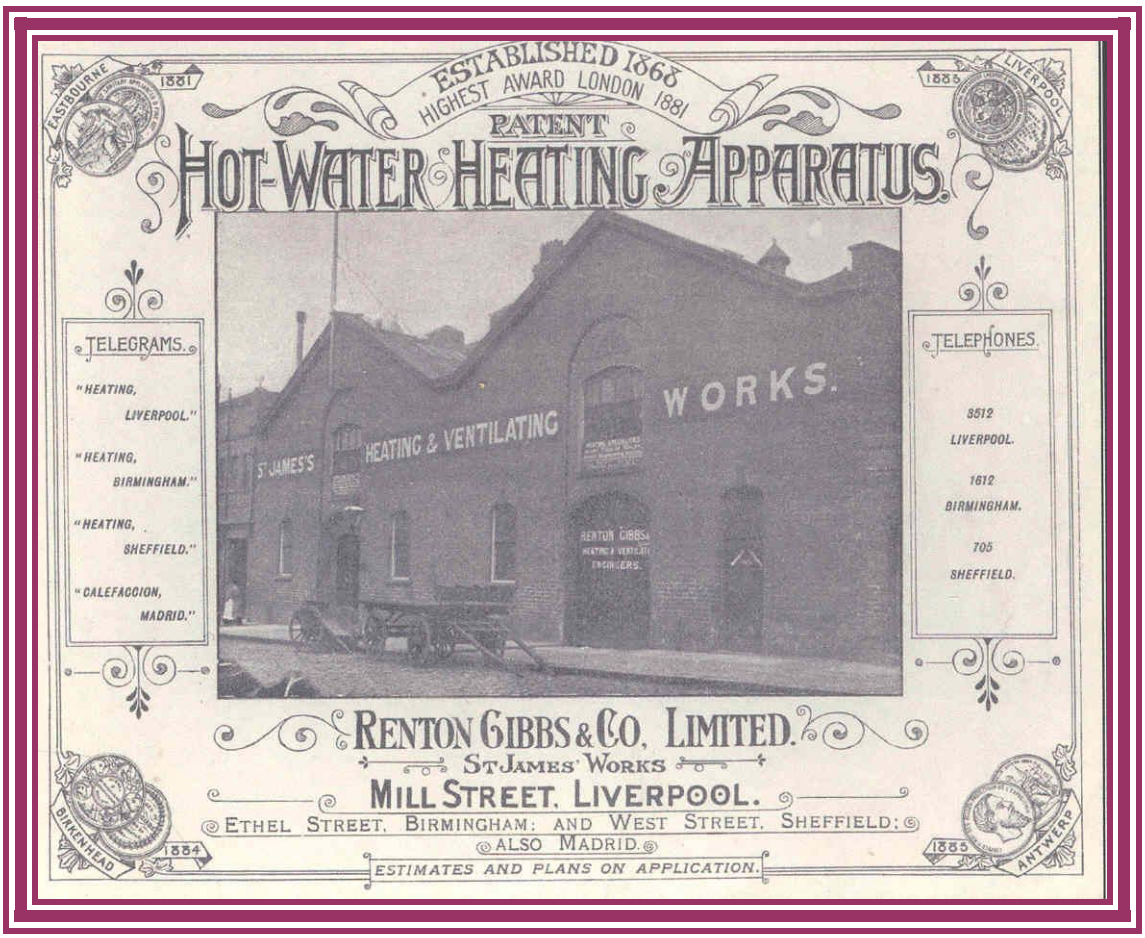
The WARMING & VENTILATING of VICTORIAN & EDWARDIAN CHURCHES

Section-3: Part-1

MANUFACTURERS & INSTALLERS



Renton Gibbs & Co Limited, St James Works, Mill Street, Liverpool, prob.1890s
[Paul Yunnie Collection]

MANUFACTURERS & INSTALLERS

Records of church heating are sketchy. An advertisement from around 1890 by **J L Bacon & Co** of London illustrates a church interior, where heating pipe coils and coil cases can be seen, the firm describing itself as "Manufacturers of Hot Water Apparatus for Warming...Churches, Chapels.." Their methods of working are also explained: "Estimates will be given, free of charge, for warming any building, the plans of which are sent to the office"; alternatively, "A competent Person will be sent to Inspect any Building where no Plans exist, and make an Estimate; his Travelling Expenses only being charged."

However, in 1897 (the year of the founding of the Institution of Heating and Ventilating Engineers) many heating apparatus manufacturers and installers referred in their advertisements to their involvement in this particular sector of the market. **A M Perkins & Son Ltd** of London the pioneer of high pressure hot water heating systems, refers to being "established over 60 years" with "many thousand apparatuses erected," and lists some religious buildings heated by their "patent small-bore system."

J Wonter-Smith Gray & Co of London manufacturers of the Finsbury radiator, put churches first on the list of building types where their "high and low pressure hot water apparatus for warming" should be considered. **T C Williams** of Reading announced they provide "estimates and plans for warming" churches. Similarly, **Messenger & Company** of Loughborough, Leicestershire state "plans and estimates prepared for heating" of churches.

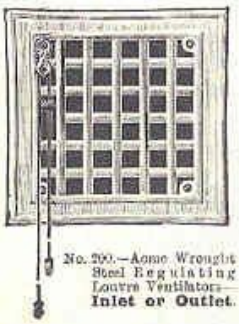
The name **John Grundy** of London features frequently in connection with church heating, and he claims his warming and ventilating stoves provide "Pure Warm Air ...to upwards of three thousand Places of Worship." Another famous heating firm was **The London Heating and Ventilating Company Ltd** "Proprietors of Gurney Stoves for Warming Churches, &c., as specified by leading Architects, and as used in St Paul's, Salisbury, Exeter, Gloucester, Lincoln, Llandaff Cathedrals, York Minister, St George's Chapel, Windsor, &c. Twenty-two Cathedrals, and over 10,000 Churches, Schools, Government and other public and private buildings successfully warmed by our system."

The Bristol firm of **Vincent Skinner**, later **Skinner & Board**, provided heating in many West Country churches around the latter part of the Victorian era.

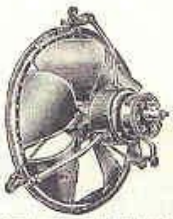
In a turn-of-the-century catalogue, the little known firm of **John Metcalf**, Heating Engineer of Preston (established 1873), lists over 100 religious buildings heated by them, and illustrates their system of "Duplex Pipes fixed on a level with the floor in Churches, &c., with solid grating top."

ACME VENTILATING & HEATING Co

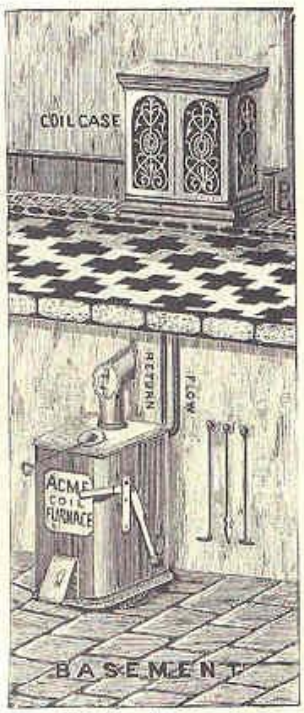
Acme & Spherical Ventilators, Smoke Cures, and High Pressure Heating.



No. 200.—Acme Wrought Steel Regulating Louvre Ventilators—**Inlet or Outlet.**



No. 28 E.—Electric and other Fans for every purpose.



Acme Warming Apparatus, showing Furnace in Basement with coil of piping and ornamented case in entrance hall, etc. Neatest and most efficient high pressure system.

Spherical Ventilators.

Wave Proof. Snow Proof.

Fig. B.9.—Made of 14 G.V.M. Zinc, Copper or Steel, Galvanised after manufacture, and enamel painted. May be fixed vertically or horizontally.

No. 77.—This design is double the prices given for Nos. 75 and 76.

Fig. 4.—Acme Louvres in Frame, without flange, for Dormers, Walls, &c.

Section of Acme Patent Curved Exhaust Louvres. The arrows show the action of the wind and exhaust.

No. 21.—Venetian Outside Wall Inlet. 9 in. by 3½ in., 9d. 12 in. by 3 in., 1/3. 9 in. by 6½ in., 1/6. 12 in. by 6½ in., 2/-. 9 in. by 9 in., 2/-. 12 in. by 12 in., 4/6. Admits three times more air than ordinary perforated air-bricks. Walls kept perfectly dry. Superior make. Largely used in Smoke Stacks.

No. 3a.—Acme Terra Cotta (red) Chimney Cowl with suspended cone, 35/-; and other smoke cures.

30 Years' Experience.

Acme Ventilating & Heating Co.,

LIVERPOOL.

Apply for fuller particulars.

Telegrams—"Keyworth." *Telephone 1877.*
A.B.C. Code, 4th Edition.

(xxi.)

From Jones 1904 [Note HPHW heating furnace, upper right]

AMERICAN RADIATOR COMPANY

CATALOGUE AND PRICE LIST

OF

AMERICAN RADIATORS

FOR

WARMING ALL CLASSES OF BUILDINGS BY WARM WATER,
OR BY LOW PRESSURE STEAM.

MANUFACTURED BY

AMERICAN RADIATOR COMPANY

EUROPEAN BRANCH:
143 QUEEN VICTORIA STREET,
LONDON, E. C.

Catalogue 1897 [Heritage Group Collection]

NEIL ARNOTT

ON

WARMING AND VENTILATING;

WITH

DIRECTIONS FOR MAKING AND USING

THE

THERMOMETER-STOVE,

OR

SELF-REGULATING FIRE,

AND

OTHER NEW APPARATUS.

By NEIL ARNOTT, M.D., F.R.S., &c.

