

Summer 1972

Wright ahead

the Head Wrightson magazine



THE ANNUAL GENERAL MEETING

The Annual General Meeting of Head Wrightson & Co Ltd was held at Teesdale Works, Thornaby on Thursday 6 July 1972. The following are extracts from the Annual Report.

Results

The Head Wrightson group of companies made useful progress in the year ended 31st January 1972 against a background of recession and increasing difficulties in our principal markets at home and abroad.

Our turnover continued to rise as did the value of completed sales and the profit before tax rose from £750,900 to £1,109,200.

Group expansion

Having achieved a return to reasonable levels of profitability with a strong group structure and sound finances your company has been expanding its interests and intends to continue with this policy. During the year we completed the purchase of Steelcast Ltd to which I referred last year. This addition to the group gives us three steel foundry plants all on Teesside. We have been able during the year to reorganise the management structure and the pattern of output so that we now have three specialised and efficient foundries capable of producing about 8% of the United Kingdom's steel castings including many highly sophisticated alloy castings for the nuclear and petro-chemical industries. This reorganisation, as with so many of our activities last year, was unfortunately accompanied by a downturn in demand.

The market for steel castings, almost all of which go to capital goods producers, was poor in the second half of the year and has remained at a low level since. This meant that we were involved in redundancies which might have been avoided in more buoyant times.

The other and larger expansionary step we took during the year was our agreed offer for the shares of B & S Massey & Sons Ltd.

Massey and Head Wrightson have known each other for many years and we were aware that Massey had two interests which would fit in well with Head Wrightson's structure.

Firstly Massey have long had a leading position in the design and manufacture of forging hammers and presses. We for our part were looking for lines of proprietary machinery which could be added to the business already done by other companies in the group. We believe that we need to strengthen our involvement in detailed machine design, development and marketing. We also knew that Massey had some interesting development projects. One of these, the Rotaform, which is backed by NRDC, we are now installing in a new forging department on Teesside where the machine will be proved under production conditions. The principle of operation of the machine is novel and the results of its development promise to be exciting.

Secondly Massey has an important steel stockholding company, Alfred Simpson. This company, which specialises in stainless and alloy steels and in bright drawn bar, is one of the leading stockholders of stainless steels. The addition of this company to Head Wrightson provides a welcome spread of interests in the quicker turnover part of our business alongside our foundries and forges. We have stockholding centres in Manchester, in Cannock and in Sheffield at Bramall & Wax, and we intend to add to these in order to achieve national coverage. Since the end of the year we have decided to build a new warehouse in Swinton on the north-west side of Manchester, near the junction of motorways M6, M61 and M62.

It is our intention to seek further similar opportunities to extend the group in line with our policy of improving our range of proprietary machinery. Major additions, such as Massey, will be helpful to our companies and agencies overseas, who will all welcome a wider portfolio of products to sell in their territories. For some time we have been convinced that your group needed to be larger to compete more effectively in world markets. Both the engineering and the marketing disciplines demand substantial size in today's complex and still shrinking world. The Nixon administration's dollar devaluation, with its effect upon Japanese trading in Europe, and the coming Common Market membership for the United Kingdom mean that we must strengthen our design and selling abilities in depth. We shall be looking for opportunities in Europe as well as at home. *cont opposite*

Summary

The company has had an interesting and financially successful year. However, once again conditions have not been easy for the people working in the business. We have had to declare more redundancies than we would ever wish to experience again and we have seen quite a number of early retirements amongst people who would have preferred to work on. Your company is most importantly the people that work for it. They have had several hard years and deserve a better run. We hope that Government policy and world conditions will provide the increasing investment which is a universally declared aim. We would then be able to show in better times what we can achieve by our own efforts. Meanwhile we thank all those who have contributed to make 1971/1972 a year of change and progress for Head Wrightson.

Prospects

This time last year I expressed the hope that business would pick up within the year and that reasonable assistance would be forthcoming for exports. We have seen a welcome improvement in the rate of interest available for the financing of exports. This rate has come down from 7% to 6%. However, taking account of the general situation the Government has seen the need to change its policies by introducing Regional Development grants and by bringing in legislation which promises greater financial assistance to development areas. Most of our factories are on Teesside which is a development area and those that are not are mostly in intermediate development areas. We shall take advantage of these new provisions and will continue and increase our capital expenditure on new buildings, plant and equipment. I have mentioned both our plans for steel stockholding and our new Rotaform forging department. We shall also be spending money on new equipment for our foundries and on additional machine tools. All this is consistent with the policy we have been following over the past few years. However, there is no satisfactory substitute for a genuine revival in demand. When this revival does come the group's profits will shift upwards onto a new level. Until this revival we shall strive to do all we can to maintain progress.

GROUP RESULTS

Results of the group for the year ended 31 January 1972 were as follows :

	<i>turnover</i>	<i>profit before tax</i>
	£000	£000
UK Companies		
contracting	17,447	287
manufacturing	11,241	514
supply	6,665	342
Overseas companies	3,186	43
	38,539	
<i>Less inter-company sales</i>	3,700	
	34,839	1,186
Other expenditure <i>less</i> income		(81)
Trading profit		1,105
Interest paid		(25)
Investment income		6
Profit before tax		1,086
Tax		(458)
		628
Extraordinary items		(34)
		594
Post acquisition profits of Massey		23
		617
Dividends		398
Transfer to reserves		£219

WHERE THE MONEY WENT IN 1971/72

In the last issue of Wright ahead it was reported that Head Wrightson had acquired the Massey Group of Companies. In the twelve months ended 31 January 1972 the group employed an average of 5,098 persons, including those working at Manchester.

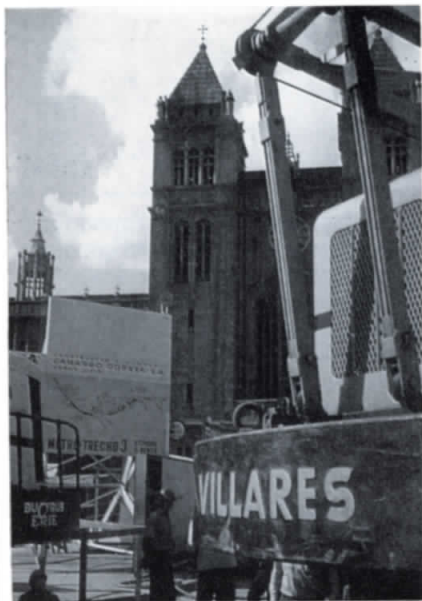
	£	£
On average, and including the Massey Group of Companies each person generated income from customers of		£7,820
To carry out this work, we had to spend :		
on buy outs	4,068	
on materials and services	1,594	
we had to set aside for depreciation of plant and equipment bought in previous years	113	5,775
each employee received an average wage or salary of together with benefits, including pensions costs, national insurance contributions and other benefits of	1,535	
part of the income was absorbed by taxes :	201	1,736
as tax on the group's net income	97	
as income tax deducted from dividends	34	
as rates to local authorities	46	177
that part of the income retained in the businesses to provide new equipment was		78
and part was paid to shareholders as follows :		
dividends paid by Massey prior to acquisition	6	
preference dividends	3	
ordinary dividends	45	54
		£7,820

£3M TUNNEL SEGMENTS FOR BRAZILIAN METRO

São Paulo, the fastest growing city in the world, has a major traffic problem.

