

# Ashwell & Nesbit Ltd

1879-1969

ASHWELL AND NESBIT LIMITED  
1879 to 1969

“For hot, cold, moist and dry, four champions fierce strive here for mastery”.

*Milton: Paradise Lost 1666.*

## PREFACE

By the sale of the works and land at Barkby Road, Leicester in June 1968 to an independent engineering group this company reached a point in its history which, due to the fundamental change in its structure, seemed to the writer to demand some account of its past activities. The following short monograph may be of some interest to those who, for one reason or another, have been concerned with the company's welfare and progress, whether as employees or shareholders, or, may we hope, as clients or competitors.

I have been fortunate in inheriting a great many records, particularly of the early days, but any opinions which may be expressed are entirely my own, except where otherwise stated. I must apologise in advance for the many literary shortcomings and for any factual misrepresentations which may occur; and at the same time acknowledge my thanks to many who have given me valuable information.

Anthony F. Ashwell

30 Wenlock Way, Leicester 1970.

## CHAPTER I

As Engineering companies go we are not so old. Many such trace their origins back to the Industrial Revolution when they supplied and serviced the machinery of Blake's 'dark satanic mills'. Even as a Heating and Ventilating company we are young compared with some of our contemporaries. George Haden, after being apprenticed to Boulton and Watt, started his own business in 1816 in partnership with his brother James. The latter patented a ventilating warm air stove in 1819 and thus perhaps became the founder of a new industry. Even our own subsidiary company, J. Wontner-Smith Gray & Co. were started in 1835. The long-established Heating Contractors all had a manufacturing background; many of them produced heating specialities for which they held patents and some were engaged in more general engineering. We are no exception to this generalisation as will be seen in the following pages.

The business which became Ashwell & Nesbit Limited was the offspring of Frank Ashwell and Pares' Leicestershire Banking Company, who were persuaded to lend him £1,000. The security for this loan took the form of a guarantee given by his prospective father-in-law. Mr. W. H. Ellis and his uncle Henry Ashwell, the date of this document being 3rd September, 1879. In that year Frank had arrived in Leicester having decided to set himself up in business on his own account.

At this period Leicester was a comparatively prosperous industrial community of just under 100,000 souls. The main industries were those for which the town is well known today, namely knitted goods, footwear and hosiery; but light engineering was becoming increasingly important. A great deal of knitted work was done on frames set up in the operatives' homes often under conditions which nowadays might be termed sweated labour, although since 1872 the working day in factories and mills had been limited to nine hours by legislation. Politically the town had a marked inclination towards the Liberal party, whose candidates at the parliamentary election held in April 1880 received handsome majorities. The municipal elections, in the previous November had been more closely fought but Liberal victories were recorded in all the contested wards. During the years 1876 to 1879 the tramways were laid and by the latter year they extended to Belgrave, Aylestone and the Oadby boundary. Communications with other parts of the country were good, both by canal and rail, and Leicester was an important centre in the Midland Railway network. For a young man starting up in the engineering industry the town seemed an ideal location and there were many friends willing to give a helping hand if necessary.

Frank Ashwell was born in Nottingham in May 1855. He was the third son of Thomas Ashwell, whose family consisted of four sons and one daughter. Thomas was a hosiery manufacturer and at the time of Frank's birth the family were living in Derby Terrace. Soon after the birth of the youngest child, Thomas Ashwell died and his widow Nancy was left in somewhat straitened circumstances. Frank was sent to Nottingham High School and was subsequently apprenticed to the mechanical engineering firm of Manlove Alliott & Company of Nottingham. His training there began in 1871 and on completion of his indentures in 1877 he was employed for a short time in the works of Cairds of Greenock; a firm of shipbuilders who made their own engines and machinery.

Frank came to Leicester at the age of 24. He had no assets beyond the usual training of an engineering apprentice in what was then, compared with the present day, a fairly simple craft. With his loan from the bank, he took a small workshop at No. 10 Erskine Street and engaged three hands. Most of the work done in the early stages of the business consisted of mill-wrighting and general repair work and amongst the first entries in the order book are a contract for repairs to a windmill at Syston. The value of work done in the first six months amounted to just over £500.

