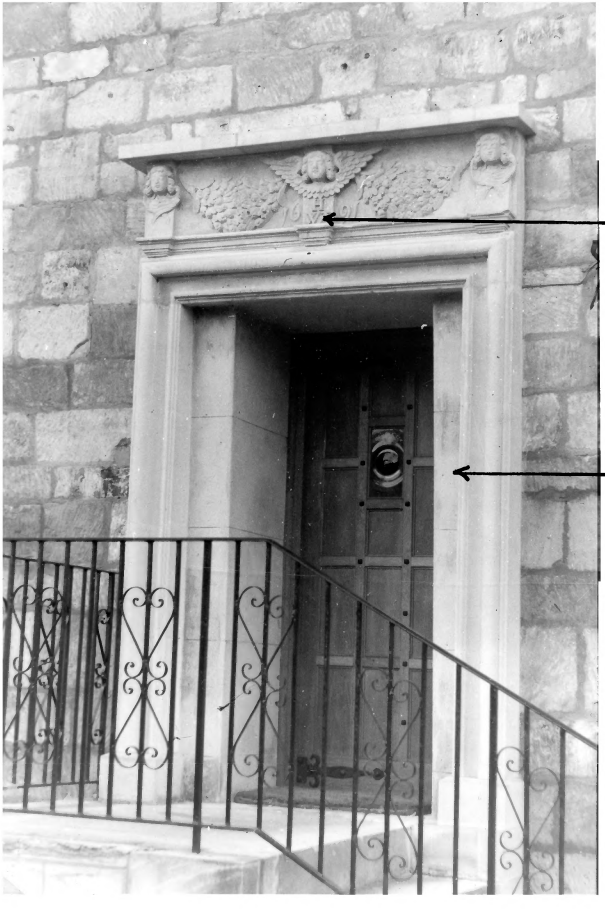
PHOTOGRAPH 60. KING'S MILL PAINSWICK

WEAVER'S WINDOW

CLOTHIERS HOUSE.

SITE OF FORMER MILL BUILDING.

PHOTOGRAPH. 61. DOORWAY OF WASHBROOK MILL



"H.W.A. 1691"

DOORWAY OF NEWLY CONVERTED MILL NOW A HOUSE.

PHOTOGRAPH. 62. LITTLE MILL, ON THE WASHBROOK.

PRIVATE HOUSE GREATLY MODIFIED.

Returning through Painswick, Skinner's Mill was noted to the south of the village, and I was informed that this mill was functional as a corn mill until 40 years ago. However, the farmhouse which adjoins the site is a very grand gabled house with mullioned windows and by its appearance of wealth could have been a clothier's house to a cloth mill at this site. The wheel is still in place with its gearing.

Just 400 yards up the Painswick Stream, isolated within rural surroundings as are all the mills along the Painswick Stream and its tributaries, Cap Mill was seen (Grid Reference : 869094). In 1820 Samuel Wood lived here and in the 1850's it was worked as a pin mill by Watkins and Okey. The small stone mill was still used as a storehouse by the adjoining house, which is now up for sale. The house is gabled with stone mullioned windows and is a very fine example of a wealthy clothier's house. A date of 1678 is carved over the door lintel. The mill itself was the smallest that was seen anywhere in the Stroud area, and only a couple of stocks could have been accommodated here (Photograph 63).

The only pin mill still operative in the Painswick district is Brookhouse Mill (Grid Reference : 871095) which is owned by H. Savoy and Sons, producing pins, hair pins, and clips. This was the largest mill complex encountered up this valley, and it is complete with steam chimney and former dyehouse (Photograph 7). Pins have been manufactured here since 1879.

To the east of Painswick, which is set high up on the western slope of the valley (Photograph 58), Loveday's Mill, is now a private house. It is a large building, stone built, and roofed with Cotswold "Slate". The three storeys have windows with a single mullion and the mill is mid 18th Century in age. The leat to the mill has been filled in and is now a lawn. Cloth manufacture ceased here in the 1840's.

One mile further upstream and 300 yards north of the confluence with the Sheepscombe Stream, Damsel's Mill represents one of the finest examples of a pre-factory system fulling mill. Cap Mill is also a good example of such a mill. Damsel's is now a private house, as the original clothier's house has been demolished. Conversion to a house was completed in 1968, but it still retains its characteristics mill features with mullioned windows and two bricked arches leading to a water wheel in situ. The wheel has wooden spokes which suggests it is of a pre 1830 date, and its axle is a hexagonal length of stone, this being a highly unusual feature. It was a cloth mill in 1820, when it was served by three leats to obtain a good head of water (Photographs 64 and 65).

Eddel's Mill (Grid Reference : 884121) lies half a mile further upstream and is now a private house, with the mill pond still present. This is the last cloth mill in this valley. Sutton's Mill and Cranham Mill even further upstream towards Cranham village were corn mills. Both are now private houses. At Cranham Mill is a mill wheel still intact with wooden spokes suggesting that it is pre 1830 in age. Many grindstones and two granaries are present at both sites.

All three mills along the Sheepscombe Stream have been demolished, but a number of mills in Painswick itself did not utilise water power.

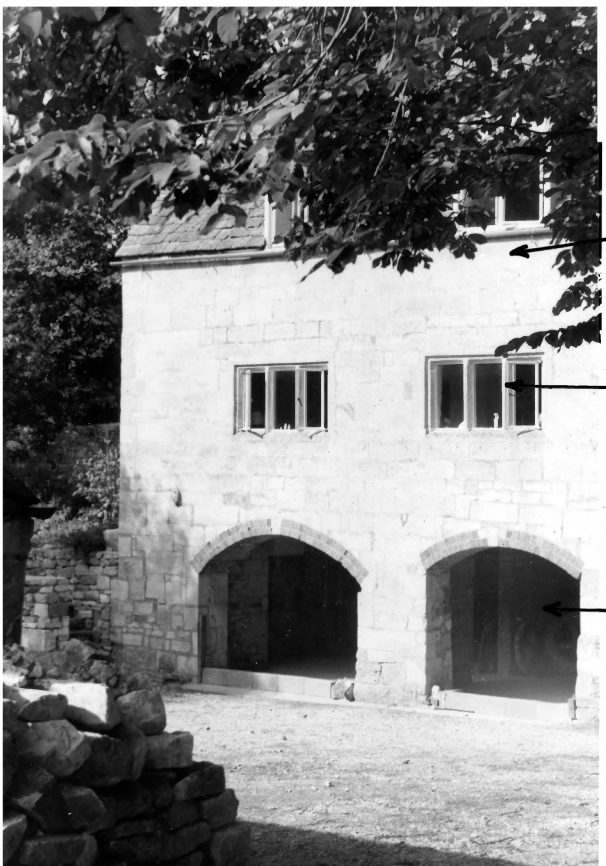
A warehouse in New Street, was once worked by Samuel Wood in the thriving 1820's as a woollen cloth factory. Bank House in New Street was worked by another member of the Wood family, and in Edge Street Zachariah Powell had a factory.

PHOTOGRAPH 63. CAP MILL PAINSWICK.

SMALL HALF TIMBERED MILL

MULLIONED WINDOWS.

PHOTOGRAPH. 64. DAMSELL'S MILL. PAINSWICK

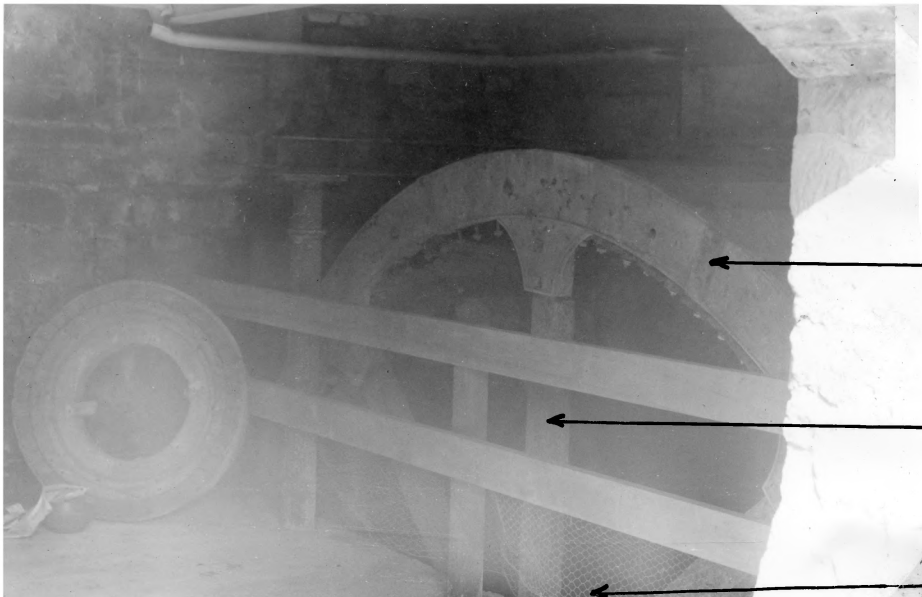


3 STOREY STONE MILL

MULLIONED WINDOWS

ARCHED ENTRANCES TO WHEEL SUMP.

PHOTOGRAPH 65. MILL WHEEL AT DAMSELL'S MILL



PHOTOGRAPH 66. STEANBRIDGE MILL, SLAD.

3 STOREY STONE MILL

MULLIONED WINDOWS HORIZONTAL HEADED.

The Valley of the Slad Brook.

Both Badbrook Mill and Little Mill have been demolished to make way for modern industrial premises, but New Mill still represents itself with a few remaining buildings. In 1898, cloth production ceased here, and much of the site was demolished. Permission for me to view the site was not granted. A printing firm now occupy the premises.

The next complete mill site was found one mile further north east up the valley. Here Hazel Mill (Grid Reference : 867063), was seen as a three storey stone building below a very imposing clothier's house. The small mill has a modern steel water wheel, which only recently was used to generate electricity. In the 1850's Alfred Haycroft used water power to crush dyewood for dye production. He imported his bark through Bristol and brought it overland by packhorse. Cloth production was carried on here before 1850.

To the north of the village of Slad, the last of the mills in this quiet valley was encountered. Here where one would think that the stream was barely capable of driving a mill wheel, Steanbridge Mill occurs (Grid Reference : 879078). The mill, immortalised in Laurie Lee's novel "Cider with Rosie" as "Jenny Mill", is a long stone built mill of three storeys, (Photograph 66), of early 18th Century date. It has stone mullioned windows on all floors, and has been converted to a house. Banks were seen across the upstream side of the mill, marking the old line of the mill pond dam. It was run as a cloth mill until the late 19th Century by N. Partridge.

The Toadsmoor Valley.

This deep, narrow, wooded valley trending northwards from the River Frome between Brimscombe and Chalford (Map 2), has three mills along its course.

Gussage Mill was seen just to the north of Lower Bourne village (Grid Reference : 876025), and was notable as a wood turning mill. Late 19th Century brick outbuildings have been added to the small stone mill which is of two storeys with segmental-headed windows. In 1879 it was used as a flock mill by R. Grist.