PHYSICIAN EXTRAORDINARY TO THE QUEEN,

Author of the "Elements of Physics," &c.

LONDON:

LONGMAN, ORME, BROWN, GREEN, AND LONGMANS,

PATERNOSTER ROW.

1838.

Textbook 1838 [Heritage Group Collection]

NEIL ARNOTT

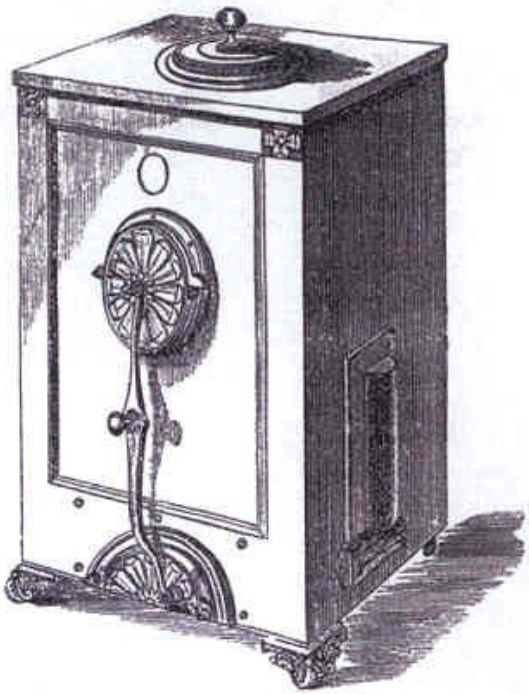
COMYN CHING & CO., CASTLE STREET, LONDON, W.C.

DR. ARNOTT'S

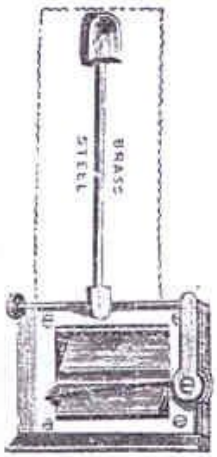
ORIGINAL SLOW COMBUSTION FUEL STOVES

WITH

Cook's Patent Regulator or Compound Bars.



Cook's Patent Regulator.



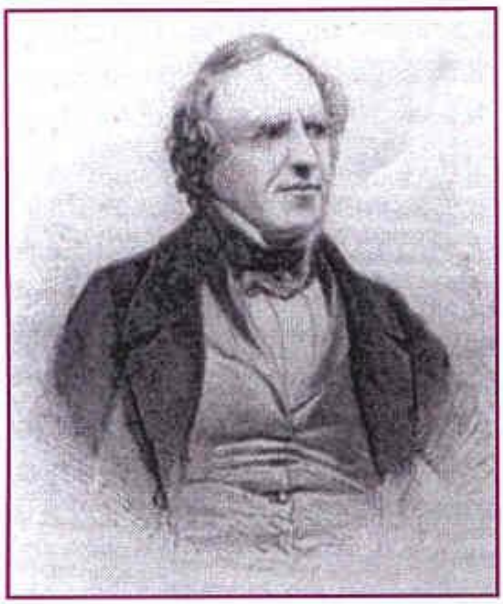
Many years since, this principle was perfected at our Works under the direct superintendence of Dr. ARNOTT, and though many new plans for economically and effectually heating apartments, churches, &c., have since been introduced, the continued and steady sale of these, prove, that they still compete successfully, with the many newer methods.

With these Stoves you reduce the supply of air to the smallest that can be, to support combustion; thus reducing to the minimum the amount of heat lost to use by escaping through the flue.

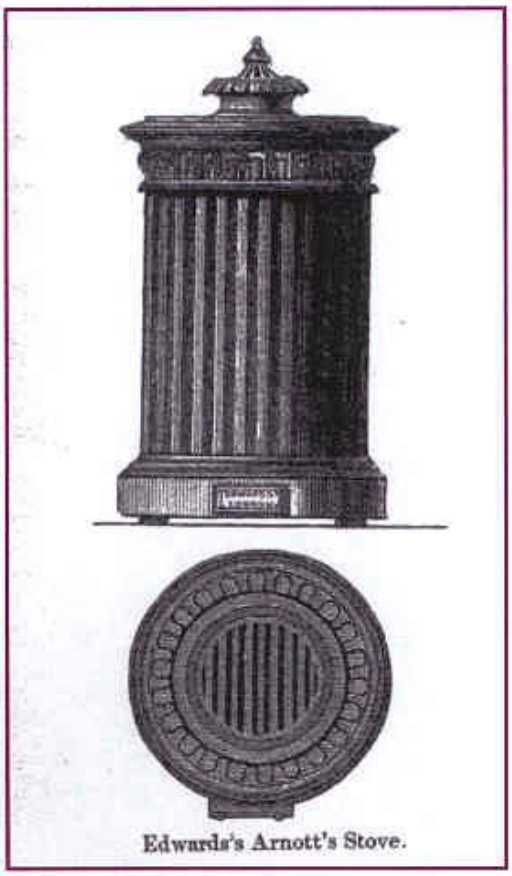
By Cook's Patent Compound Bar, you actually make your fire regulate itself, for as it begins to burn too fiercely, the Compound Bar becoming heated curves gradually and thus shuts off the supply of air.

An advertisement by Comyn Ching for an Arnott stove

NEIL ARNOTT



Neil Arnott, 1788-1874



An Arnott stove

J ATTWOOD

ADVERTISEMENTS. 7

MEDAL AWARDED 1865 and 1881.

HEATING APPARATUS.

ATTWOOD'S IMPROVED EXPANSION JOINT

DURABLE
CHEAP
LATEST

HUNDREDS OF THOUSANDS SOLD.

OTHER HOT WATER SPECIALITIES.

INVENTOR,
PATENTEE,
MANUFACTURER.

PIONEER OF THE
EXPANSION JOINT
HOT-WATER TRADE.

BEWARE OF IMITATIONS.

J. ATTWOOD.

Engineer, &c.,
FOSTER STREET,
STOURBRIDGE.

HEATING APPARATUS.

TO
MERCHANTS,
IRONFOUNDERS,
IRONMONGERS,
HOT-WATER ENGINEERS,
HORTICULTURAL BUILDERS:
USE MY SPECIALITIES.

NOT CONNECTED WITH ANY OTHER FIRM TRADING EITHER IN MY NAME OR IN ARTICLES OF MY INVENTION.

PIPES & CONNECTIONS | ATTWOOD'S IMPROVED EXPANSION JOINT | VALVES & INDEPENDANT BOILERS

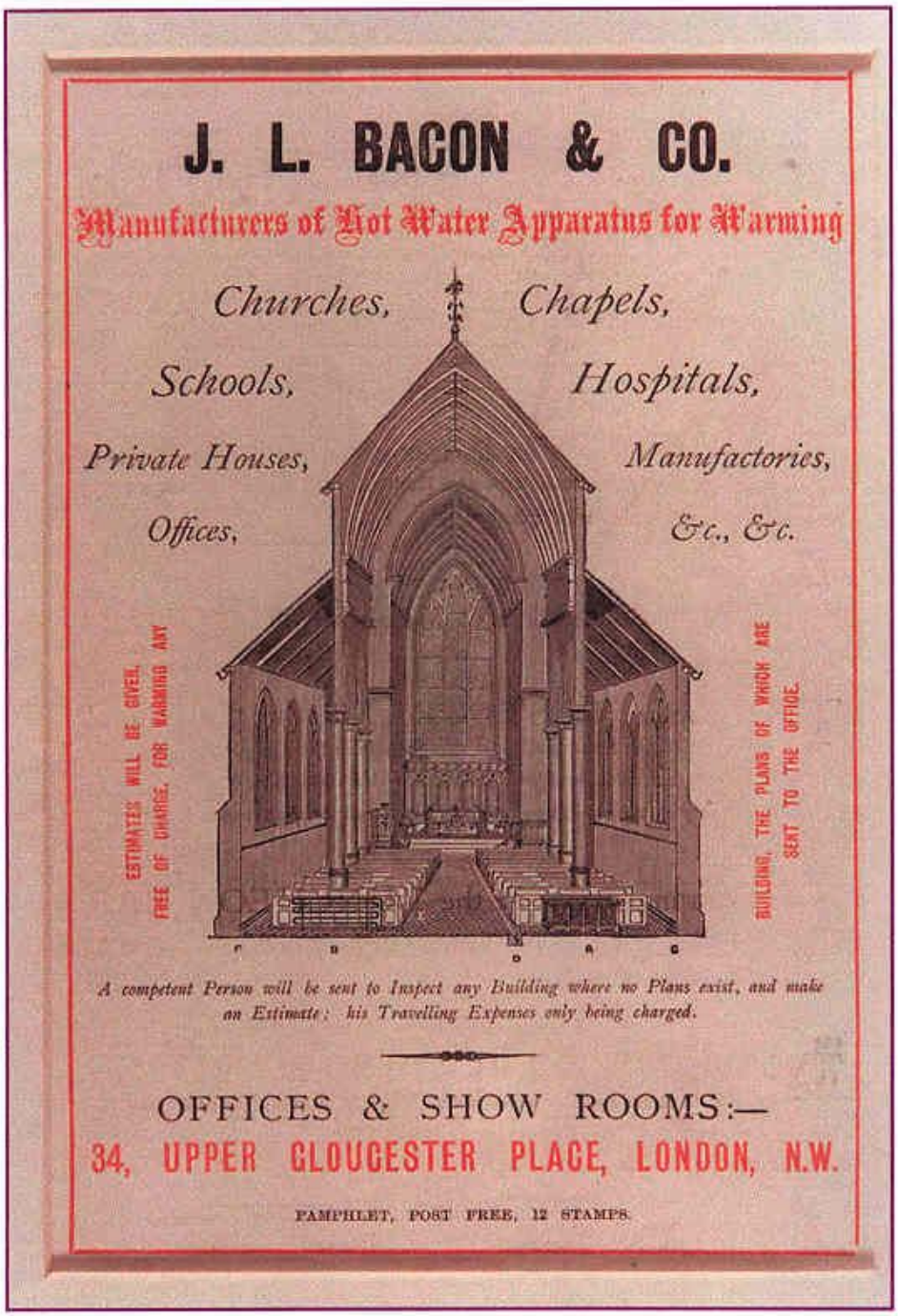
COILS & COIL CASES | COMPLETE APPARATUS | BOILERS

THE 'ECLIPSE'

CATALOGUES FREE.

