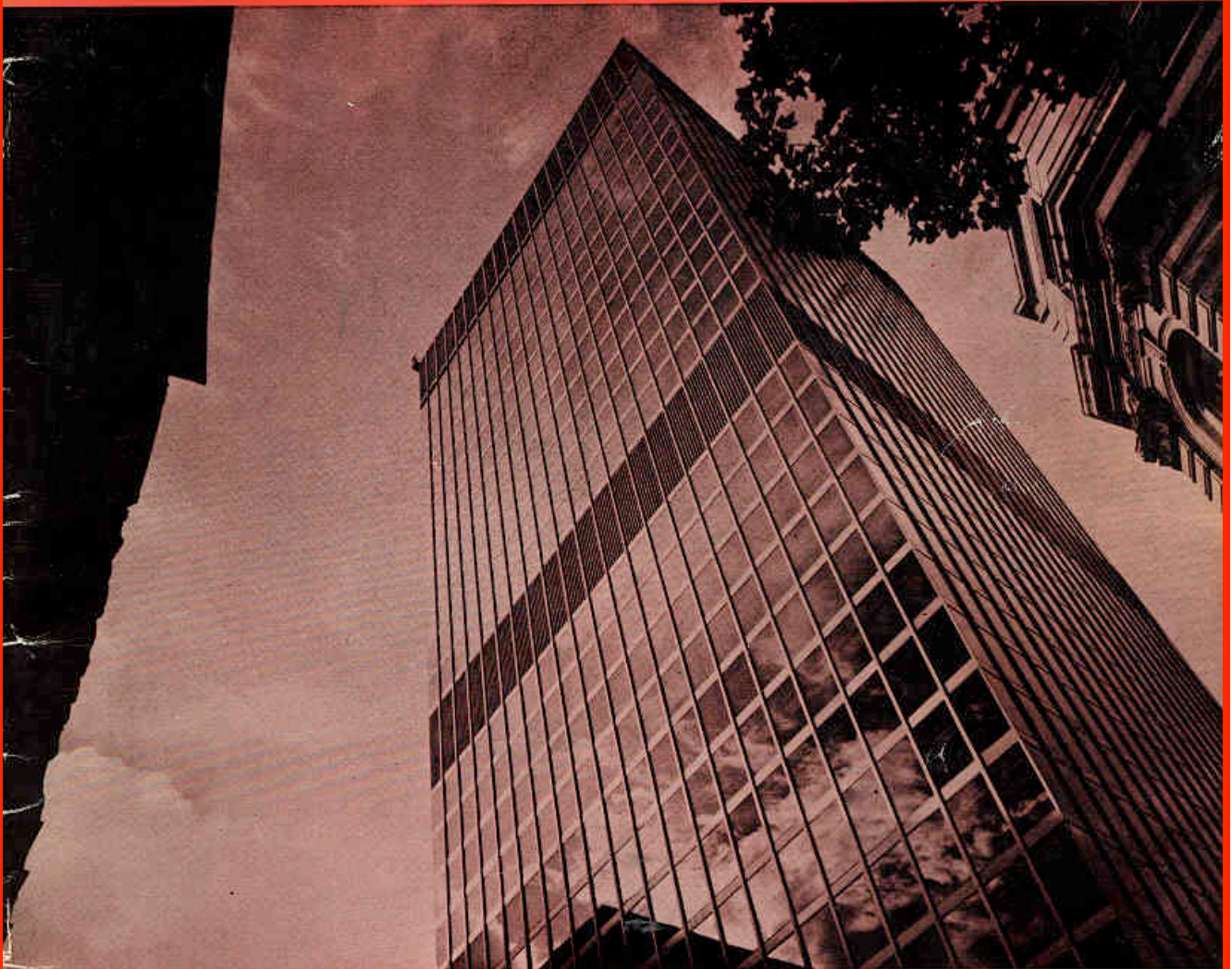


the building services engineer

The Journal of the Chartered Institution of Building Services



special commemorative issue

1897 The Institution of Heating and Ventilating Engineers

1977 The Chartered Institution of Building Services

No.1 Volume 45 April 1977

The 80th Anniversary of CIBSE (then CIBS) and a history of the industry

Looking Back and Looking Forward

This special issue of the BSE is designed to celebrate the establishment of the CIBS and the winding up of the IHVE. It might seem a strange time to celebrate the beginning of a new organisation twelve months after it has formally been set up, and also the demise of another some nine months or so before this actually happens. But the choice of this month is nevertheless appropriate.

When it was officially announced last year that a Royal Charter had been awarded to the Chartered Institution of Building Services, the new organisation in effect consisted of a name on a document, the only members being the Council of the IHVE. Its real beginning may be said to date from this month (April) when the first AGM is being held. This month also marks the end of the IHVE, for although it will formally and legally exist until the end of the year, for all practical purposes it will have no further function to perform after its AGM this month, which will be its last. This month is therefore the most appropriate month to celebrate the birth of the new organisation and the end of the old.

The IHVE has had a life of 80 years, and it would not be right to allow it to come to an end without some fitting tribute in this Journal. The theme of this month is: Looking back and looking forward—back over the 80 years history of the IHVE and looking forward to the future of its successor, the CIBS.