Soon it became necessary to increase the work force and a carpenter by the name of John Barsby was engaged. His wife acted as housekeeper to Frank, who lived on the premises, 'above the shop'. Early circulars told customers that iron bars were kept in stock and turning and planing done for the trade. Supplies of well seasoned Gearing wood in Crab, Hornbeam and Beech were available. Another leaflet is in existence in which "Mr. Frank Ashwell begs to call the attention of all users of power to the PATENT WROUGHT IRON SPLIT PULLEY for driving all kinds of machinery. The great advantage of this Pulley over all others is its great strength. At their junction with the rim the arms are *twisted*, thus bringing the depth of the section, or wide dimension of the iron, in the direction of the strain".

A junior member of the staff of this period remembered being sent to a village outside Leicester to repair a water-wheel at the request of the local land agent. At that time there was in the firm no one capable of dealing single-handed with a ten or twelve ton piece of machinery so an old-fashioned mill-wright was hired. Together the two men successfully wedged up the wheel, which was about 15 feet in diameter, relined the bearings and duly set it to work.

By the end of 1881, the second full year of trading, sales of finished work were up to nearly £4,000. A wages bill of £800 would indicate that nine or ten men were employed and the firm carried a stock valued at £375. The business was growing.

In March 1882 Frank married Helen Margaret Ellis, whose family were Quakers. Her Grandfather had been M.P. for Leicester Borough and Chairman of the Midland Railway Company to which office he had succeeded George Hudson, the notorious 'Railway King' in 1849. Helen was the daughter of William Henry Ellis, whose family business was that of Coal and Corn Merchants. As a village blacksmith was also amongst her forebears it could perhaps be said that coal and iron were in her blood. In December 1882 their first child, a daughter, was born, so Frank was wasting little time in starting a family.

During these early years Frank Ashwell became increasingly interested in central heating and artificial ventilation. He began to manufacture a few specialities associated with heating and in addition he produced various types of window frames and casements which were designed to introduce fresh air without causing draughts. These were of wrought iron and were made by a blacksmith to a fine degree of accuracy. Frank's early training had given him a knowledge of steam and its many uses as a source of heat and power and gradually he came to the conclusion that heating and ventilating had an important future. Early in 1884 he decided to set up a separate heating department to handle this growing side of the business and it was necessary to find a suitable and experienced man to run it. In due course Frank appointed D. M. Nesbit as manager at a salary of £156 per annum.

## CHAPTER II

In 1884 central heating was nothing new. After all the Romans were reputed to have known something about it. In classical times, indeed, the methods used were described by Seneca and included the employment of brass pipes which were passed over an open fire. In more modern times the use of hot water for diffusing heat has its origins shrouded in obscurity. Legend has it that the first recorded example was in France in 1777 when a Monsieur Bonnemain employed hot water in pipes for hatching chickens. Later in 1817 the Marquis de Chabannes invented a similar apparatus for heating a conservatory in a private house and he introduced this into England the following year. In 1822 Mr. Atkinson, an Architect, suggested the use of a secondary pipe to bring the colder water back to the furnace, thus putting hot water heating into the fundamental form which it has retained ever since. The use of steam as a source of power goes back to legendary times but its employment as a direct heating medium is of comparatively recent origin. The first comprehensive text book on the subject of central heating was probably that of Charles Hood, F.R.S., which was published in 1837.

By the time he joined Frank Ashwell, David Mein Nesbit had just turned 29 years old, almost exactly the same age as his new employer. He had been born in Newcastle-on-Tyne in 1855 and was the youngest of ten children. By his own account he went to work in an office at the age of 10½ years but returned to school for a year before becoming apprenticed at the ironworks of W. H. Walker & Son of Percy Works, Newcastle. The manager of Percy Works at that period was a Mr. William Dinning, an acknowledged heating and ventilating expert in the North of England from whom David Nesbit no doubt learned a great deal. Owing to business difficulties this firm transferred their apprentice to Messrs. J. J. Elliott of the same town for the completion of his articles, at which time, having the misfortune to lose both his parents, he decided to leave Newcastle and seek employment elsewhere. In 1874 he went to Richmond, Yorkshire where he became a foreman in the Works of R. Spence & Co. and after some experience in London he took up the position of workshop manager to Messrs. Cort and Paul of Leicester, makers of constructional ironwork. By the time he joined Frank Ashwell he already had a knowledge of and considerable interest in heating and was a man of forceful bearing with an inventive turn of mind.