From Dye 1891

J L BACON & CO



Advertisement, c.1890 [Heritage Group Collection]

JOHN S BILLINGS

Ventilation and Heating.

BY

JOHN S. BILLINGS, A.M., M.D.,

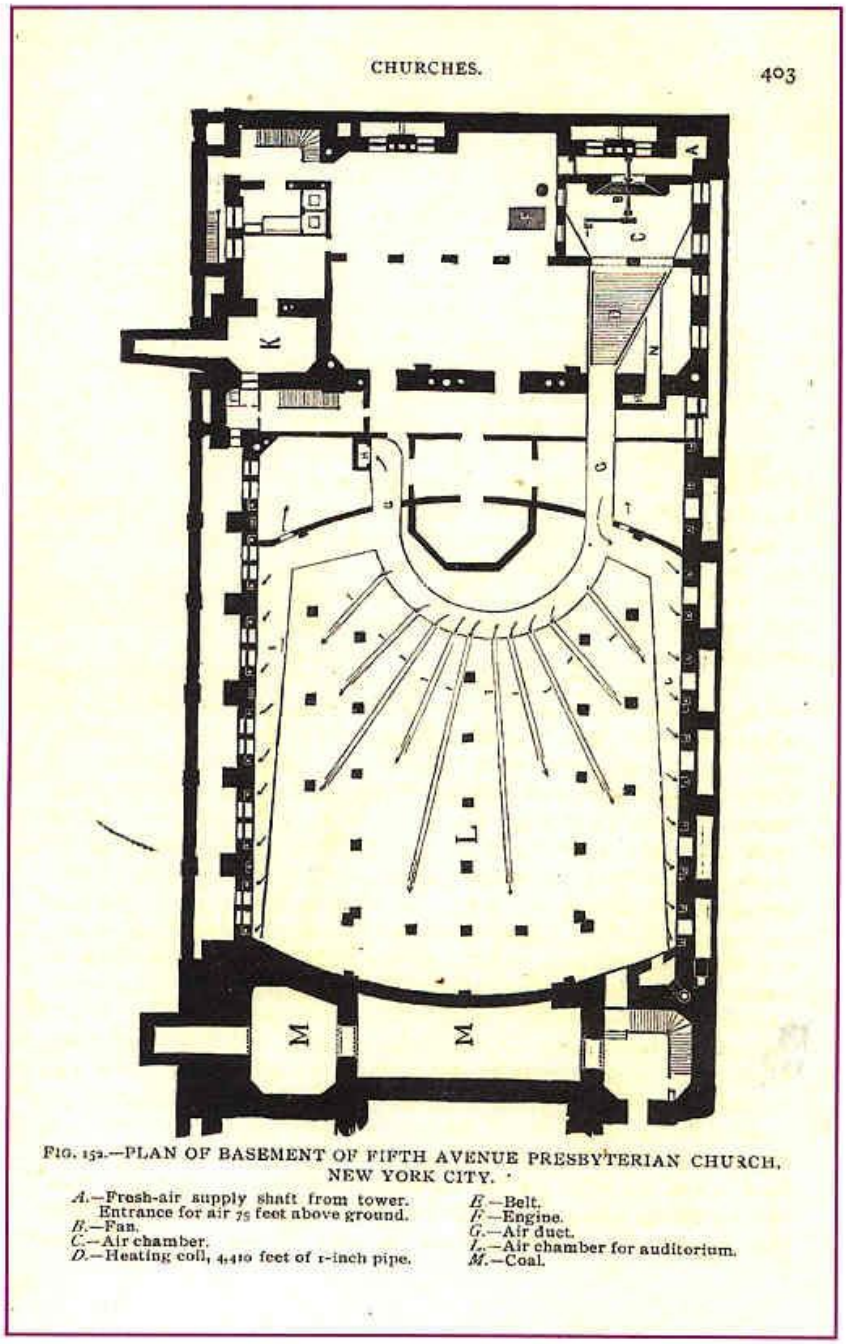
LL.D. EDINBURGH AND HARVARD. D.C.L. OXON.
MEMBER OF THE NATIONAL ACADEMY OF SCIENCES.
SURGEON U.S. ARMY, &c.

LONDON:
THE ENGINEERING RECORD,
(PRIOR TO 1887 *The Sanitary Engineer*),
1896.

Head Office:—
277, Pearl Street, New York.

Textbook 1896 [Heritage Group Collection]

JOHN S BILLINGS



CHURCHES. 403

FIG. 152.—PLAN OF BASEMENT OF FIFTH AVENUE PRESBYTERIAN CHURCH, NEW YORK CITY.

A.—Fresh-air supply shaft from tower. Entrance for air 75 feet above ground.
B.—Fan.
C.—Air chamber.
D.—Heating coil, 4,410 feet of 1-inch pipe.
E.—Belt.
F.—Engine.
G.—Air duct.
I.—Air chamber for auditorium.
M.—Coal.

Textbook 1896 [Heritage Group Collection]

JOHN S BILLINGS

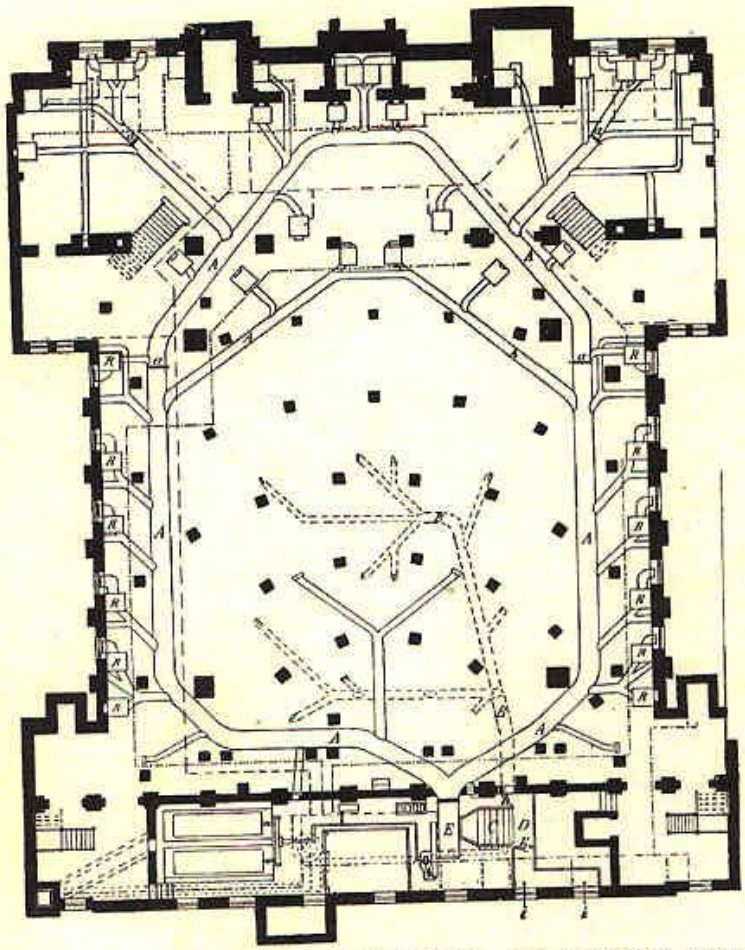


FIG. 154.—HEBREW TEMPLE, KENESETH-ISRAEL, BROAD STREET, ABOVE COLUMBIA AVENUE, PHILADELPHIA, PA.

i i.—Fresh-air inlets.
b'.—Dampers for controlling fresh air to blower.
b.—Dampers for controlling air from auditorium and blower.
C.—Heating coils.
E.—Blower.
D.—Air chamber.
A A, *etc*.—Delivery ducts.
R.—Radiators.
B.—Ducts for aspirating air from auditorium.

Textbook 1896 [Heritage Group Collection]

ROBERT BOYLE & SON LTD

ROBERT BOYLE

& SON, LTD.

VENTILATING

ENGINEERS.

64, HOLBORN VIADUCT,
LONDON, E.C.
110, BOTHWELL STREET,
GLASGOW.

Telegrams: "Hypostile, London." "Hypostile, Glasgow." Cable Code: A.B.C.

Catalogue c.1900 [Heritage Group Collection]

ROBERT BOYLE & SON LTD

Ventilation of Churches.

"Pure air ensures health and happiness; foul air disease and death."—PARKES.

The vitiated atmosphere usually found in imperfectly ventilated churches is the principal cause of the drowsiness with which many of the congregation are overcome before the service is over, and the fainting fits which so frequently occur in certain churches. This is due to a deficiency of oxygen in the air and an excess of carbonic acid gas, watery vapour, and fœtid organic matter, combined, when the gas is lighted, with the poisonous products of combustion. A feeling of oppressive closeness and heat is also generally experienced under such conditions.

To the deleterious quality of the air found in so many churches is to be ascribed what is known as "clergyman's headache," and the feeling of lassitude and nervous irritation so commonly experienced during and after the services.

Badly ventilated churches and halls are, more than any other cause, responsible for the dissemination of disease, and many people abstain from attending on that account alone who would be only too glad to be present if the air was but in a healthy state.

