

1-1-1963

### The Irish Plumber and Heating Contractor, January 1963 (complete issue)

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# THE IRISH PLUMBER & HEATING CONTRACTOR



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## SHELL AND BP HOUSEWARMING

THE ORIGINAL SCHEME FOR OIL-FIRED CENTRAL HEATING IN THE HOME

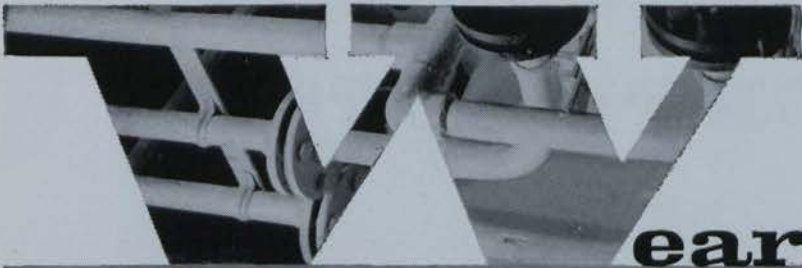
IRISH SHELL AND BP LIMITED  
SHELL-BP HOUSE,  
13-15 FLEET ST., DUBLIN 2.

IRISH SHELL AND BP LIMITED



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B.T.U. output per hour is 50,000, which is equivalent to 17 bars on electric fire. The output of heat is controlled and may be diverted into any one or all of the rooms. The cost of a unit installed in an ordinary 4-bedroomed house is approximately £150. This includes cost of burner, installation, ducting and grilles and 250 gallons storage tank for fuel oil. This total cost represents  $\frac{1}{4}$  the cost of conventional (pipes and radiators) method. The efficiency rating of the system is 85% and running cost per 7-day week approximately £1.

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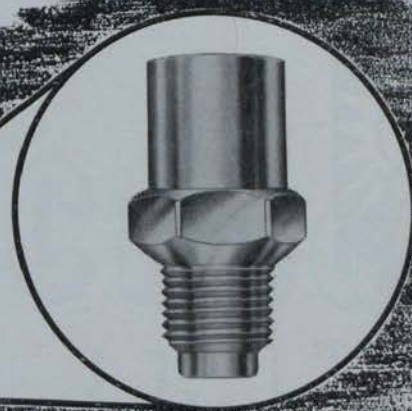
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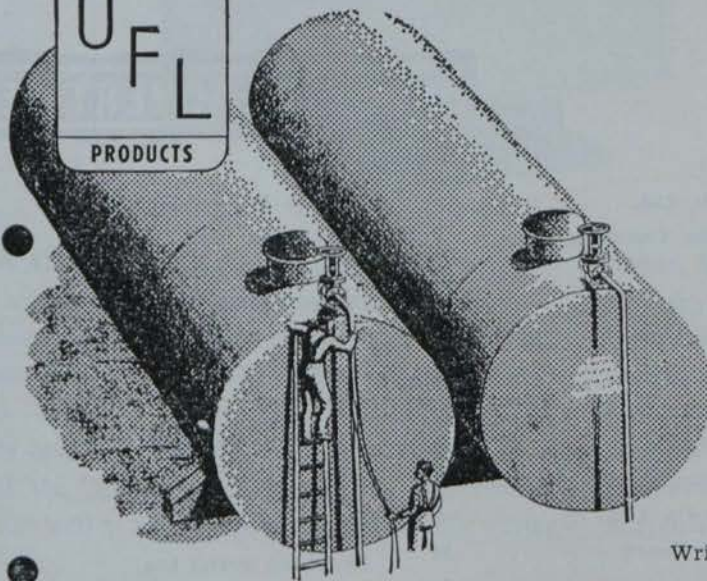
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Vol. 2. No. 10.

The only publication in Ireland for the craftsman plumber and contractor, the heating, ventilation, insulation, air conditioning and refrigeration engineer and contractor, the electrical contractor, supplier, manufacturer and wholesaler of fittings and equipment for the trades.

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JANUARY, 1963.



# THE IRISH PLUMBER & HEATING CONTRACTOR

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# see **Creda** speed heating



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nights. See the Centrepiece in beige or two-tone grey and the other electric fires in the Creda range.

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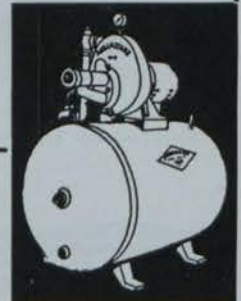
# WATER ON TAP

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the  
author

**John G. Bolton**

Lecturer in Plumbing and Heating at the College of Technology, Bolton Street, Dublin.

# AUTOMATIC WATER SYSTEMS FOR RURAL DWELLINGS

**H**AVING already, in this series, dealt with some of the many problems associated with the provision of a good, clean, water supply to a rural dwelling, we will now consider the application of these points in practice.

It has been said that the amount of water you use is a measure of how civilised you are. With primitive people, a pint per day will suffice, whereas it is a well authenticated fact that the consumption of water in the larger cities and towns is in the region of 35 gallons per person per day for domestic purposes. This probably sounds fantastic to many people, but the figures are there to prove it.

These 35 gallons cover the essential needs of the average person in the way of washing, cooking laundry, W.C. and bathroom use, etc., and is by no means excessive. In New York, for instance, the average consumption per person is in the region of 100 gallons a day—due, no doubt, to the greater use of showers and other bathroom appliances, kitchen equipment, dishwashers, food disposal units, etc. On most American farms with a pumped water supply, the normal consumption of water is about 70 gallons per person.

## *Average*

**T**AKING our average consumption in Ireland as being about 35 gallons per person, we are faced with the fact that a household of five persons will require about 175 gallons

per day. In rural areas, this figure will, of course, be increased because livestock, dairy cows and poultry need much more water per head than human beings, and it is considered nowadays that a consumption of 350 gallons per day is by no means excessive.

Having, more or less, decided on the quantity of water required for any particular situation, we are then faced with the necessity of bringing this water into the premises in such a way that a satisfactory supply is provided to all fittings.

Since the spread of rural electrification schemes throughout the country, the provision of a satisfactory water system can best be achieved by the installation of an automatic unit powered by electricity. This unit provides rural dwellers, assuming they have a suitable well or other source of supply, with a water system equal, if not superior, to that enjoyed by their city cousin.

## *Automatic system*

**T**HE principle of this system is that the pump, instead of being used to fill a storage tank situated at the top of a building, is connected instead to a closed air-tight cylinder or pressure tank beside the pump. The inlet from the pump to this cylinder, and the outlet to the fittings, are both taken from near the bottom so that air is trapped in the upper part.

As water is pumped into the cylinder, the trapped air is gradually

compressed to a pre-set figure, usually 40lbs. per square inch, at which point an automatic switch cuts-out the motor.

This ensures that the water contained in the lower part of the cylinder is under compression to 40lbs./in., so that should a tap be opened, a satisfactory flow is assured. As the water flows from the cylinder, the air pressure drops until the 20lb. per sq. in. mark is reached, whereupon the pump automatically switches on and continues to run until the tap is closed, and the pressure builds up again to 40lbs.

An air volume control automatically maintains the correct volume of air in the tank.

## *Changed ideas*

**T**HIS type of unit has completely changed our ideas of rural or farm water systems, and provides the same service as a first-class full-pressure public water supply. In the past, we had to stand-by the pump every time the tank needed filling, and keep an eye on the water level. Again, to ensure a satisfactory continuous supply, a large store tank had to be installed at a high level in order to provide a reasonable pressure at all taps. Nowadays we simply open a tap and a completely automatic water system comes into operation.

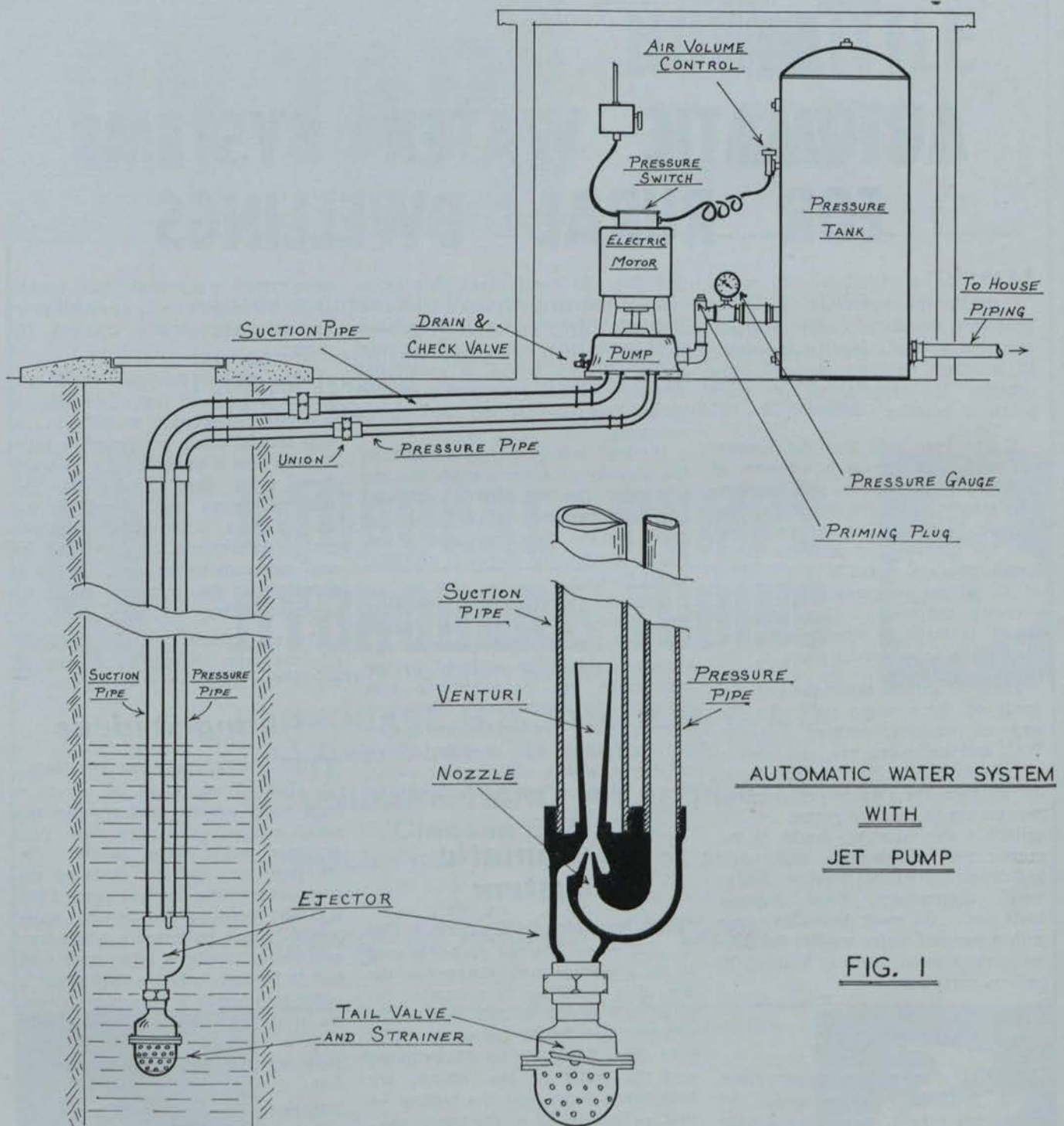
In recent issues of the "Contractor" will be found many plants of this

*Continued overleaf*

from previous page

# AUTOMATIC WATER SYSTEMS FOR RURAL DWELLINGS

(See text opposite)



type, fully illustrated, and the buyer is faced with a difficult choice when selecting a unit. However, the chief factors to be borne in mind when deciding on a suitable plant are:—

1—Height of pump above water level in well. This factor, explained fully in previous articles, will determine whether a shallow or deep well pump will be required.

2—The total expected consumption per hour at peak periods.

3—The head or height to which the water is to be pumped. This latter point is usually of no great importance in rural installations because the minimum water pressure in the unit is never less than 20lbs., so that unless the highest tap or fitting is 40ft. or more in vertical height above the pump—rather unlikely in most Irish farm dwellings—no difficulty should arise about the outflow pressure.

The main advantage of the automatic water system is that the unit is complete with pump, motor, and pressure tank on the same base.

Due to the constant pressure, fittings are ensured of a good supply in all parts of a building, and finally, pollution dangers are non-existent as the system is completely sealed, so that provided the source is pure, the water will remain so.

### Cuts in

**WITH** some units, it may be found that, after a time, the pump cuts-in immediately a tap is opened, instead of allowing the pressure to drop to 20lbs. before starting, as is the usual procedure. The reason for this is generally found to be a water-filled pressure tank due to failure of the automatic air volume control. To remedy this fault the tank must be drained, and this is very simply done by opening a bottom coupling, meanwhile allowing air to enter through a top plug. The air valve can be checked to see that it is operating correctly, and a final checking of the pressure gauge will ensure that the pump is working correctly again.

**Deep Well Jets.**—Where the water level in a well is below the 25ft. mark, it will be necessary to use a specially designed pump as part of the automatic system. A suitable appliance of this type would be one with a jet unit, and with many named systems, this is the type of appliance usually recommended.

from previous page

## AUTOMATIC WATER SYSTEMS

The jet unit is submerged in the well, and two pipes are necessary—one, the larger, to act as a suction, and one to act as a supply to the jet.

### Working

**T**HE working of this type of pump is based on the Venturi principle—first discovered by an Italian physicist in the 18th century.

This states that “fluids under pressure in passing through converging pipes gain velocity at the expense of static pressure and vice versa.” A very common example of this is a lady’s perfume spray. Here a jet of air from a rubber bulb rushing through a nozzle causes a drop in pressure in the suction tube directly under it, so that the perfume in the glass container is pushed up by the atmospheric pressure, and through coming in contact with the air jet, issues as a fine mist.

