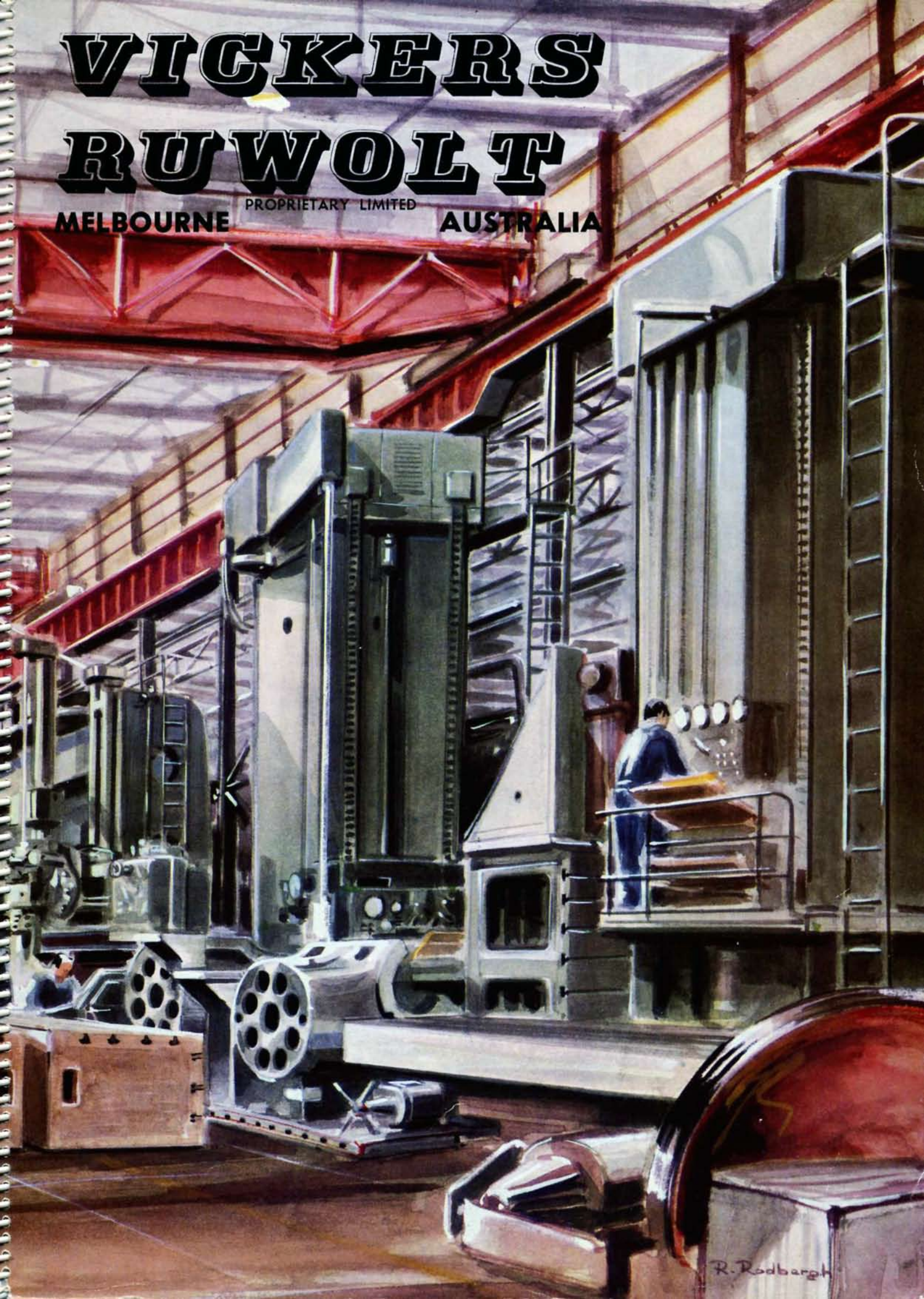
# VICKERS RUWOLT

PROPRIETARY LIMITED

MELBOURNE AUSTRALIA



# VICKERS RUWOLT PTY. LTD.

THE COMPANY had its beginnings in 1902 when Mr. Charles Ruwolt started a small engineering business in the Victorian township of Wangaratta, developing it so successfully that, at the time of his death in 1946, the works occupied the present site on 21 acres of land in Richmond, about three miles from the centre of Melbourne.

The business was registered as Charles Ruwolt Pty. Ltd. in 1908, and moved to Richmond in 1911. The early years at Wangaratta had provided experience with land dredges used for alluvial gold mining operations. Similar work continued after the company's removal to Melbourne where, for a further fifteen years, dredge building was a major activity, the dredges then being required for the recovery of tin in Malaya. This work was supported by orders for rock crushing, mining and cement making equipment. A steel foundry was added to the plant in 1914.

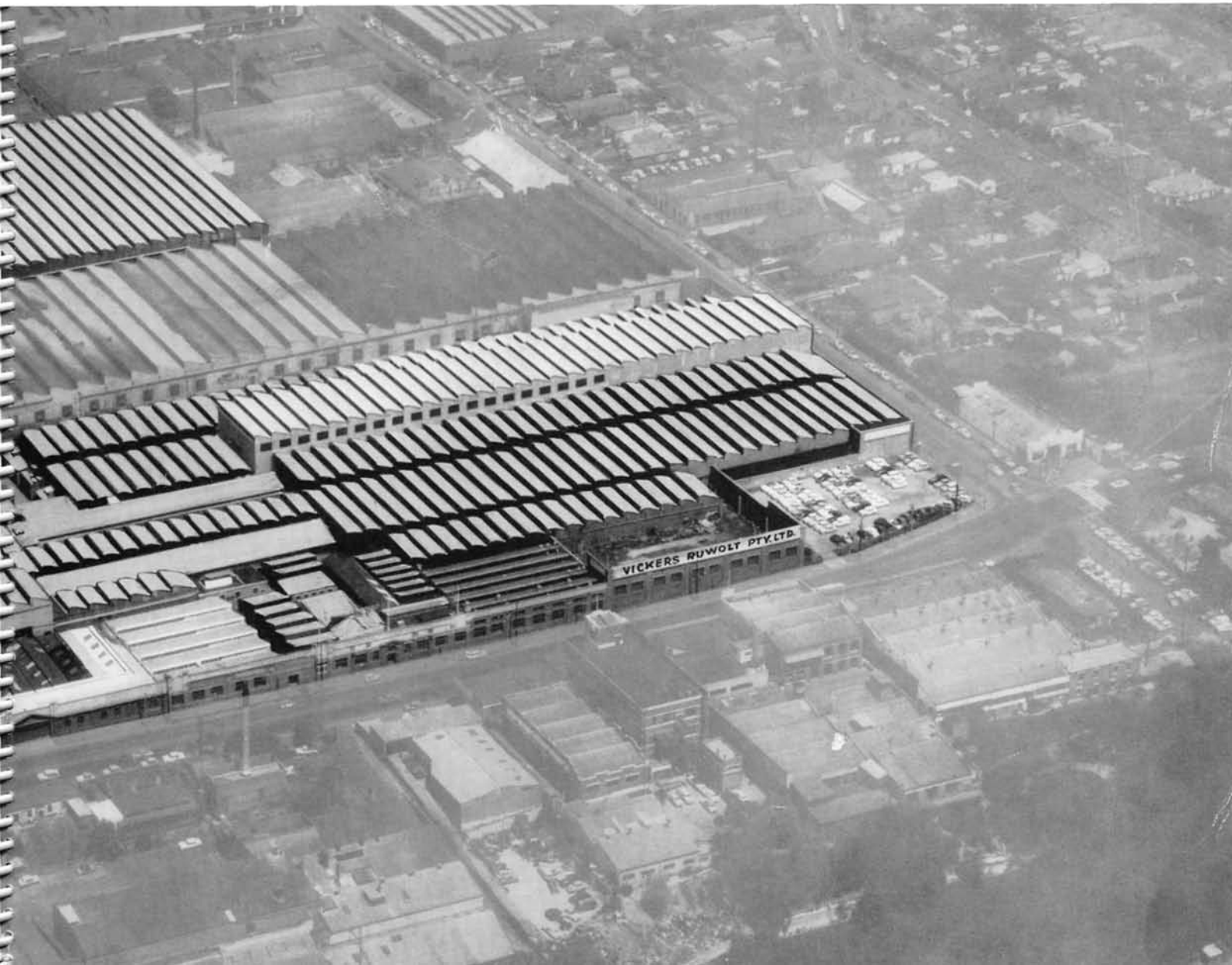
The company's last dredge was built in 1927. The connection with the rock crushing, mining and cement making industries was maintained and developed progressively to include production of specialised machinery for secondary industries using heavy equipment. Steel work for buildings and bridges was also undertaken.