As would be expected from engineering development in general these years have shown remarkable changes, not only in technology but also in the structure of the industry. Both technological and industrial changes are emphasised in the following pages, and the central feature is a review of the activities of the firms which were in existence or about to be established 80 years ago, and which have continued in one way or another throughout this period.

CIBS

THE CHARTERED INSTITUTION
OF
BUILDING SERVICES

TO
Your Most Gracious Majesty
Queen Elizabeth II

The humble, loyal and dutiful Address of the
CHARTERED INSTITUTION OF BUILDING SERVICES

May it please Your Majesty:

WE, the President and Members of the
Chartered Institution of Building Services
desire to express to Your Majesty our most sincere
congratulations on the occasion of the

SILVER JUBILEE
of your Accession to the Throne

It is the heartfelt wish of all members of the Institution that you will continue to reign over a people united in peace and prosperity and we humbly express our loyalty and support in the many and varied duties which you are called upon to perform.


We are pleased to feel that our work is devoted to increasing the health and comfort of Your Majesty's subjects both in this country and overseas and are particularly conscious of the fact that we are also celebrating the first anniversary of Your Majesty's decision to grant to the Institution a Charter of Incorporation. Likewise we are greatly encouraged by the interest which His Royal Highness, The Duke of Edinburgh continues to take in our affairs as an Honorary Fellow of the Institution.

WE PRAY that Your Majesty and Your Majesty's household will be blessed with good health and happiness supported by the knowledge of the loyalty and devotion of your people.

The Common Seal of the Chartered Institution of Building Services was hereto affixed this Seventeenth day of March, 1977.

W. L. L. L. L.
PRESIDENT

W. L. L. L. L.
SECRETARY





A. W. Loten (President) with the two principal guests, J. Bolton (left) and J. Cuckney (right).



E. M. M'Ewen (Pres. IMechE), W. Eastwood (Pres. IStructE), and E. S. Booth (Pres. IEE).



L. Copeland Watts, G. F. Cole (Secretary, IES), A. M. Marsden (Vice President, IES), and P. L. Martin



W. R. Cox, J. C. Knight, and N. S. Billington.

CIBS Annual Dinner

The first Annual Dinner of the Chartered Institution of Building Services was held at Grosvenor House, London, on Wednesday, February 16, 1977. The President, Mr. A. W. Loten, was in the chair, and there were 1108 members and guests present.

The Loyal Toast having been duly honoured, the Toast of the Institution was proposed by Mr. J. G. Cuckney, Chairman, Building Economic Development Committee, and Senior Crown Agent for Overseas Governments and Administrations. The President replied and also proposed the Toast of the Guests. The reply on behalf of the guests was made by Mr. J. Bolton, Chief Engineer, Department of Health and Social Security.

Mr. Cuckney is no stranger to the work of the Institution, having previously been Chief Executive of the Property Services Agency. He began by congratulating the President, Past Presidents of the IHVE, other officers of the Institu-

tion, and all members, who had been involved in the long and arduous process of achieving the present status. Some 25 years had elapsed since the first application had been lodged, and no less than 14 years since the second and ultimately successful application for a Royal Charter.

With regard to the construction industry, Mr. Cuckney raised two specific questions; the first about the current state of building industry demand and secondly the contribution of the CIBS as a newly fledged chartered institution to the problems ahead.

THE DEMAND FOR BUILDING SERVICES

On the level of demand for the industries services, Mr. Cuckney said that because the role which the building services contractor played in the construction process, inevitably came at the end of the process, the design teams did not feel the impact of the decline in

demand as say, the architects. Similarly any recovery in demand was going to take longer to work through the services part of the industry.

Building services went through a major expansion during the halcyon days of the 60's and early 70's. This was not only the result of the general growth in construction demand on all fronts, but also because of the greater emphasis in various building types on controlled environment and high-rise development. The fall in demand for building work had been accentuated for some areas of building services activities by a return to simpler low-rise buildings with natural lighting and ventilation.

The reasons for the change in attitude towards building types were various, ranging from insensitive large scale developments, through the energy price rises in 1973 to more humdrum matters like mechanical failures whether by wear and tear or vandalism.

Looking to the future, the notable

CIBS Annual Dinner



The President with Sir Godfrey Agnew.



C. Benham with J. R. Kell.



P. J. Copeland-Watts with K. W. Dale.



K. R. Brunton (Pres. HEVAC Association) with R. Harrison.



F. A. Pullinger, J. W. L. Beaven, and J. M. Cooling.



W. L. Wilson, Alex Gordon, and I. H. Duff.



W. Harding with B. Hodges (Secretary CIBS).



G. A. Rooley with J. P. Fyfe (Pres. Quantity Surveyors Div. Council).

feature of the EDC's forecasts for 1978 was the expectation that repair and maintenance work would by then account for no less than one-third of the total output of the construction industry. And because this work was so often undertaken by small firms and the amount of money involved for each job was tiny by comparison with the major projects for new work, this aspect of construction had been much neglected. "We have the ironic situation of many thousands of construction workers unemployed, while it is still difficult in many areas to get basic repair work done. Clearly a lot more effort is needed by firms in the building industry to develop a comprehensive repair service to make up for the loss of demand for new work. It is here that the building services team has something to offer the rest of the building industry. Because of the complexity of many of your installations and the problems which result from malfunctioning and failure, you have already developed a maintenance service which covers regu-

lar inspection and a speedy response in cases of emergency. But the lesson which the motor car industry was slow to learn—that profits are made on spares and servicing as well as on the original sale, is one which the building industry at large has also been slow to learn."