The same principle is used in the jet pump. Once primed and the pump started up, water at high pressure is made to flow down the smaller tube to the jet unit, where it is forced through a tapering tube or jet with

great velocity. This increase in velocity at the jet outlet causes the air pressure in the suction inlet to be considerably below that of the atmosphere, so that well water is forced into the suction pipe by the external air to try and equalise things. This water, meeting the high velocity jet, is carried forward as a combined flow through the suction pipe and thence to the pump at the surface.

### Typical unit

**I**N Fig. 1 is shown a sectional view of a typical jet unit. It will be seen that the high pressure water from the pump rushing through the jet orifice gains velocity, but also creates a drop in pressure at this point. This causes water to be drawn into the suction pipe through the tail valve so that when it reaches the jet orifice it is carried along by the jet water stream which acts in the manner of a force pump. It is clear, therefore, that the addition of a jet unit to a pump increases the depth from which water can be drawn, and, in fact, there are several pumps on the market at present which claim suction lifts up to 180 ft.

## Instantaneous HOT WATER from steam—without storage

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

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

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NO LOSS OF CONDENSATION - NO MOVING  
PARTS TO GO WRONG**

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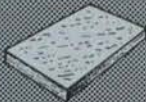

Manufactured by COX ENGINEERING CO. LTD.  
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## TRADE

## TOPICS

### Electrolux to enter heating appliance market

ELECTROLUX LTD. plan to enter the electric heating appliance market late next year. This was disclosed by Stanley Broughton, Electrolux managing director, in reviewing the company's activities during 1962.

Mr. Broughton said the company had decided to widen its interests following unseasonable summers and Government economic policy. "By autumn, 1963, we hope to be making and selling electric storage heaters for central heating and a range of portable oil-filled electric radiators," he said.

Asked about promotional plans for new range, a spokesman for Electrolux said: "No advertising policy has been decided for the time being."

### NEW PREMISES FOR WARMAC

WARMAC LTD., manufacturers of high pressure units and instrumentation and control panels for hot water heating systems, have moved to new premises which, together with the adoption of new manufacturing techniques, will enable the company to meet the rising demand for their products and increase production capacity by 50%.

The company's new address is Clowes Street, Salford 3, Lancs. Warmac products have been used in Dublin and Shannon Airport heating installations.

### NAME CHANGE

THE RHEOSTATIC CO. LTD. has changed its name to Satchwell Controls Ltd. as from the 1st January, 1963.

Irish agent: R. E. Ayers, Graystoke, Nashville Road, Howth.

The Editor and Staff joins with the President of the National Association of Master Plumbing, Heating and Ventilating Engineers of Ireland in wishing Contractor readers

*A Prosperous New Year*

**A**RTIC conditions prevail at the time of writing and the proverbial joke of the plumbers rubbing their hands with glee is once again tossed around by those outside the trade.

No doubt the frost has provided a measure of financial return but the man in the street is inclined to think only of our work in terms of burst pipes. It's the comedian's gimmick, and we can afford to smile. Plumbers have a sense of humour in addition to their other attributes.

In conveying my cordial greetings to the members of the Association of Masters Plumbers, Heating and Ventilating Engineers of Ireland for 1963, I would like to express my thanks for the generous support they have given me in my capacity as chairman.

Business is certainly going ahead in the new Ireland, and from all accounts 1963 promises to be as good, if not better, than the year which has just ended. Bearing that in mind we look forward with the greatest confidence to the days which lie ahead.

The Common Market is, of course, very much in our minds and how we will fare in the new era in which one day we will no doubt

figure is a problem exercising the minds of us all. For myself, I am an optimist, and I believe we will be able to play your own particular part in the changes that participation in the European sphere will bring.

It should be obvious to all in the trade that unity is indeed strength and in this connection I would like to stress again the value of membership of our Association. One would imagine that it should not be necessary to emphasise the importance of membership of any association. Look around and you will see people in all branches of life—doctors, publicans, Gardai, teachers—coming together to further and protect their interests. When will all engaged in our trade realise the value of membership of our Association?

In closing I would like to convey the thanks of the Association to kindred bodies in the building world for all the co-operation accorded our members in the past and we look forward to a continuance of those happy relations in 1963 and far beyond.

A. J. GALLAGHER, President, Association of Master Plumbers, Heating and Ventilating Engineers of Ireland.

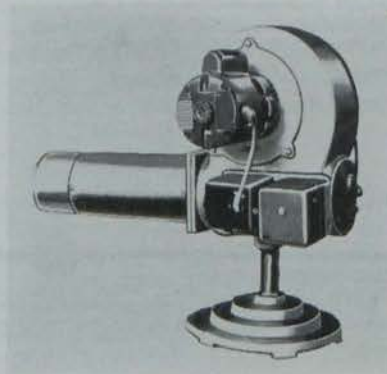
**Nairoil Burners in four types**

Nairoil gun-type oil burners, manufactured by National Airoil Burner Company, are now available in four sizes ranging from  $\frac{3}{4}$  GPH to 20 GPH for burning No. 2 oil. These dependable, clean burning units are used throughout the world for firing small steam or hot water boilers for domestic, commercial and industrial applications.

Completely automatic, the Nairoil burner is engineered to provide many years of dependable performance with a minimum need for service or

repair. BTU input range is from 104, 250 to 2,780,000.

Details here from Chas. Warren & Co. Ltd., 122 St. Stephen's Green, Dublin 2.



**Air Heaters**

**100,000 to 800,000**

**BTU'hr**

**for 45 seconds Oil or 200-900 seconds Oil**

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# Hilmor stage successful Building Centre display

**HILMOR LTD.** (Caxton Way, Stevenage, Herts, England) held a most successful exhibition of bending machines designed for use of the plumber, electrical contractor, heating engineer, gas fitter, and allied building trades in the Building Centre of Ireland, Lower Baggot Street, last month.

Mr. A. Krauer, technical representative for Britain and Ireland, and Mr. W. A. Waters, general sales manager,

came over for the exhibition, the first of its kind ever held of the firm in Ireland.

Demonstrations of the machines were given.

The **General Purpose Precision Bender Type K1.A.** is a lightweight versatile machine to produce good quality true radius bends left or right hand up to 180°. It can be bolted to



W. A. Waters, General Sales Manager at the Building Centre.

bench or held in a vice by lug or base.

**Lightweight Benders Types G.L.O and G.L. Minor** are compact machines with accurately machined formers and guides to produce good quality sets, offsets, compound bends, etc., in non-ferrous tube. Robustly built, they can be carried in a tool bag and are particularly suitable for small bore heating and similar types of installation.

The **Portable Bending Stand** is a robust stand with folding legs converting a bench model machine into a completely portable bender requiring no fixing or bolting down. The stand can be supplied with either a parallel jaw vice for use with light gauge non-ferrous tube, or with a No. 91½ Record pipe vice for use with electrical conduit, the type of vice required to be specified when ordering.

The **Portable Ratchet Bender and Mandrel Attachment**, type R.P.S.A., is designed to produce bends to predetermined measurements saving time, labour and waste of material. Other features are:—Produce sets, double sets, saddle bends, etc., accurately, speedily and with minimum of manual effort. Fitted with indicator to determine correct bending pressure according to class of tube bent. Compact and robustly built and supplied with fully machined Formers.

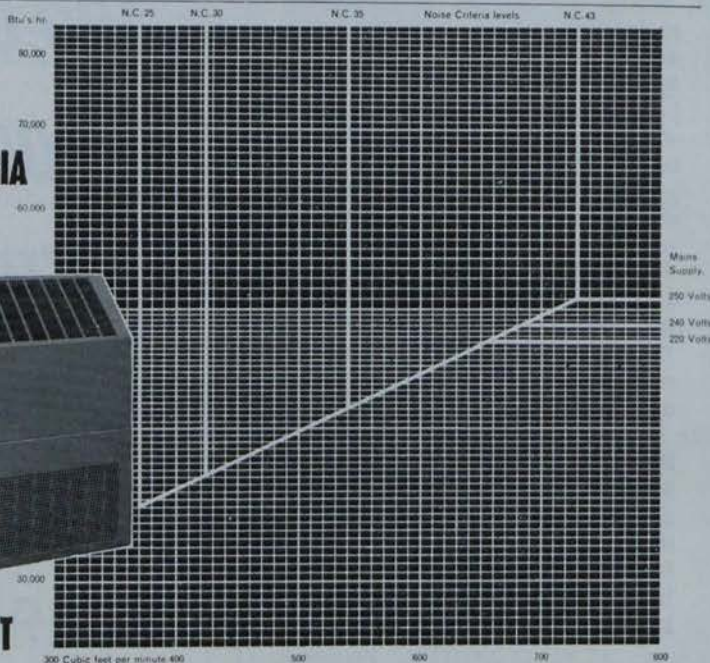
Mandrel Attachment can be fitted or removed in less than five minutes and, when fitted, the machine still remains fully portable.

The firm is now supplying a new version, RP.5B, which is suitable for both left and right-hand bending (against right-hand only on the RP.5A). There is no increase in price.

## GUARANTEED NOISE CRITERIA LEVELS



## AND THE HEAT REQUIRED!



# New Forceflos—with Convectorgraph selection

Only the new Biddle Forceflo Convectors guarantee \*low noise criteria levels. Only the trim, compact Forceflos give quiet power—Convectorgraph selected. Each unit has a performance graph showing specific NC ratings relative to air, heat and voltage factors. Even where a heating demand is exceptionally high, a low noise level can be assured by selective planning from a wide range of unit capacities.

**FORCEFLO CONVECTORGRAPH SELECTION** means all the quiet heat you require—*specifically!* Compact centrifugal fan types—28" high by 9" deep free standing models. Complete range of sizes, designs and ancillary equipment. 29,500-62,000 BTU/hr. outputs at 60°F E.A. and 180/160°F water. Rotary switch speed control. Hot water or steam heating medium.

\*Tests conducted independently and certificated by a leading Acoustics research company

Technical data is available from any of the addresses below

# BIDDLE

Quality controlled products

F H BIDDLE LTD (British Trane Co Ltd—Manufacturing Division)  
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TECHNICAL REPRESENTATIVES  
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Telephone: Helen's Bay 2119  
QUADRANT ENGINEERS, 6 Mount Street Crescent, Dublin  
Telephone: Dublin 61492

# POTEZ GALWAY FACTORY OPENED OFFICIALLY

**TRADE**

**TOPICS**

**T**HE biggest factory to be built in Galway in modern times will be officially opened by the Taoiseach, Mr. Lemass, this month. It is the Potez factory at Mervue.

Founded by Potez, the French aircraft manufacturing firm, the factory already employs over 100 people, most of whom are men who have returned from work in England, and when there is full production this figure will rise to over 700.

In addition, when full production has been reached by-products are expected to provide further indirect employment for over 500 men.

The factory has been producing industrial and domestic heating units for some months, mainly for the British market. The units are also available for the home market, but the primary target of the firm will be the foreign market.

At the opening ceremony will be M. Henri Potez, of Paris, the 70-year-old founder of the firm, who has become a firm friend of the west of Ireland since he first visited Ireland some years ago in connection with plans for the Galway plant. His son, Gerard, who is in charge of the Baldonnel, Co. Dublin, Potex aircraft factory, is a frequent visitor to Galway.

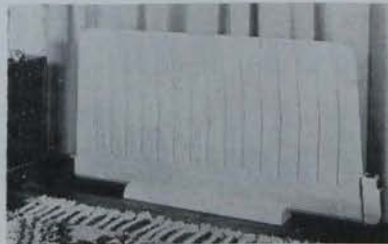
The managing director of the Galway factory is Mr. Herbert S. Buckley, an American, who settled in Paris after the war and whose wife is from the Athlone district.

## WON THERMODARE COMPETITION

**A** COMPLETE central heating system was the prize that was won by Miss Dale McNeill of Skreen Road, Navan Road, Dublin, in the recent Thermodare competition.

She was congratulated on her success by Mr. D. O'Connell of Unidare Limited, Finglas.

Competitors who entered from all parts of the country were asked to arrange in order of merit six points setting out advantages of the Thermodare system of heating. They were also invited to complete a slogan.



## Eye-Appeal

Perfectly in tune with contemporary taste—elegant and streamlined—the Decor is oil-filled and permanently sealed and holds the heat long after the thermostat has switched off the electricity. The exclusive double pilot light indicates both when the electricity is switched on and when the radiator is actually using current. For all its elegant lines, the Decor is exceptionally strong. It is made from steel. Produced by Powell Duffryn Heating Limited in three sizes— $\frac{3}{4}$  K.w., 1 K.w., and  $1\frac{1}{4}$  K.w. Irish agent: Denis H. Sullivan, Green Park, Coleville Road, Clonmel, Co. Tipperary.

## O.B.C. AGENTS FOR "ZIPFIT"

O.B.C. Ltd. (Dublin), stockists and distributors of domestic central heating supplies, have been appointed the sole agents and distributors for Eire of the 'Zipfit' and '2-Way Zipfit' cyclinder jackets, manufactured by the M.H.E. Co. Ltd., Doncaster.

Both the 'Zipfit' and '2-Way Zipfit' are attractive looking cyclinder jackets, easy to instal on any size of cyclinder, and the insulation materials conform to B.S. 1304.

The 'Zipfit' is made to cover the whole cyclinder, while the '2-Way Zipfit' is of double thickness and is only fitted to the top half of the cyclinder, thus allowing the bottom half to radiate heat for airing or heating the bathroom. Price from £2-6-8 (List).

# PREMIER S.F. OIL BURNERS

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Flame Funnel

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*High combustion  
efficiency is  
achieved*

THESE BURNERS  
ARE IDEAL FOR  
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BOILERS.  
AVAILABLE FOR  
60,000 TO 2,000,000  
B.T.U./HR.