With the prediction that it will also be the world's largest city by the end of the century, this problem is receiving careful study and already the go-ahead has been given for the first stage of an underground railway network to relieve traffic congestion on the roads.

The contract to manufacture and supply the tunnel lining segments



for this important project has been won by the Iron Founding Division of HW Foundries Limited, the result of 3½ years negotiations. This £3m contract is believed to be the largest export order for castings ever gained by a British company and has provided work for an extra one hundred men at Egglecliffe foundry. It was won in the face of stiff international competition and comes a year after Head Wrightson won a contract for a £2m sinter plant in Brazil.

It is therefore more than interesting to know a little more about this vast country whose borders encompass about half the population and land of South America.

continued on page 3



above left: Commencement of the construction of the metro entrance to the São Bento station with the Church of São Bento in the background.

above: The first tunnel segment rings being test erected prior to shipment from

Middlesbrough to Brazil. Due to the enormous interest shown by the citizens of São Paulo in their new underground system, the civic authorities have proposed that these two demonstration rings will go on public display in one of the main City squares.

Brazil

The old song, 'There's an awful lot of coffee in Brazil', pinpoints the country's traditional source of wealth and fame. Although it is still the largest exporter of coffee in the world, Brazil is rapidly becoming an urban and industrial centre of major importance.

About half the country's 70 million inhabitants live in the tiny south-east part of the country which includes the major cities of São Paulo and Rio de Janeiro and the trend is for more people to move from the country into the cities.

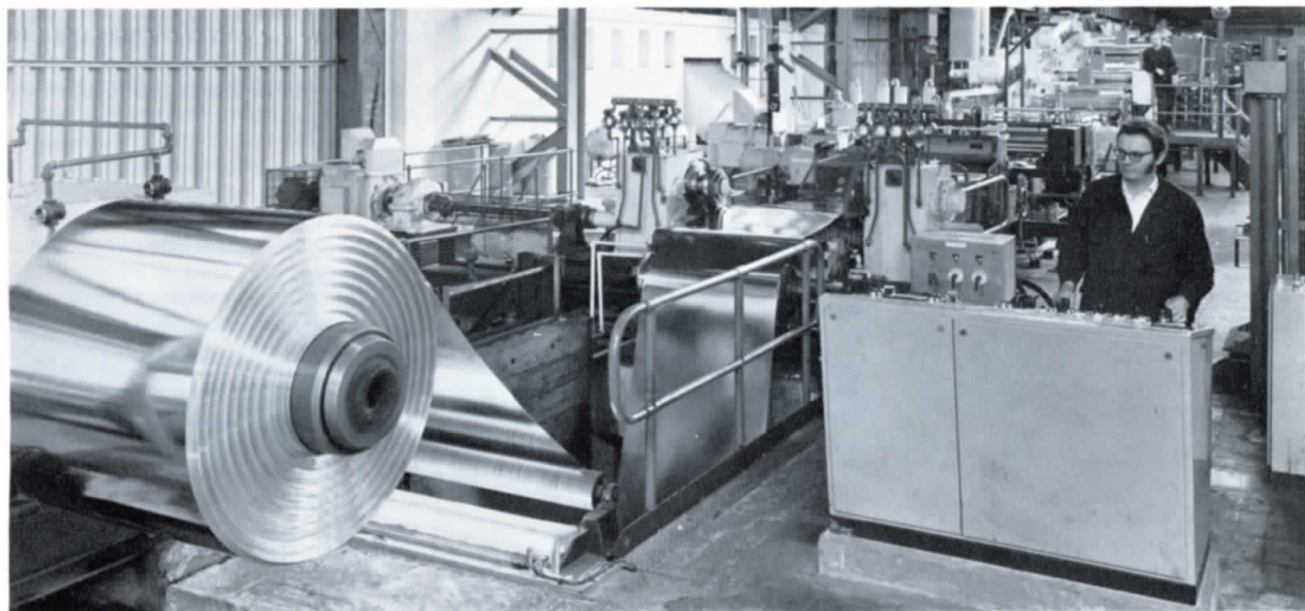
Foreign investment has helped greatly to increase the prosperity of this area which contains, for example, the biggest concentration of Swedish investments outside Sweden. The country's showpiece industry is the large West German Volkswagen factory at São Paulo.

Altogether there are approximately 700 foreign firms in Brazil. Immigration has also played an important part in the country's development. Brazil has attracted large numbers of immigrants ever since it was discovered and colonised by the Portuguese in 1500. Over 80 different nationalities are to be found in force though the main immigrant groups are Portuguese, Italian, Polish, German and Japanese. Here is to be found the largest Japanese community outside of Japan, numbering 500,000.

Growing pains

Due to late development, São Paulo is an ultra modern city of skyscrapers and extravagant modern architecture despite its 400 years history. A hundred years ago it was a shabby little town of 25,000 inhabitants. Today it has a population of six million and is growing at the rate of

150,000 a year. It is the most populous city in Brazil and the fifth largest in the world. Its soaring and curvaceous modern buildings (as can be seen on the front cover photo) typify the new spirit of Brazil: ambitious and industrially aware. The sudden and topsy-like growth of São Paulo has brought with it many problems too, not least of which is traffic congestion. Its prosperity has brought an estimated one million motor vehicles onto its streets—a figure swollen by 500 new vehicles each day. Added to this is the skyscraper office problem. The spread of skyscrapers has resulted in a vast number of people working within a comparatively small area of the city. When these offices close for the day the tumult in the streets below is hard to imagine. But further down still, beneath the roads, a remedy is on the way—one which Head Wrightson is helping to create.



MORE TINPLATE

Every year more food is packaged and despite the various alternative packaging materials now available the tin-can is still very much in the forefront and the demand for tinplate is expected to increase even further in the coming years. Two cut-up lines and an inspection and assorting line are the latest Head Wrightson plant additions to the BSC Tinplate Group.