All this might be avoided if proper means were employed to remove the vitiated air as fast as it was generated, and to provide a sufficient supply of fresh pure air to take its place. This is now neither a difficult nor an expensive matter with the improved appliances which are in existence, and which utilise the natural forces ready to our hand to be our good servant if but properly managed. There is not the slightest necessity to resort to costly mechanical arrangements.

The immutable and beneficent laws of nature, if but properly understood and intelligently adapted, will do all that is required—silently, continuously and effectively.

The vitiated air should be extracted at the highest part of the church, to where it naturally ascends, and the fresh air admitted at or below the breathing level in an upward direction and at a low velocity through brackets or tubes distributed round the walls to secure more perfect diffusion and an equable distribution and movement of the air throughout the church.

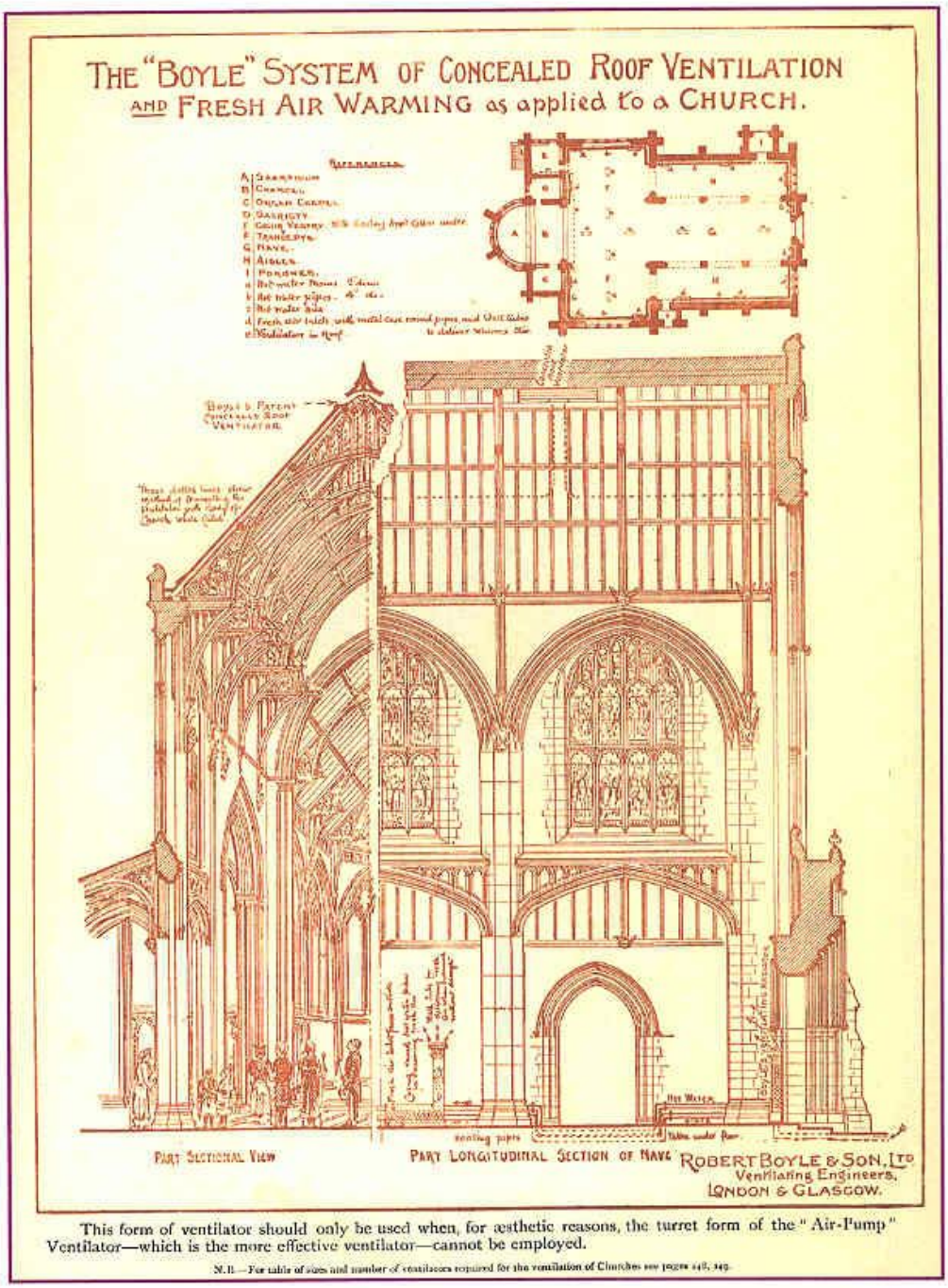
Where simple openings are made in the ceiling or the roof, and the air is admitted at the upper parts of the windows through glass hoppers, downward currents of cold air invariably result, which press down and return the ascending expired air, to be rebreathed along with the products of combustion and other impurities.

In cold weather, downward currents of air may arise from the condensation of the warm air on the windows, walls, or open roof. This might to a great extent be overcome by thickly felting and double boarding the roof, having the walls thoroughly warmed by means of radiant heat and the windows double glazed, or a radiator, or hot water or steam pipes placed underneath them to cause a counter and upward current of heated air. Where extraction ventilators are employed they are sometimes blamed for the down-draughts which arise from these causes.

Hot air should never be employed to heat a church as it is injurious to health owing to the high temperature required for effective heating, and which destroys and deteriorates a part of the oxygen required for the proper maintenance of health. Breathing warm air also enervates and lowers the tone of the system, rendering it more susceptible to disease. (See page 28.)

Catalogue c.1900 [Heritage Group Collection]

ROBERT BOYLE & SON LTD



This form of ventilator should only be used when, for aesthetic reasons, the turret form of the "Air-Pump" Ventilator—which is the more effective ventilator—cannot be employed.

N.B.—For table of sizes and number of ventilators required for the ventilation of Churches see pages 148, 149.

Catalogue c.1900 [Heritage Group Collection]

ROBERT BOYLE & SON LTD

REPORTS ON

The "Boyle" System of Ventilation

AS APPLIED TO CHURCHES.

The "Boyle" System of Ventilation has been successfully applied to over 5,000 Churches.

REV. B. BARING GOULD,

Incumbent, St. Michael's Church, Blackheath Park, London.

"I beg to say that the 'Air-Pump' Ventilators which you supplied for our Church are thoroughly effective. At the close of a Sunday evening service the atmosphere of the Church used sometimes to be positively pestilential, now, however warm, it is invariably sweet and fresh. Their general success is unquestionable."

REV. ASTLEY COOPER,

Bickey's Chapel, Richmond, London.

"I have much pleasure in bearing my unqualified testimony as to the value of your Ventilators for ecclesiastical buildings. My Chapel was singularly stuffy, and the fumes from the gas at the evening service made the building almost unbearable, but two of your Ventilators on the roof have entirely cleared the atmosphere. The change is most marked and highly appreciated, and, which is a high recommendation, there is no down-current."

REV. RICHD. BULMER,

Congregational Church, Lavender Hill, London.

"Your Ventilating Apparatus applied to my Church has proved very successful. It has certainly maintained the purity and freshness of the atmosphere better than any other system of Church Ventilation that I have known."

REV. ROBT. A. RODGERS, *Birmingham.*

"I have very much pleasure in stating that we have now tried your Self-Acting 'Air-Pump' Ventilators in our Church for twelve months, and that we find them fulfilling our best expectations. We have tried several other kinds, and found them either so draughty or altogether inefficient that we have been obliged to give them up. With yours we can keep the atmosphere in the Church quite pure, and that without inconvenience to the congregation from cold and chilling currents of fresh air."

REV. W. SKINNER,

Congregational Church, Forest Gate, London.

"I do not believe there is a better ventilated Chapel or Church in our district."

REV. ARTHUR ALDINGTON,

Cinderford, Gloucester.

"The Wesleyan Church here was one of the worst ventilated I have ever known; atmosphere close and stuffy. Since using your Ventilators there is a wonderful difference."

REV. GILBERT C. TALBOT,

Church of the Assumption (R.C.), Warwick Street, London.

"Since your 'Air-Pump' Ventilators were applied to the Church of the Assumption, Warwick Street, we have been entirely free from the down-draughts which before were very troublesome, and the Church has been far better ventilated in the winter when all windows are closed."

REV. J. W. MILLER,

Presbyterian Church, Leicester.

"We have been much troubled with draughts in our Church and were recommended to try your Ventilators. The result is a great success, we have now no draughts and perfect ventilation."

Catalogue c.1900 [Heritage Group Collection]

JOSEPH CONSTANTINE

PRACTICAL VENTILATION AND WARMING,

WITH

ILLUSTRATIONS AND EXAMPLES,

AND

SUGGESTIONS ON THE CONSTRUCTION AND HEATING, &c., OF DISINFECTING ROOMS AND TURKISH BATHS.

BY

JOSEPH CONSTANTINE,

MANCHESTER.

LONDON:
J. & A. CHURCHILL, NEW BURLINGTON STREET.

1881.