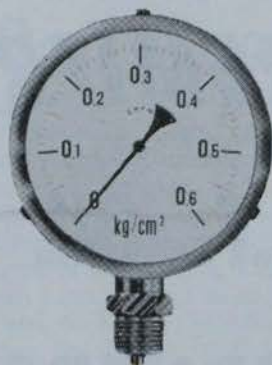
★ Generous Trade Terms.

# WELDRYTE LTD.

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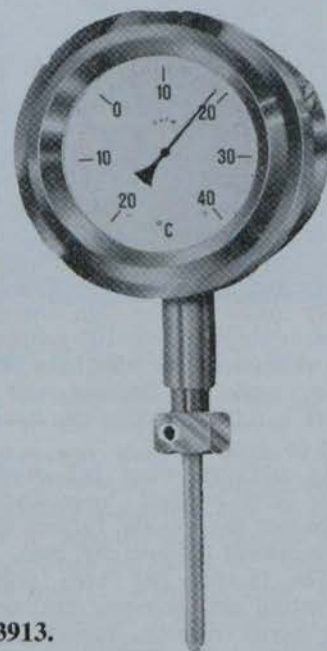
'Phone: Arklow 150.





● A complete line of Gauges always in stock.

# *Investigate the Manotherm Range of Gauges and Corrosion Resistant Thermometers —*



## **MANOTHERM LTD.,**

14 CORN EXCHANGE BUILDINGS, BURGH QUAY, DUBLIN. Tel. 73913.

# *Chappee* CG SERIES

## **FULLY AUTOMATIC SOLID FUEL BOILERS**

● CAST IRON SECTIONAL FOR CLOSED CIRCUIT HOT WATER, FAN ASSISTED, MAGAZINE TYPE, PRIMARY AND SECONDARY AIR CONTROL, ROBUST DECLINKERING DEVICE, SUITABLE FOR BOILER HOUSE INSTALLATION.

Supplied in the following sizes:—

CG 105 — 57,600 BTUs/hour; CG 106 — 77,450 BTUs/hour.  
CG 107 — 97,300 BTUs/hour; CG 108 — 117,150 BTUs/hour.



All trade enquiries from the Irish Agents:

## **IRISH TECHNICAL & PRODUCTION CO. LTD.**

25 UPPER MOUNT STREET, DUBLIN. Telephone: 62636 & 63421.



# AN IRISH PLUMBER & HEATING CONTRACTOR SPECIAL SURVEY

## 1 GAS BOILERS AND CONTROLS

# GAS: QUIET, CLEAN AND EFFICIENT COMBUSTION

**THE QUIET**, clean and efficient combustion of gas in purpose designed gas boilers are advantages now so well known that there is no need to re-state them at great length. These advantages plus the ready availability of fine "on tap" fuel which presents no ordering or storage problems, are creating increasing interest among potential central heating clients.

**Gas boiler sales** are on the increase. Market research shows sales in the last year to have been twice those of the previous three years together.

Firms long established in the manufacture of solid fuel boilers, and more recently of oil-fired boilers, are aware of this competitive trend and now produce gas-fired boilers in many ratings, styles and degrees of automatic control.

Gas boiler ratings in most common use for domestic heating by L.P.H.W. and for D.H.W. supply, range from 30,000 to 85,000 B.t.u.'s/hr.

A smaller wall-mounted boiler by Parkray is rated at 21,000 B.t.u./hr., whilst a large floor standing one by Thos. Potterton provides 150,000 B.t.u./hr. and costs £140, which seems a really competitive price for this quite powerful boiler in cast-iron. Between these, boilers of 30, 45, 65, 85 and 100 thousand B.t.u./hr. are presently available. Clearly there is no restriction in choice so far as boiler power required for any given job is concerned.

### Trends

One development trend in gas boiler design appears to aim for **lightness in construction**. Sheet metal water

shells or heat exchangers offer easier handling in store or on site, and simplify installation. The lower thermal capacity of such boilers is an economic advantage and offers more responsive control. Wall mounted boilers become much more popular as the trade and consumer public come to realise that modern materials in up to the minute design can do the same work as more traditional equipment in older materials. The space-saving afforded by such wall-mounted equipment is an obvious advantage, especially in renovation or modernisation work. It is equally acceptable in the modern kitchen, where sufficient space often seems lacking.

### Resistance

**Increased corrosion resistance** is another important feature which continues to receive attention. Some manufacturers use vitreous enamelled combustion chamber surfaces, others employ corrosion resistant steels. "Radaly" is one of these and is used in the new Parkray G.301/1 and C.301/2, which are up to the minute wall-mounted appliances.

Some appliances of this type offer high resistance to waste flow through them. This is an inherent feature of design which offers no problem except that circulating pumps must be carefully selected as able to cope with both circuit frictional resistance plus that of the heat exchanger. It may be that a 15ft. head pump will be necessary and these are easily available in the glandless, silent pump kind.

**Flues and Fluing Problems** have

not escaped notice in gas boiler development in recent times. Connection to existing brick flues should be undertaken with care. The high thermal efficiency of modern gas boilers makes them a sound economic proposition but resultant low temperature flue gas exit temperatures do increase liability to condensation of vapour products of combustion within the cold mass of a brick flue. Not that this is peculiar to gas-fired boilers—all high efficiency boilers suffer the same. But all can function effectively and without damaging condensation troubles if existing flues are lined with "Kopex" flexible flue lining. A specially made lead lined "Kopex" is recommended for gas boilers where this problem is met.

**Balanced flue boilers** eliminate the flue problem and offer unobtrusive and economic fixing to any external wall. Given an external wall in which the combined air and flue gas terminal may be fixed, these boilers may be fitted just anywhere that the gas terminal can be put. This freedom from flue trouble eases kitchen planning no end. If need be, the boiler could be fitted in a ventilated cupboard.

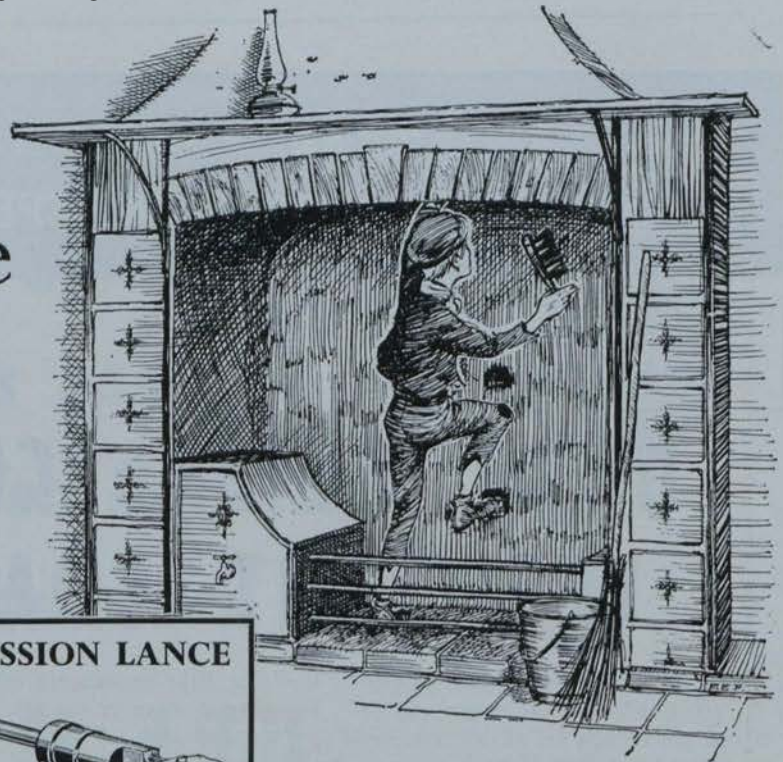
Boiler makers marked \* on the list given earlier are among those now producing balanced flue gas fire boilers.

**Electric ignition** is another trend in gas-boiler design. This may seem to be "gilding the lily," especially when it is so well known that once lit, the gas boiler needs no attention until its

*Continued page seventeen*

# Not any more

They never did use small boys for cleaning boiler tubes—  
and the idea is as dated as hand brushing  
now that Airnesco brush automation is available  
for water tube boilers, waste heat boilers,  
and economic type boilers.



**FERRET**

\*Walks\* along the tube—no pushing or pulling—the operator stands still and waits for the 'Ferret' to push itself up the tube and return to him.

**PERCUSSION LANCE**

Cleans a 300 tube fire tube boiler in 30 mins—without brushing—by air puffs alone.

**AIRNESCO PRODUCTS LTD.**

For further details of these and other Airnesco Products, and for a free demonstration in your own works, write now to

Bedford Buildings, 7 Bedford St., Belfast, 2. Tel. 26343 — HALPIN & HAYWARD LTD. — 16-17 Lr O'Connell St., Dublin. Tel. 48638.

# BUDERUS CAST IRON BOILERS

From 46,000 B.T.U.s  
to 3,000,000 B.T.U.s

● Buderus boilers are gaining on others for high efficiency, pleasing appearance, competitive prices and especially quick delivery. (Many sizes now from Dublin stock).



*Write for our  
stock price  
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**QUADRANT ENGINEERS**

6 Mount St. Crescent, Dublin, 2.

Telephone 61492.

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This special survey—another in a series on important aspects of the plumbing and heating trades—has been compiled by technical expert A. L. Townsend, M.R.S.H., M.I.P.

## GAS BOILERS

from page fifteen

next service inspection is due.

**Gas boiler controls** are basically the simplest possible. Normally, control is effected by thermostat monitoring of the "on-off" or relay valve. In general this appears adequate but remote controls, time-switching apparatus, etc., are now well developed and well worth considering where, for a little extra cost, zonal control and clock operation offers automatic

control for enhanced comfort and plans operating efficiency plus, possibly, more economic operation. Messrs. Honeywell are among the leaders of boiler control equipment and have specialised in gas boiler control equipment.

### Congratulate

**Enlightened users of gas boilers** have found good reasons to congratulate themselves upon their choice. Many more, presently considering boiler installation, would do well to

examine the undeniable advantage which gas fuel offers. Modern gas boilers, purpose designed, are available for the smallest to the largest heating or D.H.W. system, and for the simplest or most complex system arrangement.

"Fit and Forget" might be an apt slogan for modern gas-fired boilers. An annual service check, and gas undertakings offer this at really cheap rate, is all that reminds the user that the heating and D.H.W. is in the quiet, efficient and economic charge of the unobtrusive gas boiler.

## 2 SOLID FUEL BOILERS

# SOLID FUEL: RETAINS ITS PLACE FOR GOOD REASON

**WHATEVER** praises may be sung of the so-called "refined" fuels, solid fuel still retains a place in the heart of very many people—and for good reason.

The welcoming glow of the open fire may be decried as frequently inefficient. This, it might be in old types of grate, but the cheerful radiance of warmth from modern, approved appliances has a physical as well as heart-warming effect. They are easy on the pocket too.

"Solid fuel" has an old fashioned ring about it. This is a pity for it is by no means an outdated fuel. Considerable research has been undertaken with regard to proper combustion of different solid fuels in different grates or "furnaces."

### Research

**New forms of solid fuel** have derived from joint researches by fuel technologists and solid fuel burning appliance manufacturers. Many of

these fuels are of the "premier" cokes class and have excellent burning qualities, with good calorific value, with reduced ash content and, when properly used, smokeless.

For modern open grates with back boilers these premier fuels really are first class. They respond to high or slow burning rates according to demand for heat. They are clean and light to handle, and they are not expensive. The fuels are easily ignited and gas ignition makes this even easier, cleaner, and eliminates tedium.

**Solid Fuel Boilers** are obtainable in many forms and ratings, ranging from the simple B.S.1251 back boiler, and the newer, vastly more effective high output back boilers, to independent boilers from as little as 12,000 B.t.u./hr. up to 1,000,000 B.t.u./hr., and larger still if required.

**High output boilers** for open fire grates really have made a welcome and valuable contribution to the extension of improved home warming in

the smallest of dwellings.

Boilers of this type may be obtained as part of a grate for inset building into an existing builder's opening. Alternatively, and this is another interesting development, boilers shaped like "Milner" fire lumps can be bought as separate items so that these can form the basis of one's own fireplace design.

### Recent release

A very recent market release of the **integral high output boiler** is the "Parkray" 77. This is within a closeable stove which is a class of appliance of quite high efficiency, and the stove will heat some 1,800 ft. of room space as well as producing some 15,000 B.t.u./hr. maximum in its boiler. The boiler is thus capable of providing domestic hot water by way of indirect hot store cylinder, and heat some 20 ft. of radiators in a most satisfactory manner. Used in conjunction with a circulatory pump so

Continued page nineteen

For

GAS

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Central Heating

**PERFECT**

**GAS!**

**PERFECT**

Because you can choose between WARM AIR HEATING or GAS FIRED BOILER serving a hot water system.

**PERFECT**

Because FULL AUTOMATIC CONTROL AND OUR SPECIAL CENTRAL HEATING TARIFF SAVE RUNNING COSTS.

**PERFECT**

Because the CAPITAL AND MAINTENANCE COSTS are LOWER THAN FOR ANY OTHER FUEL.

**PERFECT**

Because there are NO DELIVERY, STORAGE, STOKING OR CLEANING problems.

*Specially Reduced Tariff for Domestic Installations*

CONSULT OUR TECHNICAL EXPERTS FREE

*Phone, write or call*

DUBLIN GAS COMPANY, D'OLIER STREET, DUBLIN. Telephone 71811.

that small bore copper tube circuits may be used, this type of high boiler output room heating appliance can cope with a modified form of small bore background warming as well. The makers—Radiation Group Sales—or your local merchants, will be glad to give further details about this and others new appliances of this kind.