They were supplied and recently commissioned at the Corporation's Velindre Works at Swansea. Modern electrolytic tinning lines produce tinplate of high quality but to satisfy the stringent requirements of the canning and food packing industry it is necessary to make a final inspection of the tinplate to ensure that any faulty sheets are separated from the prime sheets. The tinplate cut-up lines supplied by HW Machine Co are fully instrumented having ultra violet pin hole detectors, Beta Ray thickness gauges, counting equipment and the associated electronic control equipment to detect and to sort into separate piles—prime, pin-holed

and off-gauge sheets. The inspection and assorting line re-sorts the off-gauge sheets and also the sheets which can be reclaimed by further tinning through the hot-dip tinning line. Great Britain's entire output of 1,320,000 tonnes is produced in Wales at the Ebbw Vale, Velindre and Trostre Works. The HW Machine Company installed two ETL's at Ebbw Vale and one each at Velindre and Trostre as well as other allied equipment. The commissioning of these two cut-up lines follow hard on the heels of the heavy plate cut-up line commissioned at BSC Lackenby earlier this year.

STOCKTON FORGE

Stockton Forge is to be re-opened later this year to accommodate a new forging division of Head Wrightson & Co Ltd.

Although it is apt that the Norton Road Works should return to forging after years in general engineering, the new era of forging will be very different from its forerunner. The crash, bang, wallop, traditionally associated with this industry will not be returning to Stockton works because of a revolutionary development.

The centrepiece of the new division is a unique machine called the Rotaform. Unlike most forging machines, the Rotaform causes little noise and vibration and is highly automated. Forgings are produced from a single pair of dies. One die holds the metal and slowly presses it vertically into a wobbling die above. Because only a small part of the workpiece is subjected to pressure at any instant it is possible to produce forgings with one-tenth to one-twentieth of the operating force needed on conventional machines. The type of forgings



produced are mainly circular and highly suitable for the automotive industry. They include flanges, bevel pinions, clutch discs and gear blanks.

Developed by our new associates, B & S Massey Ltd with financial assistance from the Government, it has successfully passed all laboratory tests and will now undergo production trials at Stockton.

One of the main aims of the new

Division will be to demonstrate this machine's efficiency in production and gather information about its performance, to assist in the eventual marketing of the Rotaform. Already the machine has attracted a great deal of international attention. Although the new division is only expected to provide work for about 50 men, it is good to know that 'Stockton Forge' is back in production.

GAS CLEANING PLANT

HW Process Engineering Limited have been awarded a turnkey contract for gas cleaning equipment worth over £200,000. The contract is to design, supply, erect and commission a gas cleaning system serving two new 132 tonnes electric arc furnaces to be installed at Round Oak Steelworks Limited, Brierley Hill, Staffordshire.

The system includes combustion chambers, water-cooled 'elbows', orifice saturators, flooded disc scrubbers, mist eliminators, inter-connecting ducting, induced draft fans and effluent treatment plant.

Design work has started at the HWPEL Thornaby offices and the system will be connected to the first furnace in mid 1973. The second furnace is expected to be installed and ready for connection to the system a year later.

ETHYLENE TOWER FOR KOREA

The tower shown below, manufactured by Grosvenor Steel Fabrications Ltd, Audenshaw, was

photographed prior to despatch to Liverpool Docks, on the first stage of its 24,000 km journey to Korea.

This Class I Tower 914 mm diameter x 36.58 m long, weighing 22 tonnes, is part of a large order received from Procon (GB) Ltd, who won the order from the Korean Pacific Chemical Corporation.

The vessel was manufactured within a 10 week period and was delivered on schedule.



MARKETING NEWS-

Massey at Olympia

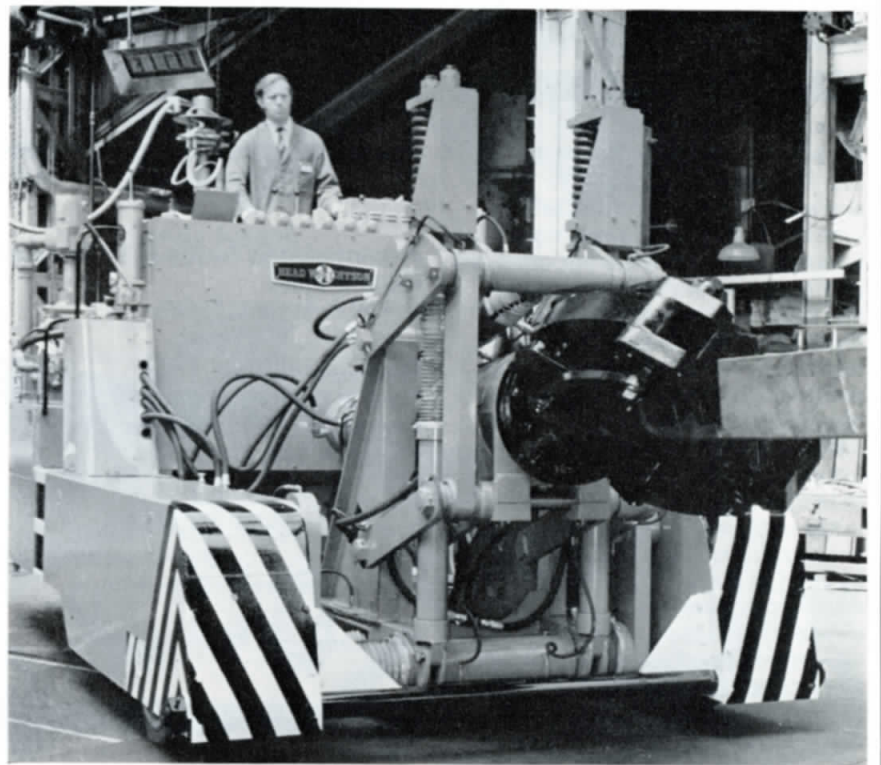
At the 1972 International Machine Tool Exhibition at Olympia from 21 June to 1 July, B & S Massey exhibited on Stand 33 in the Grand Hall and based their presentation on the Rotaform (which is mentioned in the Stockton Forge article on the opposite page), the Massey MSC Drop Hammer and Headgear conversions, the Wide Ram Trimming Press as used at HW Stampings and two German machines which Massey market in the UK—the Banning GOA Die-Forging Hammer and the Kera Key Driver.

The Rotaform in particular attracted a great deal of attention and, subject to the production trial programmes to be carried out at Stockton, this new product should prove a very good sales proposition. Among the many overseas visitors to the exhibition was a Chinese Trade Mission who showed much interest in the Massey machines and consequently arranged a visit to the Openshaw works on Tuesday 11 July. The photograph *above right* shows the Chinese Trade Mission during the visit to B & S Massey inspecting a Forging Press ram casting supplied by HW Foundries—Steelcast Division. Also in the photograph are *left* JH Callaghan, Sales Director; *centre left* W Carnall Director; *extreme right* CN Massey Export Sales Manager, next to H Prescott Works Director.