Automatic Growth Over

"The days of automatic growth for construction demand, primed by public expenditure are in my opinion over for the foreseeable future. As participants in the construction process, we all have, I believe, to learn a new game. We have to seek out potential demand and put forward ideas to prospective customers ourselves, instead of just waiting for tender documents or design commissions to come through the letter box—a thump on the door-mat which has become an unfamiliar sound. We have also to make sure that yesterday's design and construction disasters are behind us by giving greater attention to the comments of those who buy and use the buildings we put up. This requires a new

consumer orientation as well as technical proficiency in carrying out the plans and requirements of our customers. Reliability, low maintenance costs and steady service have a tremendous part to play in building up customer confidence. It is sadly an indictment of our industry that the mistakes of the immediate past so often lead people to regard the worn-out and in other ways unsuitable buildings of centuries gone by, as more desirable than what the building industry of today can offer. Work to change this image of the industry is already in hand and must be given more impetus by all those who aspire to an attractive and efficient built environment and a healthy and prosperous building industry."

THE FUTURE OF CIBS

On the future of the Institution Mr. Cuckney said that one of the gratifying features of the new Institution was the way in which it brought together consultants, contractors and client representatives in a whole range of service

CIBS Annual Dinner

activities. These covered a not always recognised wide range including heating and ventilating, lifts, travelators, baggage handling provision of all kinds of piped services, and in the near future it would bring in lighting consultants who were members of the Illuminating Engineering Society.

From time to time the various organisations in construction and the trade press found themselves talking about the need for better representation. Ministers and MP's often commented adversely on the babble of discordant voices which they heard when they sought a view on what the construction industries were capable of and what they were aiming to achieve. It might be too much to expect the "single voice" ever to emerge for the construction industries, but the need to achieve a stronger voice in the decisions affecting construction, pointed to making a renewed effort in this direction, to which the establishment of the CIBS as an Institution had contributed. "The success of your Institution in winning Chartered status shows that the inertia of traditional ways can be overcome. As a youthful institution yet backed by the great experience of the Institution of Heating and Ventilating Engineers you have set an excellent example for the much-needed wider alignment of interests."

CHANGED SITUATION

In reply Mr. Loten said that Mr. Cuckney had chosen to talk about the bleak topic of the construction industry and recommend that the present and future situation should be faced realistically, not merely to hope that 1972 and 73 would return because they would not. "We must recognise a changed situation and pick up new threads, create a new image, establish a thriving building industry again."

On the Institution and the Charter Mr. Loten added some more comment.

"We have had the Charter for nearly a year. The assets, premises, staff of IHVE have become those of CIBS. A majority of members have transferred. CIBS is now firmly established. We are now in the process of amalgamation with the Illuminating Engineering Society whose members accepted by an overwhelming majority to join us, and we hope that by the end of this year, the amalgamation will be an accomplished fact."

What of the future?—Mr. Loten quoted briefly from the Charter—"an object of

the Institution shall be the promotion for the benefit of the public in general of the art, science and practice of building services engineering".

The amalgamation, he said was one large step in changing the Institution from one concerned with heating, ventilating and air conditioning to one concerned with the whole range of building services with two main wings one thermal/mechanical and one lighting/electrical.

The IHVE had for many years been moving in this direction, by widening its scope. The aim, which would not be easy to achieve was to create the professional building services engineer, who was competent to take his part with his professional colleagues, the Architect, Structural Engineer, and Quantity Surveyor, in the Construction Industry team and who could answer for the whole range of services.

STATUS

The second point concerned the status and authority of the member and the Institution. The granting of a Royal Charter gave a tremendous boost to the status of the Institution. "But that status has to be earned if it is to come to reality".

"The expertise of the members has to be accepted, a professional integrity has to be seen, and responsibilities to clients, to our fellow professionals, and to the public at large have to be undertaken."

"After the Charter was granted the Institution deliberately took a low profile and set about its main task of establishing itself in its new guise. I would hope that by the end of this year we are firmly established as an Institution of Building Services, that we have won acceptance of our new status and can begin both as a professional body and through individual members to speak as the authority in our field."

In welcoming the guests Mr. Loten mentioned two names in particular. Firstly Dr. Marsden, of the Illuminating Engineering Society, who was present as a colleague, a member of CIBS and a symbol of the new merging of interests which would ensure the future success of the Institution. Secondly Mr. Loten was delighted to welcome Herr Meyer, Honorary Fellow, and first Chairman, and to a great extent the founding spirit of REHVA, the European alliance of Research authorities in the services field. He had come specially from Holland to be at the Charter Dinner.

Mr. Loten also singled out for mention Mr. Walter Harding, Past President, who had come from Canada specially to be present.

Mr. Loten welcomed his old friend and colleague, John Bolton, who in his reply on behalf of the guests entertained the company by his mixture of wit and mimicry.

OBITUARY

J. Clifford Byles

An appreciation by
the CIBS Secretary

It is with great sorrow that the Council records the death on 5 February of Past President J. Clifford Byles.

