

PATENT DOCUMENTSExhibit.

There are seven of these housed in hardboard, leather covered, or wooden boxes. In each case the wax impression of the seal, about 6" diameter, is contained in a tin box and attached by cords to the patent document. Out of these seven only two refer to heating equipment, and both appear to cover the same patent in England and Scotland respectively. As there is such frequent mention of Patents in connection with heating apparatus in old correspondence one is therefore left in doubt as to whether some Patent documents are missing.

The following are the patent documents :-

- 102 Patent granted to George Haden of Trowbridge, for "Certain improvements in machinery for dressing cloth".  
2nd March, 10th year of the reign of George IVth, (say 1830.)
- 103 Patent granted to Joseph Clisild Daniell of Limpley Stoke, Bradford-on-Avon, for "A certain improvement in the machinery applicable to the manufacture of woollen cloths".  
Dated the 6th day of February in the 11th year of the reign of George IVth". (Say 1831.)
- 104 Patent granted to George Haden of Trowbridge for "Certain improvements in the machinery applicable to the manufacturing of woollen cloth".  
Dated the 24th day of February in the fourth year of the reign of William IVth, (say 1834.)
- 105 Patent granted to George Haden of Trowbridge for "Improvements in the manufacturing of a soap or composition applicable to felting and other processes employed in the manufacture of woollen cloth, and other purposes to which soap is usually employed."  
Dated the eighth day of October, in the second year of the reign of Victoria, (say 1839.)
- 106 The following letters patent for Scotland were assigned by Thomas Robinson and Edward Jenkins to George and James Haden for the sum of £405, and enclosed was a memorandum of agreement between the parties and a solicitor's bill covering the transaction.  
Patent granted to Thomas Robinson and Edward Jenkins for "Improvements in drying wool, cotton and other fibrous materials in the manufactured and unmanufactured state."  
Dated Edinburgh, 30th day of April, 1841.
- 107 Patent granted to George Haden of Trowbridge for "Certain improvements in apparatus for warming and ventilating buildings".  
Dated the 15th day of February in the fifth year of the reign of Victoria, (say 1842).
- 108 Patent granted to George Haden of Trowbridge for "Certain improvements in apparatus for warming and ventilating buildings."  
Dated Edinburgh, 23rd day of February, 1842.
- 109 Specification dated 2/3/1829 for patent taken out by George Haden in connection with machinery for dressing cloth together with a letter dated 6/3/1829 from a Mr. Saunders (Patent agent?). No doubt this specification referred to the patent awarded on 22/3/1830. Ref.: Exhibit 102

*new numbers in the Drawing Index and 26.*  
*are prefixed 'D'.*

OLD DRAWINGS

- Dwg. No.
1. ✓ *Parallel Motion in a beam engine*  
A part of the beam and gearing for a beam engine by Boulton & Watt for F. Calvert Esq. Dated 17.2.1786.
  2. ✓ Working gear for a beam engine made by Boulton & Watt. This shows mainly the valve operating gear and drive to the injector. Presumably also for Mr. Calvert. Dated 20.11.1786.  
*THE BATHVIAN SOCIETY*
  3. ✓ Parallel motion for a beam engine of 45 h.p. "for Mr. Calvert."
  4. ✓ Drawing of "The Great Perpendicular Link" and other parts for the valve gear of a beam engine.  
*see with 11*
  5. ✓ Part drawing of a beam engine.
  6. ✓ Drawing of a condensing engine "Fourteen horses power", marked G. & J. Haden, Engineers, Trowbridge, August 31st 1838.
  7. ✓ Ditto - June 1838.
  8. Drawing of a 4 h.p. high pressure steam engine marked G. & J. Haden September 5th, 1846.
  9. ✓ Part drawing of an engine for Staverton near Trowbridge.  
*36 HP 15 HP to Cooper at*
  10. ✓ Drawing of a twin cylinder steam engine driving water pumps via beams.
  11. Drawing of an 8 h.p. high pressure steam engine.
  12. Drawing of a 4 h.p. condensing steam engine.
  13. Drawing of a 4 h.p. high pressure steam engine.
  14. ✓ Drawing of "A Portable High Pressure Steam Engine four horses power".
  15. ✓ Illustration of S. Cleggs' portable steam engine.
  16. ✓ Drawing of a water wheel, presumably made by G. & J. Haden at Trowbridge, giving a table with "gross and statical weight operating on each bucket" drawn by J. Westfield of Bradford-on-Avon.
  17. ✓ Water wheel, gearing and transmission to lathe and grinding wheel.
  18. ✓ Water wheel, gearing and transmission to four or more counter shafts.
  19. ✓ Water wheel and drive to cloth making machinery.
  20. ✓ Drawing of water wheel.
  21. ✓ Drawing of water wheel marked "by J. Westfield, Bradford-on-Avon 5.3.1840."
  22. ✓ Drawing of a water wheel and machinery driven by it.
  23. ✓ Drawing of a water wheel showing means of speed regulation.
  24. ✓ Drawing of a type of well pump consisting of a continuous chain made of plate links with horizontal plates placed at intervals in the chain, the whole running in a casing. (Rather after the style of present drag link coal conveyors).
  25. ✓ Parts of cloth making machinery.

DWG.  
No.

27.

- 65 26 ✓ Part drawing of gearing for cloth machinery. (~~in end mounted~~)
- 66 27 ✓ Drawing of a pair of patent traversing broad gig mills (<sup>mounted</sup> on card) marked July, 1838.
- 66 28 ✓ Drawing of a machine, presumably used in the making of cloth. <sup>Silk reeling machine</sup>
- 66 29 ✓ Gearing to silk working machinery. <sup>Plan of 1848</sup>
- 66 30 ✓ Part drawing of gearing. <sup>Carding Machine</sup>
- ✓ 31 ✓ Part drawing of gearing.
- ✓ 32 ✓ Part drawing of gearing.
- ✓ 33 ✓ Part drawing of gearing.
- ✓ 34 ✓ Part drawing of gearing.
- ✓ 35 ✓ Part drawing of gearing.
- 66 36 ✓ Drawing of a "Smock" type windmill with gearing showing part of the corn grinding equipment.
- ✓ 37 ✓ Hand operated machine for crushing or grinding products fed from a hopper.
- ✓ 38 ✓ Drawing of a <sup>steel</sup> tilt hammer. <sup>As per 1841</sup>
- ✓ 39 ✓ Drawing of a waggon type boiler and engine supports "for H. Austin Esq."
- ✓ 40 ✓ Drawing of "Patent Hot Water Apparatus". This shows the overall sizes of our Warm Air Stoves Nos. 1 to 6 and is dated October 29th, 1844, Trowbridge. There is some reference on them to coil boilers which were fitted inside the furnace.
- 66 41 ✓ A colour drawing by G. & J. Haden of an installation of a steam boiler and cooking apparatus.
- 66 42 ✓ A drawing dated January 1846 showing the layout of steam cooking apparatus in the kitchen of The House of Industry, Newport, Isle of Wight.
- ✓ 43 ✓ A tinted drawing of an artistic cast iron front of what appears to be a free standing warm air stove.
- ✓ 44 ✓ A folder binding nine coloured drawings mostly of ornamental gratings.