Massey have a long history of trade with the Chinese and in recent years have supplied to China two Double Acting Air Hammers, a 1830 tonnes Forging Press complete with tools and a Use Roller.

HWM mobile manipulator

Members of the Forging Industry and representatives of the Technical Press attended a special demonstration of a 26½ tonne mobile manipulator at the HW Machine Company last month. This particular manipulator capable of handling steel billets up to 2,700 kg, was built for Messrs Tata of India, whom Head Wrightson previously supplied with a 1,800 kg unit of similar design. The manipulator demonstrated was capable of handling up to 610 mm round or square billets and up to



4.3 m long with a maximum weight of 2,700 kg. It will transfer billets between a reheat furnace and a forge hammer. This is a completely mobile machine running on rubber tyred wheels and driven by a hydraulic motor traction drive. The hydraulic pump set is driven by a 60 hp dc motor. The power supply cable is connected to a cable reel and gives the manipulator a travel arc of 30 m. It is also extremely manoeuvrable due to the tricycle carriage design which allows the machine to turn in its own length.

HW Machine Company manufacture a full range of mobile manipulators and furnace chargers up to 13,500 kg capacity as well as fork lift truck attachments. These are probably some of the lesser known products of HWM being sold alongside their multi-million pound processing lines.

above: The manipulator shows its manoeuvrability whilst handling a steel billet during the demonstration at Middlesbrough works.

EMPLOYEES' COUNCIL ANNUAL ACCOUNTS

A summary of the Annual Report and Accounts for the year ended 31 December, 1971 are presented herewith by the Finance Committee. (Figures in brackets represent 1970 accounts.)

General Fund

The Accounts of the Fund show a surplus of £639 (£486) for the year. Sickness Grants amounted to £3,244 (£3,501) and the number of grants 809 (873). Income from employees was £11,468 (£10,598).

Social & Athletic Association Funds

The Recreation Ground Fund again showed a surplus, of £333 (£98) which is a welcome result. Your Finance Committee are not unaware of the cost of running the ground and other facilities and realise that repairs particularly are always necessary, which observation was made in the Report two years ago, therefore any current surplus must not be regarded as anything but for future necessary needs.

In last years report mention was made of the expenditure which had been approved for the purpose of improving the facilities of the Social Club and Sports Pavilions. The effect of this expenditure in this year is particularly reflected in the Bar Account which shows a surplus of £741 (£333).

Sales were £9,834 (£6,518) giving a % profit on sales of 19 (17). On the face of it this result looks good and an examination of the account also shows an increase of £474 from 'other efforts' £1,104 (£630) which is extremely good. However, it should be noted that this increase of £474 has been absorbed by increases in the cost of Steward, bar Staff and Cleaners £1,228 (£766) an increase of £462.

Thanks are again due to the Company for their continued, and in fact increased, support and to all officials who have contributed in any way.

S Bates, *Chairman, Finance Committee* July 1972

The results for the year to 31 December 1971 were as follows:

	£	£	£
Income			
Employees' Contributions		11,468	
Company's Contribution		1,000	
Investment Income <i>less</i> tax		374	12,842
Expenditure			
Charitable organisations:			
Manor House Hospital	4,555		
Ropner Convalescent Home	750		
British Red Cross Society	175		
Dr. Barnardo's Homes	125		
Institute for the Blind	50	5,655	
Sickness Grants etc to Employees		3,244	
Employees' Children's Pantomime and Gifts to Retired Employees		857	
Social & Athletic Association		2,067	
Miscellaneous expenditure		47	11,870
Excess of income over expenditure			
General Fund		639	
Social & Athletic Fund		333	972
<i>add</i> Social Club Account as follows:			
Bar Sales	9,834		
Income from 'Special Efforts'	1,104	10,938	
<i>Less</i> Expenditure		10,197	741
Total surplus for year			£1,713

The following is a summary of the Balance Sheet

	£	1971 £	1970 £
Accumulated funds at 31 December			
General Fund		11,749	11,010
Social & Athletic Funds		1,671	697
		£13,420	£11,707
Represented by			
Cash at Bankers and in hand		3,658	3,046
Deposit Accounts and Short Term Loans		2,959	5,787
Investments <i>less</i> reserve		4,138	4,138
Debtors		134	796
Bar Stock		706	504
Furniture and Fittings		—	149
Social & Athletic Club Modernisation Scheme	6,651		
<i>Less</i> Company Contribution	1,000	5,651	—
		17,246	14,420
<i>Less</i> Creditors		3,826	2,713
		£13,420	£11,707

ROPNER CONVALESCENT HOME

The HW Employees' Council is a subscribing body

Any member requiring information or advice about the Home should contact the HW representative—
P Robbins *Teesdale Bridge Yard* or
G Wilks *Personnel Dept Yarm.*



Head Wrightson & Co Ltd/organisation



Sir John Wrightson



John Eccles



W H Adams



James Iveson



T O'Connor



The Friarage, Yarm

HW & CO LTD

Yarm Yorkshire

main board of directors
 Sir John Wrightson Bt TD DL *chairman*
 John Eccles *managing director*
 W H Adams
 The Rt Hon The Earl of Halsbury FRS
 Sir Cyril Hawker
 James Iveson
 Alastair Morton
 T O'Connor

CONTRACTING

Head Wrightson Process Engineering Ltd

Thornaby Teesside London
W H Adams *managing director*

design and contracting :
iron making and steel making plant/sintering plant/
mineral dressing, ore pelletising and non-ferrous
metallurgical plant/coal preparation plant/
incineration and composting plant/water and
effluent treatment plant/fume cleaning plant/
heat exchange equipment/
cooling towers

Head Wrightson (Management) Ltd

Yarm, Yorkshire
group administration/
research and development

James Iveson *secretarial*
Dr C Rounthwaite *research and development*
D N Spark *contracts*
P F Hargreaves *accounts*
J H Doran *personnel*
G Gowthorp *business development*
R Z Barr *export sales*

SUPPLY

Alfred Simpson Ltd

Openshaw Manchester

E V Davies *managing director*

processors and stockholders of
stainless steel, bright and black carbon
and alloy steels and corrosion
resistant fasteners

Bramall & Wax Ltd

Sheffield

G Wax *managing director*

processors and
stockholders of alloy steels

Head Wrightson Foundries Ltd

Steelcast Division

Thornaby, Stockton-on-Tees and
Billingham, Teesside

J Henderson *general manager*

carbon, manganese and alloy
steel castings

Iron Founding Division

Eaglescliffe, Stockton-on-Tees,
Teesside

J H Taylor *managing director*

ingot moulds/tunnel segments/
engineering castings

Head Wrightson Stampings Ltd

Seaton Carew, Co. Durham

F Brown *managing director*

drop forgings in steel and alloys

MANUFACTURING

**Head Wrightson
Teesdale Ltd**

Thornaby Teesside

R J Edwards *managing director*

design and manufacture :

iron and steel works equipment/nuclear power plant/heat exchangers/
dock and harbour equipment/special railway wagons/colliery plant/
metalliferous mining equipment/drying, grinding and classifying equipment/
chemical and petrochemical equipment