During the 1939-1945 war, most of the company's equipment and resources were devoted to the manufacture of 25-pounder guns, mortar bombs and other defence projects. It was necessary at the same time to continue servicing the needs of other key industries.

In 1948, following the death of the founder, the business was acquired by Vickers Limited of London, and the company became a member of this important British group which operates prominently in the fields of ship-building, aviation, transport, brewing and general engineering.

Control, administration and general policy remain unchanged. The company continues to design and produce equipment for industry and to provide complete engineering services for new developments.

HEAD OFFICE AND WORKS AT RICHMOND, VICTORIA.

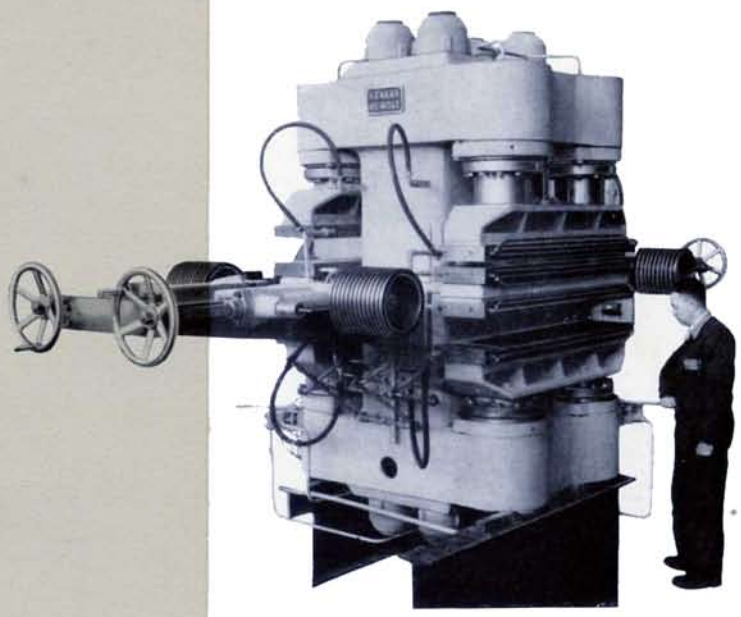


*From a concentration of trained*

*minds —*

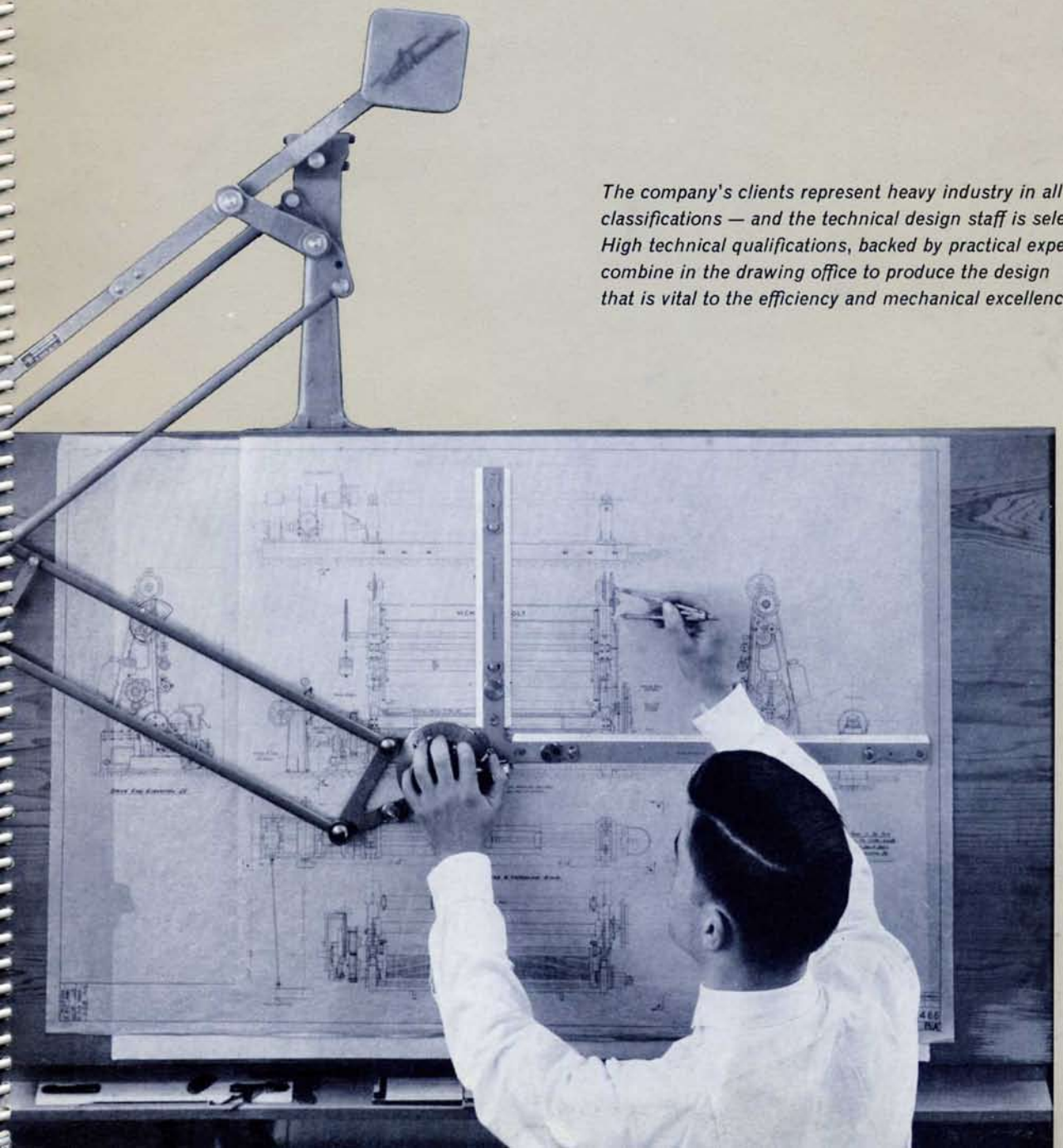
*emerges mechanical*

*excellence . . .*

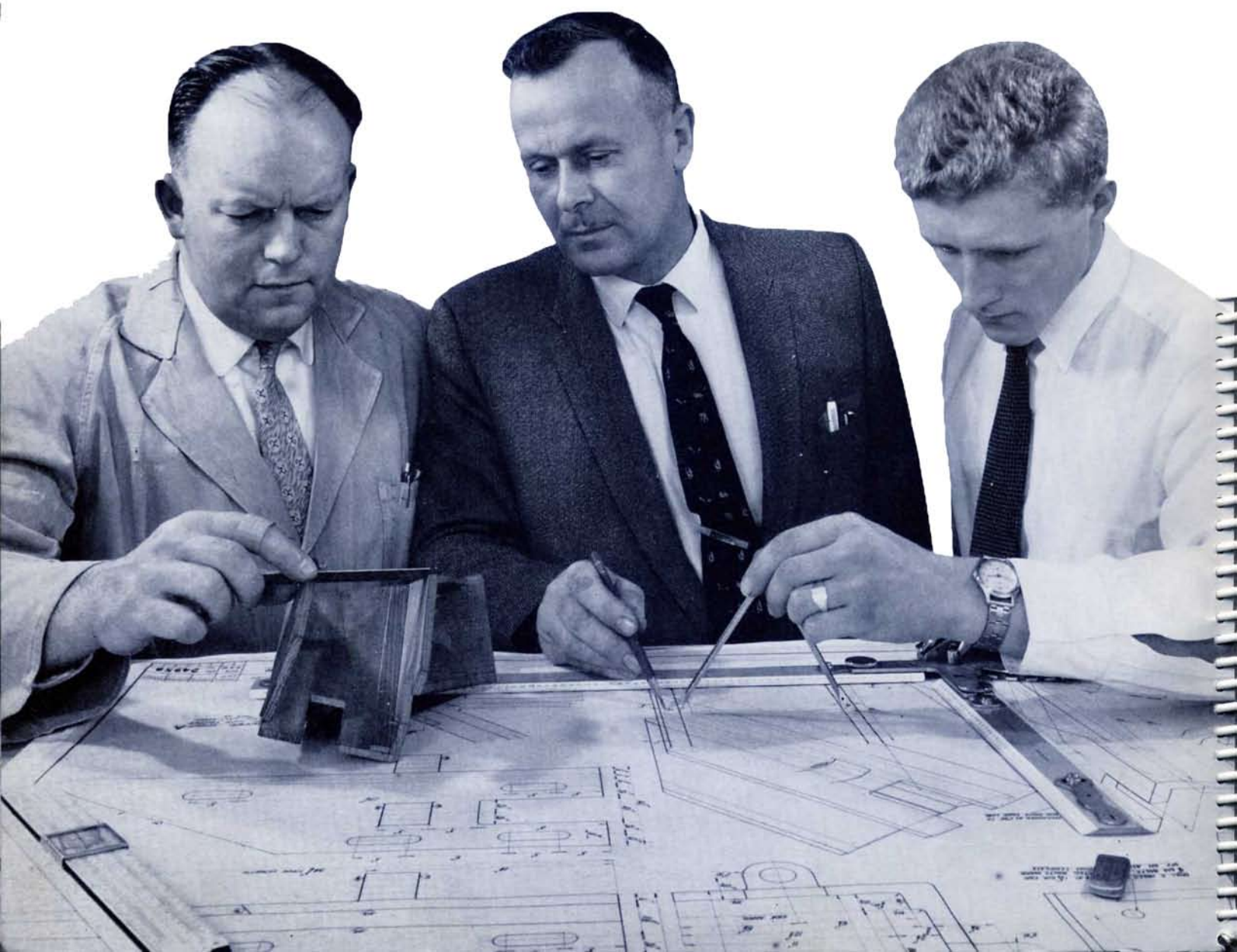


*Double sided, eight ram hydraulic press for the manufacture of Vee Belts.*

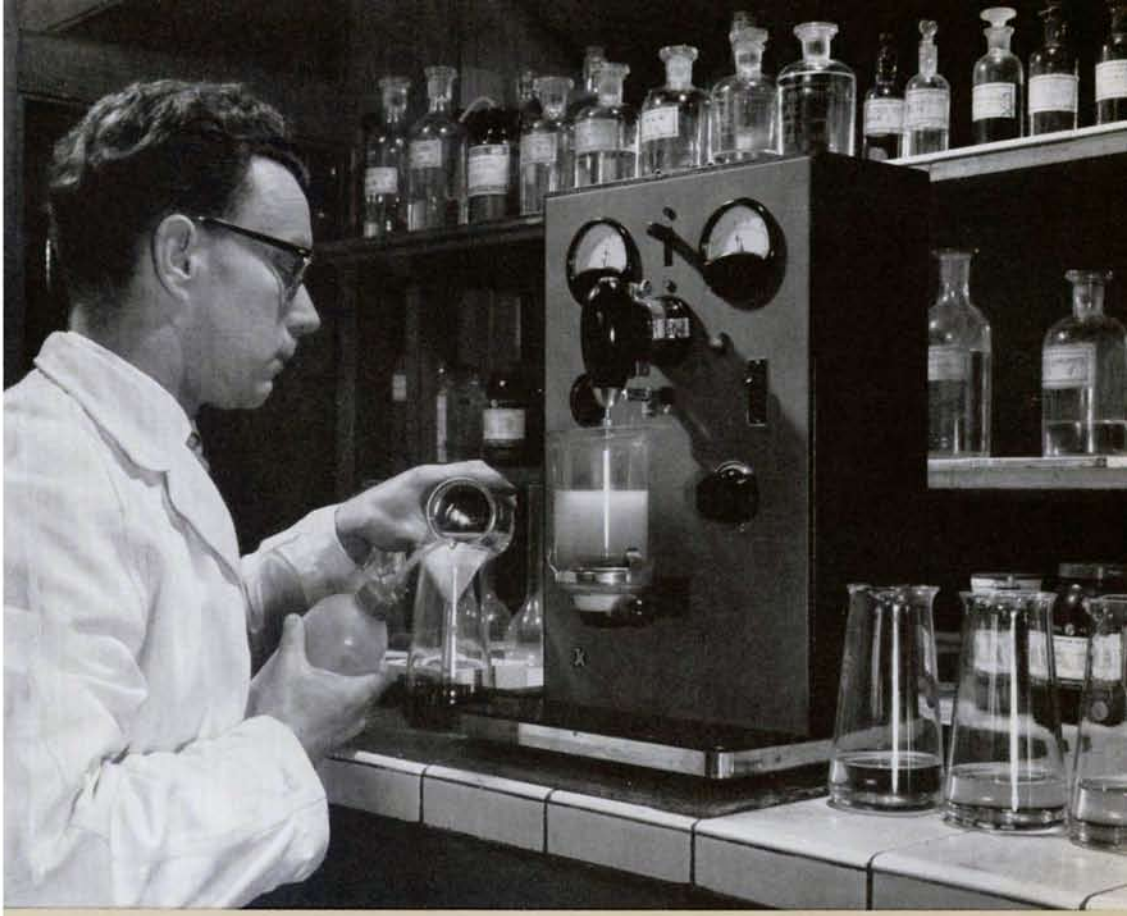
*The company's clients represent heavy industry in all its varied classifications — and the technical design staff is selected accordingly. High technical qualifications, backed by practical experience, combine in the drawing office to produce the design that is vital to the efficiency and mechanical excellence of the finished job.*