Hancox's Mill was noted further north, having been converted into a house (Photograph 67). It is a four storey stone building, with a slate roof, and numerous outbuildings. In the 1740's it was owned by the Hancox family for cloth production.

Toadmoor Mill (Photograph 17) dates from 1820, with windows resembling those of Ebley Mill. It is fed from a small pond, above which a more extensive mill complex once occurred. The foundations of this can still be traced in the undergrowth. Today aniline dyes are produced here, but in the late 19th Century flock was produced here, following tweed production by Charles Freeman in 1856.

The Nailsworth Valley and its Tributary Valleys.

From the site of Hawker's Mill, Dudbridge, south to Nailsworth, the extensive mill complexes indicative of an integrated factory system, as seen in the Frome Valley were notable. Hawker's Mill (Map 15) has been considerably altered, but some of the original stone buildings have been retained and a stone dated 1663 has been incorporated into a late 19th Century brick building. On the other side of the B 4066, Ratcliffe's Garage occupies some of theold buildings, these being gabled in stone, with mullioned windows. Cloth has been made here from 1659 until 1885, but at one

PHOTOGRAPH 67. TOADSMOOR MILL

PHOTOGRAPH 68. DUNKIRK MILL, NAILSWORTH.

DATE STONE "P.P. 1827" IN SOUTHERN PART OF MILL.

time in the 19th Century dyeing was the sole occupation.

The site of Light Bill Mill, 600 yards upstream to the south, is lost within the vast modern site of the B. P. Plastics plant. However, from Stanfields housing estate to the south east, a good view was obtained of the premises, and the original mill could be seen (Photograph 21). Information regarding the history of the site was obtained from the questionair e submitted. Cloth was manufactured here until 1907, by Robert Jowlings and Co., and then plastics were first produced here in 1911. The original mill building seen, with its stone stack, dates from 1818, with extensions in 1850. Steady development since then has taken place and a rapid site expansion since 1957 has occurred. Today extensive bew chemical production plant is being installed, but the original mill has continued in existence being used as a storage building. The old mill is of stone construction with large windows and a slate roof, and is on the site of fulling mills which date back to the early 17th Century.

Rooksmoor Mills (Grid Reference : 842031) are today used as a Kapok packaging plant, and a company concerned in the marketing of furniture, also occupies the premises. At one time furniture was made here, following its use as a flock mill in 1858-9. Few of the original 19th Century buildings remain and much of the brick buildings date from earlier this century.

Further south along the A 46, Woodchester Mill was encountered (Grid Reference : 843028). Here, pianos have been manufactured since 1909, with later additions to the premises having been made in 1938, following destruction by fire. The original mill site can be seen next to the stream as old blackened walls. This part of the mill was not reconstructed, due to impending road improvements which have never materialised. The brick and stone building of 1938 contrasts sharply with the other older buildings to the south, this contrast being most noticeable from the valley slopes to the east (Plan 4) (Photograph 22). A square five storey weaving shed has a long weavers window in the attic, and adjoining this building to the south an excellent example of a row of weavers cottages could be seen. Only the southern cottage is occupied, those in the middle have a weavers window in the attic. In 1890 the production of superfine Saxony broadcloth ceased here, after continual production since 1605.

Travelling south past the site of Southfield's Mill which is now occupied by a printing company in modern premises, Churches Mill was noted north of the Woodchester industrial site (Grid Reference : 842023). Water flows beneath the small stone built mill through two undershot wheel pits. The mill ceased in cloth production in the late 19th Century.

Frogmarsh Mill occurs to the south of this and houses the Carr Tanning Co. Ltd., Near the mill, which was formerly a pin mill, there is a wool drying tower which is the only example of its kind in the area (Photograph 23). The buildings are stone built of mid 19th Century date, with some modern additions, and an early example of a weavers window could be seen in a gabled wing of themill. Cloth production ceased here in 1858.

Merrett's Mill (Grid Reference : 843014) has been greatly modified and demolished to make way for the modern premises of an engineering company. Little is left of the original mill, but the clothier's house now used as offices was seen to the east of the site.

Inchbrook Mill could be seen from the A 46 as a small stone built building, converted for domestic purposes. The western section with its

Copy

51 & 52 Vict. c. 43, s. 74.

Order V., Rule 13 (4) Order VII., Rule 29b (2)

9.—*Affidavit for leave to issue Default or Special Default Summons against Defendant out of the District.*

No. of Plaint 3021

In the County Court of Wiltshire holden at Malmesbury

BETWEEN Charles Edward Warn (trading as Warn & Son) *Plaintiff*,

AND H. Grist *Defendant*.

(1) Name, residence, and occupation of Deponent.

I,[1] Charles Edward Warn
of Tetbury
in the County of Glos Brewer make Oath and say as follows:—

(2) Name, residence, and occupation of proposed Defendant.

1. [2] H. Grist (male)
of The Bungalow, Roadwaygh Common, Stroud
in the County of Glos. is justly and truly indebted to me,

(3) Name, residence, and occupation of proposed Plaintiff.

~~[or to[3]~~
~~of~~
~~in the County of~~
in the sum of £ 50-10-0 for the price of Goods sold [~~or~~ for Money lent,
~~or as the case may be~~].

2. I [~~or the proposed Plaintiff~~] apply [~~or applies~~] for leave to enter a plaint and issue a ~~Default [or a~~ Special Default] Summons in this Court against the above-named H. Grist (male) on the grounds stated in this affidavit.

Where residence, &c. within six months relied on.

3. The grounds on which the application is based are:—

~~That the proposed Defendant, within six months before the date hereof dwelt or [carried on business] within the district of this Court, that is to say, at~~

~~in the County of~~

Or where cause of Action or part relied on.

That the Cause of Action in respect of which the proposed Defendant is proposed to be sued arose wholly or in part at Tetbury in the County of Glos within the district of this Court.

4. The facts relied on as constituting the alleged cause of Action or a part thereof are [*here state the facts relied on*]:—

That the proposed defendant has made default in payment for the goods for the price of which an action is proposed to be brought at Tetbury aforesaid that being the place where payment ought to have been made

5. The proposed Defendant is not a domestic or menial servant, a labourer, a servant in husbandry, a journeyman, an artificer, a handicraftsman, a miner, or a person engaged in manual labour.

To be added where proposed Plaintiff does not make the Affidavit.

~~6. I am a person in the employ of the proposed Plaintiff, and the facts deposed to are within my own knowledge, and I am duly authorised by the proposed Plaintiff to make this Affidavit.~~

Sworn at Malmesbury in the County of Wilts this 10th day of September One thousand nine hundred and twenty four

Charles E Warn

Before me, Cecil G H Perry
Clerk nominated to take affidavits

Having duly considered the facts above disclosed, I do order that the above-named proposed Plaintiff be at liberty to enter a Plaint and issue a Default [*or* Special Default] Summons in this Court against the above-named proposed Defendant.

Dated this 12th day of September 1924.

Charles D Mee *Registrar*.

H W & V Ld. 1930

Copy

51 & 52 Vict. c. 43, s. 74.

Order V., Rule 13 (4) Order VII., Rule 29b (2)

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in the County of Glos. is justly and truly indebted to me,

(3) Name, residence, and occupation of proposed Plaintiff.

~~[or to[3]~~
~~of~~
~~in the County of~~
in the sum of £ 50-10-0 for the price of Goods sold [~~or~~ for Money lent,
~~or as the case may be~~].

2. I [~~or the proposed Plaintiff~~] apply [~~or applies~~] for leave to enter a plaint and issue a ~~Default [or a~~ Special Default] Summons in this Court against the above-named H. Grist (male) on the grounds stated in this affidavit.

Where residence, &c. within six months relied on.

3. The grounds on which the application is based are:—

~~That the proposed Defendant, within six months before the date hereof dwelt or [carried on business] within the district of this Court, that is to say, at~~

~~in the County of~~

Or where cause of Action or part relied on.

That the Cause of Action in respect of which the proposed Defendant is proposed to be sued arose wholly or in part at Tetbury in the County of Glos within the district of this Court.

4. The facts relied on as constituting the alleged cause of Action or a part thereof are [*here state the facts relied on*]:—

That the proposed defendant has made default in payment for the goods for the price of which an action is proposed to be brought at Tetbury aforesaid that being the place where payment ought to have been made

5. The proposed Defendant is not a domestic or menial servant, a labourer, a servant in husbandry, a journeyman, an artificer, a handicraftsman, a miner, or a person engaged in manual labour.

To be added where proposed Plaintiff does not make the Affidavit.

~~6. I am a person in the employ of the proposed Plaintiff, and the facts deposed to are within my own knowledge, and I am duly authorised by the proposed Plaintiff to make this Affidavit.~~

Sworn at Malmesbury in the County of Wilts this 10th day of September One thousand nine hundred and twenty four

Charles E Warn

Before me, Cecil G H Perry
Clerk nominated to take affidavits

Having duly considered the facts above disclosed, I do order that the above-named proposed Plaintiff be at liberty to enter a Plaint and issue a Default [*or* Special Default] Summons in this Court against the above-named proposed Defendant.

Dated this 12th day of September 1924.

Charles D Mee *Registrar*.

H W & V Ld. 1930

horizontal-headed windows appears to be older than the remainder of the mill. In 1839 Playne and Smith used the premises for broadcloth manufacture (Photograph 24).

The Inchbrook Valley, joining the Nailsworth Valley just upstream of Inchbrook Mill, has two mill sites along its stream.

Despite violent denial of the fact by the resident farmer, a farm 200 yards from the A 46 had all the appearance of a former cloth mill. The stone built range in two sections and two storeys, ahs a mill a mill house to the north. This is recorded as "Pitts Mill" in 1820, and later, production changed from cloth to pins.

Freames Mill further west (Grid Reference : 838007) produces flock under the ownership of Matthew Grist. An H. Grist was known to have been present here in 1924, as a law document found at a disused part of the site in a chest is signed to this effect. Much of the main mill has been demolished, or lies derelict in a very poor state of repair. All of the construction dates from the early 20th Century, and certainly antedates the period when Stephen Blackwell produced woollen cloth here, from 1814.

By climbing up to Lower Forestgreen, an excellent view of Dunkirk Mills was obtained (Photograph 26). Two companies now occupy the site, with the middle part lying vacant. A variety of building styles and ages is exhibited with the oldest 17th Century part reputedly being the original of "John Halifax's" mill. In the south end, a lintel is dated "P.P. 1827" (Photograph 68), indicative of the owner at that time, Peter Playne. However, the mill had been in existence long before that date, despite further date marks on the opposite, western side ofthe mill of 1855 and 1870. In the centre, a mark"J.C. 1798" suggests that John Cooper was here at the date, as well as documentary evidence for his presence here in 1814. Hence the centre seems to be the oldest part of the mill, with the most recently constructed part being to the north. Cloth production ceased here in 1890. A fine tall stack marks the site of a steam engine.