B & S Massey Ltd

Openshaw Manchester

J Foster *technical director*

A J Howard *commercial director*

design and manufacture :

metal forming machines and general
engineering

The Head Wrightson Machine Co Ltd

Middlesbrough Teesside

T O'Connor *managing director*

design and manufacture :

equipment for manufacturing steel
and non-ferrous tubes and for
working, processing and coating steel
and non-ferrous sheet strip and plate

Grosvenor Steel Fabrications Ltd

Audenshaw Lancashire

E I Ford *general manager*

welded fabrications in mild steel,
stainless steel and non-ferrous metals

OVERSEAS COMPANIES

Indein-Wrightson SA
Madrid
A Philipson
general manager
design and contracting

**Head Wrightson & Co
South Africa Ltd**
Johannesburg
E Brown *managing director*
design and contracting

**Head Wrightson
India Ltd**
Calcutta
K K Datta Gupta
general manager
design and contracting



**United Consortium
(Chile) Ltd**
Santiago
C Cowell *director*
management of a contract
for the development of
copper mining and
refining facilities in Chile

**Head Wrightson
(Australia) Pty Ltd**
Sydney and Perth
J Wright *managing director*
design and contracting

**Head Wrightson
(Sudamericana) Ltd**
Buenos Aires
G Moody *manager*
sales

FROM THE FAMILY ALBUM

Three photographs with a flavour of bygone summers of the 30's will no doubt bring back memories to many of our long service employees and retired veterans.

The bowls photograph *below*, taken on the occasion of a Staff v Inspectors bowls tournament on 25 June 1937, was the first of a series of annual matches innovated by Mr G Gore for the promotion of goodwill between visiting inspectors and works staff. It proved to be highly successful but regrettably the event lapsed because of the war. Many well known personalities are shown including Charlie Gill, Ted Littlewood, Dave Barclay, Jake Lawson, Ossie Greenwell, George Smith, Alf Wilkinson, John Franklin,

Willy Scott, Andrew Readman, Bert Mustard, Wilf Wardell, George Allen, Ossie Bell, John Waller, Fred Taylor, Bob Lyle, Wilfred Wrightson, Malcolm Blair, Peter Wrightson, George Gore, John Mercer, Frank Walker and 'Timber' Thompson. The cup, which was cast in the iron foundry, was on this occasion won by HW. The following year it was 'arranged' that the Inspectors should win (no doubt to maintain continued good relations) and individual medals were also struck by the iron foundry together with a special medallion for the captain, which 'weighed a ton'. The latter was kept secret and at the presentation of the awards the Company Secretary Mr T Thompson made light work of the medallion and proceeded to hang it round the captain's neck, which was dutifully bowed to receive the award—well, you can imagine the result.

The Charabanc outing *bottom photo* was the occasion of Sir John Wrightson's 21st birthday celebrations in June 1932 and shows the works contingent prior to leaving Teesdale Works for Neasham. It is difficult to recognise people other than those in the forefront (*right to left*) Billy Close, T Thompson, Jack Watts, Miss Thompson, R N Allison and fourth further along Frank Marriott. The vintage car, an Armstrong Siddeley, was one of the Company's first works cars. Finally, the Stockton Forge cricket team *photo left*, winners of the 1939 (or was it 1938?) interdepartmental competition. Certainly there are some recognisable 'young' characters here. Ernie Atkinson, Bob Featherstone, Bob Thompson, John Willy Smith and Ron Ingledeew.



mm 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

METRICATION

2 1 1 1 0 1 6 8 7 9

Further thoughts on going metric

It is now five months since it was the declared policy of the HW Group to accept the SI Metric System as the preferred system of units. Documents and papers have been prepared, circulated and read. Metric Information sheets have been issued and most of us know what is meant by metrication—or do we? How to effect it and put it into operation is another matter! It is not expected that we all become 'metric whiz kids', but it is vitally important for us to know just what metrication is about and how it is to be applied.

Conversion pitfalls

One school of thought is to leave it to the intelligence of others giving them a large book full of conversion factors, that is, the conversion number by which you multiply the familiar unit to get the numerical value of the new unit—or do you divide? Do you know how to apply the conversion factor? If you are not sure, you have a 50/50 chance of getting the answer wrong. A prime example of this situation was shown in the last edition of 'Wright ahead' (later rectified) when many weights were shown in British and metric i.e. Imperial tons were converted to metric tonnes (1 ton = 1.016 tonnes or 1 tonne = 0.984 tons, which conversion factor is used?) In 'Wright ahead' the good intention of demonstrating the metric values went wrong by using a conversion factor incorrectly. Therefore in converting—

THINK & CHECK and quickly assess whether the conversion value of the new unit should be more or less.

For example:
 1 ton = 1.016 tonnes
 $\therefore 273 \text{ tons} = \frac{273}{1} \times 1.016 \text{ tonnes}$
 $= 277.368 \text{ tonnes}$
 (more than 273)

and again
 1 tonne = 0.984 tons
 $\therefore 273 \text{ tonnes} = \frac{273}{1} \times 0.984 \text{ tons}$
 $= 268.632 \text{ tons}$
 (less than 273)



PETROLEUM 5 gals—23 litres

Key factors v tables

The HW Metrication Committee do not recommend that extensive use is made of key conversion factors and official metric information documents issued by HW for general use do not offer conversion factors. What is acceptable is to have conversion tables which give the appropriate value of the new units and comprehensive tables have or will be issued for direct use. (*The key conversion factors shown as illustrations to this article are merely for general interest only*). Quite clearly, to avoid errors, which could be catastrophic, the use of conversion tables is the system to adopt during the changeover period. In a way, it is perhaps regrettable that the volumes of conversion tables now available will undoubtedly prolong the complete changeover to metrication—for is it not the human factor which rejects change?

LUGGAGE 33 lbs—15 kilograms



New language

The alternative approach would be to reject the old system and replace it fully with the new system as with Decimalisation. This would mean shock treatment but it would be relatively quick and would certainly eliminate the many difficulties and errors which arise from the use of two systems working together. Perhaps the main difficulty is the obvious temptation to compare value and worth with the old familiar measures. If the attempt to compare can be eliminated the value of the unit in the new system will be recognised. In recent years British children have accepted this in their schooling and to them a litre is a litre *not* 1 3/4 pints, similarly 100 grams is 100 grams *not* 3 1/2 ozs. In order to reject the old imperial system it is necessary to think in the new system. It is like a foreign language, when you start to think in the new language it becomes easy. Conversation is slow and limited in interest if the text is restricted to that which can be translated. Living in that foreign country and talking to the natives, enables you to quite quickly join in and in so doing, you are thinking in that language. So it is with the metric system, which is really only a universally agreed and understood language of units and the acceptance of this new language by the UK is a vast step forward towards even greater international communication.