*. . . experience is combined with intelligence and work*



*proceeds . . .*



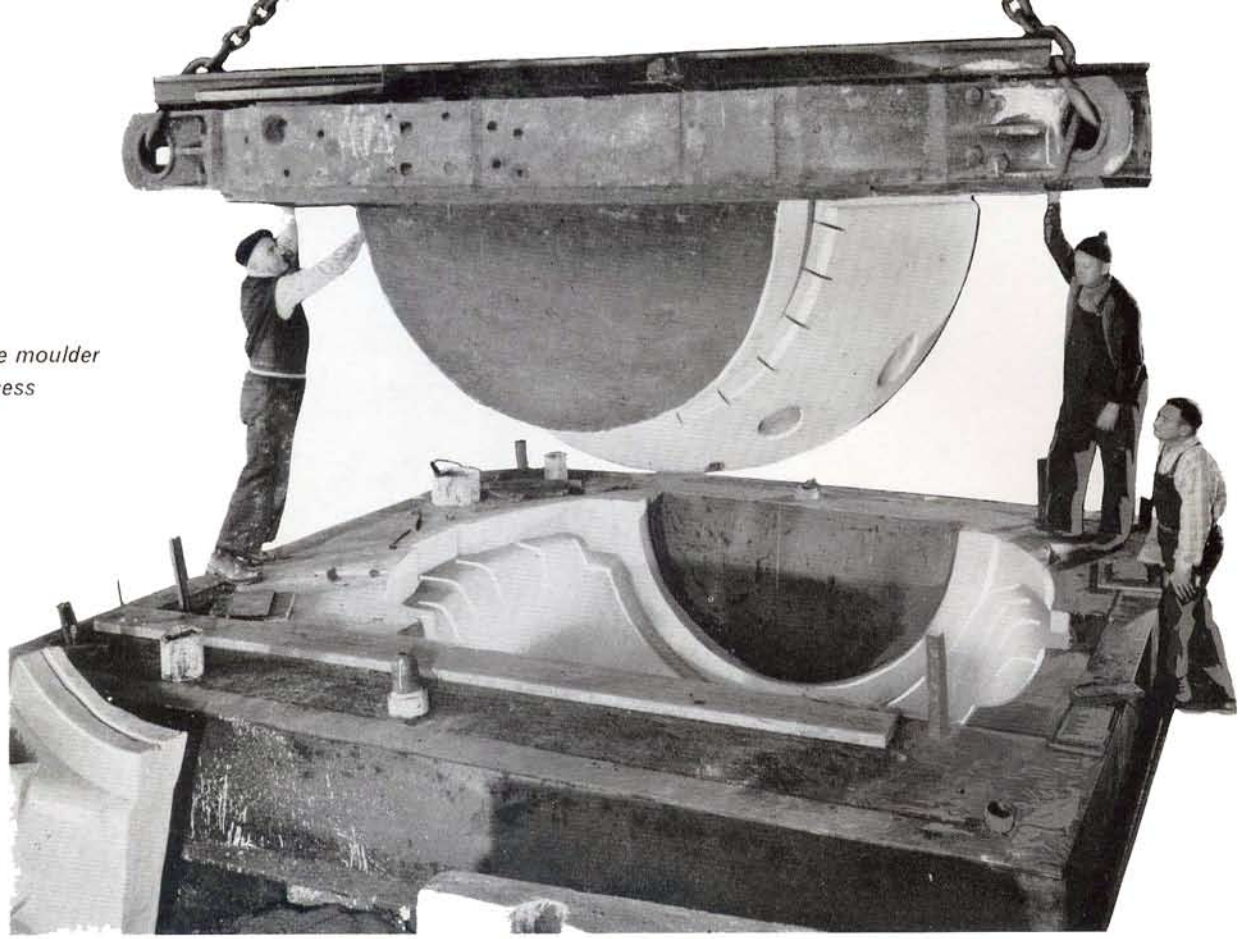
**CONTROL**

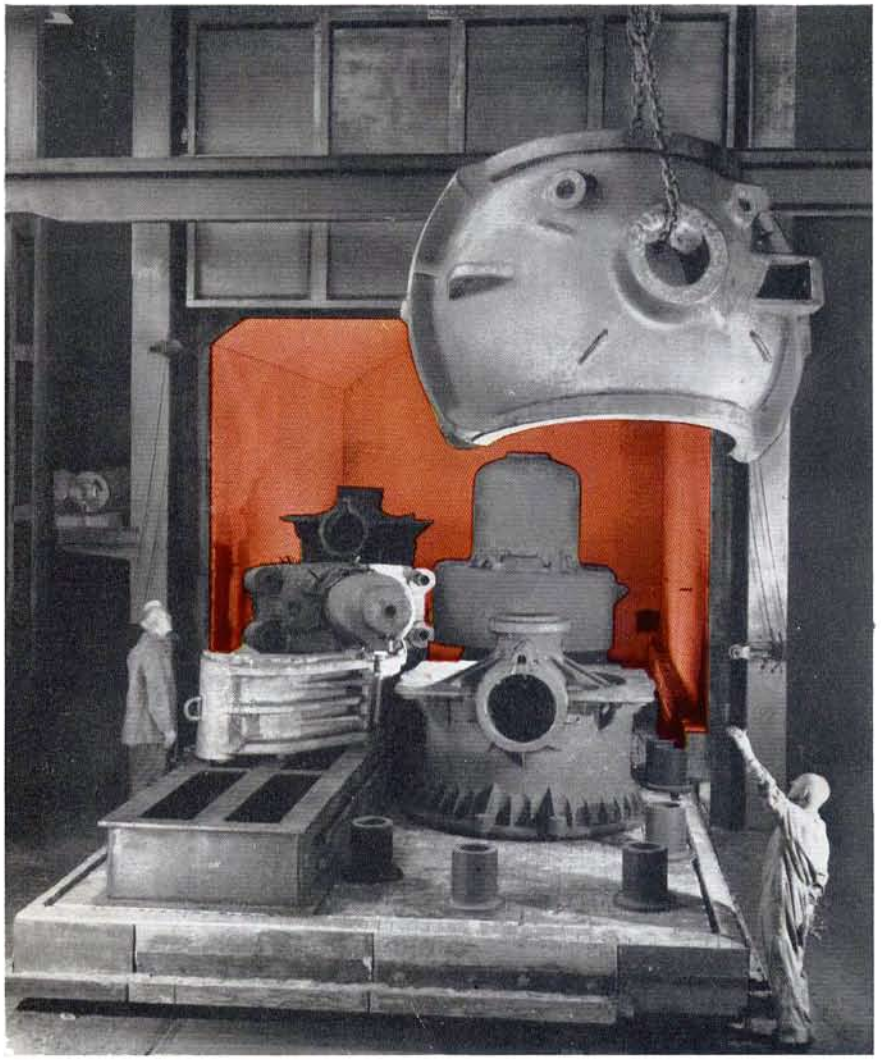
*Physical and chemical testing continually occupy the metallurgists and laboratory staff.*

**SUPERVISION**

*Precision is paramount, and close supervision with the finest instruments is applied to guarantee it.*
*This micro-alignment telescope establishes accurate positioning of a three-throw hydraulic pump crank shaft.*