Of the many Presidents that I have had the honour to serve Clifford Byles held a special place as the first President who looked after me in my first year as Secretary of the Institution.

Clifford Byles entered the industry as an apprentice with Messrs. Richard Crittall & Co, Ltd, in London. As part of that apprenticeship he attended the Borough Polytechnic and was awarded the Silver Medal of the City and Guilds of London Institute. He also received the Institution's award as the outstanding student of the year.

In 1937 he joined Mr. R. W. Cairns to form the Partnership of Cairns and Byles, a practice which is held in high regard today throughout the country. He was first elected to Council in 1949 and in 1950 was elected Chairman of the North East Coast Branch. He gave extensive service to many committees of the Institution and of special mention was his chairmanship of the Charter Committee set up in 1957 which instigated the second application for the grant of a Royal Charter, which finally came to fruition last year.

Mr. Byles was a man of small stature and great presence. He was a first class orator and never avoided a debate. He had a special expertise at putting people at their ease on even the most formal occasions. He won the acclaim of the London Branch when attending that branch's Dinner within a week of his inauguration as President by exchanging his Presidential Badge for learner plates when standing to reply to the toast of the Institution.

He won acclaim of all delegates at a summer conference when he accepted a challenge from the Mayor of Torquay to a swimming race and upheld the prestige of the Institution by winning by more than half a length of the pool. Although he had been very unwell for the last year he nevertheless kept in constant touch with the Institution and expressed disappointment at being unable to attend the Past President's Dinner towards the end of last year. He will be greatly missed by both his branch, of which he was a staunch supporter, and his many colleagues and friends throughout the Institution.

Then & Now

Eighty years of Building Services

In the eighty years history of the Institution of Heating and Ventilating Engineers there have been enormous changes in the technology of the subject, in the design and installation of systems, and the increase in size and variety of manufactured products.

Eighty years ago when the Institution was founded a number of well known present-day firms—contractors and manufacturers—were in their infancy; others had been established for years. While the great majority of the firms we know today (especially air conditioning firms) had yet to be established, it is these older firms that have been in existence during most of the life of the Institution, that can be called the backbone of the industry. Some of these firms (a very few nowadays) have continued under the same name and same family proprietorship. Others have retained the original name but have lost all family connections with the founders, and there are still others that have lost name and family origin but yet retain a continuity which is still noticeable today.

It is a selection of these firms that we are featuring in the following pages as a record of the development of the industry from heating and ventilating to building services—from IHVE to CIBS.

Acknowledgement

We express gratitude to all the firms who have generously provided information, documents and especially old photographs from their company records. We are also grateful to many individual members of the Institution who have given us personal assistance with this feature. Some of these personal contributions will be published later.

EARLY IHVE ASSOCIATIONS

It was in 1836 that John Jones set up a foundry in Enville Street, Stourbridge, and penny-farthing bicycles are known to have been one of his original products. Walter Jones joined his father in 1862 and his inventive brain was soon at work in the area of hot waterheating. The 'Jones Improved Expansion Joint' and his 'Patent Pipe Cutter' were two early products that established the company. In 1896 Jabcz Attwood joined Walter Jones to form the new company Jones and Attwood Ltd. This partnership was to last only ten years, after which Jones continued on his own, although the name remains to this day. The early catalogues produced by the company offered for sale a complete range of heating equipment from the

pipe work through to the boilers, all designed and developed by Walter Jones.

In 1890 Jones issued his *Heating by Hot Water*, a most advanced and respected text book on hot water systems. This book was to become a standard reference book for many years.

The company expanded rapidly and it became clear that a larger area was necessary. The company moved to its present location in Old Wharf Road in 1894. This was an ideal site, for the canal next to it was in full use and the now vanished Stourbridge Railway Goods Station was fully operational.

Recognition of Walter Jones' ability in the heating and ventilating industry was confirmed when he was appointed the second President of the IHVE in 1899. His son E. Reginald Jones was President in 1930.

Limited liability was granted in 1910 and the company has remained a private company. Sales were mainly to the trade through the catalogue and by reputation. The design and installation of heating systems in large public and private buildings throughout the area was undertaken, a division of the company which has been expanding ever since.

J. S. Wright and Co Ltd. commenced trading in 1890 in Moor Street Birmingham now part of the new Queensway Ring Road, and then moved to Dale End, Birmingham, and 16 years ago they built a new office block and moved to a new address in Bartholomew Row, Birmingham. In 1890 the bulk of the heating requirements were 4 in. cast iron pipes and in Perkins high pressure systems mainly installed in public houses and churches etc. They have had two well known Managing Directors, the first being Mr. R. E. Otter who now lives in Australia and Mr. F. R. Colton, both of whom became Presidents of HVCA. In the 1930's the examinations for entrance to the IHVE were held in J. S. Wright's offices in Dale End under the scrutiny of Mr. Otter. It is interesting to note that two present Directors hold the Five Counties award gained in consecutive years, 1961 and 1962.

