

3-1-1969

The Irish Plumbing and Heating Engineer, April 1969 (complete issue)

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(1969) "The Irish Plumbing and Heating Engineer, April 1969 (complete issue)," *Building Services Engineering*: Vol. 9: Iss. 1, Article 1.

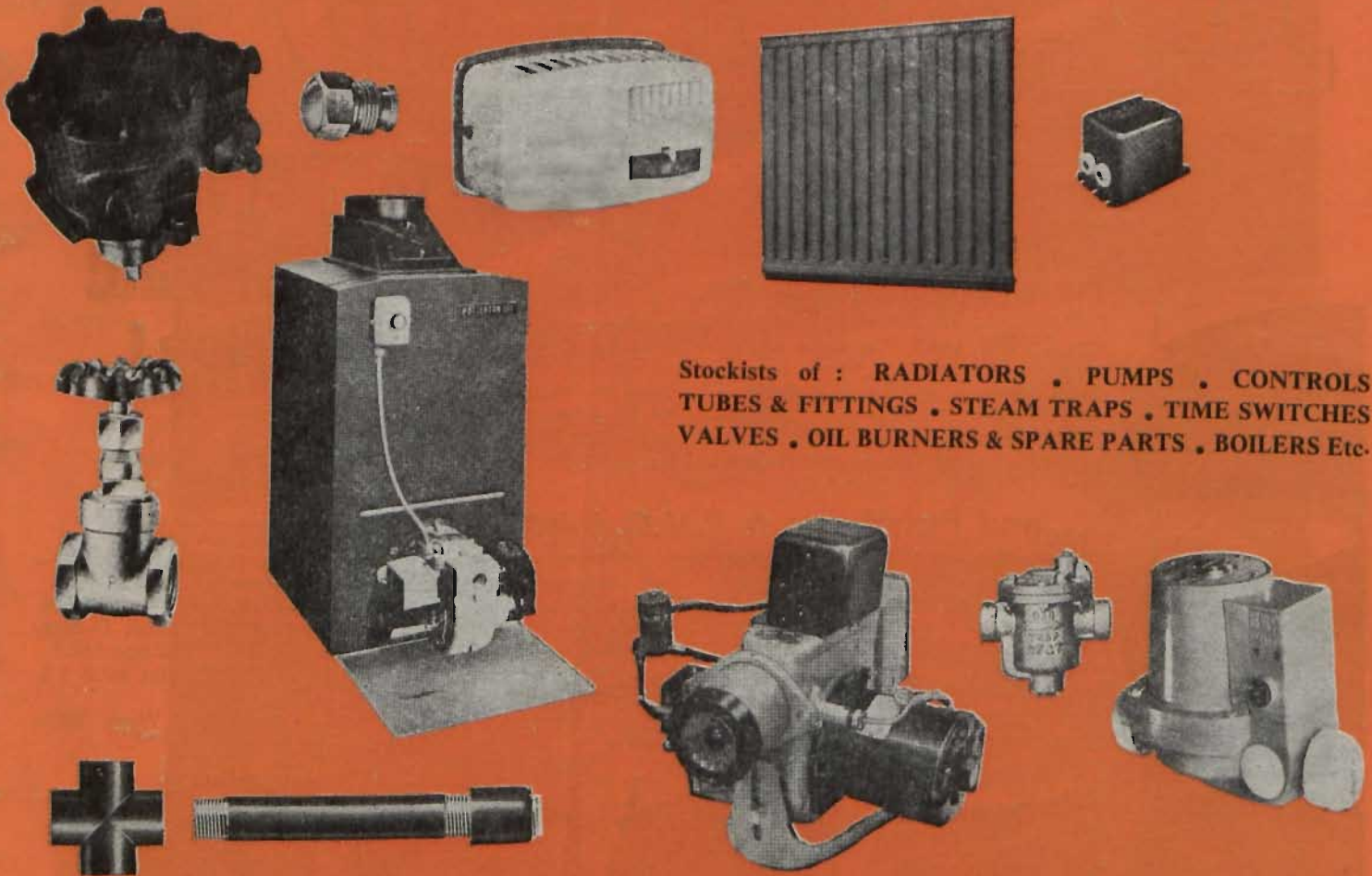
doi:10.21427/D70M72

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SUPPLEMENTS :

Northern Ireland Monthly Review/Industrial Heating & Ventilating in Ireland.
Published by ARROW@TU Dublin, 1969

APRIL, 1969. Vol. 9. No. 1

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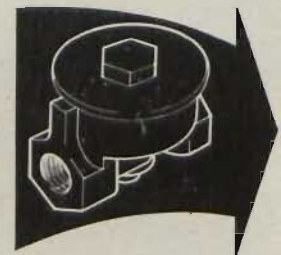
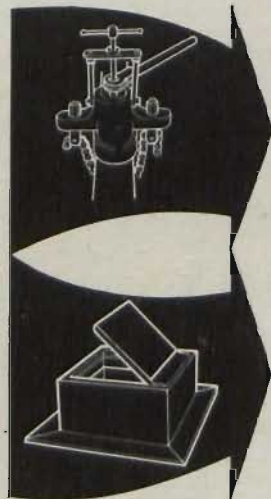
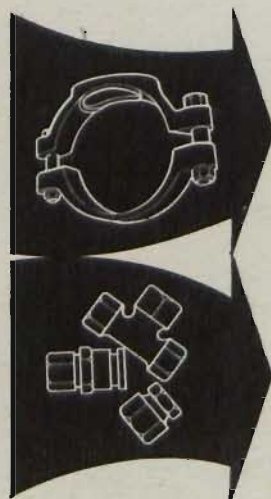
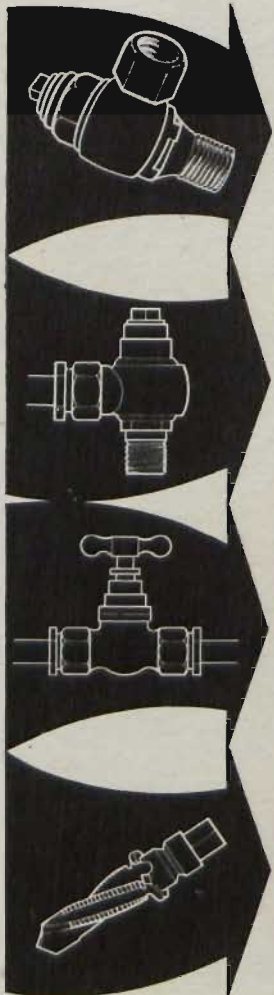
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The new Talbot joints support the pipe on both sides and the special rubber compression ring compresses the pipe on to the teeth of the flanged insert as the thrust-nut is screwed home. Any pull exerted compresses the ring tighter and the teeth grip the pipe harder. The new Talbot Polythene and P.V.C. Joints adjust themselves to the wide variations found in tube dimensions. In spite of their tenacity, the new Talbot Joints are extremely easy to fit and can be quickly disconnected without affecting their efficiency.

- Wide range of fittings in sizes $\frac{3}{8}$ " - 2". Catalogue on request.
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You are invited to inspect a P43/8 section boiler (output 800,000 btu/hr.) at our Stand No. 149 at the

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where fullest particulars will be available.

Other items of interest on our Stand will be Buderus JUNO steel boilers, GEA-Happel unit heaters and natural convectors



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Two

"I love the slimness of the 'Flush Panel' and that beautiful 'Presto' top press operation. At last designers have considered the woman's point of view."

"I'm a Plumber and a practical sort of chap. There are no problems with the 'Flush Panel'. It's the ideal modern flushing unit. And for new homes or old property conversions its beautifully slim shape and easy fixing make it my choice every time."

"The Fordham 'Flush Panel' is a thoroughly functional piece of design. Available close coupled or with a standard flush pipe it is extremely efficient in use, and the space it saves is invaluable. As an Architect I would specify the 'Flush Panel' unhesitatingly."


"I would recommend the 'Flush Panel' to my mates in the building trade. For instance, when replacing existing toilets in old property conversions, there's no need to move the soil pipe. That is just one advantage of the 4 1/2" projection of the 'Flush Panel'."

"As an Interior Designer I like the interesting 'character' of the styling. I find the 'Flush Panel' aesthetically pleasing and am using it in a wide variety of bathroom schemes."



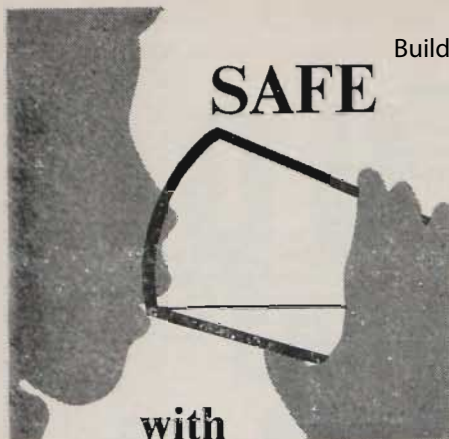
a Panel of experts

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Whenever there's the least doubt about the water supply, a Berkefeld Sterasyl filter is needed. It is the only type fitted with the unique Sterasyl candle, which not only traps water-borne disease germs, but destroys them. Pattern HN (illustrated) is in brass chromium plated, complete with taps and fittings £8.5.0. ▶



The model HN delivers 25 gallons per hour at 40 p.s.i.

MODERN WATER TREATMENT CALLS FOR

BERKEFELD

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In Dublin: G. Reid, 16 Fade St. Tel. 776009.

Four

**HEATING
SYSTEM
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Pour OXYPIC, the guaranteed leak repair preparation, into a hot water installation and seal leaks, no matter where they are, in minutes.

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A RECENT three-day seminar in Jury's Hotel, Dublin, organised by Lennox Industries Ltd., on allsign, installation and service techniques in warm air heating systems was well attended. Lennox Industries personnel, Mr. G. C. de L. Gaillard (Divisional Manager), and Mr. Brian H. Strowbridge (Engineering Application Manager), spoke to a large attendance which included Messrs. Gordon R. Farmer, Home Heating Systems; Thomas Harpur and Brian Daly of Dublin Gas; Don Landy of Waterford; Daniel Reddy and J. R. Ring of Malone Oil; W. J. R. Couchman and A. W. Lyons of Irish Shell and BP; T. J. Reid and M. V. Lowe of Commercial Refrigeration, Waterford; J. C. Widger and Noel Tierney of Irish Shell and BP, and W. L. Hennessy, Hennessys Ltd. of Cork.

LENNOX COURSE



MODERN PLANT Ltd. of John F. Kennedy Drive, Naas Rd., Dublin, have announced details of a competition which they are organising in conjunction with the plumbing and sanitary ware supplier population of Ireland.

The competition, built around Leonard Thermostatic Showers, carries a prize fund of £18, divided into a 1st Prize of £10; a 2nd Prize of £5 and a 3rd prize of £3.

POTTERTON AND JOHN R. TAYLOR LAUNCH REBATE SCHEME

POTTERTON International Ltd. and John R. Taylor Ltd. have announced a 2% rebate to all Potterton installers who reach a boiler sales target of £4,000 within the period 1st May, 1969 to the 30th April, 1970.

This rebate is primarily intended to further extend the already extensive use of Potterton boilers on new housing estates. However, boilers between 30,000 and 500,000 Btu's/hr. can be included for purposes of rebate.

Potterton installers will be issued, on request, with record cards on which to record the serial numbers of the boilers installed.

Boilers may be purchased from your Local Merchant, provided they were originally supplied by John R. Taylor Ltd., 379 South Circular Road, Dublin 8.

The new rebate scheme is part of an overall expansion for J. R. Taylor Ltd. Steam and pipe fittings, piping and flanges have now been added to the extensive range of boilers, pumps, thermostats etc. already stocked by the company.

SEEKING IRISH AGENT

THERMO Plastics Ltd., of Dunstable, Bedfordshire, are to enter the Irish market.

This month they are seeking an established agent for their range of Aspect products. Applications are being invited by the company from agents with good connections in associated lines to promote the entry of the Bedfordshire firm into the Irish market.

The contest, limited to plumbing and sanitary ware departments, calls for contestants to list in order of merit eleven suggested sales points when selling Leonard showers. It also asks entrants to supply a twelfth selling point.

Suggested selling points range from economy of water and space, to saving in heating costs and quality.

irish plumbing and heating engineer

THE IRISH PLUMBING AND HEATING ENGINEER is the only publication produced in Ireland catering exclusively for the heating, plumbing, ventilation and environmental industries with a guaranteed circulation covering the Republic of Ireland and Northern Ireland every month.

* * *

THE Northern Section this month contains a special illustrated report on the recent Heating & Ventilating Exhibition in Belfast.

SPECIAL review topics this month deal with — in the domestic section: water pumps and circulators; in the industrial section: Drying apparatus and ovens.

ALSO in this issue are check list of the 1969 directory of Manufacturers, Agents, Representatives and Distributors.

TRADE TOPICS review the months news in all sections.

* * *

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(Annual subscription: thirty five shillings, post free).

APRIL _____ 1969

Vol. 9. _____ No. 1.

THE contractors appointed for Scanglo International Limited's new **CONTRACT FACTORY FOR NEW** West, Co. Limerick, are P. J. Walls & Brothers, the well-known firm of Dublin building contractors. This follows their successful application to tender which was put out by the Shannon Free Airport Development Co. earlier this year, and recommendations from the architects, Messrs. Robinson, Keefe and Devane, 59 Northumberland Road, Dublin 4.

Mr. Peter Matson, Managing Director of Scanglo International Limited, expressed his great satisfaction at the appointment as, "not only was their competitive tender important, but also timing, which would enable Scanglo to start production early in 1970." P. J. Walls have promised completion by next December.

★ ★ ★

SCANGLO International Ltd. have appointed their first three senior executives, a Financial Controller, Production Engineer and Works Superintendent. Aged 34, Mr. O'Sullivan was previously Company Secretary for a well-known engineering concern on the Shannon Free Airport Industrial Estate.

Originally from Dublin, Cahir O'Sullivan worked for many years in the United Kingdom, and qualified B.Comm. at the University College, Dublin; A.C.I.S. whilst in the United Kingdom, and A.C.W.A. on his return to Ireland.

trade Topics

He has lived in Limerick now for three years.

Mr. Arthur McAlinden is aged 31 and has been Production Engineer for the last six years with a large engineering works at Finglas, Dublin.

After leaving school, he studied at the Technical College, Enfield, Middlesex, between 1954 and 1959, as a Student Apprentice with the Ministry of Supply, Royal Small Arms Factory. From 1959 until returning to Ireland in 1963, he worked as an engineer with two United Kingdom companies.

Mr. Tom McCarthy is aged 41 and will work alongside Mr. McAlinden and be responsible for production, labour recruiting and labour relations at Newcastle West.

A native of Co. Cork, he worked and studied firstly with a well-known British company in Limerick, who transferred him to their plant in England. In 1956 he moved to a similar job in Production Management with a large electronics company. In 1965 Tom McCarthy returned to Ireland, since when he has become a popular figure in the Shannon Industrial Estate, where he has been responsible for recruiting almost the entire work force of a well-known company there.



● Mr. Cahir O'Sullivan



● Mr. Arthur McAlinden



● Mr. Tom McCarthy

Instantaneous HOT WATER from steam — without storage

Cox Steam and Water Mixers deliver from 50 to 24,000 gallons per hour.

They operate with the highest efficiency at all pressures. Silent, efficient, compact and easy to install, replacing bulky and costly calorifiers.

MODELS :

- ★ (1) BABY COX (3") for wash-basins, sinks, etc.
- ★ (2) JUNIOR COX 1—5 (3"—2") for process work, vats and general purposes.
- ★ (3) SENIOR COX (21"—8") for large volumes of hot water for process hot water supplies.

**NO TIME LAG - NO STORAGE - NO STEAM TRAPS
NO LOSS OF CONDENSATION - NO MOVING PARTS TO GO WRONG**

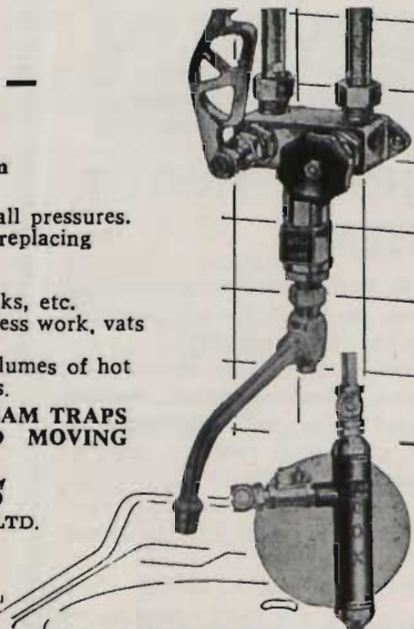
COX WATER HEATERS

Manufactured by COX ENGINEERING CO. LTD.
Dept. IP.21, 14 Park Lane, Sheffield 10.

Tel.: 64282. Telegrams: "Heaters Sheffield".

Agents :

Halpin & Hayward Ltd., Unity Buildings, 16
-17 Lower O'Connell St., DUBLIN. Tel. 48638.
Riverdale House, Killyleagh, Co. Down. Tel. Killyleagh, Co. Down 288.



Six

B.S.A. Harford Heating have announced the appointment of Mr. M. E. I. Jones, M. Inst. M., A.M. Inst. Ex. to the position of Export Manager with the company's export sales organisation, B.S.A. Harford Pumps Limited.

Mr. Jones joins B.S.A. having previously attained global export sales experience with such well-known companies as the H. & L. Austin Engineering Group and Standard Telephone & Cables.

trade Topics

SANBA FYFFE will be in their usual position at Stand No. 266 in the Machinery enclosure at this year's Spring Show, from May 6-10. The exhibit will feature a luxury bathroom which will be complete with shower cubicle and blending valve with riser tube and spray rose. The bath will have a mixer fitting incorporating shower attachments. A novel feature will be water laid on and will give those interested an opportunity of assessing the tremendous advantages of modern shower equipment.