Textbook 1881 [Heritage Group Collection]

JOSEPH CONSTANTINE

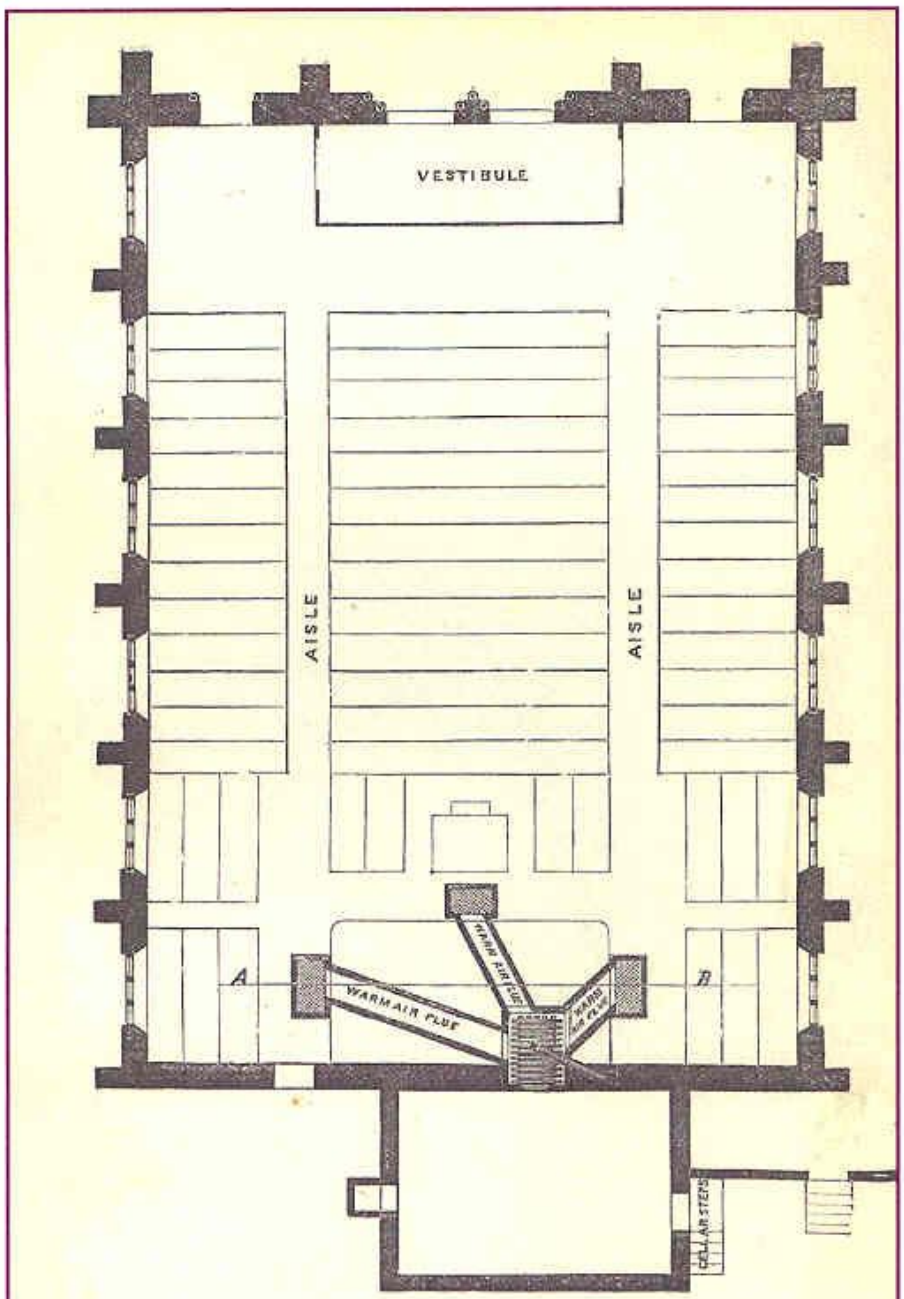


Fig. 13. — Plan of Church.

Constantine textbook 1881 [Heritage Group Collection]

JOSEPH CONSTANTINE

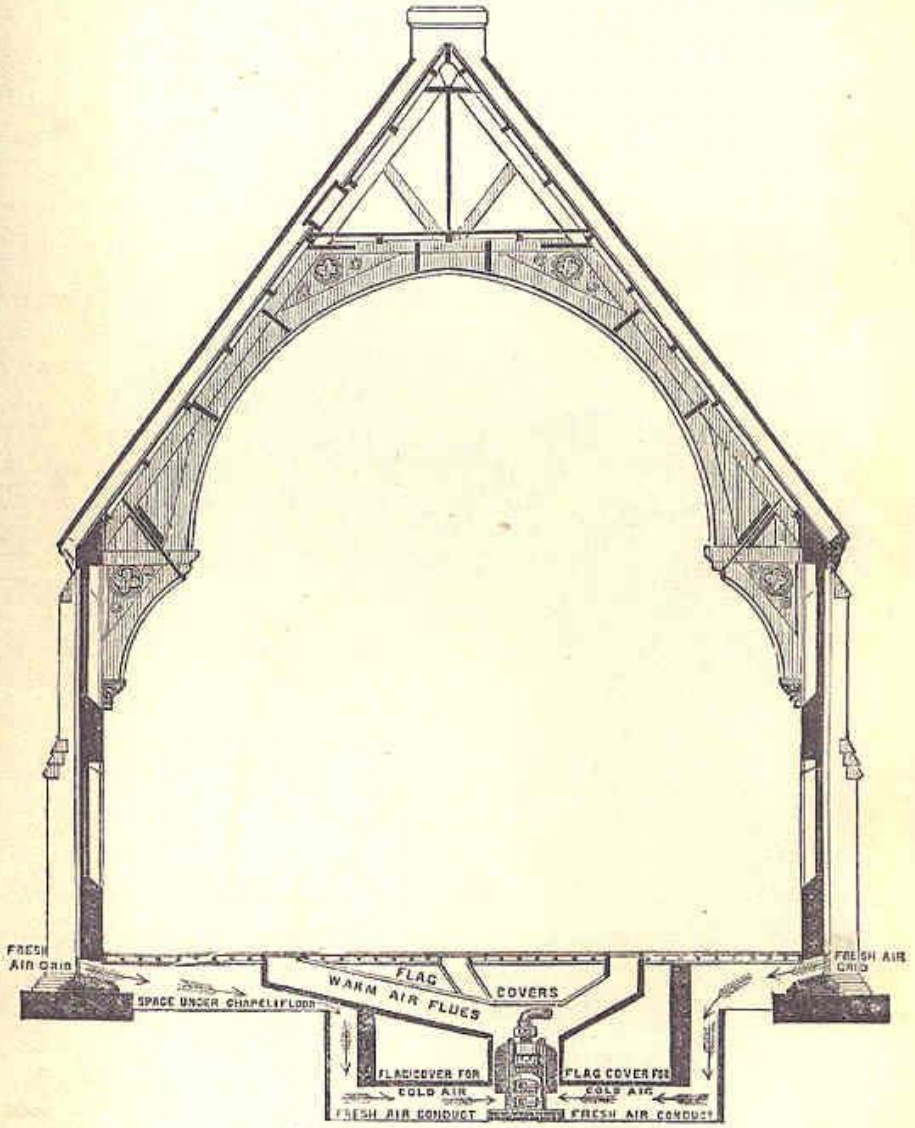


Fig. 14.—Section of Church.

Constantine textbook 1881 [Heritage Group Collection]

RICHARD CRITTALL & Co

RICHARD CRITTALL & Co.,

20, BAKER ST., LONDON, W.

HEATING, LIGHTING, & VENTILATING ENGINEERS.

SOLE MANUFACTURERS (FOR ENGLAND) OF

HONEYMAN'S PATENT VENTILATOR.

Largely used by the following eminent Architects:—

J. MACVICAR ANDERSON, ESQ.,
SIR A. W. BLOMFIELD, A.R.A., & SONS,
MESSRS. CARPENTER & INGELOW,
BASIL CHAMPNEYS, ESQ., B.A.,
PERCIVAL CURREY, ESQ., and many others.

Among the numerous Buildings where this Ventilator has been adopted may be mentioned:—

Bank of England.
" Law Courts Branch.
" Liverpool Branch.
Eton College.
Newnham College, Cambridge.
Mansfield College, Oxford.
The Charterhouse, Godalming.
Bancroft Schools, Woodford.
Wellington College.
Old St. Pancras Church.
Parish Church, Warminster.
Church of St. John the Baptist, Crowthorne, Berks.
St. Andrew's Church, Worthing.
Brooks' Club.
&c., &c., &c.

PRICE LIST, ETC., POST FREE ON APPLICATION.

From Dye 1891

JOHN GRUNDY

John Grundy, established c.1870. Claimed to have provided warm air heating to upwards of 3000 places of worship.

JOHN GRUNDY,

HEATING APPARATUS MANUFACTURER.

ESTIMATES FREE. SUCCESS GUARANTEED.

HEAD OFFICE:

30 DUNCAN TERRACE, CITY ROAD, LONDON, N.

SHOW ROOMS:

TORRENS STREET (Close to the Angel), ISLINGTON, N.

WEST END BRANCH:

57 WIGMORE STREET, CAVENDISH SQUARE, W.

FOUNDRY:

THE TYLDESLEY IRONWORKS, near MANCHESTER.

Telegrams: "JOHN GRUNDY, LONDON."

Proprietor and Manufacturer of

PATENT "HELIOS" and "SIRIUS" ACTUAL

SMOKE CONSUMING GRATES

WITH VISIBLE FIRES.

Patent "HESTIA" Slow and Quick Combustion.

WARMING & VENTILATING STOVES.

Winter, Warmth and Comfort.

HEATING & VENTILATING APPARATUS. GRUNDY'S SPECIALITY. PURE WARM AIR.

Upwards of One Thousand Testimonials received.

PURE WARM AIR AS SUPPLIED TO

Truro Cathedral; Londonderry Cathedral; Sherborne Abbey; Kilmore Cathedral; Stanley Cathedral, Falkland Islands; Cardiff Catholic Cathedral; the Queen's School Chapel, Eton; Cork Asylum; Leicester Asylum; and to upwards of three thousand Places of Worship; and a great number of Mansions, Houses, Hotels, Hospitals, Schools, Warehouses, Factories, Workhouses; Cork Law Courts, &c. &c.

84 Brook Street, Grosvenor Square, W.; *December* 8, 1893.

SIR WILLIAM BROADBENT encloses cheque for the "Grundy" Heating Apparatus supplied to his house, and is glad to say that it has proved very satisfactory for warming and ventilating as required. The principle of the apparatus is most excellent.