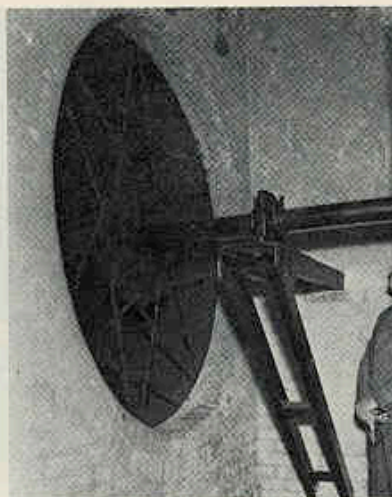
From small beginnings, the company has progressed to executing major building services in places like Buckingham Palace and Houses of Parliament, Bagdad Military Hospital Benghazi major factory and offices complex including air conditioning and sprinkler installations etc.

THE HEART OF A HEATING SYSTEM

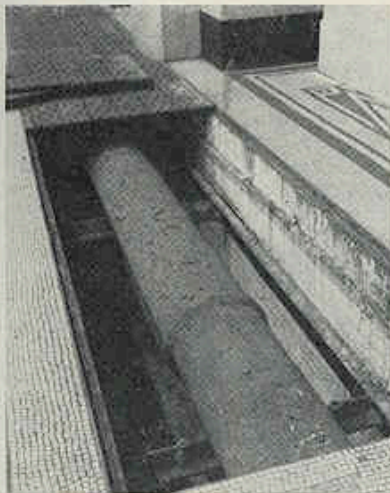
One of the most essential activities undertaken by the modern day building services engineer relates to environmental heating and steam services, and



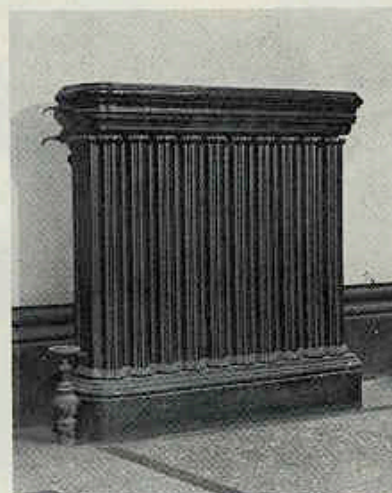
Purpose made "column" radiator at the V & A Museum (c. 1900)



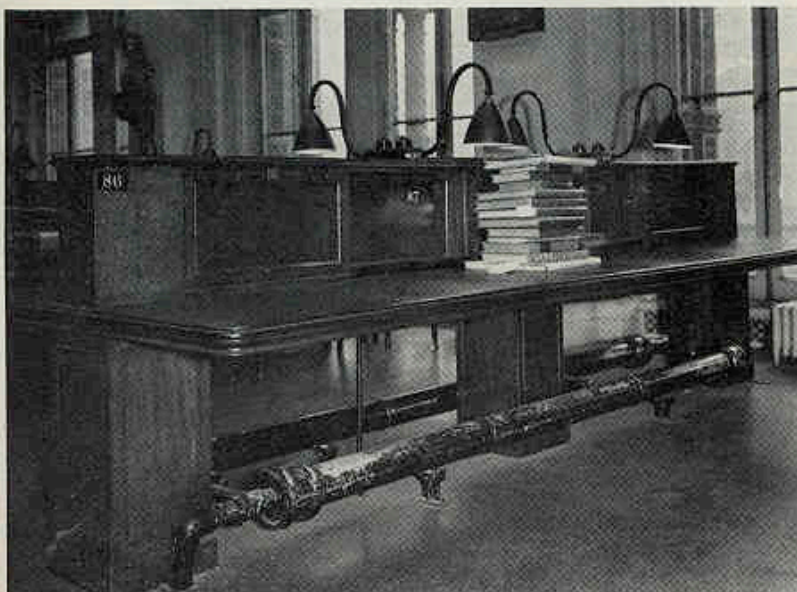
One of two 14ft paddle blade fans originally used to ventilate the V & A Museum



Underfloor heating at V & A Museum



Cast iron column radiator as originally installed in the V & A Museum



it is interesting to note the developments which have taken place in this industry over the past 150 years. The obvious pre-requisite of any plant heating or steam process system requires a heating source, which invariably means a boiler. The development of company and products associated with the 'boiler-business' over the years makes quite interesting reading. Take for example **Thompson Cochran Boilers** in Glasgow: it is necessary to go back to 1825 to discover the embryo idea which has resulted in the modern day European specialist in packaged fire-tube boilers. 1825 saw the setting up of business by William Wilson in Glasgow for the purpose of manufacturing low-pressure egg ended and haystack boilers. Business moved successfully and rapidly, forcing expansion, and by 1875 the Company had double its size.

The growth continued and by the early 1900's it became necessary to find a larger site and erect a new factory in the East end of Glasgow. This move was completed in 1905.

In 1923 the Company changed its name to Wilson Boilermakers Ltd and in 1934 was taken over by the John Thompson Group of companies, who at that time operated one of the largest shell boiler factories in the United Kingdom, in Wolverhampton. From then until 1958 both companies operated separately, manufacturing Lancashire and Economic type boilers. During this period the Glasgow based company again changed its name to John Thompson (Wilson Boilers) Ltd.

During 1958 John Thompson (Wilson Boilers) Ltd., introduced the first all British 'packaged' shell type boiler giving it the brand name 'Multipac'. Within three years business had more than quadrupled, to the detriment of the conventional shell boiler, and the Company's main boiler interest was centralised in Glasgow.

