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## The Irish Plumbing and Heating Engineer, October 1964 (complete issue)

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# ENGINEER

## MRS 1970 knows what she wants

And she knows just where to get it. Because the hard-hitting advertising, which first sells her on the idea of installing Shell and BP Housewarming, also tells her of the superb service offered by her local Appointed Installer. The special Shell and BP Appointed Installer's sign is prominently featured in each advertisement to help her remember it.

There are hundreds of Mrs. 1970's. All looking for the Irish Shell and BP Limited Appointed Installer's sign—the sign which they know means prompt, efficient service. Hundreds of Mrs. 1970's—hundreds of systems to install and service. It's obviously very good business to give Mrs. 1970 what she wants!

### For Central Heating



Irish Shell and BP Limited  
Shell-BP House,  
13-16 Fleet St., Dublin 2.



on the site, Plumbers fit . . .

# the first choice **Sanbra Fyffe**



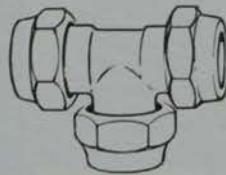
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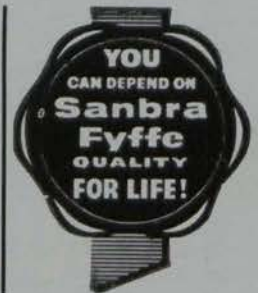
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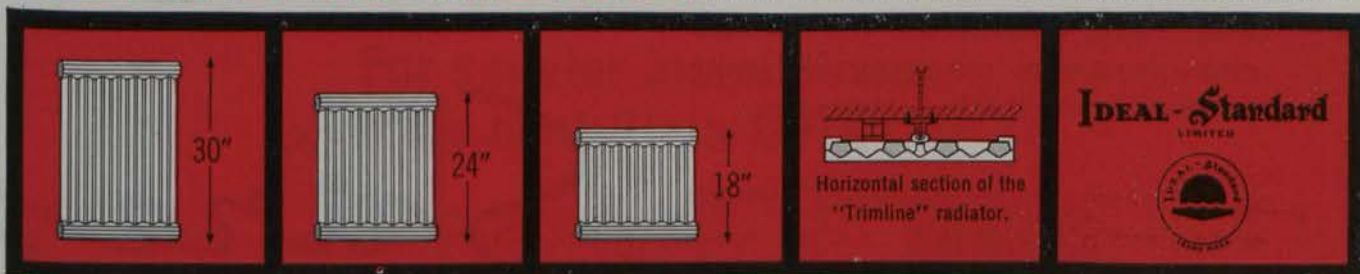


**ONLY THE WARMTH  
IS CONSPICUOUS**

A radiator that will go to any length for a clean, unbroken line! Fit any number of "Trimline" sections together and they form a continuous sweep of radiator that merges unobtrusively with the wall. Slim, finely fluted panels give a wide angle of radiation, and give

the "Trimline" its distinctive modern look. Available in three convenient heights (18", 24" or 30"), ingeniously constructed in cast-iron for durability, the "Trimline" has endless possibilities for schools, libraries, factories, public and private buildings. Full specifications and installation details sent on request.

**"IDEAL TRIMLINE"** another cast-iron proof that IDEAL lead in radiators

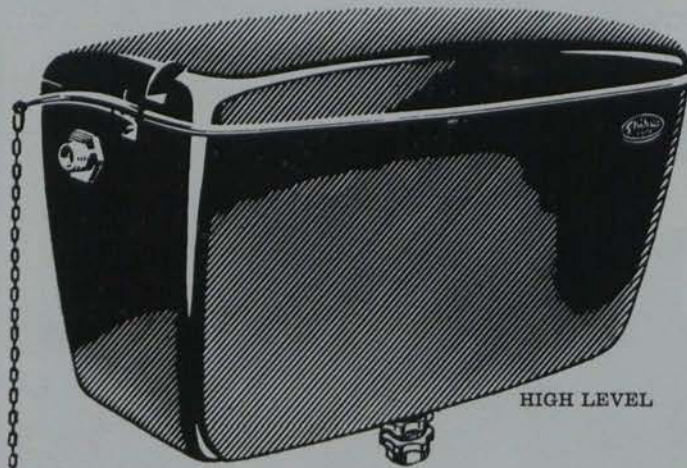


If you would like to know more about the IDEAL range of radiators, please write to: Ideal-Standard Limited, Ideal Works, Hull (Tel: Hull 68971), or Ideal House, Great Marlborough Street, London W1 (Tel: Gerrard 8686).

"IDEAL" AND "TRIMLINE" ARE TRADE MARKS OF IDEAL-STANDARD LIMITED

One

# Unanimous-Whichever way you look at it the **LYNX** is today's most popular cistern



Lynx high and low level cisterns are made of tough durable black Duranite that won't craze, is non-corrosive. The Kingfisher siphon mechanism, made of polythene, gives a powerful flush, is non-corrosive, unbreakable. It can be used in both hard and soft water areas. The Lynx conforms to BSS 1125 and Water Works specifications.

Every genuine Lynx has the name engraved on the cistern

Other Shires products are the Uni-Lynx close-coupled suite, cistern fittings, plastic flushpipes and the Polyfloat cistern float.

*Available from all recognised builders' providers in the Republic.*

**GOOD LOOKING**  
The Lynx's clean cut lines are an example of contemporary styling at its very best.

**PRACTICAL**  
The Lynx is the easiest to install; the concealed fitting is neat and simple.

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Discreetly quiet with the most dependable mechanism ever.



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**Shires**  
in Ireland

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### For smaller installations- the neat 9<sup>3</sup>/<sub>4</sub> lb OPIXY


Central heating is now going into many houses for which even the Opiomatic Junior is unnecessarily large. For such installations B.S.A. Harford have designed the Opixy pump.

The 9<sup>3</sup>/<sub>4</sub> lb Opixy is not just a half-size version of the Junior. It is a completely new design, inside and out (no housewife could object to it in her kitchen).

Features include: variability by easily accessible controls; push-button to free shaft; vent screw on top for quick release of trapped air; specially designed water-lubricated bearings; guaranteed for two years.

And like all B.S.A. Harford equipment, every pump is certified individually tested.



ON AGAIN 

NORTHSIDE HOUSE,  
MOUNT PLEASANT,  
COCKFOSTERS, HERTS.

The Irish Plumbing and Heating Engineer.



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# 1965

## Directory of Manufacturers, Agents, Representatives and Distributors

- Readers are requested to notify this office of any additions, alterations or amendments for entries in the 1965 Directory.
- A limited number of copies of this year's edition are available on request for checking.
- Address correspondence to: "Irish Plumbing & Heating Engineer", 13/15 Dame Street, Dublin, 2.

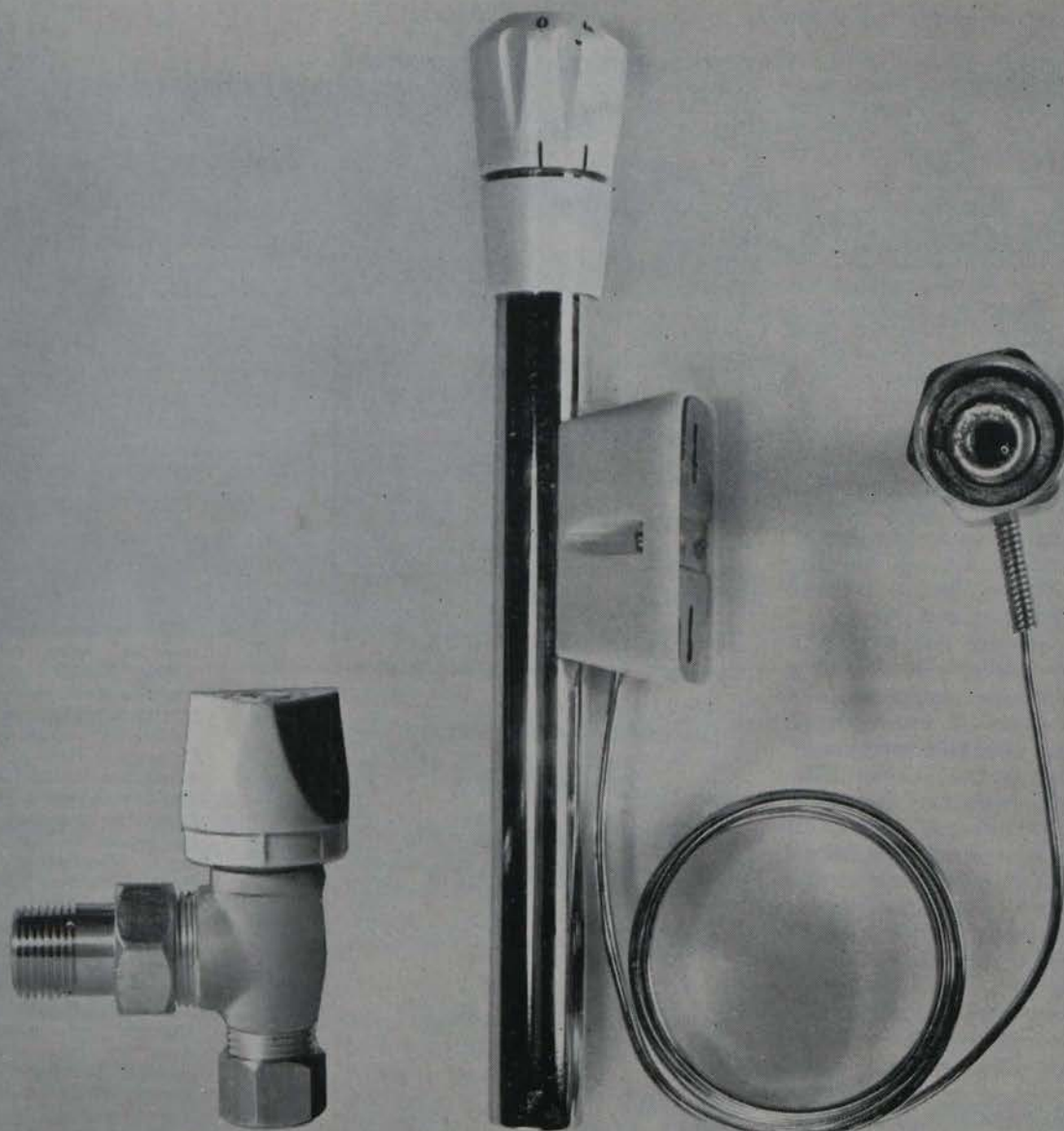


## **GAS OR ELECTRIC? WELDING OF COURSE!**



But we also have a wide range of cutting and heating equipment,  
accessories and safety equipment. Delivery services everywhere.

**CONTACT INDUSTRIAL GASES (I.F.S.) LTD., DUBLIN**



## WHO'S IN CHARGE HERE?

### Proportional or Thermostatic, BSA Harford valves stay in command of heat output

Every B.S.A. Harford radiator valve is savagely tested before it leaves the factory. They stay on the job without maintenance. *The B.S.A. Harford Thermostatic Radiator Regulator* (right) allows control of room temperature from within the room (from 41° to 77°F). Brings room temperature to the selected level, and keeps it there—switching off and *saving fuel* until it's needed again. Can be fitted direct to the radiator valve, or up to 6 ft. away from the

radiator. Simple, robust design for long, reliable life. *The B.S.A. Harford Twin Action Proportional Radiator Valve* (left) regulates heat output according to position of the hand-wheel. Can also be pre-set to limit flow through the radiator. Which means no additional lockshield valve is needed. So valve costs are halved. No sticking. No dripping. Simple, efficient, precise. For use with iron or copper pipework.

B.S.A.  
HARFORD  
Northside House,  
Mount Pleasant,  
Cockfosters,  
Herts.



PUMPS ■ BOILERS ■ RADIATORS ■ VALVES ■ BURNERS ■ PUMPS ■ BOILERS



The Irish Plumbing and Heating Engineer.

# Will new method cut domestic heat costs by one third?

A new way of supplying the heat produced in electricity generating stations to domestic consumers is being investigated by a committee of expert engineers set up by Mr. Geoffrey, Rippon, British Minister of Public Building and Works.

The experts consider that there is a "distinct possibility" of providing heat for domestic consumers in a large urban area at two-thirds of the cost of heating their premises by conventional means. They also suggest that a supply of hot water at this low cost might make it feasible to heat roads, pavements and shopping arcades, sports pitches and spectators' stands, and to operate plants which would provide refrigeration and air-conditioning more cheaply.

The new idea is based on using cross-compounded turbines in an electricity generating station located within a mile or so of the centre of the new urban area. Each of these units would consist of a high-pressure turbine exhausting into a low-pressure condensing turbine, both provided for generating electricity.

Heat would be supplied outside the hours of peak electricity demand by operating the high-pressure section as a back-pressure set. Water would thus be heated to 250 degrees Fahrenheit, and hot water storage accumulators would be brought into operation when necessary. During hours of peak demand both sections of the unit would be operated to generate electricity.

## trade Topics

THERE was a good turn out of installers, heating engineers, consulting engineers and other trade members at the reception held in Irish Shell House this month before a tour of the Republic by the Perkins Boilers Demonstration Trailer.

The trailer made its Southern tour following a successful similar tour in Northern Ireland. The demonstration unit contained working models from the Perkins range of domestic and industrial boilers.

During the tour of main city and provincial centres, the unit has aroused keen interest (see picture below).

\* \* \*

CIRMAX Pumps Ltd., of Elland Lane, Elland, Yorkshire, have added to their range of glandless circulators the Cirmax type UP25 for small bore heating systems.

Bearings are designed for water lubrication and are hard wearing and silent. The pump, which features an illuminated rotating indicator, is infinitely variable between maximum and minimum output.

The pump can be fitted in either the horizontal or vertical position. The stator has been improved by being encapsulated and it is therefore moistureproof and silent.

### PERKINS DISPLAY ON TOUR

### ANOTHER SMALL BORE CIRCULATOR



At the Irish Shell House reception (see story above) were: Mr. E. W. Pigot, Irish Shell & B.P. Ltd.; Mr. T. F. Barrett, Oil Fired Homes (I.) Ltd.; Mr. W. Maginnis, Perkins technical representative, and Mr. P. King of Navan.

IRISH PLUMBING  
& HEATING

# ENGINEER

Vol. 4, No. 7. OCTOBER, 1964

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

This month an IPHE reporter, who recently visited Manchester, covers the two recent exhibitions held there.

His first report on the Domestic Heating and Insulation-in-the-Home Exhibition appears in the Domestic section, while his report on the Heating, Ventilating and Fuel Efficiency Exhibition is included in the Industrial section.

A big development this month was the opening of the Irish Heating Centre in Dame Street, Dublin. To mark the occasion we carry a special Heating Centre feature in the tinted centre section.

Due to these heavy demands on space, W. J. R. Couchman's Seven Deadly Sins of Domestic Heating Installation has been held over until next month.

Allen McDowell contributes his regular column, Northern Notes, while Trade Topics review the month's news.

Editorial and advertising offices:  
Callaghan Chambers, 13/15  
Dame Street, Dublin 2.  
Tel. 56465-6.

London: J. T. Robson & Son Ltd., 30 Fleet Street, London, E.C.4. Tel.: Fleet Street 4438.

Belfast: Allen McDowell, 43 Horn Drive, Belfast 11. Phone 614606.



● In this picture Mr. D. Luke, manager of Unidare's heating division, discusses a cutaway model storage heater with Mr. J. McKenna, merchandise sales manager, E.S.B.; Mr. R. A. H. Jackson, E.S.B. district manager, and Mr. R. Ayers, manager, Satchwell Controls Ltd.

## SUCCESSFUL DUBLIN SPACE HEATING EXHIBITION

MR. R. A. H. JACKSON, district manager of the Electricity Supply Board, Dublin, speaking at the opening of the space heating exhibition held at the E.S.B. Showrooms, Dublin, this month, said that the high standard achieved by the Irish manufacturers in heating appliances could be measured by the considerable export market of these products which had been built up in a very competitive field.

The expansion of the electrical industries in Ireland had given a great deal of employment to our people and the increasing demand for electrical space heating appliances meant a continuing upward trend in the consumption of electricity. This development could only result in greater prosperity for the nation.

New types of floor-warming cables and storage heaters were among the exhibits on display in the Board's Fleet Street showrooms. The exhibition showed the most up-to-date methods of electric space heating.

A big turnout of engineers, architects and contractors were at the opening.

NEW TO the Sterling Axiatherm central heating range is the 1 kilowatt

### ADDITION TO ELECTRIC C.H. RANGE

omical central-heating in the smaller rooms of houses, flats and offices. It can be mounted either on the surface of the wall or recessed into it. The Cadet can also be used in conjunction with larger heaters in the Axiatherm range.

As in these other units, air is drawn through the expanded metal grille, passed over black heat elements and re-directed into the room. The main switch provides for either heat or, in hot weather, for recirculation of cool air.

A specially designed filter is incorporated to remove any dust from air which is drawn in. Specifications include: weight, 11½ lbs.; voltages, 200/220, 250/230; A.C. only; rating, 1,000 watts; width, 12¼"; height, 11 9-16 ins. The manufacturers are Sterling Domestic Appliances Ltd.

\* \* \*

WHITE-RODGERS Ltd., South Western Road, Twickenham, Middlesex, are

### CONTROL FOR ELECTRIC HEATING

pecially designed for the control of electric heating. The control knob is an extra sensitive element, exposed fully to room air temperature and radiant heat.

The 1A65 Electric Heat Thermostat is easy to install. It is supplied with its own flush mounting conduit box



which has ¼" knockouts at the top, bottom and back. The wiring is from the front for quick positive connections.

The thermostat is fitted with a new dial-locking device which can be set to limit high adjustment or for fixed, non-adjustable setting. A positive OFF position is built into the switch so that no separate line break switch is required. The height is 4¼" x 2¾" width, x 1" depth. The differential is ½ degree F. The temperature range is 50 degrees to 80 degrees F and the rating—22 amps. 240v. A.C. (5,000 W.).

\* \* \*

"JACKSON" is a household word among caterers and hoteliers and many kitchens boilers, either have installed their instantaneous type of gas, steam or electrically heated. Throughout Ireland, the EP. boiler is very popular indeed.

### JACKSON BOILER IS MODIFIED

Modifications have recently been made on this boiler to incorporate the famous Tomlinson U.S.A. No-Drip tap which has replaced the old barrel type tap that needed careful grinding in on occasions. The No-Drip tap is spring loaded and the operation is

now a simplified up and down movement.

Jackson boilers have recently introduced the gas equivalent of the popular EP. electric, described as the GP. It is fitted with automatic gas control by a system of relay and thermostat. It is an ideal boiler for the smaller caterer.

In contrast with the Jackson boiler there is a Jackson water heater that delivers hot water in place of boiling water and is ideal for washing up sinks and dishwashing rinse water. This also is gas heated.

### in brief...

FRY'S Metal Foundries Ltd. have produced a leaflet on Flowsilver brazing alloys and fluxes. The two inside pages have been allocated to form a tabulated stock grade list, whilst the third page has been given to comments.

\* \* \*

AN ATTRACTIVE four page, full colour catalogue has been produced by Lee, Howl & Co. Ltd., Tipton, Staffs., dealing comprehensively with their "Swimpool" self-priming centrifugal pumps. These pumps are designed for use with swimming pool filters varying in size from 10 to 74 square feet of filter area.

\* \* \*

THE KAWNEER Company (U.K.) Limited, of Aston Clinton, Buckinghamshire, manufacturers of aluminium architectural metal products, have appointed J. & C. McGlouchlin Limited, of 47-54 Pearse Street, Dublin, as their authorised dealer in the Republic. Northern Ireland is served by Cambell Brothers Ltd., of Belfast.

## Reporting

4TH NATIONAL DOMESTIC HEATING AND INSULATION  
IN THE HOME EXHIBITION—BY AN I.P.H.E. REPORTER

# FOUR-DAY SHOW DREW A BIG CROWD

THIS Manchester exhibition, held at the same time as the Industrial one (reported in the industrial section), was directed mainly at the North of England market and sponsored by the "Manchester Evening News." The interest of the general public, for whom the exhibition was designed, was particularly noted and a large crowd attended on each of the four days.

In addition to the general exhibits, the organisers laid on a most interesting programme of films and discussions and, indeed, the overall impression taken from this exhibition was that promotion on somewhat similar lines would undoubtedly be of tremendous benefit to the trade in Ireland.

I am giving below a description of those items which I thought to be of most interest to the Irish market.

THREE types of back boiler, two central heating systems, a packaged radiator kit and their underfloor draught open fire with three methods of ash disposal, were shown by **Baxi**, Bamber Bridge, Preston, Lancs.

The company's newest back boiler—the **ROB 2**—is a radiator output boiler of "wrapround" design with waterways extending to the front of the side cheeks as well as at the back of the fire, to give maximum hot water output; this is shown with the Rotary Ashbox model fire, which has its ashbox in two sections—the full section being rotated to the front and lifted out while the fire continues to burn.

**Drayton Controls Ltd.** have just introduced the **Theta**—a new form of domestic central heating control which offers some real advantages. Instead of turning the heat ON and OFF, **Theta** modulates the water temperature through a mixing valve imperceptibly, so that

an even level of radiant heating is maintained at all times. This ensures real comfort at the lowest possible room temperature, and produces worthwhile fuel savings.

The brains of a **Theta** is the proportional controller. This is electronic and embodies printed circuits and solid-state components which give it a long, trouble-free life. It calculates the action needed to counteract minute temperature variations, and signals instructions to a motorized mixing valve.

FROM **R. P. Allison Limited**, of Jersey Street, Manchester 4, was a new type of shelf for fitting over central heating radiators to protect adjacent walls from discolouration. Unique features of this elegant and efficient radiator shelf are: Unique design assists heat convection; double metal skin keeps shelf top cool; stove enamel finish in white or cream; fixing in a jiffy—only two screws re-

quired; easily removed for decorating—just lifts off, and individually boxing.