To the north of the town of Nailsworth, Egypt Mill was seen, to the east of the A 46. It is unusual in the respect that it is of typical pre-industrial revolution style, in an area where mill factory complexes predominate. The two storey brick built mill with a stone arch leading to the wheel pit, could best be seen from the south east. Two distinct phases of construction were noted, with the older part of the building to the west being distinguished by the cruder carpentry of the rafters seen in the attic. This part of the mill dates from 1600, with the eastern part dating from 1720. Dormers in the upper storey, and a fireplace in the attic indicate that the mill was once used for domestic purposes. It has been a corn mill since 1879, and water power was used here until very recently. The "breast wheel" and its gearing could still be seen in the pit at the western end (Photograph 69) with wooden spokes elm paddles, and a steel frame. This is an undershot wheel and dates from before 1820 when wooden spokes were used. The wheel at the western end is sited in the earlier wheel pit, but is of more recent age, and is constructed entirely of steel. Both are approximately 4 feet in diameter. Millstones are still connected to the wheel which was capable of work until a few years ago. Electricity is now used in the mill but a gas engine was used until 4 years ago to supply power for grinding. Cloth was manufactured here from the 17th Century until the 1830's.

The Horsley Valley joins the Avening Stream, from the south at Nailsworth (Map 2), and has four mills along its stream.

Next to Nailsworth Bus Station, Day's Mill (Grid Reference : 849996) was seen to be occupied by a metal fabrication business. The three storey stone mill astride the stream with brick outbuildings to the west, once had two parallel mill ponds but these have now been filled in. Cloth production

PHOTOGRAPH 69. EGYPT MILL, NAILSWORTH

PHOTOGRAPH 70. MILLBOTTOM MILL, NAILSWORTH

ceased here in the 1880's to be replaced by silk milling earlier this Century (Photograph 30).

Lock's Mill dates from 1820, but the buildings seen here clearly are of a later date (Photograph 32), than the gabled clothier's house which adjoins the site. The mill pond is still in existence. Cloth was made here until the 1840's.

Gig Mill (Grid Reference : 846993) could be seen from Rockness Hill to the west (Photograph 32). The stonework has been cemented over, and the mill has been modernised. This was a flock mill in 1856.

200 yards further upstream to the south, Mill Bottom Mill was encountered and most adequately viewed from the B 4058 Nailsworth to Dursley road to the west.(Photograph 70). This long two storey stone mill is of early 19th Century date, and is now a private house. In 1849 it was a corn mill under the ownership of Henry Davbeny.

The two storey mill of the Midland Fisheries Ltd., has a weavers window in the attic, which indicates that it was once used for cloth production (Photograph 33). It is stone built, and a clothier's house lies to the north. Foundation stones were found further east in the valley floor proving that the mill was once more extensive than it appears today. In the 1870's John Roberts was making flock and shoddy here at these premises which were then known as Lower Horsley Mill.

Old Mill, the first encountered up the Newmarket Valley (Map 15) was seen as a small stone built mill, with many modern improvements including a tiled roof and modern windows in the east wall (Photograph 71). A weavers window in the east side, indicates that at one time cloth was produced here. It is now used as a builder's store.

The remianing mill in this west to east trending valley is known as Lot Mills (Photograph 31). Much of the site has been demolished for modern furniture production sheds, but the stonewrok to the west facing the mill pond seems to be original. The extensive reconstruction occurred in 1967, and before this date, the site was used by a chemical company. From 1870 mining engineering equipment was produced here by H. King, using power from a beam engine which was in place at this site from 1885 until 1945.

The only evidence of the original Nailsworth Mill, was a fleece motif and a date of 1814, incorporated within the wall of an early 20th Century building facing onto the Minchinhampton road (Photograph 72). This is a clothier's mark which was used as a trade mark for the cloth of this particular mill. Chamberlain's, the present occupiers of the premises, have adopted the fleece as a trade mark for their fibreboard products, together with the trade name of "Aries". This is the only evidence of cloth ever having been produced at this site which was rebuilt following a fire in 1902. Cloth manufacture ceased in 1876, and following this, flock was produced until 1879.

Further east up the Avening Valley, two mills were noted side by side in a very restricted site (Grid Reference : 858994). The fact that it was formerly a flock mill was advertised on the southern wall of the lower mill, Holcombe Mill (Photograph 28). However, since 1879, the site has been known as Spring Mills, but this name should strictly be applied to the mill which is fed by a small spring and artificial leat to the north. The

PHOTOGRAPH 71. OLD MILL, NAILSWORTH

2 STOREY BUILDER'S STORE

MODERN WINDOWS

PHOTOGRAPH. 72. SITE OF NAILSWORTH MILL. (A. E. CHAMBERLAIN LTD).

"1814"
DATE STONE OF ORIGINAL MILL IN MODERN BRICK PREMISES. WITH A FLEECE AS A CLOTHIER'S MARK.

overgrown leat was noted on the northern slope of the valley, descending from Scar Hill to the north west (Photograph 73). On the upstream side of Holcombe Mill, slits were noted in the wall, being indicative of the airdrying slits for a wool drying house (Photograph 74). This proves that the mills were at one time used for woollen cloth production. The buildings are of three storeys with some brick additions. The production of flock ceased in March of this year, having continued since 1879, following woollen cloth production by John Wise from 1858. A fulling mill occurred at this site in the 16th Century under the ownership of the Webb family.

Barely 300 yards upstream, (Grid Reference : 863994) Iron Mills was seen as a two storey stone building. Much of the mill has been demolished but the gabled houses nearby have arched doorways indicating that they were used as a wool store at sometime. Cloth production being complementary to nearby Longford's Mill, ceased here in 1840. Today they are used as garages.

One of the larger mill complexes in the Stroud area was encountered half a mile upstream. Set in the floor of a deep wooded valley with an impressive large mill pond, Longford's Mill has produced woollen cloth here for over 300 years. The Playne family has owned the premises since 1759, and pride of ownership has played a considerable part in the maintenance of woollen production at this remote site. A good view was obtained of the mill complex from the west overlooking a small part of the mill pond (Photograph 29). The large mill pond known as Gatcombe Water, was created in 1806 by the construction of a dam 150 yards long and until the upper end of the lake recently silted up, it had an area of 15 acres. 3 steam engines were installed here in 1820 and their site is marked by a tall stone stack. It is a complex site, but much of the buildings date from 1912 when much rebuilding took place. Some buildings date from 1858, being of stone construction with mullioned windows and Cotswold "Slate" rooves. The office building to the west, incorporates a date stone of 1705.

The remaining mill in the Avening Valley is isolated two miles further upstream in the village of Avening (Maps 2 and 15). Here, Avening Mill (Grid Reference : 883980) was noted as a four storey stone site, at present used as a seed and fertilizer warehouse (Photograph 75). It is a single range mill with wooden mullioned windows. In 1830 John Baxter was making cloth here, but it later became a flour mill.

Avening Mill was the last mill to be examined in the Stroud area. However, in association with the examination of the history of each mill, additional evidence for the former presence of a woollen industry was recorded. This evidence is outlined in the following chapter.

PHOTOGRAPH 73. LEAT FORMERLY SERVING SPRING MILLS, AVENING VALLEY

OVER-GROWN LEAT.

PHOTOGRAPH 74. HOLCOMBE MILL ; AVENING VALLEY.

LATER BRICK ADDITION

2 STOREY STONE MILL WITH SLITS FOR DRYING WOOL, HENCE USED AS A DRYING SHED.

MAP 15.

Existing Mill Buildings in the Stroud Area.

Scale : 1 inch to 1 mile

Key.

500 ..... 500 ft. contour.

..... Built up area.

..... Site of mill with name.

RIVER SEVERN

River Frome

Framebridge M.

Meadow M.

EASTINGTON

Millend M.

Bond's M.

Beard's M.

STONEHOUSE

Stonehouse Upper M.

St. hse. Lower M.

Ryeford M.

Stanley M

Oil M.

EBLEY

Ebley M.

THE STANLEYS

Lightpill M.

Fogg's M.

Rookmoor M.

WOOD-CHESTER

Woodchester M.

Ham M.

Bird's M.

Church's M.

Frogmarsh M.

Merrett's M.

Inchbrook M.

Freames M.

Pitt's M.

Dunkirk M.

NAILSWORTH

Egypt M.

Lot M.

Guy's M.

Old M.

Lock's M.

Gig M.

Millbottom M.

HORSLEY

Lower Horsley M.

Whiteway M.

Horsley Brook

Newmarket Brook

Inchbrook

Painswick Stream

Little M.

Washbrook M.

PAINSWICK

Small's M.

King's M.

Skinner's M.

Cap M.

Brookhouse M.

Loveday's M.

Bayliss's Upper M.

Damsell's M.

Oliver's M.

Eddell's M.

Sutton's M.

Cranham M.

Steanbridge M.

Slad Brook

Hazel M.

Wade's M.

New M.

STROUD

Lodgemoor M.

Wallbridge M.

Framehall M.

Bowbridge M.

Lightpill M.

Stafford's M.

Griffin's M.

THRUPP

Toadsmoor M.

Brook

Snow's M's.

Iron M.

Longford's M.

Avening Brook

Avening M.

AVENING

Gough M.

Brimscombe M's.

Lower Baume M.

Baume M.

Gussage M.

Ile's M.

Chalford M's

CHALFORD

St. Mary's M.

Baldinger's M.

Twissel's M.

R. Frome

SAPPERTON

MISERDEN

Edgeworth M.

MINCHINHAMPTON

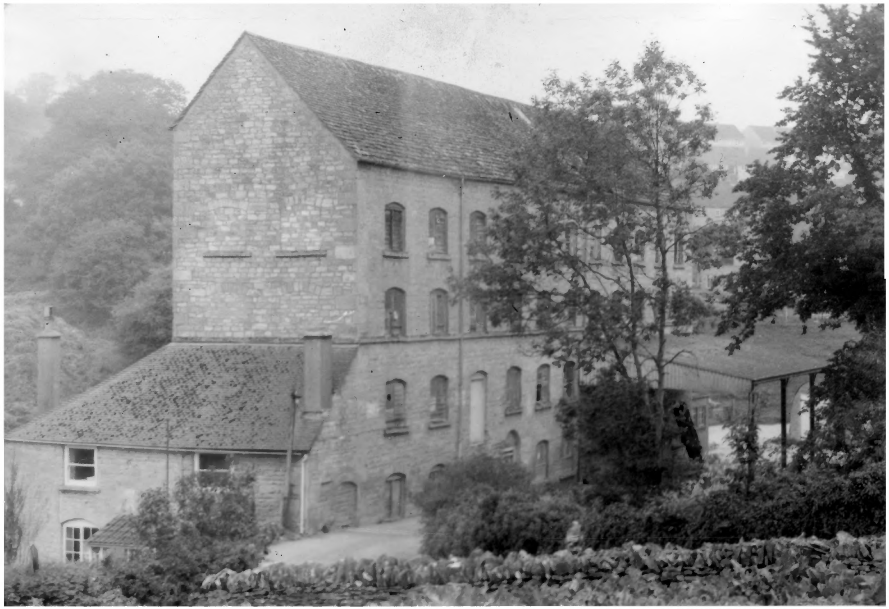
500

N

0 ½ 1 2 3

MILES

PHOTOGRAPH 75 AVENING MILL.