The Company has recently introduced a new range of taps and mixers named Irlin. These will be featured in a special display and are to satisfy the demand for a luxury fitting in the popular price range.

A selection of the very popular Conex-Instantor Compression Couplings for jointing copper, stainless steel and polythene water pipes will be on show.

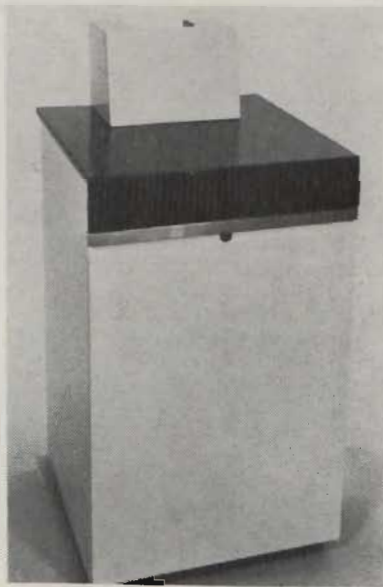
The company is now manufacturing the Sureseal anti-syphonable bottle trap. Architects and Engineers will be particularly interested in this because it is the remedy for syphonic problems encountered in modern high rise buildings.

New Hamlet

In conjunction with their associate companies in the Hammond Lane Group a working model of the new Hamlet oil-fired central heating boiler unit will be exhibited. The unit, developed over years of research and field tests by Hammond Lane, is designed to supply full central heating (8/10 radiators and towel rail) plus domestic hot water for the average three bedroomed house.

The compact Hamlet (26" x 20" x 14") is capable of supplying 160 sq. ft. of radiator service plus 30 gallons of domestic hot water or, alternatively, 210 sq. ft. of radiator service without domestic hot water. Operating on 35 sec. viscosity oil running costs are estimated in the region of £40 per annum. The unit is designed for internal installation in the kitchen or living room and can be installed in either existing houses or houses in the course of construction.

DOBETA 'SEAL OF APPROVAL'



● B.S.A. Harford Heating announce that their fast selling Hotspur oil-fired wallflame boiler has now been granted the "Seal of Approval" by DOBETA, the Domestic Oil Burning Equipment Testing Association.

To obtain DOBETA approval, the Hotspur 60 Mark III (60,000 Btu/h) was submitted to an exhaustive programme of testing and inspection to assess the safety and reliability of the boiler in operation and the unit's performance during continuous running under simulated operating conditions.

NOW OSMA SOLE AGENT

OSMA Plastics Limited of Hayes, Middlesex, has appointed Mr. R. P. Lynch of Cork, sole agent and distributor in the Republic of Ireland for their comprehensive range of plastics building and plumbing products.

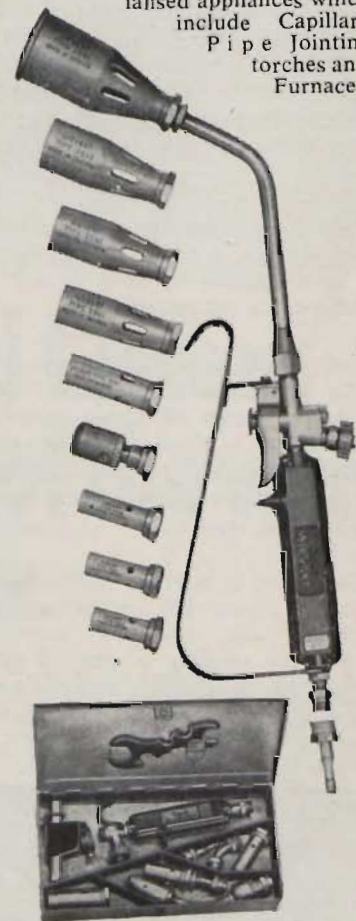
The new arrangements give Mr. Lynch full responsibility for stocks and sales and builders and plumbers merchants should address all orders direct to Mr. Lynch at Tarragana, Wilton Avenue, Cork.

Large stocks of the company's products will be carried at Dublin and Cork. Delivery will be faster and service to customers will be rendered considerably more efficient. Products in stock will include the Osma rainwater, soil and ventilation, waste and overflow systems as well as the full range of Osma GRP cisterns.



Solves the problem of immediate POWER HEAT

Plumbers and heating engineers readily appreciate the advantages to be gained by using sievert propane gas equipment with a burner support for every job and a range of fully interchangeable burners which convert propane gas into instant, controllable and economical power heat — all this apart from many specialised appliances which include Capillary Pipe Jointing torches and Furnaces.



SIEVERT SERVICE KIT

A strong metal case comprising a support and a range of burners enabling most jobs to be tackled.

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Telephone : 01-769 0015

trade Topics

BIG SUCCESS FOR SANBRA FYFFE OPEN DAY

AN "Open Day" organised by Sanbra Fyffe Ltd., at Conex Works, Santry Avenue, Dublin, this month proved highly successful with the very large attendance representative of all sections of the industry.

During the presentation, guests were shown around the impressive Conex Works in addition to being treated to a buffet lunch and refreshments.

Sanbra Fyffe now employ over 300 people in the manufacturing of the well-known range of Conex-Instantor Compression Couplings and a full range of plumber's brassware, including taps and mixers for washhand basins, baths and stainless steel sinks.

The factory is equipped with the most up-to-date automatic screw cutting machines and hydraulic stamping presses and recently a new foundry building has been added, giving increased capacity for both sand casting and gravity die casting.



● Mr. N. G. Hurley (J. P. Newson and Co. Ltd.), Mr. P. C. Dillon (Sales Supervisor, Group Marketing Division, Hammond Lane Group) and Mr. R. Kennedy (J. P. Newson and Co. Ltd.) photographed (left to right) at the Open Day organised by Sanbra Fyffe Ltd.

Eight



● Pictured at the Sanbra Fyffe function were (left to right) — Mr. Denis F. O'Meara, Dublin County Council Assistant Co. Engineer; Mr. M. F. Foley, do.; Mr. Franz Dietz, Works Study Officer, Sanbra Fyffe, and Mr. Charles Elmes, Dublin Co. Council.



● Mr. Edwin Wilkins, Assistant Manager, Plumbing Department, Monsell Mitchell and Co. Ltd.; Mr. Paddy Reilly, Monsell Mitchell and Co. Ltd.; Mr. Gordon Swinburn, Sales Representative, Sanbra Fyffe, and Mr. Frank O'Carroll, Baxendale and Co. Ltd., pictured (left to right) at the Sanbra Fyffe Open Day.



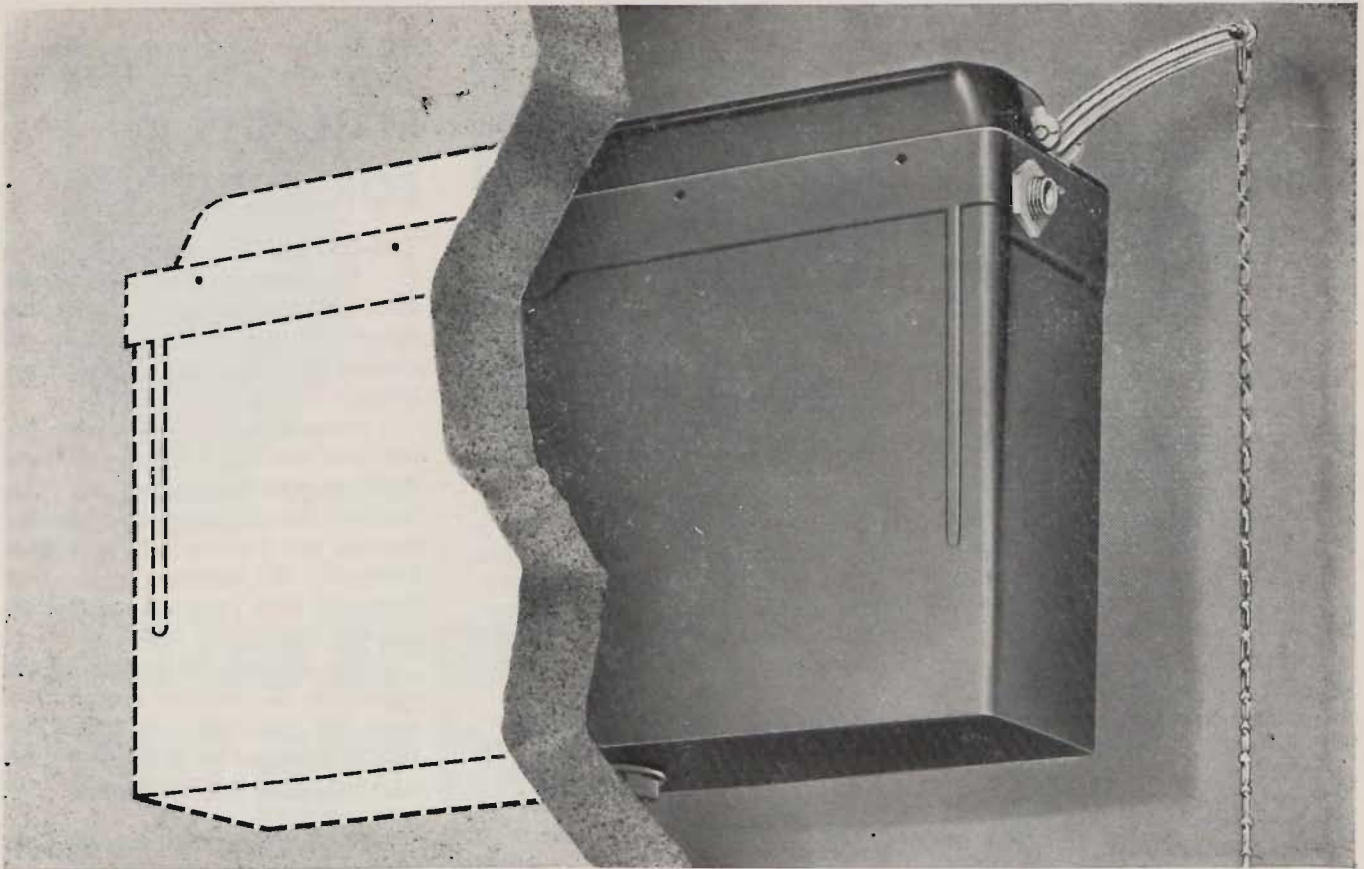
● Mr. Paddy Coyne (Sanbra Fyffe), Mr. Fraser Casey, Unidare, and Mr. Jack Roycroft, O.B.C. Ltd., Belfast, photographed at the Sanbra Fyffe Ltd. Open Day.



● Among those who attended the Sanbra Fyffe Open Day were (left to right) Mr. T. P. O'Connor (T. P. O'Connor and Sons Ltd.); Mr. Tony Smyth, P.C., City Architects Department; Mr. Edward Flynn, do., and Mr. Patrick Kelly (T. P. O'Connor and Sons Ltd.).



● Mr. Brendan Byrne (extreme right) Sales Manager of Sanbra Fyffe Ltd. pictured with (left to right) Mr. John Dinsmore, Sales Representative, Shires Ltd.; Mr. Gerald Maher, Plumbing Department Manager, Chadwicks Ltd., and Mr. John Lackey, Director, Joseph Kelly and Sons Ltd., at the Sanbra Fyffe Open Day. (More pictures page ten).



The Slymlynx Concealed Cistern keeps efficiency one side of the wall, vandals the other.

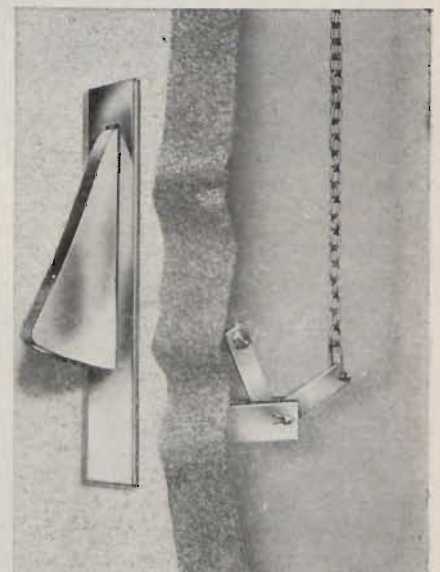
The Slymlynx Concealed Cistern has been designed by Shires specifically for installation inside or behind partitions, or in ducts or recesses.

No specially constructed plumbing duct is required so the cistern can be simply installed either in a domestic building where a streamlined appearance is required or in a public building where only a concealed cistern can provide the protection so necessary against vandalism.

Remote Flushing Control ▶

The Slymlynx Concealed Cistern can be operated either by hand lever or Shires Remote Flushing Control (with hand or toe action).

The chromium-plated Remote Control requires only a quick push to operate the flushing mechanism, the mechanism itself being completely protected from interference.



shires

Slymlynx Concealed Cisterns and Remote Flushing Controls are now manufactured by Shires in Ireland. For further information contact:-
Shires (Ireland) Limited, Bluebell, Dublin 12. Tel: 504649

Nine

The Irish Plumbing and Heating Engineer.

SHIRES Ltd., the Leeds bathroom equipment manufacturers have just announced the introduction of the **PERSPEX BATH FROM SHIRES** SIESTA bath, which is now available in Ireland from Shires (Ireland) Ltd., of Bluebell, Dublin R.

The attractive styled Siesta fulfils the need for a low cost Perspex bath, and is especially suitable for housing and municipal developments.

This new bath has been carefully designed on ergonomic principles and has several impressive features, including special support-shaping inside the bath for extra comfort when lying down and a front ledge which acts as a seat. It also boasts the usual advantages of its material, Perspex, such as permanent colour, light weight and non-corrosive and anti-slip qualities.

Matching side and end panels are available, and the Siesta is produced in six colours—primrose, pink, turquoise, sky blue, orchid and white. The neat, chrome grab handles are optional. The bath is equally suitable for standard or low-line fitting with the appropriate alternative cradles.



A PRIVATE reception was given recently by the West Limerick Development Team to

SCANGLO CHIEF INTRODUCED

introduce Mr. P. R. Matson, Managing Director of Scanglo International Ltd. to local officials and business men from Newcastle West and Co. Limerick, at The River Room Motel, Newcastle West.

The reception marked the commencement of the construction of the new, highly automated factory for Scanglo International, on the east side of Newcastle West (IPHE, February).

Planned for completion in December, the factory, which will initially manufacture radiator valves, will cover 45,250 sq. ft. and will provide jobs for nearly 150 over a build-up period of five years.

O.B.C. APPOINT MANAGER FOR DUBLIN

PLANS are at an advanced stage for the opening in Dublin of a branch office of O.B.C. Ltd., the British heating equipment suppliers, who have an established branch in Belfast's Cupar Street.

A manager for the Dublin office has just been announced. He is Mr. John Hamilton, who for the past two years has been Branch Manager of Heating Controls and Devices Ltd., in Dublin. Previously, Mr. Hamilton spent seven years with Irish Technical and Production Co. Ltd.

At the moment, negotiations for the acquisition of suitable premises are under way and O.B.C. are hoping that by June 1 most of the arrangements for the opening of the branch will have been completed.

The Dublin branch will have the same status as the Belfast office and will carry on the same range of activities.



● Also at the Sanbra Fyffe "Open Day" (See page eight) were (left to right)—Mr. Jack Graham, Director, Hammond Lane Group; Mr. Ted Usher, Director, Heiton McFerran Ltd.; Mr. Brian Murphy, Marketing Director of the Hammond Lane Group, and Mr. Max Nason, Heating Manager of Heiton McFerran Ltd.



● Pictured at the Sanbra Fyffe Open Day were Mr. Charles C. Hales, Joseph Blair Ltd., Belfast; Mr. William Magowan, Belfast Water Commissioners; Mr. Brendan C. Byrne, Sales Manager, Sanbra Fyffe Ltd., and Mr. Bill Briggs of

ACTIVE AGENT PVC PLUMBING PRODUCTS

An established Agent is required by the manufacturers of Aspect products.

Applications are invited from Agents with good connections in associated lines to promote our entry into the Irish market. Please write to:—

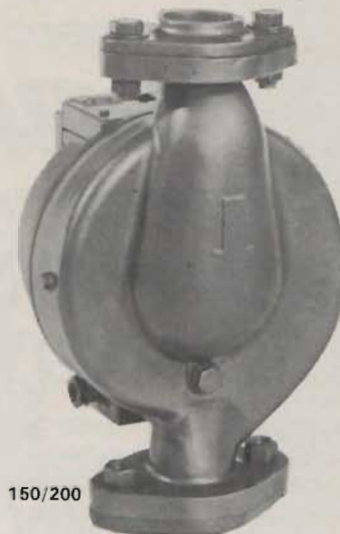
E. A. HARRIS
National Sales Manager
Building Products
Thermo Plastics Limited
Dunstable
Bedfordshire.



CADET/
COMMANDER



ADMIRAL



150/200

To be seen but not heard...

See the new SMC line-up of quiet-loving central heating circulators for domestic and Industrial use

STAND 20 ENVIREX 69
22nd to 26th April **KELVIN HALL, GLASGOW**

CADET/COMMANDER

For the smaller and medium sized domestic installation, Cadet and Commander remain unchanged—and unrivalled! Both incorporate the famous hydramatic electrical gap and other special design features which give exceptionally quiet running and trouble-free life. Both carry our 3-year guarantee.

Cadet 40,000 BTU's/hr at 4 ft. frictional head. Commander 30,000-120,000 BTU's/hr at 4 ft. frictional head.