**B.S.A. Harford Pumps Ltd.** showed their complete range of central heating equipment. The highlight of the exhibits was the **Hotspur Mk. II** oil-fired boiler which has been extensively restyled and reduced in overall dimensions. Not only is the unit far more compact than the **Mk. I** model but, as a result of these modifications, the overall appearance has been greatly improved. A revised internal layout allows every component to be reached by merely opening the door, thereby ensuring ease of maintenance and general servicing.

The **Hotspur Mk. II** is available in four models covering output ratings of 45,000, 60,000, 80,000 and 110,000 B.t.u./hr. Also on show was **B.S.A. Harford's** wide range of central heating pumps, including the new **Opimatic "Junior"**, which has been developed to include the smaller installation within its range and is thus smaller than the standard model; nevertheless its performance characteristics differ only slightly.

**Easy Heating Co. Ltd.**, in conjunction with **Heating Efficiency Consultants Ltd.**, are the suppliers of all types of domestic central heating. They exhibited in particular oil-fired ducted blown air units and oil-fired brick central flue units which are widely used on the Continent. These units range from about 17,000 B.t.u./hr. to 200,000 B.t.u./hr., and the outputs can be either manually or thermostatically controlled, thus ensuring a high degree of comfort.

For the average three-bedroomed house, one or two space heater units installed downstairs will heat the whole house to a comfort zone. The installation of these units, generally fed from a bulk storage tank, are attrac-



The **Theta** Domestic Heating Control.—see report

## EXHIBITION

from previous page.

tive to householders, as the structural alterations are negligible and the installation costs are highly competitive.

**Venner Limited** showed several examples from its wide range of domestic time switches. Switches on view included the recently introduced fan control unit for electrical block storage heaters, which provides instant selection of heat output level at chosen times, and has been designed particularly for domestic use when occupants are away during the day. The selector switch is turned to the heat output level required, and the time switch set to boost the room temperature in the morning and again in the evening.

The Vennerette 30 amp. time switch is now available with separate clock terminals, making it suitable for low voltage systems. The switch is designed for the control of electric space heating, oil and gas-fired boilers, immersion heaters, greenhouse heating and similar applications.

**Dimplex Limited** of Millbrook, Southampton, displayed a number of new electric heating appliances. On their stands Dimplex featured examples from their new range of storage heaters which won the first award for the best domestic electrical appliance at the Electrical Engineers' Exhibition, London, earlier this year.

Slim lines and attractive styling are features of Dimplex storage heaters, which are now available in eleven models with loadings of 1½–6kW. These heaters are obtainable in various lengths and in two heights—22 ins. and 26 ins. There is also a choice of five standard colours—bronze, gold, green, white and light grey. Double-vented models will also be available to special order. These are ideal for situations where heat is wanted on two fronts—for example in an aperture between rooms.

Examples from the new range of radiant heaters known as "Heated Furniture Units," will also be on show. These heaters consist of three silica sleeved elements—each in its own reflector—set in a beautifully panelled frame in wood-effect laminated material in red mahogany, sliced walnut or blonde maple. Two series of models are available in widths of either 30 or 36 ins.—both series are obtainable in loadings of either 2½ or 3kW, and can be supplied for wall mounting or floor

## in brief...

AS FROM Monday, November 2 next, the name of Greenwood's and Airvac will be changed to Greenwood Airvac Ventilation Ltd. They are also moving to larger and more modern offices at Regal House, London Road, Twickenham, Middlesex. Greenwood Airvac Ventilation has for many years been an expanding company in the design and manufacture of unit ventilating equipment and for the first time this company and its Associate Companies—Rhodes Chains Ltd., Greenwood and Hughes, Ltd.,

and Greenwood Airvac Conduits Ltd. —will be grouped together in one building, enabling greater centralisation and efficiency to be attained.

\* \* \*

HEATOVENT Supply Co. have moved to larger and more central premises at 379, South Circular Road, Dublin, 8. Telephone 53029.

\* \* \*

MR. DONALD BAILEY (53), Managing Director of Sir W. H. Bailey & Co. Ltd., Patricroft, Manchester, died suddenly last month at his home in Cheshire. Mr. E. Morris-Jones, F.C.A., has been appointed managing director in his place. Mr. Morris-Jones was company secretary.

Star Stream

2496 Deck Pattern Pillar Cock

Sperryn

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The Irish Plumbing and Heating Engineer.



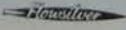
# BRAZING

**FRY'S Flowsilver:** to add to the strength of their range of alloys and fluxes.

Fry's now offer a comprehensive range of brazing and soft soldering alloys and fluxes. The newest addition, Flowsilver, provides alloys with the characteristics of high tensile strength and up to 780° C. melting point. Twelve grades are available, including one for use on stainless steel. Whatever the specifications of your soldering or brazing job, Fry's have the specialist alloys and fluxes available. Cut out coupon now and post for full details of the twelve grades of Flowsilver.

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# SPECIAL REVIEW

**THIS MONTH**

 TOOLS, WELDING EQUIPMENT,  
AND PLUMBERS' METALS.

## Must adopt new methods

**M**UCH is written and spoken of "Industrialized Building" these days. Whatever view the engineer or plumber may hold on this topic will not alter the fact that buildings are wanted in vast numbers and wanted now. Unless the construction industry, of which the building industry is now classified as part, really adopts quicker methods of building erection and finishing, then factory made building is bound to flourish.

Clearly, this is a challenge to the building industry, and that includes engineering and plumbing services. All concerned must study ways and means of speeding up traditional methods so that building work proceeds apace and with consistent economy in time, material and labour.

Outmoded methods and outdated tools must go by the board. Power tools which provide quicker, neater, and less arduous results must come into more general use.

Percussion fixing devices, pneumatic tools, and electrically powered ones are with us and being developed for wider application. The cost of these, on first examination, sometimes appears a bit steep. However, given enough usage, a powered tool will earn its keep. It is all very much a matter of careful selection of a tool best suited to a job and then keeping this in good maintenance order so that it is always available to give speedy, economic service.

**S**MALL hand tools, too, are being improved in style and fitness for purpose. The following survey will illustrate some of the newer ideas in this vital field.

On plumbers' materials little drastic change has taken place since our last survey.

Copper tube still seems to reign supreme for domestic hot and cold water supplies and for small bore heating. One headache, however, is difficulty in obtaining a sufficient



This special review article was compiled by A. L. Townsend.

supply of  $\frac{1}{4}$ in. capillary fittings. These seem to be snapped up as soon as the factories make them, and most manufacturers have instituted round the clock working.

Compression fittings of all kinds and in all sizes do appear to be more easily available at stockists and,

where the job cannot stand still, these might have to be used instead.

Pitch fibre pipe makes headway for drains and it is also being much used for internal rainwater pipes and soil pipes.

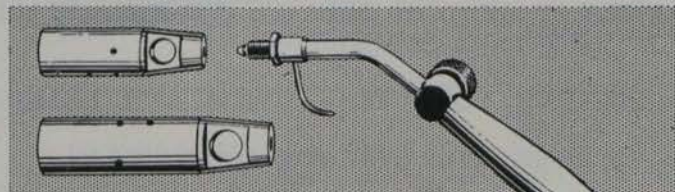
**T**HE most notable advances in pipe material has surely been the emergence of the P.V.C. soil waste systems. These really do offer many advantages worth very close study.

Marley Tile Co., and Allied Ironfounders, are but two concerns who market very effective systems. The speed with which such systems can be

*Continued page thirteen.*

# Kosangas Blow-Torches

## for every plumbing job!



There's a wide range of Kosangas blow-torches, for all types of plumbing work. They're far more efficient than the conventional types.

The Kosangas TH3 and TH4 high pressure blow-torches are specially designed for *paint-burning, pre-heating and soldering*.

The Bullfinch Mark II has a full range of heads, including soldering attachment. Use Kosangas blow-torches, with the small Kosangas portable cylinder, also for *roof-felting, jointing of plastic pipes, and other heating needs*.

A plumber's portable furnace with wind protected burner is available.

Send for details to: McMullans Kosangas Ltd., 1 Upper O'Connell St., Dublin. Tel: Dublin 40761-4.

# WELDING SERVICES LTD.

14-16 AMIENS STREET, DUBLIN

Phones 47051-2-3.

WELDING RODS  
FLUXES  
ELECTRODES  
STELLITE  
BLOWPIPES  
CUTTERS  
REGULATORS  
HOSE  
TROLLIES  
NOZZLES  
ADAPTORS  
GOGGLES  
SKULL CAPS  
LEATHER JACKETS  
CHROME SLEEVES  
PLATE-LIFTING CLAMPS



ARC WELDERS  
SPOT WELDERS  
PROFILE CUTTERS  
STRAIGHT LINE AND  
CIRCLE CUTTERS  
PIPE BEVELLING  
MACHINES  
CABLE  
ELECTRODE HOLDERS  
EARTH CLAMPS  
HANDSCREENS  
HELMETS  
GLOVES  
APRONS  
POSITIONERS  
TEMPILSTIKS

PREHEAT AND STRESS RELIEVING EQUIPMENT

- ★ WE SPECIALISE IN **PROPANE** FOR CUTTING - BRAZING - HEATING - LEAD MELTING - BENDING PVC PIPES - FLOODLIGHTS.
- ★ WE REPAIR AND SERVICE EXCHANGE ALL MAKES OF GAS WELDING AND CUTTING EQUIPMENT.
- ★ WE GIVE YOU FREE ADVICE AND DEMONSTRATIONS.
- ★ WE HIRE ARC WELDING MACHINES.
- ★ WE CARRY THE WIDEST RANGE OF WELDING EQUIPMENT IN EIRE.
- ★ WE SPECIALISE IN ARGON-ARC AND CARBON-DIOXIDE EQUIPMENT.

**USE SIFBRONZE FOR 100 p.c. LEAKPROOF JOINTS**

**SPECIAL REVIEW**

from page eleven.

erected is quite startling. Again, if we are to keep the plumbing trade to our advantage and within our control, we must complete jobs more quickly. The P.V.C. soil systems certainly offer speedier installation as well as corrosion free pipelines, and greater profit.

Copper, aluminium, lead, find steady sales as roof sheeting materials but "Nuralite," the non-metallic roof sheeting with a 25-year guarantee, is becoming more and more popular in roofwork to large buildings.

Are you making the best use of the newer tools and materials? If not do not hesitate—send off to advertisers for detailed information. It will only cost you the price of a stamp. It might prove well worth it!

**IN this equipment review we take a long look at new developments in the fields covered by this special review. (All claims are those of the manufacturers).**

HILMOR LTD, Caxton Way, Stevenage, Herts, manufacture an extensive range of tube bending machines specially designed for use by plumbers and heating engineers. This range of hand operated and portable bending machines offers a capacity from ¼" to 2" copper tube in o.d. sizes BS.659 and Irish specifications.

Particular attention is drawn to the lightweight benders, Type GL.0 with a capacity of ⅜" and ½", and type GL Minor with a capacity of ½" and ¾" copper tube, respectively. These machines are particularly suitable for small bore heating and similar types of installations can be carried in a toolbag.

The portable ratchet bender, Type RP.5B, with a capacity of ½" to 2" copper tube, can be supplied as a standard compression bender which will produce good quality bends, unfilled, to normal commercial standards. For the installation which demands perfect bends in copper tube, the use of an optional Mandrel At-

# Propane Torches

**CRAFTSMEN KNOW THEY CAN RELY ON SIEVERT**

*...a burner for every job!*

- LEAD WELDING
- PLASTIC WELDING
- PIPE BENDING
- BRAZING
- SOFT SOLDERING
- PAINT STRIPPING

**9 burners plus 8 supports**

Sievert propane gas burners ignite immediately and burn with an intense clean flame adaptable to all requirements from a small pencil flame to a powerful voluminous flame. Plumbers, Builders and Painters everywhere readily appreciate the advantages of the range of Sievert appliances.



**HANDYMAN SET 3790**

These sets of equipment are packed in a well-made, strong and attractively finished carrying case containing a range of equipment which enables most jobs to be undertaken.

SEE YOUR CALOR GAS DEALER

Use Sievert apparatus with Calor Gas Mk. 10 or larger size Gas Containers—for especially portable outfits use the small CALOR/SIEVERT Containers, both available from your local Calor Gas Dealer.

See the complete range of appliances at your local Calor Gas Dealer or for further information and literature write to:—

**CALOR GAS IRELAND LIMITED**  
 Bannow Rd., Cabra West, Dublin, 7. Telephone Dublin 47783.



# FLOORBOARD LIFTING TOOLS

MAKE THE JOB EASIER, QUICKER AND CHEAPER!

Lifter for 6 in. Boards ..... **59/-** T & G CUTTER ... **52/-**  
 Lifter for 10 in. Boards ..... **98/-**

ALSO LARGE AREA AUTOMATIC  
LIFTERS & JOIST BORING TOOL.

From your local stockist or

**National Agencies**

7 UPR. CAMDEN ST., DUBLIN 2.  
Tel. 53343.

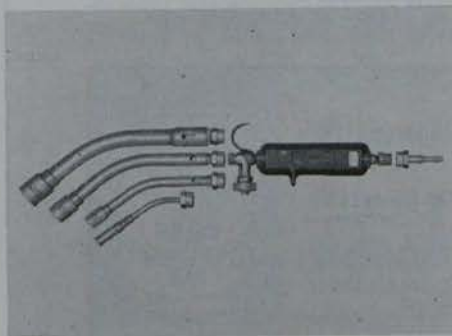


tachment guarantees the production, unfilled, of full bore bends free from any trace of flattening and throating.

\* \* \*

SEVERAL ITEMS of the Sievert Propane Gas appliance range have been modified. These include the Plastic Welding Torch No. 3888, which operates with Propane at 14lbs. P.S.I. and is an extremely portable appliance. It can be used for all weldable plastics such as rigid P.V.C., Polyethene, polyamides, etc. It works at a gas pressure of 14lbs./sq. in. and is very economical to run.

Burners 2950/2952 and 3927 have recently been introduced into the Sievert range. They are interchangeable on the Sievert Support Type E.4 and screw readily into this support. The burners 2950/2952 produce a soft flame which hugs the workpiece and where used with copper tubing the flame completely envelops the tube from front to rear. They are primarily designed for indoor use. The burner 3937 is especially suited for lead welding purposes. It has an extremely fine needle flame.



Sievert Support E4 with burners  
2950/3 3937.

Burner Support D.3 is completely redesigned. It is fitted with a trigger operated economiser valve and is fully regulated by means of its own regulation knob. All Sievert Burners are interchangeable on this burner support. Sievert Propane Burners

Fourteen

## PRODUCT REVIEW

from previous page

vary in size to produce a fine needle flame or a fierce voluminous flame.

Sievert have now introduced a pre-setting device on their Hose Failure Valves 19280/19285, and on their Pressure Regulators No. 19640/19645. Wm. Mayer Ltd., 9/11 Gleneldon Rd., Streatham, London, S.W.16, are the sole concessionaires for Sievert of Sweden.

\* \* \*

TUBE BENDING machinery from the comprehensive range of the Tubela Engineering Co. Ltd. includes that

company's new Mini-Bender, which is supplied with a range of formers for bending  $\frac{1}{4}$ ",  $\frac{3}{8}$ ",  $\frac{1}{2}$ " and  $\frac{3}{4}$ " i.d. copper tubes, which have proved extremely attractive to the smaller plumbers specialising in domestic small bore heating installations.

With the Mini-Bender are rubber feet cups which protect domestic flooring, and a four-sided guide, one fulcrum pin—there are no loose straps to lose or replace. There is a unique bending handle arrangement which permits any bend in any length of tube. The machine can be supplied in the Republic of Ireland for  $\frac{1}{4}$ "— $\frac{3}{4}$ " copper tube at £12 10s. 0d., carriage paid.

## EASY PIPE BENDING

### TUBELA BENDERS *for steady turnover*

The range of Tubela benders specially designed for the Heating and Plumbing Contractor make short work of bending copper tube and steam or gas pipe from  $\frac{1}{2}$  to 4 in. diameter. A Tubela bender will save you time, labour and money—and they're really solidly built.

THE  
NEW  
MINI-  
BENDER



Indispensable for small-bore work. Supplied with formers for  $\frac{1}{4}$ ",  $\frac{3}{8}$ ",  $\frac{1}{2}$ " and  $\frac{3}{4}$ " i.d. copper tube. No bench or stand needed—makes any bend in any length of tube. Complete £12 10s. only, carriage paid.

Hydraulic and motorised models also available for up to 4 in. pipe. Please phone or write for our illustrated brochures describing the whole Tubela range.

**Tubela Engineering Company Ltd.**

Fowler Road, Hainault, Essex.

Tel. HAINault 4426.

## PRODUCT REVIEW

from previous page

Tubela also manufacture the H3PR, a hand operated hydraulic tube bending machine for bending  $\frac{1}{2}$ " to 2" n.b. steam and gas pipes; and the T3R1 ratchet assisted tube bending machines, with a stand mounted for easy site use. It is suitable for bending  $\frac{1}{2}$ " to  $1\frac{1}{2}$ " i.d. light gauge copper tubes.

\* \* \*

INTERLAS LTD., of Hitchin, have recently developed a new universal tractor unit designed to accommodate a wide range of different types of welding and cutting torches. The new Interlas Beetle Tractor caters in a single unit for vertical cutting and welding and for horizontal or down-hand applications.

For vertical oxy-fuel-gas cutting and welding, MIG or CO<sub>2</sub> welding, the tractor is supported, for instance, on a ship's side by means of permanent magnets, or alternatively fixed to a horizontal platform or welding jig for cutting and welding.

The manufacturers are Interlas Ltd., Bury Mead Road, Hitchin, Herts.

\* \* \*

THE MERITUS model AB.5 air operated butt welding machine has been designed to meet the demand for a Butt Welder which combines high speed production with simplicity of operation and requires a minimum of setting adjustments. The complete welding cycle, including clamping the work pieces, is carried out by one stroke of the foot valve, thus leaving the operator's hand free to hold the work pieces in position.

The welding transformer has been specially designed to allow for the high production speeds of which the machine is capable and is efficiently insulated and impregnated, the output being controlled by a 4-position snap-action Tapping Switch.

Meritus (Barnet) Ltd., the manufacturers, are at Wood St., Barnet, Herts.

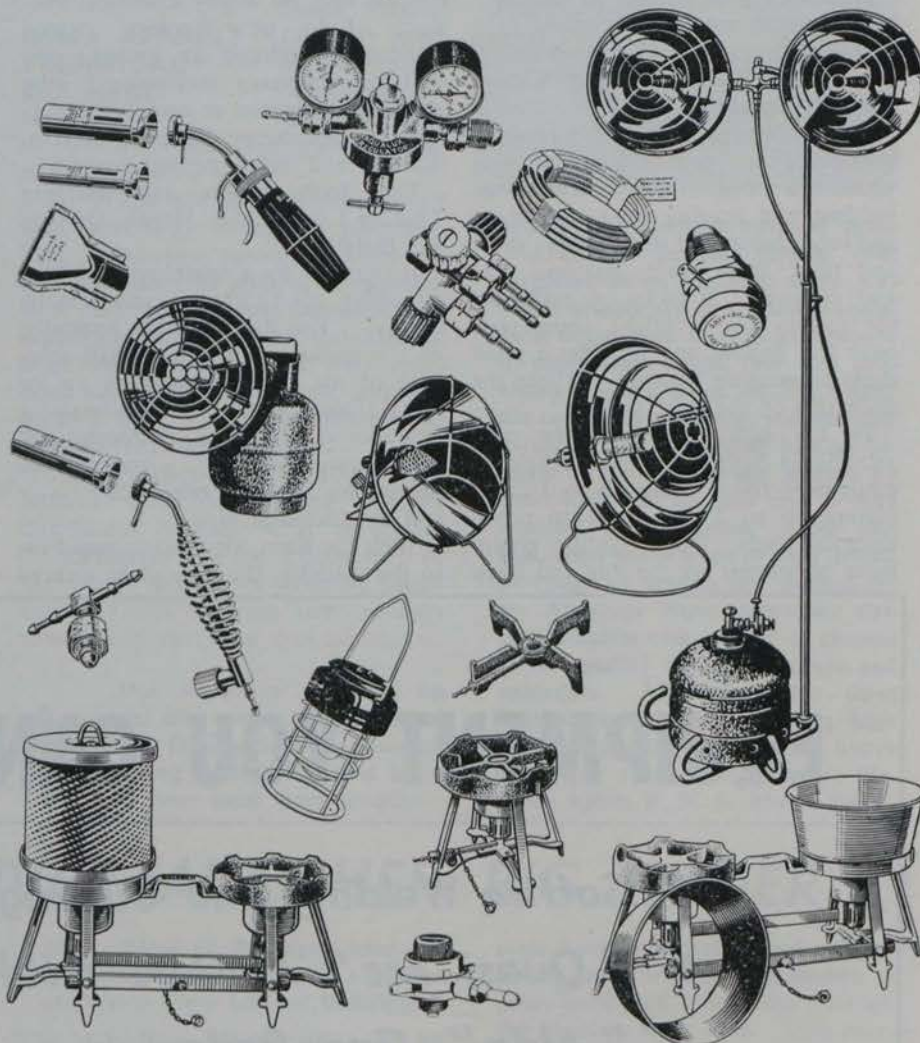
\* \* \*

INDUSTRIAL Gases (I.F.S.) Ltd. are finding that the new addition to the British Oxygen Company's Alda range of gas rods is proving popular with plumbing and heating engineers. This rod is a flux-coated brazing and bronze welding rod called Fluxobronze and is easier and faster to use than conventional rod and flux. In addition to its excellent fluxing and

*Continued overleaf*



THE LARGEST BRITISH MANUFACTURERS OF L.P. GAS EQUIPMENT ...



**TORCHES** for all purposes and all gases, many types and nozzles.

**REGULATORS.** A big range to handle different gases at all pressures.

**FURNACES** for melting lead, compound, bitumen, industrial compounds, type metal.

**INDUSTRIAL FURNACES** for die and tool hardening, of all sizes, electronic temperature control.

**HEATERS** for domestic, industrial, personnel glasshouses.

**LIGHTING AND FLOODLIGHTING**

*A complete service that is entirely British backed by 85 years experience and know-how*

RECOMMENDED BY

# WELDING SERVICES LTD.

14/16 AMIENS STREET, DUBLIN.