4 STOREY STONE MILL NOW A CATTLE FOOD STORE.

PHOTOGRAPH 76. SITE OF CHURCHEND MILL, EASTINGTON

FOOT BRIDGE TO ALLOTMENT - FORMER MILL BUILDING

DEEP STONE LINED CHANNEL.

CHAPTER FOUR : ADDITIONAL EVIDENCE IN THE LANDSCAPE AND IN ARCHITECTURAL STYLE TO SUGGEST THE EARLIER PROSPERITY OF THE WOOLLEN INDUSTRY.

The numerous sites of demolished mills seen in the area, contribute greatly to the total number of mill premises which at some time in the past have been concerned with woollen cloth manufacture. It is merely the total number of these demolished mill sites, in addition to the existing mill buildings, which reflect the former prosperity and importance of the woollen industry. Examined individually however, these demolished mills offer few clues as to the prosperity of the industry, or its history. Only written evidence, or more rarely, knowledge imparted by local inhabitants, can establish the date of demolition of each site. However, even if this date is known, it does not mark the cessation of woollen cloth production at the site, as subsequently a variety of industries have been seen to occupy vacant mill premises. Hence, it is necessary to examine in detail only a few of these sites of demolished mills, with written historical evidence, allowing an outline history of each site.

A more lucid representation of the former prosperity of the woollen industry is afforded by the florid, but distinctive architecture of clothier's houses and churches in the area. Rows of workers' cottages are now rare, but still suggest the earlier importance of the woollen industry as a significant employer of local labour.

Names noted on the tombstones in Churchyards; some being of famous clothier families; and the names of some public houses, both have affinities to the former woollen industry. Persistence of these, and other names connected with the industry, suggests that woollen cloth manufacture once exerted a considerable influence on the economic and social life of the area.

This chapter outlines these features which reflect the previous prosperity of the woollen cloth industry.

Sites of Demolished Mills.

The mills sites which have been greatly modified or demolished to make way for modern industrial premises have been described in the previous chapter. The industrial complexes at Dudbridge, Stroud and Chalford occupy sites of mills which have been demolished within the present century. In addition to these two industrial sites, factories also occupy sites of detached mills. Townsend's cake and seed mills on the site of Stratford's Mill (Grid Reference : 847054), and the Stroud Brewery occupying the site of Salmon's Mill only 500 yards further north up the Painswick Valley, are examples of modern factories occupying old mill sites. The Safari Caravan Co. Ltd., occupies the site of Lower Bowbridge Mill, following the destruction of the original building in 1953, but here some of the window frames and pillars of the old mill have been incorporated in the modern reconstruction. Usually no traces of the original mill building remain, as is the case with Critchley Ltd., on the sites of Dark Mill (Grid Reference : 875020) and Wimberley Mill (Grid Reference : 877021), near Brimscombe. At Woodchester in the Nailsworth Valley, Southfield's Mill has been removed to make way for Arthur's Press Ltd., in modern corrugated iron sheds. Nothing remains of the mill. Further up the valley in Nailsworth, only a date stone and clothier's arms, built into a wall of the modern pressboard factory, survives from the original Nailsworth Mill.

Map 16, indicates mills which have been demolished to make way for

modern industrial premises, as well as those mills which have been demolished and their sites have subsequently become derelict. Demolished and disused mill sites are usually distinguishable merely by the presence of stones lining the stream banks or more unusually by the presence of the mill wheel pits.

On the River Frome, the site of Churchend Mill was the first to be encountered in the east to west survey of all mill premises in this valley (Grid Reference : 784057). The site, now a market garden, was owned, together with Beard's, Bond's and Meadow Mills, by Charles Hooper until 1879. The only existing evidence of the former presence of a mill building here, is the mill wheel sump which is crossed by a footbridge leading to the garden (Photograph 76).

South west of Stroud, next to the viaduct carrying the Gloucester to Swindon railway line across the River Frome, the 1952 edition of the 2½ inch map, shows the existence of a mill pond with a mill building. However, today the site is occupied by a council rubbish tip, and no evidence of the mill, or its pond remains (Photograph 77), (Map 16). Until 1845, Matthew Grist worked this mill, known as Capel's Mill for cloth manufacture.

300 yards further south east the site of Arundel's Mill was seen to be represented only by its pond, a hatchway and a few stones in the banks of the pond (Photograph 78). The directory of 1894 lists the tenants as Gyde and Co., dyers.

Only an embankment confining the small stream to the valley side, suggests the site of Newcombe's Mill. The stream is an eastern tributary of the River Frome, flowing short distance from Stroud Mill to Bowbridge (Map 16), (Photogrpah 79). Cloth production, under the ownership of James Sandys, ceased here in the late 19th Century.

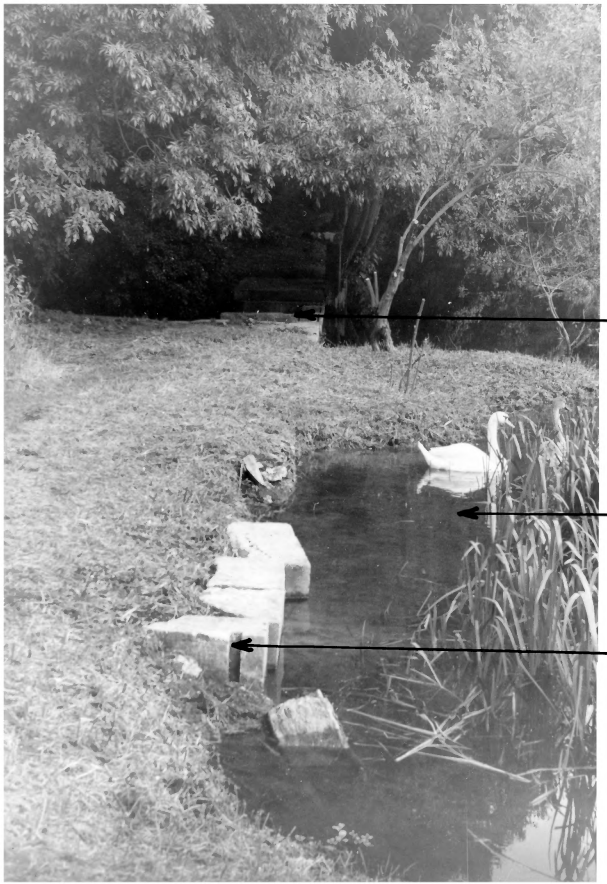
The remaining demolished mill sites were seen 3½ miles to the east, near Chalford Village. Seville's Mill has been demolished and its site is now occupied by a garage. Nothing remains of the mill, but the sluice gates and its gearing have been removed to a site of preservation on a green next to the Chalford to Minchinhampton road (Photograph 80). The buildings were demolished in 1964 and were reputedly of 19th Century construction. A stone arch and hatchway are all that remains of "Mr. Moreton's Mill", just 200 yards upstream. The mill pond has been filled in, and the site is now used as a children's playground.

The Cuckold's Brook or Ozlebrook, flows south from Whiteshill and Randwick to Cainscross. The sites of three mills were noted along this brook (Map 16). Ozlebrook Mill (Grid Reference : 835053) has left no trace of its former existence except marshy ground to the north of its site. Pagan Hill Mill has been completely demolished, but the mill house to the east is now used as a farmhouse (Grid Reference : 834055). The clothier's house of Puckshole Mill has also survived, inlike the mill itself, and is today used as for domestic purposes. The pond has been drained, and the only suggestion of the former existence of the mill are stone quoins and masonary protruding from the southern wall of the house. Silk milling in the 19th Century followed woollen cloth production at this site.

In the Painswick Valley, a number of demolished mill sites were noted, the first being Rock Mill, which still has the clothier's house and wool store present. A stone arch beneath the mill had recently been filled in, and a garden with garages now occupies the site. In 1889 flock was produced here. To the south of Painswick, Mason's Mill can only be

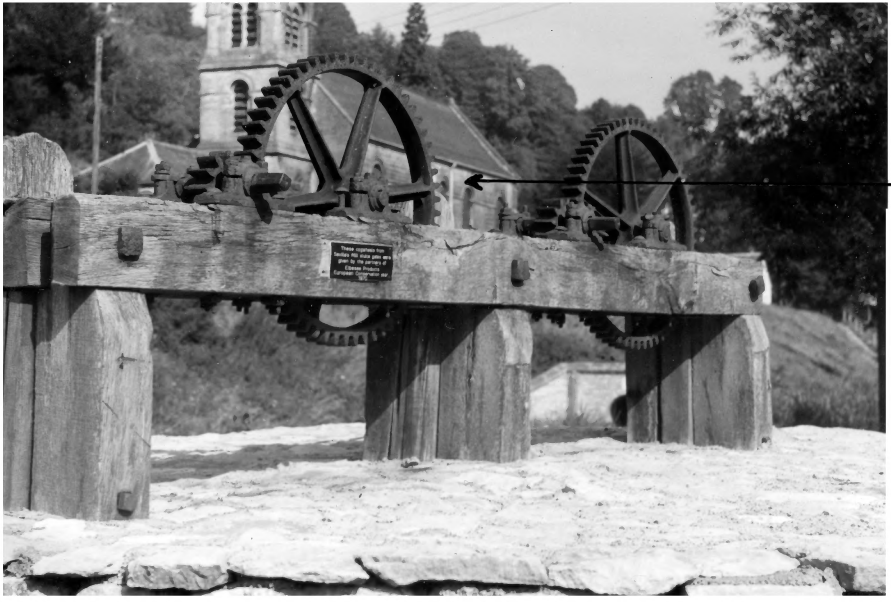
PHOTOGRAPH 77. SITE OF CAPEL'S MILL, STROUD

PHOTOGRAPH 78. SITE OF ARUNDEL'S MILL. STROUD



PHOTOGRAPH. 79. SITE OF NEWCOMBE'S MILL

PHOTOGRAPH. 80 SLUICE GATE GEARING FROM SEVILLES MILL CHALFORD



CHALFORD CHURCH

identified by some of its walls now constituting the walls of the garden of the mill house.

The three mills along the Sheepscombe stream, Wright's Mill (Grid Reference : 894104), Sheepscombe Mill (Grid Reference : 897105) and Hore's Mill (Grid Reference : 898106), have all been demolished, with no traces being visible today. Only marshy ground, suggests the sites of their mill ponds (Map 16).

The site of LowerDoreys Mill can be seen to the north from the minor road from Painswick to Edge. The dam of the mill pond can be seen as a grassy bank across the valley floor (Photograph 81) (Map 16).

The Slad Brook, has four demolished mill sites along its course which are visible today. Old walls to the east of the chainsaw company mark the site of Peghouse Mill (Grid Reference : 863058). Further upstream, foundation stones mark the site of Wades's Mill, and south of Slad the site of Vatch Mill could be established due to the presence of workers' cottages and a clothier's house, "Vatch House", which are now used as private houses (Grid Reference : 872066). Nathaniel Marling used the Vatch Mills for woollen cloth manufacture until the 1840's. Marshy ground in the valley floor, east of the village of Slad, marks the millpond of Wyatts Mill (Grid Reference : 873073) (Map 16). The mill was demolished in 1895.