ADMIRAL

The new Admiral is designed to handle the needs of large-sized domestic systems and can be used, without modification, for domestic micro-bore installations. The Admiral also incorporates the push-button, high torque starting device and the electric regulator described below. 50,000 BTU's/hr at 14 ft. frictional head.

150/200

Both these new pumps are designed for maximum economy in industrial use—thanks to the Electric Regulator which can be set to give a choice of 5 different rotor speeds to suit individual system requirements. Both employ a high torque starting device which overrides the resistance of the electric regulator by applying full voltage to the winding. The 150 and 200, like all SMC pumps, undergo rigorous individual testing to give exceptionally long trouble-free life.

The quietest name in circulation!

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SMC

Eleven

SPECIAL REVIEW

THIS MONTH

Circulators and Pumps (Inc. drainage and water pumps and water storage equipment.)

A LONG WAY FROM THE HARDWOOD PLUNGERS . . .

SOME degree of familiarity with the design and installation of water pumps has been a necessary part of one's knowledge, in either the plumbing or heating industry, for many years.

The earliest, and most obvious, application for a pump was to lift water from a well. The early hand-operated pumps were positive displacement units with a long barrel or cylinder incorporating a valve at the base. A piston moving within the cylinder incorporated another valve or valves which remained open on the downward stroke. On the upstroke the piston valve would close and the valve at the base would open to admit water via the suction pipe. Quite

commonly, a footvalve, together with a strainer, would be fitted at the base of the suction pipe. These early pumps, often known as "jack" pumps would be locally made with a cast lead (occasionally hardwood) barrel, leather skirt.

A similar type of pump, made in cast iron is often seen in rural areas at the present time. Later versions had a shorter barrel and were driven by a handwheel and crank instead of a hand lever. Still later versions had a shorter barrel yet and were motor driven. Some modern types are multi-cylinder with poppet valves. Pumps of this type are normally fitted to an arrangement of supply pipework, quite often with a floatswitch control.

An air vessel is normally fitted as an integral part of the pump, this eliminates any risk of hydraulic shock which might otherwise be expected from a fast-moving, reciprocating unit.

All of these pumps, from the oldest to the newest, work in basically the same way. A partial vacuum, or near vacuum is created within the cylinder. water is pushed into this space by atmospheric pressure through a valve which closes during the delivery stroke. The limitation is obvious, the pump cannot "lift" any higher than atmospheric pressure can push; some twenty-five feet or so depending on

Continued page fifteen

Submersible Mo-Pump for Sump Drainage

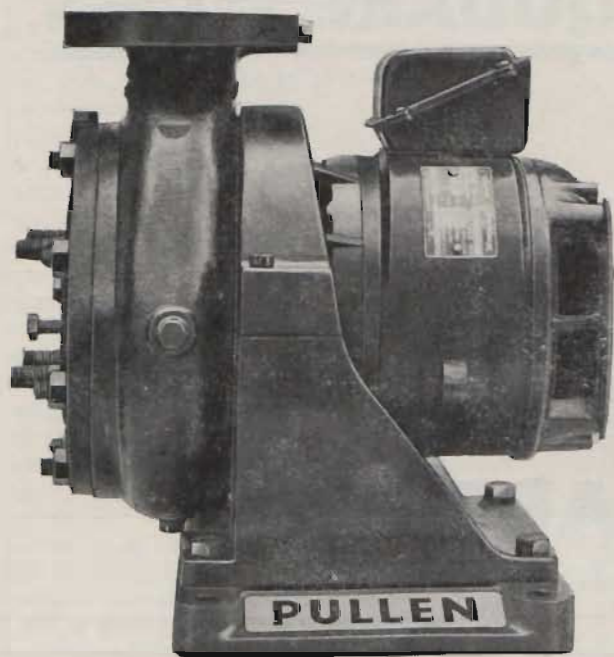
Designed for sump applications in cellars, boiler houses, lift wells and other premises below sewer level or as a portable pump for de-watering of ducts and pools.

- 'Fit and Forget' — fully automatic operation.
- Pump in 'Fianite' corrosion resistant plastic.
- Inexpensive to buy — easy to install.
- Ex-stock. Country wide service.

PUMP SERVICES LTD.

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**THIS IS
THE NEW
CLOSE-COUPLED
TYPE 'KL'
HOT OR COLD
WATER PUMP
DESIGNED
FOR ECONOMY**

BUILT TO PULLEN STANDARDS

A compact, low cost, versatile unit for pumping duties up to 1,000 gpm and generated heads of 10-70 ft. Available for horizontal (KLH) or vertical (KLV) mounting, both models can withstand heads of up to 250 ft. Special mechanical seal eliminates problems from gland leakage, and provides long maintenance-free periods.

**PULLEN
PUMPS**

Pullen Pumps for performance—the kind of performance you get from well designed equipment, produced in a modern plant by people with sixty years experience, using up to the minute machinery and methods. There are Pullen Pumps still doing trojan service in many fields after more than thirty years use. That's Pullen Performance. Tell Pullen about your requirements, they can almost certainly be met.

PULLEN PUMPS LTD.
58 Beddington Lane, Croydon, CR9 4PT

Please send me literature on the Pullen type KL Pump

NAME

COMPANY

ADDRESS

Agents for Ireland :

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53 Ridgeway Street,
Belfast 9.

John R. Taylor Ltd.,
379 Sth. Circular Road,
Rialto, Dublin 8.

IP/APL.

RURAL WATER SUPPLIES



AQUADARE PUMPS

- ★ 100% Irish Design
- ★ Electric or Petrol Driven
- ★ Depths down to 160 ft.

Manufactured by

UNIDARE LTD.

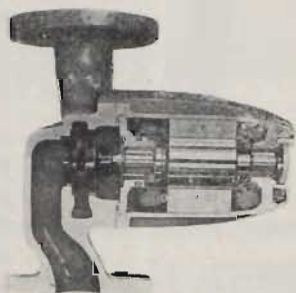
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Diaphragm type expansion tank with automatic system fill valve :

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- FILLTROL prevents pressure falling to below minimum.
- FILLTROL is easy to service.



FOR ONE PIPE HEATING SYSTEM

FOUR WAY RADIATOR MIXING VALVE



TAIFUN

Fully Automatic Oil Burner Type T11

Range 60-360,000 Btu/hr. Air control on pressure and on intake side, to suit high or low resistant boilers. 100% Efficiency — 100% Reliable. Space Saving, suits all types of boilers. Makes three attempts to ignite before locking-out.



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SPECIAL REVIEW

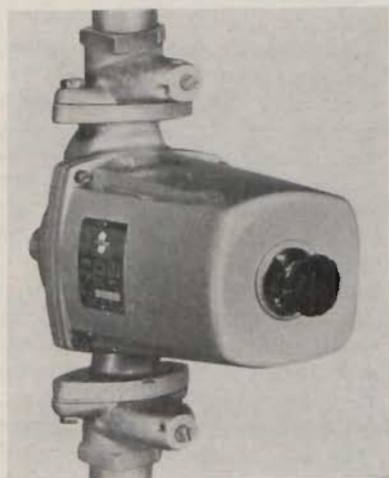
• From page twelve

the condition of the pump. A positive displacement pump can, of course, "push" to a considerable height and one way of dealing with deep wells is to mount the pump down in the well with a head gear to provide a motive force from the top.

The centrifugal pump is a completely different animal. There are no reciprocating parts and usually no integral valves. It is not principally used as a "lifting" pump and when a lot of "push" is required a multi-stage unit may be needed. It is, however, simple, inexpensive and efficient. A centrifugal pump consists essentially of three parts: the motor, the volute and within the volute the impellor. If water is fed to the centre of the volute, i.e., against the "eye" of the impellor, it will be moved by centrifugal force to the periphery of the volute and thus to the discharge side of the pump. The speed is normally fixed, either around 1,400 or 2,800 r.p.m. but there is often a variable output device which may take the form of a lateral movement of the impellor, or a simple restricting valve, or a bypass valve.

Pumps of this type are used for domestic heating, in some cases the motor and volute are separate with some form of packing gland or seal around the shaft but in most cases a squirrel cage injection motor is used with a "can" or housing separating

Continued overleaf



© The Sunstrand Water Circulator Model R from J. S. Lister Ltd. (See Review).

You must show the product

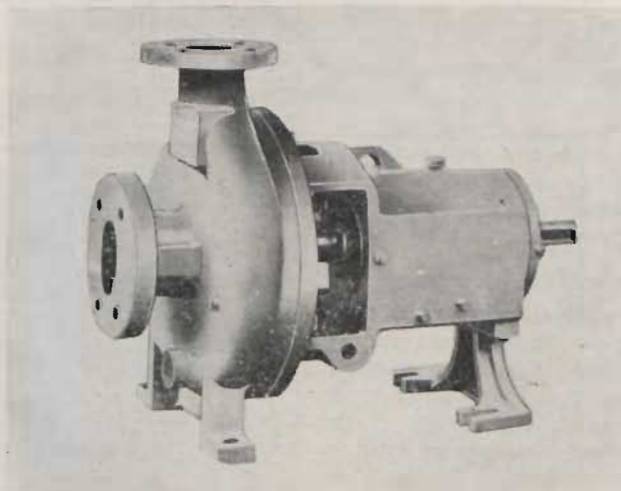
said our Guv'nor

And why do that, we wondered, when the real point about the product is economy. A well engineered product, such as a Worthington-Simpson chemical pump, is bound to save money because it is not subject to the mechanical troubles which are likely to befall less well made products.

Our chemical pumps are designed to suit a wide variety of applications within the chemical processing and petro-chemical industries. The range includes pumps of 'Monobloc' or driving head construction, sump and axial flow versions, as well as back pull-out types. They are available in a proven range of corrosion resisting materials which include the 'Hastelloy' type of alloys and 'Worhite'—a stainless alloy steel with a resistance to hazardous and abrasive liquids better than that of standard stainless steels.

But you must show a pump, he said

Alright then... here is a B.P.O. pump, built to American Voluntary Standards. Capacities up to 700 g.p.m., heads up to 450 ft. Maximum working pressure 275 p.s.i., maximum working temperature 260°C.



The full range of our chemical pumps, together with a guide to materials, is illustrated in Bulletin WS-5129 which we will be pleased to send you.

Worthington - Simpson Ltd

6 WATERLOO RD DUBLIN 4

Representatives throughout the world

PUMPS • COMPRESSORS • HEAT EXCHANGE EQUIPMENT

Fifteen

SIGMUND Pulsometer Pumps have been supplying equipment for the heating industry for many years and their range covers both the domestic market and the industrial field requirements.

Monsell Mitchell and Co. Ltd., Dublin, are the Irish Agents for all S.P.P. heating equipment.

SPP manufacture the Thermopak Super Silent Accelerator which has been specified by heating engineers since the inception of small bore heating systems and is incorporated by leading manufacturers of packaged boilers. For the larger hot water installations and mechanical services in office blocks, shops, schools, hospitals and factories their range covers in line close coupled pump sets; vee belt driven pipeline accelerators; submersible sump pumps; high pressure and high temperature feed pumps and fully packaged hydropneumatic booster plants for multi-storey buildings.

Other trade names which are household names in the heating and ventilating industry for equipment produced by SPP include Criton pipeline accelerator with in line bypass bed — Heatpak in line pump close coupled to an electric motor — Pumpak general purpose close

PUMPS

● From previous page

the rotor from the stator windings. This arrangement eliminates seals since the bearings are completely contained — usually they are water-lubricated.

Despite the fact that the smaller sizes, at least, of this type of pump have variable outputs, a considerable degree of care is still needed when sizing a pump for a particular job. Quite often, this type of centrifugal pump is used for secondary hot water services, when of course a non-ferrous construction must be used.

Automatic

There are, of course, several other types of pump known and used by plumbers and heating engineers. These range from the familiar hand-operated semi-rotary pumps to the highly efficient gear pumps used in oil burners, developing 200 p.s.i. or more. They also include the less well known, but sometimes very useful, fully automatic oil-lifter pumps and transfer pumps. We have come a long way from hardwood plungers and dressed leather valves, maybe the pump industry has a few more developments yet to come.

SPECIAL REVIEW

IN this equipment review we take a look at new developments in the fields covered by this month's special review. (All claims made are those of the manufacturer).

coupled pump and motor unit and the Sumpak submersible cellar drainage unit.

The company former by the merging in 1962 of Sigmund Pumps of Gateshead and Pulsometer Engineering of Reading manufacture a wide range of pumps and play a vital role in practically every process in service ranging from the refinery complex to the 1" small bore domestic accelerator to maintain the heating in "a modest three bed semi."

★ ★ ★
S.M.C. (Sealed Motor Construction Co. Ltd., Somerset, England) have extended their range of circulators by adding to the well-known "Cadet" and "Commander" domestic pumps. The three pumps now in production are the "Admiral," the "150" and the "200."

These new pumps incorporate an electrical regulator that enables the installer to reduce power consumption according to the requirements of the system. Added to this feature is a push button high torque starting device which provides for quick and easy starting if the pump requires it after a long period of idleness.

With the introduction of the Admiral, S.M.C. now offer a comprehensive



● The Sunstrand Model RA is an indirectly coupled unit employing a highly efficient mechanical seal. The capacity curves show the pump's suitability for all types of heating systems. (See Review).

range of domestic circulators. The Admiral is built to basically the same design as the Cadet and Commander, and also carries a three year guarantee.

The 150 and 200 circulators are designed for commercial and industrial applications. They have been introduced after exhaustive sound chamber tests. They should therefore carry on the tradition of exceptional quietness for which S.M.C. pumps have become known and could prove to be the quietest available at their capacity. These, too, are based on the same features as the Cadet and Commander and are individually tested.

The products are distributed in Ireland by British Steam Specialties Ltd., 37 Leeson Park, Dublin, and O.B.C. Ltd. of Dublin and Belfast.

★ ★ ★

UNIDARE Ltd. of Fing'as, Dublin, manufacture a range of Aquadare jet pumps and automatic pressure water systems with units to suit nearly all applications.

Aquadare jet pumps and automatic pressure systems are designed for the handling of clean cold water and may be used to pump from deep or shallow wells, boreholes, lakes, rivers, streams, etc. for domestic, agricultural, industrial or horticultural water supply. They may also be used for the boosting of mains pressure.

Country dwellers everywhere may now enjoy all the advantages of mains water supply at low initial cost. Wherever there is a source of water, whether electricity is readily available or not, an Aquadare jet pump can give a dependable water supply under constant pressure at your house, farm, caravan or hotel.

Continued page eighteen



● Illustrated here is the 150/200 domestic pump from Sealed Motor Construction Co. Ltd. (See Review).

The Irish Plumbing and Heating Engineer.

Various types are available which can be arranged to operate from shallow or deep wells, boreholes, or other sources. The smallest model is capable of providing adequate water for a cottage, house or small establishment, and for deep well operation is capable of a suction lift of 45 feet.

The larger units have a greater output and can operate from deeper boreholes, down to a suction lift of 160 ft.

The operation of an automatic pressure system is simple. An electrically driven pump raises water and delivers it into the galvanised tank which has a cushion of air automatically maintained by the air volume control, operating in conjunction with the pump. As water is drawn from the tank, the water level and pressure drop until a point where the pressure switch automatically restarts the motor. When the tank is replenished, a switch cuts out the motor. A reasonable amount of water may be drawn before the switch operates.

★ ★ ★

CAPABLE of adjustment to suit a particularly wide range of duties, the Super Opiomatic circulating pump by BSA Harford Heating Ltd., incorporates the overall design characteristics of the outstandingly successful Opiomatic and

SPECIAL REVIEW

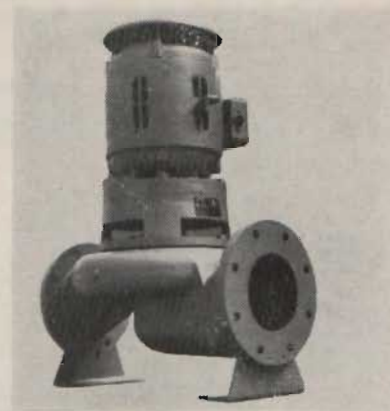
● From page sixteen

Opiomatic Junior models, having been developed by BSA Harford to provide the heating engineer with the facilities and advantages of a variable output in the larger system range.

It is suitable for a maximum water temperature of 200 deg.F. an ambient air temperature of 158 deg.F. and a maximum static pressure of 50 p.s.i.

The output of the Super Opiomatic can be varied between a maximum setting, which gives from 15 ft. head at zero flow to 5.5 ft. head at 20 gal/minute, and a minimum setting giving from 5.7 ft. head at zero flow to 2.5 head at 12 gal/minute. Like the other units in the Opiomatic range, variation of output is effected by a simple control knob which is calibrated with five settings. Once the pump has been installed, the control knob is set to the required output and as a general rule no further adjustment is necessary.

In common with the popular Opiomatic and Opiomatic Junior pumps, the Super Opiomatic is of the glandless type



● From Holden and Brooke Ltd. — the Selfline In-Line Pump (See Review).

which means that the rotor shaft assembly runs totally immersed in the water, thus doing away with the necessity of a gland of any type. A fine mesh filter located in the bearing plate protects these bearings from possible damage by foreign matter present in the circulating water.

The impeller is machined to the finest possible limits to obtain a controlled running clearance between the impeller and the pump body, thus avoiding any of efficiency.

SPECIAL REVIEW continued on page twenty-seven

The New THERMOPAK AI Accelerator

Suitable for all domestic closed circuit heating installations from 15,000 Btu/hr. to 150,000 Btu/hr.

★ The main features which make the THERMOPAK AI a really outstanding pump:—

- High power-to-size ratio.
- Wide range of performance.
- Operational in any vertical or horizontal plane.
- Silent throughout entire output range.
- Measures only 7½" in length; weight 10 lb. 8¼ oz.
- Two-year guarantee.