Telephone: 47051/2/3.



A Hilmor pipe bender in action, showing some of its work.

tinning actions with easy flow, it gives reduced production costs.

British Oxygen have also recently introduced a new Unibronze flux which is a universal flux for all bronze welding and brazing mild steel sheet and tube, galvanised steel, copper sheet and tube, brass sheet, stainless steel and cast-iron. It picks up easily on the rod to give a bright, clean porosity free deposit and provides a good deep penetration between and into the underside of the joint faces.

In the equipment field, the well established Saffire cutting and welding equipment for welding up to 1" and cutting up to 2", continue to prove essential tools. Other cutting equipment of interest are the Pug and Back

## PRODUCT REVIEW

from previous page

Pack equipment. The former cuts straight or bevel cuts up to 2" thick in mild steel, employing acetylene or propane as fuel gas. The Black Pack is a portable oxy-propane cutter set.

Industrial Gases (I.F.S.) Ltd. are at Bluebell, Inchicore, Dublin 12.

\* \* \*

THE R.C.P. Kinetic Water Ram, which was first produced some 18 months ago, by Rigby Chemical Products Ltd., of Wardour Street, London, introduced an entirely new and revolutionary technique to the clearance of partial or complete blockages in plumbing, drainage, and industrial and other piping systems.

The Irish agents are: Hefmag Trading Co., Bective House, Dawson St., Dublin.

It operates by a combination of the principles of hydraulics and Kinetic energy. The Ram consists, basically, of a cylinder into which a small volume of air is compressed by an integral hand pump (or through a Schrader valve when a compressor and air line are available), a trigger connected to a quick release air valve and air discharge pipe.

With the Ram, air is compressed into the cylinder, the pipe to be cleared

is filled with water, the Ram is connected to the pipe and the trigger is operated by releasing a "bullet" of highly compressed air which strikes the water or other liquid in the pipe, and generates shock waves which travel through the water at approximately 4,700 ft. per second, and literally blow out any blockage.

\* \* \*

THE RAWLPLUG Company have announced the introduction of two new drilling machines, the RV 4 and the RV 5A, both of which give eight vibratory and two rotary drilling actions to make them ideal for any type of masonry drilling. They replace the RV 2 and 3.

\* \* \*

A NEW publication has been prepared by Oerlikon Electrodes (Great Britain) Ltd., Kelvin Way, Crawley, Sussex, on the Oerlikon Elevated Frequency Welding Alternator. The publication is available from the firm for our readers.

\* \* \*

THE UNICUS Transformer Welding Set is a 65 amp unit which is ideal for small engineering jobs. The price includes accessories for a wide variety of work. Unicus distributor: Max Arc Ltd., 44-46 Terrace Road, Walton-on-Thames, Surrey, who offer the units for immediate dispatch.

# EQUIPMENT YOU CAN TRUST—

- Saffire Welding and Cutting Outfits
- "Quasi Arc" Electric Welding Plant
- "Alda" Gas Rods
- "Quasi Arc" Electrodes

## INDUSTRIAL GASES (I.F.S.) LTD.

BLUEBELL, DUBLIN, 12.

Telephone 55471.

MONAHAN ROAD, CORK.

Telephone 20392.

A NEW room heater with a front frame 31 $\frac{1}{8}$ " deep and a total projection into the hearth of only 4 $\frac{1}{8}$ " is being introduced by Redfyre Ltd. (one

of the Newton Chambers companies) of Thorncliffe, Sheffield. Incorporating a heavy duty Bacboiler this is a self-contained unit with a built-on convection casing and is designed to give flexibility in installation.

By radiation and convection the appliance, named the Redfyre Plus 5, will heat a room up to 1,650 cu. ft. The Bacboiler's output of 21,000 B.t.u./hr. will support a 30-gallon cylinder plus 90 sq. ft. of radiator surfaces, thus allowing for the installation of a radiator in larger rooms.

The door has a large glass panel—12 $\frac{1}{2}$ " wide and 10" deep—enabling the whole of the fire to be seen while above it are four, full width convection louvres. Convection air intake is through louvres set low in the edges of the frame and heavily finned sides to the fire box ensure maximum heat transfer.

Primary air control is by means of the sliding lever above the ashpit door. This carries two coloured arrows indicating the direction in which it should be moved—red to the right for open and black to the left for closed. Below it is the lever operating the shaker grate while the boiler damper control is set above the fire door. All the controls are operated with the ashpit door closed and are chromium plated.

## trade Topics

CONTINUING their policy of planned and progressive expansion,

### OSMA APPOINT TECHNICAL REP HERE

Osma Plastics Limited announce the appointment of Mr. Alan Haigh

as full-time Irish Technical representative.

Mr. Haigh will be in constant touch with architects, builders, plumbers, local authorities, consulting engineers and merchants to offer a comprehensive field service on: Domestic and industrial rainwater goods installations, both internal and external; soil, ventilation and waste installations, and cold water cistern, and central heating expansion tank installations.

Osma Plastics building products are popular with the building industry throughout Ireland. "It is confidently expected that the appointment of Mr. Haigh will be of valuable assistance to Osma stockists and end-users alike," said an Osma spokesman.



Due to heavy demands on space this month, Part VII. of our 7 Deadly Sins of Domestic Heating Installation has been held over until next month.



OUR picture shows a range of three Armitage Sanwal urinals with divisions, all in Armitage Grey AY. These urinals are of a smooth sculptural design and there is an absence of superfluous detail, therefore providing a quick clean surface. They are completely hygienic and are easy to clean. The Sanwal has an integral strainer waste and is fixed by concealed wall hangers and is here supplied with a trunk waste and individual bottle traps to each urinal. This range of urinals are flushed by the Armitage Nuva automatic cistern complete with a range of chrome plated quality made flushpipes and spreaders. All fittings for these urinals are manufactured in high quality copper and brass heavy plated for a long non-corrosive life. (Irish agent: F. N. S. Ahern Esq.).

## WAVIN DELIVER ANOTHER BIG ORDER

Earlier this month a ship left Drogheda for Scapa Flow. Not on a mission of war but one of peace.

The islands of Mainland, Hoy and South Ronaldsey encircle that stretch of water that became a household word in two World Wars, and it is to the largest—Mainland—that the ship is bound.

About two years ago the Orkney County Council decided to replace and extend existing water supplies in the island. The sources are two fresh water lochs—Kerbister and Boardhouse, situated on the North East side of the island. The operation is known as the Kerbister and Boardhouse Water Supply Scheme, and will be carried out by direct labour, except for the consultant

gown. Most of the pipes used are PVC and one of the main suppliers are Wavin Pipes Ltd., of Balbriggan.

The M.V. Rose Markie will carry 80 tons of pipes. This may not seem much, until one considers the lightness of PVC, and realises that it is just short of 25 miles.

Wavin, whose exports have increased from 50 miles (88,000 yds.) in 1960 to 250 miles (440,000 yds.) in 1963, are continually looking for markets abroad. Says Mr. S. A. Kennedy, Acting Sales Manager: "This latest shipment will bring our exports for 1964 (to date) to 400 miles (704,000 yds.), and there are still three months to run." Wavin, who export to the U.K., India, Denmark, West Indies, Middle East and the U.S.A., also manufacture a com-

plete Rainwater System and a Racecourse and Paddock Rail, known as goers have seen this at the Curragh the MacCoy Race Rail. Irish race- and Leopardstown, but it is interesting to note that they have also supplied to such famous American racecourses as: Belmont Park and Acqueduct Park, New York; Arlington, Chicago, Centennial, Denver, Delaware Park, Santa Anita, California, and in Canada at Woodbine Toronto.

It is a far cry from the Orkneys to the Trucial Oman but not too far for Wavin. An oil development scheme in the State of Abu Dhabi is using Wavin pipes to distribute distilled sea water at Jebel Dhanna and Habshan. The installation was supervised by Wavin's Mr. George Cooper.

# trade Topics

PRIZES totalling more than £200 will be awarded in the first-ever Younger

## PLUMBERS' COMPETITION LAUNCHED

Plumbers' Competition for the best eight papers, not exceeding 3,000

words, about the theme, "The Future of Plastics in the Plumbing Trade."

Sponsored by Valor-Lawley Limited in association with the Plumbing Trade Journal and Heating Review, and the Institute of Plumbing, the competition is open to plumbers, trainees and others engaged in the plumbing trade under the age of 35 on March 31, 1965. Entrants can be of any nationality from either the Republic or Northern Ireland.

The top prize is £100, second is £50, and third £25. Five consolation prizes of 5-guinea book tokens will also be awarded. Major conditions of the competition require that all schemes or proposals must be applicable to conditions in these islands as well as being technically feasible of achievement within the next ten years.

In announcing the competition, Michael J. Montague, Managing Director of The Valor Company Limited, said: "The awards should give new impetus to the search for a better design for living. And the competition provides a golden opportunity for the young craftsman seeking a forum for his imaginative ideas.

"With the urgent need for the building industry to speed up and improve its capacity through industrialisation and other new techniques, there is a similar demand on the ancillary trades, such as plumbing, to seek faster, superior methods and materials.

"All companies and industries closely linked to the plumbing trade," Mr. Montague added, "want to see improvements that match technical advances developed in their own products."

A panel of distinguished judges has been selected.

Applications for full details and entry forms should be made to Norman J. Hart, Competition Secretary, 10, 21, 27, D'P70T, London,



## CENTRAL HEATING EQUIPMENT AIRLIFT

This month 20th Century Electronics (Ireland) Ltd., of Grafton Street, Dublin, flew in over 6 tons of central heating equipment to Dublin Airport for distribution to various installers throughout Ireland. Our picture shows Mr. T. McDonald; Mr. A. R. O'Leary, Managing Director, and Mr. T. J. Brennan, Director 20th Century Electronics (Ireland) Ltd.

INTERNATIONAL Boilers & Radiators Limited will shortly be launching a new oil-fired wallflame boiler to be known as the International

## INTERNATIONAL LAUNCH NEW OIL BOILER

Delstar. It will be manufactured by their subsidiary company, De'lore Heating Limited.

The boiler is fully automatic with electric ignition and electric thermostat, and is quiet in operation. The casing has been designed by one of Britain's top industrial designers, and is a real space saver. The cabinet is finished in true white enamel with a stainless trim, and for special colour schemes there is a choice of four attractive door panels available as an optional extra in blue, pink, yellow and green.

Initially, two boilers will be produced—one with an output of 50,000 B.t.u./hr. and one with an output of 70,000 B.t.u./hr. The casing for both boilers is only 36" high, 20" wide, and 21" deep. The International Programmer which was recently announced will be incorporated as a standard feature of the Delstar, but boilers will be available without the Programmer.

\* \* \*

DESPITE recommendations by both manufacturers and installation contractors of central heating equipment that it is advisable to use 2 inches

## ECONOMY INSULATION FOR LOFTS

of insulation blanket in the loft, householders are still loathe to afford

the additional expense to provide this essential element necessary to ensure fuel economy.

Stillite Products Ltd., a Turner & Newall company, have now intro-

*Continued opposite*



## Vanitory units

THE hallmark of Fisholow vitreous enamel basins for Vanitory units is their smooth, sculptural design. These basins are available pierced either 4" or 8 1/4" centres for pillar taps or for combination taps, with or without pop-up wastes.

Available in white, cream, primrose, green, turquoise, blue and coral pink, the basin's overall dimensions are 15 5/8" x 24 5/8".

Fisholow basins, by Fisher & Ludlow Ltd., of Birmingham, have integral overflows and are supplied complete with template, polished stainless steel surround, sealing strip, clips, chain stay assembly and instructions. Irish agent: T. J. Phillips, 112 Landscape Road, Churchtown, Co. Dublin.

# trade Topics

from previous page

duced as an addition to their range of insulating materials a special economy pack of 2-inch mineral wool as an incentive to all those contemplating central heating.

Known as the "Builder's Trade Pack," it represents an increase in cost of only 50 per cent. over a normal one-inch material and enables a loft area of 500 square feet to be insulated for under £12. Available in either 14-inch or 16-inch widths to suit the majority of ceiling joists, each pack contains two rolls of incombustible mineral wool 2ins. thick by 11ft. 3ins. long.

\* \* \*

PERFECTION Parts Ltd., Union St., London, S.E.1, have introduced a

## PACKAGED TANK-KIT LAUNCHED

packaged Tank-Kit which contains all items of equipment normally re-

quired for the complete installation of oil lines and ancillaries from the oil storage tank to the appliance, together with all the equipment necessary for filling, venting and sludge drainage of the tank. The Kit was designed with the co-operation of development engineers from a major oil company and is available in two sizes, for ½" and ¾" outlets.

Perfection Parts have in the past supplied a number of leading boiler manufacturers with a Packaged Kit for the complete installation of oil lines and ancillaries from the oil storage tank to the appliance. With this experience and with the co-operation of development engineers, Perfection

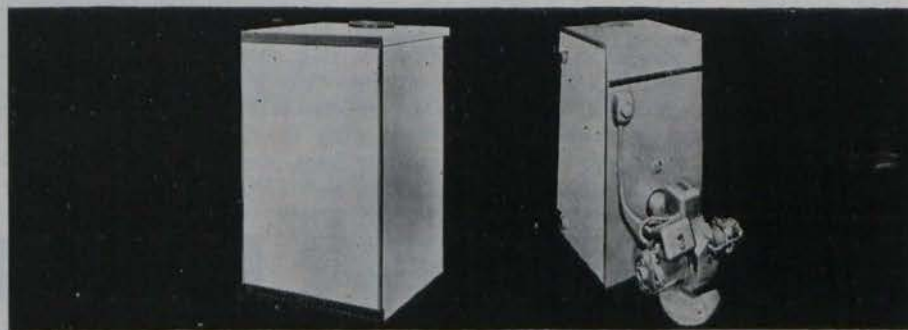
● We regret to note the recent death of that well-known trade figure, Mr. P. J. Casey, of 38 The Rise, Mount Merrion, Dublin. Mr. Casey was agent in Ireland for Saunders Valves, Joshua Bigwood Ltd., and Morgan Refractories.

# They don't let you D O W N at Wilsons

Every Wilson oil-fired boiler is fired and tested for you before it leaves the works. The outputs are guaranteed, *tested* outputs into water

Every Wilson radiator has a guaranteed emission figure—a figure calculated to B.S. : 3528 : 1962 by the Heating and Ventilating Research Association, Bracknell.

All boilers are very accessible for your checking and cleaning —saves you time on the job. And if there *is* trouble with a Wilson installation, we do want to hear about it. Because it is not our custom to assume that the installer must be at fault.



Wilson Wallframe. Five models available with outputs from 45 to 150 thousand B.T.U. Advanced technical design without frills. The biggest selling wallframe boiler in the country.

Wilson Boiler/Burner Units. Pressure-jet fired. Outputs from 70 to 800 thousand B.T.U. Larger models now with Wilson Cosytube baffle for maximum corrosion-free life.



Wilson Radiators. Their extra slim design makes them favourites with housewives. 816 sizes, with standard popular range for quick delivery.



Full details from

**Henry Wilson & Co. Ltd.**

Sales & Service Office, George A. Reid Esq.,

16, Fade Street, Dublin.

Telephone: 76009.



Parts Ltd. now offer the new Tank-Kit.

Perfection Parts Ltd. emphasise that their standard Tank-Kits "A" and "B" are complete kits, but a further utility Kit, the Tank-Kit "U," is also

available, which is similar to that supplied from other sources, but it costs considerably less. Other alternative Kits may be supplied to customers' specific requirements on a quality basis.

**THE LATEST** gas-fired boiler to enter the domestic heating market, the Crane Cavalier, has now been approved by the Gas Council and is in production.

**A NEW GAS-FIRED BOILER**

Three sizes provide an output of 30, 45 or 60 thousand B.t.u.hr. which will give central heating and hot water supply from an indirect cylinder for a house with up to five bedrooms. Each cabinet has the same dimension and is built to fit in with the standard size kitchen units. It is of special interest that the top fits flush against the wall behind. The steel jacket is stove enamelled in five attractive colour schemes.

The controls of the Crane Cavalier work automatically. Once started, the boiler needs no more attention as the control centre will keep the hot water at the chosen constant temperature by thermostat. Besides this basic boiler, Type 1, Type 2 incorporates a time switch in addition to the control centre, which turns the boiler on and off once or twice in 24 hours. Type 3 has a Crane programmer in addition to those features already mentioned in the former types. It is complete with pump mounted under the jacket. The

**TRADE**

**TOPICS**

six position programme selector switch provides instantly any combination of central heating and hot water supply required.

Safety is ensured by a flame failure device in the gas control valve, together with push-button ignition. The cast iron boiler sections are protected by vitreous lining in the flue-ways for resistance to corrosion and easy cleaning. Further details from Crane Ltd., 15-16, Red Lion Court, Fleet Street, E.C.4.

\* \* \*

**BRANCHES** of Richard Crittal & Co. Ltd., the heating and ventilation engineers, of 151 Great Portland St., London, W.1, have recently landed a number of big contracts. The Glasgow branch has had two £70,000 orders, while the Croydon and Cardiff branches have received orders worth £120,000 and £95,000, respectively.



**New cistern introduced**

**A** PLASTICS expansion cistern has been added to the range of Aspect domestic cisterns manufactured by Allied Structural Plastics Ltd., Dunstable. Moulded from polypropylene, this header tank will withstand water at a constant temperature of 80 deg. C. It will not rust, rot or crack and cannot cause electrolytic corrosion.

The Aspect expansion cistern has an actual capacity of 4 gallons (7 gallons nominal). It has a tapered, cylindrical shape and is 10 in. high, with a diameter of 18½ in. at the top and 16½ in. at the bottom. It weighs only 3lb. 3ozs.

# YOUNGER PLUMBERS COMPETITION

*Sponsored by Valor Lawley Ltd. in association with the Plumbing Trade Journal and Heating Review and the Institute of Plumbing*

**FIRST PRIZE: £100**

**SECOND PRIZE: £50 · THIRD PRIZE: £25**

and five consolation awards of 5-guinea book tokens for papers not exceeding 3,000 words on the theme,

**“THE FUTURE OF PLASTICS IN THE PLUMBING TRADE”**

*Entrants must be plumbers or plumbers' apprentices or associated with the plumbing trades and under the age of 35 on the closing date March 31st 1965*

THE JUDGES WILL BE:

Michael J. Montague, *Managing Director, The Valor Company Ltd.*  
J. W. Gaunt, *Joint Managing Director, Valor Lawley Ltd.*  
H. Ryland, *FIOP, ALPHE, MRPA, Editor, Plumbing Trade Journal and Heating Review*  
Reginald V. Cooper, *MBE, CGIA, FIOP, MIPHE, MRSH, MRPA, Secretary of the Institute of Plumbing*  
John A. Howie, *BSc (Hons), MIWM, FPI, M Inst R, Chairman, Thermo-Plastics Pipes and Fittings Group, British Plastics Federation*

*Entry forms and full details from the Competition Secretary: Norman J. Hart, 195 Shaftsbury Avenue, London WC2*



## How to endure the winds of winter

Just pop into the Heating Centre and you'll be sure to find an instant remedy. Oil-Fired Central Heating methods of every sort and size . . . just what you need to keep winter outside the door. At the Irish Shell and BP stand you'll get news and views on the very latest heating systems. Let Shell and BP help you show your customers the way to a warmer winter.

**for central heating**



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THE ONLY OIL EXHIBITORS



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ECONOMIC

# CENTRAL HEATING

EVEN DURING PEAK PERIODS

With Warmex there's no waiting for off-peak periods. It provides instant heat WHEN AND WHERE YOU WANT IT, evenly controlled by time switches and automatic controls and surpassing the economy of electric storage heaters—without their bulk. The Warmex System can be easily installed at a very moderate cost. Furthermore, Warmex radiators are guaranteed for five years.

- This unique construction is fully patented.
- Easy payment plan. Personal loans available.
- Installation takes only an average of two days without any structural alterations.
- Time clocks set to your own particular requirements.
- Pullin thermostats control your heat.
- Running costs are very economical.

## GUARANTEE

The WARMEX system is guaranteed for five years.

### Synchronous Time Switches by ENGEL & GIBBS LTD.

Timekeeping is controlled by high quality gears made to the best Swiss standard and the time switch is enclosed to prevent interference or damage from dust or dirt.

Sole Concessionaires in the Republic of Ireland, to whom all enquiries should be addressed:

## 20th CENTURY ELECTRONICS

(Ireland) LTD.

38/39 Grafton Street, Dublin. 'Phone 70939.

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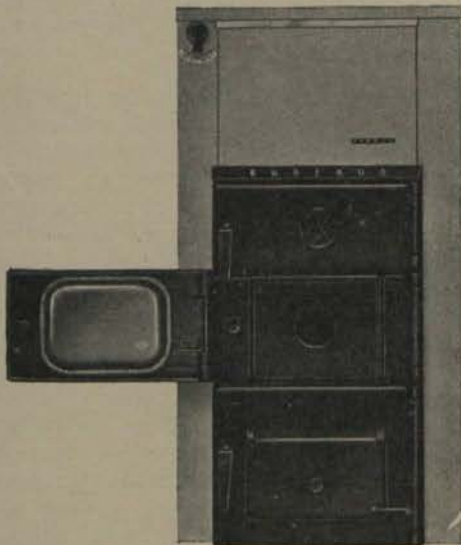
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# REMARKABLE!



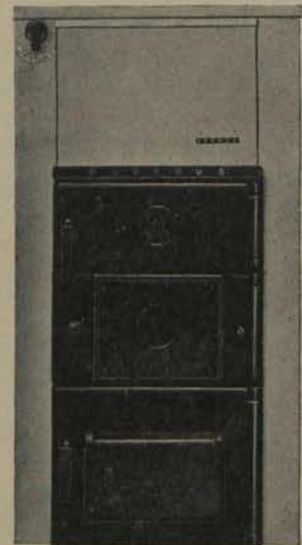
*is the best description of the response to the New P22 W Boiler*

★ **COMPARE** what is offered by this most adaptable boiler—



PC Type for Dual-Fuel

- ★ Large combustion chamber
- ★ suitable for oil, coke, or both together
- ★ easy to install
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NOW IN DUBLIN STOCK**

*Panel Radiators on Short Delivery*

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167 STRAND ROAD, MERRION GATES, SANDYMOUNT, DUBLIN 4.