Applegarth Mill in the Toadsmoor Valley, was fed by a small distributary from the east. It was recently demolished to make way for a modern house which is in the process of being constructed. Some foundation stones remain, marking the site of the original mill building (Photograph 82) (Map 16). Four hundred yards further north, upstream, the site of Wiseland's Mill is suggested by the flow if the stream around the eastern side of the valley. The floor of the valley is marshy, but there remains no evidence of the mill building. A house to the south of the lane serving the site, is probably the clothier's house (Map 16) (Photograph 83).

Two mill sites in the Horsley Valley, do not have any affinities with the woollen cloth industry. No documentary evidence can connect them with woollen manufacturing. The mill north of Washpool (Grid Reference : 843983), although partly demolished, serves as a house, whilst the second mill, Hartleybridge Mill, 200 yards south of Washpool has been completely demolished. Only stonework along the stream banks remain here, with a marshy pond upstream. A track leads from Hartleybridge north east to the mill site, beside which a cottage with a "stable" door was seen. The presence of this type of door which has upper and lower halves seperately hinged, reflects its former use as a bakehouse. Flour was once transported from the mill to the bakery by wagon. Hartleybridge Mill therefore, was once a corn mill, like the neighbouring mill to the north.

The only demolished mill site in the Nailsworth and Avening Valleys concerned at some time with woollen cloth production, was noted to the north of the village of Avening. Here, George's Mill (Grid Reference : 879983), occurs only as a line of stones across the stream, with an arched culvert, now dry, leading into the stream from the east (Photograph 84). This was reputedly a cloth mill. Two other mill sites occur in Avening, one as a pile of foundation stones, and the other to the east of the village, at Nag's Head, merely as a bank across the valley floor. Both have been corn mills within living memory.

PHOTOGRAPH 81. THE SITE OF DOREYS MILL

WASHBROOK NEAR PAINSWICK

FORMER MILL POND DAM.

PHOTOGRAPH. 82. THE SITE OF APPLEGARTH MILL

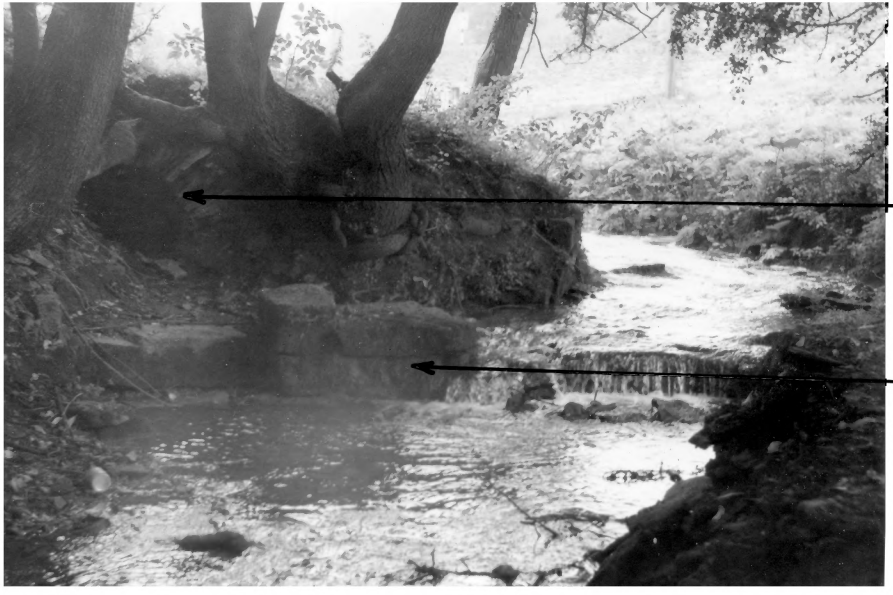
TOADS MOOR VALLEY

NEW HOUSE BEING BUILT ON SITE

STONES OF ORIGINAL MILL

PHOTOGRAPH. 83. SITE OF WISEMAN'S MILL, TOADSMOOR VALLEY.

PHOTOGRAPH 84. SITE OF GEORGE'S MILL, AVENING



Clothier's Houses.

The numerous clothier's houses connected with existing mill sites have been described in the previous chapter. However, many clothier's houses have persisted long after their mills have been demolished. In addition to those seen in a rural setting, grand gabled dwellings in the towns and villages of the area were noted. Many of these clothier's houses have a wool loft with room for some weaving. Often the gardens are long and narrow at the back of the house, corresponding to the length of the pieces of cloth produced, which were dried in these gardens. Clothier's houses of this type are Tudor in age, but later in the 18th Century, the wealthy clothier's built large country houses in extensive estates. Gatcombe Park, Minchinhampton, built by Sheppard is one of many large estates noted in the area, which result in a significant feature of the present landscape. However, the houses are more notably connected with the mill of which the clothier was the owner. A Georgian house is incorporated within the site of Lodgemoor Mills, Stroud (Photograph 44), and fine examples of clothier's houses were seen along all the valleys in the Stroud area (Chapter 3). Even the older dwellings reflect an air of prosperity that was not becoming of houses of the labourers or people unconcerned with woollen manufacture. Apart from the very grand estates of the 18th Century, and large Georgian houses adjoining some mill sites, the earlier Tudor and Flemish style of building often portrays great wealth and extravagance. This is reflective of the prosperity of the woollen cloth industry from the early 16th Century until the mid 19th Century.

Three Clothier's houses were seen in the Nailsworth Valley, which most clearly represent the style of the early clothier's house of this district.

At Woodchester to the west of the site of Southfield's Mill, now occupied by a printing firm, Southfield's Mill House was seen (Photograph 85) (Map 16). It is an "L" shaped house, with the west wing dating from 1580. It has small mullioned windows, but the original leaded lights only remain in one window. The later southern wing, dates from 1690, with the larger cruciform type of mullioned windows. In the south wall are examples of some of the earliest type of sash windows with the original oak glazing bars. The stucco, covering the stone, of this wing is original. As can be seen from the photograph the original door has been blocked up. To the east, a curved Regency styled verandah can be seen, which probably dates from the time when Sir Onesiphorus Paul resided here, before he moved to his new house, Hillgrove, now facing the Bentley Piano Co. works.

At South Woodchester, facing Frogmarsh Mill, Summerwells, a four gabled house can be seen which dates from 1698. The windows are mullioned and transomed (Photograph 86).

However, at Egypt Mill, Nailsworth, (Grid Reference : 849999) a superior example of a 17th Century clothier's house was seen. It has two equal fronts of two gables, with characteristics blocked oval openings in their apexes (Photograph 87). Its square plan is original, and no subsequent modification is suggested. The transom above the side door is dated "R. W. 1698", which is probably the original date of construction of the dwelling.

There is nothing excessively grand about these earlier clothier's houses, unlike those of later Georgian date. However, they are in marked contrast to the humbler dwellings of the labourers at this period, and the work put into them is good and probably executed by local craftsmen.

PHOTOGRAPH 85. SOUTHFIELDS MILL HOUSE, WOODCHESTER.

GABLED HOUSE

CRUCIFORM WINDOWS

OLDER WING WITH MULLIONED WINDOWS

BLOCKED ORIGINAL DOORWAY

PHOTOGRAPH 86. SUMMERWELLS. WOODCHESTER

4 GABLED CLOTHIER'S HOUSE.

CRUCIFORM WINDOWS.

Weavers' Cottages.

Before the introduction of the factory system to the woollen cloth industry, looms were installed in cottages, producing cloth for the fulling mills which manufactured the finished broadcloth. The cottages often had large room space to accommodate the looms, with large long windows to admit light to the upper storey where the weaving was usually carried out. From the early 16th Century, when the influx of Flemish weavers contributed greatly to the growth of the woollen industry, the weaver's "assart" was a recognised feature of the landscape. Each weaver in the manor of Minchinhampton had a dwelling for his craft with some enclosed land around his house.

Some interesting evidence for the former presence of Huguenot weavers in this area, was noted at Chalford. A cottage, Grey Cot, was occupied by Huguenot weavers in the 17th Century, and scratched graffiti could be seen on a window pane. It read "Est une folie, toute ma vie, Graham".

The gabled Flemish style of architecture can be seen throughout the area, and this style developed into the characteristic Cotswold architecture from the late 16th Century.

Rows of weavers' cottages are now rare, but the best example occurs at Woodchester Mill, where they adjoin the present piano factory. The long weavers' window in the upper storey is still in existence (Photograph 22) (Map 16).

Blue Row, at Dudbridge, latterly became weavers' cottages. Its name suggests its former use as a dyehouse. The row was seen as a fine, well kept terrace of cottages in stone with a shallowly pitched roof, but no weavers' window is present here (Photograph 88).

Churches.

Leonard Stanley Church (Photograph 89) (Grid Reference : 802033) and other churches in the area reflect the former prosperity of the area, by their massive construction. Leonard Stanley Church is partly Norman, but later reconstruction has resulted on a scale which could only be possible if a surplus of wealth existed in the area. Minchinhampton Church like Painswick Church, has an ornate 16th Century spire, and other florid additions to an original 12th Century building. Lavish ornamentation of this date is indicative of the newly obtained wealth which resulted from the expanding woollen industry. Facing Minchinhampton Church (Map 16), the Market House, restored in 1944, dates from 1698. It is supported on stone columns, with a row of wooden columns in the centre, resulting in a covered market. It is not known whether the premises were used as a wool market, but its date of origin coincides with a market rise in the prosperity of the woollen cloth industry.

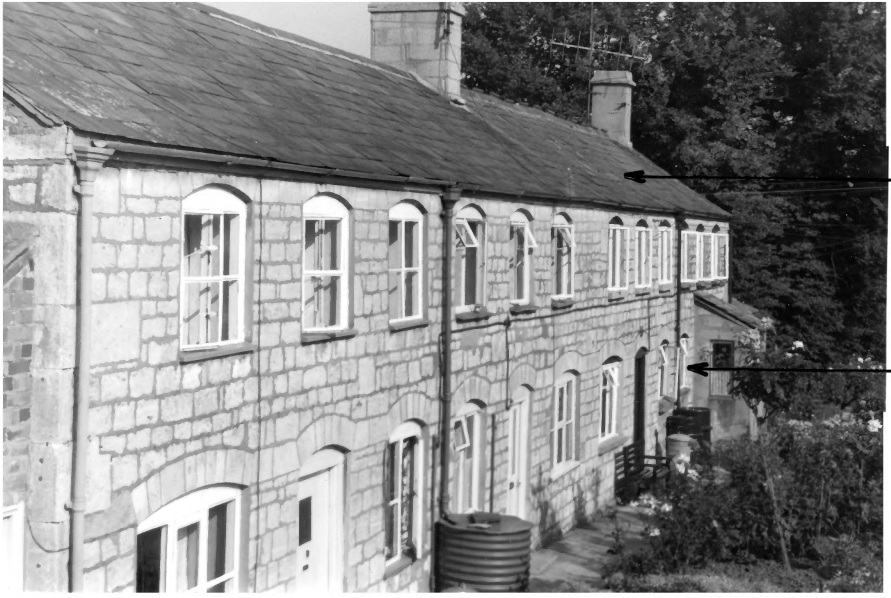
Family Names and Inn Signs.