**High output open-grate boilers** have been specifically developed by the Dunsley Heating Appliance Co., Holmfirth, Huddersfield, Yorks. Boilers suitable for 16in. and 18in. openings are available in many patterns and ratings. Underfloor draught and deep ashpit models are made.

### Extensive

Outputs range from 85 sq. ft. to 180 sq. ft. of radiation and a quite extensive small bore system can be coupled to the larger ones with confidence.

**Independent Solid Fuel Boilers** are perhaps more well known. A striking feature of these generally is the marked departure from the old-fashioned cast-iron thing which was an eyesore as well as a dust menace, to elegantly styled cabinets equally

## SPECIAL SURVEY— from page seventeen

# INDEPENDENT SOLID FUEL BOILERS WELL KNOWN

pleasing as any of those used by competing fuels, and with so much improved stoking arrangement that dust and labour is reduced to an absolute minimum.

**Independent boilers** with their larger outputs are essential where something more than "background warming" is required in the way of radiators. Ratings, now established for all thermostatically controlled boilers, are at 6,000 B.t.u./hr. of boiler heating surface. This removes certain ambiguities of earlier rating figures and allows more reasonable and critical approach to boiler selection.

**Solid Fuel Boiler Sales** still easily top the sales of boilers using other fuels. This deserved popularity of the boilers results in a bewildering array of makes and outputs. It pays to

look at all or most of them before making a choice which will be difficult in the best of times, for performance and appearance standards are now becoming so uniform.

### Techniques

Fuel usage and boiler manufacturing techniques having now reached the stage when really economic and highly efficient service can obtain from solid fuel usage, the development trends are decidedly toward ease of labour in attendance on boilers. Not that modern solid fuel boilers demand much attention but there are those prepared to pay that little extra for relief even from the simple daily look at the fuel box and ash-pit.

*Continued overleaf*

# BAXENDALE

—the name you have learned to depend upon

—INTRODUCE THE LATEST, MOST ECONOMICAL ADVANCE IN CENTRAL HEATING

## "BEANCO" SOLID FUEL HOME HEATING

The Beanco home heating unit with small bore piping can be readily and economically installed in existing houses or houses under construction. By suitable placing of the radiators, efficient background heating for the whole house—including hot bath water and heated towel rail—can be provided. The radiators are in handsome contemporary style designed to blend with modern decor. Note these other Beanco features:

- Special extra large back boiler and vitreous enamel slow-burning fire.
- 4 Radiators with screw-on brackets.
- 1 C.P. Towel Rail.
- 1 Circulating Pump.

#### AND IN ADDITION

- 10 Easy Clean Radiator Valves.
- 30 Gall Indirect Cylinder.
- 10 Gall Heating System Feed Tank with ball cock and ball.

**Other Central Heating Systems available from Baxendale:**

Redfrye Centromatic Vapourising Oil-Fired Boilers — fully automatic.

Wilson Vapourising and Jet fully automatic Oil-Fired Boilers.

Paulomatic Vapourising Oil-Fired Boilers.

Watts Gravity Feed Solid Fuel Boilers.

Trianco Gravity Feed Solid Fuel Boilers.

## BAXENDALE & CO. LTD.

PLUMBERS MERCHANTS BUILDERS PROVIDERS  
715 Capel St., Dublin. 'Ph. 76711 (12 lines)

**SPECIAL SURVEY**— *from previous page*

## GRAVITY FEED INDICATES A NEW APPROACH

**Gravity Feed Boilers** are not really new but their increased specification indicates a new approach to fuel usage by architects and potential boiler users. Gravity boilers must not be confused with manually fed boilers of the ordinary kind. The gravity boiler has

an integral fuel hopper capable of holding a 24-hour supply of anthracite grain fuel. At this size, the fuel is virtually "fluid," i.e., it flows. It flows by gravity from the fitted fuel hopper to the fire-bed below as and when the boiler combustion rate fluctuates according to the external demand upon it to heat water.

### *Fan assisted*

**Fan assisted combustion** is quite common to boilers of this kind. The fan, controlled by an immersion thermostat in the boiler water, operates the electric controls to start or stop the fan. As more heat is called for by the thermostat, so the fan is switched on and the fire bed made to burn more strongly. When the heat demand is satisfied, the thermostat cuts off the fan and the fire slumbers under regulated natural air flow to the fire bed.

The fuel used produces negligible ash and this is fused to mechanically assisted clinker removal to ashpan.

These boilers really do take the dirt and labour out of solid fuel boiler operation. They are a little more expensive, of course, but discerning clients will be thankful to all who draw their attention to this high efficiency and trouble free type of boiler.

Messrs. Watts Automatic Boilers, of Sydney, Gloucester, and Trianco Automatic Boilers, of Imbercourt, East Moseley, Surrey, are but two well known makers of gravity feed boilers in ratings from 50,000 to 1,000,000 B.t.u./hr.

The fuel hoppers have been stated to have a 24-hour capacity. This is on normal load. In periods of milder weather or lesser D.H.W. demand, a full hopper will fuel the boiler for several days before manual topping up of the hopper, with dustless fuel, is required.

**Automatic stokers** are well known for efficient, trouble free, dirtless, and economic operation in large commercial and industrial boiler houses.

### *Advantages*

**The Riley Baby Robot** brings all these advantages to the domestic user. Like its bigger industrial "brothers," the Baby Robot underfeed mechanical stoker keeps the fire supplied with fuel and fanned combustion air as demand on boiler output dictates.

*Continued overleaf*

## TURF

in its  
modern  
form

Combined with the new turf-burning room heaters, Peat Briquettes and Machine Turf provide

## Central heating

- where you want it
- when you want it
- and at a price to suit  
Everyman's pocket.

Eliminate waste by installing your heater where heat is wanted. There'll be no long runs of piping to warm up. A well-designed turf-burning space heater (and a number are now available) will bank for long periods—ten hours easily—providing a source of constant heat for a negligible amount of fuel and attention.

FOR THE LATEST AND MOST  
ECONOMICAL IN SPACE HEAT-  
TING CONSULT—

## BORD NA MONA

Whose expert advice is always at your service

*Twenty*

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DOI: 10.21427/D7ZH83

Economy of operation derives from: (a) controlled and complete combustion ensuring maximum heat extraction from fuel to waste; and (b) from burning fuel only when demand for heat causes the stoker to operate.

This stoker is designed to burn cheaper bitumenous coal without smoke—an important point in these days of clean air need. It can be fitted to existing sectional or most pot type boilers and will easily give heat output to 96,000 B.t.u./hr.

### Regulated

Automatic control is by boiler water thermostat which can be regulated by roomstat if required. The controls provide constant temperatures with minimum fuel consumption.

Servicing arrangements are available by trained agents of the makers, Messrs. Riley (I.C.) Products Ltd., 19 Woburn Place, London, W.C.1.

**Press Button Control for Solid Fuel Boilers.**—This must be near ultimate in solid fuel boiler design—no stoking, no ash removal, and full boiler operation control by electricity. All this for fuel cost of about 9d. per 100,000 B.t.u.'s—a remarkably economic operating cost.

The Allied Iron Founders Ltd., of

### SPECIAL SURVEY—

*from previous page*

28 Brook St., London, W.1, really have elevated the status of the solid fuel boiler to that of its competitors, and in a manner that as regards running costs no one can beat it.

Their Automatic S.F.100 boiler measures 2ft. 2in. square and is 8ft. high. Its output is 100,000 B.t.u./hr.

It is primarily intended for installation in larger homes, and although structural alterations could enable its accommodation in existing buildings, it is ideally suited to forward looking new designs in large modern houses.

A basement boiler house is needed so that fuel deliveries (Anthracite grains, suitable bitumenous fuels, or the recommended "Sunbrite" coke) can be tipped into the purpose built bunker sited above the boiler.

From this bunker, fuel gravitates to the fuel hopper of the boiler. Electrically operated fire-grate rotation

clears clinker and ash which falls into wheeled receptacles below the fire grate.

The householder controls the boiler from a press button panel situated in some convenient places, the kitchen perhaps. The boiler is fully thermostatically controlled and indicator lights on the panel show "mains on," "ash doors open," "ignition on," and if by some odd chance the fire goes out, then a "fire out" indicator lights up.

### Delivered

The householder never handles fuel or ashes. Fuel is delivered, as described, to the fuel bunker, and ash is removed by the dustman from the convenient wheeled receptacles.

**Electric ignition** for solid fuel boilers is something quite new. It is incorporated in the Allied Ironfounders "Vogue S.F.100," as described above, and in its smaller, kitchen installed S.F.50 (500,000 B.t.u./hr.).

Two carborundum elements are heated electrically. These in turn heat

*Continued page Twenty-three*

## COMBUSTION EQUIPMENT LIMITED

61 BELSIZE LANE, LONDON, N.W.3.

Telephone: Swiss Cottage 4462-3

GIVE SIX GOOD REASONS WHY YOU SHOULD

### Install the B.C.U.R.A. Mark IV FURNACE BAFFLE

1. DUST-FREE FURNACE TUBES in turf or coal-fired boilers.
2. REDUCED side flue and exit gas temperature in turf, coal, or oil-fired boilers.
3. HIGHER  $CO_2\%$ .
4. FULLY GUARANTEED—No cure, no pay.
5. FUEL SAVINGS—Initial cost recovered in weeks.
6. 2,000 already fitted.

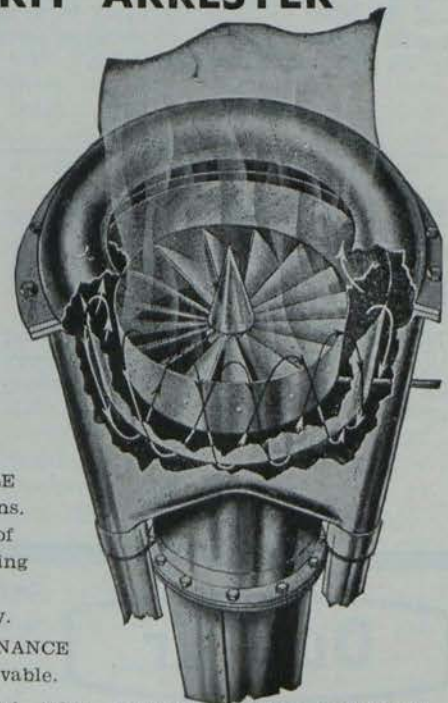
### Fit the 'AIR-LOK' DAMPER

1. REDUCED Stand-by losses.
2. Obvious and immediate FUEL ECONOMY.
3. Better CONTROL.
4. ADAPTABLE to most types of Boilers and Furnaces.
5. It is a quality controlled MEEHANITE Casting.
6. Very long life—no maintenance.



### Choose a CORY GRIT ARRESTER

1. LOW cost
2. HIGH efficiency, complying with the requirements of The Clean Air Act.
3. LOW pressure drop. NO FANS REQUIRED.
4. RAPID INSTALLATION—3 have been fitted at one plant in 24 hours.
5. COMPACT AND EASILY ADAPTABLE to any site conditions. Fitted at top, base of stack or in the ducting leading to it horizontally or vertically.
6. EASE of MAINTENANCE. All parts easily removable.



Agents: Halpin & Hayward Ltd., Unity Buildings, 16-17 Lower O'Connell St., Dublin. Tel. 43270. Bedford Buildings, 7 Bedford St., Belfast. Tel. 26343.



# Radiation CENTRAL HEATING APPLIANCES

## DUCTAIR G105/23 Gas-fired central heating by fanned warm air

Designed for use in the average small house or flat the G105/23 provides full space heating by ducted warm air in the living room and kitchen with background heating in the bedrooms by ducting or in the hall by spillover warmth. The unit is controlled by a room thermostat which automatically switches on both fan and burner when heat is required.



### Special features

This flexible system is specially suitable for individually metered installations in multi-storey flats. Balanced flue or SE-duct models obviate the need for conventional flueing. The unit will provide air circulation in summer. Warm air can be diverted to a clothes drying cupboard. The small cabinet, 32" wide x 23" high x 14½" deep, can be installed at high or low level.

### Fuel consumption

As a guide: in a house of 1,000 sq. ft. insulated to Edgerton standard, Ductair G105/23 provides background warmth at all times and full heating to 67°F. in the living room 8 hrs. each day for an annual fuel consumption of about 400 therms of gas. Electricity consumption for fan and controls—approx. 100 units.

### Performance

Output: 23,000 Btu/h. Overall efficiency 75%. Air flow 230-280 c.f.m.

## PARKRAY G301 Gas-fired small bore central heating

The G301/2 provides domestic hot water plus 3-4 average radiators. The G301/1 is designed to cope with a heating load that requires the full output of the unit—a typical installation would have from 4-6 radiators.



### Special features

The G301 is a room sealed appliance—the products of combustion are isolated from the room it is installed in. Balanced flueing eliminates the need for costly conventional flues. The remarkably small unit can be wall-mounted at high or low level. The stainless steel heat exchanger has an exceptionally long life and requires minimum maintenance—just an annual check. Maximum flexibility in dealing with combined peak loads is made possible by a unique control system.

### Fuel consumption

This will vary according to the degree of comfort maintained and the amount of water used. As a guide: The G301/1 utilizing the full output will consume about 625 therms a year and the G301/2 on the same basis but with the provision of domestic hot water throughout the year, 720 therms a year.

### Performance

Output: 25,000 Btu/h. Typical heating surfaces: G301/1 approx. 125 sq. ft., G301/2 approx. 100 sq. ft. plus 25-30 gallon cylinder.

## PARKRAY 77 Solid fuel room heating and central heating

This new form of heating for the 2-3 bedroom house heats the living room directly by convected and radiant heat from the 'open fire behind glass' and the other rooms in the house by a small central heating system of 4-5 radiators serviced by the high performance back boiler.