**T**HE promotion of a better understanding and more extensive use of central heating in Ireland generally—this is the aim of the Irish Heating Centre which opened its doors with a flourish in Dublin earlier this month. Here we take a detailed look at this important trade development.

## Ireland's heating centre opens with a flourish

**T**O promote a better understanding and a more extensive use of central heating in Ireland generally and in Irish homes in particular, these are the aims of the Irish Heating Centre, which opened Oct. 9th, at 19 Dame Street, Dublin 2, on the corner of Dame Street and South Great George's Street. Those considering the installation of a home central heating plant can there procure technical help on all their problems—completely free of charge and obligation.

To attain these ends the Heating Centre will endeavour to provide a permanent exhibition of representative kinds of heating, ventilating and control systems and equipment and will offer a completely independent and impartial service to engineers, architects and building and heating contractors, as well as to the general public.

In providing such a service, the Irish Heating Centre will display the products of as many different manu-

facturers as possible, together with the maximum number of different types of central heating appliances. Thus, the Centre aims to introduce the public to new and current trends in heating, and will give manufacturers a permanent "Display Window" for their products.

Over the past years, Irish householders have become aware of the many advantages of central heating. Controlled heat throughout the house, comfort and warmth in all types of weather, ease and cleanliness of operation—these are just a few of the advantages which a central heating installation has to offer.

Home central heating is no longer regarded as a luxury, and the general public is beginning to realise that it is a convenience which is well within the reach of almost every pocket. However, in the past many potential users have hesitated to install central heating plants in their homes because of the difficulty of determining the

exact cost of such an installation and of deciding which type of equipment would be best suited to their particular needs.

It must be stressed that the Irish Heating Centre is entirely free and independent, and is not committed to any one manufacturer or heating system. The exhibition has been thoughtfully planned and laid out and features displays of the various heating systems—electricity, gas, oil and solid fuel. Wall diagrams and charts are used to illustrate some of the different types of fuel and control appliances. Leading manufacturers' products are displayed on permanent stands in each section, so that the public can see a representative range of the most up-to-date systems and techniques of modern home heating.

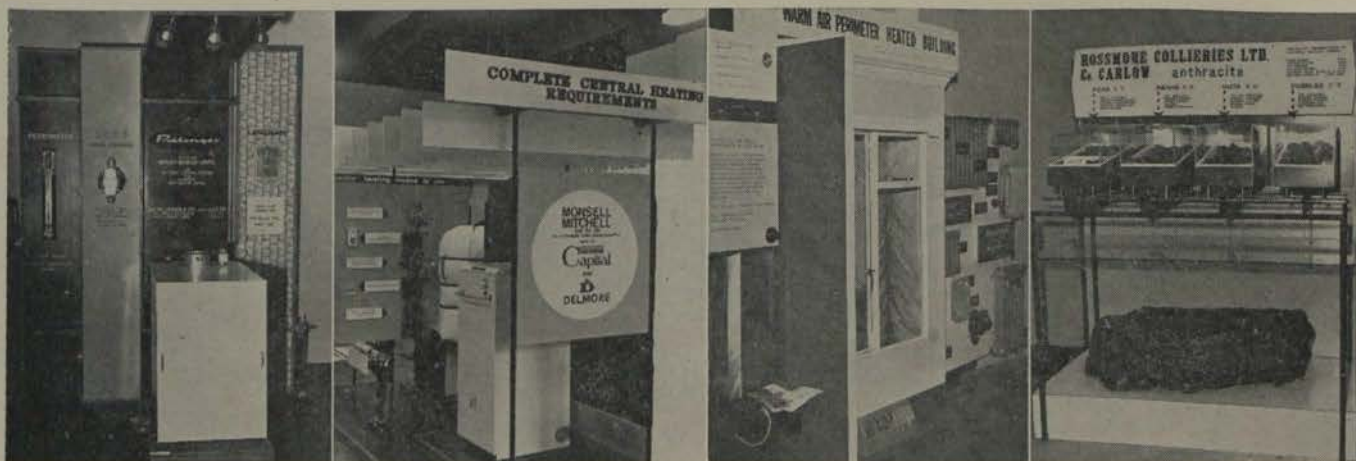
For the benefit of those who decide to install central heating in their homes, the Irish Heating Centre has

*Continued opposite page*



**M**R. J. G. O'MALLEY is Manager of the Irish Heating Centre Ltd. A native of Rathdowney, Co. Leix, he was educated at St. Kieran's College, Kilkenny, and at University College, Dublin, where he graduated in 1953 with a B.E. (Mech. & Elec.) degree.

Mr. O'Malley has travelled extensively abroad, and spent the past four years in Sweden, studying the latest techniques and developments in the central heating industry. He feels that the Scandinavian countries are the most advanced in the world in this field, and looks forward to the time when Irish people will be equally aware of the importance of central heating in the home and in industry.



FROM LEFT: The G. C. Pillinger & Co. (Ireland) Ltd. display; Monsell Mitchell & Co. Ltd. stand; The W. J. Thompson Ltd. display is flanked by a range of products from Steel Radiators Ltd.; Rossmore Collieries Ltd.

## The Exhibitors

Baxendale & Co. Ltd.  
 Chapee Ltd.  
 Clyde Fuel Systems Ltd.  
 Dunwoody and Dobson Ltd.  
 Foster Finance Ltd.  
 G.E.C. of Ireland Ltd.  
 H. R. Holfeld Ltd.  
 Honeywell Controls Ltd.

Import & Export Agencies.  
 Irish Shell and BP Ltd.  
 Irish Technical and Production Co. Ltd.  
 Hugh C. Maguire.  
 Manotherm Ltd.  
 Monsell Mitchell & Co. Ltd.  
 Oil Fired Homes (I.) Ltd.  
 G. C. Pillinger & Co. (I.) Ltd.  
 Quadrant Engineers Ltd.  
 Roper Bros. Ltd.

Rossmore Collieries Ltd.  
 Edmund D. Ryder.  
 J. J. Sampson & Son Ltd.  
 Simplex Electric Co. Ltd.  
 Steel Radiators Ltd.  
 Taylor, John R., Ltd.  
 Thermolag Insulations.  
 W. J. Thompson Ltd.  
 Trianco Ltd.  
 20th Century Electronics (I.) Ltd.  
 Unidare Ltd.

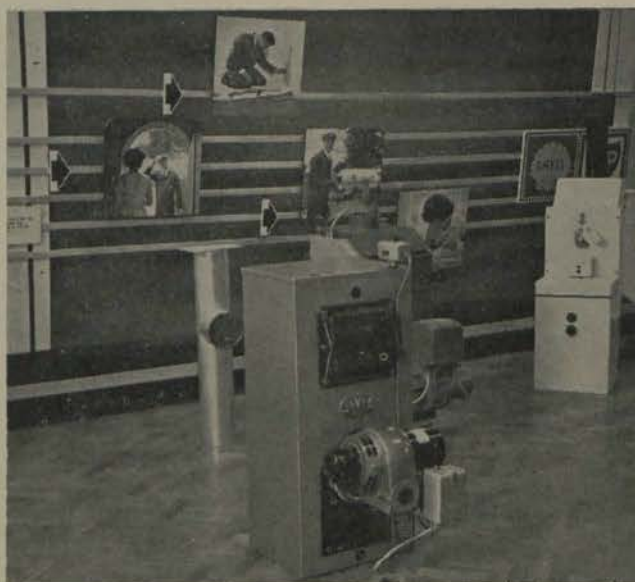
*From previous page*

drawn up a list of Approved Installers comprised of contractors whose work conforms to the standard and requirements of the Centre. The public, in addition to engineers, architects and contractors, will have free and ready access to the Centre's extensive technical library, and can avail of yet another up-to-the-minute facility by sitting in on lectures and educational film shows in the Centre's Auditorium, arranging for such facilities to be made available to themselves or using the Centre for conferences.

Technical advice will be freely available at the Centre. In addition, all equipment used in installations will be recorded by the Centre and this information will be readily available to manufacturers.

The opening of the Irish Heating Centre Ltd. brings into being a service which will greatly benefit all those concerned with central heating, be they manufacturers, contractors, consultants, or members of the general public.

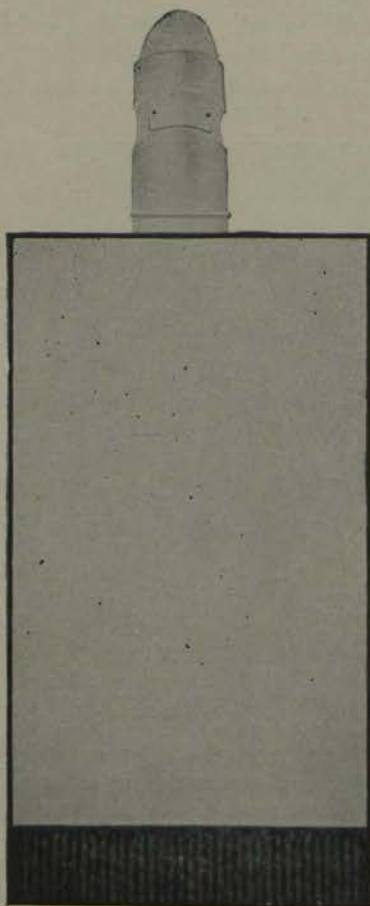
● Heating Centre pictures by IPHE photographer Edmund Ross.



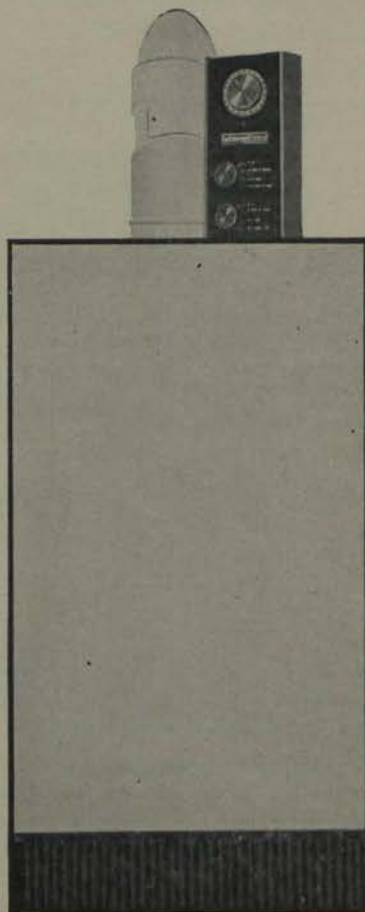
This is the Irish Shell and B.P. Stand. The stand itself consists of an attractive array of equipment, appliances and photographic charts that vividly outline the advantages and cost of oil fired central heating. And of course the now famous Mrs. 1970 is prominently displayed.

The Irish Shell and B.P. Housewarming Plan is clearly outlined on a chart. Other charts give a comparison of costs between oil fired and other forms of central heating. Boilers shown here are by Clyde, Francia, and Perkins.

At last! An oil boiler that's really compact. The International Delstar.



Delstar's design beats the rest on size, looks—and the programmer is standard equipment.



Clip this ad.

THIS NEW WALLFLAME BOILER WILL BE WIDELY ADVERTISED YOU'LL BE ASKED QUESTIONS SO KEEP THIS CHECK LIST HANDY.



- 1** It measures only 36" high, 20" wide, 21" deep. It is smaller than any comparable wallflame boiler on the market.
- 2** The 10 position programmer is standard equipment. It controls independently the timed operation of the central heating and hot water systems. The programmer is designed for wall mounting and can be situated in any part of the house.
- 3** There are two models, 50,000 and 70,000 B.t.u./h.
- 4** Efficiency exceeds 80%.
- 5** Its quiet operation makes it suitable for installation in kitchens.
- 6** Maintenance is extremely simple—it was designed for easy servicing.
- 7** International Heatmiser for maximum fuel economy is available as an optional extra.

SEND FOR FULL DETAILS

**International**

**BOILERS AND RADIATORS LTD**

Park House, Park St., Croydon, Surrey. Tel: MUN. 3581/5

EIRE DISTRIBUTORS: MONSELL MITCHELL & CO. LTD., 67/73 TOWNSEND STREET, DUBLIN

# Best units-best deal-best backing your best buy in pumps-International

Check now on the pumps, terms, service offered on 'Flo' line.  
They put everything else in the shade. Delivery's fast, too.

**TOTALLY NEW DESIGN**—more compact, quieter, works in any position. Designed by the Sigmund Research Team.

**EASY TO INSTALL—EASY TO SERVICE**—only one sealing joint. Quick release coupling.

**GREATER RELIABILITY**—new high-torque winding gives ample starting power, stator is completely moisture-proof, new wet and dry bearings add greatly to working life.



**MULTIFLO** Variable head. Adjusts the quantity of water circulating, eliminates throttling and ensures silence. Retail price £18.0.0.



**NEW SILENTFLO**  
Fixed head, for domestic systems up to 40,000 BTUs. Ideal for package schemes and estates. Retail at £16.10.0.



**THERMOFLO**  
Variable head and built-in mixing valve for less than usual price of separate units, £23.0.0. Installation's cheaper too. Instant adjustment of volume and temperature—up to 80° below boiler heat.

## DISCOUNTS

Highest discounts, lowest prices, prompt delivery.

### INSTALLERS' CASH REBATE

5/- per pump payable monthly. Write for details.

### COMMISSION

Payable on all maintenance contracts obtained on our behalf.

### TALK SOON TO YOUR INTERNATIONAL REPRESENTATIVE

Get the full technical and terms story on these great new pumps. What you learn will probably make up your mind on the spot. So do yourself a favour. Don't commit yourself to any sizeable orders for anything else until you know about these.

### EVERYBODY OFFERS SERVICE: WE COME ACROSS WITH IT

OUR GUARANTEE is clear and straight. It runs for two years. If

any manufacturing fault or mechanical flaw causes trouble, it's replaced and the Installer automatically gets at least £1.7.6 to help offset labour charges.

If the fault's been caused by misuse, the pump will be stripped down, cleaned, repaired, re-assembled and returned for a small set charge.

There's a fixed and generous scale of prices for replacing pumps out of guarantee.

You can turn maintenance over to us completely for £2.10.0 a year. This covers replacing worn or faulty parts.

**Our service engineers cover the country. They're on call to visit sites and service any International equipment. And they're backed in turn by a proper stores and service organisation.**

You've got to buy some pumps. On the surface they may look alike. Talk to your International Rep. They're not alike. These are the ones to go for. Use your phone now.

# International

## BOILERS AND RADIATORS LTD

PARK HOUSE, PARK STREET, CROYDON, SURREY. TEL: MUNICIPAL 3581-5

Sole agents for Republic of Ireland: **Monsell Mitchell & Co. Ltd.**, 67/73 Townsend St., Dublin. All prices shown are subject to 5% increase to cover carriage, etc.

## SEEN AT THE CENTRE

Pictured at the Mon-sell Mitchell stand (from left) are: Mr. Pat Ncone, Heatovent Supply Co.; Mr. P. Doyle, Manager, Heating Division, Mon-sell Mitchell & Co. Ltd.; Capt. M. O'M. O'Donoghue, National Agencies, and Mr. Fitzgerald, Hendron Bros. (Machinery) Ltd., at the opening reception of the Irish Heating Centre.



More Heating Centre exhibits (from top of column): Mr. A. R. O'Leary, Managing Director, 20th Century Electronics (I.) Ltd., pictured at the Warmex and Pullin Thermostats display; Roper Bros. Ltd. stand; Mr. E. Ryder at the Augustin boiler exhibit.

The **Unidare Ltd.** skirting heating system recently reviewed for I.P.H.E. readers aroused keen interest. This system, which comes in 2 and 4 foot lengths, is successfully replacing traditional wooden skirting in numerous installations.

Featured too were the new Thermodare Renoir, Rembrandt and Rubens night storage heaters. With these models a limitless variation in terms of colour, styling and design are offered with a wide choice of body and front panel colours and finishes.

These units are available in various ratings from 3 kW. to 1½ kW. in horizontal or vertical styling.

**Foster Finance Ltd.** have taken a Centre stand to publicise their central heating loan plan. This facility enables householders to have a C.H. system installed without capital outlay.

The company is offering up to 100 per cent. advances with repayments

spread over periods of up to 5 years on an equal monthly basis. The loan plan should provide an answer to the installer who previously might have lost a contract because of his client's inability to arrange for the necessary capital outlay.

AMONG the **G. C. Pillinger & Co. (I.) Ltd.**, equipment on display was a number of boiler-burner units. The units—both domestic and boiler-house models—are available—feature all welded steel one-piece boiler, with waterways on all sides, ensuring high heat extraction, and with refractory lining.

The boiler is fitted with a Pillinger Model 602 fully automatic pressure jet oil burner complete with Synchro-Safe light sensitive flame failure control and thermostat for boiler water temperature control. The burner is designed to operate on light gas oil or diesel oil having a viscosity of 35/45

*Continued overleaf*

# BAXENDALE

& CO. LTD.

Suppliers of:—

**Potterton, Wilson**

— and —

**Ideal Boilers**

.....

**Conquest Stoves**

**Rayburn Room Heaters**

**CAPEL STREET, DUBLIN**

TEL. 76711

Private Branch Exchange.

## SEEN AT THE CENTRE

from previous page.

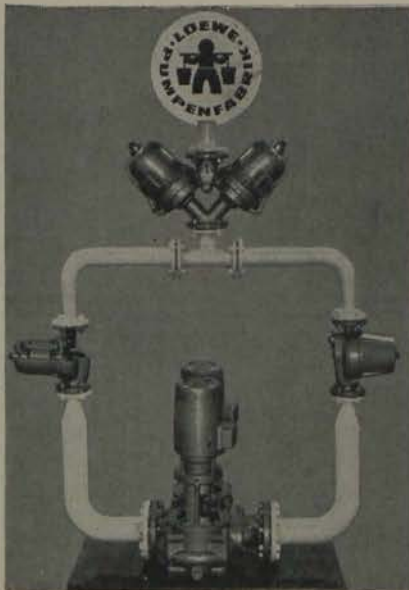
seconds Redwood No. 1 at 100°F. (37.8°C.).

Four models are available with ratings ranging from 60—80,000 B.t.u./hr. to 170-140,000 B.t.u./hr.

Other equipment displayed by Pillinger was the Langham draught stabilizer; Petrometer tank gauges; and the H. & B. Selfo circulators.

Visitors to the Centre saw an interesting display in the cut-away model of Loewe-Silenta glandless heating accelerator. It provided easy inspection of the internal layout and construction of this first-class unit which has capacities of up to 110 g.p.m. and frictional heads up to 26 feet.

Also featured by H. R. Holfeld Ltd. was a new development—the variable Silenta accelerator. Any of four different capacity-head ranges can be selected by a simple knob adjustment.



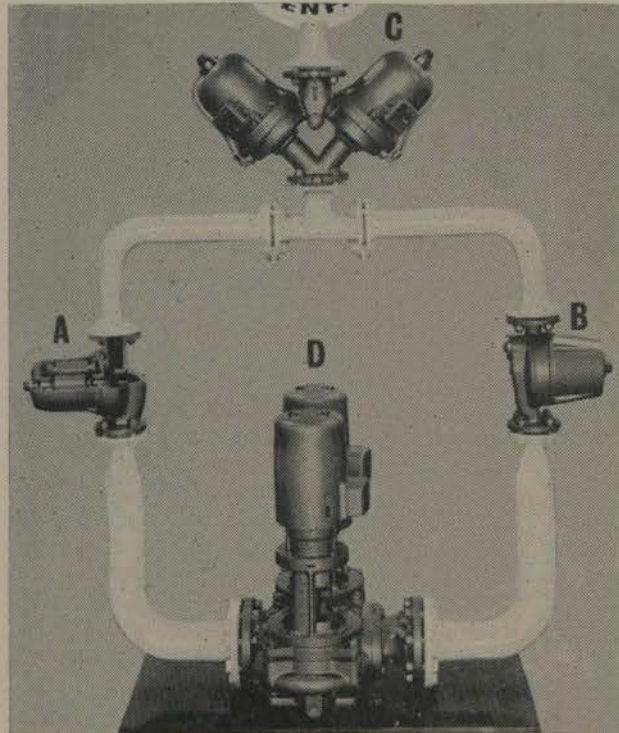
The H. R. Holfeld exhibit, showing the equipment discussed here.

Capacities here are up to 22 g.p.m. with total heads up to 10 feet.

Other Holfeld displays featured the twin Silenta accelerator and the twin Loewe circulators, which have far greater capacities (up to 1,000 g.p.m.) and heads (up to 80 feet) than the twin Silenta units.

The 25 F Francia automatic oil-fired pack unit displayed has an adjustable output of from 60,000 to 100,000 B.t.u./hr. and is particularly suited for central heating in the nor-

Continued overleaf



On view at the Heating Centre.

## LOEWE HEATING PUMPS

### A. LOEWE - Silenta Glandless Heating Accelerator

Pump and motor casing of special cast iron - All bearings water lubricated - No gland or mechanical seal to leak - smooth running, super-silent - hardened, ground and polished stainless steel shaft - Motor shell of non-magnetic stainless steel, suitable for water temperatures up to 230° F. (110° C.) - maximum static head 55lbs./sq. in.: Capacities up to 110 g.p.m. and frictional heads up to 26 ft.

### B. Variable - Silenta Accelerator

Select any of four different capacity/head ranges by the simple adjustment of a knob: Capacities up to 22 g.p.m. and total heads up to 10 ft.

### C. Twin - Silenta Accelerator

A permanent stand-by unit is always available which automatically switches on if the working unit fails. The stand-by unit can also be switched into operation in parallel with the working unit to boost the supply if so required.