Names of old clothier families and names of public houses give some indication of the former importance of woollen cloth production.

Flemish weavers were encouraged to settle in the Stroud area at first during the reign of Edward III from 1327 to 1377, and later in the early 16th Century. Huguenots first came to the district in 1650, and although the Flemish and Huguenots together considerably influenced the industry, most of the clothiers were English. However, in Painswick churchyard, gravestones were seen to commemorate many clothiers of

PHOTOGRAPH. 87. EGYPT MILL HOUSE, NAILSWORTH

PHOTOGRAPH 88. BLUE ROW DUDBRIDGE



PHOTOGRAPH 89. LEONARD STANLEY CHURCH

MASSIVE STONE TOWER.

PHOTOGRAPH 90. "THE CLOTHIER'S ARMS"

RODBOROUGH

European origin. The name Webb is very common in all churchyards of the area, and is derived from the Flemish "le Web" or "Webbe", meaning a weaver. Clutterbuck, a name also of Flemish origin appeared in the Tudor period, and can be seen on memorial stones in Avening Church and Painswick Church.

The once important Playne family, now owners of Longford's Mill, near Avening, are descended from Flemish weavers. These three Flemish names persist today in the area, together with English names reflective of the various trades concerned in the production of woollen cloth. Weaver, Tucker, Fuller and Dyer, are some family names included within this category.

Names of public houses also reflect the past predominance of the industry. A list of the inn signs encountered in the area is as follows:

The Lamb Inn, Leonard Stanley - (Grid Reference : 803033);
The Fleece Inn, Stanley Downton, near Leonard Stanley - (Grid Reference : 801042)
The Woolpack Inn, Stonehouse - (Grid Reference : 805054)
The Clothier's Arms, Stroud - (Grid Reference : 843047) (Phtograph 90)
The Fleece Inn, Lightpill, near Stroud - (Grid Reference : 840041)
The Woolpack, Slad - (Grid Reference : 871067) (Photograph 91)
The Old Fleece Inn, Woodchester - (Grid Reference : 842030) (Photograph 92)
The Shears, Watledge, Nailsworth - (Grid Reference : 850000)

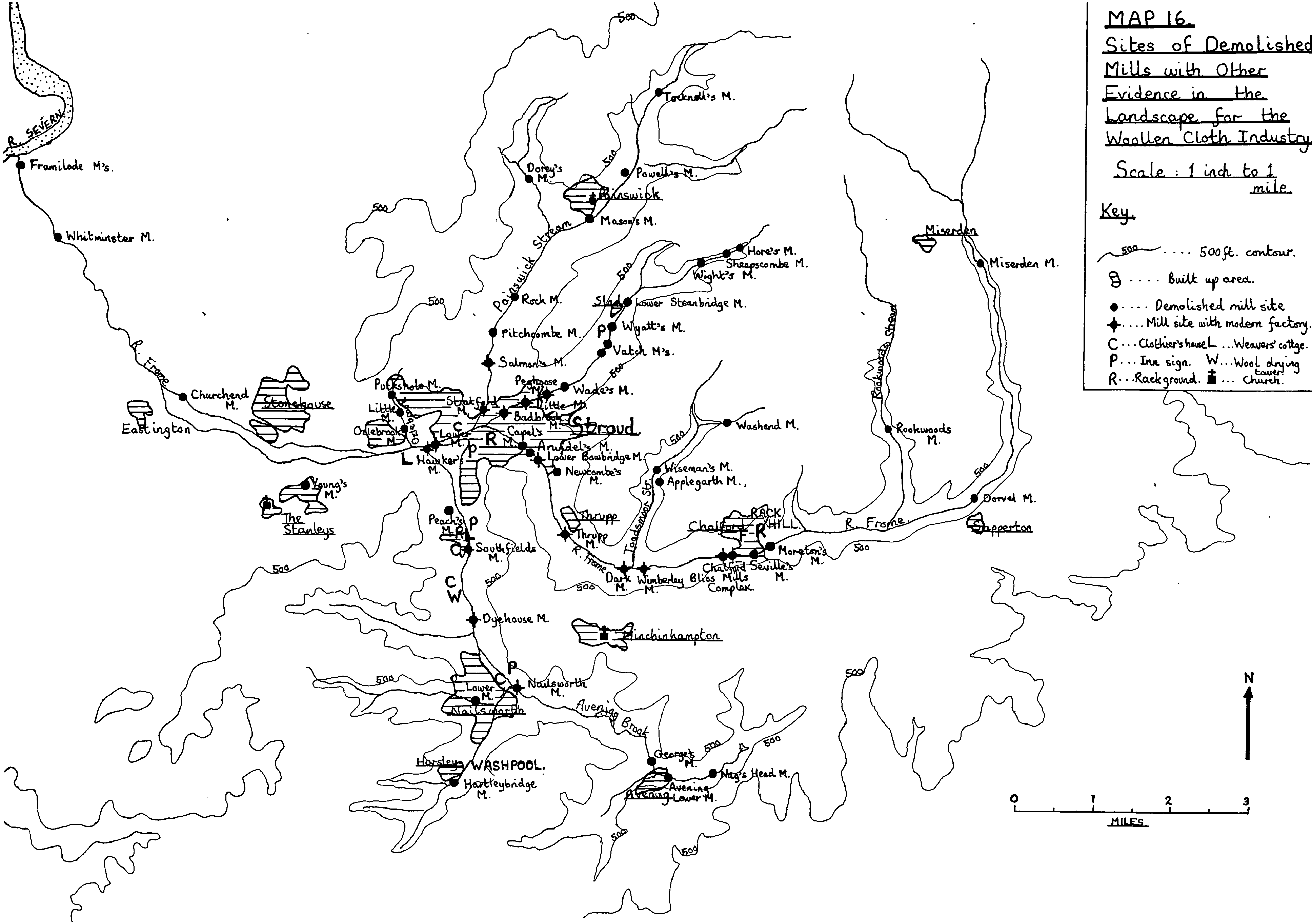
All these inns are buildings of the traditional Cotswold style, with some inn signs being very explicit of the industry to which they are dedicated. The sign for the Clothier's Arms in Stroud, bears a clothier's coat of arms (Photograph 90).

The only placename in the area which has its origins in the woollen industry, is Nailsworth. The name is a corruption of "Nagelwert", meaning a wool market, with "Nagel" being an Anglo-Saxon word for a weight of wool.

Folklore could give valuable clues as to the former social importance of the industry. Folklore in modern industry is either a result of survival or of new growth. Owing to the virtual extinction of the woollen industry here today, it is therefore not surprising that folklore was not encountered during this survey. Even the long tradition of the industry in this area and the relative immobility of the population, has failed to leave merely a memory of folklore amongst the older members of society. The Bishop Blaize pageant was common until the 19th Century. St. Blaise, martyred in 316 in Asia Minor, is said to have pioneered the art of wool combing, and was sunsequently adopted as the patron saint of the woollen industry. Costumed parades took place on St. Blaise's Day, February 3rd, but the memory of these pageants has long departed from the Stroud area. Only an inn sign, the "Bishop Blaze", in nearby Cirencester reflects the social importance of this character during the zenith of the woollen industry.

PHOTOGRAPH 91 "THE WOOLPACK" SLAD

PHOTOGRAPH 92. "THE OLD FLEECE", ROOKSMOOR, WOODCHESTER.


MAP 16.
Sites of Demolished Mills with Other Evidence in the Landscape for the Woollen Cloth Industry
Scale : 1 inch to 1 mile.
Key.
500 .... 500ft. contour.
.... Built up area.
.... Demolished mill site
.... Mill site with modern factory.
C ... Clothier's house
L ... Weavers' cottage.
P ... Inn sign.
W ... Wool drying tower
R ... Rackground.
... Church.
N
0 1 2 3
MILES.
R. SEVERN
Framilode M's.
Whitminster M.
R. Frome
Churchend M.
Stonehouse
Eastington
Young's M.
The Stanleys
Puckshole M.
Little M.
Oziebrook M.
Lower M.
Hawker's M.
Stratford M.
Badbrook M.
Capel's M.
Arundel's M.
Lower Bowbridge M.
Newcombe's M.
Peghouse M.
Little M.
Wade's M.
Stroud.
Salmon's M.
Pitchcombe M.
Rock M.
Painswick Stream
Dorey's M.
Painswick
Powell's M.
Mason's M.
Tocknell's M.
Slad
Lower Steanbridge M.
Wyatt's M.
Vatch M's.
Wight's M.
Sheepscombe M.
Hore's M.
Washend M.
Wiseman's M.
Applegarth M.
Toadsmoor St.
Thrupp
Thrupp M.
Dark M.
Wimberley M.
Bliss Mills Complex.
Chalford
Chalford M.
Seville's M.
Moreton's M.
RACK HILL
R. Frome.
Sapperton
Dorvel M.
Rookwoods M.
Rookwoods Stream
Miserden
Miserden M.
Peach's M.
Southfields M.
Dyehouse M.
Minchinhampton
Nailsworth M.
Lower M.
Nailsworth
Avening Brook
George's M.
Nag's Head M.
Avening
Avening Lower M.
Horsley
WASHPOOL.
Hartleybridge M.
500

CHAPTER FIVE : PROCESSES INVOLVED IN THE MANUFACTURE OF WOOLLEN CLOTH ; With Landscape Evidence to Emphasise These Processes and their Dependence on Local Physical and Social Conditions.

Prior to the introduction of the factory system in the late 18th Century, woollen cloth was produced by cottage industries. All sorting, carding, combing and spinning was at first conducted individually in various cottages, with only the fulling being carried on in mills. Later, dyehouses, a gig mill and pressing shed were added to sites, before the adoption of the true factory system. The manufacture of broadcloth from raw wool is outlined in this chapter, and the geographical advantages possessed by the area for the processes invloved are also described.

Raw Wool.

In the 15th Century most of the wool was obtained from local Cotswold sheep, kept on the hills surrounding the Stroud area. The true Cotswold breed has huge joints and heavy fleeces, but today only owned by a Mr. W. Garne at Aldsworth. The limestone subsoil of the area results in sweet grass, on which the common diseases of sheep are, as a result, usually absent. The sheep runs of the Cotswolds greatly contributed to the expanding woollen industry, but the rising importance of broadcloth production demanded the more suitable short wools from the nearby chalk uplands, Herefordshire, the Forest of Dean, and Exmoor. After 1567, the proximity of the port of Bristol was distinctly favourable for the import of short fine merino wool from Spain and long wool from Ireland. In the late 18th and early 19th Centuries, fine wool was imported from South Africa, Australia, and New Zealand.