In February 1969 John Thompson took over **Cochrans of Annan** and the boiler division of **Ruston and Hornsby**, Lincoln, to become the largest shell boiler-maker in Europe.

A selection of photographs taken in the thirties before modernisation, showing heating and ventilating equipment going back nearly a hundred years.

Original MoW prints supplied by courtesy of PSA. (Crown Copyright Photographs.)

Left. Original heating pipes in main reading room at the British Museum

Then & Now

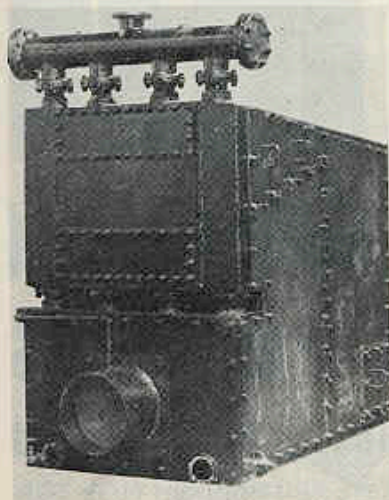
The amalgamation of **Clarke Chapman** and **John Thompson** in 1970 caused a restructure of the new company, which in turn affected trading references. Thus the **Thompson Cochran Division** of **Clarke Chapman Ltd** was formed.

Since 1971 the **Thompson Cochran's** marketing policy has forced further expansion; this being manifest by the move to a much larger 16 acre factory complex during 1976 and the establishment of marketing companies in France and Germany.

From the low-pressure externally fired egg-ended and haystack boilers to the modern fully automatic package boilers is a great step forward, this has been possible only by the installation of up-to-date plant and machinery also the utilisation of the latest construction techniques. The success of this combination has enabled **Thompson Cochran** to continue its successful production of shell boilers.

White Horse

In 1867, Colonel John Edward Hartley



The Hartley & Sugden Metropolitan boiler, late 1920's

and **Mr Zacheus Sugden**, took over a Halifax business which was to become one of Britain's leading manufacturers of commercial and small industrial boilers. A strange combination, the Colonel was a colourful local figure who rode to the office on a white horse, while **Sugden** was a lesser known character of humbler origin.

The original boilers were made of wrought iron plate fabricated by a process known as fire-welding. It was hard and unhealthy work and the life expectancy of boilermen was poor, but soon after Messrs **Hartley** and **Sugden** took over, cast iron boilers were added to the company's products and a foundry was opened in **Albert Road**. Castings were delivered by horse and cart to the **Atlas** and **Premier** works three quarters of a mile away. As the business grew the company expanded, taking over a **Primitive Methodist Chapel** and part of the Halifax cattle market and fairground which is the site of the present foundry.

Hartley and Sugden have had three changes of ownership since then. In 1959 they were taken over by the **Francis Industries Group**. In 1973 **Midland Aluminium** acquired them in order to complement their domestic boiler company, **Glow-worm**. Finally in 1975 **Midland Aluminium** joined **T. I. Domestic Appliances Ltd**.

Major changes in the 1960's meant that the boilermakers now did everything except install the boiler. New designs in both cast iron and steel boilers were introduced and **Hartley** and **Sugden** developed their best selling boiler the **SCP** fired by oil or gas. This simple design soon changed the emphasis from hand-made boilers to batch production. The present company, led by a Managing Director who started as an office boy in 1936, now produce boilers fired by gas, oil and steam. They are still expanding into other areas—atmospheric boilers; closer links with foreign manufacturers; and the possibility of extending their operation idea to include installation.

Hartley and **Sugden** have provided two IHVE Presidents: **Mr J. E. Hartley** (son of the founder), in 1913, and **Mr Sam Fox** in 1931.

Binns and Speight

Another name, again almost contemporaneous with the Institution is **Binns & Speight Ltd.**, which was founded in 1898 to operate as boiler makers, coppersmiths and ironfounders. Wrought iron and steel boilers were produced along with copper boilers and cylinders with small cast iron boilers and rainwater goods in the foundry. This continued with quite advanced techniques in the welding of boilers, firstly by welding on open fires where the seams were hammered and fused

together, and later by oxy acetylene and as early as 1916 by electric arc.

During the World War I some boiler production continued, and equipment for Field Hospitals and kitchens was a big part, the main however was the making of shell bases and towards the end of the period anti-aircraft shells. In 1922 the first welded steel sectional boilers were produced and copper lined domestic boilers were widely used and produced before the advent of the indirect cylinder or calorifier.

There was then the slump period, and general strike, which lasted until the early 1930's and in 1933 the production of underfeed automatic coal stokers was started, which was very successful. This continued up to 1940 when, apart from work on boilers for RAF Stations and again steam jacketed pans etc., for kitchens and steam boilers for emergency hospitals, the main output was the production of 4000 lb. welded steel blast bombs and this continued until the end of the Japanese War.



The Binns & Speight Coronation boiler

They reverted to their normal trade and now make steel sectional boilers and calorifiers and supply cast-iron sectional boilers, the copper and iron foundry being discontinued. The business is in charge of the third generation of the **Binns** family.