### D. Twin - LOEWE Circulators

With all the advantages of 'C' above but for far greater capacities (up to 1,000 g.p.m) and heads (up to 80 ft.): Compared with the installation of two similar pumps, this unit means 50% reduction in installation cost; only half piping, valves and insulation required; 50% less floor space required; motors and impellers can be inspected without disturbing pipes or interrupting the operation of the system for more than a few minutes.

Full particulars are available from . . . .



H.R.HOLFELD LTD. Stillorgan DUBLIN phone 881603



mal size house. A larger unit, the 45 F Francia, is also available and has an output up to 180,000 B.t.u./hr. The boiler is made of heavy gauge steel and has a very high efficiency, as the gas circulates between numerous baffle plates, thus allowing a very good thermic exchange.

The bricking is supplied with the unit and can be fitted in a few minutes, as no cement is required. The front door of the boiler, secured by means of two knobs, opens widely and gives full access to all internal parts of the boiler for easy cleaning.

The boiler is housed in an insulating jacket, part of the unit, finished in attractive two-tone blue enamel paint. The burner is fixed on the front plate of the boiler by a hinge and can pivot easily, allowing immediate access to the jet for cleaning purposes.

The Francia burner is of the pressure type, fully automatic with photo-resistance control, insuring full protection. The control box, a plug-in type, is housed on top of the burner with the ignition transformer. An elegant shaped cover protects the whole. The burner is fitted with a Stopair device which closes the air shutter automatically when the unit is stopped, thus preventing the hot gas escaping from the burner and realising a substantial

## SEEN AT THE CENTRE

from previous page

saving in fuel. (Irish Technical & Production Co. Ltd.).

Venner time switches on display at the Centre are of particular interest to designers who require complete automatic operation of boilers, pumps, motorized valves, etc., and who require a first quality time switch backed by a Dublin based overhaul and repair service. And just a few of these switches are:—

- Vennerette cream plastic case 30 amp time switch with 4 hand dial, and manual control. Separate clock terminals.

- Venner MDISLSEH time switch in standard metal base, 20 amp with manual control, and day and half-day selector.

- Venner MDISL 1 hour in C118A conduit box, 20 amp for night kindling control.

A new catalogue has just been issued by Venner Ltd. To secure a copy contact the sole distributors, **Roper Bros. Ltd.**, 5 South Anne Street, Dublin.



One of the key exhibits at the Centre is this well-known Trianco Ltd. solid fuel automatic gravity fed boiler (Model P55/65). With a rating of 55-65,000 B.t.u./hr., this boiler now offers greater flexibility and a wider fuel choice. In our picture is Miss A. Leycock, Secretary to the Centre's Manager.

# The new Ambassadors has the right priorities



BY APPOINTMENT TO  
H.R. QUEEN ELIZABETH  
THE QUEEN MOTHER,  
MANUFACTURERS OF  
DOMESTIC BOILERS  
Trianco Ltd. East Holsay, Surrey

BARBOUR INDEX NO. 91

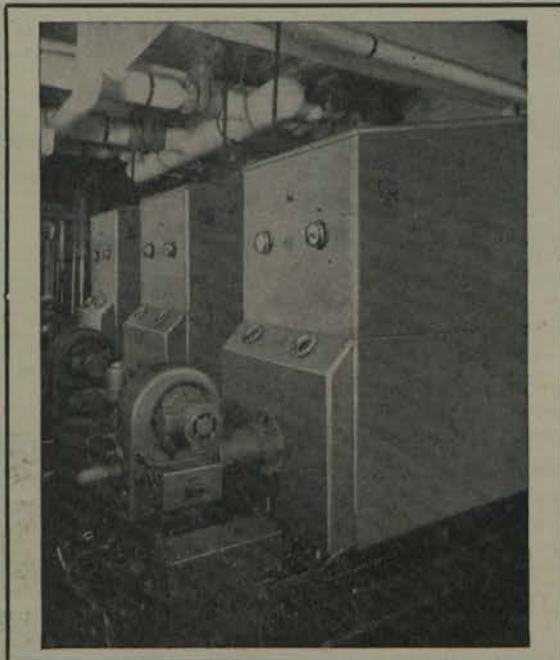


### RESIDENTS' COMFORT FIRST!

When the London Co-operative Society took over the old Ambassadors Hotel in Upper Woburn Place, W.C.1 it suffered many disadvantages, not the least among these being the inadequacy of the Central Heating & Hot Water supply. Now a transformation has come over it and today the comfort standards can measure up to the highest among London Hotels. 3 One Million capacity Trianco Boilers were selected. One to heat the water used for domestic purposes and two to provide central heating.

The smallness of the Boiler House presented a problem which was overcome by Trianco—the boilers being capable of dismantling to a size small enough to go through a 2' 6" doorway. They burn 200 sec. oil.

Design and installation was by Benham & Sons of Wigmore Street, London, W.1. Trianco boilers; Oil fired from 75,000 B.t.u. to 2 Million B.t.u. and Solid Fuel from 55,000 B.t.u. to 2 Million B.t.u.



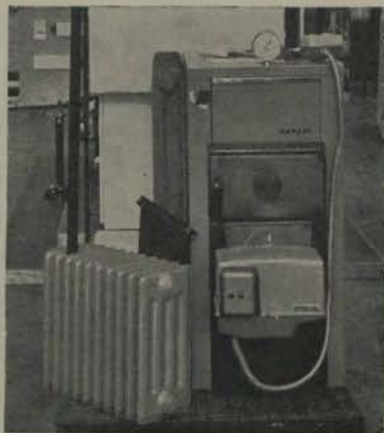
Write for brochures to:

**TRIANCOLTD, Dept. No. XXX, Imber Court, East Molesey, Surrey. EMBerbrook 3300 (8 lines)**

**HEATMOVEMENT SUPPLY COMPANY, 5 Upper Fitzwilliam Street, Dublin, 2. Phone 63061.**

Stockists and Distributors:

Messrs. Thomas Heiton & Co. Ltd., 18 Westmoreland St., Dublin 2, and Messrs. Baxendale & Co. Ltd., Capel St., P.O. Box 56, Dublin.



Shown here is the Quadrant Engineers' display, featuring the well-known Buderus boiler.

## SEEN AT THE CENTRE

*from previous page*

The guaranteed-for-three-years Warmex electric central heating system was one of the highlights of the Centre's equipment display. The system is achieved with Warmex radiators controlled by efficient thermostat units.

The radiators—they are available from **20th Century Electronics (Ireland) Ltd.**—have a permanently encased long life element, contain no oil or other liquid which could develop a leak, and are light and portable—total weight only 23 pounds for the 1 kW, size.

Because of standardised unit construction the rads can be extended to cover practically any area with close fittings units. Fixing is simple and the rads project only two inches into the room.

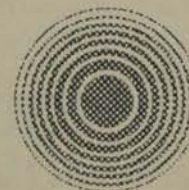
The units are attractively stove enamelled in bronze hammer finish or, for a small extra charge, can be supplied in pastel shades.

A 20th spokesman said: "The unique construction is fully patented and is the result of several years' research and experiment based on our war-time development of thermal expansion skin-plating of the famous Spitfire fighter aircraft. The radiator exhibits a surprisingly strong and resilient structure combined with lightness and reliability, and the new con temporary design gives an even greater surface."

Standard, extra large, low line and small sizes are available with ranges

# BIG NEWS in the booming central heating market

This is to announce the establishment of an independent advisory service on all forms of heating—electricity, gas, oil and solid fuel—and which is now open to the public as well as to architects, heating



engineers, building and heating contractors.

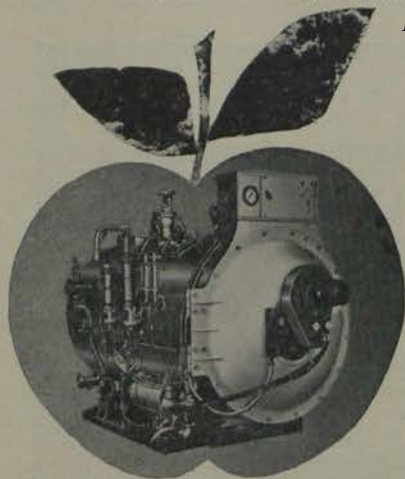
**EXHIBITORS** can arrange to display in the showrooms all forms of heating equipment, controls, insulation, etc. **INSTALLERS** will wish to be on the Centre's panel "Approved Installers." This panel is open to all contractors who conform to the standards of the Centre. Qualified staff will advise enquirers on the various types of installation and equipment available and arrange for estimates from "Approved Installers."

**ARCHITECTS, CONSULTANTS** will be interested in the comprehensive reference library. There is also a lounge for conferences and lecture theatre facilities available at the Centre.

## THE IRISH HEATING CENTRE



**19, Dame St. Dublin 2 Tel 56828**



**A BOILER A DAY . . .** leaves John Thompson Glasgow Works for installation somewhere in the British Isles. There are more Thompson package boilers currently being commissioned than any other type or make. These are the facts behind Britain's most successful range of oil-fired package boilers—the best-selling 'Multipac' and 'Demipac'. Ever since their arrival on the steam raising scene, these fully-automatic oil-fired units have consistently proved first choice for many thousands of consulting, heating and maintenance engineers. The 'Demipac'—supplying from 500 to 3,500 lb/hr of steam—is designed for the manufacturer who wants a relatively small amount of steampower but who still requires the benefits of completely automatic control. Ideal for garages, greenhouses, laundries, hotels and all types of small process and heating duties. For complete facts and figures of the highly successful 'Demipac' Package Boiler, write JOHN THOMPSON PACKAGE BOILER DIVISION, LILYBANK WORKS, LONDON ROAD, GLASGOW, E.1.

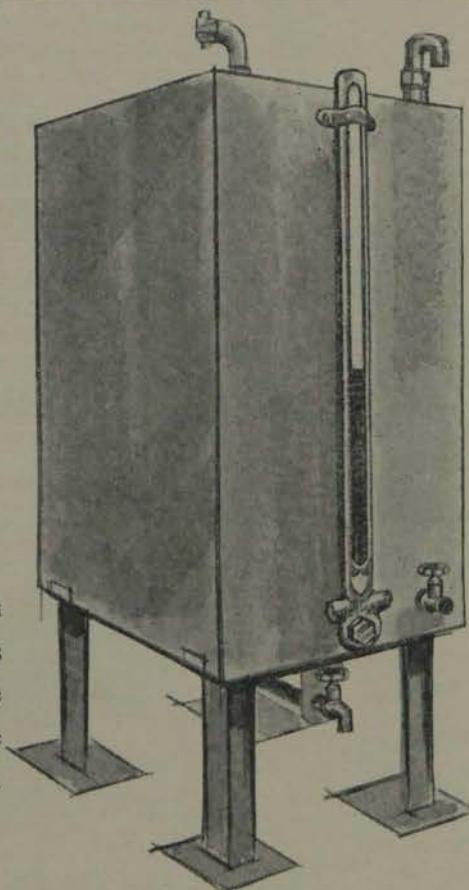
*Demipac*



# EVERY OIL-FIRED SYSTEM NEEDS A SEETRU LIQUID GAUGE

Your customer will be glad you recommended a Seetru Gauge for his oil storage tank. He'll soon realise a Seetru Gauge is really dependable for accurate oil-level readings.

Full details of prices and wide range of designs from:



- ★ **AT-A-GLANCE READING** of oil level
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- ★ **EXCEPTIONALLY SAFE** —mounts close to tank wall
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## ALWAYS INSTALL SEETRU GAUGES

### LIGHTWEIGHT GAUGE

—ideal for domestic and smaller industrial oil-fired systems.

### 'QUICKMOUNT' GAUGE

—for light and heavy industrial oil-fired systems.

**MANOTHERM LTD.**

14 Corn Exchange Buildings, Burgh Quay, Dublin.

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# industrial heating & ventilating IN IRELAND



No. 10 — Presented with the October, 1964, issue of the Irish Plumbing and Heating Engineer.

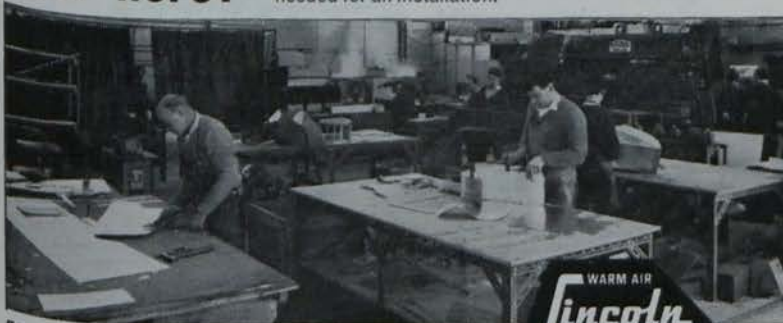


The warm  
air heating  
leader of  
Canada  
is rapidly  
expanding  
over here!

Lincoln's new factory and Head Office at East Grinstead offer greatly increased productive capacity. It will be needed to handle the growing demand for Lincoln installations. Efficient central heating is essential in modern homes and the advantages of Lincoln Warm Air are recognised by an increasingly discriminating public. The parent company, Bartaco Limited of Ontario, are the largest manufacturers of heating equipment in Canada, where the rigorous winters provided the proving ground for the development of warm air heating.

You can benefit from the growing awareness of Lincoln Warm Air. Lincoln offer great advantages to Authorized Installers:-

- \* **The widest range of warm air units.** A model to suit every type of installation and construction. This allows Lincoln dealers to design systems to the customer's exact requirements. They are not restricted to one "standard" unit as many dealers are.
- \* **Expert Technical Assistance.** Lincoln dealers are thoroughly trained and kept informed of technical progress. Because Lincoln have a unit to suit every application they can offer unbiased advice on the installation of systems to produce excellent results with *maximum efficiency*. Systems to produce higher temperatures, or run longer, than other installations of comparable size, *on the same fuel budget*. Anyone can produce effective heating regardless of running costs: only experts with Lincoln's kind of know-how can combine maximum heating, maximum efficiency and *minimum running costs*.
- \* **National Advertising.** All enquiries resulting from Lincoln advertising are passed on to the local Authorised Installer. Lincoln provide a full range of sales promotion material and give co-operative advertising support.
- \* **Prompt Delivery.** The increased capacity of the new factory allows virtually off-the-shelf delivery of warm air units, ducting and all fittings needed for an installation.



For full details and descriptive literature write:

LINCOLN WARM AIR HEATING EQUIPMENT,  
Dept. AB.5, EAST GRINSTEAD, SUSSEX. TELEPHONE: EAST GRINSTEAD 21266

The industrial section this month visits Manchester for a report on the Heating, Ventilating and Fuel Efficiency Exhibition.

There was a good Irish contingent at this well mounted exhibition and they reported satisfaction with the visit.

This month our Special Survey deals with insulation. The introductory article to the survey is by A. L. Townsend.

A Product Review in conjunction with this Special Survey deals with introductions and developments in the field covered.

Editorial and Advertising Offices:

Callaghan Chambers, 13/15  
Dame Street, Dublin 2.  
Tel. 56465-6.

London: J. T. Robson &  
Son Ltd., 30 Fleet Street,  
London, E.C.4. Tel.: Fleet  
Street 4438.

Belfast: Allen McDowell,  
43 Horn Drive, Belfast 11.  
Phone 614606.



The Irish Plumbing and Heating Engineer.



the ultra quiet and unobtrusive way to supply all the heat that's needed

## biddle/forceflo

**T**HE trim and elegant Forceflo is very specific in the way it meets the demand for warm air heating without noise. Forceflo quietness is tested throughout the audible frequency range and has a *guaranteed* noise criteria rating for any operating condition.

The standard Forceflo unit is only 28 in. high by 9 in. deep. There is a variety of other sizes too; and the design range includes free-standing, concealed,

remote and ceiling-mounted models. Unit output is up to 62,000 Btu/h.

Forceflo — all the heat that's needed and in the neatest, quietest possible way.



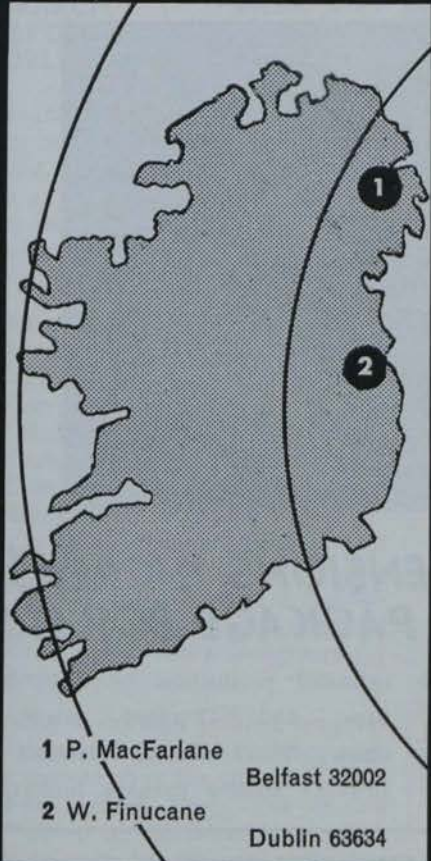
# biddle

F. H. BIDDLE LTD., 16 UPPER GROSVENOR STREET, LONDON, W.1.

Thermal (Ireland) Limited, 85 Lower Baggot Street, Dublin, 2. Telephone: 61237.  
Mr. S. Stewart, 26 Neills Hill Park, Belfast 5, N. Ireland. Telephone: Belfast 655759.

# Harper

## oil-fired boiler representatives now cover Ireland



- 1 P. MacFarlane  
Belfast 32002
- 2 W. Finucane  
Dublin 63634

Since Harper Meehanite oil-fired boilers were introduced five years ago demand has increased with each successive year. Today, Harpers are accepted as the criterion for reliability and economy in oil-fired boilers and enjoy ever-increasing popularity.

Now Harper add further benefits!

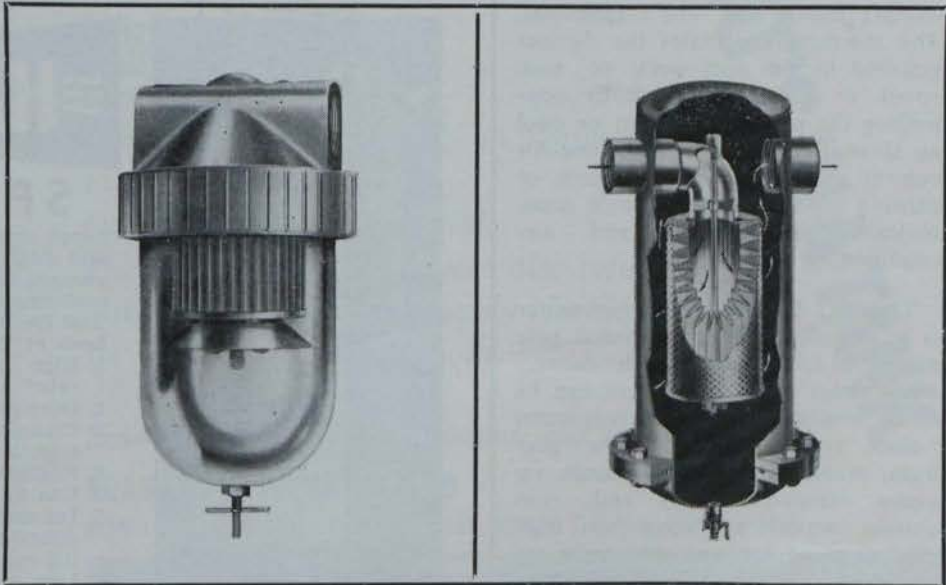
- (i) every section is guaranteed for five years.
- (ii) a nationwide sales and advisory service. Your local representative is listed on the left.



John Harper & Co. Ltd., Albion Works, Willenhall, Staffs.

### compressed air pipeline filters

by . . . . .



Vokes compressed air pipeline filters are available for vertical or horizontal installation in seven standard sizes to cover lines from  $\frac{1}{2}$  in. to 4 in. and pressures up to 500 p.s.i. Custom built filters are also available to meet specific requirements. Vokes also manufacture a filter for use in  $\frac{1}{4}$  in., and  $\frac{1}{2}$  in. air lines fitted with a transparent bowl to enable the need for servicing to be quickly seen. Write for details.

The Irish Plumbing and Heating Engineer.



WHITE-RODGERS Limited of Middlesex, have announced the introduction of the **ZONE-AIR CONTROL INTRODUCED** which is a low cost system of providing individual room temperature control for warm air heating and for air-conditioning systems using chilled air as the cooling medium.

The Zone-Air control package consists of one 2011-1 damper motor complete with 24" shaft and fittings less vane, one 81-008 230 volt to 25 volt 30 v.a. transformer and one 125-901 "D-LUX-line" three wire low voltage thermostat especially designed for controlling the 2011-1 damper motor.

Each room or zone requires one damper motor and one thermostat. The thermostat operates the damper installed in the duct work to each room or zone, automatically controlling the passage of warm or cool air through the duct. The Zone-Air control may be installed in new or existing installations to provide economical zone heating and air-conditioning.

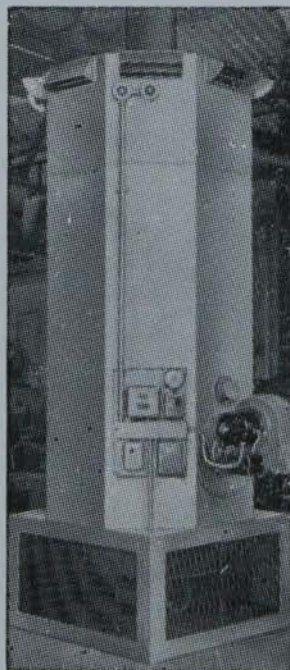
The 2011-1 Zone-Air damper motor is a specially designed shaded pole motor (3,100 r.p.m.) which delivers many times more power than can be made available from synchronous "clock type" motors. The gear train, made of Derrin<sup>R</sup> stands up under extreme friction and runs quietly while operating at high efficiency. Motor and gear train are completely immersed in sound dampening life-of-unit lubricating fluid, sealed as a unit inside a metal casing. The new design, terminal panel is built with simple push-in connections. A manual operator shows the position of the damper at all times.