*On the skill of the moulder depends the success of the casting.*

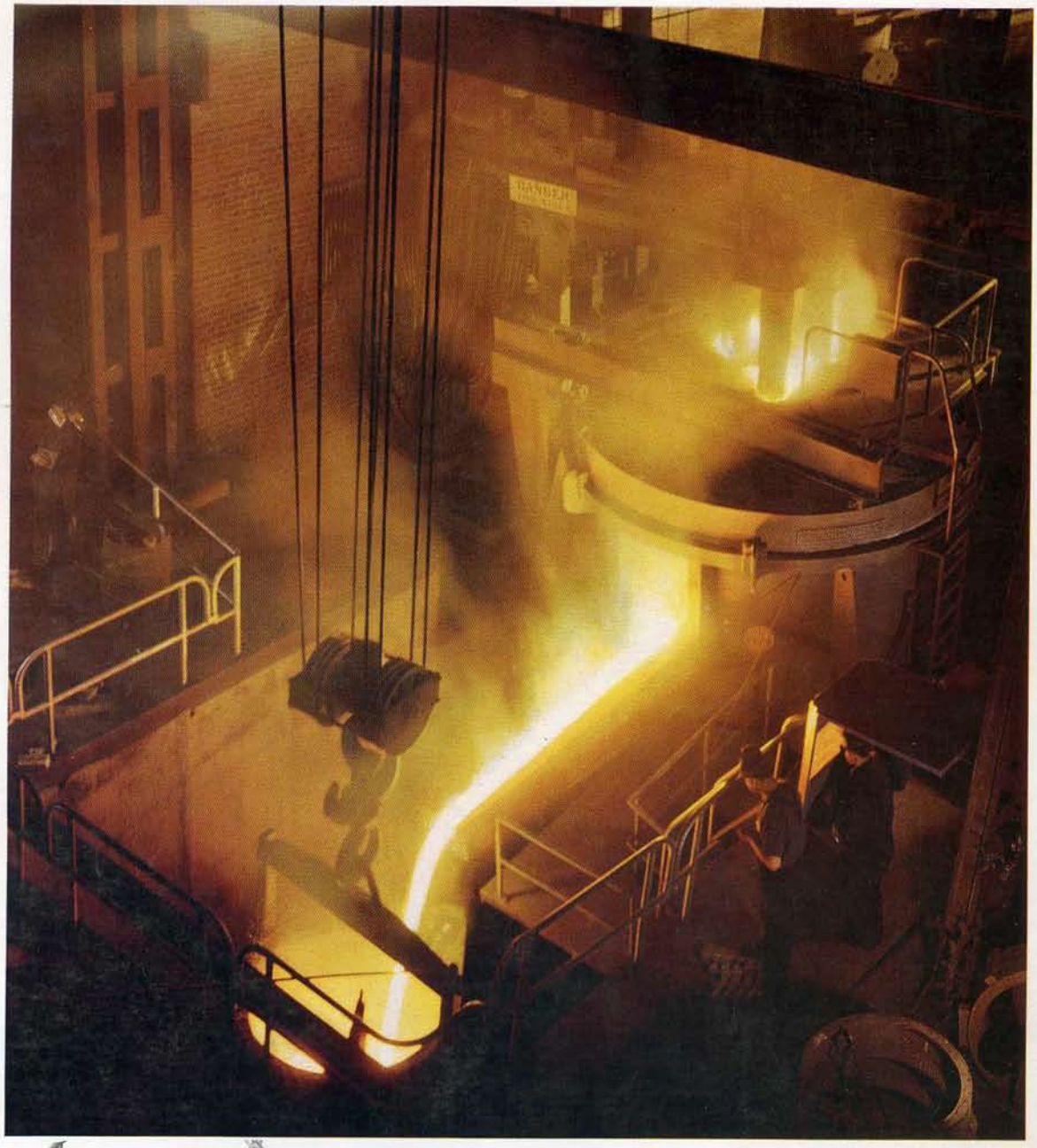




# . . . from molten

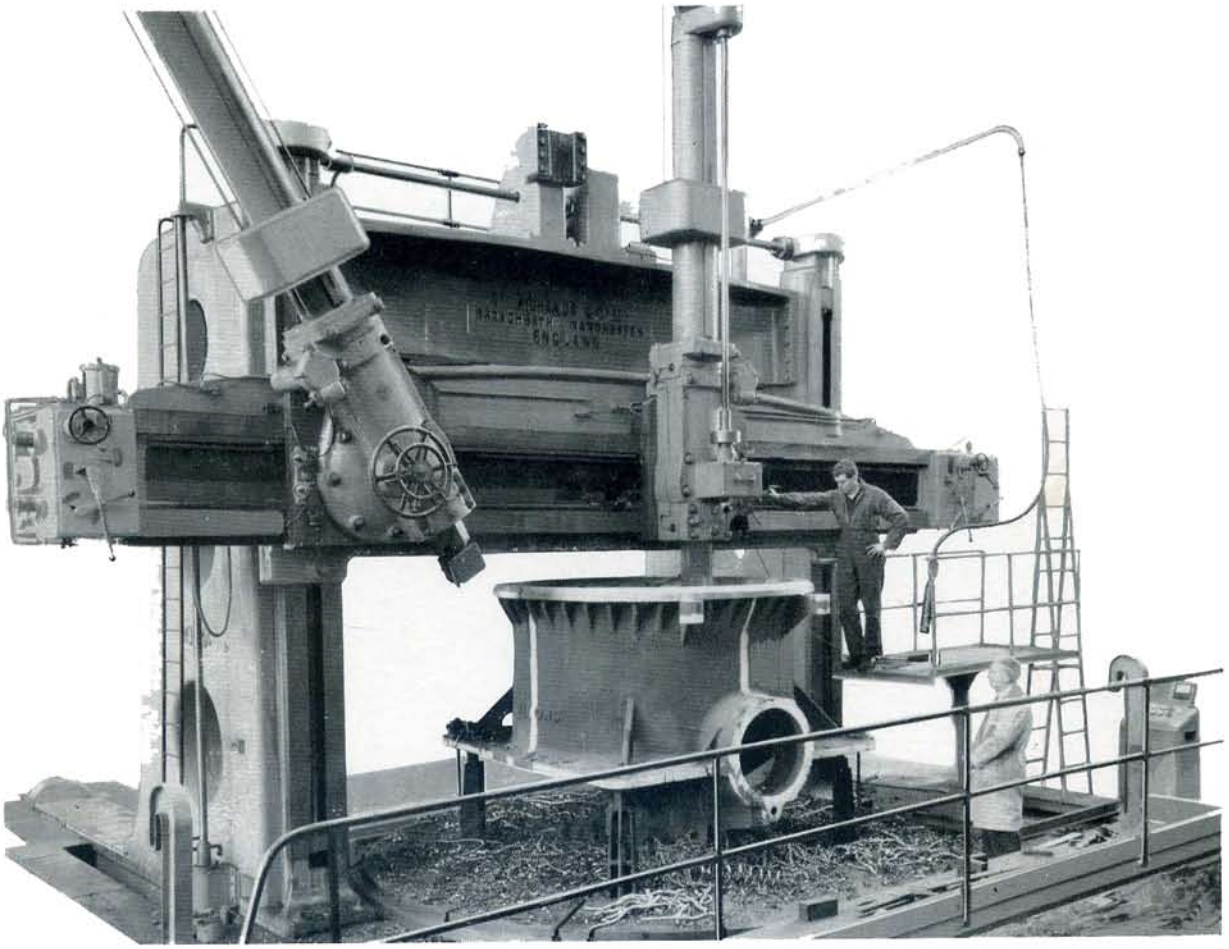
*Correct annealing and stress relieving of the largest parts is ensured by automatic temperature control in heat treatment stoves.*

*metal . . .*



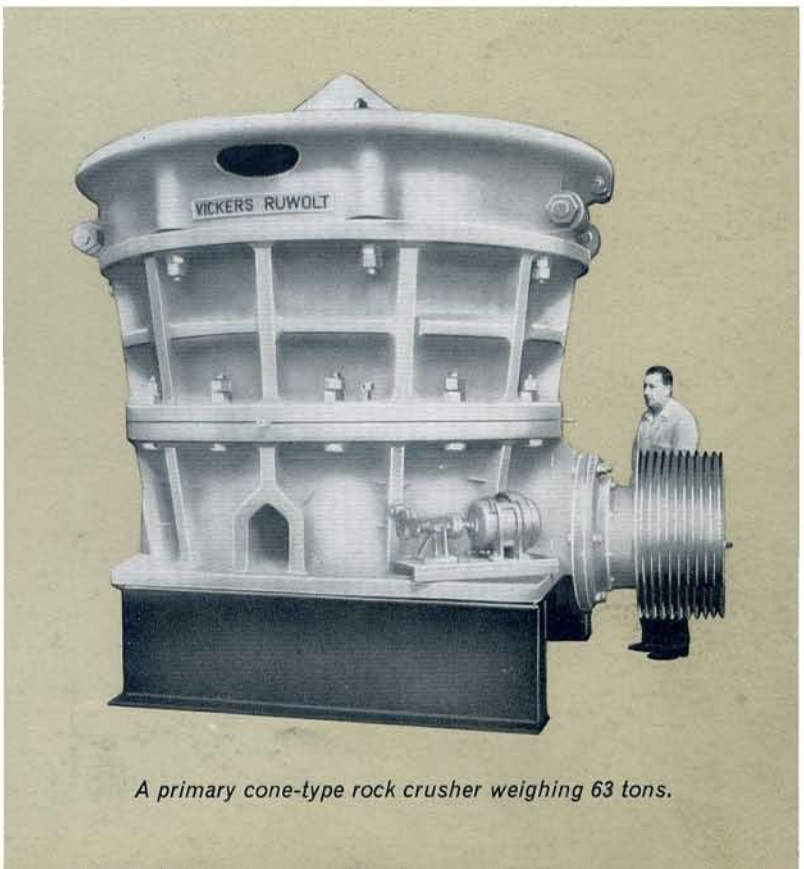
*Reducing raw material to a molten mass, the electric furnace starts the chain of manufacturing processes . . .*