Beeston

Another well known name in boilers is **Beeston**. The **Beeston Boiler Co. (Successors) Ltd.**, has its origins in a firm of horticultural builders in **Beeston, Nottingham**. This firm began to produce the heating equipment for its greenhouses and conservatories in the second half of the 19th century. In 1895 a separate company, **The Beeston Foundry Company**, was formed and a new foundry opened specifically to manufacture cast iron heating equipment. Starting with one-piece boilers and hot water heating pipes, the company quickly expanded to include

Then & Now

sectional boilers and radiators in its range of products. In 1923, the name was changed to The Beeston Boiler Company, by which time the range of heating products was appreciable, including sectional boilers.

Development and expansion continued, interrupted only by World War II. In 1946, the first of the mechanised foundry units was installed, followed in 1952 by a specialised radiator production unit. During the two decades up to 1970, the product range was radically altered by the introduction of new designs, and by the development of existing ones, so that a more economical boiler could be produced. To match this product development, a new automatic moulding plant was installed for the production of large cast iron boiler sections. In January 1977, the company was acquired by Ley's Foun-

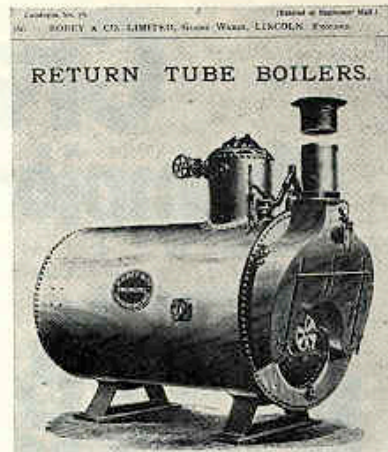
dries & Engineering Ltd., and assumed its present title of The Beeston Boiler Company (Successors) Ltd. The new company will continue to manufacture the range of boilers which are the result of 75 years of continuous development in the cast iron boiler field.

Sir Louis F. Pearson of Beestons was IHVE President in 1903.

Robey of Lincoln

More than 120 years of experience lie behind the current success of the Robey Lincoln and Lintherm boilers. In 1854 Robey produced their first steam engines and as steam raising requires boilers, so Robey started to develop their own technology. So successful were they, in fact, that they added boilers to their product range. Their early products were modelled on the Lancashire and Cornish boiler design, but they introduced a two pass return tube Economic boiler as early as 1890 and gradually concentrated their production on these models after World War I. Ironically, it was due to the multiplicity of work they had to undertake for the war effort in World War II that led them to gradually phase out their boiler manufacture so as to be able to concentrate on heavy engineering and use the machine tools purchased for the war effort.

About five years ago, however, Thompson-Cochran closed their old Ruston boiler works in Lincoln and an enthusiastic team from Ruston's suggested re-starting the production of boilers at their Canwick Road works. The directors agreed and the success story



that followed is a matter of record. The company now produce the Lincoln and Lintherm range of three-pass wet-back packaged boilers. Sixty five per cent of the total factory output is now in the production of these packaged units, which have been installed in companies that are household names. The export market has not been neglected and the Robey reputation for reliability has been winning friends for the UK industry in dozens of different countries from Australia to Zaire.

Cradley

The Cradley Boiler Company have been making boilers since 1875. In the early years they were the main manufacturers of the renowned vertical cross-tube boiler which supplied steam the world over. Cradley still manufacture a range of vertical multi-cross-tube boilers and vertical multitubular boilers. These can be supplied packaged, or dismantled for installation on site.

Their principal product is now the "Steampacket" automatic oil and gas fired packaged boiler—one of the first all-British designed package boilers which entered the market in 1954. The packaged unit is complete; it only remains for the purchaser to supply and erect a suitable chimney, connect the steam main and usual services before setting to work.

W. G. Allen

The Allen Ygnis Boiler Company provides yet another example of a modern firm which has a very long history. It is part of the W. G. Allen Group, the origins of which go back to 1850 when William George Allen, who was a working blacksmith, set up business in the outhouse of a pub, the *Rising Sun* in Tipton, Staffs. Allen himself gave up his employment and became a self-employed manufacturer, his wife and children] taking it in turn to work the bellows. The product surprisingly, was buckets for wells. As time went on other products were introduced and soon the Allen family made their first

"BEESTON" VENTILATING RADIATOR,
FOR HOT WATER OR STEAM.

DOUBLE RADIATOR, WITH MARBLE TOP.


Large Heating Surface

Ornamental Radiator
No Coil Case Required

MADE IN OVER 200 DIFFERENT SIZES.

FOR FURTHER PARTICULARS AND INFORMATION SEE SEPARATE LISTS.

*From an early
Beeston catalogue*



Then & Now

contact with the mining industry which was to play a large part in the eventual building up of Allens.

W. G. Allen & Sons (Tipton) Ltd became a public company in 1939. Today the Group has two factories in the Midlands and three in Sussex and in addition has interest overseas, products include oil and gas-fired boilers, domestic boilers, heat transfer equipment, free standing heaters, radiant panels, etc. In 1959 it entered into a licensing agreement with Ygnis A. G., a European boiler manufacturer with headquarters in Switzerland. This was the origin of the Allen Ygnis side of the Group which has expanded steadily and is now one of the leading shell boiler manufacturers in the UK.