The controls are available here at The Heating & Co. Ltd., Dublin.



## 15,500 SQ. FT. EXTENSIONS INCREASE PRODUCTION OF PACKAGE BOILERS

A 15,500 sq. ft. extension has been made to the Glasgow Works of John Thompson (Wilson Boilers) Ltd. for the assembly of the new "Aquapac" hot water boiler and the extended production of the "Multipac" and "Demipac" made necessary by increasing demand for Britain's leading package boilers.



Efficient heating for even the most difficult structures

## HAINAULT SPACE HEATERS

Large areas, with corrugated walls and roofs and high heat losses—factories, workshops, garages, stores—the most difficult heating problems can be solved with Hainault industrial heaters, oil or coke fired

Look at these Features:

1. High heating efficiency—oil fired version rated at 82%.
2. Outputs from 150,000 to 1,000,000 B.Thu/hr.
3. Centrifugal fan ensures positive heat distribution.
4. Negligible maintenance.
5. Can be utilised for ventilation in summer.
6. Independently adjustable air diffusers—direct the heat where you want it. Ducting systems to order
7. Low cost—easy installation.
8. Delivery ex stock.

"Hainault" heaters are manufactured at Hainault, Ilford, Essex, and are widely used in heating installations throughout Great Britain and Ireland.

Send now for details and illustrated literature.

SOLE IMPORTERS: **HENNESSYS LTD.**

Beasley Street, Cork. Tel. 24311/2. Dealership available in some areas.

★ Now is the time to think of your winter heating requirements.

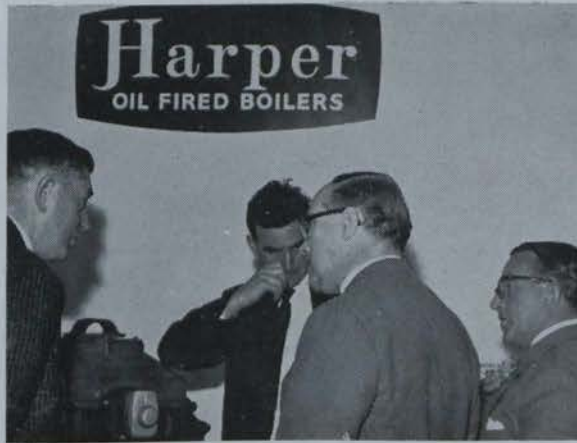
BY COMBINING the "know-how" of their respective research departments, two

**RESEARCH OVERCOMES PROBLEMS**

British companies have developed a form of overhead industrial radiant heating in which built-in lighting has been incorporated. The new development provides a particularly neat installation which brings both space heating and illumination directly above the work bench or assembly line.

Known as Frengerlitstrip, the equipment was jointly developed by Frenger Ceilings Ltd. (7-12 Tavistock Square, London, W.C.1), specialists in industrial heating units, and Falks Ltd. (91 Farringdon Road, London, E.C.1), light fitting manufacturers and lighting consultants. "It is a logical development of the industrial radiant strip already marketed by Frenger Ceilings Ltd. for use where it is desirable to also provide an overhead source of light," said a spokesman for the company.

Owing to the high ambient temperature produced by the heating strip, tests showed that the life of normal built-in lighting tubes and control gear would be considerably reduced. Joint research by the two companies has resulted in a combined heating and lighting unit in which the heat is rapidly dissipated away from the built-in light unit, the final design providing a lightweight, one-piece assembly, with a fluorescent tube efficiency equivalent to that of a recessed lighting fitting.



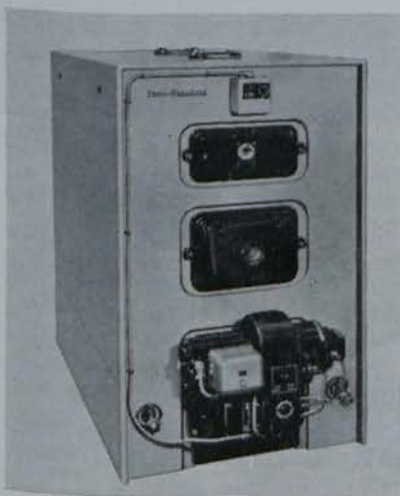
*It's like this ...*

John Harper's managing director, Mr. Malcolm Harper, explains the finer points of a Harper boiler to members of the Ulster Fuel Institute who visited the Manchester Heating, Ventilating and Fuel Efficiency Exhibition. (See exhibition report and another picture in this section).

*The best High Divers rely on Normond tank content gauges. Others have run into trouble. The best Heating Engineers also refuse unnecessary risks and specify Normond for all oil-fired installations.*

*Send for serious technical literature and prices*

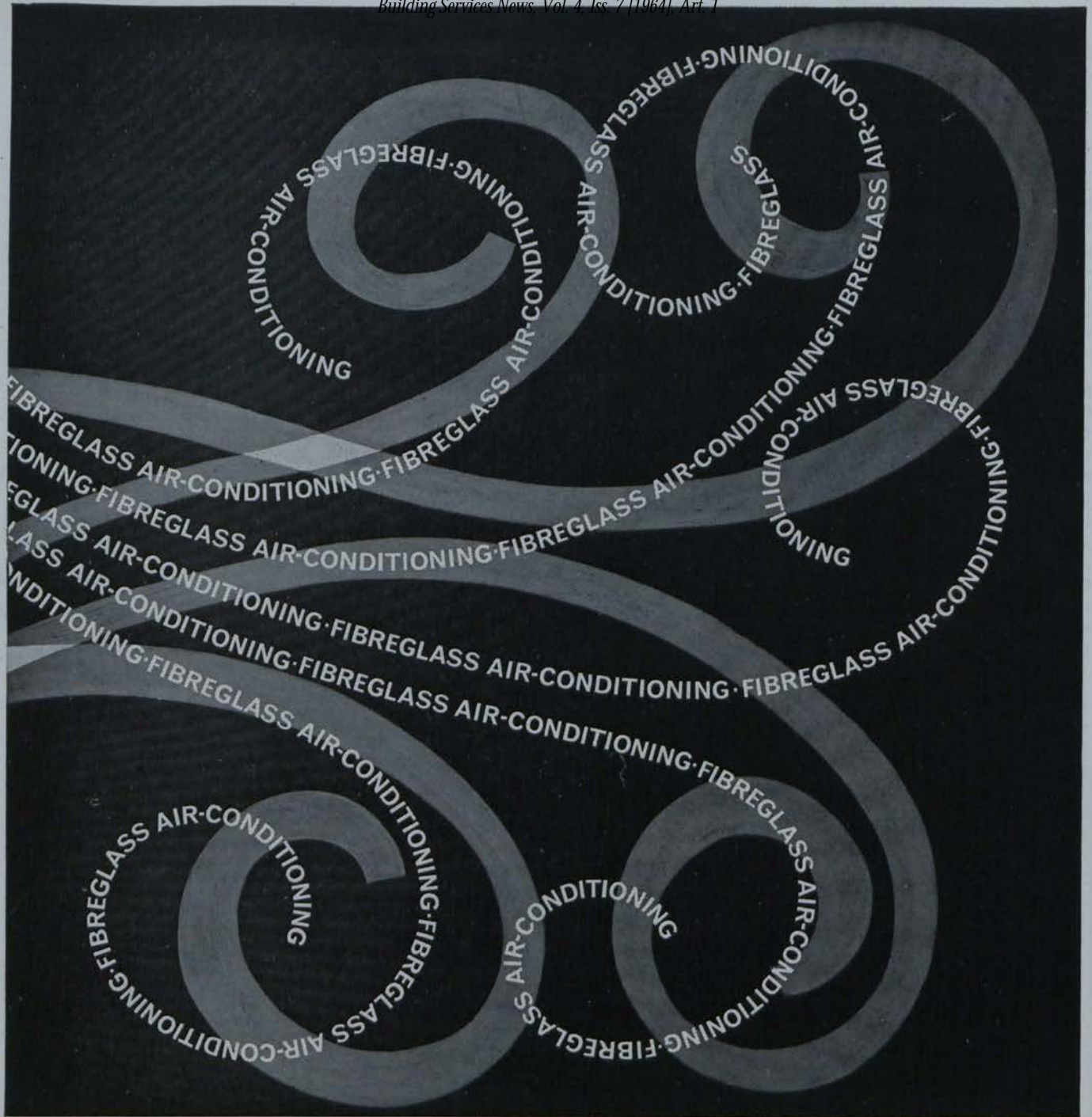
**NORMOND INSTRUMENTS LTD**  
HYDREX WORKS, PARADISE ROAD, RICHMOND, SURREY. Telephone: RICHmond 1128



The Ideal Vanguard series of oil-fired boilers by Ideal-Standard Ltd., is available in seven sizes ranging from 175,000 to 385,000 B.t.u./hr. One of the boilers is pictured here.







Fibreglass is a name found mixed up in the whole field of air-conditioning and heating. This is only to be expected; Fibreglass has played a leading part in providing the new forms of thermal and acoustic insulation that help to make modern air-conditioning so silent and efficient.

The Fibreglass range of air-conditioning products includes both Flexible and Rigid Duct Insulation, Flexible Duct Liner, and the revolutionary Prefabricated Ducting which combines duct and insulation in itself.

Fibreglass Rigid Sections for hot and chilled water lines are highly efficient and cheap to install; and Fibreglass Air Filters are probably more widely used than any.

#### **MONSELL MITCHELL & CO LTD**

Sole Distributors of Fibreglass Heat Insulation Products in the Republic of Ireland.

#### **JAMES RYAN (DUBLIN) & CO LTD**

Sole Stockists of Fibreglass Air Filters in the Republic of Ireland.

**Fibreglass  
Limited**

21, MERRION SQUARE NORTH, DUBLIN



## MONTHLY SPECIAL REVIEW

REVIEW OF  
INSULATION

# Much neglect in the matter of insulation

**W**HETHER the project be for an extensive layout as in factory, office or commercial building, where many thousands of pounds may be involved in capital and annual running costs, or whether it be a simple domestic hot water system, the potential savings which sound insulation offers just cannot be ignored in these days of high and rising fuel prices.

Factory heating, in particular, has been sadly neglected in the past. Often a mere token space heating arrangement was provided and this, apart from offering local warming to those lucky enough to be close to the emission appliance, was seldom anywhere near adequate to the task. In the past, factory building has, in general, been conceived merely as a cover over man and machine. Light wall and roof claddings, often with unsealed junctures at floor, eaves and ridge, were so incapable of heat retention within the working area that the cost of warming, to reasonable comfort standards, would have been wholly prohibitive anyway.

**T**HE modern trend reveals an altogether different picture. Managements now come to recognise the importance of physiological comfort for the workers—the productive units upon which the economy of the plant is so dependent. Expensive machines can suffer costly damage through damp, and machining tolerances and material behaviour too can be adversely affected by chilling draughts and abnormally low ambient temperatures.

New factories are designed with proper care in the selection of heat insulative construction throughout, especially in walls and roofs. Particular

attention to detail to ensure wind-tightness also receives due attention which repays handsome dividends in reduced infiltration losses with consequent reduction of heating load, which, in turn, provides a higher degree of comfort with a smaller capital outlay on heating plant or a reduction in operating costs or, in many cases, both.

Older factories are being vastly improved in internal appearance and warmth comfort by the application of simple fixed internal plastic board linings or by a suitable thickness of asbestos spray. In all cases, these improvement measures show marked reduction of annual fuel costs for heating. Very often, the outlay on thermal insulations of this kind are repaid by fuel savings over as little as four or five years. Thereafter, of course, the financial advantages of the applied insulants is a direct and continuing annual saving. The increased comfort conditions within the factory are also permanently enjoyed and lead to vastly better working conditions and improved output.

**C**OMMERCIAL buildings, office blocks, etc., in busy built-up areas, are assailed by increasing street noises—another bane of the age in which we live. The street clatter quite often precludes the opening of windows and this leads to the adoption of some combined ventilation and warming

installation. However, adequate daylighting is essential to good work in offices and the like and so vast areas of glazed curtain walling are common in modern buildings of this type.

Glass, although a good insulant as a material, offers very little resistance to heat transmission at the thickness used for glazing purposes. Double glazing with factory prepared glazing cuts down the extensive heat loss from this cause. It is no use suggesting that the adoption of double glazing in new work, or in improvement work, is inexpensive—it is not, but again it will show remarkable fuel savings and is a worthwhile investment which will repay in time. The increased comfort which it will afford right from its fixing, and the agreeable amount of noise reduction are permanently secured. Messrs. Pilkingtons Bros., of St. Helens, Lancs., will gladly advise on the availability, prices and advantages of double glazing for all industrial, commercial and domestic uses.

The principles of heat conservation by properly applied thermal insulation are becoming more widely known, accepted and wisely acted upon.

This leads to the sound insistence upon incorporation of suitable material as the building work proceeds. This is notable in much new work, large and small. Even domestic dwellings are being erected with vastly improved thermal insulation

*Continued overleaf*



*This special review article was compiled by technical expert A. L. Townsend.*

The Irish Plumbing and Heating Engineer.

from previous page

standards. The two-leaf brick cavity wall, long thought to be an ideal in domestic work, now gives place to one comprising 4½ in. brick external leaf with an inner leaf of lightweight concrete block. The load-bearing qualities of such construction is adequate but its resistance to heat movement is very much better.

**F**OR properties with the older two leaf cavity wall in brick, Messrs. Thermalon Company offer a clean, quick and very efficient method of

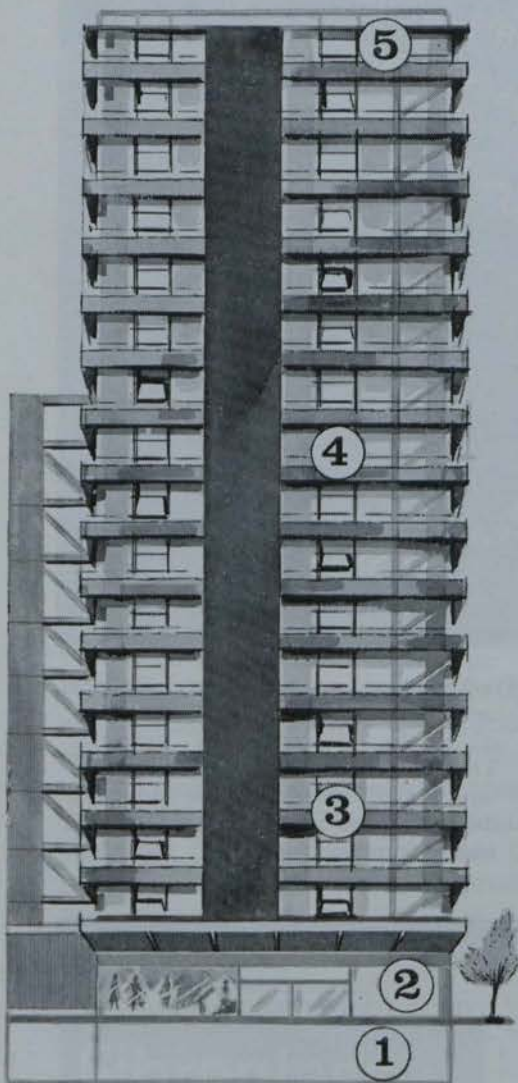
infilling the cavity space with a new formaldehyde plastic foam.

This treatment, particularly applicable to existing buildings, will reduce the U value of an 11 in. cavity wall at 0.33 to as little as 0.01—a truly remarkable increase in resistance to heat loss. The result is a welcome reduction in fuel bills, a sensible improvement of warmth within notwithstanding that less fuel is being burned, and condensation pattern staining is lessened because wall surface temperatures are higher.

No mess is incurred and skilled technicians will treat a domestic

dwelling in one day, and the treatment, which is fireproof, vermin and rot proof, is guaranteed.

New and old homes will derive increased warmth comfort from ceiling insulations. These come in two main forms—quilted materials in roll form, or pourable materials in particulate form. Both are very effective and either may be safely and properly applied by householders if they so wish. Builders' merchants carry stocks and will have literature explaining the thermal insulative properties of the materials with simple instructions as to how much is needed to deal with a known ceiling area.



Concrete screed with Rocksil Slabs beneath



# Rocksil

## the all round insulation

Rocksil is the versatile rockwool insulation for modern building construction. Supplied in plain or sewn quilts, mats, resin bonded slabs and pipe sections, blankets or as loose wool. Each form is specially developed for thermal and sound insulation or acoustic treatment. Ask for general brochure SIB Kml and individual product data sheets.

See literature in SPECIFILE

### M.A. Boylan Limited

(A member of the Cape Asbestos Group of Companies)  
50A Harcourt Street Dublin 2 Eire  
Telephone DUBLIN 55408.



*from previous page.*

Another quite effective approach to this problem of heat retention in homes is to lay reflective material over the ceiling. In some new work aluminised papers are taking the place of bitumen felt under tile or slate battens. So used, the reflective surface, faced inwards to the attic space, re-radiates back to the house interior all those losses by radiant heat. Carr & Co. have just marketed an aluminium faced insulation roll for laying between ceiling joists. A space of at least  $\frac{3}{4}$  in. in between roll surface and ceiling is recommended. So fitted, the air space reduces convection losses and the reflective aluminium foil reduces radiation losses.

Pipe and hot store vessel insulation is of paramount importance in domestic hot water generation if running costs are to be kept to reasonable limits.

Pipe insulants are now so many in kind, method of application and finish that they defy brief detailed description. It is sufficient to point out that it costs money in fuel form to heat water, and that uninsulated pipes lose heat—and therefore money—very

IN THE building trade thermal insulation materials have often been heavy and expensive, but Polyzote expanded polystyrene provides the answer to each of these disadvantages. Polyzote is a clean, lightweight expanded plastic having a high resistance to the passage of moisture, and a low thermal conductivity factor (U Factor 0.24).

The structure of Polyzote is made up of millions of tiny closed cells which are relatively impermeable to moisture, and of low conductivity. An example of the efficiency of Polyzote is a concrete roof which uninsulated has a U value of 0.59, but insulated with 1 in. thick Polyzote has a U value of 0.17.

Polyzote, which is easily fixed, has many possible finishes and may be finished with gypsum and plastic plasters, paper, aluminium foil,  $\frac{1}{4}$  in. to  $\frac{1}{2}$  in. thickness of sand and cement, plastic emulsion paint, oil-bound distempers, or certain paints.

Rockwool fibre is designed for temperatures of 200° F. and upwards. It comes in three forms, Slab (or Building mat), Infil (loosewool), and Preformed Pipe Sections. This improved version of standard Rockwool retains all the resilience and resistance

quickly and persistently.

Pipe and hot store insulation by one of the advertised, tried and tested kinds of wrapping, pre-formed section, or cylinder or tank jacket, is not really a matter of choice. It is a decided economic necessity. A 30-gallon hot stove can lose heat to the tune of 7/- per week quite easily. When the cost of an insulating jacket amounts to no more than £3 to save at least 75% of this heat loss, the wisdom of buying and fitting one becomes obvious.

Ready insulated copper pipe in  $\frac{1}{2}$  in. and  $\frac{3}{4}$  in. diameters is available at merchants. Manufactured by the Anglo Nordic Burner Products Ltd., and named "WICU," the ribbed P.V.C. sheathing gives excellent sound and thermal insulation value. A leaflet is obtainable and this explains how the sheath may be temporarily removed so that the tubes may be bent in conventional tube benders and the insulation eased back to place afterwards. (L. R. Wood Ltd. are Irish agents).

Foamed plastic pipe wraps in long, rolled lengths, with lateral split for ease of application to pipelines, become increasingly used. These offer a neat, clean, effective and quickly

**In this equipment review  
we take a look at new  
developments in the fields  
covered by the foregoing  
special review. (All claims are  
those of the manufacturers).**

to shakedown of the original material—but its reduced density gives the same insulation efficiency at half the weight and the new fine fibres of Rockwool have remarkably high tear strength and toughness. Rockwool fibre takes over from Polyzote at 200° F. and has similar applications in this higher temperature range.

Rubazote (expanded rubber with a closed cell structure) tubing is suitable for covering copper piping in refrigeration plants, especially where it is desired to convey brine and refrigerants at low temperatures. Rubazote tubing is seamless and moulded in a similar way to Rubazote sheets, thus providing a material that has a low thermal conductivity, and, because of the closed cell structure, will not absorb moisture, even when the surface is damaged, hence the thermal con-

ductivity remains constant—0.32 B.t.u./sq. ft. hour °F./inch at a mean temperature of 48.2° F.

Onazote expanded Ebonite has a record low conductivity, and its established "K" figure (supported by National Physical Laboratory Reports) is 0.20 B.t.u./sq. ft. hour °F./inch (0.0247 kilo cal/m<sup>2</sup> hour °C/m) at a mean temperature of 50° F. (10° C). This factor favours Onazote for low temperature work, but it is by no means the most important factor of this unique insulant. The moisture vapour transmission figure taken under the most arduous conditions is 1.1 grams/sq.m/24 hours/2 in. at 44.72 mm. of mercury pressure. Under the same conditions expanded polystyrene (1 lb. cu. ft. density) has a transmission of 100 grams and cork (7.9 lb. density) 270 grams.

Insulations Ltd. of 186, Pearse St., Dublin, can supply and erect any of these products. They are manufacturers of Polyzote expanded Polystyrene and suppliers of Rockwool Fibre and Onazote.