BROCHURES.Exhibit.

- 57 "Catalogue of Specialities". Illustrated catalogue of equipment manufactured at Trowbridge Works and foundry. Date of publication about 1900.
- 57A "Works Manufactures". Illustrated catalogue of equipment made at Trowbridge Works during the 1920s.
- 84 Public Buildings and Business Premises.
- 85 Colleges and Schools.
- 86 Hospitals.
- 87 Residences.
- 88 Cathedrals, Churches and Chapels.
- 89 Liverpool Cathedral.
- 90 Commemorative Brochure Hadens 125th Anniversary in 1941 compiled from a series of 12 advertisements appearing in the Architectural Press 1941-2.
- 91 G.N. Haden - "Activities". Date of publication about 1952.

Exhibits 84 to 89 were all produced about the same time in the 1920s.

ABERDEEN BRANCH

The opening in 1934 of a Branch Office in Aberdeen was an indirect result of Glasgow Office obtaining a number of contracts in the area including a large one for Aberdeen Royal Infirmary. At first we had a small premises in Leadside Road and John Parkinson became the sub Manager under the control of Glasgow office. At that time he had one typist as his entire office staff, and six or seven fitters and plumbers to carry out the installation work.

In 1938 the office removed to larger premises in Upper Denburn. David French was transferred from Glasgow in that year and became Manager when John Parkinson left the Company. The staff was increased by one apprentice draughtsman and a foreman and the number of operatives gradually increased as during this period a number of school installations were undertaken. A contract for Woodend Hospital was obtained, also one for the Aberdeen Public Baths and Championship Swimming Pool.

By 1946 the branch had outgrown the Upper Denburn establishment and a fairly large workshop and store in Princes Street was purchased and a new office building, including a well-equipped drawing office, was added. Drawing office personnel had to be increased and about this period began our association with Aberdeen University for which we have carried out many contracts and continue to do so in 1965.

The territory covered by Aberdeen branch extends from Dundee northwards to the Shetland Islands and westwards to the Outer Hebrides - a large, scattered area involving extensive travel to jobs. Despite this, competition for work has always been and still is extremely keen.

The present office staff (1965) numbers 14, there are about 60 outside staff and of the full complement 10 are veterans.

For many years now Bob Dougal has served the company from Dingwall in Ross-shire where there is a store depot.

Like most firms operating in the Highlands of Scotland Aberdeen Office has suffered from the man-power drift to the south. Of the technical staff whom we have trained, a large percentage have moved south where they consider there are greater opportunities. Many, however, who have spent the greater part of their working life in the Highlands, still prefer to remain.

BELFAST BRANCH

In 1945 Manchester Office obtained a contract for the work in the new Bengers' factory at Coleraine. George Coase was the Design and Project Engineer and during frequent visits to Northern Ireland, under guidance of Mr. S.S. Jewsbury, contacts were made in Belfast and Northern Ireland which led to the opening of the office in 1947 at Linenhall Street, Belfast.

Mr. D. Price was appointed temporary manager but this post was filled in 1948 by Mr. C.W. Drysdale, who retired owing to ill health in 1963 when Michael H. Joyce took up his duties.

BIRMINGHAM BRANCHExhibit.

110

The early history of this Branch is covered by a letter written by J. Cox on April 28th, 1913 to Haden in Trowbridge. Apparently he was one of Haden's leading fitters as his name has been pencilled against some of the installations noted in the old Order Books. As was the case with many of our Branch Offices, the way was opened up by sending him to Birmingham to carry out one or two jobs and to keep in touch with prospective clients. He started there in 1871 and his lodgings were used as an accommodation address until 1875 when he took a house in Larkbrook, a room in which was set aside as office premises. By this time Birmingham was recognised by Trowbridge as a separate branch establishment and J. Cox remained in charge until he took an appointment under the Birmingham Corporation.

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The tenancy of his house was taken over by Mr. J.W. Stephens who succeeded him as Birmingham Branch Manager. This occurred about the year 1884 and according to an agreement dated the 27th July 1887 an office "No.14 on the second floor of Peel Building, Lower Temple Street, Birmingham" was rented for his use. Prior to this in J. Cox's time we had also rented some basement stores in Granville Street.

Mr. Cousins followed Mr. Stephens as Manager and retained that appointment until 1919 in which year Mr. Seymour Sweet came from Trowbridge to take his place.

In 1920 the office was moved to No.111 New Street and in 1927 Mr. W.Y. Clayton was posted from Trowbridge to take over the Management of Birmingham Office from Mr. Sweet. In the same year both offices and stores were moved to 45, Great Charles Street.

In 1928 Mr. H.J. Dear was sent from London Office to deal with oil burning and electrical work in the area, and he was followed in 1930 by Mr. F.W. Turner, who became the Branch Supervisor in succession to Mr. Sid Bennett who had been with Haden's then for about 40 years.

This was followed in 1934 by the appointment of Mr. E.W. Fox from London Office as Manager in succession to Mr. W.T. Clayton, but the procedure was reversed in 1930 by the posting of Mr. F.S. Stacy, who was then a Senior Engineer in Birmingham, to London Office.

1940 saw severe damage to the Stores and Drawing Office in the 'blitz'. Great Charles Street was apparently in a pretty bad shape and Mr. E.W. Fox managed affairs from his home address in Solihull, and because of the restricted use of cars two bicycles were obtained, one for the Manager and the second one for the use of the staff in general.

1944 was noteworthy as the year in which operatives were first given a week's holiday with pay.

1949 saw the moving of Office and Stores from 45, Gt. Charles Street to 24, St. Paul's Square, Birmingham, whilst in the following year Mr. A.J. Whichcord, who had been Assistant Manager since 1939 was transferred to Nottingham where he opened our office as Manager. Mr. R.W. Merrick became Assistant Manager in Birmingham in his place.