*This steel casting was produced for a large hydro-electric project.*



# . . . to tools of high precision and great power . . .

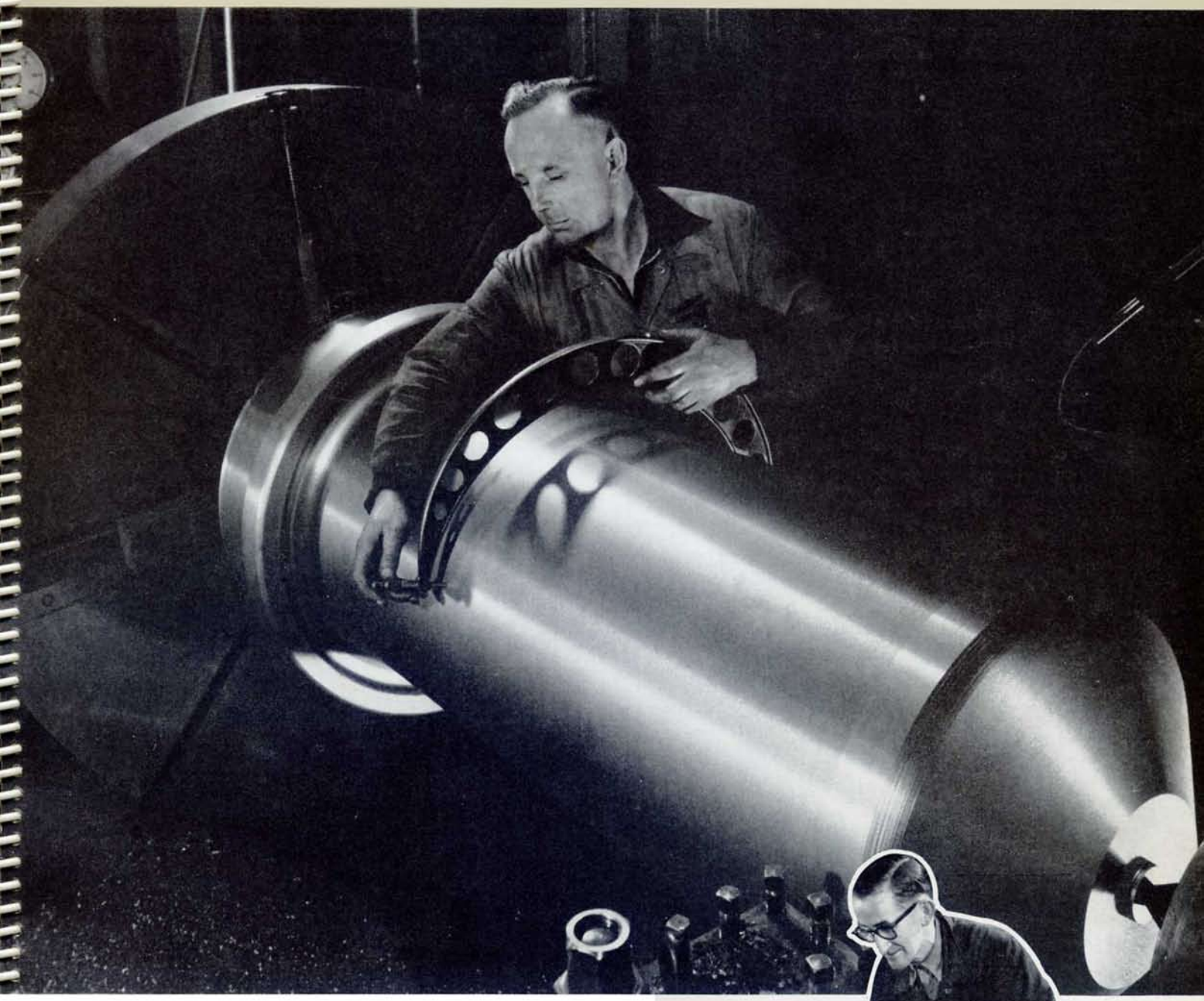
*ABOVE: A Vertical Boring Mill, with a capacity of 25 feet diameter by 11 feet high, machining a cast steel housing for a rock crusher.*



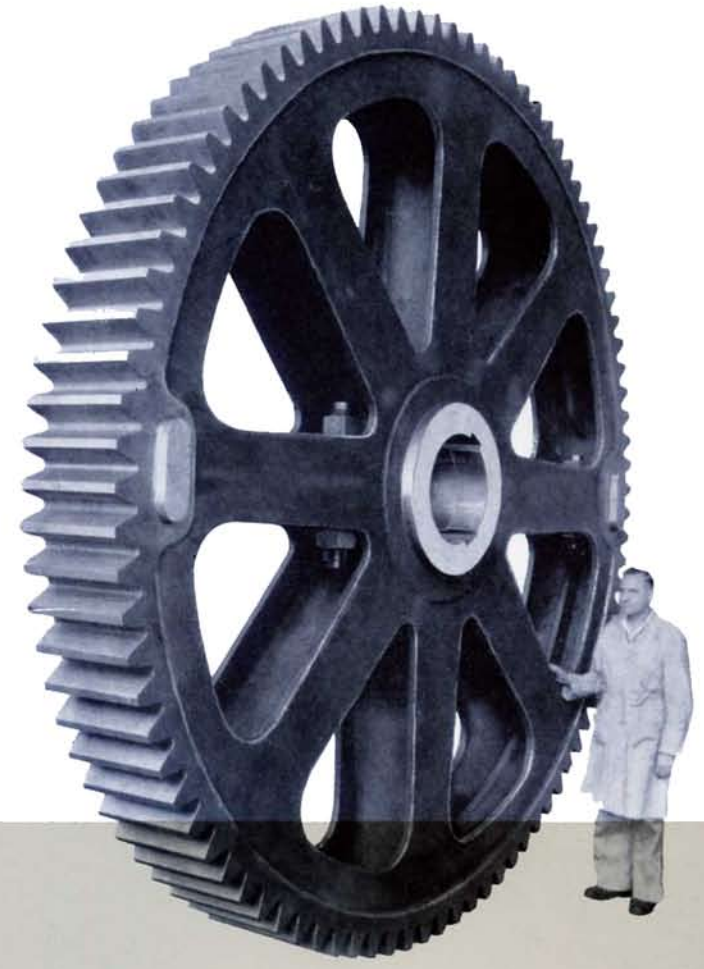

*A primary cone-type rock crusher weighing 63 tons.*

*LEFT: One of two modern, floor type, horizontal boring and facing machines that finish accurately work up to 33 feet long and 10 feet high. Here 16-ton components are being machined.*

*. . . responding to man's skilled control . . .*

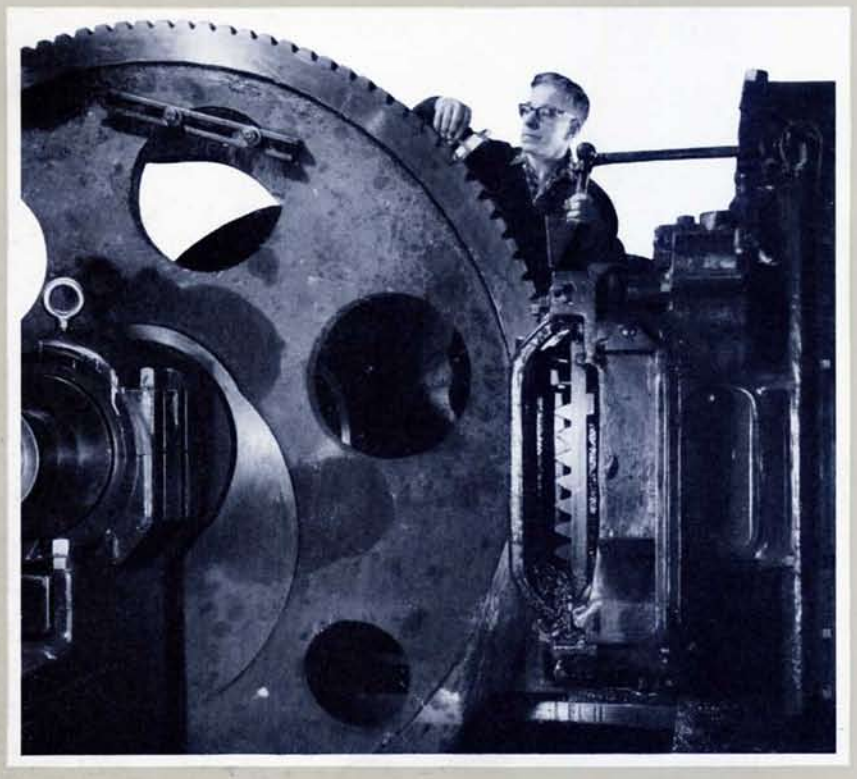


*When trained experience is applied to precise mechanical power, complex engineering operations proceed with faultless ease —*