Decimalisation

It is only some 18 months ago that the UK created an immense upheaval in itself by decimalising its currency. Admittedly, some of us still refer to 'two bobs' and 'ten bobs' but the changeover was an outstandingly successful operation and costly though it was, the immense future benefits to education and commerce are incalculable. In our everyday lives, the majority of us, and in particular those who handle money more frequently such as shopkeepers and housewives, have fully accepted the new system without any undue difficulty. It is perhaps those who are still trying to compare the value of the new money with the old £ s d that are still experiencing difficulty.

Consumer products

The consumer market is still using ins, ft and yards, ozs, lbs, stones and cwt, therefore complete rejection of the British system of measurement is difficult. There are, however, changes of a minor nature occurring, and most packaged foods now show the metric equivalent—1 lb jar of jam is 454 grams. If, initially, the housewife *had* to compare the two units, the amount of re-thinking involved in a general change to metric would not be very great, for a $\frac{1}{2}$ kilogram of butter is only about 10% heavier than a pound and a $\frac{1}{2}$ -litre of milk about 10% less than a pint, whilst a metre of curtain material is well within 10% of being a yard.

Revolutionary change

The metrication of weights and measures is a very complex business and implies changes of standardisation covering everything from rivets to shoe sizes, but it is a natural follow-on from the decimalisation of currency. The acceptance by the UK of such revolutionary breaks with the past is one for which our generations to come will be extremely grateful. The difficulties involved for many of us by these changes are readily understandable, but when necessary, the human mind can be very versatile, and eventually we will change our ways of thought easily enough towards accepting signs on the M.1. which read: LONDON 142 Km. **BUT** will we be driving on the left or the right of the road?—oh no!—when and where is it all going to end!

Some conversion factors

Weight

Metric	British
1 gram (g)	0.04 ounce (oz)
10 g	0.35 oz
25 g	0.88 oz
50 g	1.76 ozs
100 g	3.53 ozs
250 g	8.82 ozs
500 g	1.10 pounds
1 kilogram (kg) (1000 g)	2.20 lbs
10 kg	22.05 lbs
25 kg	55.12 lbs
50 kg	110.23 lbs
100 kg	220.46 lbs
250 kg	551.16 lbs
500 kg	1102.31 lbs
1 tonne (1000 kg)	2204.62 lbs (0.98 tons)
10 tonnes	9.84 tons
25 tonnes	24.61 tons
50 tonnes	49.21 tons
100 tonnes	98.42 tons

Length

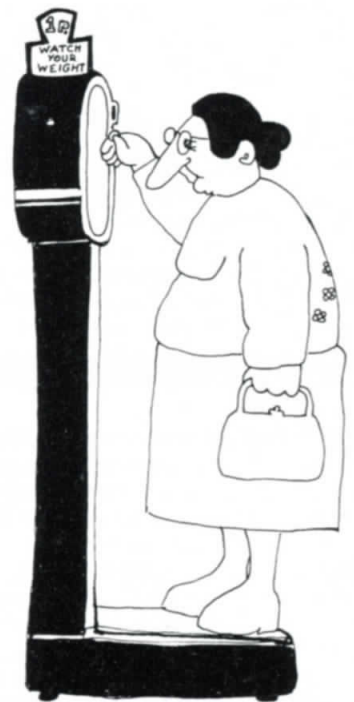
1 millimetre (mm)	0.04 inch
10 mm	0.39 in
25 mm	0.98 in
50 mm	1.97 ins
100 mm	3.94 ins
250 mm	9.84 ins
500 mm	1.64 feet
1 metre (m) (1000 mm)	3.28 ft
10 m	10.94 yards
25 m	27.34 yds
50 m	54.68 yds
100 m	109.36 yds
250 m	273.40 yds
500 m	546.81 yds
1 kilometre (km) (1000m)	0.62 mile
10 km	6.21 miles
25 km	15.53 miles
50 km	31.07 miles
100 km	62.14 miles

Volume

$\frac{1}{2}$ litre (l)	0.88 pint
1 litre	1.75 pts
$2\frac{1}{2}$ litres	4.38 pts
5 litres	1.10 gallons
10 litres	2.20 gals
25 litres	5.50 gals
50 litres	11.00 gals
100 litres	22.00 gals

Some British/Metric Conversion factors

1 inch	—	25.4 millimetres
1 foot	—	304.8 millimetres
1 yard	—	914.4 millimetres
1 mile	—	1.6 kilometres
1 pint	—	0.6 litre
1 gallon	—	4.5 litres
1 ounce	—	28.3 grams
1 pound	—	453.6 grams
1 stone	—	6.4 kilograms
1 cwt	—	50.8 kilograms
1 ton	—	1016.0 kilograms



Hospitals and doctors are increasingly using kilograms for personal weights instead of stones and lbs. Why not calculate your weight in kgs?

lbs	kg	Stones	kg
1	0.5	1	6.4
2	0.9	2	12.7
3	1.4	3	19.1
4	1.8	4	25.4
5	2.3	5	31.8
6	2.7	6	38.1
7	3.2	7	44.5
8	3.6	8	50.8
9	4.1	9	57.2
10	4.5	10	63.5
11	5.0	11	69.9
12	5.4	12	76.2
13	5.9	13	82.6

SPORT & SOCIAL

The 1972 Interdepartmental competitions

The number of entries in this year's interdepartmental events were as follows:

Bowls—single rink 23 teams (4 players)

Bowls—three rink 9 teams (12 players)

Cricket 10 teams

Darts 16 teams (5 players)

Darts—individual 53 entrants

Football 15 teams

At the time of going to press the weather has played havoc with the bowls and cricket fixtures with some of the June and early July evenings at Teesdale Park being more appropriate to mid-winter. In fact the football competition fixtures played in April and May had better weather conditions.

Football

The football competition provided some really entertaining games and one of the semi-finals between the two Bridge Yard entries provided a mini-Wembley atmosphere with supporters carrying banners and rattles. The grand final provided an exciting game between last year's champions HW Stampings versus Teesdale Bridge Yard 'B' team with Teesdale emerging as the victors. During the celebrations in the Social Club following the match the trophy was presented to Tom Davies *Bridge Yard Captain* by Stan Rickaby a former HW employee who played for the HW football team prior to his professional football career, when he played for Middlesbrough, West Brom and England.

above right: Teesdale Bridge Yard 'B' team—winners of the 1972 Interdepartmental Football Competition.