On the 31st March, 1952 Birmingham held its first Veterans' Party when long service awards were presented.

Supervisor F.W. Turner retired in 1959 and Assistant Manager, R.W. Merrick resigned in order to take up business on his own account.

In the same year Mr. E.W. Fox went to America to select equipment to be used for the Bull Ring Centre Project, and in 1962 Mr. D.F. Turner was appointed Manager in Birmingham.

The following year Mr. Fox retired from Hadens on the 30th September. A retirement dinner and presentation was held at the Imperial Hotel on the 4th October, at which function Mr. Cross, the Director from London, took the chair and introduced Mr. C.J. Whittaker who took up his duties as Midland Division Area Manager on the 1st October 1963.



BOURNEMOUTH BRANCH

Mr. T.E. Feltham was sent from Trowbridge in 1907 to carry out several contracts including one at the Municipal College and in 1909 he settled permanently in Bournemouth conducting business from his home with a small stores in Orchard Street.

In 1919 a one roomed office was obtained at 39, Old Christchurch Road, and Feltham was joined by C. Kettlety. At that time there were also two fitters on the outside staff and work was under the general control of Trowbridge office, Mr. W.N. Haden taking a particular interest in it.

In 1926 it was decided to make Bournemouth an independent Branch and Mr. J.R. Paterson was transferred from London and appointed as its Manager. Premises were purchased at 67 Holdenhurst Road and adapted to suit office, stores and workshop requirements. By now we had an outside staff of about 10 fitters, and Bert Terry was moved to Portsmouth where we rented stores in Cottage Grove, these being relinquished for Devonshire Place in 1962. C. Kettlety went to Southampton to supervise the Southampton Civic Centre contract and opened stores in Salisbury Street. In 1940 he moved to Portsmouth to control both Portsmouth and Southampton work until his return to Bournemouth in 1945. At this time W. Nicholls took over Portsmouth, and the Southampton contracts were supervised from Bournemouth Office.

In the years between the wars the office staff averaged about 8 in addition to the Manager, and in 1934 it was decided to purchase Avon Works, Avon Road, Bournemouth, which premises have been extended three times, the last two occasions being during 1950 and 1960.

Mr. M.P. Concannon went on active service in 1939 and was absent for the whole of the war years, and Mr. W.B.R. Cross was transferred from London Office to run the Branch during his absence. For several years after the war the office staff numbered about 15.

In 1960 Mr. Concannon retired and Mr. Donald Hartree was appointed Manager in his place. In 1965 we are to open our main office for the area in Southampton retaining a sub office at Avon Road. At the present time the indoor staff totals 25 and the outdoor 115.

The following lists a few of the major works carried out by Bournemouth Branch.

Municipal College, Bournemouth	1912
Civic Centre, Southampton.	1927 - 1939
Fort Southwick Project.	1943
Ventilation (Underground H.Q. for Supreme Allied Command)	
Admiralty Floating Dock.	1943
Pumping Equipment ) (constructed at Bucklers Hard, Beaulieu)	
and fuel oil lines)	
Admiralty Signal and Research Establishment at Portsdown.	1948 onwards.
H.P.H.W. installation (G.N.H. design)	
Havannah Barracks, Bordon.	1962-5
Stanley Barracks, Bovington	1964
(extensive rebuilding project £100,000)	
Regent Factory, Portsmouth.	1961
(full air conditioning £30,000)	

Throughout the life of Southampton University we have been responsible for most of the work, and since the war we have been responsible for the installations in several schools for the Bournemouth Corporation.

BRISTOL BRANCH

Before 1920 work in the Bristol area was supervised direct from Trowbridge Office by Mr. A.J. (Buster) Holmes.

One step towards the formation of the Branch was taken in that year when he was provided with a one roomed office in St. Stephen Street, the control of his work however, remaining in Trowbridge. He had no indoor staff but supervised about a dozen operatives most of whom travelled from Trowbridge.

In September 1923 we transferred to Orchard Street. Stores became available on the ground and 1st floors where Mr. Holmes also occupied a small office.

About this period Mr. A. Smith, now Bristol Supervisor and Labour Controller, had charge of the Stores and carried out some office work. He remembers drawing the wages from the Bank, which amounted to £40 each week with about a dozen operatives employed.

In 1926 Mr. William Moffatt was seconded to Bristol from the Trowbridge contracting department, to take charge of that area also South Wales and the west of England east of Torquay, and was responsible to Mr. Kenneth Hartree the Trowbridge Director who was in overall charge of work in the west.

In 1929 the Bristol Branch was made independent and Mr. Moffatt was formally appointed Manager but in 1935 it was decided to amalgamate the Trowbridge Contracting and Bristol Offices, the former being closed down and the work and some of the staff there transferred to Bristol. Mr. Kenneth Hartree and Mr. Moffatt were then appointed joint Branch Managers.

In the meantime further alterations to the accommodation at Bristol Office had occurred. In 1927 additional Stores were taken in Frogmore Street and in 1928 an enlargement of the Orchard Street office was put in hand, this consisting of a second floor drawing office. It was occupied in the following year and the staff was then increased to three Engineers in the Drawing Office, one Typist/Secretary, a girl Clerk and Mr. Holmes as Supervisor. Mr. Jo Freeman was Storekeeper/Blacksmith and there were approximately 20 operatives at this time.

1930 saw the Drawing Office staff increased to seven with an additional Supervisor in Mr. Killick, and an operative staff of about 30.

The period 1931 to 1933 was very difficult owing to lack of work and at one stage the number of operatives was reduced to 12 and Drawing Office staff to 3.

1935. An existing four storey house in Pipe Lane, adjoining the main offices, was taken over to accommodate Mr. Hartree and an additional Secretary/Typist, together with Mr. Brett and a girl assistant for wages and accounts. During this period Mr. Charles Haden visited Bristol from Trowbridge about once a week to deal with jobs in which he was interested.

1935/39. There was a gradual increase in the amount of work undertaken the Drawing Office staff increasing to 9 or 10 and Supervisors to 4. The office was controlled by Mr. Hartree as Director and Mr. William Moffatt as Assistant Director.

1945. Mr. Moffatt retired and Mr. F.A. Pullinger became Manager. During the next four years the Drawing Office expanded quite quickly and more work was undertaken in S. Wales. This included the Advanced Factories, Schools and the Steel Company of Wales.