Available from stock at your local Merchant or the Sole Agents:

MONSELL, MITCHELL & CO. LTD.

HEATING AND INSULATION DIVISION

8/11 SIR JOHN ROGERSON'S QUAY, DUBLIN, 2. Tel. 776282.



Northern Ireland monthly review

APRIL 1969

THE new Kopex stainless steel flue lining package idea was launched in Northern Ireland by **BELFAST LAUNCHING FOR KOPEX** Messrs. Uni-Tubes and their agents, Aerocrete (Ireland) Ltd. at a trade evening in the Wellington Park Hotel, Belfast.

Mr. Neville Mason of Uni-Tubes gave a talk illustrated by colour slides on the new scheme.

Packs of 20 ft., 25 ft. and 30 ft. of stainless steel flue lining can now be obtained in a carton complete with clamp, sealing plate, wood lead plug and cord. For the present drums are

still stocked by Aerocrete for customers who want particular lengths. The package saves both the merchants and the customers time by the ability to hand a carton over the counter, as opposed to the laboriously measuring and cutting, as in the past.

Mr. Mason's talk was followed by a general discussion on the scheme and also the application of flue lining in general.

Refreshments and a buffet followed, and helped sustain those who had travelled some distance.



● Pictured at the annual meeting of the Northern Ireland Branch of Irish Heating and Ventilating Engineers were Architect Mr. B. Boyd; Mr. E. G. Brooks (President Institute of Heating and Ventilating Engineers); Mr. W. Williamson (Chairman of the Northern Ireland Branch of Institute of Heating and Ventilating Engineers); Mr. W. Szwander (Chairman N.I. Branch of Institute of Mechanical Engineers), and Mr. T. N. Shaw (Vice-Chairman of N.I. Branch Institute of Heating & Ventilating Engineers).

NOW that they are completely settled into their new premises, the Belfast branch of Crane Ltd. are finding that their plans for providing a more streamlined service to customers on moving to Stockman's Lane, have been fully realised.

CRANE COMPLETE MOVE

In addition to providing more storage room and better administration facilities the new headquarters are sited in an excellent strategic position, proving most accessible to Belfast and, perhaps even more importantly, to roads leading to each corner of the Province. The new premises are just off the motorway and are thus most accessible to customers from outside of Belfast.

Also proving a great advantage is the amount of parking space provided both for visitors and customers while the two lorry entrances serving high loaders and small vans have speeded up delivery procedures.

But perhaps the greatest advantage of the move has been the higher stock level accommodated in the new premises and this position is expected to improve even further in the months ahead.

The new address is : Crane Ltd., Meadowlands, Stockmans Lane, Belfast. The telephone number is 668222/3.



● AT the Kopex launching, from left : Mr. Ian Anderson and Neville Mason of Uni-Tubes Ltd., with Mr. Derek Hewitt and Mr. Allen Preston of Aerocrete (Ireland) Limited.



● Mr. Dave Fairclough of Uni-Tubes (centre) discussing a slide with (left) Mr. John Nelson of Aerocrete (Ireland) Ltd., and (right) Mr. William Gandy of W. C. Gandy & Co.

THE Stainless Steel Development Association has issued a Progress Report concerning the experience gained in the use of thin-wall stainless steel and describing the developments which have occurred since 1966, when the Association's booklet, "Stainless Steel for Domestic Services" was first published. Copies of the Report are available free of charge from the Association at 7, Old Park Lane, London W.1.

Nineteen

SHELL MEX and BP Ltd., with BSA Harford Heating Ltd., recently held a very successful Installer Evening in the Chamber of Commerce Buildings, BELFAST EVENING Belfast. The 16,000 boiler with MK4 Burner now specified by Shell Mex in Pack form was the subject for discussion of the evening.

BSA opened by showing their new film, "The Man Who Came in From the Cold." This humorous film explains in great detail the manufacturing of boilers and pumps.

Mr. W. McMichael, Technical Manager (Shell Mex) covered Installations and Systems and Mr. G. Richards (Northern Field Sales Manager, BSA)

● Mr. M. Wilson, Mr. W. McMichael (Shell Mex), Mr. J. Lowry, Mr. W. Bentham and Mr. J. Rockards (BSA Harford) photographed (left to right) in the Chamber of Commerce Buildings in Belfast at the recent BSA Harford trade evening there.



gave a general talk on BSA products. Mr. W. Bentham (Area Manager, Ireland) explained the MK4 Burner etc., assisted by Mr. W. Lowry (Service Engineer, BSA).

The evening concluded with a Shell film on pre-war car racing.

THE Beeston Boiler Co. Ltd., announces the introduction of a Radiant Strip which is particularly suitable for the heating of industrial buildings such as factories, assembly plants, workshops and garages, but because of its flexibility the unit may be used for heating, for example, large warehouses engaged in the wholesale and retail distributive trade.

A feature of the Strip is that it can be mounted horizontally to ceilings and roofings; vertically to side walls, or at an angle. Thus, maximum advantage can be taken of available structural fittings, although it is expected that the Strip will normally be fitted overhead in a horizontal plane.

The Radiant Strip—light in weight and with simple "easy-to-fix" bracketing—is effective at very high levels—30, 40 or even 50 feet. It can be suspended, or follow the "roof-line", and lengths can be joined together as long as allowance is made for expansion.

The heat source is a central steam or hot water boiler, medium rather than low pressure. Further details from: D. H. Sullivan, Greenpark, Coleville Road, Clonmel, Co. Tipperary.

● THE Selfline is a recently-introduced close coupled, in line pump from Holden and Brooke. Designed for general engineering and building services, the pump gives cheap, efficient and practically maintenance free service.

A notable design feature is that the Selfline is a 'back pull out' unit, which allows the pump body to remain in the pipeline whilst removing the rotating element, thus facilitating overhaul or repair.

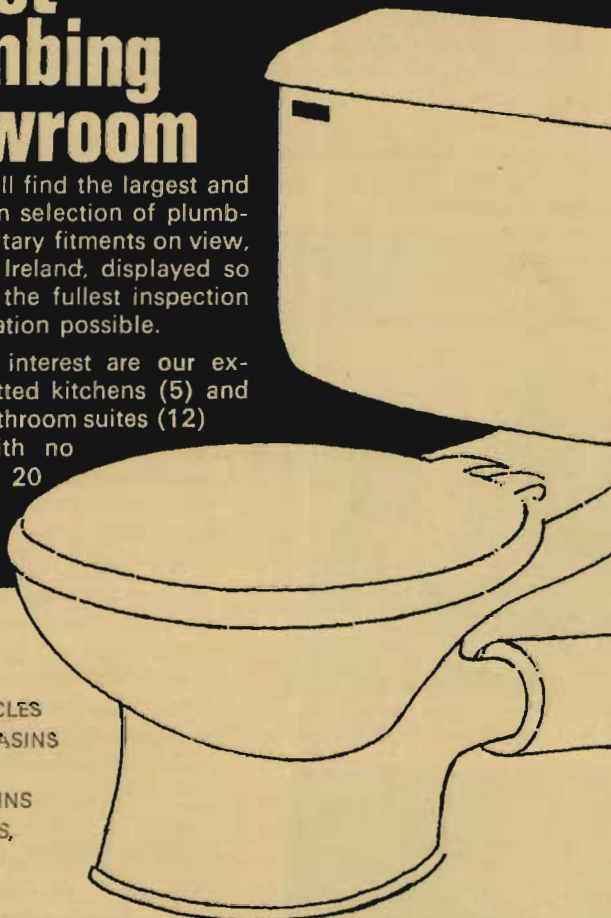
Working pressures of up to 100 psi and temperatures of 265°F are attainable. Duties range up to 700 gpm and up to 48 ft. Sizes are from 1½" to 6" in cast iron or gunmetal.

Northern Ireland's Finest Plumbing Showroom

Here you will find the largest and most modern selection of plumbing and sanitary fittings on view, in Northern Ireland, displayed so as to make the fullest inspection and examination possible.

Of especial interest are our examples of fitted kitchens (5) and complete bathroom suites (12) together with no fewer than 20 different stainless steel sinks.

SHOWER CUBICLES
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FIRECLAY SINKS,
ETC.



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THE recent 1969 Heating and Ventilating Exhibition, organised by the Belfast Chamber of Commerce in their headquarters in Great Victoria Street, proved highly successful and already plans are being laid for a repeat version in April next year.

The four-day event — the second in the series — evoked considerable reaction from the Northern Ireland trade and each of the fifteen exhibitors, representing some of the leading firms in Britain and Ireland, reported themselves pleased with their participation.

Throughout its duration, the event was supported by a series of evening lectures and film shows, highlighting industrial heating and underlining recent progress within the industry as a whole.

Officially opened by the Northern Ireland Minister of Commerce, Mr. Roy



● Mr. Roy Bradford, Minister of Commerce, who opened the exhibition, with (from left) Mr. Eric McBride, Institute of Fuel; Dr. H. S. Corscadden, President, Belfast Chamber of Commerce and Industries, and Mr. Len Maple, Chairman of the exhibition's organising committee.

Bradford, in the presence of a large gathering of distinguished trade personalities, the exhibition provided a perfect opportunity for architects, builders and

engineering consultants to see at first glance the latest developments in the heating, ventilating and air conditioning fields.

HEATING and VENTILATING EXHIBITION JUDGED HIGHLY SUCCESSFUL

AIR CONDITIONING AND ENGINEERING (Northern Ireland) LTD.

A VERY extensive display of grilles, registers, diffusers and ducting equipment for use in warm-air heating installations comprised the impressive exhibition of Air Conditioning and Engineering (Northern Ireland) of grilles and have been produced in a range of sizes.

In addition, the company also took advantage of the occasion to introduce a range of new-size floor diffusers. Constructed from mild steel, they were of the stamped face type. Operation is by a geared lever mechanism. In addition, the grille louvres may be individually set to a desired angle and finish is of stove enamel on phosphate coated metal.

The firm has been for some time the only manufacturer in Northern Ireland of grilles and have been producing these together with registers for industrial and domestic use for a number of years. With the progress and advance of warm air heating systems, the company is now also supplying ducting and fittings.

Comprehensive stocks of "snap-lock" ducting, one of the most popular of its type, are carried by the firm in their premises at Lauravale, near Portadown.

Mr. Kenneth Bell and Mr. Orby S. Brown, both of the Sales Office, were available at the stand.

BABCOCK AND WILCOX GROUP

A FULLY operational Vaporax Steam Boiler made its first appearance in Northern Ireland as a package unit with the model attracting more than ordinary interest to

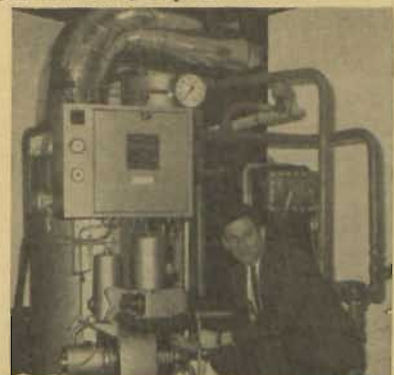
AN IPHE Reporter reviews here the exhibits at the recent 1969 Heating and Ventilating Exhibition in Belfast. (Exhibits reviewed in alphabetical order).

the stand of the Babcock and Wilcox Group of Companies.

The unit, discharging live steam



● ON the Kosangas stand at the Belfast exhibition were (left to right) — Mr. Brian O'Connor, Industrial Sales Representative; Mr. Donald M. Jack, do.; Mr. Cecil Miller, Sales Manager, Kosangas (Northern Ireland) Ltd.; and Mr. David McKeown and Mr. Hugh McClure, Industrial Sales representatives.



● Mr. Len Maple, Area Manager, Babcock and Wilcox Group, on the Babcock and Wilcox stand at the Belfast exhibition.

to atmosphere, gave viewers an ideal opportunity of seeing how the unit actually operates.

Two members of the Babcock group, Babcock & Wilcox (Packaged Boilers) Ltd. and Vauxhall Boilers (Penman and Co. Ltd) were involved in the display which also featured a Babcock Desalinator which converts sea water into fresh water using low grade waste heat.

Introducing visitors to the excellently mounted display were Mr. W. C. West, Sales Director, Babcock and Wilson (Packaged Boilers) Ltd.; Mr. Len Maple, Area Manager, Babcock and Wilcox (Operations) Ltd. and Mr. R. Baker and A. Martin, Project Engineers.

The two companies, already renowned in Northern Ireland as suppliers of the Steamloc boiler, have been particularly active in Northern Ireland and have met with considerable success.

Also on the stand was a 500,000 BTU hot water boiler which had a large range of applications.

The Babcock Ulster office is at 16 Wellington Park, Belfast, under the name of Charles Reynolds Ltd.

F. E. BEAUMONT LTD. LUKE MARTYN LTD.

MODELS of 200, 250 and 300 ft. chimneys, erected in parts of Britain, were excellently displayed on the stand of F. E. Beaumont Ltd and Luke, Martyn and Co. Ltd. of 1 Sandyhill Park, Drumbeg, Dunmurry, Belfast.

Particularly impressive was a model of a three-chimney structure erected by the Beaumont firm in a concrete structure at York.

On the stand were Mr. Desmond
Continued overleaf

EXHIBITION REPORT

● From previous page

Hewitt, Manager, Engineering Division, F. E. Beaumont Ltd.; Mr. G. Baker and J. Young, Gambles Simms (Steel) Ltd., and Mr. Jim Luke of Luke, Martyn and Co. Ltd.

Beaumont present one of the most effective ways of fighting the condensation of deposits which turn into sulphuric acid, causing rapid deterioration of the interior of the flue, and which is a direct result of low temperatures on the inside of a factory chimney.

Beaumont achieve this by using expanded Perlite, an effective insulant developed from a volcanic lava and which is used as an in-fill in Clements-Beauvent multi-flue chimneys. The chimneys reduce heat losses in the inside flue so that the formation of sulphuric acid is most completely eliminated.

The expanded Perlite is used between the outer and inner skins of the chimney and another result is that even when only one of several boilers is operating, the velocity of the flue gasses is kept fairly high, so that a taller smoke plume more effectively dispenses the gasses.

A single flue "package deal" chimney is also manufactured by Beaumont.

BELFAST GAS

THE free technical service that it provides for both industrial and commercial users was given considerable emphasis at the Belfast Gas Stand at the exhibition, the stand consisting mainly of photographs of gas fired boilers, warm air units, overhead radiant heaters and balanced flue convector heaters.

The display showed the appliances as installed and the heating applications in large stores, banks, office blocks, garages, production plants and churches.

Several of the gas heating installations were of extremely large proportions, with the use of 4,445,000 BTU and 3,500,000 BTU boilers which have been installed in city centre properties in warm air heating installations.

There were also photographs of the Drugasan balanced flue gas heaters and Hamworthy Hydrotherm gas fired boilers of up to 240,000 BTU.

Undoubtedly one of the most advantageous services offered by Belfastgas is their technical advice. The Belfastgas technical staff housed at 1 Ormeau Rd., is available to advise on any form of commercial or industrial gas heating installation, irrespective of size. The service is free and is backed up by the resources of the manufacturers of gas heating who supply this market.

Mr. A. J. Hewitt, Industrial Gas Officer, and Mr. E. N. Simpson, Consumer Service Engineer, said that this was the first time that the firm had participated in the exhibition and



● ON the Runtalrad Ltd. stand, from left: General Manager, Mr. Len Fitzgerald; Mr. Roy Bradford, Minister of Commerce; Dr. H. S. Corscadden, President, Belfast Chamber of Commerce and Industries; and Runtalrad's N.I. Agent, Mr. Bill Maginnis.



● Mr. Jim Luke, Managing Director, Luke, Martyn and Co. Ltd.; Mr. Desmond Hewitt, Manager, Engineering Division, Gambles Simms (Steel) Ltd., and Mr. John Bovett, Technical Sales Representative, F. E. Beaumont Ltd., pictured on the Beaumont - Luke, Martyn stand at the exhibition.



● Mr. Kenneth S. Hampton, Personal Assistant to the Managing Director of Alfred Allen Maxeta Ltd.; Mr. F. Hendron, Managing Director, Hendron Brothers (Belfast) Ltd., and Mr. Laurence J. Picken, Alfred Allen Maxeta Ltd., on the Alfred Allen stand at the exhibition.



● Visitors to the stand of John J. Doyle Ltd. were Mr. Jack Roycroft, OBC Ltd., Belfast, and Mr. Ronnie Barnet, Ministry of Finance, seen here with Mr. John J. Doyle at the exhibition.



● Photographed on the very attractive National Coal Board stand at the Belfast exhibition were Mr. R. Cameron, Marketing Manager, National Coal Board (Northern Ireland); Betsy McDonald, do., and Mr. S. Hicks, Chairman, Northern Ireland Coal Importers' Association.

CLARENCE ENGINEERING CO. LTD.

FROM a modest concern established in 1918, Clarence Engineering Co. of Donegall Rd., Belfast, has mushroomed to vast proportions. At the moment it employs 200 people in its premises where it designs and manufactures dust and fume extraction systems, boiler flues, steel factory chimneys and air conditioning plant.

In addition, the company continues to build car bodies, a task for which it was initially set up.

It is following the Second World War that the Clarence Engineering Co. diversified into other lines of manufacturing activity.

At present, its full fabricated workshops is equipped to deal with all sheet metal fabrication requirements using up to half inch plate. About 100 domestic oil fuel tanks of from 130 to 1,000 gallons capacity come off the production lines each week and the company also makes heavy duty oil and water tanks of up to 100,000 gallons.

In addition, the company specialises in surface coatings, and in all types of stove enamelling to various finishes. The new low and high temperature paint stoving facilities (180 to 430 degrees F.) with variable control ovens are probably the largest in Northern Ireland.