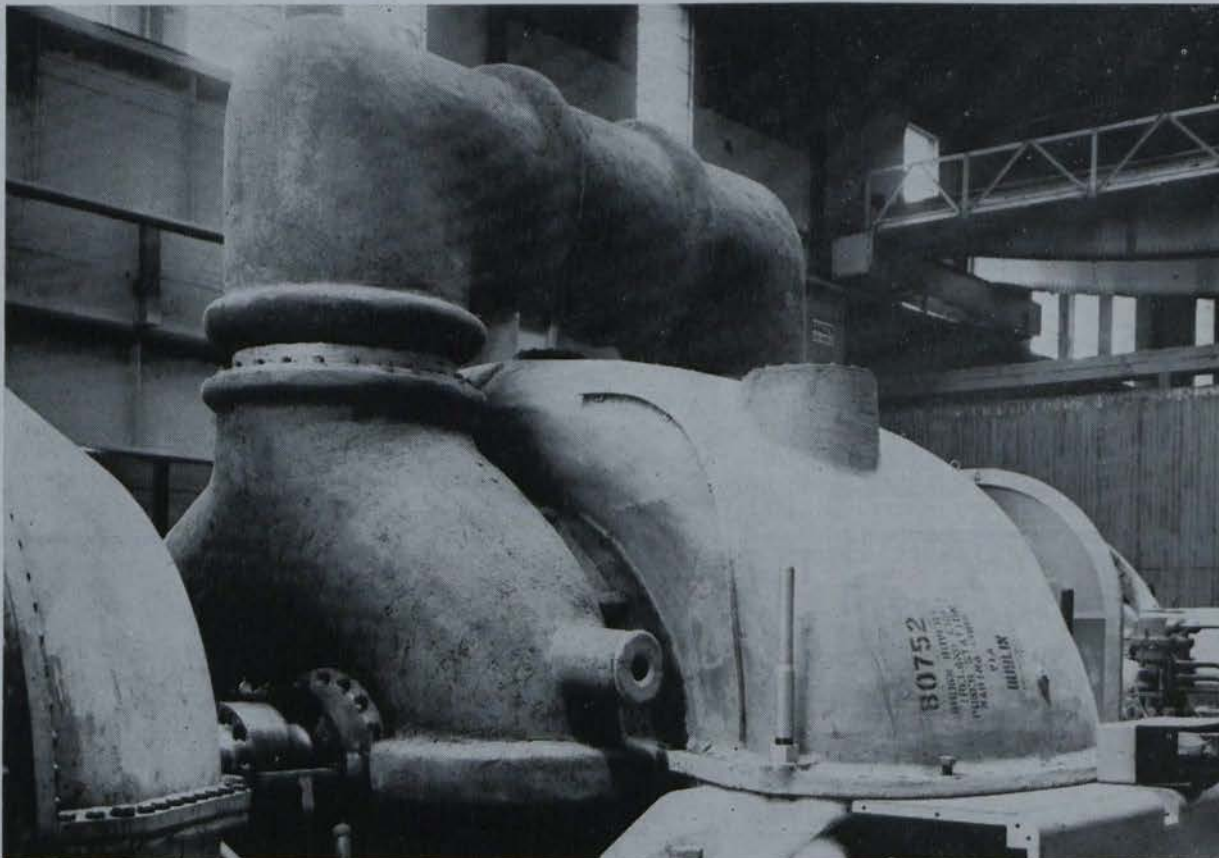
The full advantages through more general and knowledgeable use of thermal insulants is yet to be realised—but architects, builders and the public are slowly coming round to it. The engineer and plumber can play his part by taking time out to become "au-fait" with these remarkable new products of our time, for our time. They can reap a rich harvest from such research too and, what is more, they can do this with a clear conscience knowing that not only will they profit from new work in sensible thermal insulation sales and application, they will also win the gratitude of those who will also gain in comfort and reduced fuel bills as the direct result of those thermal insulation applications to their equipment and property.

\* \* \*

CAPE INSULATION & Asbestos Products Ltd., the largest manufacturer  
*Continued page thirty-nine.*

## "SILBESTOS" SPRAYED INSULATION ON E.S.B. POWER STATION

WORK WAS RECENTLY COMPLETED ON THE FIRST POWER STATION TURBINE IN EIRE TO BE INSULATED USING A SPRAYED ASBESTOS PROCESS. THE APPLICATION WAS CARRIED OUT BY M.A.B. INSULATIONS, LICENSEES OF THE SILBESTOS PROCESS.



Low pressure end and pressure equalisation line of 60 MW Brown Boveri turbine insulated with Silbestos sprayed asbestos before the final hard setting application.

*All enquiries to:*

# M.A.B. INSULATIONS

*Specialists in Sheet Metal Finish Over Insulation*

★ Sole Agents for "OPPANOL" and  
sole licensees for "SILBESTOS"  
Sprayed Insulation.

**45 WATERLOO ROAD,  
DUBLIN, 4**

Telephone: 684017 and 689120.

turing member of the Cape Asbestos Group of companies, is represented in Eire by M. A. Boylan Ltd. They manufacture a wide range of asbestos and rockwool thermal insulating materials, from raw materials mined by other companies with the Group or obtained from sources indigenous to the British Isles.

CIAP markets Asbestos materials in pre-formed sectional pipe covering, block or plastic composition form, under the trade names of Caposite and Caposil. These complementary products cover the full range of temperatures up to 1850°F. The pipe sections and blocks are made from 100 per cent. long Amosite Asbestos fibres with a suitable bonding agent. The compositions are asbestos-based with various fillers or reinforging agents according to the particular requirement for which they are designed.

Caposite pipe covering can be supplied in 3ft. lengths up to 30" outside diameter with wall thicknesses from 1" to 4" Caposite Moulded Block maximum size 48" x 36" in thicknesses from ½" to 4" by ½" increments. Compositions are supplied in ½ cwt. or 1 cwt. paper sacks.

Rocksil and Rocksil-K fibre, unbonded, will withstand 1400°F., but where a resin bound is incorporated, the limiting temperature is 450°F. These Rocksil and Rocksil-K materials are used for the same applications as the Asbestos materials and in addition are very widely used in the building industry for thermal and acoustic purposes. The fine fibred materials are eminently suitable for cold storage applications. Both materials are extensively used for insulation in domestic appliances.

Write to M. A. Boylan Ltd., 50a, Harcourt St., Dublin 2, for technical data sheets concerning the products mentioned above.

\* \* \*



Armaflex, the Armstrong Cork Co. Ltd. product, in use (see Review).

## PRODUCT REVIEW

from page thirty-seven.

AEROBORD featherweight expanded polystyrene insulating board consists of about 98 per cent. air in millions of closed cells in the polystyrene structure. This snow-white and extremely light—one cu. ft. weighs about 1lb.—board is used for every type of thermal insulation at atmospheric and low temperatures, including walls, floors, ceilings, roofs, hot and cold water pipes, cisterns, hot presses, etc., etc.

Aerobord, by Southern Chemicals Ltd. of Askeaton, is competitive in price per unit of insulation with all types of natural and manufactured insulation boards. There are in addition many "fringe" benefits—lightness, ease of working, pleasant appearance, absence of odour. Standard Aerobord 15 and Aerobord NF 15 are resistant to fresh water, sea water, alcohols, acids (excluding concentrated nitric) alkalis and most animal and vegetable oils. Not subject to rotting, moulding or ageing, the board does not support vermin.

As thermal insulation, 1" thickness of Aerobord is equivalent to 1.2" glass wool, 1.25" cork slab, 1.5" mineral wool, 1.8" softboard, 2.25" vermiculite, 2.5" wood wool-cement slab, 3" strawboard, 3.5" asbestos insulating board, 6" vermiculite plaster, 40" brickwork, 50" concrete. A 9" concrete wall to which 1" of Aerobord has been applied has a "U" value of 0.16 compared with a value of 0.31 for cavity wall 11" in thickness.

\* \* \*

ONE OF the most important newcomers to the field of Insulation is Polyurethane Foam. The permanent heat-resistance of Flexible CortX Polyester under conditions of dry heat can be considered most satisfactory. With the exception of possible discolouration, no noticeable deterioration in quality has been observed after ageing for three months at 100°C. This period is considerably lengthened at lower temperatures. It must be pointed out, of course, that these figures apply only to the ageing CortX Foams not subjected to loads, or only to very small loads at the temperature stated. Flexible CortX Polyester shows good resistance to cold also, temperatures as low as minus 40°C. being withstood without

embrittlement, although the rigidity increases, and the flexibility decreases.

The coefficient of Thermal Conductivity of Flexible CortX Polyester is governed by cell size as well as temperature. Its value at 32°F. is 0.26 B.t.u./sq. ft./hr./1"/°F. in the Density range of 1 to 3 lbs. per cubic foot. Its value at 158°F. is 0.28. Another obvious economy in the use of CortX Polyester for insulating is the fact that the material cannot be damaged in handling. This product is made here by Cor-Tex Proofer Ltd., Kinsale Rd., Cork.

\* \* \*

FOAMFLEX is a new and improved pipe insulation material for hot and cold working and low pressure steam. Its normal conductivity (0.22 B.t.u./inch/sq. ft./hour/°F. @ 70°F. (21°C.)) is extremely low. It is light in weight, durable, and unusually flexible. It cuts down installation costs and is available in a wide range of sizes—eleven for ferrous pipes and ten for copper.

Foamflex is also available in sheet form, approximately 5 ft. square. The thermal conductivity of the sheet is slightly lower than the pipe lagging at 0.20 B.t.u. Suggested applications for Foamflex sheet are thermal insulation of pipes, ducting, process vessels and acoustical insulation of ventilation and air-conditioning ducting.

Made of polyurethane foam, Foamflex comes in 9ft. 9in. lengths. The sections are slit longitudinally down the side and are simply slipped over the pipe. The join is then sealed, either with Foamflex waterproof adhesive tape, Foamflex adhesive or any contact type adhesive. The end joints are sealed in the same way.

Stockists: British Steam Specialties Ltd., 33, Leeson Park, Dublin, and British Steam Specialties Ltd., Distillery St., Belfast 12, Northern Ireland.

\* \* \*

FIBREGLASS flexible duct insulation is suitable for the thermal insulation of warm air heating ducts, air conditioning ducts and equipment in the temperature range 35 degrees F. to 450 degrees F. It is a strong, resilient and easily handled insulation made from very fine, long glass fibres. It is free from shot and coarse fibres.

The insulation is available unfaced; faced with glass reinforced aluminium foil/paper laminate; faced with P.V.C.

Continued page forty-one

# INSULATE WITH AEROBORD

THE INSULATING VALUE OF  
ONE INCH THICKNESS OF  
AEROBORD IS EQUAL TO

|                |     |
|----------------|-----|
| Concrete       | 50" |
| Brickwork      | 40" |
| Plaster board  | 40" |
| Hardboard      | 4"  |
| Softwood       | 4"  |
| Asbestos board | 3½" |
| Softboard      | 1½" |

Aerobord — which is made of expanded polystyrene—is feather-light, rigid, rot-proof, water resistant, odourless, clean and hygienic. It can be easily and speedily fixed to any surface — sawn, rendered, painted or wallpapered.

#### Pipe Insulation

Low cost, high insulation value, ease of handling, speed, make cardboard ideal for pipe insulation.



## Southern Chemicals Ltd.

ASKEATON, CO. LIMERICK

Dublin Agent: M. J. Kerley, Hammam Buildings,

Upper O'Connell Street, Dublin. Phone 43332.

film. The facings provide clean, attractive surfaces with excellent vapour sealing properties. The weights available in densities are: Type B.50, 0.5lb./cu. ft.; Type B75, 0.75lb./cu. ft.; and Type B.100, 1.0lb./cu. ft.—the selection depending upon thermal insulation, quality of job and economics required. The manufacturers are Fibreglass Ltd., St. Helens, Lancashire. Enquiries in this country are handled by Monsell, Mitchell & Co. Ltd. A comprehensive range of commercial and industrial insulation is available.

\* \* \*

AN EFFICIENT and economical method of pipe insulation is with Armaflex, a flexible foamed plastic insulation material, manufactured by Armstrong Cork Co. Ltd., 24 Fitzwilliam Place, Dublin. The material is so flexible that it can be sleeved directly on to pipes as they are being installed, even around bend and sets.

Alternatively it can be slit lengthways, snapped around the pipes and the seams sealed with a solvent and rubber contact adhesive. The material can be bought ready-slit if required, but a sharp knife will cut unslit stock very easily.

Armaflex has a K factor of 0.28 at 70 degrees F. mean temperature and will remain efficient for many years providing temperatures are maintained between the recommended ranges 30 degrees F. to 200 degrees F. It resists deterioration and is equally suitable for hot or cold pipelines, to minimise either heat loss or heat gain.

It is available in lengths up to 6ft. to fit copper and iron pipes from  $\frac{3}{8}$ " to 3 $\frac{1}{2}$ " outside diameter and in wall thicknesses of  $\frac{3}{8}$ " and  $\frac{1}{4}$ ". If required an emulsion or chlorinated rubber paint is suitable for decorating.

\* \* \*

A VERY new product from the Arabol Manufacturing Co. Ltd., Queen Victoria Street, London, is the "Aratint" V-708. It is a new black adhesive and sealing composition intended for sealing the edges of neoprene-coated Fibreglass flexible duct liner. The Irish agents are Monsell Mitchell & Co. Ltd.

Arabol specialise in supplying adhesives and self-adhesive tapes to thermal insulation contractors, heating and ventilating engineers, shipbuilders, etc., for sticking a very wide range of thermal insulation materials to different surfaces and also for covering joints, etc.

The range consists of about 14 special adhesive and self-adhesive tapes for use in a wide range of applications, and the firm has ac-

## PRODUCT REVIEW

from page thirty-nine.

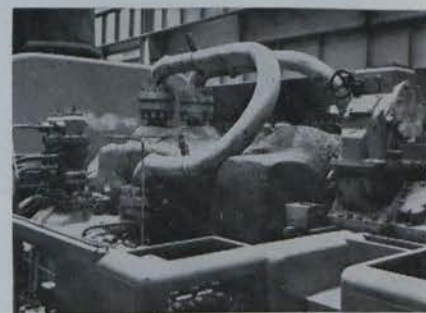
accumulated considerable technical knowledge of the problems involved, and some of their products are now being recommended by large manufacturers of thermal insulation materials such as Messrs. Fibreglass Ltd. Detailed technical information is available on any of the firm's products.

\* \* \*

SPRAYED Silbestos is an intimate mixture of prepared South African crocidolite asbestos fibres and cement. It is applied in a spray with jets of atomised water and lightly pressed back with a float to the required density and thickness. The range of thicknesses is from  $\frac{1}{4}$ " to 6"—most applications being between  $\frac{1}{2}$ -inch and 2 inches.

In addition to conserving heat, sprayed asbestos insulation gives fire protection, reduces condensation and has sound absorption properties. Sprayed asbestos overcomes difficulties of awkward contours and curves and provides a ready means of sealing gaps at gutters, roof ridges and gable ends.

Applications of Silbestos are carried out by licensees of Sprayed Insulations Ltd., Thomas Road, London, E.14. The E.S.B. power station turbine in Cork was the first in this country to use a spraying asbestos process. The application was for a 60 MW Brown Boveri turbine and it was carried out by M.A.B. Insulations, 45 Waterloo Rd., Ballsbridge, Dublin, licensees of



Picture shows high pressure section of 60MW Brown Boveri turbine insulated with "Silbestos" sprayed asbestos before the final hard setting application, at the E.S.B. Power Station in Cork.

the "Silbestos" process. The specification was: maximum surface temperature of insulation, 130 degrees F.; maximum heat loss, 92 B.t.u./sq. ft./hr.; and still air temperature, 70 degrees F.

\* \* \*

AN INAUGURAL ceremony for the newly formed Newalls Insulation and Chemical Company Ltd. has been held recently at the Company's head office at Washington, Durham.

In his opening address, Mr. G. R. Pushman, the managing director, explained that the new company brought together the vast insulation marketing and contracting interests of Newalls Insulation Co. Ltd. with the extensive insulation and chemical manufacturing facilities of the Washington Chemical Co. Ltd.

As two of the four founder members of the Turner and Newall group of companies, Newalls Insulation Co. Ltd., and the Washington Chemical Co. Ltd.,

*Continued page forty-three.*

# THERMOLAG LTD.

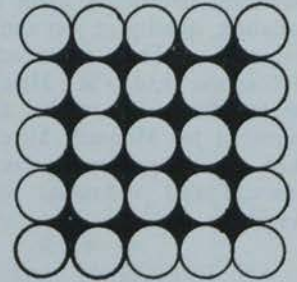
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# Something *NEW* in thermal insulation

CortX Polyurethane Foam is an important newcomer to the field of insulation. It has excellent resistance to heat and cold and also has the economical advantage of not being damageable in handling. In view of its dampening properties, CortX leads to rapid dying away of sound wave vibrations and in this way is extremely effective in the elimination of sound energy. In building construction, rapid fixing of CortX Eaves Filler, which is produced in corrugated foam to the shape of "Super-Four" or "Big Six" corrugated Asbestos has provided a cheap and easy solution to weather and draught control. Specific technical information is available on the uses and performance of CortX Foam.

For expert advice 'phone us in Dublin (43695) or Cork (26220).

# CortX

COR-TEX PROOFERS LTD., KINSALE ROAD, CORK.

## PRODUCT REVIEW

from page forty-one.

Co. Ltd., have for many years been jointly administered and have shared the same head office at Washington, Durham.

No change has been made in the Board of Directors, which remains: R. M. Bateman (chairman); G. R. Pushman (managing); R. M. Boniwell, R. H. Wilson, P. E. Bugge and J. W. Dawson.

\* \* \*

**THERMOLAG Limited**, Victoria Lane, Rathgar, Dublin, have been coming into the insulation scene news more and more lately. Their work, while encompassing all branches of insulation, to a larger extent concentrates on Cold Storage Insulation, and insulation connected with the building industry.

One unit deals exclusively with the insulation of attic spaces in private houses and in building schemes; a high percentage of the building schemes in the Dublin area are insulated by Thermolag Ltd.

The first of two large Cold Stores, approximately 100' x 32' x 18', has been insulated for the Merchant Warehousing Co. Ltd., and work is in progress on the second. Cork and Onazote materials are being used. Thermolag have also been subcontracted to insulate the total roof area of the new St. Vincent's Hospital, Elm Park.

\* \* \*

**STILLITE Products Ltd.**, Whitehall, London, are manufacturers of thermal and acoustic insulating materials and filter media. They market the J. B. Pelleted Mineral Wool, a lightweight granulated form of insulation developed for use as a domestic loft insulator.

The range also includes the S.M.3—a general purpose insulation mat which is used for a variety of thermal-acoustic insulation applications. It is mainly used as a roof insulation, and is available either plain or with bitumenised paper stuck to one or both sides. The density is 3lbs. per cu. ft.

**Therbloc**—the heaviest density slab manufactured by Stillite, is recommended for applications up to 1,500 degrees F. High thermal efficiency and resilience make it suitable for furnace and stove insulation. It can be used either as a backing to refractory lining, or where temperatures permit, as a direct backing to metal lining.

\* \* \*

**NEWTHERM Extra** is the first all



## ULSTER FUEL MEN GO EXHIBITIONING IN MANCHESTER

This is the group from the Ulster Institute of Fuel which attended the Institute of Fuel Day at the Heating, Ventilating and Fuel Efficiency Exhibition in Manchester. For full report see page forty-six.

purpose insulation to give extra high efficiency from ambient temperatures up to 1850 degrees F. at the low density of 12/14lbs. per cubic foot, with the extra value of one new product for the whole range at no extra price.

The Newtherm Extra features include a new, low thermal conductivity; low shrinkage permitting maximum single layer application; light weight; tough and resilient—easy to cut and shape; stability and long life—it will not burn or rot, and can be soaked in water without damage; not affected by low temperatures; ideal for cement, metal or mastic finishes; and available as plastic with all "extra" features.

Newtherm Extra pipe insulation is stocked in half sections up to 16½" outside insulation diameter and in a variety of thicknesses. In block insulation, it is stocked in flat blocks 36" long by 6" wide as standard, in thicknesses from 1" to 4" in ½" increments and in greater widths to order.

Newtherm Extra is one of the comprehensive range of insulating materials manufactured by Newalls Insulation Co. Ltd., Washington, Co. Durham.

\* \* \*

**P.H. FOIL** is specially tempered to give it additional strength, thus making backing papers unnecessary. Its bright mirror finish has a high resistance to the passage of radiant heat, which is reflected in a manner similar to the back of an electric fire. A thin layer of dust does not materially reduce the efficiency of the foil.

The foil is very compact—a 3" diameter reel, 24" wide, contains sufficient to cover 600 sq. feet. of floor space. Heat reflectivity and thickness conform to B.S.1785. It is supplied in reels 2ft. wide, 300ft. long, .0012" thick. The manufacturers, Thermal Products Ltd., have recently appointed Messrs. G. F. Morley Ltd., 45 Quinns

Lane, Fitzwilliam Square, Dublin, to be their sole agents in the Republic of Ireland.

Thermal Products also manufacture P.H. Insulating Cylinder Jackets, and P.H. Pipewrap.

\* \* \*

**VERSIL** blanket insulation is supplied in rolls, each 10 yards long by 48 inches wide by 1 inch thick. Its low price and big coverage makes it the perfect material for the thermal insulation of big roof areas. Thermal conductivity K equals 0.27 B.t.u./sq. ft. hour/1 degree F.

Versil rooftrap insulation is a specific glass fibre mat for use between floor joists in open roof spaces. It is supplied in rolls 22ft. 6in. long by 16in. wide by 1in. thick, 30 sq. ft. per roll.

These two materials are from the very wide range of insulating materials manufactured by Versil Ltd., Rayner Mills, Liversedge, Yorkshire, who also market Versil Expanded Polystyrene, an all-purpose low-temperature insulation, which is a rigid super-light moulded cellular plastic, containing approximately 98 per cent. of still air. It has exceptional insulating qualities.

\* \* \*

A **COMPREHENSIVE** range of thermal insulating materials is being marketed by Potters Insulations Ltd., Tameside Mills, Park Road, Dukinfield, who are represented in this country by their agents, Peter O'Connor (Insulations) Ltd.

The White String Composition is suitable for temperatures up to 850 degrees F. with a covering capacity of approximately 37½ sq. ft. of 1" thick per cwt. on flat surfaces. The Red String Composition is suitable up to 750 degrees F. and for first coating and finishing coats. The covering capacity is approximately 32 sq. ft. of 1" thick per cwt. on flat surfaces.