1949. Mr. F.A. Pullinger transferred to Manchester and Mr. E.M.K. Mead became the Bristol Office Manager. Total staff at this period was about 34 inside and 64 outside.

1956. Bombed property was bought in Lewins Mead for partial reconstruction and erection of new buildings. This was on the site of the old Blackfriars Monastery and a mediaeval drain was uncovered during site works.

In December 1957 the new office, stores and workshop building at 18 Lewins Mead was occupied and the total staff then became approximately 60 inside and 146 operatives.

By September 1961 extensions to the offices at Lewins Mead had been completed enlarging the Technical Office accommodation by about 30 places.

1962. September. Mr. J. Rawle succeeded Mr. E.M.K. Mead as Branch Manager. Mr. Mead became Regional Director and Manager for the South West based at Bristol as the Regional Office. The total staff was then approximately 80 inside and 225 outside.

1964. July. The Bristol firm of Modern Electrical Installations was purchased to form the nucleus of an Electrical Department in Bristol Office with an indoor staff of 3 and outside staff of 27.

October 1964. The total staff amounted to approximately inside 80 outside 300.

CANTERBURY BRANCH

- January 1934      Mr. Walter Harding appointed Manager to open Canterbury Office at 15, Burgate Street, Canterbury with Stores at nearby premises in Monastery Street.
- January 1937.      Mr. E.M.K. Mead succeeded as Branch Manager.
- April 1937.        Offices & Stores transferred to 58 Whitstable Road, Canterbury.
- September 1939.   Mr. Mead called up for active service in Territorial Army, Mr. J. Hoskins and Mr. R.H. Coomber called up for active service in R.A.F.V.R. Mr. Coomber was killed on active service, Coastal Command, in Autumn 1939.
- Summer 1940.      Canterbury Office transferred to 19/29 Woburn Place, London and Mr. K.F. Rose appointed as acting Branch Manager.
- Early 1944.        Office transferred to 54, Royston Park Road, Hatch End, Middlesex.
- Spring 1944.      Office transferred to 19/29, Woburn Place, London.
- September 1945.   Office transferred back to 58 Whitstable Road, Canterbury and Mr. E.M.K. Mead was demobilised and returned as Manager.
- May 1949.         Mr. G. Smith became Manager.
- Summer 1952.      Office and Stores transferred to 45/47 Wincheap Street, Canterbury.
- December 1956.    Mr. L.C. Westall became Manager.

DUBLIN BRANCH

According to a letter written by David Glasgow in 1924 he had traced the year of our establishment in Dublin as 1910. He wrote from 199 Great Brunswick Street and those premises were retained throughout the life of the Branch although the name was changed to Pearse Street.

He left Trowbridge Office in 1913 to become Manager and retired in 1954 being succeeded by Mr. George Whitehead.

In 1957 it was decided to wind up the business in Eire and in that year George Whitehead was posted to Baghdad leaving Alan Smart to complete outstanding contracts by 1959.

EASTBOURNE BRANCH

In 1926 London Office had a lot of work on hand for Peter D. Stonham F.R.I.B.A. who was at that time the leading Architect in the Eastbourne Area. He suggested to Mr. F.H. Horton our London Director and Manager that we should open a branch office there in order that work could be given prompt attention.

During the summer of that year Joe Hazell, later to become a Supervisor in London, was sent to carry out work in Eastbourne which included an installation at the Seaside Baths to the instructions of the Borough Engineer.

A room was taken at 36, Grove Road in September 1926 and Mr. A. Torrance was sent from London to take charge of the area. He worked alone for several months, prints being taken off his drawings by Mr. Stonham's office and typing was carried out by a nearby agency.

During the next year he acquired as an apprentice a local lad who had just left school.

A large proportion of our work lay away from the town itself and involved much travelling round the country. This had to be done by bus or train until 1929 when our Manager was provided with a "hand me down" car from Bristol Office.

We soon broke into the East Sussex County Council work and then had one or two small jobs with Brighton Borough Engineer. East Grinstead County Grammar School was the first big School for the County but others followed and when they came to rebuild the County Hall at Lewes we were in a good position to secure the contract.

The first very big job was the Aquarium at Brighton and about the same time we had enquiries for the heating of the Palace Pier at Brighton. Working only with one boy and girl at this time, "Archie" Torrance could not manage these in addition to other work in hand so the drawings and detailing for the Aquarium and the Palace Pier were done by London Office. The centralisation of the Royal Pavilion, Dome and Public Library at Brighton followed, which Eastbourne Office were able to handle themselves.

By 1936 the staff consisted of two draughtsmen and had been well established for some time.

About this date we took a single room as an office in Brighton with a Draughtsman working there but with the extremely severe and hardcut local competition from quite a number of Brighton Engineers we were only just able to hold our own with the result that this sub branch was closed down in about 1955.

In 1940 we closed the Branch temporarily because of damage to the Grove Road office in a bombing raid. Work had in any case fallen off considerably and about that time Eastbourne was declared a "closed area" and only the Government and public services continued to function. Our men were distributed throughout the country and Mr. Torrance became Resident Engineer on three of our large wartime contracts until 1944.

Towards the end of that year Mr. Torrance took up residence again in Eastbourne trying to pick up the severed connections and obtain work for his men returning from the forces. It was a slow process for the first year or so but steady progress has been maintained and by 1965 the staff employed are 25 inside and 95 operatives.

EDINBURGH BRANCHExhibit.

113 The first visual evidence we have of any connection with Edinburgh is a trade card, Exhibit 113, which describes George Haden as an Engineer and manufacturer of Ventilating Warm Air Stoves, Warm Water and Steam Apparatus etc, of 6, St. Andrew Square, Edinburgh. The name by which the firm was known suggests a date between 1855 and 1870. It is unlikely, however, that we supported a staff there, and probably this was really the address of an agent.

Most of our work in the area was carried out by Glasgow office but in 1932 we purchased the business of Charles Ritchie & Company Limited who had premises called Aldine Works Torpichen Street, Haymarket, Edinburgh. This firm must have been in existence for many years and we have an agreement drawn up between their principals and the Governors of the James Donaldson's Hospital for the installation of "a new system of heating". A specification is given and covers among other things the installation of two Babcock & Wilcox steam boilers each having an evaporation of 1000 lbs. of steam per hour at 200 lbs./square inch. The date of this specification is 1898.

Mr. Hamilton, their Chief Draughtsman was retained as Manager but he was succeeded by Mr. Collins who was transferred from Glasgow Office in 1933.