*Precision through all stages has produced this 12-ton gear wheel, of $12\frac{3}{4}$ feet diameter.*

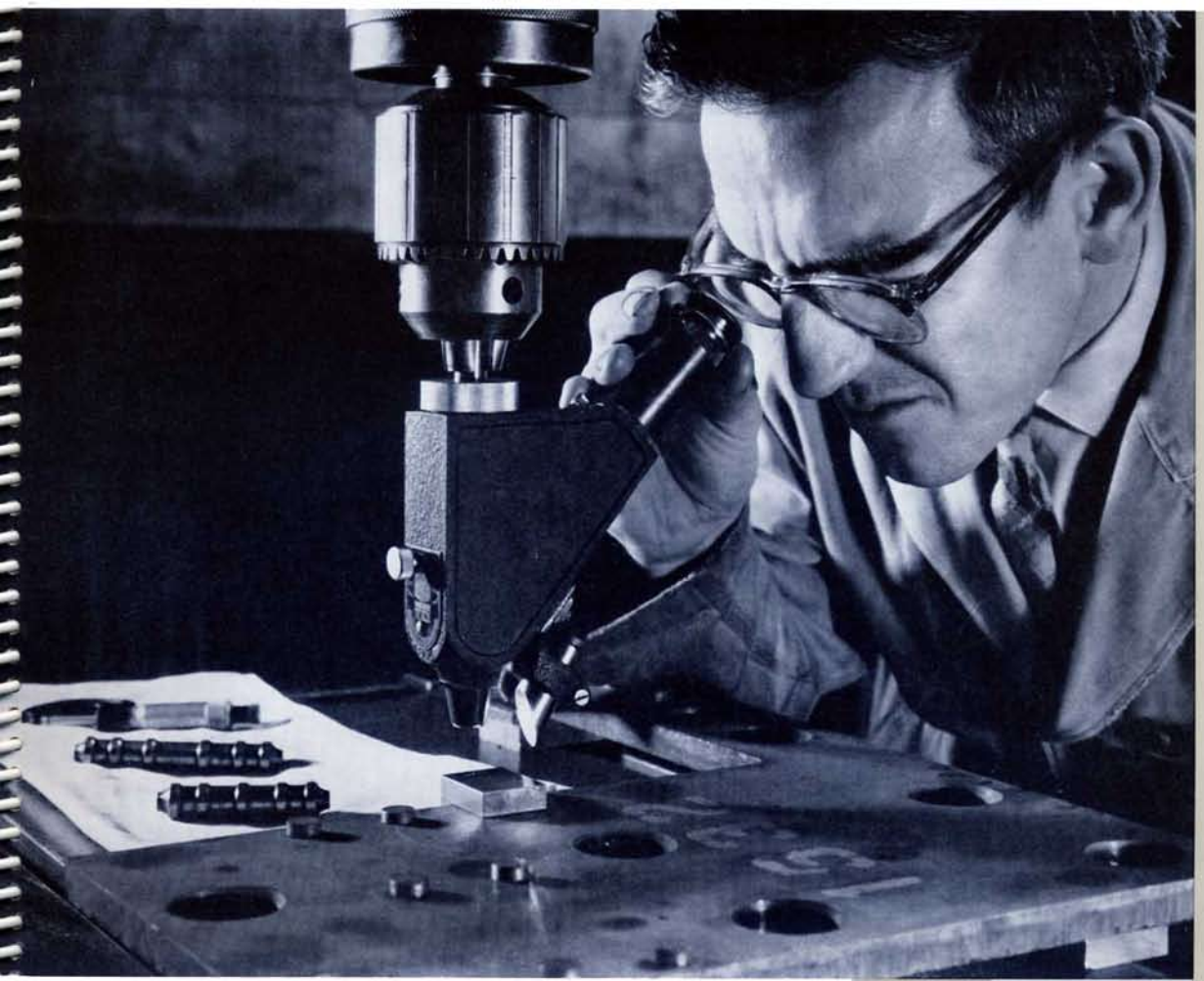
# . . . precision created out of precision . . .



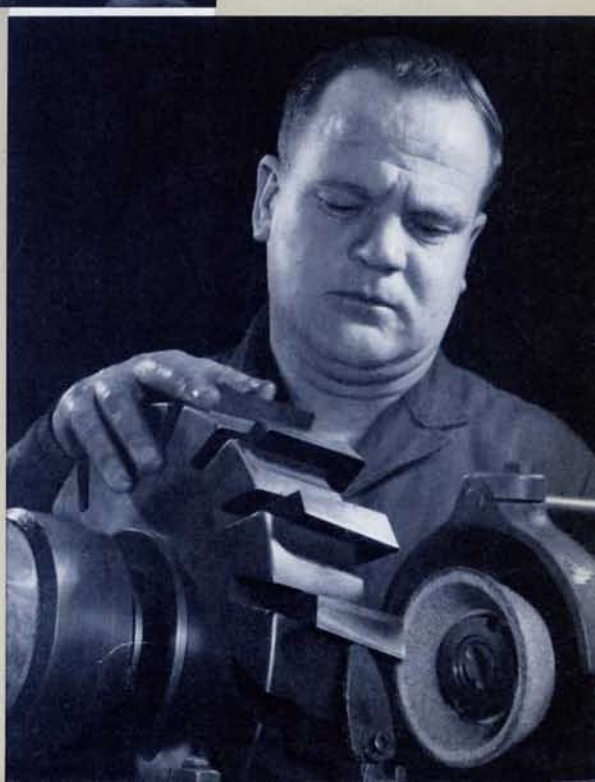
*a Sunderland gear planer establishes the tooth form of a 5-ton gear wheel.*

# . . . born in the toolroom . . .

*A small world ruled by accuracy, where precision instruments check precision tools . . .*