To Mr. Grundy.

October 24, 1893; Hind Head House, Haslemere.

PROFESSOR TYNDALL writes:—Dear Sir,—My house being so well provided with grates and flues for the generation and distribution of pure warm air, I have been thus enabled to spend my winters in England instead of on a foreign shore.—Yours very truly, John Tyndall.

From Dye 1897

JOHN GRUNDY

John Grundy, established c.1870. Claimed to have provided warm air heating to upwards of 3000 places of worship.

Schemes and Estimates submitted free of charge for installations of Warm Air, Low Pressure Hot Water or Steam Apparatus.

PERFECT EFFICIENCY GUARANTEED.

JOHN GRUNDY,

. . . Heating and Ventilating Engineer,

MANUFACTURER AND PATENTEE OF

"HELIOS" and "SIRIUS" Smoke Consuming Grates for Chimney Pieces. "HESTIA" slow and Quick Combustion Portable Warming and Ventilating Stoves. "CALORIFER" and the well-known "GRUNDY" Smoke Consuming Central Fresh Warmed Air Heating Apparatus for Public Buildings and Private Dwellings.

27 MEDALS HAVE BEEN AWARDED.

Makers of Boilers, Ward Stoves, Radiators, Ventilators, & Ranges.

BOOK CONTAINING A THOUSAND TESTIMONIALS FORWARDED ON APPLICATION.

The well-known firm of **HAMPTON & SONS, Pall Mall East, London, S.W.,** write:

Mr. JOHN GRUNDY, 30, Duncan Terrace, London, N.

Nov. 5th, 1903.

Dear Sir,

In response to your letter of the 3rd inst., we have much pleasure in stating that your Heating Apparatus is used with great success at our Depositories at Battersea. The best proof of our satisfaction is that we are having your Heating Apparatus installed into our additional blocks of Depositories now in course of erection. We are of opinion that for safety, hygienic and all useful purposes, your mode of heating is the best. We have no trouble in working the apparatus, which is simple and very efficient. We have pleasure in giving you this testimonial, and wish you the success your system deserves.

Yours truly,

HAMPTON & SONS,

W. HAMPTON, Managing Director.

Head Office: **30, DUNCAN TERRACE, CITY ROAD, N.**

Show Rooms and Work Rooms:

Torrens Street, Islington, N., & 393a, City Road, London, N.

Factory: THE TYLDESLEY IRON WORKS, nr. MANCHESTER.

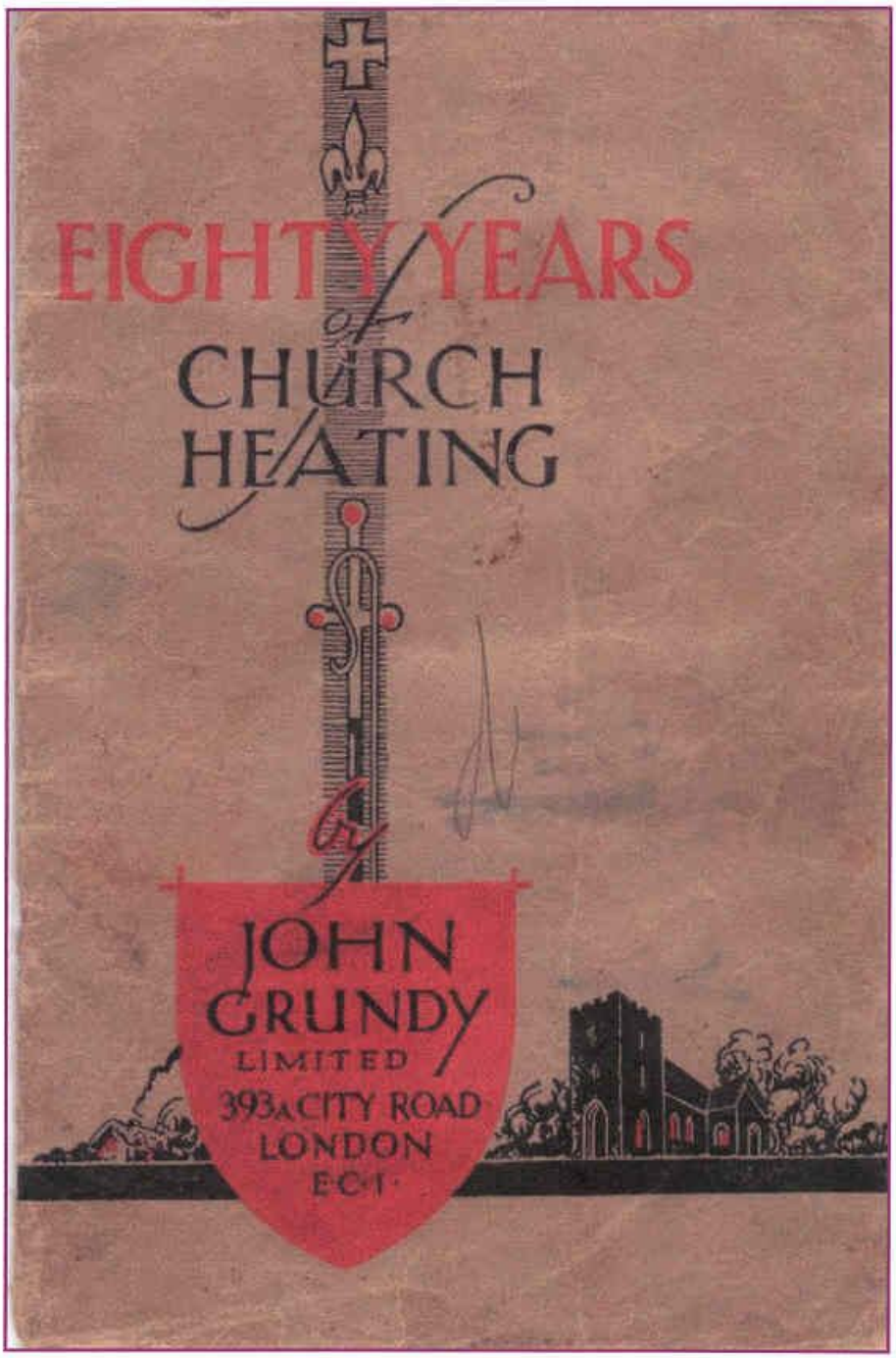
Telegrams—"JOHN GRUNDY," LONDON. National Telephone—No. 552, KING'S CROSS.

(xv.)

From Jones 1904

JOHN GRUNDY

John Grundy, established c.1870. Claimed to have provided warm air heating to upwards of 3000 places of worship.



An early brochure

JOHN GRUNDY

John Grundy, established c.1870. Claimed to have provided warm air heating to upwards of 3000 places of worship.

WINTER WARMTH AND COMFORT.

HEATING APPARATUS.

GRUNDY'S SPECIALITY. PURE WARM AIR.

Upwards of One Thousand Testimonials received.

Combination of Pure Warm Air and Hot Water, as supplied to LONDONDERRY CATHEDRAL, TRURO CATHEDRAL, CARDIFF NEW CATHOLIC CATHEDRAL, KILMORE CATHEDRAL, STANLEY CATHEDRAL, Falkland Islands.

From GENERAL DE TESSIER, Fetcham-grove, Leatherhead, May 7th, 1888.

General De Tessier has the pleasure to enclose a cheque on Messrs. Coutts and Co. on account of the warm air apparatus. It has answered all the purposes required of it, and the bulk of the house is well warmed throughout. He would mention that the velocity of the hot air was, after some experiments, found to be about 2½ miles per hour with an ordinary fire. On the whole, he is very pleased with finding it work so effectually and with great simplicity.

Woodthorpe, Shepherd's-hill, Highgate, London, N., May 20th, 1889.

Mr. JOHN GRUNDY.—Dear Sir,—I am very pleased with the warm air apparatus that you have fitted in my house, which has resulted in comfort and convenience to my household quite beyond my expectation.

The luxury of maintaining an even temperature throughout the house in cold weather, while at the same time introducing warmed fresh air from the outside, thus reversing the usual winter experience of stagnant air caused by shut doors and windows, really rules an English winter of one of its most unhealthful features.

The basement room in which the furnace is placed I now often use as a Turkish bath, and I find I can easily get my temperature I like up to 180 degrees.—Yours truly, H. KENNEDY.

Dr. SCOTT, Swettenham, Congleton, January, 1889.

If people with delicate lungs would adopt your admirable patent for warming their dwelling-houses, they would no longer be compelled to visit more genial climes as the winter approaches. I have found it so, and cannot express my sense of gratitude to you for the invention. Would that it were better known, and could be made cheap enough for all classes to avail themselves of it.

Dr. ROBERTSON, St. Ann's, West Dulwich, London, February, 1889.

Sir,—Since the introduction of your valuable patent for warming and ventilating my private house, I have enjoyed the greatest possible comfort. The house throughout is delightfully free from draughts and damp.

It is just the kind of apparatus that people with weak chests ought to adopt.

It is indeed a public boon. Invalids need never wish to winter abroad if they employ a "Grundy" Warmer.

Dr. TWIHILL, of Kilteegan, Co. Wicklow, March, 1889.

So pleased are the members of my family with your grand system of warming houses by a diffusion of pure warm air, that the ladies wish you would call, that they personally may thank you for so adding to the comfort of the home. The sooner the better your admirable invention becomes known to the community at large. It is everything that can be desired.

Dr. A. J. HOBART of 33, South Mall, Cork, Nov., 1889.

Your system of heating houses by pure warm air is admirable. To delicate persons it is invaluable. Whenever I am consulted as to the best means of warming and ventilating public or private buildings, I do not fail to recommend the "Grundy."

From HEATLEY NOBLE, Esq., Temple Combe, Henley-on-Thames, Nov., 1889.