In 1938 Mr. Kemsley was transferred from London Office and was the Manager until he joined the Forces in 1940. His place was filled temporarily by Mr. Douglas from Glasgow, but in fact the latter remained in charge until his retirement in 1960.

As the lease of Torpichen Street premises expired in 1940 the present Stores and Offices at 60, Lorne Street were rented.

In 1960 Mr. George Whitehead was appointed Manager and the name of Haden was adopted by the Branch in the following year.

In 1961 we purchased the Lorne Street premises and with some rebuilding work brought them up to a modern standard.

Owing to Management reconstruction in London Office George Whitehead returned there in 1963 as one of the Managers of the London Branch.

John Cameron then took the Branch under his wing in Glasgow until Mr. Fred Perryman was appointed Manager at Edinburgh in 1964.

GLASGOW BRANCHExhibit.

Our records show that James Haden was busy in Scotland in the very early 1830s installing Warm Air Ventilating Stoves and from then onwards we have had a continuous connection with that country.

36 Exhibit 36 describes "Haden's Drying Machine for Drying Wool, Cotton and other fibrous materials in the manufactured and unmanufactured state, and also for clothes in Laundries etc." and mentions the name of our agent as Henry Purnell of 279 Parliamentary Road, Glasgow. This pamphlet was in circulation in the 1840s, since a similar pamphlet Exhibit 37 produced for us in Edinburgh is so dated.

112 A trade card, Exhibit 112, which must have been printed between 1855 and 1870 under the name of "G. Haden & Son" gives the Parliamentary Road address. In all probability Purnell acted as our agent for other equipment such as Warm Air Ventilating Stoves and may have represented us until 1905 when Ollendorf and Clarkson were appointed and had their offices in Hope Street, Glasgow.

In 1912 Hugh Macdonald was sent from Trowbridge to open up a direct Branch Office and took premises at 86, St. Vincent Street, Glasgow. He brought with him a fitter and employed a local one with two mates.

In 1913 and 1914 Trowbridge Office designed the installations for the first three major hospitals in Scotland and these were carried out by Hugh Macdonald. They were Rob Royston and Knightswood for the Glasgow Corporation and at Hairmyers East Kilbride for Lanark.

When John Cameron joined Glasgow Office in 1917 Mr. Macdonald's staff consisted of a typist and office girl but these were shared with the firm of Considere Construction Company Ltd., who also shared three rooms with us. Our outside staff consisted of four fitters and three mates under the supervision of Bob Hay.

Mr. Macdonald retired in 1953 when he was succeeded by John Cameron as Manager, who is now (1965) Scottish Regional Manager.

The move from Vincent Street to our present premises at 25 India Street took place in 1947, but it was 1952 before the Ministry of Works derequisitioned all four floors for our use.

In 1965 the indoor staff reached a total of 44 whilst operatives of all grades number over 100.



LINCOLN BRANCH

In 1926 it was decided to open a Branch Office in Lincoln in view of the amount of work then being carried out in the eastern counties by London Office.

Mr. Frank Simpson who was at the time in charge of the Technical Department at Trowbridge was appointed the first Manager of the branch. London Office had secured a number of school contracts and these formed a basis on which the Branch developed and in fact school work for the Lindsey County Council continued until the outbreak of war in 1939.

The original office consisted of two small rooms over the Midland Bank and our staff in 1965 is still housed in this building, but with much larger accommodation.

Frank Simpson retired in 1950 and Mr. Norman Jackson succeeded him as Manager. The latter joined the firm in 1929 and before taking up this appointment had served the company in Manchester, where he was an apprentice, Edinburgh, Aberdeen and Bristol Offices.

By 1965 the staff has grown to 20 in the office and 66 operatives.

LIVERPOOL OFFICE

Michael Concannon opened the Liverpool Branch Office with a staff of 2 in 1927 at Exchange Buildings but in 1932 moved to 848 India Buildings, Water Street until 1937. He remained there until 1936 when he succeeded Mr. John Paterson as Manager at Bournemouth Office and Mr. H.L. Naylor took his place until 1954. The office was then closed down and all work in the area was carried out from Manchester.

The Liverpool Office suffered during the "Blitz" of May 1941 and the staff were accommodated in Manchester Office until December 1943 after which our address was St. Lukes Chambers until 1951, and then Albion Buildings Canning Place until 1954.

The office staff numbered 12 as a maximum and 25 pairs of operatives were employed. The largest contract carried out by this Branch was probably that for the Royal Southern Hospital Liverpool whilst another installation of note is that at the Anglican Cathedral Liverpool.

LONDON BRANCHExhibit.

114 Whilst we must have been working occasionally in London installing Warm Air Ventilating Stoves at least by the early 1830s the earliest record we have of office premises consists of a draft agreement dated the 25th May, 1849 between George Haden and a Mr. James Lucas of Lowestoft for the purchase of "a parcel of land situate on the south side of Cromer Street in the Parish of St. Pancras— together with two messuages or tenements erections and buildings on the said piece or parcel of ground and numbered 3 and 4 Greenland Place, Cromer Street —". George Haden's Legal Adviser apparently considered 115 the terms of the sale unreasonable as indicated in his letter dated the 22nd May, 1849 and it was probably because of that the purchase was never made but instead the same premises were rented under a succession 116 of leases from July 1849 until 1908, a period of nearly 60 years.

117 We retain a rough pencil sketch plan of the premises dated April 13th, ~~1894~~ <sup>1894</sup> and on it the owner, Mr. Lucas, is described as a builder "largely engaged in railway work for Mr. Peto - he lives in South Norfolk - very respectable". On the sketch are shown a shop, office, cottage and house.

118 We are also fortunate in having an old photograph of these premises which by the time it was taken had apparently been re-numbered 122 and 123 Cromer Street. The property consisted of two adjoining houses, the one on the left being a most elaborately ornamented affair of baroque appearance probably built early in the 18th century for a man of substance in, what would then be, the edge of the country or at least "the Green Belt" of the city.

We cannot trace any living members of the staff who could remember our occupation of the Cromer Street Office/Stores which were vacated in 1908, and in fact Greenland Place no longer exists. Cromer Street lies a few hundred yards south of St. Pancras Station and a walk along its quarter of a mile length from Judd Street to Grays Inn Road presents an almost unbroken view of multi-storey blocks of flats, some built between the two wars but most of them in the last twenty years.