After the formation of the heating department Frank Ashwell began to style himself as 'Architectural, Heating and Ventilating

Engineer' and took up an agency for an apparatus known as 'Kortings Patent'. Other agencies followed including those for the 'Blackman' Air Propellor Company and the 'Lancaster' Steam Trap. By the middle of 1885 the Heating Department had become Frank Ashwell & Co. and business continued to improve, sales of finished products and work done reaching £9,000 for the 12 months ended 30th June 1885. Some description of the type of heating and ventilating apparatus provided by the firm at this period would not be out of place here. The Coventry Times of 10th December 1884, published a detailed account of the new Grammar School for which the warming and ventilating system had been designed by Frank Ashwell. Similarly a paper read by the City Architect to the Nottingham School Board describes the system as applied to various schools in that city.

Briefly the apparatus consisted of a 'Kortings' patent coil or stove fixed in a recess on an outside wall in each room. These stoves were cased in and supplied with fresh air from outside which was drawn up over the heated pipe coil and escaped through a grating at the top of the casing. The vitiated air was extracted by means of a shaft 6 feet square, extending the whole height of the building and built round the boiler chimney, the heat from which was sufficient to draw the air up to above roof level. The various rooms were connected to the shaft by zinc trunking. In summer a small stove kept the shaft warm so that some extraction continued when the heating system was not in use. The heating medium was generally low pressure hot water provided by a horizontal shell boiler but steam at about ten pounds pressure was also used in some buildings. This system was designed to give each child in the school about 400 cubic feet of air an hour and the air in the class-rooms was changed three times an hour.

In June 1885 the Clerk to the Nottingham School Board reported the cost of the heating installation at Radford Boulevard School for 960 children as being £600 in round figures. He considered this to be a large figure but stated that 'the expenditure is amply justified by the liberal allowance of fresh air together with a comfortable temperature and freedom from draughts, which will be ensured for the schools'.

It is clear from these reports that Local Authorities in the 'eighties were giving a lot of thought to the construction of schools with efficient warming and ventilation. It is notable that parts of the buildings themselves were designed to suit the demands of the Heating Engineer and the extract shaft protruding above the roof was a prominent feature in many schools built in Midlands towns at this time. In fact the backbone of our heating business in these early days was a personal connection of Frank Ashwell's with

Mr. Edward Burgess, the Architect, who built most of the Leicester schools and many other buildings in the town.

Meanwhile in the Works the firm was beginning to expand its production and by the end of 1886 a large variety of products could be manufactured. These included a Horizontal High Pressure Steam Engine which could be supplied in various sizes from two to fourteen nominal horsepower with cylinder diameters ranging from four to twelve inches. The engine was described in a typical advertisement of the period which proclaimed among other things that 'the connecting and eccentric rods are got up bright and fitted with gun-metal bearings in the best possible style' and again that 'the engine is exceedingly simple and elegant in design and its speed can be adjusted at pleasure'. The firm did not overlook the advantages of providing for the staple industries of Leicester and Hosiery Presses and Finishing Machines were advertised in the local paper. Other lines offered included Pulleys, Hydraulic Lifts, Steam Pumps and Brickmaking machinery.

Apart from his multifarious business activities Frank Ashwell did not neglect his duties as a husband and father. After their marriage the young couple had settled in a small house in Evington Road, Leicester and here their first child, Dorothy, had been born ten months after their wedding day. Their second offspring, a son, arrived on 4th December 1883. He was at first referred to simply as 'Baby' and his mother recorded in her diary that he was 'the sweetest and most good-natured baby I ever saw, and everyone agrees with me!' In view of Helen Ashwell's Quaker principles neither of these children was christened, so without very much ceremony her son had been named Frank Austin Ellis. Although his first and third names had obvious family connections there was no precedent for 'Austin' which was the name by which he was to be known for the rest of his life.

In addition to his business and domestic life Frank Ashwell continued to further his own engineering knowledge and that of others. He was elected a member of the Institution of Mechanical Engineers in 1884 and lectured to students in both Leicester and Nottingham, often taking as his subject the principles of heating and mechanical ventilation. He took on two or three apprentices between 1884 and 1888, one of whom, Ernest Staples, engaged in the latter year, remained in the employment of the firm until after the Second World War, a period of over sixty years.