Another of the important member firms of the Allen Group is the Package Heater Co., Ltd., formed 21 years ago it was one of the pioneers in the development of oil-fired air heaters for the industry with its Pak-a-Way range of heaters. It is now fully established in the field.

Boilers and Engines

An entirely different approach is provided by firms that coupled boiler making with engines—steam and later diesel. One hundred and thirty seven years ago George Clark opened an engineering works in Sunderland on the River Wear. Twenty five years later the North Eastern Marine Engineering Co. Ltd., began building marine engines and boilers in their Sunderland Works. The two companies continued to grow side by side until, in 1938, they, together with the Hartlepool based Richardsons, Westgarth & Co. Ltd., combined to form the **Richardsons, Westgarth** Group manufacturing steam and diesel engines, boilers, steam and gas turbines, alternators, etc.

In 1964 the activities of the two original companies were combined under the title of George Clark & N. E. M. Ltd., and concentrated on the production of marine diesel engines, heavy steel fabrications and the widely known "Maxecon" and "Westgarth" boilers.

The boilers are in service in many countries, supplying steam or hot water for brewing, papermaking, chemical, textile and rubber industries to name but a few of the hundreds of users.

In recent years the company has carried out some very heavy fabrication work for the offshore oil industry.

HADEN CARRIER

One close-linked association between a £15 million sports complex in the Arab Emirates, the most sophisticated of ocean liners, a massive Russian lorry factory, and a famous (or infamous) opera house in the Antipodes is **Haden Carrier**.

Haden Carrier, an international group with a 10,000 strong work force, constantly supplies a variety of services to projects as widely diverse as the Zayed Sports City at Abu Dhabi, the QE2, the Kam-Az lorry factory complex in the Urals, and Sydney Opera House. So much for the present. What of the past? The origins of the parent company go back to 1816 when two brothers, George and James Haden, provided West Country mills with motive power. This, in turn, led to them extending heating principles; and business accelerated from the moment George IV ordered a warm system for Windsor Castle. By the turn of the century stately homes, institutions and schools, followed by literally hundreds of church congregations, had been quick to appreciate the benefits of Haden heating. In the 1920's Haden expanded overseas and soon gained a reputation for the design and installation of heating, ventilation, fire protection and air conditioning plant within every type of building.

In 1969 G. N. Haden & Sons amalgamated with electrical contractors Troughton & Young to form Haden Young and the following year were joined by Carrier Engineering to establish the Haden Carrier group of companies.

Carrier Engineering brought a great deal of expertise to the 'family' concern, particularly air conditioning skills, plus considerable metal finishing acumen acquired within the motor car industry. In fact, as early as 1921 the first of many Carrier Engineering air conditioning installations at Vauxhall cut paint finishing from 36 hours to eight. Other Carrier technological achievements have included Rotodip, a 400-ft machine in which car bodies are rotated through seven successive dip and spray applications, and its successor, Hydro-spin. With the inclusion of AID (Air Industrial Developments) Limited a complete range of industrial finishing equipment is available, from individual spray guns to highly sophisticated spray booths.

In 1974 Haden Carrier set up the UK Building Engineering Services Division, consisting of Haden Young and Carrier Air Conditioning. Other divisions in the group include Carrier Drysys, principally concerned with overseas metal finishing contracting; Carrier Engineering, who tackle numerous UK paint finishing applications and electrical installations; Carrier Ross Engineering, specialists in paper process work; and Drysys King Conveyors, unit handling systems.

For their part Haden International undertake a variety of projects on a world-wide basis, particularly in the Middle East, and, last but not least, product companies, Frenger, Armeal, etc, supply, different types of heated and cooled ceilings, louvres and lighting fittings, and air conditioning/refrigeration plant in the UK. (See cover picture). Haden have provided six IHVE Presidents: **W. Nelson Haden** (1906-7), **C. Ingham Haden** (1910), **G. Nelson Haden** (1938), **H. C. Jamieson** (1959), **W. B. R. Cross** (1964-5), and **F. A. Pullinger** (1972).

The Audacious Innovators

With the founding of Carrier Engineering Company came the introduction of scientific air conditioning to Europe in 1921. The name itself came from one of the four original directors, Dr. Willis Haviland Carrier, the American engineer acknowledged all over the world as "the father of air conditioning". The founder was Stanley Lawrence Groom whose first experience of the heating and ventilating business was gained with the Sturtevant Company, Queen Victoria Street. In 1913 at 26 he left with a colleague named Sanderson to set up a subsidiary of Buffalo Forge in London, established to carry on hot-blast heating, ventilation and drying plant. In that same year through Buffalo, Groom had met Carrier and made what was to be a life long friendship. Moreover he returned full of enthusiasm for Willis Carrier's work as he saw the potential of the new area of air conditioning in Britain. World War I delayed the formation of the London Company so that it was not until 17 March 1921 that the first Board Meeting took place, the four directors were Dr. Carrier, J. Irvine Lyle (Carrier's friend and partner in Carrier Engineering Corporation of USA), Stanley L. Groom as Managing Director and Arthur William Sanderson as Secretary.

With the benefit of Carrier patents and apparatus the Company was able to concentrate on humidity control problems. The earliest installations were simple air washers such as the plant in the Newington Sessions House completed in 1921 and these when