119 There are, however, members of our present staff who have a link with Cromer Street through Mr. F.H. Horton and Bill Pullen. Francis Horton was apprenticed to Hadens at Trowbridge in 1887 and spent his working life with the company as did his father and his grandfather before him. In 1903 he was made London Manager in succession to Mr. Blake, and we have a letter dated 4th November, 1903 addressed to him by the partners confirming his appointment at the salary of £204 per annum.

Bill Pullen went to our Parker Street, Kingsway, Workshop and Stores from Cromer Street and carried out all our Blacksmithing requirements in the form of pipe clips, brackets, and miscellaneous steel structures, eventually incorporating some oxy-acetylene welding into such work when welding began to be recognised as a rather useful aid to our industry after the first world war. He joined the firm in 1897 and retired in 1948.

123 1908 saw our removal from Cromer Street to No.60 Kingsway, which building went by the name of Lincoln House. It was one of the earliest and one of the more modest buildings to be erected in that thoroughfare which was driven through the Dickensian muddle of decrepit buildings during the first decade of this century. When it was built only half of Kingsway had been developed. It stands on the eastern corner of the Kingsway-Great Queen Street crossing and was one of the few victims in Kingsway of the 1939/45 wartime raids, and has since been completely rebuilt.

Exhibit.

Originally Lincoln House provided a room on each of its four floors measuring about 15' x 9' with additional space in the basement and housed a total staff of about 14 or 15 which was the size of our establishment in the 1918 to 1921 period.

At this time we must have also leased No.40 Parker Street Kingsway for a Stores and also to accommodate Bill Pullen with his forge and anvil. Later on we were to embrace Nos. 42 and 42A Parker Street.

By 1921 the room on the 2nd floor of Lincoln House, plus a little bench space under the pavement lights of the basement proved inadequate for our design staff and the lease was taken on No.42 Parker Street, the top floor of which was converted into a drawing office, whilst the corresponding floor of No.40 accommodated the newly reformed Electrical Department.

Until some years later when a gradual rebuilding process was found to be essential the Parker Street premises were pretty rough and ready with bare brick wall finishes whilst the interior construction would have been condemned today by the L.C.C. Fire Brigade, floors and staircases throughout being of timber, having in mind the presence of the open Blacksmith's forge at ground level. Members of our present staff who worked there will recollect in particular the steepness of the stairs, the short treads of which were for safety best descended with sideways crablike motion.

By 1925 the London staff led by their Director and Manager Francis Horton, had increased their turnover to a figure which accounted for almost half that of the Company as a whole and it became apparent that larger and more satisfactory accommodation, with the possibility of still greater expansion, was essential. The premises at the rear of Lincoln House running along Great Queen Street to Lincoln's Inn Fields consisted of a row of shops with two floors above them. The whole block was taken on lease by Haden, the shops and 1st floor being sub-let, whilst we occupied the top floor for the accommodation of drawing office staff. From then onwards rooms were retrieved from our sub tenants every few years to cope with our rapid expansion.

In 1929 Mr. George Haden, who by that time had been appointed Joint Managing Director with Mr. Horton, came to London and in the following year we were negotiating with the property owners for permission to build a floor above our leased premises behind Lincoln House.

Although our industry, and the country in general, was in the doldrums it was fortunately decided to go forward with this project and by 1931 the additional floor had been constructed and was in use as the drawing office. It will be well remembered by its occupants who suffered from the intense heat under its mansard type roof during the summer months, and our present Technical Director is credited with the application of a simple form of evaporative cooling by means of a fixed grid of external sprays along the roof.

1933 saw the transfer of Head Office from Trowbridge to London and with the revival of business the need for still more staff began to be felt a few years afterwards. This resulted in our abandonment of the Kingsway premises in 1938 and the occupation of the 6th floor comprising approximately 11,000 sq.ft. of No.19/29 Woburn Place, W.C.2. This was a newly erected 8 storey office block.

Exhibit.

During the war air raid shelters were constructed in the basement of this building, but during certain periods the daylight raids were so frequent that much time was lost in their use. The ground floor was vacant, the Company therefore rented most of this, building a 9" brick wall inside it and blocked up all but a small portion of the windows, and installed adequate lighting and ventilation. We could then ignore the raids to a large extent, particularly as we were able to "enjoy" the advantage of the "raider overhead warning system" installed for the benefit of the Air Ministry who occupied other parts of the building.

Our expectations that this new home would be large enough for many years proved to be ill founded and we were soon housing some of the smaller departments in nearby buildings, and by the early 1950s we were searching for larger premises.

No. 7 Tavistock Square was completed in 1956. We rented the 5th to 8th floors inclusive which provided us with an area of about 45,000 sq.ft., sufficient to house Head Office and all London Departments including our subsidiary Frenger Ceilings.

With our phenomenal growth over the last 10 years saturation soon occurred, and the Overseas, Domestic Services and the Electrical Controls Departments had to obtain temporary lodgings elsewhere. For a time this was at the Grove, Euston Square, which building was eventually demolished to make room for the new Euston Station. Our new offices at 141, Euston Road were built by Messrs. John Laing to meet the special requirements of London Office only, Head Office and all other Departments including Frenger Ceilings and Haden Electrical Limited remaining at No.7 Tavistock Square. We occupied these premises in 1963 and they will provide us with a total of 82,000 sq.ft. including reception and storage space, and at the present time we are occupying about 53,000 sq.ft. of this. The total number of staff housed at No.7 Tavistock Square and 141 Euston Road is between 800 and 850.

Parallel with these moves the old Parker Street Stores, Workshops and Garage were abandoned as they had become hopelessly inadequate and inefficient, and the Company purchased a large site lying between Goodsway, St. Pancras and the Regent Canal. The original property was mainly occupied by the Railway Company's stables, but these were demolished and in 1955 we moved into a spacious single storey building which housed the aforementioned departments and also included a flat for a Resident Caretaker.

Exhibit.MANCHESTER BRANCH

The City Records first mention Hadens in 1865 when they occupied offices at No.1 Bancroft Street, Manchester, the name of Frederick Blake being given as our "Agent", which term could be construed as a directly employed Manager. A former Director, Mr. Livesey, has written in a letter dated February 1924 that his books then went back to 1862 and that he remembers seeing records covering the years 1853-4. He also states that before the occupation of No.1 Bancroft Street business was conducted from the residence of the Foreman or Manager and that "James Blake came up to Manchester in the middle 60s to carry out the work at the Salford Gaol and Manchester Assize Courts" for the Architect Waterhouse. "Came up" suggests that he hailed from Trowbridge where there were Blakes in the company and he may have been related to the Blake who ran the London office in the latter part of the 19th Century.