I think it right to let you know that your patent works well at my house. I am perfectly satisfied with it. Since I caused the damper to be altered the apparatus does not want half so much attention.

35, Saxe-Coburg-street, Leicester.

Mr. GRUNDY.—Dear Sir,—I have much pleasure in expressing my satisfaction with the apparatus you fixed in my house. It warms the several rooms, hall, &c., on the ground floor perfectly, and the air passing upstairs renders the bedrooms very pleasant. The apparatus keeps the house much warmer, drier, and far more healthy and agreeable than would be the case if the rooms were heated by ordinary fires, and at far less cost for fuel. I may add, it is universally praised by visitors to the house, who are delighted with being able to sit anywhere without feeling the slightest draught, and with the purity of the air they breathe.—Yours truly, F. REDFERN (*Author of "Ellesmeryle"*).

Walden, Chislehurst.

Mr. WYLLIE has much pleasure in testifying to the thorough efficiency of Mr. John Grundy's heating apparatus. Previous to its introduction he found the house cold and damp, and requiring many fires to heat it. Now comparatively few fires are required, and the house is perfectly dry and comfortable.

Argyll House, Clifton, Bristol.

Dear Sir,—I am perfectly satisfied with the warming of my house by your patent. I had not the least doubt but that it would answer the purpose all right, for I had watched its progress at the Seamen's Institute, where it also works admirably.—Faithfully yours, W. F. LAVINGTON.

From Admiral the Honourable G. DOUGLAS, Nuadlia, Royston, Dec. 27, 1888.

Sir,—I have much pleasure in stating that the heating apparatus put up by you in this house works most satisfactorily. There is nothing the least unpleasant in the warm air, and the consumption of fuel is small.

To Mr. JOHN GRUNDY.

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JOHN GRUNDY { 30, Duncan Terrace, City Road, London, And TYLDESLEY, near Manchester.

Telegrams, "John Grundy, London." *N.B.—PERFECT SUCCESS GUARANTEED, OR NO PAY.*

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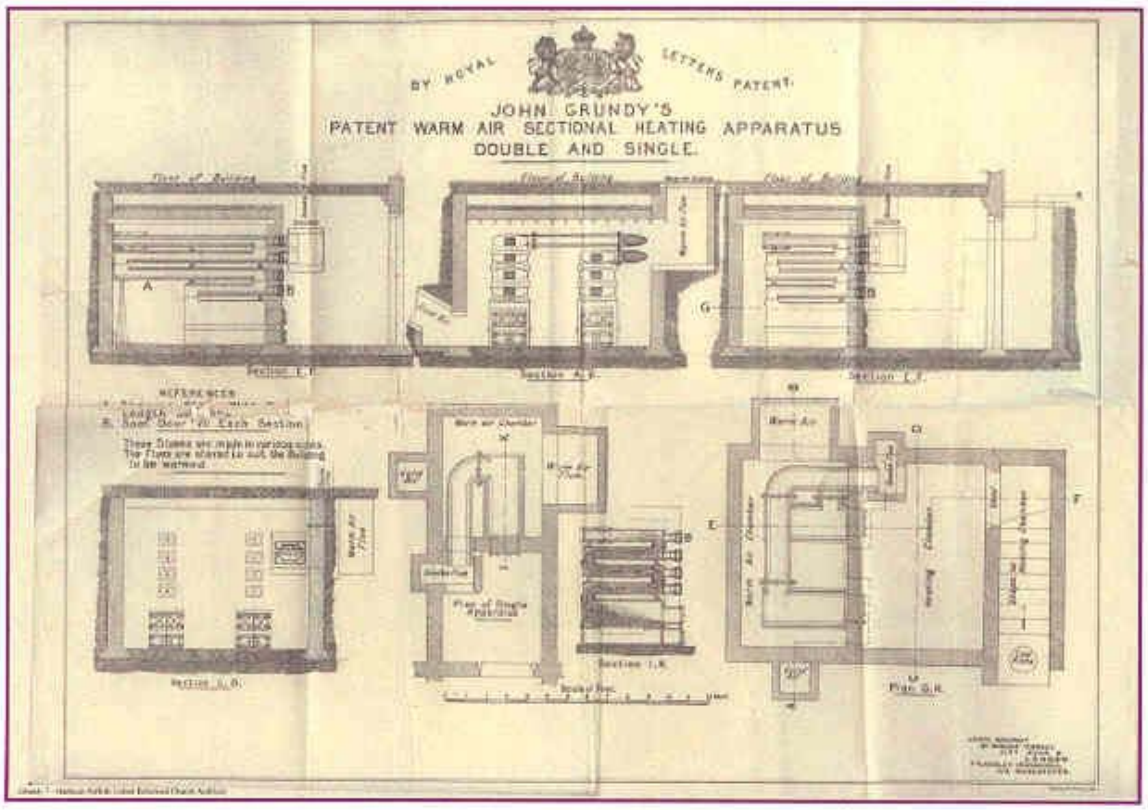
An early advertisement

JOHN GRUNDY

John Grundy, established c.1870. Claimed to have provided warm air heating to upwards of 3000 places of worship.

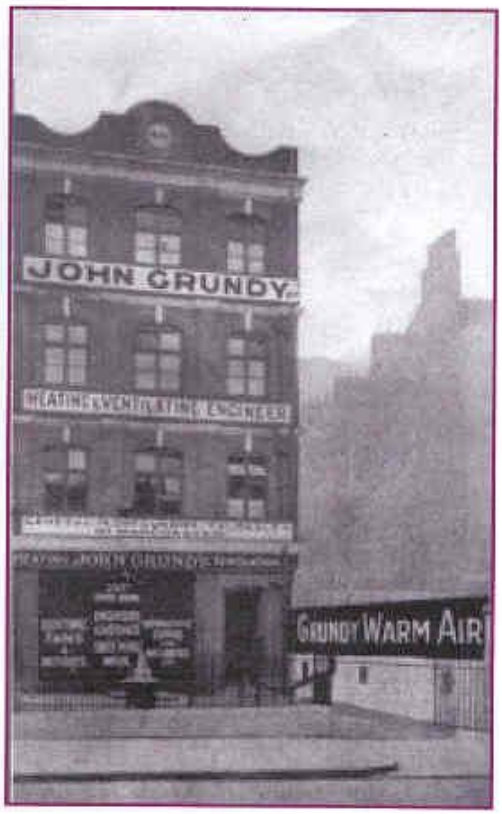


John Grundy's Patent Warm Air Sectional Heating Apparatus

JOHN GRUNDY

John Grundy, established c.1870. Claimed to have provided warm air heating to upwards of 3000 places of worship.

John Grundy, 1844-1913



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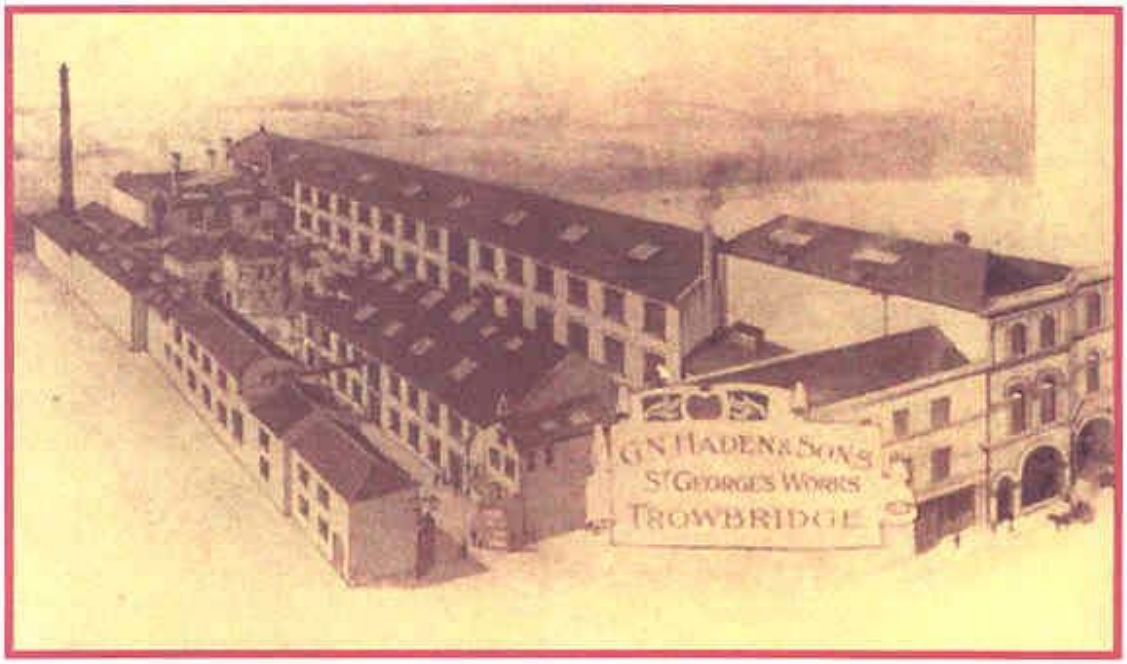