This was the company's second time to exhibit at the Chamber of Commerce Show. Last year they enjoyed a very successful exhibition and they were expecting similar fortune this year.

Mr. Robert Wallace, a Sales Engineer with the firm, said that if they did as well this year as they had done twelve months ago then "we will be very happy indeed."

JOHN J. DOYLE AND CO. LTD.

JOHN J. DOYLE and Co. Ltd., the Belfast refractory materials manufacturer has proved so successful that it has now broken into the keenly competitive British market.

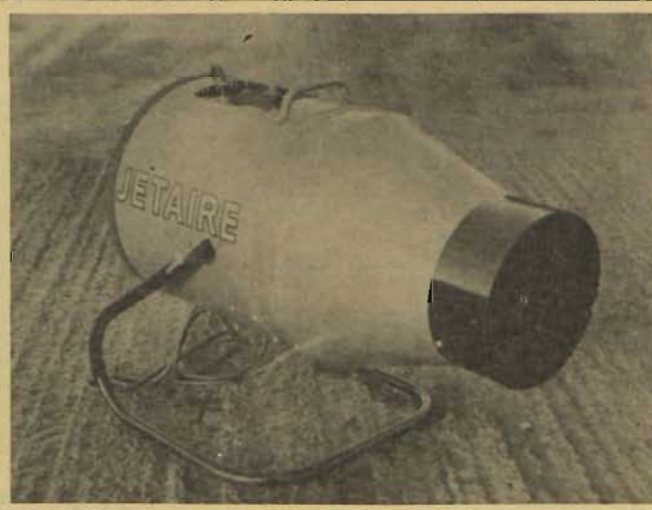
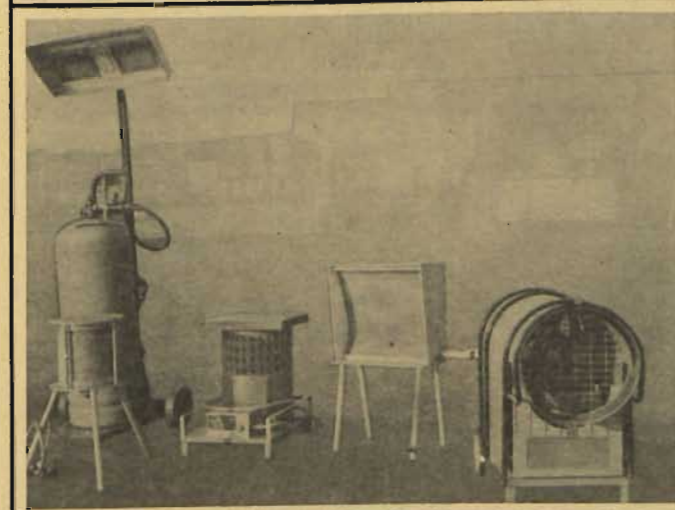
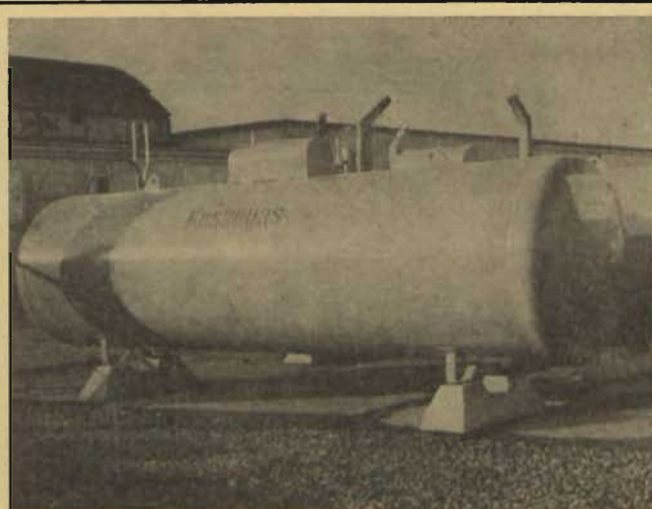
This was the news he had for us when we called to his stand at the exhibition.

The Eliza Street firm has been supplying refractory materials to the Northern Ireland market for almost fifty years and recently it has fulfilled some big contracts in Britain in supplying and installing firebrick linings for combustion chambers in commercial heating appliances.

The company is one of the few firms of its type who specialise in the supply and installation of the refractory materials. It works mainly through architects and heating engineers on new projects. The firm also works directly with existing firms on the maintenance and repair of plant and equipment.

Continued page twenty-four

isn't this the kind of versatility you want from a heating fuel?



Top Left Customer Delivery. Top Right Customer's own Storage Point. Bottom Left Selection of Emergency Heating Equipment. Bottom Right Large Warm Air Blower.

To heat a Factory or Farm Building, Ballroom or Building Site, all with equal efficiency.

Kosangas has this adaptability, this all-round capacity to solve Heating problems, however complex, however simple.

Kosangas control is instant. It burns cleanly, without fumes or deposits. And, it's backed up by the service you expect from an efficient modern Fuel system.

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For the full Kosangas Heating story, contact the Industrial Sales Division, at Belfast 43221.

Ask, too, about the Kosangas Equipment Hiring Service.



Kosangas (Northern Ireland) Limited, 7 Fountain Street, Belfast, BT1 5EF. Telephone 43221

EXHIBITION REPORT

• From previous page

STRUCTANE LIMITED

FOR the second exhibitor from the Twenty-Six Counties to participate in the exhibition, success was also the order of the day.

Structane Ltd., the Greenhills Industrial Estate (Walkinstown) manufacturer of Insulex, reported themselves highly pleased with the reaction which their stand aroused.

The polyurethane Flexible Foam Pipe Insulation has already been extremely well received in Northern Ireland, where Mr. Bill Maginnis is agent and has been widely specified by consultants.

In charge of the stand was Mr. Dermot Murphy, Managing Director of Structane Ltd.

Insulex is a soft foam plastic material comprising 5 per cent polyurethane foam plastic and 95 per cent air. It is constructed of a large number of air cells with diameters of less than 0.5 mm.

It is not attacked by air, gases, grease, oil or mild acid or chemicals and cannot be damaged by moist solvents.

Insulex has a melting point between 180 and 220 degrees C. and can safely be used on hot water pipelines, usual central heating lines and low pressure lines.

It has a smooth water proof surface which stands low temperatures and can

COAL BOARD CHIEF SPEAKS TO INSTITUTE OF FUEL



● Coal Board Chief Lord Robens, recently spoke to a meeting of the Institute Vice-Chairman; Lord Robens, Chairman, National Coal Board; Mr. S. B. of Fuel and Power in Belfast when we pictured (left to right) Mr. W. Crowther, Hamilton, Chairman Institute of Fuel (N.I.) and Mr. F. R. McBride, Hon. Sec., Institute of Fuel.

be used on pipes for cold water and on refrigeration pipework. It is also an acoustic insulator.

ULSTER MERCHANT FINANCE

THE emphasis placed by the concern on the facilities it offers for the financing of both domestic and large scale industrial and commercial heating and ventilating installations was the highlight of the stand of Ulster Merchant Finance, the merchant banking and hire purchase subsidiary of the Ulster Bank, at the exhibition.

The company has made outstanding progress and now has offices in Dublin, Coleraine, Cork and Dundalk, while expansion of its business necessitated a change of headquarters in Belfast where it has new premises in North Street.

The General Manager of Ulster Merchant Finance, Mr. Malcolm Wallace, pointed out the great need for finance of the smaller businessman, who forms the backbone of the whole com-

mercial structure. It was imperative that he have access to medium term capital, he stated.

A NEW high pressure version of the Arkon 63 pressure recorder and indicator has been announced by the manufacturers, Arkon Instruments Ltd. of Cheltenham. Modern Plant Ltd. of John F. Kennedy Drive, Naas Road, agents for Arkon in Ireland, can supply the new unit.

Previously the pressure range of the instrument was limited to 50 p.s.i., but the introduction of this high pressure version means that pressures of up to 500 p.s.i. can now be recorded.

The instruments are available in the following pressure ranges: 50 p.s.i., 100 p.s.i., 150 p.s.i., 200 p.s.i., 300 p.s.i. and 500 p.s.i.

THE MYSTERIES OF MICROBORE

DUE TO PRESSURE OF SPACE THIS MONTH, WE HAVE HAD TO HOLD OVER THE LAUNCHING OF OUR NEW SERIES "THE MYSTERIES OF MICROBORE" UNTIL NEXT MONTH.

Twenty-six

TWO new units have been added to the range of pumps distributed in Ireland by P.W.S. (Public Works Services Ireland Ltd.) of Warrenpoint Road, Newry, for the manufacturers, Industrial Pumps.

One is a highly versatile sludge pump, Flygt No. DS. 3080 and the other is Flygt No. CP. 3151.

The sludge pump, Flygt No. DS. 3080 is capable of pumping solids bigger than tennis balls. The casing is rubber-lined which gives longer life under severe conditions. The range of duties performed are, at zero capacity 27' head and at zero head 390 g.p.m. The pump runs at 1400 r.p.m. and absorbs 5.2 H.P. power supply 3-phase, 50 c.p.s.

The weight of the pump is 110 lbs., which allows manoeuvrability by one man. The discharge connection is for either 3" or 4" hose.

Flygt No. CP.3151, also been brought into the range of pumps manufactured by Industrial Pumps, fills a role between the CP.3150 and CP.3200 where a large gap had appeared in the range of pumps. The maximum head at zero capacity is 91.5' and the maximum capacity at zero head is 1400 g.p.m. for the largest impeller. For the smallest impeller, the maximum head at zero capacity is 49' and the maximum capacity at zero head is 1100 g.p.m. The pump itself is manufactured with two sizes of motors, i.e.



● The Opiomatic Compact 5, manufactured by B.S.A. Harford Heating Ltd., is the latest addition to the world famous range of Opiomatic Circulating Pumps. For systems up to 75,000 Btu/h.



● The Super Opiomatic from B.S.A. (See Review).

SPECIAL REVIEW

● From page eighteen

8 H.P. and 15 H.P. suitable for a 3-phase, 50 c.p.s. supply.

★ ★ ★

THE Selfline In-Line Pump of Holden and Brooke Ltd., Manchester, is a brand new close coupled, in-line pump designed for general engineering and building services.

Giving cheap, efficient and practically maintenance free service, the Selfline is capable of heads up to 48 ft. and quantities of up to 70 gpm.

The Selfette In-Line Pump, although well established, has been completely redesigned to give higher heads and can be offered as a smaller, less expensive unit for comparable duties. Available in standard cast iron construction, this pump is super silent and ideally suitable for low and medium pressure heating systems. For domestic hot water service a gunmetal model is available.

In addition to the above, a new design development will soon be available which enables Selfette or Selfline pumps to be coupled together to form a compact set of which either unit can be isolated and serviced without halting the circulatory flow.

The products are available from : G. C. Pillinger & Co. (Ireland) Ltd., 20 Sycamore Street, Dublin, and John Hind & Sons Ltd., Prince Regent Road, Belfast. BT5 6RS.

★ ★ ★

J. S. LISTER Ltd. of Lomond Avenue, Fairview, Dublin, are the Irish distributors for the Sundstrand range of circulators with the Models R, RA and RB, probably the highlights of the series.

The Model R uses the well tried wet rotor principle thereby eliminating shaft seals with a consequent increase in mechanical efficiency and the avoidance of seal leakage.

The capacity curves show the pump's suitability for different sizes of heating systems. The pump is available with 3 alternative types of impeller depending on the performance required. Max. permissible pressure is 85 PSI. The materials employed in the pump are of special heat resistant quality enabling continuous operation at a water temperature of 250°F (120°C). The Model R is guaranteed for a period of 2 years from date of delivery.

The Model RA is an indirectly coupled unit employing a highly efficient mech-



● The Thermopak AI accelerator, manufactured by International Janitor Ltd., Camberley, Surrey, is available for closed circuit heating systems. It has a variable head and is able to operate in any plane in domestic systems up to 150,000 Btu/h. The Thermopak is available in both the Republic (enquiries to Monsell, Mitchell and Co. Ltd., 67-73 Townsend St., Dublin 2) and Northern Ireland (enquiries to International Janitor Limited, Camberley, Surrey).

anical seal. The capacity curves show the pump's suitability for all types of heating systems. The maximum permissible pressure is 150 PSI. Model RA is delivered with 3 alternative sizes of impeller depending on the performance required. A special method of lubrication of the rotary seal ensures a very long life and increases its reliability.

The Model RB is intended for use in conjunction with domestic hot water and open circuit systems. All parts that come into contact with water are made of bronze and will therefore not be subject to corrosion attack.

The capacity curves show the pump's suitability for different sizes of heating systems. The maximum permissible pressure is 150 PSI. The Model RB is delivered with 3 alternative sizes of impeller depending on the performance required. A special method of lubrication of the rotary seal ensures a very long life and increases its reliability.

* * *

G. T. HYDRAULICS of Birmingham manufacture a range of pumps in which no isolation valves are necessary and in which one valve isolates, regulates and provides the by-pass system.

The range of central heating pumps from the English firm is the result of two companies, one a precision aircraft

Continued overleaf

The Irish Plumbing and Heating Engineer.

SPECIAL REVIEW

● *From previous page*

component manufacturer and the other, a high quality plastics manufacturer, combining to produce brilliantly designed circulating pump which incorporates new features to overcome all known pump problems.

One of the outstanding features of the pump is that it can be removed when the heating system is in use.

The complete pump can be detached from the valve in two minutes leaving your central heating system still functioning on thermosyphon flow, allowing cleaning and servicing to all working parts of the pump with no drainage or venting of the system necessary. The pump runs cool and heat loss is very low being manufactured in insulated material. Other parts are made in stainless steels and solid brass to prevent system contamination, iron or alloys are not used. The bearings are silent long life tested and the rotor shaft unit is triple coated and stoved to prevent contamination.

Further details are available from Irco Trading Co. Ltd, of Pearse Street, Dublin.



● The Sunstrand Series 23 Water Circulator available from J. S. Lister Ltd. The pump's many features include two isolating valves with every pump; silent operation; variable duty; extremely compact; automatic self-purging of air; precision manufacture—ease of servicing, and a two year guarantee.

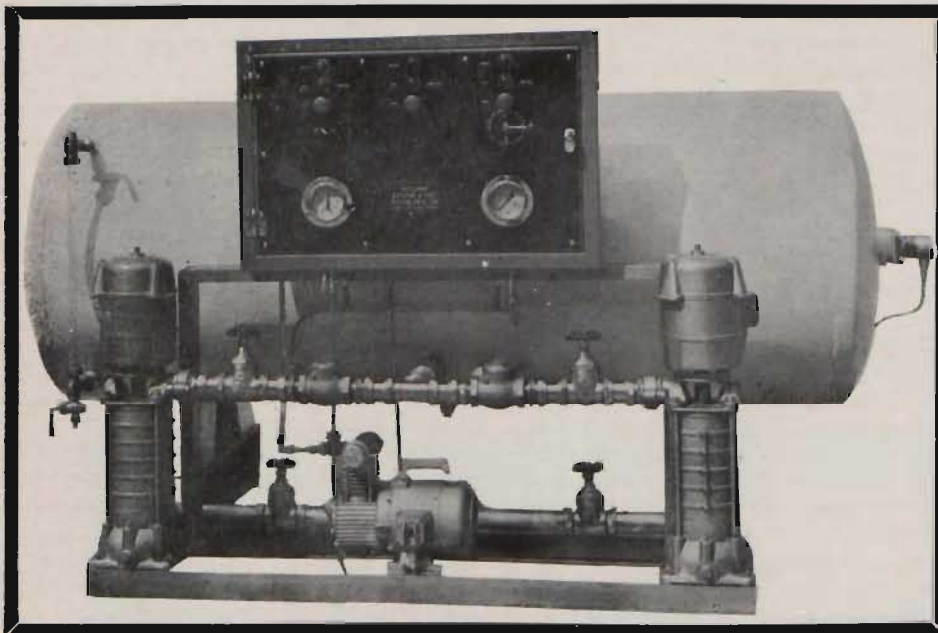
THE HAMMOND LANE Group has bought a 75 per cent shareholding in Blackrock Engineering Works, Blackrock, Co. Dublin. Its founder, Thomas Rynhart, retains 25 per cent. Blackrock Engineering Works' business has been merged with the similar division of Hammond Lane in a new company called Blackrock Engineering.

GAUGE

● AN efficient and simple means of detecting and measuring corrosion without shutting down plant or machinery is provided by a high-accuracy instrument known as Type N711, portable, transistorised, gamma backscatter gauge.

Designed to facilitate the location of small defects in pipework and so on, the instrument can also be used to gauge the thickness of pipe or tank walls where access is available to one side only. Defects of 4 in. (6.35 mm) diameter and 50 per cent. deep (or of proportionately less depth at larger diameters) will give a detectable response. No special surface preparation is required, and paint will not affect the readings.

Ereco Electronics Ltd. are the manufacturers, and Kelly & Shiel Ltd., United Works, Distillery Road, are their agents.



for further details contact

Malfunction is a dirty word

DROP IT from your vocabulary when you instal the Holpak Booster Pressure System

Holpak Hydro-neumatic Booster Systems are

- Completely Automatic. Absolutely reliable due to complete duplication of controls.
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THE Emperor Napoleon's recorded sayings are largely fictitious and concerned to an unreasonable degree with private conversations between himself and his Empress Josephine. One thing, however, which in all probability he really did say ran as follows :

"If an officer is stupid and lazy, get rid of him. If he is stupid and industrious retain him. If he is clever and industrious promote him, but if he is clever and lazy, put him on the staff."