122

The contract at the Assize Court was probably the earliest of any size which included air washers in the ventilation system, these also being used for cooling the air in summer. The method of forming the washer spray is described in Exhibit 122 in which document is also mentioned the use of steam engines to drive the fans the installation being carried out between 1859 and 1864 and before electromotive power had been invented.

In 1869 the office moved to 98 Cross Street, Albert Square, and a stores and workshop was opened at No.1 John Street, Little Bridge Street, Strangeways in 1878, but in 1883 was transferred to 23, Red Bank Street. During the latter part of the 19th century there were considerable street changes in this area so that 98 Cross Street might well have become 4, Albert Square.

Mr. F. Livesey joined the company in 1875 and as we can find no mention of Frederick Blake after 1895 it is probable that F. Livesey succeeded him as Manager about that time. Our offices remained at 4, Albert Square until 1956 when they were moved to Harter Street.

Workshops and Stores moved to Sykes Street, Chester Road, Hulme in 1902, to 35, Little Peter Street, Gaythorne, Manchester in 1938 and then to Harter Street in 1956.

Mr. S.S. Jewsbury who was first employed by Hadens at Trowbridge in 1909 came to Manchester in 1912 when the staff consisted of Mr. Livesey as Manager, Mr. Bolton as clerk/draughtsman and Edgar Fitton (who later founded his own firm) as traveller/draughtsman and one boy.

During the 1914-18 war Mr. Jewsbury was engaged at Avonmouth on War Office work and then at Billingham-on-Tees, returning to Manchester office in 1919 to a staff reduced to three people.

In 1931 Mr. Livesey retired after 56 years of service with the company and Mr. Jewsbury became Manager until 1949. In view of his approaching retirement he then retained control of the Belfast, Liverpool, Newcastle and York branches whilst Mr. F.A. Pullinger who, like himself was on the Board of Directors, came to take charge of Manchester Office.

Mr. Jewsbury retired in 1951 and another change in management occurred in 1957 when Mr. Pullinger was recalled to London as Managing Director.

Mr. Martin Read took his place as Manchester Manager until 1962 when he was appointed Director responsible for the Northern Regional Offices, and Mr. Herbert Coase was made Manager of the branch at the same time.

Exhibit.

120 In 1919 there were probably about 20 on the outside staff. Some of the outstanding buildings in the early part of this century to be done by Hadens were the Calico Printers Association and the Refuge Assurance buildings in Manchester. There are still in 1965 Haden screw type accelerators working in the C.P.A. building. (See photographs Exhibit 120). These must have been among the last to be made at Trowbridge before they were succeeded by our centrifugal pumps.

The office staff in 1930 totalled 15 and important contracts at that time were Sunlight House (14 storey office block), The Ship Canal House, Rylands Limited, Lewis's Limited.

In 1937 the total office staff was about 20, and in 1956 about 70 whilst at the present time (1965) it is about 140 with approximately 320 operative staff.

Large jobs in recent years have been M.O.S. Factory at Leyland for Leyland Motors Limited; Transmission Shop at Halewood for the Ford Motor Company Ltd., and the Park Hill housing re-development at Sheffield.

NEWCASTLE BRANCH

Newcastle Office was opened in 1923 as a branch under the control of Mr. S.S. Jewsbury (later to become Manager and Director) of Manchester Office. The Resident Manager was the late Mr E.T. Johnson.

The primary function of the office was to give a design and contracting service to A. Reyrolle and Co. Ltd. the well known Electrical Manufacturing Firm at Hebburn on Tyne for whom work had already been carried out and expansion proceeding. The service has been fairly continuous up to the present time through the development of Hebburn and Newtown Works. A most recent and interesting project was the fully air conditioned Relay Shop and the New Office/Administration Block, the latter involving demolition of some of the very earliest buildings.

The office was in premises at 13, Mosley Street, Newcastle upon Tyne 1., one room in which was rented from August 1924.

In the early 1930's the office was concerned with one of the earliest thermal storage systems, installed at Carlhol House, now the headquarters of the North Eastern Electricity Board.

In the same period, the office installed a heating system in the 14 storey Northumberland County Council Office Building.

In 1936 a major contract was obtained for design and installation of H.P. steam distribution and heating by unit heaters for the Elswick Works of Vickers Armstrong Ltd. Mr. George Coase came to Newcastle Office from Manchester to design and manage the contract. This contract was extended by a similar installation for the Scotswood Works with the provision of a 125,000 lbs. per hour capacity boiler plant. The present value of such a contract would be around £2m.

This project was completed in 1939 and during these years the office expanded its general activities. Mr. George Coase returned to Manchester at the outbreak of war.

In 1947, the office moved to the present address from which Mr. E.T. Johnson retired in 1949.

The present Assistant Manager, Mr. J.T. Baynes, joined Newcastle Office in 1946 and in 1950 Mr. George Coase returned as Newcastle Manager.

From 1950 to the present time (1965) the office has carried out a wide variety of Engineering Works with the Staff increasing from 10 to 36 and the Operative Staff from 25 to 65 pairs average.

Mr. K. Renshaw became Newcastle Supervisor in 1948 continuing the good work of the late Mr. A. Grimes and Mr. J. Ayres. Mr. W. Worsley was appointed as a second Supervisor in 1955.

Notable and interesting projects carried out have been:-

C.A. Parsons and Co. Ltd. - Heating and services for the Research and Design Office Block. H.P.H.W. centralised radiant heating for the Works. Air conditioning and services for Nuclear Research Centre - Fossway. Steam/H.P.H.W. boiler plant and services at Longbenton Works.

Anglo Great Lakes Corporation Ltd. - Plant and services for the Works and Office Laboratory Block.



G. Angus and Co. Ltd. (Oil Seal Division) - Steam/H.P.H.W. boiler plant and services for complete new Factory and Office Block etc.

Thos. De La Rue and Co. Ltd. - H.P.H.W. boiler plant and all services for the New Bank Note Factory, Team Valley Trading Estate, Gateshead.

Airscrew-Weyroc Ltd. - H.P.H.W. boiler plant and all services for Weyroc III Factory, Hexham.

Formica Ltd. - Re-modelling and extension of H.P.H.W. distribution services - 120 persons involved in continuous work over 13 day period.

Newcastle Office has its quota of veterans - 11 in 1965.