The raw wool was scoured, first by boiling it in stale urine, (today a prepared alkali is used), and then rinsing the wool by working it with a prong in rushing water. The copious supply of water in the area, with many springs occurring along the valleys, did not restrict the process of rinsing to any chosen locations. However, in the Horsley Valley, at Washpool, the gently shelving banks of the stream near a footbridge, (Grid Reference : 842981) (Photograph 93), mark the site where the rinsing of wool took place. Hatch grooves in the nearby footbridge supports could be seen, the hatch enabling the water to be ponded back for the washing operation. The name of this hamlet, "Washpool", clearly reflects its former occupation. The scoured wool came out clean and white, and was then dried in wool towers. Flues allowed the airing of the wool, which was hung within the small stone buildings. The best surviving wool drying tower was seen opposite Frogmarsh Mill, South Woodchester, in the Nailsworth Valley (Grid Reference : 841018) (Photograph 23 and 94). It is a curious round stone building with small slits for the airing of the wool occurring in its walls. A door for entry lies in the northern side, but the wool could have been loaded and unloaded from a larger door seen in the western side. The building has a conical stone roof. Today it is used as a hay store.

Carding.

Carding, to free the wool from knots and foreign bodies, was done by hand until the late 18th Century when mechanisation and the factory system became widespread. The wool was oiled before carding was carried out.

Spinning.

Following carding, spinning took place as a cottage industry, until the late 18th Century. The weavers were housed in workers' cottages, and were employed by the wealthy capitalist clothiers, who supplied the wool and the

PHOTOGRAPH 93. WASHPOOL, HORSLEY.

PHOTOGRAPH. 94. WOOL DRYING TOWER FROGMARSH, WOODCHESTER.

CONICAL STONE ROOF

SLITS TO ALLOW THE DRYING OF THE WOOL

LOADING DOOR

ENTRANCE

spinner in turn sent the yarn to the weaver. All finishing was done by the clothier himself, who became the key financial figure of the industry. Some old spinning wheels can still be seen as curios, having survived the period when Hargreaves' Spinning Jenny came into widespread use in the late 18th Century.

Weaving.

A row if weavers' cottages with the wide windows in the upper storey was seen at Woodchester Mill (Grid Reference : 843029) (Photograph 22). Such accommodation as this served as typical premises for the cottage based weaving craft until the late 18th Century. In 1796, the flying shuttle loom was introduced, which enabled faster working, with no assistant needed. Hence, for the first time, the weaver was able to fully meet the demands of the fulling mills.

Fulling and Dyeing.

High quality broadcloth had become the specialisation of the Stroud area over the years. The finest woollen fabrics produced from the imported short wool, was heavily fulled and felted to give a broadcloth with the original weave being invisible. The cloth was used for uniforms, liveries, and the weaving of broadcloth was formerly the mark of a gentleman. The rougher worsteds, for local use, were not subjected to the fulling process.

Fuller's earth occurs locally in the Stroud area between the Great and Inferior Oolite of the Jurassic escarpment, at between 500 feet to 600 feet in altitude. It is a soapy non plastic greenish clay which has the property of absorbing oils and disintegrating in water. For this reason it was used for scouring of the cloth before it was felted into broadcloth. In a remote part of the Painswick Valley, near Cranham, pits could be seen behind Eddel's Mill (Grid Reference : 884120) (Photograph 95), and closer examination of the subsoil revealed the presence of fuller's earth. It is likely, therefore, that the earth was extracted here, for use in broadcloth manufacture in the mill. Other mills around Stroud and Minchinhampton were noted to be at sites where Fuller's earth was available. However, by the 18th Century it is known that Gloucestershire supplies had been exhausted, and better earth was obtained more cheaply from quarries at Combe Hay, Midford, and Wellow, near Bath.

The fulling was done by means of stocks and hammers which beat the cloth in a shock pit. The cloth was treated with fuller's earth, prior to fulling, and the shock pit had a flow of pure water through it so that the earth was washed out of the cloth. The fulling was powered by a water wheel, so that the availability of water power was a paramount locational factor. Hence, the fulling mill was a feature of the production of broadcloth from the very earliest times, but only a few of the pre-factory system fulling mills, such as Damsell's Mill, Painswick (Photograph 64) were seen. In the Stroud area, fulling was already important at the end of the 13th Century, as the history of some mills, noted in Chapter Three, has revealed.

The relatively steady and copious stream flow in the area, fed by springs at the base of Cotteswolde Sands, has allowed the establishment of the great number of fulling mills in the area (Map 15). The deep valleys have been dissected down to the lias clay which allow the construction of reservoirs for the conservation of water as a power source. It is significant that the relatively weak and inconsistent flow of the Painswick stream has resulted in the capitulation of mills along its course, long before the decline of the industry in the Frome Valley (Chapter Three). Strong springs supplement stream flow along the Nailsworth and

Frome Valleys, with lesser springs arising from the base of the fuller's earth horizon.

The present annual rainfall total of 34 inches results in a humidity that would be favourable for the working of the wool, but long wet periods would have thwarted the drying of the wool which occurred outside on "rack grounds". Generally, the water flow was reliable, but occasional droughts and hard frosts, resulted in as great a loss of production, as the excessively rainy periods.

Although most of the Cotswolds is composed of limestone, the chief water bearing bed is the Cotteswolde Sands, which yields copious supplies having a very low degree of permanent hardness. Gaizey's Well, Stroud has a tempor--ary hardness of 12.7, and a permanent hardness of only 6.9, whilst other s springs have a permanent hardness as low as 3 or 4. The predominence of comparitively soft water was particularly beneficial to the dyeing industry. Occasional woad plants were seen in the Painswick area, in fields where they were previously cultivated until the 19th Century. The plant was used as a mordant to obtain a blue coloured base for black broadcloths. Later, indigo was used. Dyer's Greenweed or woadwaxen (Genista tinctoria) can be seen growing in rough pastures, and Dyer's Rocket(Reseda luteola) formerly used in dyeing, also grows in areas where it was once cultivated. Woadwaxen is a tough, shrubby plant, with bright green leaves and yellow flowers, and the whole plant was used to give a yellow dye. The Dyer's rocket gave a yellow - green colour, due to luteolan, and mixed with woad, Saxon green resulted.

The value of these plants, decreased as logwood, redwood, and cochineal were imported from South and Central America via Bristol, from the 18th Century. However the softness of the water remained an important factor in the preparation of the dyes, and especially for the scarlets for which the Stroud area became famous.

Gigging.

The fulled cloth was then cleansed, before it was raised to a true felt. Following the fulling, the textile was much tougher, and could withstand the combing action of the teazels. The gigging or raising of the nap was done by "rowing" by hand, until the late 16th Century, when the first gig mills came into operation. However only two men were needed in these mills, and in 1633 an act was passed to prohibit their use, due to increasing hardship and unemployment. Reversion to hand rowing , resulted in a 50% reduction of production, with a stagnation of the industry and its trade. The slump in the industry persisted, despite later assurances that the primary aim of the act was to enforce the use of teazels for gigging, instead of wire cards which tended to damage the cloth. The teazels, or wires which were permitted only for the production of coarser cloth, were fixed to a frame, or in later years a cylinder, powered by a water wheel, to brush the surface of the cloth. John Knapp, a writer of 1829, outlined how the process was carried out, and stressed the importance of the quality of the teazels. He described how the process was carried out by the cloth being teased or brushed until all the ends were drawnout, and loose parts combed off until the cloth ceased to yeild to the free passage of the frame. If the hooks of the teazels became fixed in a knot, they broke without damaging the cloth, but wire offered resistance tothe knot and tore it, or damaged the surface. Knapp says that the finest cloth needed 150 to 200 runnings up with the teazel frame, in the course of which 1500 to 2000 teazel heads woulds be broken.

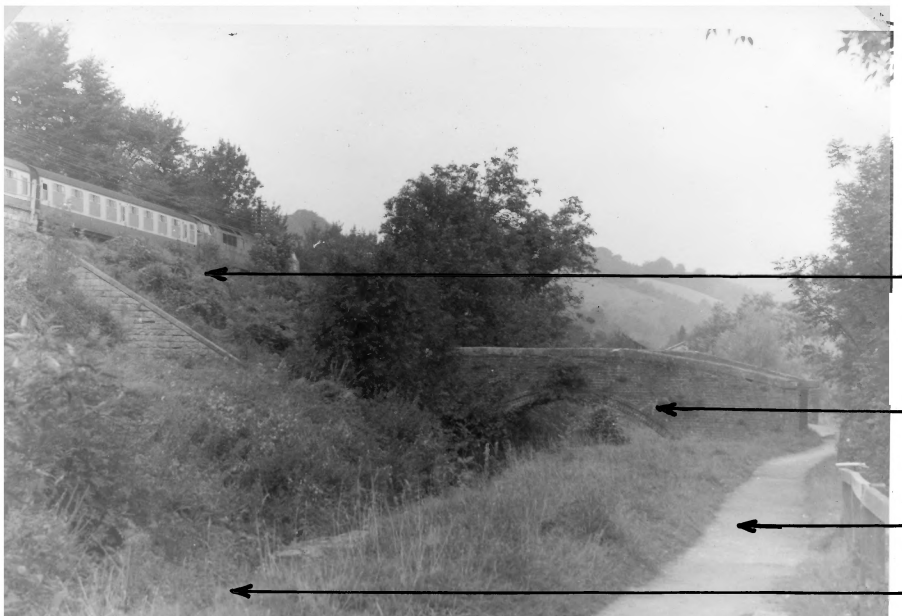
Since the time of Knapp, the teazels were mounted in a revolving cylinder known as the "gig".

The teazels used for raising the cloth (Dipsacus fullorum) differed

PHOTOGRAPH 95. FULLER'S EARTH PITS NEAR EDDELL'S MILL CRANHAM BROOK

PHOTOGRAPH - 96. THAMES AND SEVERN CANAL.

THRUPP.



SWINDON ~ GLOUCESTER RAILWAY

HOG BACK BRIDGE

TOW PATH

DRY WEED COVERED COURSE.

from the common teazel, in that the receptacle scales of the head were hooked. They were formerly grown on the lias clays of the Vale of Severn, because cultivation on the lighter limestone of the Cotswolds resulted in teazels with no hooks which were useless to the clothier. Inhabitants can remember when teazels were cultivated around Cheltenham in 1937, but at the peak of the woollen industry, supplies were mainly obtained from Somerset. Today, Somerset produces 1.5 million teazels annually, the crop during its two year growing period, needing much hand labour in small plots. After harvesting in August, the heads are fastened to a pole to dry in the sun, but they cannot be stacked, as the hooks would be ruined. The teazel can be seen growing wild in many areas of the Vale of Severn today.

Shearing and Potting.

The broadcloth, following the gigging operation, now assumed the appearance of mohair, and shearing was thus a necessary stage in the finishing to give uniform cloths. Grindstones used to sharpen the shears were driven by water power, and a pond which supplied power for the driving of a stone, formerly existed at the bottom of Well Hill, Minchinhampton. Residents of Minchinhampton can remember the site of this pond, but now all traces of its former existence have disappeared. "The Shears" inn, was noted at Watledge, Nailsworth (Grid Reference : 850000), its name reflecting the occupation of shearing, formerly carried out in this area. In 1815 cross cutter shears were first used which greatly increased the efficiency of shearing.

Potting of the cloth then took place. This involved then rolling of the cloth on an iron roller, and immersing it in water at 150°F. A permanent lustre to the cloth resulted.

Drying and Stretching.