In my view, this is an utterly reasonable philosophy. All the great benefits that the world has enjoyed have been due to someone trying to make life easier for himself. It was a lazy man who invented the wheel, and that great benefit to all engineers, the slide rule, was invented by his descendant many thousands of years after. A lazy man invented the steam engine.

Perhaps the classic case is the Piob Uillian—who but an Irishman would devise a bagpipe to be operated in the most natural manner possible, by lifting and depressing the elbow. (Shakespeare called it the "woollen" pipe — how insular can you get!) Incidentally, let no one think that Napoleon met his Waterloo at the



hands of someone who was less lazy. The Duke of Wellington once stated that he never replied to letters; if the matter was urgent enough someone would always call.

I myself am a lazy man, though I shall never soar to the heights of the great ones. Somewhere along the way my ideas have failed to work out. No lazy man ought to work more than a six hour day. However, I look forward to a lazy old age, when following a deplorable amount of activity now on the part of all those concerned with heating standards, we will enter

the "Golden Age" when central heating problems will be a thing of the past.

A certain amount of low cunning is necessary if one is to be lazy on the grand scale, and this is lacking in some quarters. There is the sort of "be lazy now, pay later" approach that gets one nowhere. This includes ignoring complaints in the hope that the customer will get tired and go away. They never do it; it always gets worse.

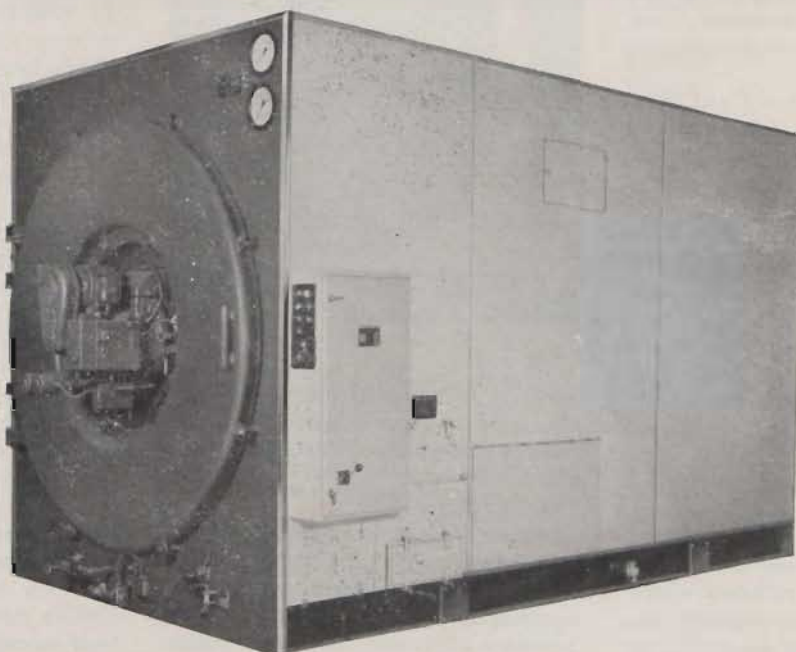
Another approach to laziness which becomes very painful in the long run is the question of materials. Walk into any builder's suppliers during working hours, the place is full of lads who have temporarily left the job to pick up some bit or piece that was overlooked at the planning stage. Man'hours lost in this way can add up to a fantastic total and there is not even any pleasures to be gained by hanging around in a builders' suppliers, depressing places all of them. Probably this particular problem is tied up with lack of capital. People tend to order the minimum materials necessary to get over a particular job, whereas a better approach would be to carry a stock at least of the articles that can sometimes be hard to get in a hurry.

CENTRAL HEATING WITHOUT DOUBLE GLAZING? that's a cold-blooded decision to make

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- ★ Gas and oil firing.
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- ★ Automatic magnesite injection—neutralises sulphuric acid in flue gases.
- ★ High thermal efficiency—constant over full range of operation.

Cochran Clansman boilers are available for low, medium and high temperature hot water applications from 1 million to 25 million Btu/h.

COCHRAN CLANSMAN

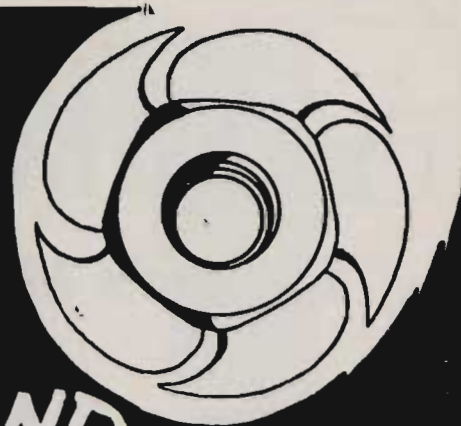
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S. W. CARTY & SON,
12 Lower Mount Street, Dublin 2 (Tel : 62018 and 66546).
SOUTHERN ENGINEERING CO., LTD.,
Parnell Place, Cork (Tel : 21712).
W. H. SCOTT & SON,
130 Upper Newtownards Road, Belfast 4 (Tel : 654680).

COCHRAN & CO., ANNAN, LIMITED, ANNAN,
DUMFRIESSHIRE, SCOTLAND.
TELEPHONE : ANNAN 2111. TELEX : 778183.
LONDON : 01-222 4441. TELEX : 27214.

industrial heating & ventilating

IN IRELAND



FORMS NEW COMPANY

MR. DAVID WHEELER, who recently resigned from the British Steam Specialties, has formed a new company in Dublin — McCaig, Collim and Wheeler Ltd., in association with McCaig, Collim and Co., Belfast.

The new firm, which has headquarters at Hazlewood House, Ranelagh Road, Dublin (Tel. 917426), will act as suppliers for heating, ventilating, steam and process applications.

In addition, it will act as representatives for the following firms: **Hopkinson Ltd.** (manufacturers of reducing valves, globe valves, parallel - slide valves, boiler mountings, etc); **Horseley-Piggott** (manufacturers of sectional pressed steel tanks); **Duncan Low** (manufacturers of outflow and line heaters for oil and other fluids); **Royair Ltd.** (manufacturers of extruded aluminium grilles and registers) and **Standard and Pochin Brothers Ltd.** (manufacturers of air conditioning units, air handling units, fans and air heater batteries).

The Ranelagh Rd. headquarters house both stores and administration offices.



● AT THE IHVE Trends in Prefabrication session were, from left: Mr. Conor Sexton (Ulster Plumbers, Heating and Ventilating Contractors Association); Mr. John H. Jones (J. H. Jones & Sons); Mr. John B. Doherty (J. B. Doherty Ltd.); Mr. Frank Traynor (Kosangas), and Mr. Tom Twomey (Office of Public Works).



● Mr. Patrick J. Clonan, Vice-Chairman, Republic of Ireland Branch IHVE (centre) with Mr. Michael McDonagh, Committee member, Varming, Mulcahy Reilly Associates, and Mr. Tim O'Brien, Kenny and Partners.

GAVE LECTURE ON TRENDS IN PREFABRICATION TO IHVE

BAD weather conditions at Dublin Airport prevented Mr. P. E. Allwright of the Heating and Ventilating Research Association from delivering a lecture on the Latest Trends in Prefabrication to a meeting recently of the Institution of Heating and Ventilating Engineers, Republic of Ireland Branch.

Mr. Allwright's flight had to be diverted to Belfast and as a result he was un-

able to reach Dublin in time for the lecture. However, the branch hope to have Mr. Allwright make a return Dublin visit in the Autumn during its coming lecture session.

Despite Mr. Allwright's inability to attend, a lengthy debate, chaired by Vice-Chairman Mr. P. J. Clonan, took place among the members, a clear indication of their keen interest in prefabrication.



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trade Topics

THE York division of Borg-Warner Ltd., has received an order to supply

DUBLIN'S FIRST TURBOPAK

and install two Turbo-pak water chilling systems for the plant, currently being extended of Premier Dairies

Limited, Dublin.

In the York Turbopak system, the condenser and cooler are both of shell-and-tube design but by combining the two within a single shell, with the centrifugal compressor, driving motor and electronic control centre mounted on top, a very considerable saving in floor area required can be made. In addition the system is supplied as a packaged unit thereby greatly facilitating installation.

Consultant engineers for the project, Hal Williams & Co., Guildford, recommended the Turbopak system's inherent simplicity and reliability in preference to other schemes incorporating conventional coil-in-tank evaporators. The capital outlay involved in replacing the existing equipment compared favourably with alternative updating schemes and offers substantial savings in operation costs.

★ ★ ★

TEDDINGTON Autocontrols Ltd., are now offering the TF range of

SWISS OIL BURNER CONTROLS

ignition - restoring type oil burner controls manufactured in Switzerland by Satronic A. G.

Zurich. Enquiries here to British Steam Specialties Ltd., 33, Leeson Park, Dublin 6.

The quality of this attractively styled, robust and reliable control is reflected by an outstanding record of success in the highly competitive control field on the continent.

Three versions are available the TF20B standard model, the TF21B with pre-purge and pre-ignition, and the TF22B with pre-purge, pre-ignition and post ignition. Each operates in conjunction with a photo-resistor assembly to ensure safe light-up and shut-down of the burner. On each model, lockout safety time is 15 seconds and minimum re-set time from lockout is 60 seconds.

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-a Normond Gauge exclusive

You may now read the inside story of a tank—as it happens—frankly confessed to and factually reported by Normond—Britain's leading content investigator. Heating Engineers who want their clients to know the whole truth at all times should subscribe to the Normond fact-finding service.

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TANK CONTENT GAUGES

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HYDREX WORKS, PARADISE ROAD, RICHMOND, SURREY.
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A RECORD number of visitors and full order books were recorded at this year's highly successful 5th ISH International Exhibition for Plumbing and Heating Equipment which closed recently in Frankfurt.

The comprehensiveness and truly international character of the exhibition can best be judged from the fact that this year 914 exhibitors were directly involved with an additional 96 concerns also represented.

Visitor numbers for the five-day exhibition far outstripped predictions and although this year's event ran for four days less than the previous one in 1967, the attendance even exceeded the '67 figures. At the close of the 5th ISH 114,000 admission tickets had been sold, an increase of 11 per cent over '67.

The XIX Congress for Heating, Ventilation and Air-Conditioning held at the same time (on the 27th and 28th of March) in Congress Hall of the Fair



● A view of the Administration Building of the Frankfurt International Fair. Below: A section of the Sanitaryware Exhibition Section.



and Exhibition Grounds was an additional attraction. It served to provide an active exchange of opinions on the

trade Topics

status and future development of heating and ventilating problems in connection with questions concerning economy, standardisation, construction engineering and architecture. A lecture and discussion meeting staged by the Association of the German Plumbing Trade (VDS) occupied itself with similar problems in plumbing engineering.

The domestic and foreign exhibitors reported not only a lively interest in the lines they displayed (especially for new and further developed products) but also great demand. They were able to take a great number of firm orders from at home and abroad, although the majority of the trade visitors at this Exhibition do not usually buy directly from the industry.

The Exhibitors Questionnaires of the Association for Market Research (GFM) Hamburg, showed a high degree of satisfaction. 96 per cent expressed satisfaction with the interest in their products, and 91 per cent with the business results. Good follow-up business from contacts made at the exhibition with domestic visitors is expected by 82 per cent of those handing in questionnaires and 57 per cent with foreign visitors. The exhibitors of pipes, tubes and accessories, as well as pumps and fittings, expressed more than average satisfaction.

It is also part of the role of the International Exhibition for Plumbing and Heating Equipment to serve as a testing period for new products and also to give detailed information about prevailing and developing technical and market trends. And the 5th ISH certainly lived up to its high reputation in this connection.

★ ★ ★

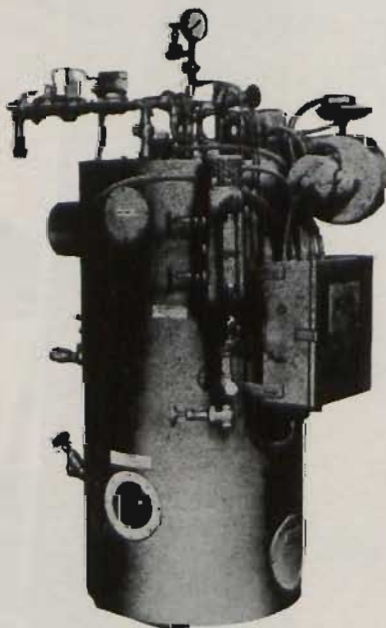
ALLIED Ironfounders Limited has launched a new industrial hot water boiler of an exceptional design not previously seen here. Produced to relevant British Standards from a unique French design, the boiler combines two boiler units in one shell. It can provide a complete stand-by system at a cost saving of approximately 40 per cent. over established methods for diverse sites from housing blocks to factories.



SERIES "E" BOILERS

NO TUBES • NO COILS

- Engineered from top to bottom to be the world's best vertical, tubeless boiler!
- Excellent design proven by over 18,000 worldwide installations!
- Efficient performance unequalled by any other boiler!
- Endorsed throughout the world by leading manufacturers and distributors!
- Extra-pressure up to 150 P.S.I.!
- Economy in fuel, space and maintenance!
- Endurance proven by years of trouble-free operation!
- Extra-Value proven by Certified Performance!
- Steam Capacities, 210-1,725 lbs./hr from and at 212° F.
- Completely assembled, ready to install!
- One complete package!



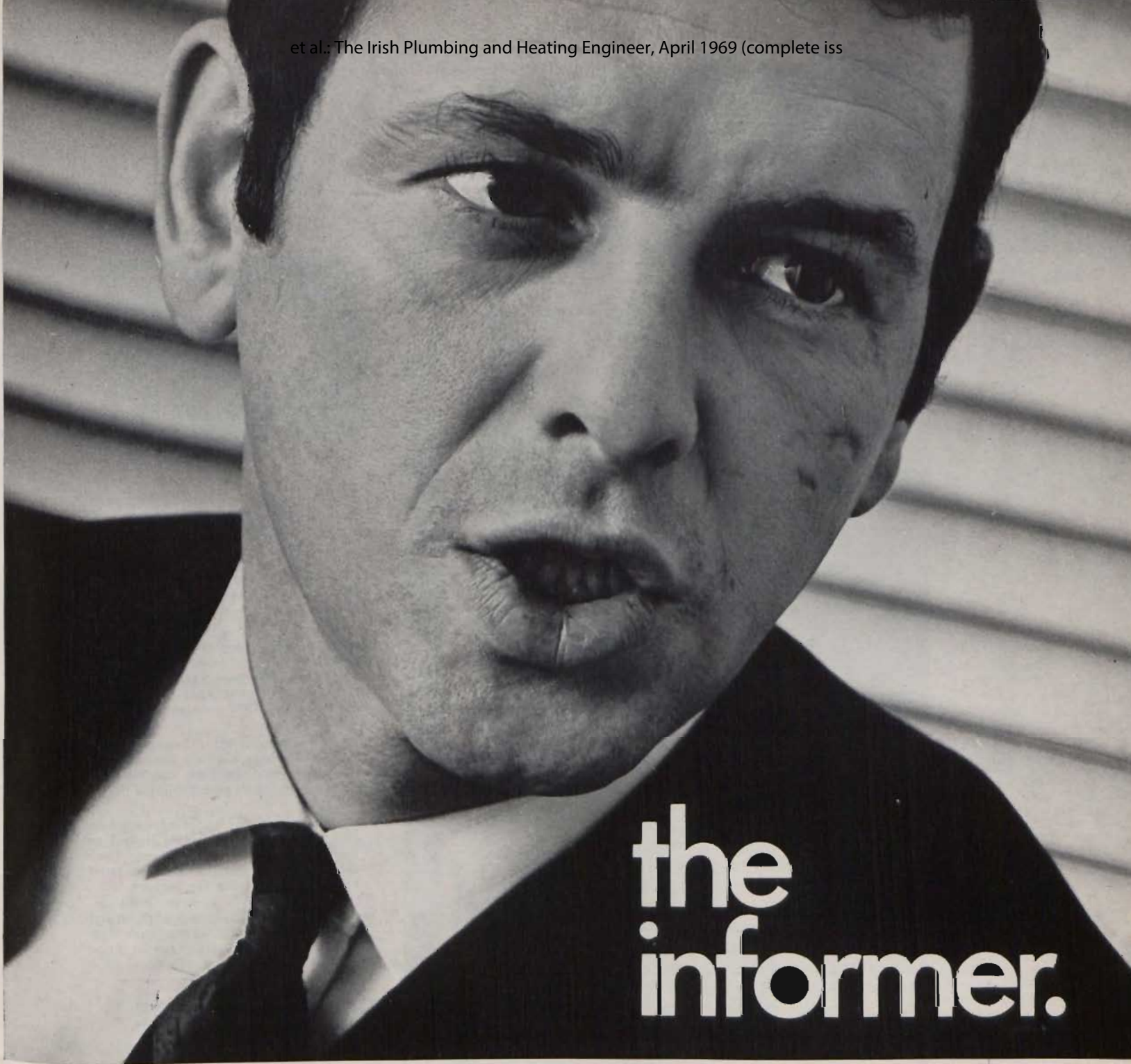
GAS OR OIL FIRED

- Deliveries normally ex stock

A.P.V.--DESCO
(IRELAND) LTD.

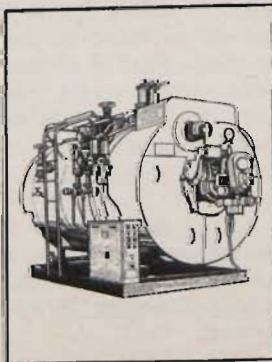
ROCHES STREET, LIMERICK
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Dublin 503566

Thirty-four



the informer.

Frank Hollis is a John Thompson Contracts Engineer ... he carries your order through and keeps you informed of progress.