### CHAPTER III

In a publicity leaflet dated May 1887 and addressed to clients and other interested parties, Frank Ashwell made the following announcement: 'I have the pleasure to inform you that I have purchased from Mr. Joseph Illston the valuable business for many years carried on by him and his family at Sycamore Lane, Leicester, and known as the 'Victoria Foundry'. I intend to carry on the above business in conjunction with my own under the style of 'Frank Ashwell & Co.' and to remove to Sycamore Lane (the valuable freehold premises of which have now become my property) so soon as the necessary extensive alterations now in progress are completed. With greatly increased capacity for turning out work cheaply and well, I trust you will continue to favour me with your support. Yours obediently etc.'

During the years 1885 and 1886 the little business in Erskine Street had been steadily expanding. By June 1886 the annual turnover had reached a figure of £11,000 and the firm was employing up to thirty men. It had become necessary to increase the staff and to do this was not possible in the limited accommodation available. An even more important consideration for the move to Sycamore Lane was to provide an even flow of cheaper castings which the acquisition of a properly equipped iron foundry would ensure. The vast majority of the products of the firm employed iron castings in one form or another and up to now these had been bought out, largely from Russell's Foundry and also from other manufacturers including the Victoria Foundry. In addition the purchase of this business enabled Frank Ashwell to add a number of new products to his list, notably the 'Leicester' Kitchen Range which was a speciality of the Sycamore Lane Works.

The Victoria Foundry was on the corner of what is now Great Central Street and Jewry Wall Street. In the title deeds it was described as being on the west side of Sycamore Lane, in the Parish of St. Nicholas and 'near to a certain place called Holy Bones'. The business had been started by Mr. G. F. Illston in 1862 and was a small family concern carried on by Joseph Illston after his father's death. The works had been equipped by one Samuel Ride whose invoice for part of the work has survived. Dated 31st December 1862 this document sets out his charges for the various items, beginning with "a new 4 Horse High Pressure Steam Engine ready for putting up: £35". It also included "A Wrot Iron Cupylo 35 cwt: £23 12 6" and a Crane costing £40 10 0. Mr. Ride had to wait some time for his money as the invoice is endorsed 'Settled October 23rd '63'.

The move from Erskine Street took place in September 1887 and

thereafter the whole business was styled "Frank Ashwell & Co.". The effect on the firm of the greatly increased manufacturing facilities was immediate. Almost at once the list of specialities had many additions made to it. As well as the 'Leicester Range' Ashwells produced the 'Combination' Gas and Coal Fire Range, Bakers and Confectioners Ovens, Rain Water Goods, Cast and Wrought Iron Palisading and Cast Iron Tomb Railing. The manufacture of Wrought Iron Watertight Casements continued and in addition Cast Iron Windows were advertised. Products making use of Steam included cooking equipment, engines, hoists and laundry machinery. The Hosiery Press made by Frank Ashwell and Co. was described in the 'Textile Manufacturer' of 15th January 1889. It consisted of two strong hollow beds of tough close-grained iron, and cast with internal ribs, connecting the top and bottom plates along their whole length, except a few inches at the ends to allow the steam to circulate freely. The article goes on to say: "These ribs are so arranged that the steam enters at one side of one end, and returns at the other side of the same end. This facilitates the coupling-up of the live and condensed steam pipes, and ensures also an equable heat all over the bed and no lodgement of water. The cores are taken out at the ends and the holes used for the steam connections, the joints being faced and made with a thin asbestos ring, which makes a perfect joint. A lip is cast all round the top bed which holds and protects the non-conducting composition. The bottom bed is supported at the middle as well as the ends, which makes it more rigid and substantial. One of the chief improvements effected in this press is the carrying of the top bed on four springs, one at each corner, which can be regulated independently. It is well known that castings of this kind, though perfectly level and true when cold, get distorted when steam is turned on, owing to unequal expansion. Messrs. Ashwell & Co., when finishing these presses, arrange them so that they are true and level when hot. These improvements will doubtless commend themselves to those engaged in the trimming of hosiery. The press is made 6 ft 6 in. by 3 ft. 6 in. wide, and when pressing hose one man works at each side of the press."