In the factory system which came to the Stroud area in the late 18th Century, the broadcloth was stretched to an even width and dried over steam. This process called tentering was a refinement of the older method of drying the cloth on racks in the open air. The rack grounds were usually on sunny slopes and mention of rackland for the drying of cloth is made in the deeds of many mills. In 1761 Robert Sandford let Wallbridge Mill, together with some adjacent rack land to Samuel Watts (Map 16) (Photograph 10). The meadow to the west of Woodchester Mill in the Nailsworth Valley (Map 16) (Photograph 22), was known as Rack Leaze, until houses were constructed on the land in 1961. This name is suggestive of the former use made of the land for the drying of cloth. The hamlet of Rack Hill was encountered to the east of Chalford, on a sunny south facing slope, and again the name is reflective of a former rack ground at the site (Map 16).

The Factory System.

With the advent of the factory system in the late 18th Century, the physical advantages of the area for each process in the woollen cloth manufacture decreased in importance. Many of the integrated woollen cloth mills were built on the sites of old fulling mills, for example, Stanley Mills in 1813, and capital availability dictated the size of these factories. Local supplies of wool and fuller's earth, and the steady stream flow which were great advantages for the cottage based industry, were of no consequence when raw materials were imported, and steam power became widely used in the 19th Century. The completion of the Thames and Severn Canal in 1789 allowed easy import of coal from the Forest of Dean, during the 19th Century, and the proximity of the port of Bristol was favourable for the importing of wool.

However, expertise and personal initiative to specialise in the high quality uniform broadcloths resulted in the survival of the woollen cloth industry. It was at this time that the Stroudwater Reds became world famous.

The mill buildings, as noted in Chapter Three, can be dated by their architectural style to some degree. Before 1790, the width of the factory buildings was less than 30 feet, ensuring good lighting in the buildings. Also, before this date, all the weight of the building was supported by the walls, and it was only after 1790 that a central row of columns, as seen at Stanley Mills, were incorporated. The columns enabled wider buildings to be constructed, and hence with associated improvements in textile machinery including longer power shafts within the building, the efficiency of the factory production was increased.

A Summary of the Advantages Possessed by the Stroud Area for Woollen Cloth Production.

The main advantages possessed by the area for woollen cloth production, can be summarised as follows:

Firstly, the abundance of soft water was particularly suitable for dyeing, and the establishment of small water power sites.

Secondly, the long woolled sheep of the Cotswolds, and the latterly short woolled sheep from the Chalk uplands, with local supplies of fuller's earth, were present in abundance.

Also, the proximity of Bristol was distinctly favourable for the import of fine merino wool from 1567.

The role of these physical factors as a locational factor for the woollen industry is indisputable. Where the water supply was found to be unreliable or inadequate, as in the Painswick Valley, the industry ceased at an early date. The majority of demolished mill sites being noted in the more remote valleys with an unreliable stream flow, suggests that the adequacy of power was a prime consideration for the survival of the industry. Transport difficulties could also have precipitated the decline of these remoter mills, at a time when increased mobility of raw materials was benefiting the industry in the Frome and Nailsworth Valleys.

The agricultural wealth of the fertile vales and the pastoral wealth of the uplands had given a comparitively dense population since early times, for which labour could easily be obtained for woollen cloth production.

Joan Thirsk (1961) argues that in many areas, a woollen industry was set up in order to augment agriculture incomes. She cites examples in Yorkshire, where gavelkind resulted in 3 or 4 acre plots, the owners of which were forced to take up woollen knitting in order to make a living. In such area, the basic raw materials and water supply, which appear to have been so important for the industry in the Stroud area, were lacking. In 1651 at Lightpill Mill (Grid Reference : 839039), Jasper Estcourt, the owner, was also a farmer. Owners of other mills also indulged in husbandry on land adjoining their premises, but it seems that the basis for the woollen cloth industry in this area lies in the advantages of a generally reliable water flow with the availability of raw materials.

CHAPTER SIX : AN OUTLINE HISTORY OF THE WOOLLEN CLOTH INDUSTRY.

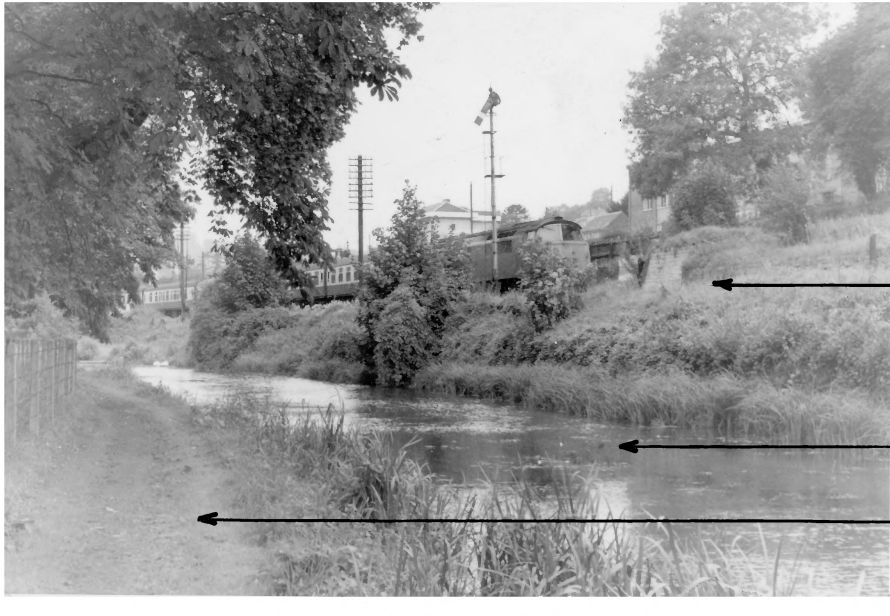
A detailed historical account of the woollen cloth industry in the Stroud area would require considerable dependence on documentary material and published books and articles. However, in the scope of this field study, using written evidence merely to support observations made of the landscape and architecture of mill buildings, only an outline history is possible. As Chapter Three has already outlined the historical development of each industrial site, this chapter describes only the broad historical trends in the industry as a whole.

The advantages possessed by the Cotswold region for woollen cloth manufacture were realised at an early date, with evidence of fulling and dyeing having taken place during Roman times at Chedworth. Saxon weavers' huts have been excavated at Bourton-on-the-Water, showing that the industry persisted in the region. In the early middle ages the wool of the Cotswold sheep was mostly exported to Italy, notably by Italian merchants such as Peruzzi for the Florentine weavers. At this time woollen cloth manufacture had not been well developed in this area. Fulling mills were not important in the Stroud area until after 1515, when the natural advantages were fully realised, and when urban taxes and gild restrictions could be by-passed by rural locations on better water sites. The Flemish weavers had settled in the Stroud area during the reign of Edward III form 1327 to 1377, who had discouraged the export of raw wool in order to benefit home production of woollen cloth, Their expertise in weaving gave a valuable incentive for the further development of the industry. Few traces now remain in the landscape, of the cloth manufacture in the 14th Century, although some stone from demolished buildings could be incorporated in the mills visible today.

The rise in importance of the industry in the early 16th Century, coincided with another influx of Flemish weavers who had emigrated from the Netherlands in order to escape the cruelty of the Duke of Alva's government. These skilled craftsmen brought their looms with them, and contributed to the growing reputation of the Stroud area for broadcloth. The increasing number of fulling mills led to many disputes over water rights, especially in the western part of the Frome Valley where the river channel braids. Taxes for water rights became very harsh and in 1545, Haliday at Rodborough was assessed at £42 per year.

Exports of woollen cloth increased, and even in 1470 the Stroud area had contributed to 1/8 of the English woollen cloth exports. In the 16th Century, Hanseatic agents were bartering for the "Stroudwaters" and "Bristols", in Blackwell Hall, London to which most of the broadcloth was sent. The Merchant Venturers of Bristol also took much of the cloth produced in the Stroud area. The difficulty of sending the cloth to the distant markets by packhorse seems to have been no deterrent to the expansion of the industry. The cottage based industry and its processes as outlined in the previous chapter, was now at its zenith with the clothiers becoming progressively wealthy. Following this steady growth throughout the 16th Century, prosperity reached a peak from 1690 to 1760, when 3 million fleeces annually were needed by the Stroud industy. However, development was thwarted from time to time by protests due to widespread unemployment following the prohibition of the gig mill in 1633. Although the act of prohibition was merely to ensure the use of teazels for gigging, a slump still ensued at this time despite some minor repeals. From 1640, new European markets were being opened following the accummulation of capital in England. However, during the Civil War in 1643, the Royalists took wool and cloth from the Parliamentary biased clothiers of the Stroud area, and payment was not prompt.

PHOTOGRAPH 97. THAMES AND SEVERN CANAL, CHALFORD



The arrival of the Huguenot weavers from 1650 resulted in a brief period of prosperity, but there were no far reaching changes during the industrial malaise at this time.

From 1775 to 1783 the American Wars of Independence created a great demand for the "Stroudwater Reds" as cloth for uniforms for the British Army. However the expected increase on prosperity of the industry was thwarted by frequent strikes for better working conditions, and Parliamentary opposition to the centralisation of the industry had persisted from the 16th Century until the mid 18th Century. This opposition was to protect the cottage workers, but from the late 18th Century, the factory system was permitted to establish itself. Steam power came in from 1760, and after 1790, improved factory construction allowed a larger floor area for production (Chapter Five).

Cobbett in "Rural Rides", noted that both steam and water power were used. Many of the remaining hand loom weavers were offered work, but many workers and some poorer clothiers were unable to adapt to the transition to the new factory system using steam power and new machines. Many of the pre-factory system mills were left to dereliction, and can be seen today. (Chapter 4 and 5). The Spring loom was introduced enabling faster working with no assitant, and this aggravated the unemployment problem, leading to riots amongst the population.

In 1779, the Stroudwater Canal (Photographs 96 and 97) eased the availability of coal from the Forest of Dean, and by 1789 the region was linked by the Thames and Severn Canal to the River Thames at Lechlade, and hence, London. However, difficulties were encountered in maintaining an adequate depth of water in the canal in the tunnel section at Sapperton (Map 2) and from 1840 it ceased to be a reliable means of transport. The section of the navigation from Whitminster to Chalford survived until 1933. A new road was constructed along the valley of the River Frome from Stroud to Chalford in 1815, and although this together with the canal improved the communications and hence the supply of raw materials and distribution of products, the labour disputes counteracted these advantages.

By 1875 ribbed worsteds came into vogue, and this new fashion finally precipitated the collapse of the woollen cloth industry in the Stroud area. Yorkshire became the great centre of this type of cloth. Stroud clothiers were unable to adapt quickly or cheaply to the production of worsteds, but the production of broadcloth continued. Even the completion of the Gloucester to Swindon railway by 1845 was unable to aid these crucial problems which theindustry later faced.

Formerly the broadcloth was used in all European courts and armies, and until the change to worsteds, was used for gentlemen's clothing.

Specialisation ensured the survival of seven broadcloth factories by 1936, but now the number has decreased to three. Worsteds, and other woollen cloths, are also produced, but fine quality broadcloth for billiard tables and pianos is a speciality.

The numerous vacant factory sites have been occupied by a variety of industries, and the multiplicity of industry which occupies these sites today is very striking.