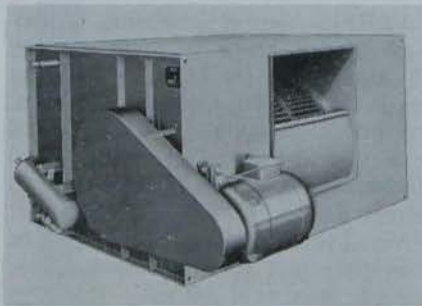
AN AIR-COOLED refrigerant condenser using centrifugal fans, and which may be installed indoors or out,

**NEW AIR COOLED REFRIGERANT CONDENSER**

has been announced by Trane Limited, Donibristle, Fife. The

capacity range of 3 to 100 tons provides the most, as well as the largest, sizes available in the industry.

An exclusive feature of the unit, according to Trane, is an integral sub-cooling circuit in the condensing coil. This provides up to 20F. of sub-cooling circuit in the condensing coil. Between condensing and ambient temperatures. Subcooling provides a greater refrigeration effect for an evaporator of a given size and can achieve 9 to 13 per cent. additional system capacity. In some cases this can mean the use of a smaller compressor and therefore lower first cost.



THE NEW TRANE UNIT

Another exclusive feature is a factory-installed receiver equipped with liquid level and charging sight glasses, relief valve and necessary piping. The factory mounted receiver is sized to be adequate for normal systems, having a typical length of inter-connecting piping.

The capacity range is 3 to 100 tons and the unit is available in two models—horizontal floor and horizontal ceiling—each with four discharge arrangements. Duct work can be connected to either or both intake and discharge flanges provided on the unit.

\* \* \*

POW-R-MATIC have introduced an extension to their range of suspended air heaters with

**POW-R-MATIC EXTEND THEIR RANGE**

the new Suspended Aire 450 which has an output of

450,000 B.t.u./hr.

With a fan output of 5,800 c.f.m.,



the new unit has an effective warm air throw of 140 feet; a discharge velocity of 2,200 f.p.m., and duct velocity of 590 f.p.m. Basic dimensions are 96" long, 40" high, and 48" deep.

The heat exchanger fitted in the SA-450 is universally designed and the blower section can be fitted on the left or right-hand side, allowing either left or right-hand discharge. This unit is also used extensively as a ducted heater where no blower is fitted and the heat exchanger section is incorporated into a centralised heating system. A three-way distribution head is also available for free-blowing suspended installations. (Agents for Ireland are Everton Engineering Ltd.).

\* \* \*

TWO TYPES of low pressure transmitting units manufactured by ARIC,

**LIQUID LEVEL TRANSMITTING UNITS**

and both capable of many applications, were displayed recently for the first time. In conjunction with any standard ARIC diaphragm pressure gauge, Type 1 uses a low pressure diaphragm transmitting unit providing a self-contained system for use as a Hydrostatic liquid contents gauge.

The ARIC low pressure transmitting unit functions as a pressure responsive element and is connected by a capillary tube to a pressure gauge. The complete unit provides a sealed system which is filled with an inert gas at low pressure which provides inherent compensation for temperature variations. Pressure on the liquid side of the diaphragm is automatically balanced by an equal gas pressure generated in the sealed system, thus causing a reading on the remote pressure gauge. The scale on this gauge can be calibrated in terms of liquid head, e.g., feet, metres, etc., or liquid contents, e.g., gallons, etc. Transmitting distance up is up to 200 ft., depending on the range and size of the transmitting unit.

The ARIC low pressure bellows transmitting unit used on Type 2 is an air-filled breakable system, particularly suited for level applications. It can be used to measure the level of most liquids whether it be flowing, turbulent or carrying solid matter. It is specially suitable therefore for installation in open ducts and tanks or in streams. (Irish office: Aric (Ireland) Ltd.).

\* \* \*

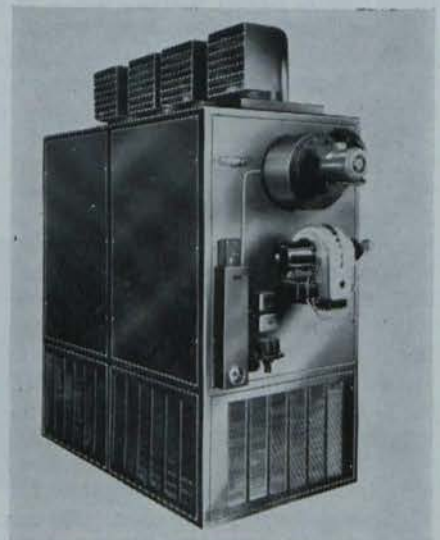
THE AIR-conditioning system, costing £600,000, installed by G. N. Haden

**INTERESTING HONEYWELL INSTALLATION**

& Sons Ltd., at the Ford Motor Company's new Warley, Middlesex, headquarters incorporates a Honeywell selectograph control panel and associated control equipment. The system distributes over 300,000 cubic feet of air per minute, and is completely controlled by push-buttons from the desk of the control panel, which was manufactured at Honeywell's Hemel Hempstead plant. The push buttons can switch any of the plant rooms on or off, and regulate control valve positions.

Permanent line displays provide data on boiler and refrigeration plant, and the remaining plant can be seen by switching in a projection screen. This allows a smaller panel than would be possible with normal mimic diagrams.

Oil store and boiler combustion data is also permanently displayed, and the position points can be read on a multi-point indicator.



The latest addition to the Pow-R-Matic range, which is reported in column one, this page.

*which  
came  
first?*



WHO KNOWS? We don't, and frankly we haven't much time to think about it. Here at Davidson's we're much more concerned with other problems—moving air and other gases, for example. For over 80 years we have been thinking about the problems involved and solving them by designing and making fans and ancillary equipment exactly fitted to requirements. Whether it's heating and ventilating, air conditioning, fume or vapour removal, dust collection, air preheating or the pneumatic conveying of bulk material, Davidson's have the right equipment for the job. You'll find our products in thousands of British factories, in many British coal mines, in most British power stations, and in industrial establishments throughout the world. Our extensive range of technical literature is freely available on request.

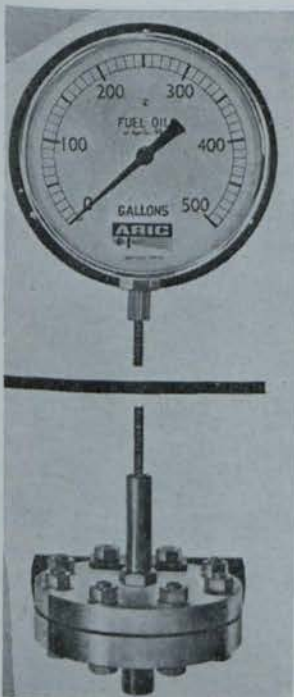


Sirocco Engineering Works,  
Belfast, Northern Ireland  
(Telephone Belfast 57251)

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TO 100 FT.**



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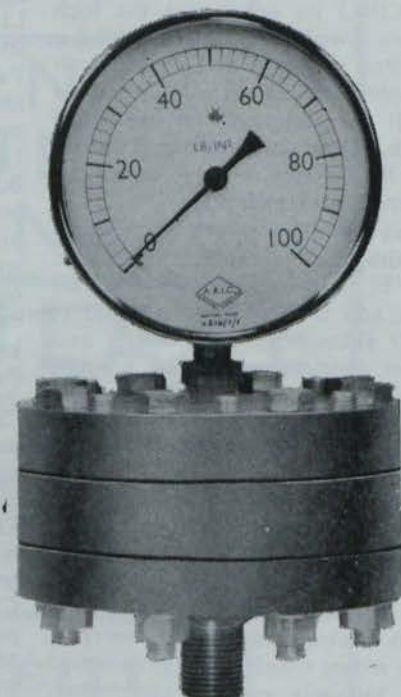
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GAUGE WITH STAINLESS STEEL  
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*Forty-five*

## Reporting

THE MANCHESTER HEATING, VENTILATING AND FUEL EFFICIENCY EXHIBITION.—BY I.P.H.E. REPORTER.

# THIS EXHIBITION WAS WELL WORTH A VISIT

**D**URING the course of the past month I visited the Heating, Ventilating and Fuel Efficiency Exhibition in Manchester. This well-mounted show was supported by many of the major manufacturers in the Industrial field and a report on those items relevant to the Irish market begins below.

The exhibition was visited by a number of prominent figures from the trade in the Republic and a large contingent from Ulster attended the special "Institute of Fuel" day on Wednesday, September 16.

The 25 strong Ulster party was made up of members of the Institute of Fuel in Ulster and was headed by their honorary secretary, Mr. F. R. McBryde, A.M.I., Mech.E., M.Inst.F.

**MAKING** its debut was the high efficiency Swedish Husqvarna NL2—a cast iron sectional boiler which can be supplied as an already-assembled unit. It was featured on the stand of **Bech, Neale & Company Limited**, among their extensive range of boilers, oil burners and radiators.

It has a water cooled base complete with steel jacket and insulation. It can be fired by fuel oil, solid fuel or gas, and is rated from 180,000 to 600,000 B.t.u./hr. The design and compact construction—it has a single flue passage to simplify the removal of soot—makes it a highly efficient boiler.

**CONSIDERABLE** improvements have been made to the wide ram cooking stoker units of **James Proctor Ltd.**, Hammerton Street, Burnley. They include a new compact and efficient driving arrangement incorporating a motor which is flange mounted to the infinitely variable spear gearbox. The linkage to the ram box has also been modified and now includes

a simple and positive shear pin arrangement.

This unit, which is the latest design in wide ram cooking stokers, is fitted with a Lea coal meter and is suitable for operation with automatic combustion control equipment. Nearly 600 Proctor coking stoker units are installed to shell type and small water tube boilers in this country and overseas.

**THE EXHIBITION** provided a curtain raiser for important events involving the **Ruston Paxman Sales Division**. On their stand, for instance, was represented the recently rationalized range of Ruston and Paxman boilers.

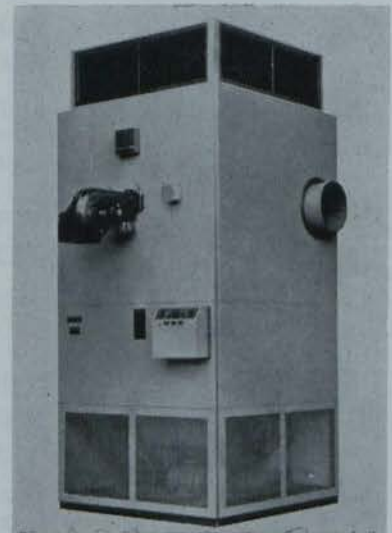
The integration of the boiler products of Ruston & Hornsby Ltd., of Lincoln and Davey, Paxman & Co. Ltd., of Colchester, into a comprehensive range means that the Ruston Paxman Sales Division can offer the ideal unit for any possible requirement within the capacity range of 1,000—100,000 lb. steam per hour. Boilers in this rationalized range embrace low pressure; wet-back shell, both free standing and packaged; water-tube; waste-heat and dry-back units—all developed from 100 years of experience gained by these two well-known boiler makers—Ruston and Paxman.

**CLAYTON** steam generators with steam capacities of up to 6,000 lb./hr. and portable steam cleaners were displayed by **The English Electric Company Limited**. The leading exhibit was a model RHO 175 steam generator, the largest model in the Clayton range, with a maximum output of 6,000 lbs. of steam per hour. Manufacture of this generator at the English Electric Vulcan Works, Newton-le-Willows, Lancs., began this Autumn. Two other steam generators

were shown, a model RO15, steam capacity 430 lb./hr., and a model RO33 sectioned to show the internal detail.

**AMONG** the **Honeywell Controls Limited** products exhibited was their Pneumatic sensor System. This system, exhibited for the first time, brings a new approach to automatic temperature control, offering the much-desired combination of high-accuracy and simplicity with in-built facilities for indication.

The key to the system lies within its new sensing unit. A method has now been found of developing a linear pneumatic transmission signal over a wide span with inherent self balancing. This built-in "feedback" innovation works on a force-balance principle. The sensor is capable of taking the measured variable temperature (humidity, flow, pressure) and translating it directly into an accurate



A Unit from the Domino range of Heat Plant Ltd. (see opposite page)

## Exhibition Report

from previous page.

pneumatic signal that can be used for positioning of the control units and at the same time provide indication of the variable. Due to its simplicity and low cost it is now possible to provide proper supervision of mechanical services for smaller installations. The system has been developed from experience gained by Honeywell in the process control field over many years.

ON display from **Heat-Plant Ltd.**, of Haigh Park Road, Stourton, Leeds 10, was a comprehensive selection from the Domino range of oil-fired air heating equipment. The models displayed showed some of the many various combinations in which a Domino heater can be constructed, i.e., free-standing, horizontal ducted and vertical ducted. Also available, but not shown, are units discharging warm air vertically down into floor ducts, etc.

THE **Richardsons Westgarth Group** was exhibiting on behalf of two of its member companies. **Richardsons Westgarth (Hartlepool) Ltd.** presented their range of Maxecon wet back shell boilers which has recently been extended up to 50,000 lb/hr. for twin furnace, and 36,000 lb/hr. for single furnace types. Colour transparencies and photographs were used to describe the unique design features of this boiler, and some of the constructional details. **Richardsons Westgarth (Instrumentation and Controls) Ltd.**, whose works in Hartlepool are equipped for the design and development, engineering and installation of control schemes for the heating and ventilating industry, was represented. This company makes a standard range of instrument cubicles and panels, as well as building to customers' special requirements. A sample cubicle was on view.

**Worthington-Simpson** featured a representative selection of pumps, compressors and heat exchange equipment covering many aspects of heating, ventilating and air conditioning. Of special interest was a range of recently introduced in-line accelerators covering capacities up to 186 g.p.m. and heads up to 16 feet.

Hot water circulators were also on view from a range covering capacities up to 750 g.p.m. heads up to 80 feet, and temperatures up to 300°F. These pumps are available in Monobloc or driving head construction.

For larger heating systems, a hori-

zontal split-casing centrifugal pump for circulating duties was shown from a range covering capacities up to 1,250 g.p.m., system pressures up to 125 p.s.i., temperatures to 300°F. Representative models from a recently developed range of rotary gear pumps were exhibited too.

NEW control and measuring systems for district heating schemes, flats, factories and hotels were on show by the sole agent for the U.K., **Carlton (Thermo Equipment) Ltd.**, of Northfield, Birmingham, 31. This new equipment is from the Danish Clorius and "OK" Organisations.

On the Carlton stand was a display showing flow diagrams and the utilisation of many of these advanced large scale heating system aids, including: The Clorius 48 Proportion Meter, the Hot Water Meter, Clorius Temperature Regulators, Pressure Regulators, Clorius Automatic Control Equipment for heating systems, industrial cooling and engineering uses; the Klimastat electronic Regulator and the "OK" B.t.u. meter and Water Consumption meter.

THE new Kent Mini-oil Meter provides an accurate and inexpensive method of metering fuel oil supplies to the central-heating systems of

houses and flats where oil is fed from a central tank; and for small industrial heating systems with capacities from 65,000 to 120,000 B.t.u./hr. The meter measures flows from 0.5 to 4 Imp. gal./hr. within accuracy limits of  $\pm 0.35$  per cent. in the lower half of the flow range. The small and compact meter was shown by **George Kent, Ltd.**, of Luton Beds. (Irish agents: S. W. Carty & Son).

ANOTHER prominent feature of the Kent display was a working demonstration of water-level control. This model plant has a miniature reservoir, the level of which is varied by a Mark 3 programme controller, the actual level being measured and transmitted by means of a pressure bulb and Commander KB recorder. Flow into the reservoir is measured by an orifice plate and Commander KU recorder which employs a 0 to 10mA transmitter to feed an output signal, directly proportional to the measured value, to an indicator, recorder and integrator. Flow out of the reservoir is passed through a Veriflux magnetic flow detector head operating in conjunction with a Transdata convertor which transmits a proportional 0 to 10mA output to associated presentation and control units.



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# **British Steam Specialties to take Dunmurry estate factory**

**B**BRITISH Steam Specialties of Leicester is to take over a 20,000 square feet factory on the ever-expanding Dunmurry industrial estate outside Belfast.

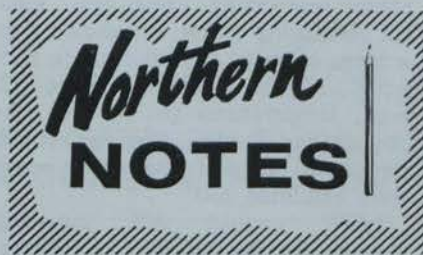
The company, which, among other activities, manufactures gauges, indicating instruments and allied products, anticipates that employment—all male—will reach the 100 mark inside four years.

The announcement, which was made at the end of last month, was warmly greeted by the Minister for Commerce, Mr. Brian Faulkner. In welcoming British Steam Specialties to the North, the Minister added: "This is a particularly welcome development in that the firm will employ male labour only and will be manufacturing intricate engineering products in which a high degree of skill and intelligence is involved."

\* \* \*

**T**HE INTRODUCTION of a summer-winter price scheme for coal in Northern Ireland was discussed at a meeting of the Northern Ireland Domestic Coal Liaison Committee a few weeks ago.

A vote decided the issue and a recommendation was tabled to the Minister for Commerce in which it was suggested that a scheme similar to that at present operating in England



should be given a trial period here. April of next year was the date chosen for a two years trial period—should the idea be accepted.

\* \* \*

**T**HE FOURTEEN men who will constitute the newly formed Engineering Industry Training Board have been named by the local Ministry for Labour and National Insurance.

The Board, the second to be set up under the Industrial Training Act (Northern Ireland), 1964, held its first meeting at the beginning of the month.

Chairman of the body is Mr. James Thompson, a director of James Mackie & Sons Ltd., Belfast, while the employers are represented by Mr. James Leckie, chairman of Everton Engineering Ltd; Mr. W. T. H. Golding, director of Davidson & Co. (Sirocco works); Mr. D. Grandsden, Corran works; Mr. S. H. Dunlop, Harland & Wolff; Mr. G. L. Auret, Short Bros. & Harland Ltd.

The trades unions representatives are: Mr. A. Barr, president of the Confederation of Shipbuilding and Engineering Unions; Mr. W. Hughes, engineering organiser, A.T.G.W.U.; Mr. W. H. Harris, district delegate, Amalgamated Society of Boiler-makers, Shipwrights, Blacksmiths and Structural Workers; Mr. W. A. Irwin, area official, E.T.U.; and Mr. J. Morrow, divisional organiser, A.E.U. Educationists: Mr. K. A. McCormac,

### **CORRECTION**

● In our Northern Notes column last month, our correspondent stated that Mr. Patrick Hume, of W. P. F. Hume & Company, was now a Director of Heating Controls and Devices Limited. This statement was incorrect and we apologise to Mr. Robert Hutchinson, Managing Director of both firms, for this misleading error. We would further point out that Mr. Hume has no connection with either firm.

Director of Education, Co. Antrim; Mr. T. E. Goligher, head of Department of Mechanical Engineering, Belfast College of Technology; Mr. T. Williams, Principal, Derry Technical School.

\* \* \*

**A**N ENGLISH light engineering company, associated with the design of Donald Campbell's land and water speed record-breaking machines, is to move into a Government advance factory at Loughgall Road, Armagh.

The firm involved, the news of which comes hard on the heels of the British Steam Specialties new premises, is the Worcester Valve Co. Ltd., of Haywards Heath, Sussex. It will begin production of ball valves and other ancillary equipment "in the near future."

The 19,000 sq. ft. factory is expected to give employment to about 100 workers, of whom 90% will be men. Recruitment is to commence immediately.

\* \* \*

**L**ARNE BOROUGH Council has written to the directors of the town's gas company asking for confirmation or denial of a report that the gasworks is to close down.

The company, in existence for 114 years, used to supply over 1,200 homes and businesses in Larne but in recent years—due largely to slum clearance and demolition—the figure has dropped to around the 800 mark.

\* \* \*

A £120,000 CONTRACT has been awarded to Van den Bosch Ltd., for the supply and installation of air distribution equipment to the new factory and offices being built in Belfast for Autolite Motor Products, a subsidiary of Ford Motors.

The installation comprises an Acoustiflo air distribution system together with Tuttle and Bailey two-way blow linear diffusers and Hart and Cooley Tripl-air registers and Royale return-air grilles.

**Allan McDowell**

## **GREEN LIGHT FOR EXTENSION**

**F**OLLOWING completion of negotiations with the Ministry for Commerce, Gambles (Belfast) Ltd., one of Ireland's oldest established sheet-metal and airconditioning engineering concerns, with extensive premises in Lisburn and Belfast, have announced that they are to proceed immediately with the final stage of their major expansion programme which was introduced in 1960. When completed the existing labour force of 160 will be increased to 250, all except female office staff being male employees.

It is anticipated that construction will commence next month on an extension to their existing factory at

Lisburn and the erection of a new two-storey office block which when completed will give them a total production area of 48,000 square feet.

Once the new production shops become available it is the company's intention to concentrate more prominently on the manufacture of air-conditioning and ventilating plant and at the same time extend production of their fans and cyclones.

However, they do not intend to rely solely on the local market and for some time now promotion of new business in this field has been made. Sales offices have been opened in Dublin and London.

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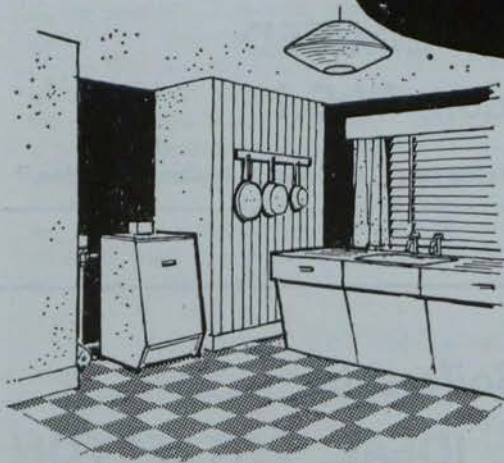
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