When you place your order for a John Thompson boiler you are handed over (if you'll pardon the expression) to your local Contracts Engineer. He is, we believe, a breed exclusive to John Thompson. We think he's an asset — to you, to us and to the contract. He takes over where the Sales Engineer leaves off, and his job is to take care of all the details, report progress frequently and generally see your order through until the new boiler is commissioned and fully operational. It's the first stage of the John Thompson service that goes on after your boiler is commissioned to ensure that it gives you reliable local service and maintains peak efficiency.

For more information on the John Thompson range of best selling package boilers contact John Thompson (Shell Boiler Division) Ltd., Lilybank Works, London Road, Glasgow, E.1. Tel: 041-554 6311.

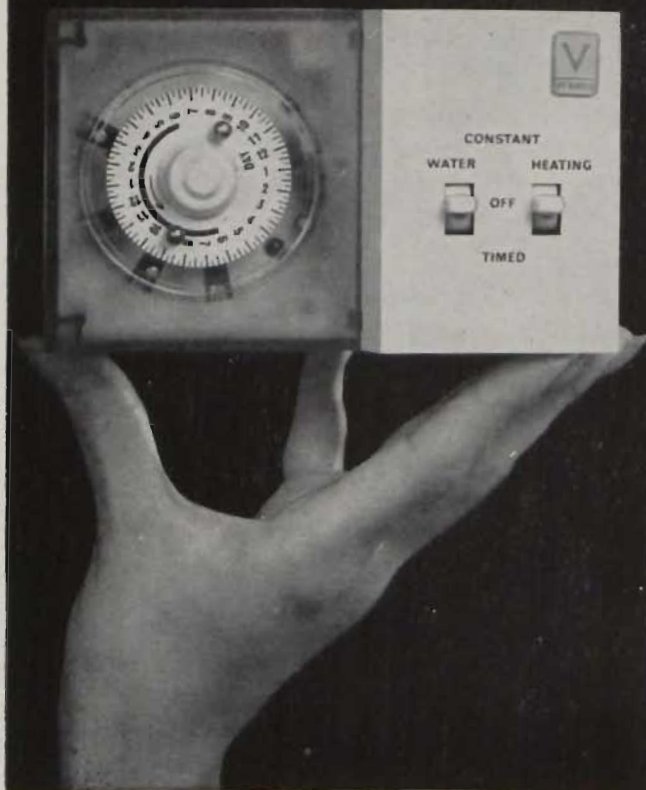
John Thompson Contracts Engineers throughout the U.K. and Ireland are based in:

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**JOHN THOMPSON
SHELL BOILER DIVISION**
An international reputation for reliable steam and heating plant.



a handful of home automation

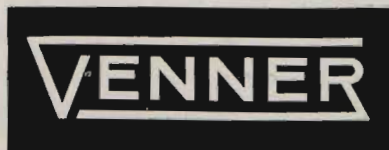


new Venner Central Heating Controllers

These handsome new Central Heating Controllers from Venner offer a wide combination of clock-controlled, manually-controlled and thermostat-controlled programmes for all types of warm-air and hot-water heating installations. Each of the three models is mounted in a compact ivory case that blends tastefully into any domestic decor. The Venner CHC/W2 (illustrated) provides independent control over hot water and central heating, with adequate flexibility to ensure maximum operating efficiency in summer as well as winter. The Venner CHC/2 is designed for forced-air systems, and controls heating or ventilation as required throughout the year. The Venner EC/2 is specifically tailored to electric storage heater (Electricaire) characteristics, with flexible control of both 'background' and 'full-comfort' operations.

LOW COST • EASY TO INSTALL

Write or telephone for complete details.



Venner Ltd • Kingston By-Pass • New Malden • Surrey • 01-942 2442

Irish Distributors: Messrs. Roper Bros. Ltd., 5 Sth. Anne St., Dublin.

trade Topics



Two Marshall CB400 Automatic boilers

● Two automatic boilers will be shown by Marshall Sons and Company Ltd. on their stand number 303 in the machinery section of the Dublin Spring Show (May 6-10).

One will be a Marshall CB 150 rated at 5,180 lbs. steam/hr. (212° F) and the other will be a small Marshall M 30 rated at 1,035 lbs. steam/hr. (212° F).

Like all Marshall firetube boilers these units are of four pass, low furnace design and have automatic sequencing and safety controls. They have hinged doors which allow easy access for inspection.

Although these boilers will be exhibited with oil burners, they are also suitable for gas firing. In fact, combination oil/gas burners are available if required.

Marshall boilers are supplied complete and ready for firing when linked to their appropriate service lines. They are fully fire tested under simulated loads before leaving the factory.

Many Marshall boilers have been installed in factories, hotels, agricultural establishments etc. throughout Ireland. Comprehensive spares and service facilities are available.

BOILER RANGE EXTENDED

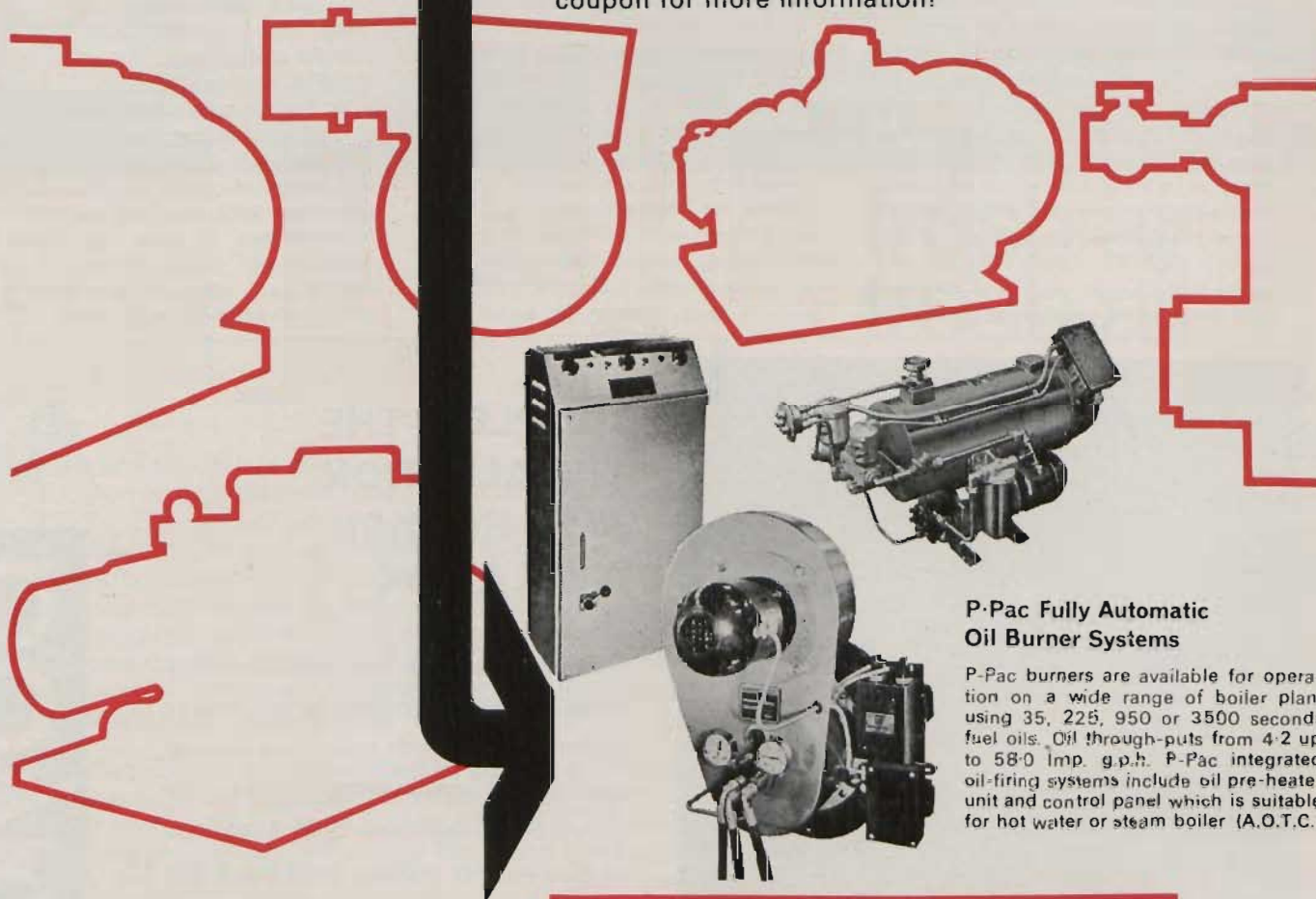
ALLEN Ygnis Boilers Ltd. have extended their recently introduced range of model 606 boilers to include two new models with respective outputs of 20 million and 24 million Btu/h. These latest important additions to the 606 range mean that a total of 19 sizes are now available with outputs ranging from 400,000 Btu/h. and will permit larger industrial and commercial applications to be catered for in a far wider field.

Suitable for either oil or gas firing, the boilers are constructed for working pressures of up to 150 lb/in² and have operating efficiencies between 81 and 83 per cent.

Nu-way have just the burner for you!

Producing a new item of heating equipment?
Problems with an existing heating set-up?

See Nu-way about it! After all, well over forty years of designing and manufacturing oil burners for domestic, commercial and industrial needs must mean something. Certainly it does! As we said, it means Nu-way have just the burner for you! Hadn't you better send off the coupon for more information?



P-Pac Fully Automatic Oil Burner Systems

P-Pac burners are available for operation on a wide range of boiler plant using 35, 225, 950 or 3500 seconds fuel oils. Oil through-puts from 4.2 up to 58.0 Imp. g.p.h. P-Pac integrated oil-firing systems include oil pre-heater unit and control panel which is suitable for hot water or steam boiler (A.O.T.C.)

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Oil and Gas Combustion Equipment

	NU-WAY HEATING PLANTS LTD.	
	(John R. Taylor Ltd.) 379 Sth. Circular Rd., Rialto Dublin 8. Phone : 53026-9.	23-27 Cupar St., Belfast 13 Phone : 26127
	Head Office and Works : DROITWICH, WORCS., ENGLAND	



MONTHLY SPECIAL REVIEW

DRYING APPARATUS AND OVENS

REQUIRES MORE AND MORE CONSIDERATION

THE term drying, in a broad sense encompasses the removal of water and other liquids from gases, liquids or solids. In the last series we treated drying apparatus in the strict sense, i.e., drying by heating and in the previous review of the series, we delved into freeze drying, a subject which requires more and more consideration.

Just a few days ago when reading the evening paper, we noted that another new eating house had opened in Dublin, one of a chain of eating houses. It was rather interesting to note that the question of prepared foods, freeze drying, etc., came up at once. This particular eating house, receives all its food from its main central store over 150 miles away—hence the necessity to review and keep up to date in freeze drying, pre-packed foods, etc.

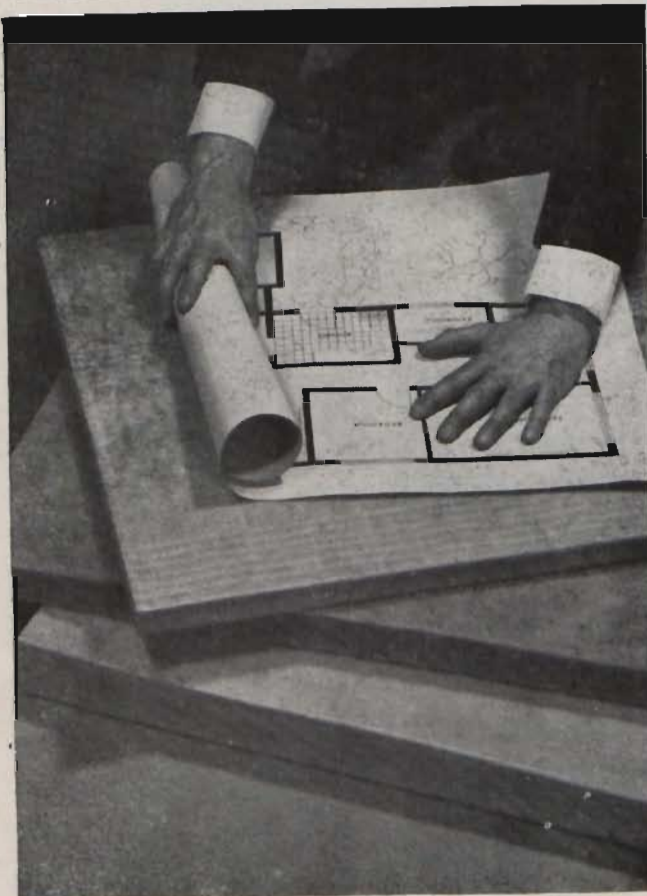
It may be of particular interest to

recall a very serious situation, of food poisoning some few months ago in a large scale. Over 140 people were confirmed to have food poisoning, yet it was most difficult to locate the cause, since each of the infected persons only recalled eating chickens in various restaurants before a football match. With co-operation on all sides, the cause of the food poisoning was discovered—the chicken. Some days previous to the football match many restaurants and snack bars ordered chicken for sandwiches, etc. When the chickens were delivered, they were immediately cooked for a short time in the usual spit. Since the chickens were in deep freeze for some time,

and not being allowed time to “thaw out” and cooked externally only in the spit, the “germ” internally in the chicken was not destroyed by heat; in other words the chickens were only half cooked. In the foregoing there is abundant food for thought and not only for our internal digestive system /

In food preservation, the purpose of cooling, freezing, and freeze drying of foods is the reduction of the microbial, enzymatic, and chemical activity associated with the food material. It is important to note that even in freezing or freeze drying, the biological and microbiological activity is

Continued page forty



COMPLETE THE INSTALLATION WITH ROCKSIL INSULATION

Whatever the type of heating installation Rocksil Building Insulation Products in quilt, mat or blanket form, will greatly reduce heat loss and give excellent impact sound insulation. The material is quick and easy to lay. Slabs and pipe sections are also available for tank and pipe insulation.

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Thirty-eight

biddle

biddle

biddle

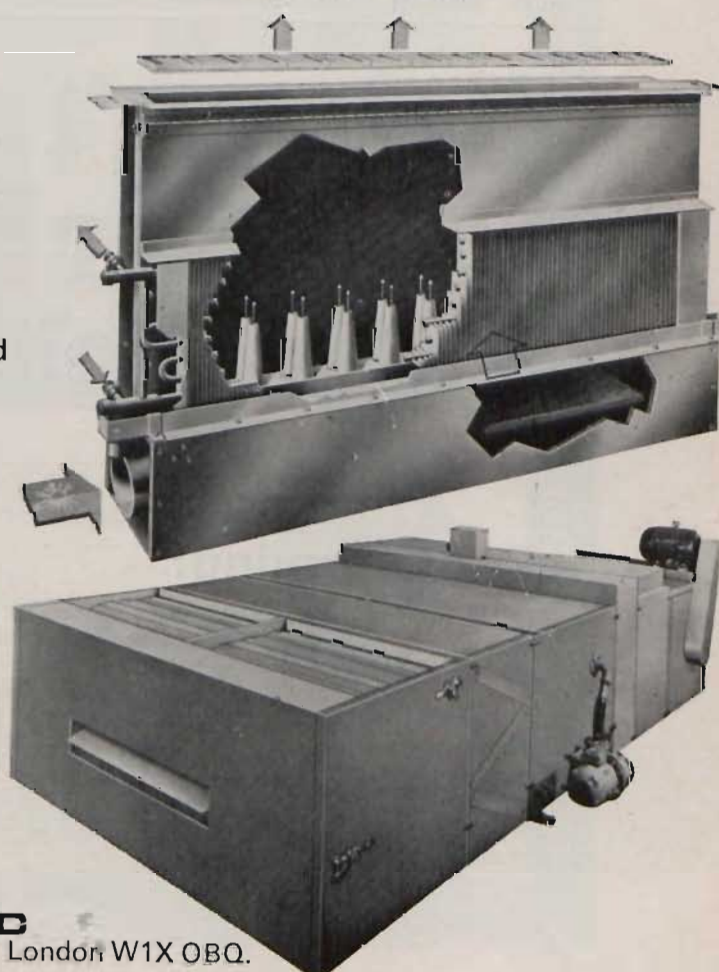
biddle

for fresh air fresh air

The Biddle Inductair is the result of extensive research to produce an air conditioning unit with a noise level as low as N.C.24. The ratio of primary air to secondary air is up to 1:6. When high capacity secondary cooling is required most Inductair models can be fitted with two heat exchangers both two rows deep. In addition, filters can be incorporated to extract dust, etc., from room air. Inductairs are made either 12", 17" or 23" high for fitting below window cills or a horizontal model can be supplied for installation in a false ceiling.

As building costs rise, so the need to conserve valuable space increases. An important contribution to more compact heating and air conditioning plant is achieved with Biddle equipment. Biddle Air Handling units are available in 9 models which are not only compact but quickly installed and manoeuvrable on site. They can be supplied with any combination of mixing box, filter, humidifier, sprayed coil, face by-pass dampers, heating coil, cooling coil and fans. The fan section gives greater freedom of design by permitting either upward, downward or horizontal discharge.

Both the Air Handling unit and the Inductair are fully described with tables and dimensions in the Company's literature for which you are invited to write.



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Sales Offices Glasgow. Tel: 041 BRI 4871. Newcastle. Tel: 0632 21955 Nuneaton. Tel: ONU2 4191

Rochestown Ave., Dunlaoghaire, Co. Dublin, Tele, Dublin 807969.

N IRELAND: Stewart (Thermal Engineering) Ltd., Annadale Works, Elgin St., Belfast BT7-3 AG. Tel. Belfast 649615.

not stopped, but only reduced. Methods for estimating cooling, freezing and freeze drying times are important in determining the design and operation of processing plants, in order to have the quality of the product compatible with production capacity.