During the first three years at Sycamore Lane the numbers employed increased to a staff of six and one hundred hands, including the operatives working outside on heating and ventilating contracts in Leicester. A number of men were also employed in Nottingham where an accommodation address was maintained at the office of Frank's brother, Arthur, who was a Solicitor. Annual sales were in excess of £20,000 by 1890, earning a nett profit of about 10%. The costs of production were, of course, by modern standards, very low indeed; for example the average wage paid to a workman barely exceeded £70 per annum.

In late nineteenth-century terms the profits of the business accruing to its owner were considerable. Frank's prosperity had grown steadily since his marriage and in the spring of 1885 he had been able to move his family to a house in Dane Hill Road, The Fosse, which was a much more substantial property than that in which he began his married life. The house was backed by a pleasant tree-lined garden which was much appreciated by Helen Ashwell and her two young children. Two further children arrived in 1886 and 1888 and this completed the family. Helen was a great believer in country air and she paid many visits, with her children, to Anstey Grange, the home of her father, and to Woodhouse Eaves and Barrow-on-Soar. Summer holidays were spent at Whitby and at Cromford in Derbyshire, where the older children indulged in walks and riding. Two years after his move to the Fosse, Frank had been able to raise the necessary capital to purchase the Victoria Foundry and to finance the various alterations and additions which were made to it. By 1890 the time had come to develop the heating and ventilating department which was becoming an increasingly important part of the business.

## CHAPTER IV

Since the early eighties when the type of heating apparatus described in chapter two was being installed in schools and other public buildings great progress had been made in the development of what is known as the 'Plenum' System. The first step forward had been the introduction of mechanical means for extracting polluted air from the building by the use of a fan; but by 1890 Frank Ashwell was putting up what he himself called the 'Propulsion, Impulsion or Plenum System'. This differed radically from the earlier types of apparatus in that the fresh air was admitted at a central point and propelled into the building by a fan. The air passed through an underground main duct usually about 5 feet wide by 6 feet high in which a cloth filter was fixed; the air being warmed by a series of heater batteries or coils which were placed at the bottom of the shafts leading to the various rooms. These ducts were formed of brickwork and topped by concrete slabs. It was clearly necessary to keep them very clean and they were periodically whitewashed inside. An open-bladed Blackman fan, 5 feet in diameter, was used, driven by a 4 or 5 h.p. gas engine at a speed of between 200 and 300 revolutions per minute. The heater batteries were supplied with steam from a Cornish boiler worked at a pressure of about 5 pounds per square inch, the condensed water being returned to the boiler by gravity. Under these conditions a properly maintained boiler of this type had a very long life and a few years ago the writer was himself shown a Cornish boiler which was at least sixty years old and still operating. To supplement the Plenum system direct radiators were used in the larger rooms and these were placed over gratings which admitted the partially warmed air from the main duct below. The kind of radiator employed was made in the Sycamore Lane Works and was named the 'Patent Ventilating Solar Radiator.' The firm also developed a patented heater battery.

The most important Plenum installations carried out by Frank Ashwell & Co. between 1889 and 1892 were probably those at the Melbourne Road Board School, Leicester, the Nottingham Borough Asylum and the Shire Hall at Nottingham. Melbourne Road School was one of the largest built in the town. It accommodated 1600 children on a site measuring about 4,000 square yards, including three play-grounds, and cost between £17,000 and £18,000, or slightly under £12 per place. There were twenty-five classrooms so that each must have contained an average of sixty-four children, quite a formidable number. The conditions produced by the heating and ventilating apparatus were highly thought of, and Mr. Locke, the Headmaster, wrote to Frank Ashwell in the following terms: 'For

keeping the air pure and at a uniform temperature the 'Plenum' system of warming and ventilation is most effective. During the past fifteen months – the period the school has been open – the absences of teachers from illness have been reduced by one half. All the teachers testify to the absence of headaches which they formerly felt under the old conditions. I may add further, that the whole school may be fumigated by this system in the short space of three minutes.' The Medical Superintendent of the Borough Asylum at Nottingham also wrote to the firm stating that 'For the three years previous to the introduction of the 'Plenum' system the death rate was 15.1 per cent on the average number resident; for the three years after it was 12.4. The new building is as you know for males only, and the above rates refer only to males; the average death rate for males during the past 12 years has been 14.1 per cent. So that up to now the death rate has decidedly declined since the introduction of the system'.