### Special features

The flued boiler has independent boiler damper control. This allows adjustment of the water/space heating ratio to boost the hot water supply without overheating the room or central heating system. The Parkray 77 will maintain full rated output on 4 hourly refuelling. It is a continuous burning appliance which can be kept in right through the heating season.

### Fuel consumption

The appliance burns 2½-2½ lbs. fuel per hour and a typical weekly consumption may vary from 1-2 cwt. according to season and the water heating load.

### Performance

Output: space heating from unit for rooms of up to 1,800 cubic feet; water heating (for domestic supply and central heating), 10,000 Btu/h. with boiler damper closed and 15,000 Btu/h. with boiler damper open. Overall efficiency at full output is 70%—as high as is practicable with any solid fuel appliance of this type.

## PARKRAY S56 Central heating from a hopper feed boiler

The Parkray S56 supplies plenty of hot water for an average family and heats 5-6 radiators or, for central heating alone 8-9 radiators may be installed.



### Special features

This true hopper feed boiler needs refuelling only once every 24 hours for average heating requirements. A prismatic viewer fitted on the ashpit cover gives a clear view of the fire without stooping. The riddling handle is conveniently placed. The new-type ashpan has a slide on cover.

### Fuel consumption

Rate of burning at full output is from 3½-4 lbs. an hour. The Parkray S56 will maintain full rated output for 10 hours untended burning of Sunbrite or gas coke.

### Performance

Output: 33,000 Btu/h.

For full details of these central heating appliances write to

**Ductair**

Mr. L. F. Young,  
85 Gransha Road,

Bangor, County Down.

**Parkray**

a Radiation product

## SPECIAL SURVEY—

from page twenty-one

air flowing to the fire-bed. In this way the ignition temperature of the fuel is reached and ignition accomplished.

These two boilers are the latest developments in solid fuel boiler design. The price of the S.F.100 is still not yet decided. All will agree that

this development is forward looking and indicates firm faith in the future of solid fuel for economic domestic heating and hot water services. It may well presage a completely new outlook in domestic boiler choice and usage. All would be do well to obtain further information from the makers.

### We review here, in connection with this Special Survey, products from the leading manufacturers ranges.

THE PARKRAY 77, the latest in Radiation's range of "open fires behind glass", provides central heating from the living room fire. It will serve a system of up to three radiators, heat the bathroom towel rail and supply domestic hot water for the average family's needs.

The system can be of either the gravity circulation type or the heated water may be circulated through small bore copper pipes by a small electric pump.



This 77 may also be used for domestic hot water plus selective radiator heating. This involves the use of more radiators than the boiler can fully heat simultaneously but by selective use, wide flexibility is obtainable, making it possible to run a couple of radiators downstairs and another couple upstairs. Alternatively, the entire boiler output can be put to central heating exclusively, serving up to five radiators and a towel rail.

Available in bronze lustre, black lustre, gunmetal lustre and mushroom. Area Manager—L. C. Young, 85 Gransha Road, Bangor.

★ ★ ★

NOW ON the market for anthracite grains and larger fuel are the Fortano and Fortano-K boilers from Holland with outputs from 60,000 Btu/hr. up-

wards. Tests on Irish anthracite (which incidentally is exported to Holland in considerable tonnage) shows a very high efficiency. Sole agents for Forta anthracite boilers are Quadrant Engineers, 6 Mount Street Crescent, Dublin 2.

★ ★ ★

THE NEW WORLD Sunbeam has an automatic draught regulator—an exclusive device. It will maintain a very high efficiency under all conditions of chimney pull and prevent heat from the room being drawn up the chimney.

The New World Sunbeam will, in older property, give full comfort in a room of 2,000 cubic feet, for example 20' x 12' x 8'. With modern construction and good insulation, larger rooms can be fully heated up to 3,000 cubic feet for example 20' x 18' x 8'.

Reflectors are chromium plated and the fireguard blends neatly and naturally with the shape of the heater. For a small extra charge a thermostat can be fitted (Model No. 888T). This is completely automatic in operation.

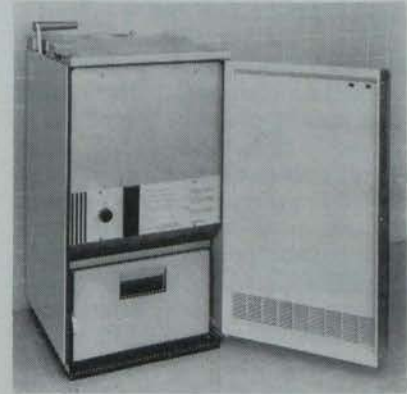
The Sunbeam is available in black, lustre and pewter, nubian and cream, gold and cream. or all gold. Area Manager—Charles Rolls, Esq., 115 Crawfordsburn Road, Bangor, Co. Down.

★ ★ ★

A MEDIUM-PRICED electrically controlled hopper-fed domestic boiler designed to burn coke automatically and efficiently has just been introduced by Newton, Chambers and Co. Ltd., of Thorncliffe, Sheffield.

Now in production, this new Redfyre Autocoke 40 (illustrated here) with a heating rating of 40,000 h.T.U.'s/hr., requires the minimum of attention. It incorporates an electro-thermostat

which controls a fan and solenoid damper unit. This automatically provides air for combustion through the ashpit and enables the boiler to operate efficiently under all conditions. This new domestic boiler is designed to provide hot water and central heating.



Flexible control of hot water output is provided by the incorporation of a centrifugal fan controlled by the thermostat through an interconnected solenoid-operated air damper. In addition, an adjustable air control provides a by-pass supply of air to the combustion chamber if required. This combination enables the boiler to operate effectively over the full temperature range between 90 deg. F and 190 deg. F at all outputs.

Including the hopper, the Redfyre Autocoke 40 has a fuel capacity of 50-70 lbs., depending on the types of cokes used.

Neat and compact, the Redfyre Autocoke 40 stands 36" high—37½" at the back—is 22" deep and 20½" wide. Flue offtake is a 5" diameter pipe from the top incorporating a flue break which eliminates the need for additional dampers or draught stabilisers. Designed for indirect systems, the boiler has four 1½" tappings, two at each side, and its capacity is a 35/40 gallon cylinder plus 170-180 sq. ft. radiator surfaces.

★ ★ ★

BUDERUS boilers for gas firing have aroused interest because of their high efficiency and pleasing appearance. An unusual feature is that the largest boilers are supplied in half sections making for great ease of transport and handling. This is particularly important in those applications where boilers are installed on intermediate level boiler houses rather than at ground level, as can occur especially in connection with gas

Continued overleaf

Twenty-three

boilers, and where difficulty of access exists.

Solid fuel Buderus boilers, for coal coke or turf, both with external and magazine type firing are constantly used. Delivery of all Buderus boilers remains outstandingly short; some are indeed ex stock, through the sole agents Quadrant Engineers, 6 Mount Street Crescent, Dublin 2.

★ ★ ★

THE CRYSTALGLOW is controlled by a built-in thermostat. This makes for the most economical use of gas at all times.

There is total efficiency of approximately 72 per cent under optimum conditions made up of 30 per cent radiant output and 42 per cent convected. It is 25½ in. in height, forward projection 8½ in., gas rate 16,000 Btu/h, width 22", weight 40 lb.

The radiant unit comprises a neat gas burner and refractory brick and reliable Bratt Colbran radiants carried in a frame of aluminium—clad sheet steel.

Products of combustion pass through the aluminium—clad steel heat exchanger and escape to the flue, past the draught diverter. This combined heating assembly is enclosed in a stove painted steel outer case, with controls and leg assembly at base.

Area Manager—L. C. Young, 85 Gransha Road, Bangor, Co. Down.

## SPECIAL SURVEY

from previous page

WITH THE co-operation of the British National Coal Board a major break-through has been reached with



the new Trianco P.55 boiler, which replaces the original P.50, previously at 50,000 B.t.u. hr. capacity, the smallest boiler in the Trianco range (shown here).

The P.55 has a capacity of 55,000 B.t.u.'s hr. and will burn 'Sunbrite' and other cokes, as well as anthracite. Thus a wider choice of fuel is now

available to the owner of the three and four bedroom house equipped with this Trianco solid fuel boiler.

By comparison with previous similar boilers, the P.55 offers many special features, including the following: Burns freely available cokes in addition to anthracite; efficiency ratings up to 80 per cent or more; and burns for a longer period on one hopper filling.

As with the existing range of Trianco boilers, the P.55 is fitted with a large hopper requiring attention, when using anthracite, once every 24 hours in cold weather, once a week in the summer. It is thermostically controlled and de-clinkering is very simple and comparatively dust-free.

Irish agents—Messrs. Heatovent Supply Company, 5 Upper Fitzwilliam St., Dublin 2. Northern Ireland—Messrs. McGregor and Manning, 9 Upper Castle Park, Belfast 15.

★ ★ ★

THE DUNSLEY Super Flued Boiler is like the flued boiler, with the addition of two extra heating tubes which enter at fire level in each side cheek and pass upwards through the water jacket to emerge alongside the main flue: this gives the boiler a greater output. Both tubes and flue can be opened or partly opened with one operation, as the large damper covers all three openings.

16" Boiler gives 100 sq. ft. of heating surface plus Domestic hot water, including piping. Heating only: 155 sq. ft. including piping; and 18" Boiler gives 130 sq. ft. of heating surface plus Domestic hot water, including piping. Heating only: 180 sq. ft. including piping.

Irish agents—John Barrett and Sons, 18 Morrison's Island 7 South Terrace, Cork.

★ ★ ★

LOWER BOILER operating costs with solid, smokeless fuel and an 80 per cent efficiency is claimed with the C & N Unicorn Auto Burner. This burner provides a simple method of automatic boiler firing using a wide variety of solid fuel which is gravity fed into the combustion chamber. There are no moving parts with the exception of the fan, this is an important feature which minimises wear on the burner. There are no fire bars to burn out. Fuel is burned directly on the water cooled base of the burner body.

The C & N Auto Burner can be used in conjunction with a very wide range of boilers such as cast iron and sectional steel boilers, low pressure steam boilers and in special instances, high pressure steam boilers. It is

Continued opposite

# WHY

## IS THE TRIANCO EFFICIENCY RATING SO OUTSTANDINGLY HIGH?

The cost of a boiler can never be measured in terms of initial outlay—it is how much it costs to operate and how efficiently it does its job that counts in the long run. This is why so many plumbers and heating engineers recommend the installation of a Trianco Boiler . . . they know it provides automatically controlled heating with the greatest efficiency and economy. Trianco Engineers have perfected a heat exchange attaining peak efficiency with either solid fuel or oil. This means low operating costs, plus years of trouble free service.

Trianco Solid Fuel Boilers from 50,000 B.t.u. to 2 million B.t.u. Trianco Oil Fired Boilers from 100,000 B.t.u. to 3 million B.t.u.

TRIANCO LTD.,  
Imber Court,  
East Molesey, Surrey.



**TRIANCO**  
automatic boilers



The Trianco O/100/1  
Oil Fired Domestic  
Boiler of 100,000  
B.t.u.s. capacity.

# TRIANCO

For further details contact our area agents : HEATOVENT SUPPLY CO., Dublin.

## SPECIAL SURVEY—

from opposite page

ideally suited for automatic firing of cast iron sectional boilers fitted with water cooled fire bars.

★ ★ ★

THE RANGE of Waterbury Warm Air Heaters—gas fired, includes the latest model the HEG (seen here).

The Waterbury 'Hiboy' models provide an upward air stream and may be used for duct connection or with a top diffuser as a free standing warm air circulator.

The stiffened steel casing, finished in stoved gold enamel, provides simplicity of design with ease of maintenance. The heat exchanger casing is fitted with an inner liner to maintain low external surface temperatures.



Warm air discharge is at the top of the casing and is provided with a duct connection spigot.

Return air inlets are at low level on either or both sides. A duct connection spigot and filter box is provided on one side only.

The main burner consists of a number of neat gas burning jets arranged in rows to provide an even distribution of heat over the cross-section of the combustion chamber.

Irish Agents Quadrant Engineers, 6 Mount Street Crescent, Dublin 2.

★ ★ ★

THE VENNERS Packaged Boiler Control Unit Mark II brings economy and convenience to the operation of gas or oil-fired boilers while permitting a combined programme of control over central heating and domestic hot water supplies. The Venner Mark II provides seven combinations of time switch and thermostatic control.

● The Dublin Gas Company have announced that where approved central heating by Gas is installed by DOMESTIC CONSUMERS, the price charged for Gas in excess of 50 therms per quarter shall be at a special low central heating rate.

THE RANGE of appliances of The Alliance and Dublin Consumers' Gas Co., D'Olier Street, includes the Ideal Kingston gas boiler for heating and indirect or direct hot water supply.

An outstanding feature of the Kingston Boiler is the electrically operated "Flamaster" automatic ignition control. This gives on/off control with complete safety because the boiler shuts down if gas or electricity supplies fail and relights automatically when they are restored. There is provision within the jacket for connecting an electric clock controller (with two "off" periods in 24 hours). Up to two room thermostats can also be connected.

The Parkray G301/2 (output 25,000 B.t.u./hr.) gas-fired boiler for central heating and hot water is specially designed to give maximum efficiency on both circuits.

A special circuit ensures optimum water temperature for space heating and water heating, while reduced rating and special water thermostat design ensures minimum gas consumption for water heating. The flue section, supplied complete, simply goes through an outer wall. This eliminates unsightly flues, making fixing easier, and reduces cost of installation. Air for combustion is entrained and flues gases are expelled without being affected by adverse weather conditions. Being a room thermostat, the combustion products are isolated from the room in which the unit is installed.