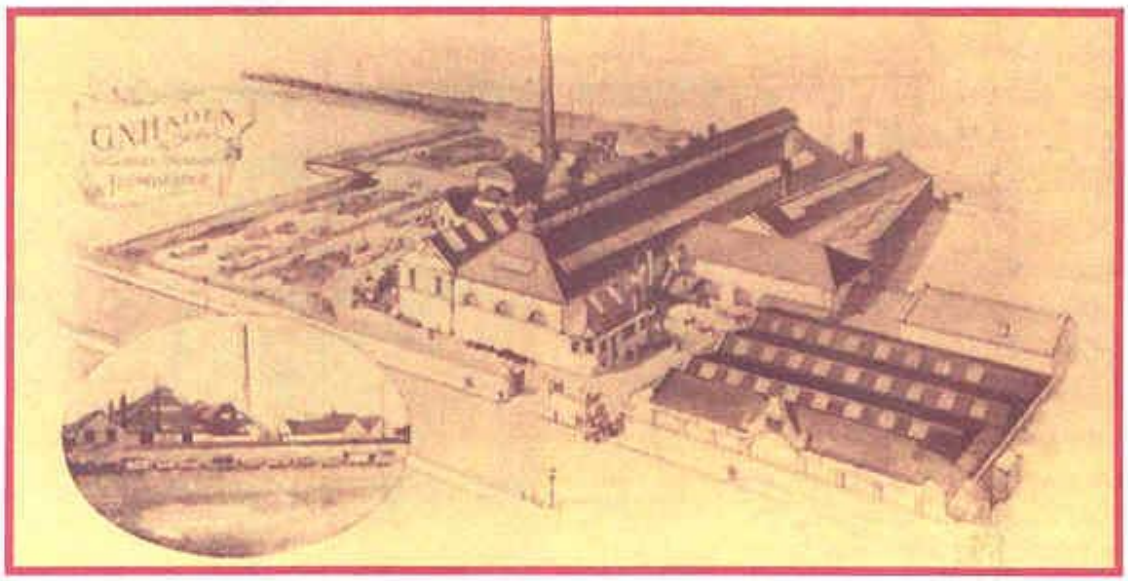

Views of G N Haden in Trowbridge [top] St George's Works [btm] St George's Foundry

From Hadens of Trowbridge, Ferris, Roberts & Yunnie

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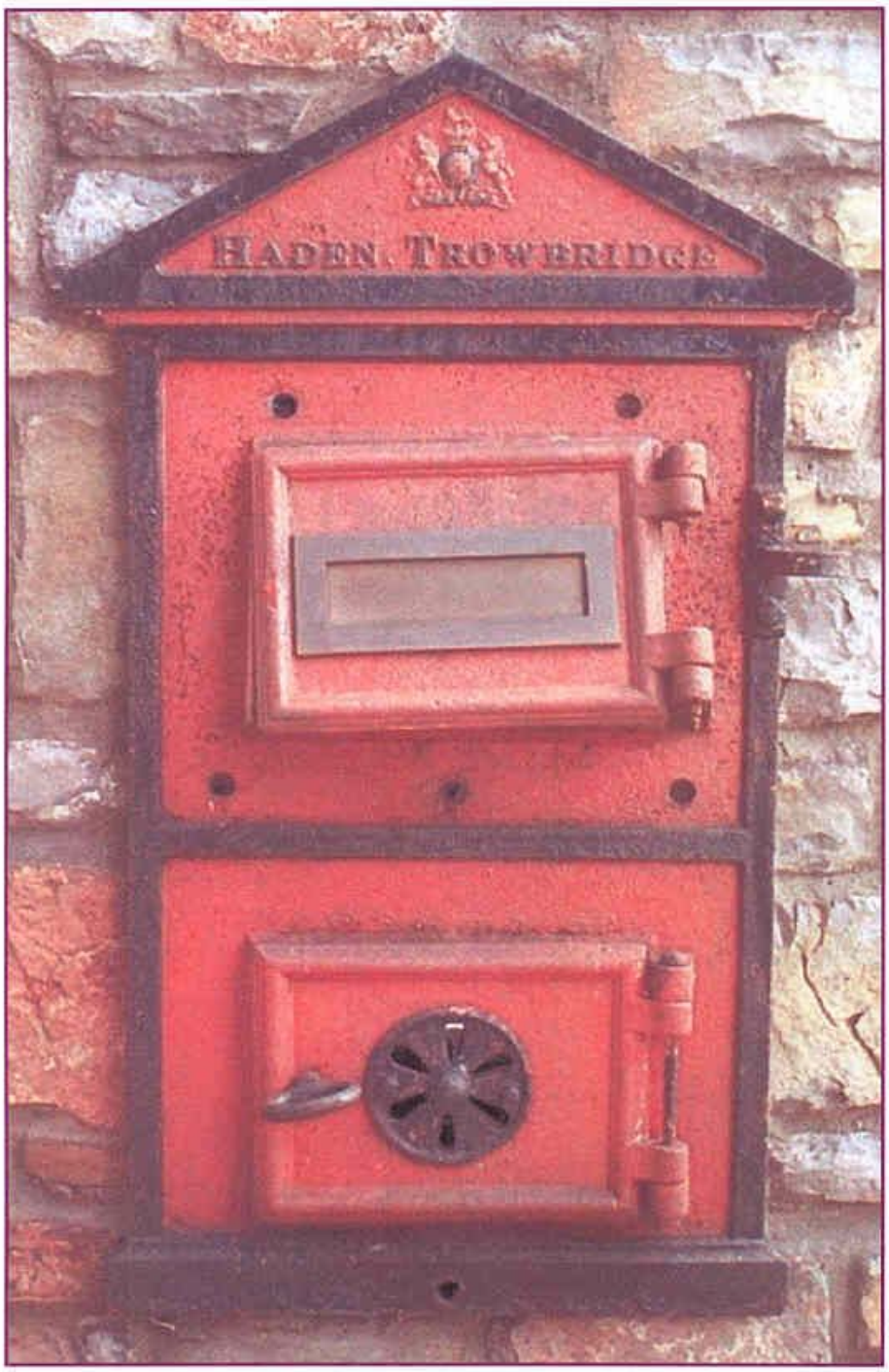

Haden stove, discovered being used as a post box
not far from Tyntesfield House, Wraxall, near Bristol [photo: Frank Ferris]

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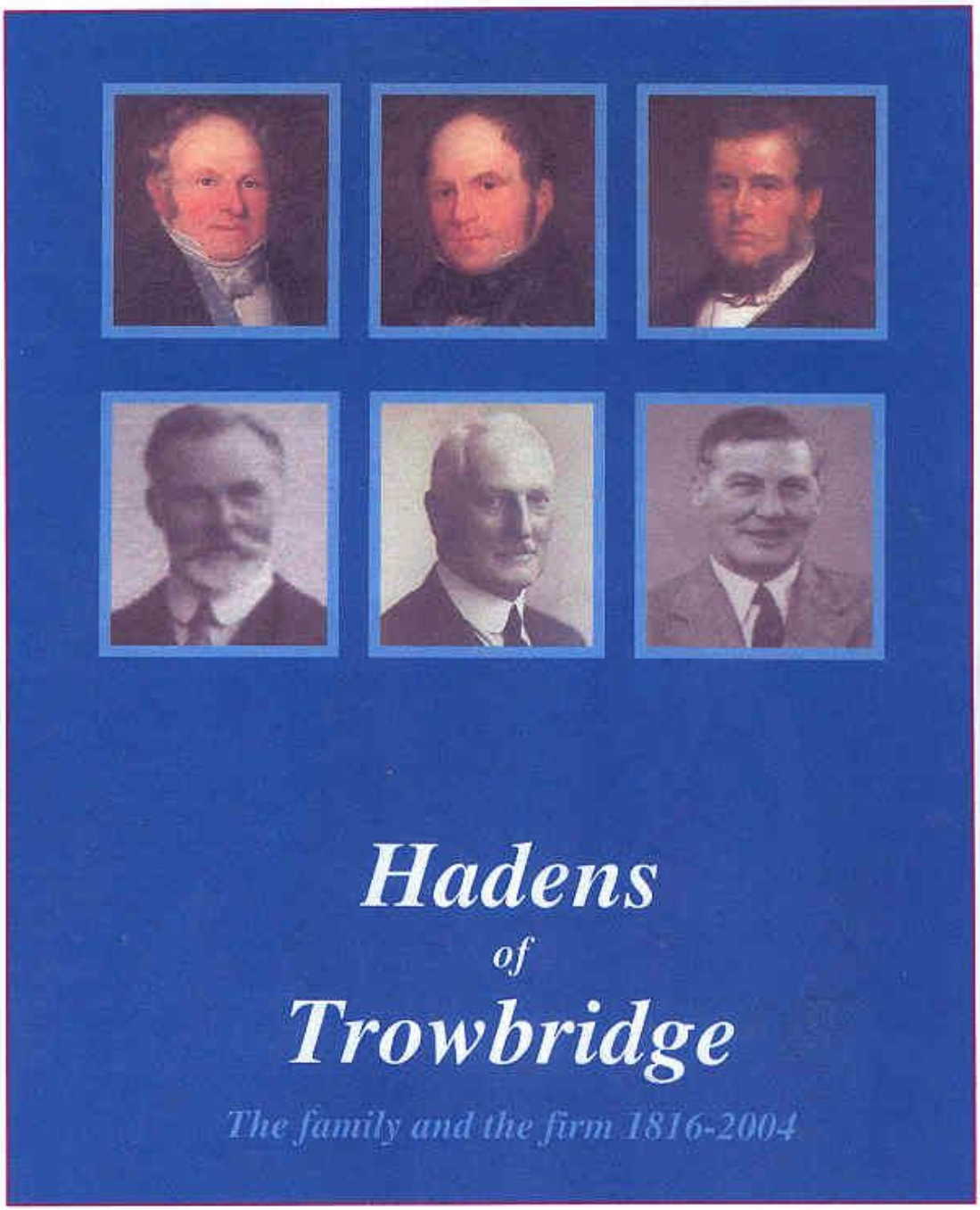

Cover of a book by the Heritage Group for Haden Young, 2004
Haden portraits (top, l-r): George, James, George Nelson
(bottom, l-r) Wm Nelson, Chas Ingham, G Nelson

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Established 1816 G & J Haden, G N Haden & Son, G N Haden & Sons Ltd

Haden family group, c.1897, including William and Charles Ingham
with their wives and children
[Trowbridge Museum]