The first use of refrigeration seems to have been applied to drinks rather than foods, and even the early development of mechanical refrigeration was closely associated with the brewing industry. Regardless of early applications, the need for extending the storage life of foods, after processing or harvesting, over periods of time which would provide for distribution to the ultimate consumer, has been the main factor responsible for the development of the refrigeration industry.

While refrigeration is applied for other purposes than the preservation of foods, it would be surprising if the largest overall application of refrigeration were not for the prevention or retardation of microbial, physiological and chemical changes in foods. Even when held at temperatures near the freezing point, foods may deteriorate through the growth of micro organisms, through changes caused by the action of enzymes, or through chemical reactions. The holding of

SPECIAL REVIEW

• From page thirty-eight

foods at low temperatures merely reduces the rate at which deteriorative changes take place.

It is the purpose of this discussion to outline the bacteriology of refrigeration, unfrozen foods and of frozen foods. Fruits, vegetables, flesh-type foods, eggs and dairy products are all subject to microbial deterioration when refrigerated in the unfrozen state. However, loss of quality in fruits and vegetables held under such conditions is primarily due to physiological changes. Moreover, those microbial changes which do occur in these products have, for the most part, not been investigated at length. For these reasons, the microbiology of refrigerated, unfrozen foods described here will apply to flesh-type foods, including meat, fish, and poultry, to eggs and to milk.

Source of Contamination. In order to obtain fresh meat products, the

source animal must be slaughtered, dressed, washed, and cooled from body temperature at an internal temperature near 32F. Such a temperature should be maintained thereafter during transportation, cutting into sections, such as loins, ribs, etc., cutting into retail portions, packaging, and while on retail holding and display whatever the order of these operations may be. Contamination with bacteria and the growth of bacteria on meat surfaces are the chief factors governing the storage life of fresh meats.

During dressing operations, the clothes of the worker, the worker's hands and skinning knives come in contact with the outer surface of the hide of cattle, and also with the surface of the skinned animal. Thus bacteria are transferred to meat surfaces and become the chief source of contamination.

Unfortunately space does not allow us to cover such topics as the growth of bacteria, public health aspects, fish products, preservation with chemicals, etc., and dairy products and frozen foods in general. Perhaps in some future issue we will treat some of the above subjects, since they are vital to each and everyone of us.

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1969 DIRECTORY

of MANUFACTURERS AGENTS, REPRESENTATIVES and DISTRIBUTORS

★ The June, 1969, Register of Manufacturers, Agents, Representatives and Distributors of Domestic and Industrial Plumbing, Heating, Air Conditioning, Ventilation and Insulation equipment and materials available in the Republic of Ireland and Northern Ireland is now being prepared. The Directory this year will again be enlarged to accommodate the many additional entries which have been supplied during the year for inclusion under the various headings.

If you come under the heading of any of the categories listed here and have not supplied information already, or wish to make amendments or alterations to last year's entries, we would ask you to do so without delay. Changes of address should also be advised. Names and addresses of Irish Agents and/or Representatives should be included with all entries.

Specimen copies of the 1968 Directory are available on request.

★ NOTE: All Directory Entries are inserted free of charge.

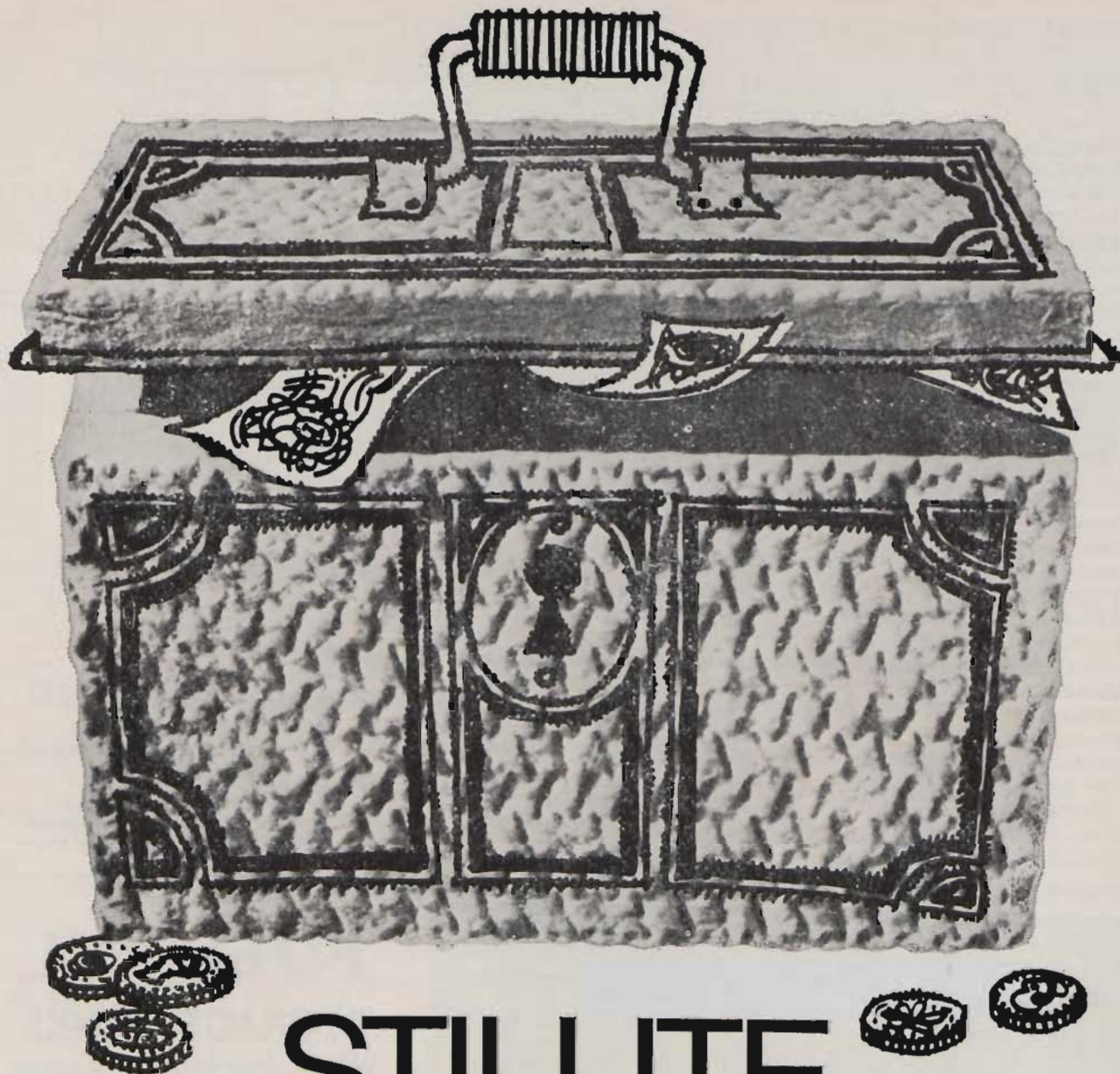
Please Note!

CLOSING DATE

**Saturday,
10th May, 1969**

- Accumulators, Steam and Hot Water
- Air Cleaners, Electronic
- Air Conditioning Equipment
- Air Curtains
- Air Diffusers
- Air Distribution and Handling Equipment
- Air Eliminators, Hot Water
- Air Flow Switches
- Air Receivers
- Air Vents
- Air Washers
- Aluminium Cladding
- Anti-Corrosion Compositions and Paints
- Autoclaves
- Automatic Clock Controllers
- Baths, Basins, Bidets and Sinks
- Blowers and Exhausters
- Blower and Fan Impellers, Wheels, Etc.
- Boiler Controls
- Boiler Fittings
- Boiler Mountings
- Boiler Non-Conducting Composition
- Boiler Tube Cleaning Units
- Boiler Water Level Indicators, Controls and Alarms
- Boilers (Domestic & Industrial)
- Burner Controls
- Burners, Gas/Oil/Solid Fuel
- Carorifiers
- Castings, Non-Ferrous
- Ceilings, Heated
- Chimney Construction
- Chimneys, Tops and Cowl
- Cisterns, Tanks and Cylinders
- Cocks, Coils
- Combustion Appliances
- Compressors, Air or Gas
- Compressed Air Traps
- Control Equipment and Controllers
- Control Panels
- Convectors
- Conveyor Ovens and Paint Processing Plants
- Coolers
- Cooling Towers
- Cyclones
- Damper Motors
- Damper Regulators and Quadrants
- Data Logging Equipment
- Dehumidifiers
- Deodorising Plant
- Descaling Equipment
- Differential Pressure Controls
- Digestors
- District Heating Controls
- Drainage and Sanitation—Traps and Wastes
- Draught Indicators
- Draught Stabilisers
- Drying Apparatus
- Drying Ovens
- Ducting
- Duct Heaters
- Dust Collecting Plant
- Economisers, Fuel
- Ejectors, Steam
- Electric Heating Elements
- Electric Heating Equipment
- Electric Heating Tape
- Electric Motor Control Gear
- Expansion Joints
- Extractors and Ventilation Fans
- Fan Speed Regulators
- Filters, Air
- Filters, Liquid, Oil, Water, etc.
- Filter Loss Gauges
- Fixing Tools and Bolt Driving Guns
- Flame Failure and Protection Devices
- Flanges
- Flash Vessels, Condensers, etc.
- Floatswitches
- Floodlighting Equipment (Portable)
- Floor Heating Installations
- Flue-Gas Corrosion Protection
- Fuel Additives
- Fuel, Ash and Clinker Conveying Plant
- Fume Removal Equipment
- Gauges, Air, Pressure, Vacuum, etc.
- Gauges, Liquid
- Gauges, Liquid Level
- Gauges, Smoke Density
- Gauges, Tank
- Generators (Electric or Steam)
- Gilled Tubing
- Grilles, Louvres, etc.
- Grit Arresters
- Headers
- Heaters, Air
- Heaters, Balanced Fuel
- Heaters, Gas
- Heaters, Immersion
- Heaters, Oil

Continued page forty-four



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- Heaters, Water
- Heating Advisory Service
- Heating Panels
- Heating Equipment Supplies
- Heat Exchangers
- Heat Pumps.
- Heating, Storage
- Hose
- Hospital Equipment
- Hot Water Blenders
- Humidifiers
- Humidity, Controllers, Indicators, Recorders, etc.
- Incinerators
- Indicators, Smoke Density
- Injectors, Nozzles, etc.
- Instruments, Meters, Indicators, Gauges, etc.
- Insulation
- Insurance
- Jointing Compounds
- Kitchen Units
- Laboratory Fans and Plant
- Liquid Chilling Plants
- Liquid Handling Equipment
- Liquid Level Switches
- Lubricators
- Manometers
- Mechanical Draught Systems
- Pipe Bending and Threading Equipment
- Pipe Cleaning Equipment
- Pipes, Tubes and Pipe Fittings

DIRECTORY CHECK LIST

● *From page forty-two*

- Pipes and Tubes, Plastic
- Pipes and Tubes, Soil and Drain
- Pressure Booster Sets
- Pressure Controllers
- Pressurising Equipment
- Pressure Switches
- Pressure Vessels
- Pumps and Circulators
- Pyrometers
- Radiators and Radiant Panels
- Recording Equipment and Recorders
- Refractories
- Refractory Linings
- Refrigeration Plant
- Regulators
- Resurfacing Processes
- Roofing Copper and Materials
- Roof Drains, Waterheads, Gutters and Outlets
- Roof Units (Ventilation)
- Rust Preventive and Solvents
- Rustproofing
- Scale Remover
- Sealing Compounds
- Separators, Compressed Air, Steam, etc.

- Servomotors, Pneumatic
- Sewage Disposal
- Sight Glasses
- Silencers
- Skirting Board Heating
- Soot Blowers
- Steam Traps
- Stokers
- Strainers
- Tanks and Cylinders
- Taps, Mixers and Shower Units
- Telemetering
- Thermometers, Temperature Indicators, etc.
- Thermostatic Controls
- Time Switches
- Toilet Seats
- Tools
- Traps, Radiator
- Turbines, Steam
- Unions
- Unit Heaters
- Valves
- Valves, Reducing
- Ventilating Panels
- Ventilators
- Warm Air Curtains
- Waste Disposal Units
- Water Treatment Equipment and Processes
- W.C.'s and Urinals
- Welding Plant and Equipment
- Wood Refuse Collecting Plant



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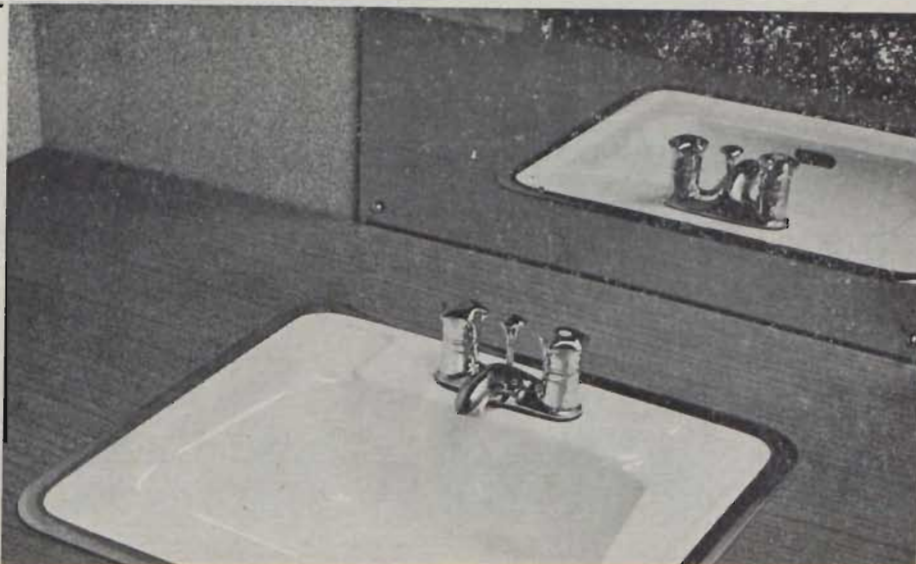
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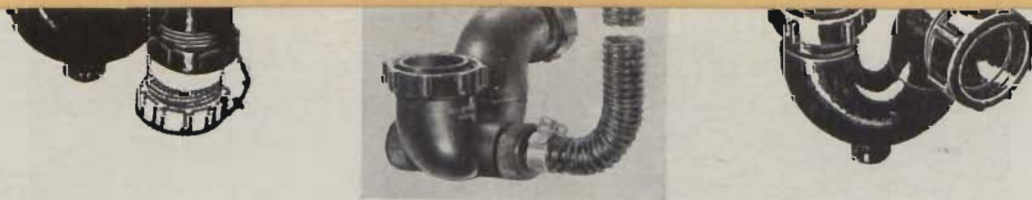
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- Humidifiers
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- Incinerators
- Indicators, Smoke Density
- Injectors, Nozzles, etc.
- Instruments, Meters, Indicators, Gauges, etc.

DIRECTORY

CHECK LIST

● From page forty-two

- Pipes and Tubes, Plastic
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- Pressure Booster Sets
- Pressure Controllers
- Pressurising Equipment
- Pressure Switches
- Pressure Vessels
- Pumps and Circulators
- Pyrometers
- Radiators and Radiant Panels
- Recording Equipment and Recorders

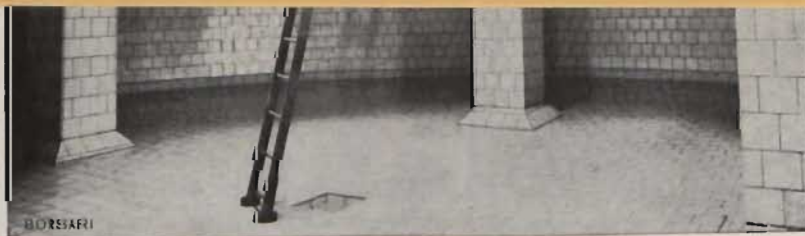
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- Sewage Disposal
- Sight Glasses
- Silencers
- Skirting Board Heating
- Soot Blowers
- Steam Traps
- Stokers
- Strainers
- Tanks and Cylinders
- Taps, Mixers and Shower Units
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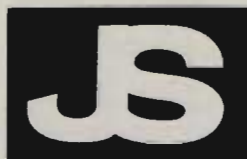
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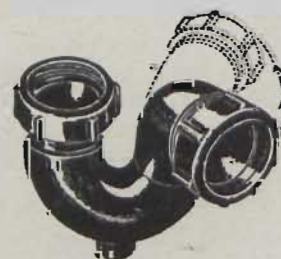
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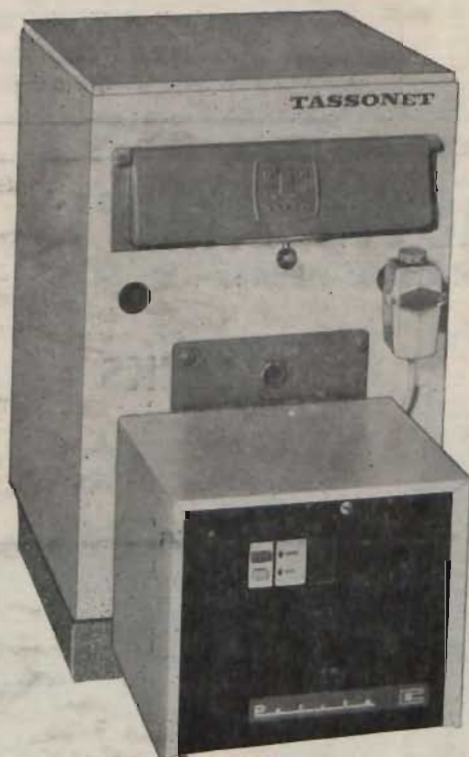
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