★ ★ ★

THOMAS POTTERTON Ltd. have announced their new room-sealed gas-fired small bore "Diplomat" boiler, now available with outputs of 31,000 and 44,000 B.t.u./hr., and, from March 1st, 1963, 67,000 B.t.u./hr. Standard gas controls with pilot burner are supplied and intermittent electric ignition is a feature of this range of "Diplomat" boilers. The "Diplomat" is room-sealed.

# ALL Heating For Factories, Garages And Halls -

- ★ Oil Fired
- ★ Economical
- ★ Automatic
- ★ Safe
- ★ Simple

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## WELDRYTE

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SOUTH QUAY  
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'Phone: Arklow 150.

The Irish Plumber and Heating Contractor.

## PRESENTATION OF MEDALS TO WINNING APPRENTICES

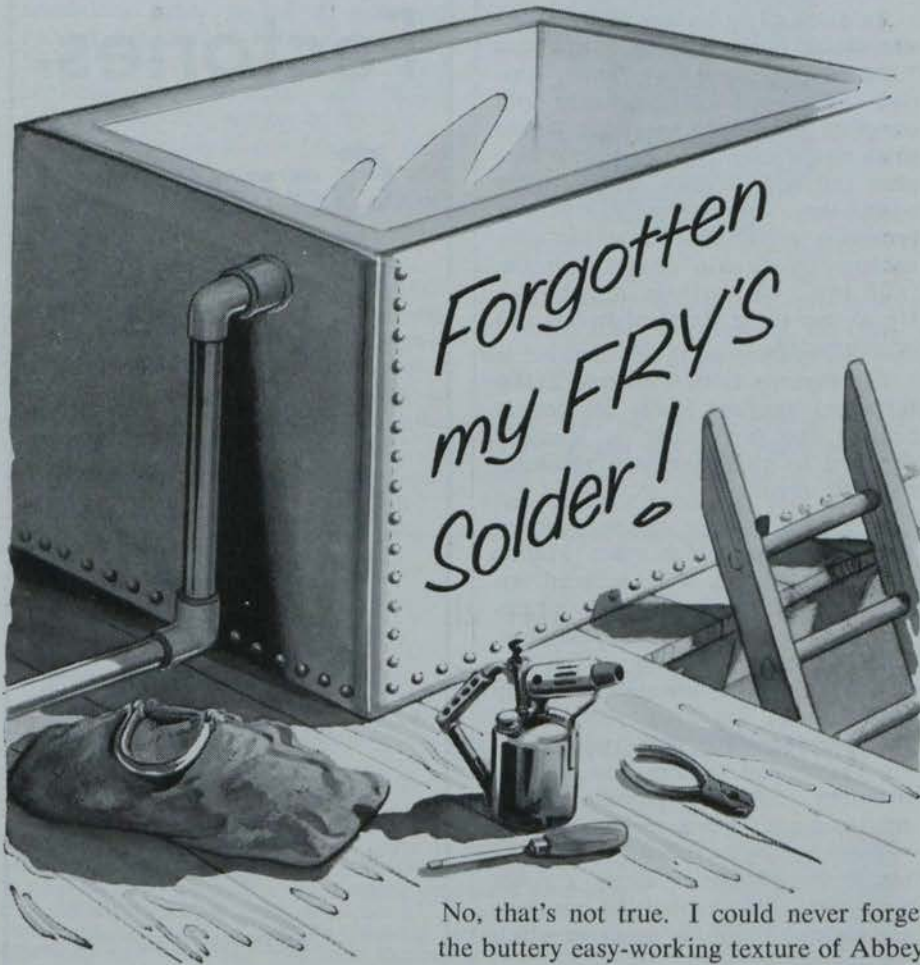
**G**OLD medals for plumbing were presented to Mr. William Jackson, Ranelagh, Dublin and Mr. Michael McDaid, Omagh, Co. Tyrone, at a ceremony in the Building Centre of Ireland, Lower Baggot St., Dublin on

December 20. A silver medal went to Mr. W. O'Rourke.

The recipients are building trades apprentices who had been successful in international competitions in Germany 1961 and Spain last year.

The Taoiseach, Mr. Lemass, who presented the awards, said there was no better stimulus to the country's industrial expansion and economic growth in every sphere, than the evidence of the high quality of the men and women who were available here.

The success of the young apprentices in the severe international tests reflected the highest credit on themselves,



No, that's not true. I could never forget the buttery easy-working texture of Abbey and Belfry . . . or the way they cool, dead smooth without a crack or blemish.

No, I've not *forgotten* my Fry's plumbers metals—I've just left them behind!

Better phone up . . .

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## TRADE

## TOPICS

their teachers and on the employers and trade unions that had co-operated in making their efforts possible.

The recognition now given by the Building Centre in presenting the medals also deserved the highest commendation, he said.

There were encouraging developments taking place within the building industry which was now showing a live interest in the training of apprentices.

The 1963 International Apprenticeship Competitions would be held in Dublin and the occasion must be availed of to promote the widest public interest in the importance of proper apprenticeship training, said Mr. Lemass.

### Tribute

Mr. Martin Gleeson, C.E.O., Dublin Vocational Education Committee, paid tribute to the Minister for Education for the ready and generous way he had met the proposal for the provision of a new College of Commerce, a new School of Management Studies and, in association with them, a new School of Retail Distribution.

A contract for a new College of Technology to replace the old college at Kevin Street at a cost of £1,300,000 had been placed.

Mr. Michael Scott, architect, presided.

## OBITUARY

### MR. GEORGE FISHER

**M**R. George Fisher died peacefully in his sleep at home last month. He was 93 and will be remembered by many as a most remarkable character who had spent around 60 years—practically the whole of his working life—in the plumbers' brassfoundry trade. For 38 of these years he was senior representative for James Barwell Ltd. of Birmingham, whom he joined in 1908. Mr. Fisher was a well-known figure in Ireland.

When George Fisher first went out 'on the road', he was resplendently attired in frock coat and tall hat, and he frequently used a pony and gig to get him around on his journeys.



**A. L. TOWNSEND**  
M.R.P., M.R.S.H.

The author, a lecturer at Oxford College of Technology, continues the first part of a four stage course on plumbing.

# SANITARY APPLIANCES IN GENERAL

## PART THREE

### CERAMIC W.C. Pans (B.S.1213).—

A W.C. pan is of little use on its own. To function properly it must have a seat, a flushing cistern and a flush pipe. This complete assembly is known as a W.C. suite, and may be one of three kinds:—

**High level suite:** The height from the floor to the top of the flushing cistern can vary between 6' and 6' 6". A flush pipe 1½" in diameter will be used.

**Low level suite:** The height from the floor to the top of the flushing cistern will be about 3' and a flush pipe 1½" in diameter will be used.

**Combination suite:** The flushing cistern bolts directly on to specially designed W.C. pan, and the flush pipe as a separate piece of equipment is no longer necessary.

Sketches of the three types of W.C. suite are shown in these pages.

**W.C. Pan Design.**—With the "wash-down" W.C. pan the soiled contents are removed by the momentum of the flushing water. In this respect it differs from the "siphonic" W.C. pan, where the action uses atmospheric pressure to empty the pan. The construction, operation and advantages of siphonic pans will be dealt with in later articles. In the meantime the washdown pan, which is extremely common and quite satisfactory for most domestic purposes, is worthy of closer attention.

### One piece

**T**HE pan should be made in one piece to ensure a hygienic continuity of line and to avoid unnecessary jointing work. Generally

panns are in one piece, but it is interesting to notice that two-piece pans are available. With such pans the basin and trap portions are separate, and the trap portion can be turned to discharge in one direction while the basin portion is fixed to face in any other direction that may suit the room. These two-piece or rotatable trap pans can be useful in overcoming a difficult situation, especially in the conversion of old houses where even a one-piece pan with an outgo turning to right or left may not quite meet the need.

W.C. pans are more commonly of the pedestal type shown here but they may be of the "corbel" type.

**Corbel W.C. pans** have stout ceramic projections for building into the wall behind the pan. Alternatively, where the wall is not sufficiently strong, for example, if it is a plasterboard partition or a similar lightweight construction, special metal "chair" brackets may be used to support suitable corbel pans.

The advantage of the corbel pan is that it has no pedestal support and therefore the floor beneath the pan is quite clear of any obstruction. It is clear that this is a more hygienic arrangement, and for this reason such pans are much used in hospitals.

Whether Pedestal or Corbel, the bowl or basin of the pan should be large enough and shaped so as to

prevent as far as possible any soiling of its inside surfaces or the floor around it.

### Shaped traps

**PEDESTAL** pans may be obtained with traps shaped either like an "S" or "P."

**W.C. Seats.**—These seats may be of polished, non-absorbent wood or of plastic. The latter is more popular nowadays. If solid in construction and not hollow in cross section they are strong and certainly hygienic.

Seats are commonly of the "ring" type, completely covering the rim of the pan when in the down position. Since W.C.'s in domestic dwellings serve also as urinals there is a risk of fouling the front portion of the seat unless it is lifted when used for this purpose. The "horseshoe" or "open ring" seat has its front portion cut away, since it serves no useful purpose, and the seat cannot then be fouled by urine however inconsiderate or careless the user.

**W.C. Pan Fixings.**—Pedestal pans are secured to the floor by brass wood screws, which pass through holes provided in the pedestal base.

Newly laid timber floors are liable to "move" as they dry and therefore shrink. A pan secured to such a floor, and jointed at its outgo by a rigid cement and sand joint, will suffer severe strain if floor movement occurs. Many pans have become cracked and useless as a result.

**Outgo joints for Pedestal W.C.**

*Continued overleaf*

from previous page

# SANITARY APPLIANCES IN GENERAL

panns fixed to timber floors should be "mastic." Red and white lead putty serves very well. It offers a waterproof joint material with sufficient flexibility to "give" until the wood floor has settled.

## Similar

**PANS** fixed to concrete floors may have similar outgo joints, or they may be jointed by a cement and sand composition in the proportion of one volume of sand to one volume of cement. The use of new cement should be avoided since the heat generated in the chemical reaction which takes place on mixture and setting can give rise to sufficient expansion to damage the vitrified china ware pan.

In either case, one ring of tarred gaskin should be inserted firmly and deeply into the outgo socket of the soil pipe. This will prevent jointing compound from entering the pipe and possibly causing a blockage.

**Flush pipe joints** are best made with rubber cones specially made for this purpose. Normally, no additional material is required to make a satisfactory joint.

**Traps for Sanitary Appliances (B.S. 504 and B.S. 1184).**—The chief aims in the drainage of waste from sanitary appliances are the rapid removal of soiled matter and the thorough cleansing of the waste pipe by each discharge of water through it. With proper design, suitable materials, and good workmanship this can be achieved, so that the waste drainage is free from persistent bad smells.

But, however carefully installed, there will be short periods of time when all waste drainage systems carry some unpleasant smell by reason of the very nature of the waste content—for example a W.C. pan. Even waste pipes from basins, baths and sinks, which do not carry offensive

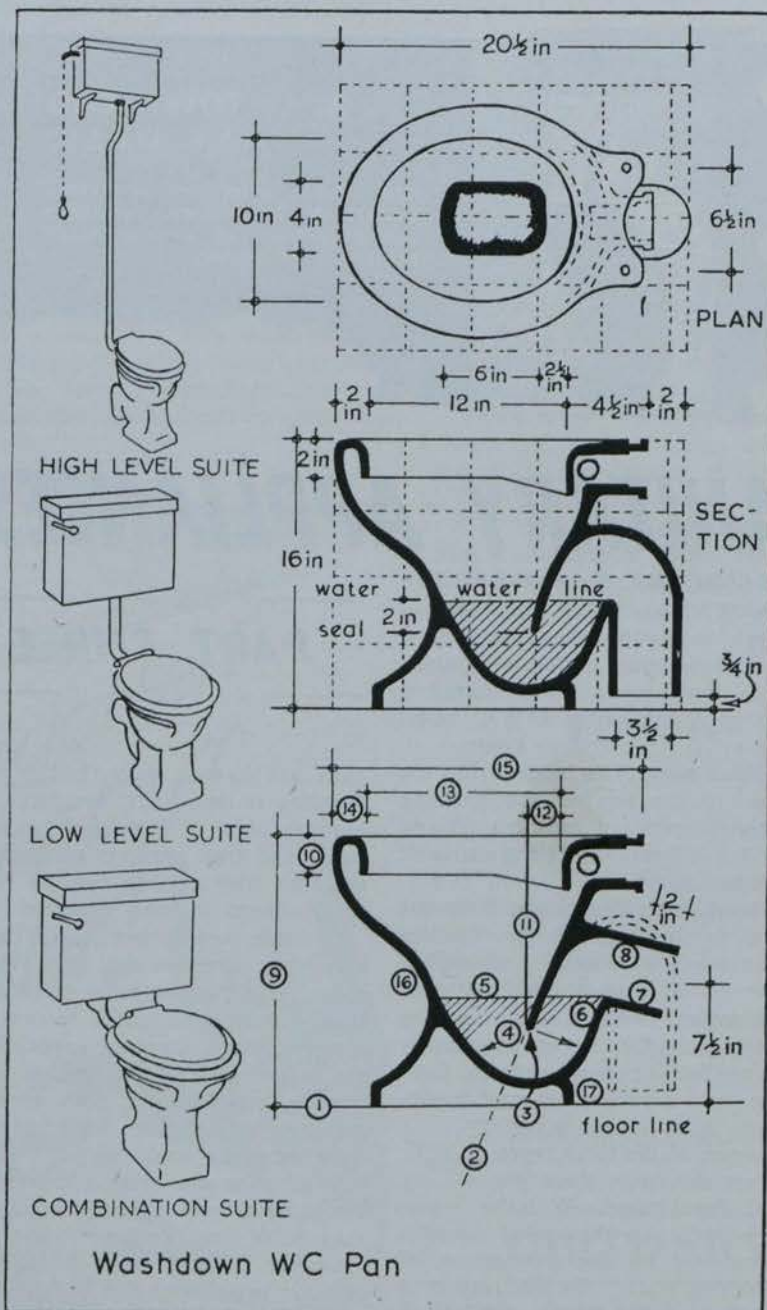
solid matters, may become coated inside with soap scum, fats, and other deposits which can give rise to unpleasant smells.