NORWICH BRANCH

Hadens have been identified with various contracts in the Norwich area for the past 100 years or more.

Only recently we have replaced a warm air stove in Harleston Church, near Norwich, installed by Hadens in 1871 and still have the original file papers.

Little Plumstead Hospital, near Norwich, is another old Haden contract and we returned to this job in approximately 1933 to carry out further work from Lincoln office and fitter, A. Hindle, was sent down from Lincoln to take charge.

This was followed by another contract at Lowestoft at the Lowestoft and North Suffolk Hospital and, on completion of a new boiler plant there, Hindle was allowed to stay on in Norwich keeping contact with Architects, Builders and Clients from his home address, this was about the early part of 1934.

From then on Norwich office developed as follows :-

- August 1937. We rented a small office in City Chambers, Upper King Street, Norwich, with A. Hindle as Resident Supervisor with six pairs of men operating.
- We began to get more contracts, some by local contact with Hindle, others direct from Mr. Simpson in Lincoln office. Albert Sims visited Norwich office roughly about every month to inspect the jobs and meet Clients and Architects concerned with the work we had in progress. One of the larger of these jobs was the reorganisation and new central boiler plant at the Hellesdon Mental Hospital, 1940/41.
- April 1946. Albert Sims came down from Lincoln office to open up the Branch as a sub-branch under Lincoln office and at this time A. Hindle left the Company to join a local firm of Heating Engineers.
- B. Cook, a chargehand from Lincoln, came down to be trained as Supervisor.
- Total Office staff. 3.
- August 1946. First student apprentice engaged.
- April 1948. E.C. Philpott transferred from London office.
- November, 1949. Moved to larger premises, second floor 50 Prince of Wales Road, Norwich.
- March 1950. Took over third floor, 50 Prince of Wales Road.
- 1950 L.J. Whitbourn transferred from London office.
- June, 1963 Moved to 46 Prince of Wales Road and occupying first, second and third floors.
- January 1965. Present Office staff 15.  
Outside staff 40.

NOTTINGHAM BRANCH

In 1946 Mr. John Whichcord left Birmingham Office to open up a new branch at Nottingham taking as offices No.45 Gregory Boulevard with a staff of one supervisor and a shorthand typist with three pairs of operatives outside.

In 1950 the office moved to 93 Goldsmith Street and by then the staff had expanded to four draughtsmen, three student apprentices and two shorthand typists, together with 9 pairs of operatives.

The next move was to 3 Mount Street, Nottingham, and at the present time the staff is six draughtsman, five student apprentices, two estimators, four shorthand typists and about 20 pairs of operatives.

At the end of 1964 John Whichcord retired and Mr. Kenneth Clark was appointed Manager, soon after his return from running the Malaysian end of our Overseas Branch, in his place.

Below are given a few of the principal works carried out during the period of John Whichcord's management.

Oil firing installations for tunnel kilns, in England, Scotland, Northern Ireland and Eire, and designs for kilns in Australia and New Zealand.

New H.T.H.W. central boiler house for International Combustion, Derby.

More kilns in Cornwall for English Clays, and a brick kiln in Exeter.

Centralised fuel oil systems for Stanton Ironworks.

Various pithead bath installations for the N.C.B.

Central steam boiler house and mains at Skegness Miners Welfare.

Workshop Buildings - H.T.H.W. for N.C.B. Divisional Stores and Repair Shops.

Telephone Repeater Stations at Nottingham and Leicester - air conditioning of telephone equipment rooms.

Shops for Boots Pure Drug Co. Ltd., all over the country, all major shops built since 1962 are air conditioned in the Sales Area.

## TORQUAY BRANCH 52

The growth of the hotel industry in Torquay provided a number of contracts in the town and district and in 1925 it was decided to open a stores. Small premises were taken in Albert Road and Mr. R.W. Carter, who had been chargehand on a number of jobs, was established as a resident supervisor.

1927. Torquay Office was opened in premises above a shop in Castle Road, Mr. Rebbeck was sent from Trowbridge as Manager, and his staff was one draughtsman (Mr. A.E. Taylor), Mr. Carter - Supervisor, and an office boy cum typist cum storekeeper.

The outside staff was about six or seven pairs.

1929. The first move in expansion - a Drawing Office apprentice Gilbert Allwood (now Manager) took place - and a further apprentice (now chief draughtsman) was started in the following year

Stores were opened in Plymouth and Mr. A.L. Johnson established as resident supervisor.

There was little or no growth during the general slump of the early 1930's, in fact work fell off so much that during one week the outside staff had fallen to nil.

The office remained a very small unit for some years, in fact the smallest branch of the company.

1941. The Manager, Mr. Rebbeck, died suddenly at the end of 1941 and Mr. G.A. Allwood was appointed by the late Mr. Nelson Haden as Acting Manager.

1945. At the end of the war Mr. Allwood's appointment as Manager of the branch was confirmed.

1946. Offices moved to Castle Circus House.

1948. With the growth of work in the Exeter area, it was decided to make this a depot with a supervisor and resident erecting staff. Mr. G. Gerrish was made Supervisor.

1956. From this date, the size of the office and its turnover increased quite considerably and at a rate at least proportionate with the company as a whole, and from its previous position as the smallest branch it now (1965) rates about eighth or ninth in size of the provincial offices.

1965. The present staff is twenty-six in the office and ninety to one hundred men outside.

Whilst the types of installation carried out by Torquay Office are very varied, there have been few of outstanding interest and, of course, there are very few large buildings in the West Country.

Probably the most interesting installation was the underground Headquarters for the Combined Allied Forces in Plymouth. This was an air conditioning job, the headquarters being tunnelled out of solid rock by Canadian R.E.'s. The D-Day landings in 194 were directed from here and Gilbert Allwood had the good fortune to be on the job on D-Day morning.

The Plymouth Civic Centre is a 14 storey building where we installed an electric thermal storage heating installation.

Torquay Office designed and installed what we believe to be the original small-bore domestic heating system, and introduced the idea to the company at about the same time that the National Coal Board made the results of their research public.

YORK BRANCH

In 1934 a small office was opened at 39 Micklegate with Mr. E. Golightly as Manager under the overall control of Mr. Jewsbury in Manchester. There was an indoor staff of two.

In 1939 Mr. E.H. Chetwood was appointed Manager and the office had moved to Manor House, Walmgate, with a staff of seven.

The branch did not prove to be economical and was closed down in 1950 when all work was directly controlled from Manchester Office.