As will be seen the heating department was taking on a considerable volume of work and the amount of business in 1891 fully justified the offer of a partnership to David Nesbit whose responsibilities had greatly increased with the growth of his department, and in due course of time a partnership agreement was drawn up for an initial period of seven years. At first it was suggested that the arrangement should apply only to the heating department; but subsequently it was decided to extend it to the whole concern on the understanding that David Nesbit's share should be confined to half the profits of that department only. He would have no claim on the profits of the works but was indemnified against all liabilities of the firm, while Frank Ashwell would continue to find all the capital required to run the business and keep all accounts under his control. As David Nesbit possessed no capital he agreed that his drawings from profit should be limited to £300 per annum, the balance due to him being allowed to accrue until his capital reached a reasonable figure; and an amount of £1500 was suggested. It is highly probable that David Nesbit considered this arrangement to be a fair one and in the first year of the partnership his share of the profit amounted to £900. By 1894 his capital had reached a figure of £1900 and thereafter the partnership continued on a two to one basis. From the 1st July 1892, after the signing of the partnership agreement, the firm traded under the style of Messrs. Ashwell and Nesbit.

By the end of 1891 there was quite a long list of heating and ventilating projects completed or in progress. Apart from schools and public buildings in Leicester and Nottingham substantial contracts had been obtained in places as far apart as Edinburgh and Sidmouth. These included Municipal Buildings at Sunderland and Luton;

schools at Newcastle-on-Tyne, Newark and Leeds; the McEwan Hall at Edinburgh, and in the industrial field, steam heating at Fielding and Johnson's Abbey Mills, Leicester.

A further extension of activities took place in the early part of 1892 when Frank Ashwell bought the goodwill of a well-known London consulting engineer, W. W. Phipson, and took over his office at 14 John Street, Adelphi. Mr. Phipson, who had made a special profession of heating and ventilating, had worked for many of the leading architects in London and the Provinces and was responsible for some of the most massive installations ever carried out in this country. Those of his drawings which have survived show that the amount of space taken up by the ducts and other apparatus would not suit the ideas of a modern architect, and there was, of course, a complete lack of any sort of automatic control. However, Phipson was an acknowledged leader in his field and designed systems for many notable buildings including the Royal Albert Hall and an enormous mansion for the Marquess of Bute at Rothesay, for which the plans have survived.

A great deal of importance was attached to the establishment of a London business and it was decided to send David Nesbit to manage the new office. The supervision of the heating business at Leicester devolved upon R. E. Atkinson, who had been on the Staff since 1887, as general superintendent and representative.

## CHAPTER V

In August 1892 Frank Ashwell was able to report in a letter to his brother, Arthur, that he was finding the demand for efficient and reliable warming and ventilation on the increase. Local authorities in particular were requiring something better than 'a four-inch pipe run promiscuously about their buildings.' There is no doubt that the acquisition of Phipson's business in London opened up new fields to Ashwell & Nesbit which were by no means confined to the capital. Phipson had had an extensive practice in the North of England and partly due to his influence and partly owing to the success of the installations at Nottingham and Derby Asylums, large contracts were obtained for work at similar institutions at Newcastle and Sunderland. As a consequence of this expansion a second branch office was opened at 86 Pilgrim Street, Newcastle under the management of Mr. Osborn Polley, who was accompanied to Newcastle by David Nesbit for introductions to various influential architects and others. Osborn Polley had been persuaded to leave his employment as a Building Inspector for the Leicester School Board in order to take up this post. He had been the Clerk of Works at Melbourne Road School, having previously been engineer in charge of the heating and ventilating apparatus in all Leicester schools. He was described by Frank Ashwell as a man of varied experience, with a practical knowledge of the Plenum system in particular.