## Trap fitted

**To** prevent the possibility of any smell entering the building by way of a waste pipe a trap is fitted as close to the sanitary appliance as possible. A trap is a device holding a quantity of water, which forms a barrier against the passage of air from the waste pipe into the building.

**Trap Design.**—A good sanitary trap must fulfil the following conditions:—

- 1—It must be made of non-corrosive material. (A corroded and leaking trap would lose its water barrier and cease to be effective).
- 2—It must be strong enough to serve its purpose under all normal conditions.
- 3—Inside must be of smooth bore, and it must be self-cleansing.
- 4—Its size must be suited to the appliance it serves. Too small a trap diameter would slow up the waste discharge. Too large a trap would become coated with deposits likely to smell and thus defeat the object of the trap. Neither would be self-cleansing,



since the smaller one would not pass enough water to clean the waste pipe and the larger would not be sufficiently scoured.

5—It must retain a sufficient quantity and depth of water to form a good "waters-seal" or air barrier.

6—There must be an easy means of access to the trap so that any blockages that arise can be cleared. This may be done by either providing a cleaning eye, or by making the base removable.

### Designed

**TRAP Types and Styles.**—Our illustration shows the basic idea in trap design—a pipe bent in the form of a "U." This tube-type trap clearly illustrates the principle. The dip-tube trap is an adaptation of the U-tube trap, but it is not as efficient as far as self-cleansing is concerned.

**Dip tube traps** are of two kinds. The "dip tube" is shown in illustration (C) and the "dip partition" type in (B).

It can be seen that whereas the tube type trap (A) allows an unrestricted and self-cleansing flow of waste water, the dip partition trap (B) provides a more difficult path for it, and the dip tube trap (C) offers even more obstruction to the flow.

Research has shown that a tube trap passes water one-third faster than a dip partition trap, and four times faster than a dip-tube trap. This suggests that the type of trap must be carefully selected according to the appliance it is to be fitted to. For example, it would not be wise to fit a dip-tube trap to a kitchen sink, where food particles discharged with the waste water could lead to annoying and frequent blockages. On the other hand, dip tube and dip partition traps in chromium plated brass, or even in plastic materials, such as polythene, look neat and may be used quite satisfactorily for lavatory basin wastes.

Traps of all types may be obtained in "P," "Q," "S," or "running" styles to suit the individual arrangement of the appliance and the direction of flow in the waste pipe.

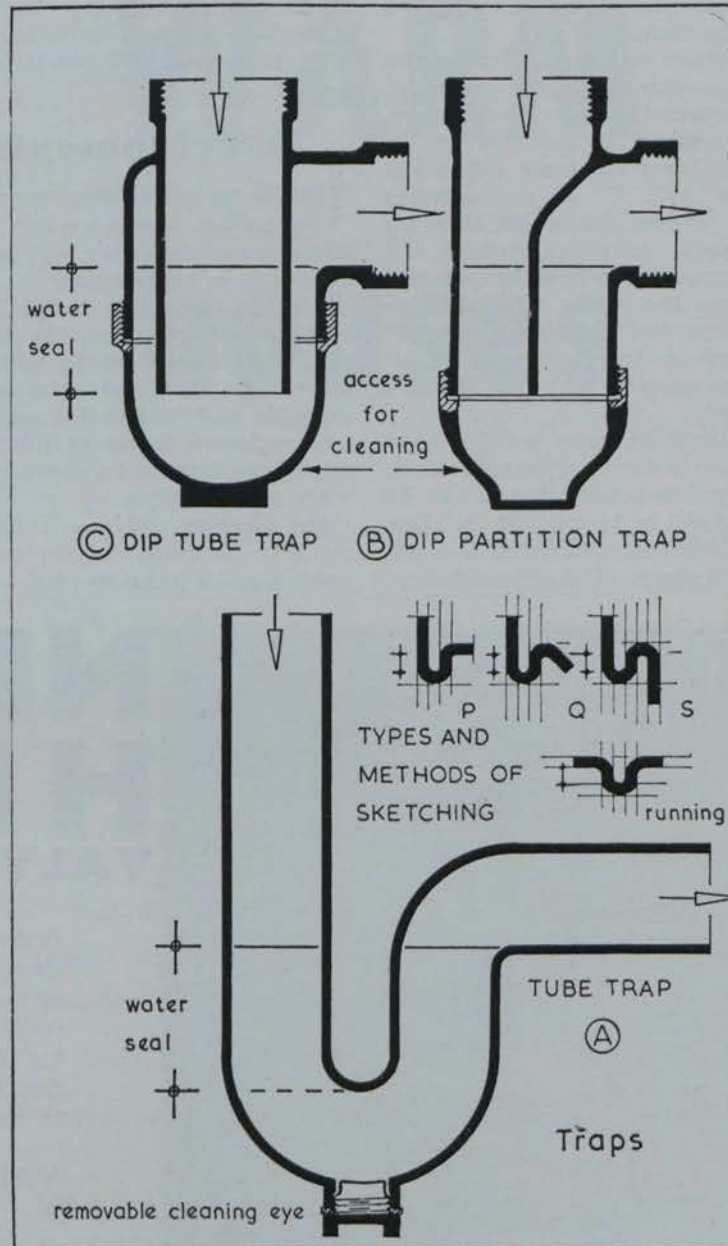
"P" traps are used for near horizontal waste pipes.

"S" traps are used for vertical waste pipes.

"Q" traps are useful for waste pipes

from previous page

## TYPE OF TRAP MUST BE CAREFULLY SELECTED



at an angle somewhere between the two.

### Connected

"**RUNNING**" traps are of a special kind. They are used in waste pipes into which several untrapped waste appliances are connected. This

method does save money, and the trap is sometimes used to "master trap" the waste of a range of lavatory basins. But the practice of placing a trap close to each appliance is clearly the most satisfactory from the point of view of hygiene.

*continued overleaf*



*The Irish Plumber and Heating Contractor.*

*from previous page*

## WATER SEAL: EFFECTIVE PART OF SANITARY TRAP

These various styles of trap are shown here together with drawing construction lines which may help in sketching them.

**The Water Seal** is the effective part of any sanitary trap. The amount of water retained to provide the essential air barrier is indicated by its depth. Traps are made with water seals of 1½", 2", or 3" according to the purpose for which they are to be used. Extensive research and experimentation backed by practical experience has shown that a minimum water seal of 1" is an adequate safeguard against the passage of air from the waste to the room in which it is fixed.

The depth of water seal for traps to waste sanitary appliances which discharge into a gully trap outside the building will be 1½ ins. On the other hand, those connected direct to a soil pipe will have a "deep seal" trap,

with a water seal of 3 ins.

W.C. pans have traps "built" into them as part of the pan. Such traps are called "integral," meaning "part of." In all cases W.C. pan traps have a water seal depth of 2".

### Developments

**T**HESSE up-to-date developments in plumbing research and their effect on sanitary design will be fully dealt with in future issues.

For the time being it is sufficient to know and remember the purpose of a trap; how it works, and why; the various types and styles of trap available; and the fact that each sanitary appliance should be fitted with this barrier between the appliance and waste or drain pipes.

**The Flushing Cistern.**—If the best use is to be made of water capacity and the soiled contents of the wash-

down pan are to be completely removed in one flush of the cistern, care must be taken that flush pipes do not wander too far in the near horizontal direction before reaching the pan. Bends in the flush pipe will also retard the flow of the flush water. Flush pipes should, in other words, be as near vertical and as free from bends as possible.

W.C. pan manufacturers are aware of this problem, and take care to design the flushing rim of the pan so that it gives an effective action. As a general rule the pan and cistern which make up a suite are coupled up and tested for proper discharge before they are sent off to the stockist or building site. It may be difficult to get an effective, cleansing flush with unmatched pans and cisterns.

### NEXT MONTH

SANITARY APPLIANCES

SKETCHING METHODS

GRIDDING

PROPORTION AND OUTSTANDING DIMENSIONS



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... for most temperatures and pressures  
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**TRADE**

**TOPICS**

**£20,000 U.C.D.**

*order for*

**350 Forceflos**

**U.C.D.** is undergoing the greatest change in its history. A project worth six million pounds is moving the university from the centre of Dublin to Belfield. The Science block, covering chemistry, botany and physics, which will be completed in September, will be heated with fan-assisted convectors. An order for 350 Forceflos, worth £20,000, has been placed with F. H. Biddle Ltd., manufacturers of heating, cooling and air conditioning equipment.

Requirements for the heaters were exacting. First, there were dimensional restrictions. In addition, the warmed air had to be discharged into the rooms in such a way as to offset the cold down-draughts from large windows. Thermostats, valves and connections had to be concealed in casing.

Biddle's Forceflo Convector fulfilled these conditions and offered two further major advantages. The noise level of the convector was extremely low, and as the whole range of Biddle Forceflos have been noise-level tested by an independent firm of acoustical engineers, its performance, in terms of noise, was predictable and could be guaranteed. Secondly, its centrifugal fan and permanent capacitor induction motor provided the most efficient combination for circulating large volumes of air from a packaged heater.

★ ★ ★

**NEXT MONTH**

John G. Bolton will continue his series on pumping appliances with a survey of hydraulic rams and their installation.

**NEXT MONTH**

# Sell WARM houses

The Electric Warm Home Plan which was introduced by the E.S.B. last year has achieved an immediate public acceptance, because it provides an overall home-heating system at a really LOW cost.

A number of builders who have offered it in new houses find that public interest in the plan is very high and that electrically-warmed houses are easy to sell.

Full details of the electric Warm Home Plan, and expert advice on its installation and design are available to you without charge or obligation.

For prompt co-operation, just write or 'phone

**WARM HOME PLAN DIVISION**

**Electricity Supply Board**

**27 Lr. Fitzwilliam Street, Dublin**

Telephone 65831

or your nearest E.S.B. District Office.

When a plumber is looking for a pump...



... for **CENTRAL HEATING**

he cannot buy better  
than the

# SIGMUND THERMOPAK or SILENTFLO

and the prices are very competitive. Why not buy the best at practically  
no extra cost?

### SPECIAL FEATURES:

- Super Silent and self-lubricating.
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**TRADE**

**TOPICS**

From The Contractor's

Northern Correspondent

**ARCHITECTS MEET FOR DESIGN AND HEATING CONFERENCE**

AS WE went to press a conference of architects on the subject of design and heating organised by the Northern Ireland Coal Advisory Service was being held in the Woodbourne House Hotel.

Mr. J. S. Williams, deputy director-general of marketing in the National Coal Board, was to speak on "Heating appliances of the future."

Mr. Williams is well known in the North for from 1934 until 1936 he was head of the home sales department of the Old Bleach Linen Company, Randalstown.

Mr. A. H. Clarke, city architect of Bristol, was giving a paper on "Building: Design and Heating," and Mr. E. F. Schumacher, economic adviser of the National Coal Board, on "The economic approach to heating in the future."

Mr. Charles Neill, chairman of the Coal Advisory Service, was opening the one-day conference. Sir William Scott, chairman of the Northern Ireland Coal Importers' Association was also down to speak.

★ ★ ★

**Powell Duffryn make Ulster sales drive**

A MOVE to increase sales of equipment in Northern Ireland has been made by Powell Duffryn Heating Limited of Camberley, in conjunction with John Kelly Limited of Belfast. The agreement, made recently, will ensure that the Irish firm will carry substantial stocks of all P.D. heating equipment, to be made available to the wholesale trade.

"This move should be of considerable assistance in the development of central heating in Northern Ireland," said Mr. A. C. Hazel, Joint Management Director of Powell Duf-

**FOG FOILS PRESIDENT**

HEAVY fog at London airport robbed Mr. E. Osborne, National President of the pleasure of attending the annual dinner of the Heating and Plumbing Employers' Association of Northern Ireland in the Grand Central Hotel, Belfast.

Mr. A. J. Vaughan, president of

the Northern Ireland Association, proposed the toast of the guests, who included many from districts outside Belfast.

Between 250 and 300 members and guests were at the dinner which was followed by a dance and cabaret.

fryn Heating, addressing a recent meeting of builders, architects, heating engineers, consultants and members of the trade in Belfast.

Mr. Hazel made the point that unfortunately the average householder, having made the decision to instal central heating, invariably wanted the job started in the shortest possible time. In the past there has been the complication of the availability in Northern Ireland of the necessary equipment and with the rapid increase in central heating Powell Duffryn Heating Limited had felt it desirable to ensure that there were particularly large stocks of heating equipment available in order to avoid disappointment.

★ ★ ★

**TENDERS**

TENDER: Girls' Voluntary Intermediate School, Maghera, Co. Derry—Tenders are invited from competent Contractors for the following work in the erection and completion of the above:

- Building Work.
- Heating Installation.
- Plumbing Installation.
- Electrical Installation.
- Built-in Furniture.

The work shall be carried out in accordance with the documents pre-

pared by the Architects, Quantity Surveyor, W. H. McEvoy, F.R.I.C.S., 73 May Street, Belfast, and Services Consultants, Messrs. Varming & Mulcahy, 37 Malone Road, Belfast.

The relevant documents may be obtained from the Architects' Offices on deposit of £10 each for Building Work documents, and £5 each for Heating, Plumbing, Electrical and Built-in Furniture documents.

Tenders must be lodged in the Architects' office, in the envelopes supplied, not later than 4 p.m. on Wednesday, January 30.

Messrs. Corr and McCormick, Architects, 7 Ferryquay St., Derry.