Back row left to right

C Newton, K Woodhouse, J Baldwin, G Gascoyne, B Dolan, L Wilson, H Wardell.

Front row left to right

M Cronesbury, J Pepper, E Allsop, T Davies *Capt*, W Rogers, G Rogers.

below right: HW Stampings team—1972 finalist runners-up

Back row left to right

T Skirving, M Day, B Rigby, N Pratt, E Brown, G Thomas.

Front row left to right

D Hunt, B Murray, A Boylan, J Loughlan, I Thompson, J Hutton *Capt*.

HW bowls section

The Club Champion for 1972 is Jack Harris *HW Machine Co* who will be the HW representative in the Champion of Champions Tournament in September.

The small but very keen Ladies Section, which was formed only this season, arranged a pleasant surprise on Club Championship Day by providing tea for all the competitors. A very big thank you ladies for your kindness.

Generally, the bowls section looks like having a successful season, being well placed in the various local leagues and also in the Marshall Shield which is a knockout competition for the Champion Club of Yorkshire. The club is indeed proud that four members, L Berry, J Jones, T Dobson and A D Lackenby are playing regularly for Yorks County.

Incidentally, the bowling green is a very popular afternoon rendezvous for quite a number of our retired personnel and their wives.

HWM Staff Benevolent Social Fund

The annual Bowls Drive was held on 8 June at Teesdale Park. Eighteen members took part in a very entertaining evening, when for the second year running Stan Woolard was declared the winner.

The second Miniature Golf Championship was held at Eston on 22 June. Unfortunately, out of 18 entrants only 8 were brave enough to participate in the bad weather conditions.

It was reported that traffic was brought to a standstill while John Bewley made a successful chip from the road.

Roger Cooper, last year's champion, made a desperate attempt at the 18th hole to retain the title with a tremendous drive which travelled all of one inch (sorry 25 mm) from the tee.

This year's champion was Cyril Riseborough who returned a 76.



Senior Staff Guild

A variety of events to suit all tastes comprised the summer programme of the Guild.

On 14 June, a visit to Seaton Nuclear Power Station was thoroughly enjoyed by all the party which included several 'very interested' HW nuclear personnel as well as some 'critical' Bridge Yard characters! This was followed at the end of June by a sea fishing evening at Hartlepool where the party took to the boats for four hours fishing in the North Sea, which, fortunately for our landlubbers was described as 'like a mill pond'.

The annual bowls drive in association with the HW Bowls Club took place on 6 July and provided a most entertaining evening for 'pros' and 'novices' alike. Refreshments and the prize presentation took place in the Social Club following the game.

The events for August included a Golf evening (for the personal pleasure of the President Ron Snowden *Iron Foundry*.) and a visit to Bowes Museum later in the month when ladies were also invited to join the party.

A visit to BSC Lackenby works is in hand for Thursday 14 September.

HW Social Club

In addition to the popular Bingo sessions which are held at 9 pm every Friday and Sunday evening, Saturday is now the swinging night at the Club since the Bar Committee successfully launched its policy of engaging artists to provide entertainment which is now a regular feature of the Club's weekend activities.

The Committee are also planning to introduce some 50/50 dance nights during the coming season the first of which will be held on Wednesday 20 September.

The following officials of the Social Club were elected at the AGM held on 25 May.

Secretary H Hunt *Teesdale Bridge Yard*

Treasurer W Ferguson *Maintenance Garage*

Committee J Bradford *Teesdale Bridge Yard*

Committee K Moody *Teesdale Bridge Yard*

Committee R Hawkes *Associate*

Committee G A Mathias *Associate*

Mr J H Hunt was appointed Entertainments Secretary and an ex-officio member of the Committee.

HW Works Band

BBC Radio Durham, in co-operation with BBC Radio Newcastle, are organising a brass band invitation contest to be broadcast in the months of September, October and November of this year. There will be sixteen bands drawn from the first and second sections of the league in Northumberland and Durham. The HW Works Band have been invited to participate in the contest, which will have two rounds on a knock out basis, eight programmes in the first round and four in the second. The four finalists will appear in a grand contest and concert to be held in the Sunderland Empire Theatre on 10 December, 1972, at which the adjudicator will be Eric Bell, who will also conduct the concert of massed bands.

On 22 October the Band is to take part in a massed band concert in Middlesbrough Town Hall, which is to be called 'Brass Band Prom'.

Bands taking part are :
Head Wrightson Works
Cargo Fleet Works
Marske and District
Lingdale Silver Band
South Bank Town Silver Band
Skelton Band

LADIES ONLY



For winter floral decoration to fill the gap between the last of the autumn flowers and the forced Christmas hyacinths why not collect and prepare some foliage which will last for months?

The secret is to pick the foliage while the trees are still green and after certain treatment the leaves will turn to their autumn colouring in the house without withering.

From a tree which is beginning to change colour, choose twigs or

branches on which the leaves are still green. Split the ends of the branches and stand them in a pail of warm water containing a little salt (one tablespoon to the gallon) for 24 hours. Next, mix some commercial glycerine (obtainable from most chemists) into double the quantity of hot water. Stir the solution thoroughly and while still warm stand the sprays in it to about three inches in depth : leave them for 10 to 14 days.

When the sprays have taken enough colour from the glycerine solution, remove them and dry the stems. Some people then lay them between sheets of newspaper and place under a heavy weight for a few days. This flattens the leaves and makes them more manageable for later use. This is the basic treatment for beech, oak, chestnut, laurel, box and ivy, but others can be tried.

Bullrushes, rose hips and hawthorn clusters also provide excellent winter decoration : merely paint them all over with thin gum or transparent nail varnish to prevent them shrivelling.

Delphinium, larkspur, cornflowers and golden rod are flowers which can be dried by hanging them

upside down in a dry airy spot away from the sun. They will dry like the popular everlasting statice and add colour to your winter arrangements. Varieties of foliage sprays, dried flowers and grasses will offer plenty of scope for imaginative winter arrangements.

DON'T FORGET

Saturday, 26 August
The Annual
Garden Produce
and Handicrafts Show
in the HW Social Club,
Teesdale Park, Thornaby

Entries open to all HW employees and their families

Vegetables, fruit, flowers, handicrafts, with various sections for children's entries.

All exhibits to be tabled by 2 pm.