Soon after the Newcastle venture the firm's activities spread to Ireland, where a small office was opened at 8 Eden Quay, Dublin. This was the result of orders being received for work in a number of Irish asylums so it is clear that Ashwell & Nesbit's reputation for working in this type of institution was spreading. Some of the advantages of central heating in mental hospitals, as seen from a contemporary viewpoint are set out in the report issued by the management of the Derby County Asylum in 1894. In this document it was stated that 'the new system of warming and ventilating the Wards and Bed-rooms by propulsion of air, heated or cold, according to the season, promises to be a great improvement from a sanitary point of view, upon our previous defective arrangements. Owing to the warming of the Wards, we have been able to abolish open fires, thereby avoiding risks, diminishing labour and dust and preventing quarrelling; whilst at the same time the feeble, imbecile, and demented patients who require warmth the most, owing to their inactivity and lowered vitality, but who are less able to protect themselves, now get the benefit of the warmth which is more generally and more equally diffused through the Wards.' Typical of the larger contracts of this kind was that for the installation of services at the Dorset County

Asylum. The order was obtained in June 1893 and the work took thirteen months, at a cost of just under £6,000. The Architect in this case was G. T. Hine, an old friend of Frank Ashwell's, for whom a great deal of work was done by the firm.

During the years 1893 to 1896 no fewer than fifteen lunatic asylums were heated by Ashwell and Nesbit. The largest of these was the Manchester City Asylum where the mechanical services cost over £13,000, a sizeable job in those days. However, it should not be thought that the firm was uninterested in other types of buildings as the records of work in hand at this time show that contracts were being carried out in Schools, Hospitals, Private Houses, Banks, Offices and so on, all over the country. Among the jobs done in 1893/4 were installations at the 'Morning Post' offices and the Travelers Club, London; Leeds Royal Infirmary, the Castle Museum at Nottingham and Leicester Fire Station.

In March 1894 the firm took a stand at the National Building Trades Exhibition in the Royal Agricultural Hall, London. In the programme Ashwell and Nesbit were described as Warming, Ventilating, Hydraulic and General Engineers and amongst their exhibits was the 'Leicester Plenum' System as applied to a drawing room. Other items shown included the 'Solar' radiator, a ventilating open fire grate, wrought iron casements, and the 'Meldrum' patent Forced Draught Apparatus for which the firm had the agency and which was shown as fitted to a Cornish boiler.

In the middle of 1895 a decision was taken to remove the London office to larger premises. Phipson's rooms at 14 John Street were insufficient to house the increasing numbers of staff and a sub-lease was therefore taken of the Ground and First floors of an old house in Great James Street, Bloomsbury. Number 12 was one of a terrace of houses, built in 1762, which was part of the Doughty Estate. In the previous year it had been let to an Architect, H. V. Lanchester, by the owner, Sir Henry Doughty Tichborne, on a 30 year lease, and the part occupied by Ashwell and Nesbit consisted of six rooms and a basement.

The annual turn-over of the business was now about £40,000 and in 1895 the nett profit was over £4,000, of which Frank Ashwell's share was two-thirds, and of which £2,700 was contributed by the Heating Department. In this year the wages bill was over £12,000 and total salaries were £1,300; the latter ranging from 4/0d per week paid to a junior to £250 per annum for the Superintendent of the Works, Mr. Burlingham. The Cashier, F. O. Robinson, received £3



a week and the Chief Draughtsman £3 10 0d. Among the senior Drawing Office staff were H. W. Waudby and Harry Spooner, examples of whose finely detailed work are in the Company's records today. The staff consisted of eighteen men at Leicester, eleven in London, three in Ireland and two at Newcastle, of whom a total of nineteen were draughtsmen. Unlike today there were no women on the staff.

At the beginning of 1896, the last year of Frank Ashwell's life, the value of contracts in hand had reached over £70,000, and the business was in a healthy state, both in the Works and on the Contracting side. At home Frank was the centre of a closely knit family circle. His son Austin was now twelve years old and in 1894 had been sent to a private school in Nottingham owned by a certain John Russell. During term-time Austin lived with his Aunt Edith Ashwell who described him at first as untidy and 'not very clean', but relented later to the extent of saying he had improved. That Mr. Russell had a good opinion of young Ashwell's abilities, particularly in the field of mathematics is shown by a letter to Helen Ashwell dated September 1896, in which he wrote of the pleasure Austin's success had given him. In the summer of that year the family spent a holiday at Hunstanton, where they stayed at the Golden Lion Hotel; and evidently the children were much taken with the novelty of such an establishment. Their mother wrote contentedly in her diary of bicycling tours and a visit to Sandringham House, but unhappily her contentment was to be short-lived, as, late in November, Frank became seriously ill with what was diagnosed as a tumour on the brain. He died on the 4th December, his son Austin's thirteenth birthday.