**Soldering**

FRY'S METAL Foundries Ltd., Flowsolder Division, Willow Lane, Mitcham, Surrey, announce the introduction of a new soldering machine for bench use—the "Flowdipper".

This new compact dipping unit incorporates the proved "Flowsolder" principle that provides a continuous "wave" of clean solder. This is obtained by pumping fresh solder upwards through a solder nozzle or ring. The speed of the pump determines the solder height and once set remains constant despite a solder usage. This continuous "wave" of solder provides a smooth dress and oxide free area in which to work.

*The Irish Plumber and Heating Contractor.*

# SANBRA - FYFFE NEGOTIATIONS ARE SUCCESSFULLY CONCLUDED

**TRADE**

**TOPICS**

**N**EGOTIATIONS between Fyffe Couplings (Ireland) Ltd. of 42 James's Street, Dublin, and Sanbra Limited of Great Bridge, Tipton, Staffs, have been successfully concluded by the formation of Sanbra Fyffe Limited, in which the two companies have equal holdings.

as follows: Mr. D. D. Frame, Chairman; Mr. P. A. Duggan; Mr. J. Rogers; Mr. T. Jackson; Mr. F. Whitworth; and Mr. R. B. Eaton, Managing Director.

The Hammond Lane Foundry Co. Ltd., formerly majority shareholders in Fyffe Couplings (Ireland) Ltd., are represented on the Board by their Chairman, Mr. D. D. Frame, who will act as Chairman of the new company. Mr. R. B. Eaton, formerly Managing Director of Fyffe Couplings (Ireland) Ltd., has been appointed as Managing Director.

## Associate

Messrs. Rogers and Whitworth are joint Managing Directors of Conex-Sanbra Ltd., an associate company of the Delta Group. The new company will also have the assistance of Messrs. A. H. Messe and E. H. Ollis, Directors of the English Company who will act in the capacity of alternative Directors.

The remaining places on the Board are filled by Mr. P. A. Duggan, leading Dublin chartered accountant and formerly chairman of Fyffe Couplings (Ireland) Ltd., and Mr. T. Jackson, well-known Dublin solicitor, chairman of Sanbra-Conex (Ireland) Ltd.

It is anticipated that the new company, having at its disposal the technical assistance of the Conex-Sanbra organisation, will both improve and extend its production of brassfoundry and be in a position to effect further production economies to cope with competition which must arise with the establishment of the Common Market.

## Separately

While common selling terms have been in force for all products of the two companies for some time, they

have continued to trade separately pending the movement of personnel and plant from James's Street to Santry. As from 1st January, 1963, however, all manufacturing and trading activities will be vested in Sanbra Fyffe Limited at Santry Avenue, Co. Dublin and Sanbra-Conex (Ireland) Ltd. will cease to trade.

It has been decided to discontinue the production of two ranges of compression couplings and to substitute a fitting which incorporates the Conex ring but with a new Instantor-type nut. This will be known as the "Conex-Instantor" fitting, and it is confidently expected that it will be well received by distributors of the firm's products, to whom it should mean a distinct advantage from the point of view of stocking. The Conex-Instantor range will bear the present "Instantor" numerical designation with the suffix "X", e.g., 310X, 318X.

A common range of plumbers' brass ware is already on offer, and certain luxury items have been added. It is intended to extend this range as conditions permit.

Mr. Brendan C. Byrne is Sales Representative for the new company, and an additional appointment has been now made, i.e. that of Mr. Gordon E. Swinburn.

## in brief...

ON THE completion of 21 years service with the General Electric Company factory at Dunleer, gold watches have been presented by the management to Messrs. P. Mulroy, Dunleer; P. Yore, Dromiskin; J. Murtagh, Kilsaran, and E. Bowden, Dromin.

★ ★ ★

THE APPOINTMENT of Mr. Colin Woodall as Sales Manager of the new Gas Division of Powell Duffryn Heating Ltd. is announced. Mr. Woodall, who will work from the company's Camberley headquarters, has been concerned with gas all his working life. In fact his family has been in the industry for more than 100 years.

Each room has own conditioner



**G**UESTS at Europe's first circular motel, at Norman Cross, Peterborough, will sleep soundly regardless of weather or traffic... Every one of the 20 self-contained studio apartments is sound-proofed, and sound-proofing requires air conditioning, which is provided by a separate Chrysler Airtemp unit in each apartment.

The entire building is fully sound-proofed, with double glazed windows and polystyrene acoustical and thermal insulation. Complete soundproofing of this type requires permanently closed windows, and demands full air conditioning with complete control over temperature and humidity at all times.

Investigation showed the use of a single central plant with ducting to each apartment to be unacceptable on account of installation difficulties and the impracticability of providing fully independent control over the environment in each apartment, and it was decided to fit an individual Chrysler Airtemp room unit in each suite. These units may be operated on reverse cycle to provide either heating or cooling as required.

Each provides a maximum cooling output of 10,500 B.t.u./hr. and a maximum heating output of 10,000 B.t.u./hr., and is capable of treating 410 cu. ft. of air per minute.

Irish agents: H. A. O'Neil Ltd., 162 Lower Rathmines Road, Dublin, and Everton Engineering Ltd., Whitehouse, Newton Abbey, Belfast.

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An outstanding new development in air filtration is the introduction by Vokes of the Autoroll MK II, an improved version of the original Autoroll design. The basic principle remains the same—automatic feeding of a 125 ft. filter medium on spools across the air flow. Efficiency too, remains the same—98% initially against Aloxite 225 test dust.

NEW is the lower price. NEW is the 41% increased capacity, and NEW are the simplified control systems—remarkable advances which make the Autoroll MK II the most reliable, durable and economical filter of its type in the world. Please write for descriptive folder.

These features mean a better filter at lower cost.

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Reverse flow 'Autoroll' with drive motor on the clean side.



'Manuroll' manually operated filter.



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## TENDERS

**COUNTY Tipperary (N.R.) Vocational Education Committee.**—Thurles Vocational School—Boiler Required.—The above Committee invites tenders for the supply, delivery and erection of a new low pressure sectional cast iron boiler and turf burning unit for the above School. Copies of the Specification may be obtained from the Architect, Chevalier Patrick J. Sheahan, K.S.S., F.R.I.A.I., M.I.C.E.I., 47 O'Connell Street, Limerick, during the usual office hours and tenders should be submitted to Seamus B. O Donnchadha, Chief Executive Officer, Kickham Street, Nenagh, Co. Tipperary, not later than noon on Wednesday, January 30 next.

★ ★ ★

**CORK Health Authority.**—Tenders are invited for the installation of electric thermal storage heaters in the Convent of Our Lady of Lourdes Hospital, Midleton, Co. Cork. The work consists of the installation of 20 electric thermal storage heaters with fuse boards and switches. Work is to be carried out in accordance with the plan and specification prepared by the Authority's engineer, and which are available at this office. Tenders, accompanied by a deposit of £5 and marked "Tender for Electrical Work," should reach the Sec-

retary, Institutions and Assistance Section, City Hall, Cork, not later than 5 p.m. on Friday, January 25 next.

★ ★ ★

**NEW Primary School at Dunmanway, Co. Cork.**—Tenders are invited for Mechanical Installations at the New Primary School, Dunmanway, Co. Cork, for the Sisters of Charity. Installations include low pressure hot water heating system and hot and cold water system in accordance with the plans and specifications prepared by the Consulting Engineers, Messrs. J. Varming & S. Mulcahy, 10 South Mall, Cork. The plans, specifications and General Conditions of Contract may be inspected at the office of the undersigned Architect or at the office of the Consulting Engineers, from either of whom copies of the plans and specifications may be obtained on payment of a deposit of £15-0-0 (returnable). The Form of Tender, filled in in ink in a sealed envelope marked "Mechanical Installations, Dunmanway," and accompanied by the remaining documents in a separate envelope, shall be lodged with John C. Thompson & Co., Architects and Civil Engineers, 65 O'Connell St., Limerick, not later than 12 noon on January 19. The contractor whose tender is accepted will be re-

quired to enter into a formal contract and to give a satisfactory bond with an approved insurance company for the full performance of the Contract.

## New Brochure

**A BROCHURE** giving full details of the rigid thermoplastic pipes produced by Durapipe & Fittings Ltd., Winnock Rd., West Drayton, Middlesex, is now available from the manufacturers. The brochure also deals with the company's extensive range of fittings and their recently introduced range of valves and strainers.

Sections deal with recommended jointing methods, notes on installation, chemical resistances and working pressures. A convenient chart showing all relevant dimensions of the fittings is included.

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# 1963 DIRECTORY

## of MANUFACTURERS AGENTS, REPRESENTATIVES and DISTRIBUTORS

★ The June 1963 Register of Manufacturers, Agents, Representatives and Distributors of Plumbing, Heating, Air Conditioning, Ventilation and Insulation materials available in the Republic of Ireland and Northern Ireland is now being prepared. The Directory this year will be greatly enlarged to accommodate the considerable number of additional entries which have been submitted for inclusion.

If you come under the heading of any of the categories listed on the right, we would ask you to submit complete details without delay. **A limited number of copies of last year's Directory are available should you wish to make alterations or amendments.** Names and addresses of Agents and/or Representatives should be included with all entries. If you require an agent, please indicate accordingly.

**Please Note!!**

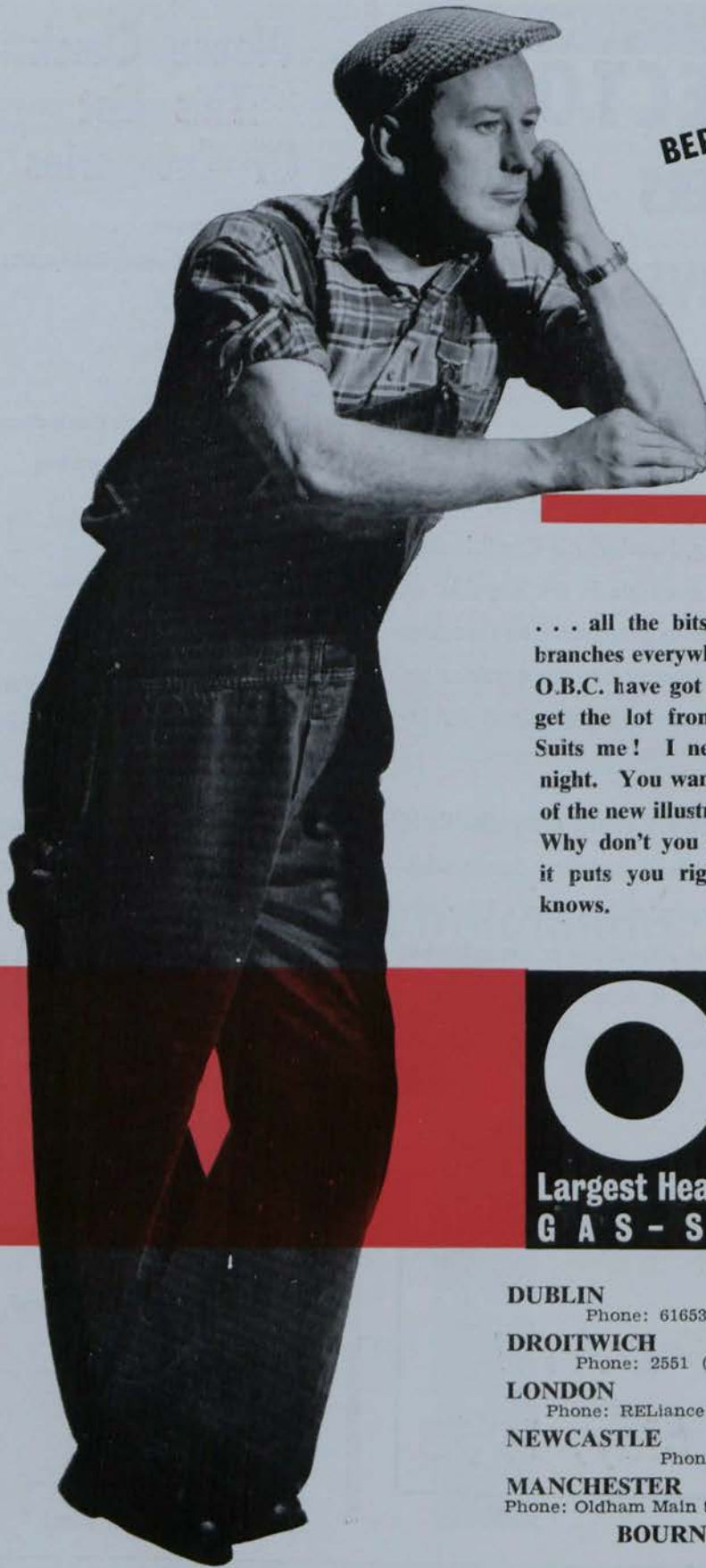
**CLOSING DATE**

**Saturday, 4th May, 1963**

### Please Check This List Of Categories

- Air Cleaners
- Air Conditioning Equipment
- Air Vents
- Air Washers
- Autoclaves
- Automatic Clock Controllers
- Blowers and Exhausters
- Boiler Controls
- Boiler Fittings
- Boilers (Domestic and Industrial),
- Burner Controls
- Burners, Gas/Oil/Solid Fuel
- Baths, Basins, Bidets and Sinks
- Calorifiers
- Chimneys, Tops and Cows
- Cisterns, Tanks & Cylinders
- Cocks
- Coils
- Compressors, Air and Gas
- Control Equipment and Controllers
- Control Panels
- Convectors
- Coolers
- Cyclones
- Drainage and Sanitation—Traps and Wastes
- Damper Regulators and Quadrants
- Dehumidifiers
- Draught Stabilisers
- Drying Apparatus
- Ducting
- Duct Heaters
- Dust Collecting Plant





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