RETIREMENTS

We wish each of the following personnel a long and happy retirement:

HW & Co Ltd

NC Lake 36 years' service
TH Stayman 49 years' service

R & D Division

AG Goodwill 39 years' service

HW Foundries—Thornaby

W Theaker 36 years' service
CW Turvey 11 years' service

HW Teesdale

AW Smith 26 years' service
TH Wain 38 years' service

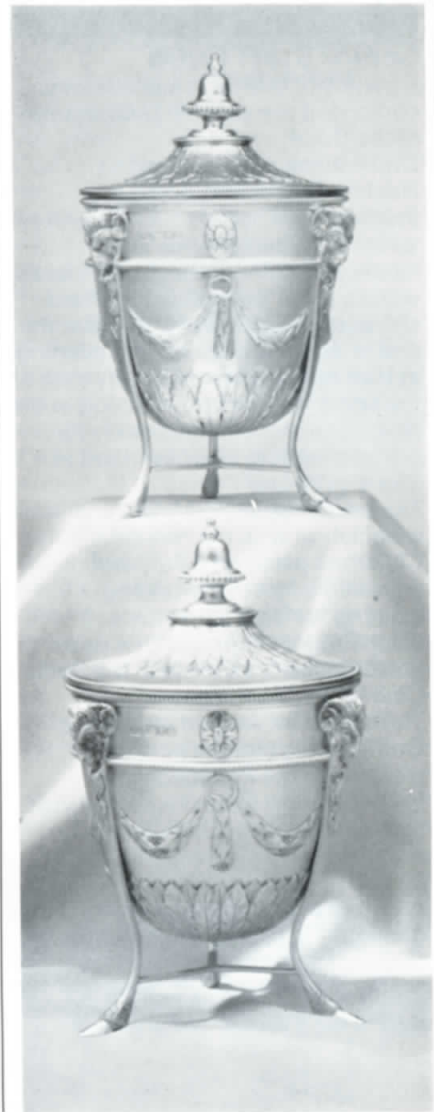
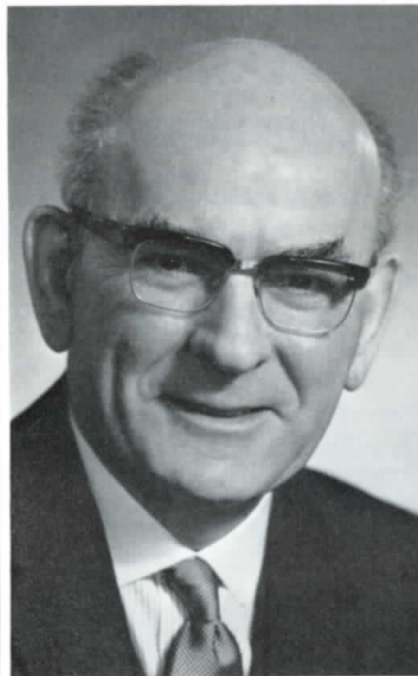
Mr N C Lake

This beautiful pair of Adam Style Sugar Vases, *far right*, made in London in 1909 by Carrington & Company, were presented to Mr Norman Lake on behalf of all his friends at Head Wrightson. The presentation was made by Mr John Eccles at a ceremony held on Thursday 8 June to mark 'NCL's' retirement after 36 years' service with the Company. Mr Lake joined HW in 1936 as Manager of the newly formed Steelworks Plant Dept. On the formation of HW Machine Co Ltd in 1946 he was appointed Director & General Manager and subsequently became the first Managing Director

of that Company.

In 1957 he was appointed Deputy Managing Director of Head Wrightson & Co Ltd a position which he held together with a directorship of all the HW subsidiary companies until his recent retirement.

Mr Lake *below* was a prominent and active member of a great many engineering and scientific associations and in 1970/71 was President of The Iron & Steel Institute, which was only the second time in its 100 years' history that 'a plant maker' has been honoured in this way.



Mr T H Stayman

Mr T H Stayman Director and General Manager of HW Iron & Steel Works Engineering Limited, from 1956, and subsequently appointed Managing Director in 1960, until 1967, recently retired from the Company after 49 years' service.

He has also relinquished the Chairmanship of the Employees' Council and the photograph *right* taken at the Employees' Council meeting held on the 25 May shows Harry *centre* being presented with a cheque on behalf of the Council by Jackie Hunter *Vice-Chairman*. Also in the photograph *left* is Joe Doran, who has been appointed the new Chairman of the Employees' Council.

We extend our good wishes to Harry on his retirement, and also offer many congratulations on the occasion of his marriage on Saturday, 24 June.



LONG SERVICE AWARDS

The Chairman, Sir John Wrightson, made the annual presentation of long service awards on Thursday 4 May. This year, in addition to the awards for 40 and 50 years' continuous service, the scheme was extended to include presentations to employees with 40 years' total service.

50 years' continuous service
GH Booth *HW Foundries Thornaby*
A Lackenby *HWR & D Division*

40 years' continuous service
F Goodman *HW Teesdale Machine Shop*
WC Grainger *HW Teesdale Engineering Dept*
WH Hopper *HW Foundries Thornaby*

G Howe *HW Foundries Iron Founding Div*
ED Nugent *HW Teesdale Stockton Bridge Yard*

40 years' total service
CE Gill *HW Teesdale Stockton Maintenance Department*



WG Lakey *HW Teesdale Stockton Bridge Yard*
H Squires *HW Teesdale Stockton Bridge Yard*
MV Wilson *HW Teesdale Thornaby*

top: Sir John with the recipients of Long Service Awards.

bottom: The ladies join their husbands for a group photograph of the 1972 awards proceedings.

BEST WISHES

Best wishes to newly weds Mr and Mrs R Kennerley. Susan Kennerley (nee Holligon) is in the Personnel Dept, Yarm.



THE 1972 AMATEUR SNAPSHOT COMPETITION

Our snap-shot competition this year is a little different from the previous ones, for the subject is :

A front cover photograph for Wright ahead

Wright ahead is published in the Spring (May), Summer (August) and Winter (December), the photographs can, therefore, portray any of these seasons or merely a photograph of general interest, or perhaps you have your own ideas on what you would like to see on the front cover!

The competition is open to all employees of the Head Wrightson group of companies who are invited to submit their own snapshots (not more than four in number) which, in their opinion, would make an ideal

front cover photograph for Wright ahead.

Entries may be black and white, or colour prints or even transparencies, but it must be remembered that our cover photographs have to be reproduced in black and white. The panel of judges will, therefore, take this into consideration, as well as looking for interesting photographs of good composition and technical merit.

A first prize of £5 will be awarded for the best photograph in the competition and other prizes will be given at the discretion of the judges. Send your entries with your name, company and department to :
F Mothersdale
Purchasing department
Head Wrightson Teesdale Ltd
PO Box 10
Stockton-on-Tees
Teesside
TS17 6AZ
Please mark envelope 'snapshots'
Closing date 13 October 1972
Entries returned 31 October 1972

Please note the organisers cannot accept responsibility for damaged or lost photographs.

CLOSING DATE 13 OCTOBER '72

Head Wrightson & Co Ltd

Yarm
Yorkshire
England
TS15 9DA

Telephone : Eaglescliffe 781010
Telex : 58-606
Cables : Teesdale Stockton-on-Tees

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