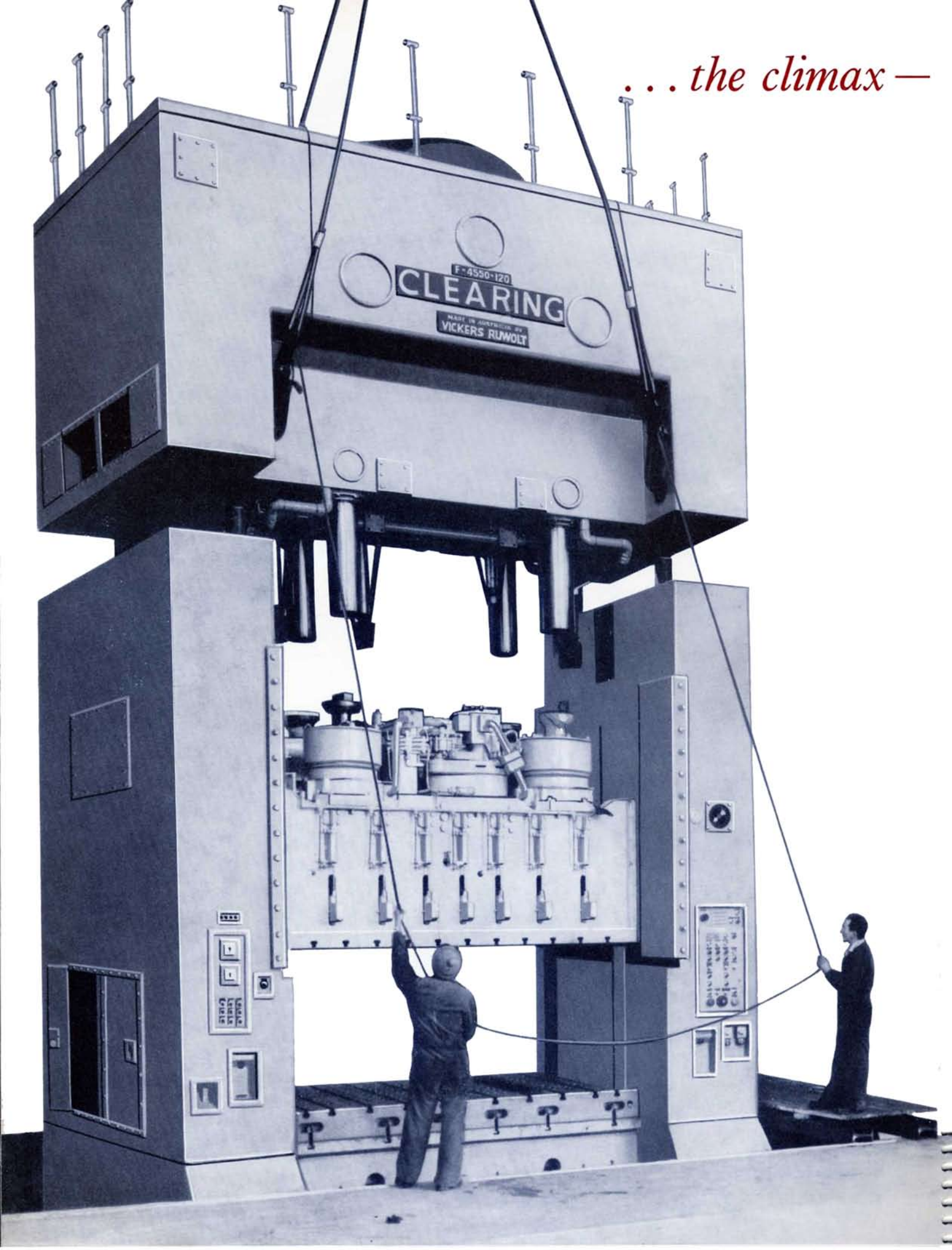


*a drill jig is meticulously checked . .*



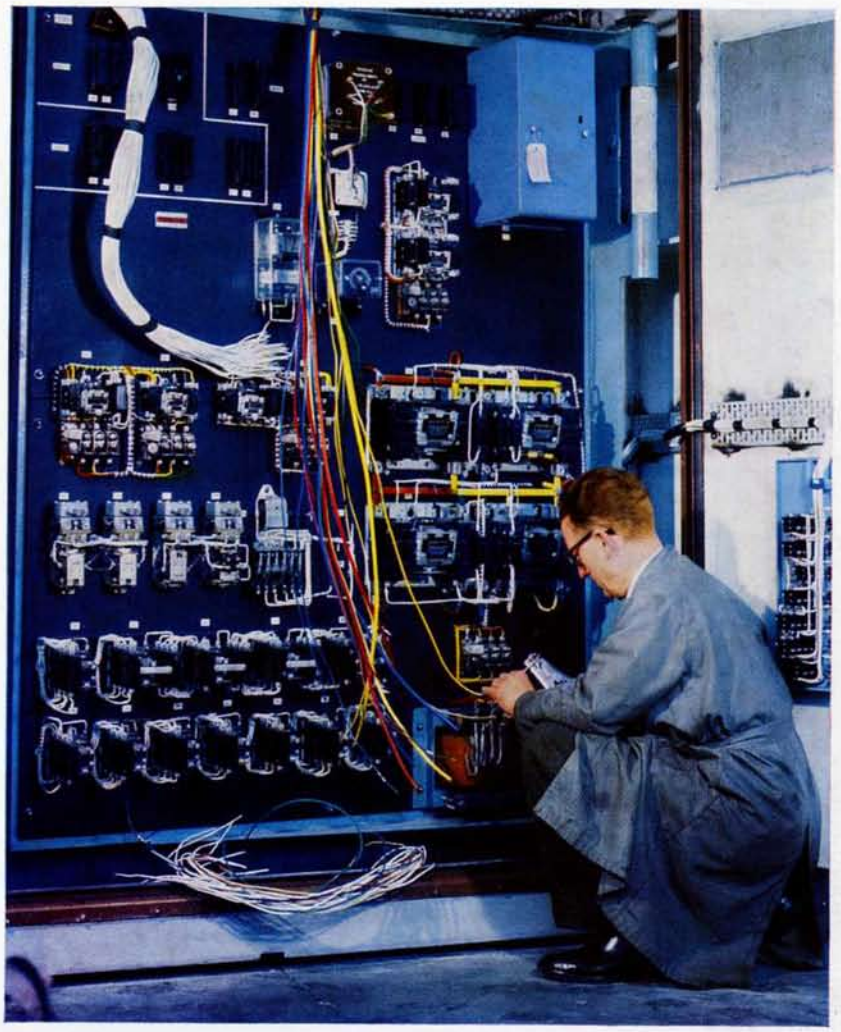
*. . . an inserted tooth cutter being resharpened.*

*. . . the climax —*

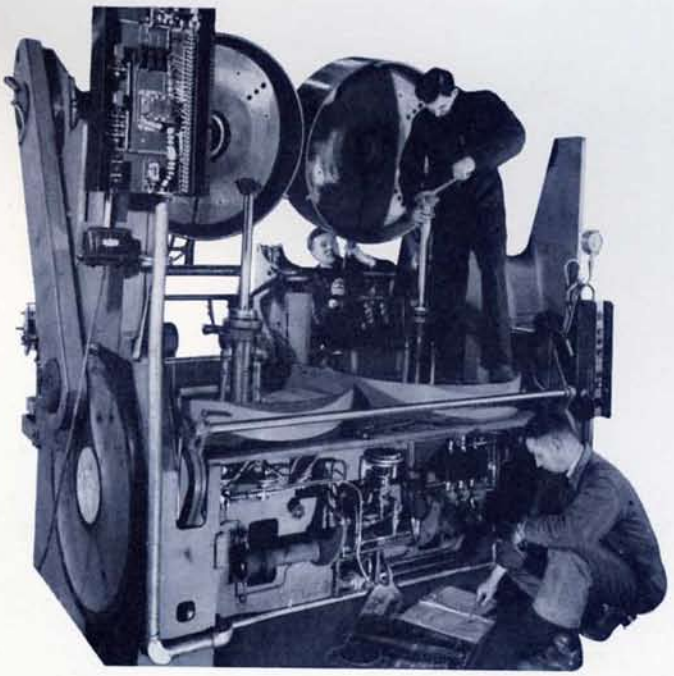



*Symbol of large-scale engineering capacity is this metal stamping press, tested and erected on site if required — a climax of co-ordinated production effort.*

# *assembly and testing . . .*



*The vital assembly and testing stages are controlled by men of long experience and proven competence essential to these critical operations . . . the correct positioning and connection of electrical units on the control panel of a Clearing Press*



*. the final checking and adjustment of a McNeil tilt-back Bag-O-Matic Tyre Press.*

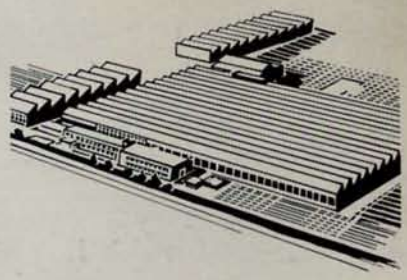
# *Structural steel*

*Structural design and fabrication are the province of the Structural Department. Typical of such undertakings are these: the Bethanga Bridge over the Murray River arm of the Hume Weir — nine spans, each of 265 feet: and the Victorian Railways goods sheds, 75 feet span by 1,100 feet long.*

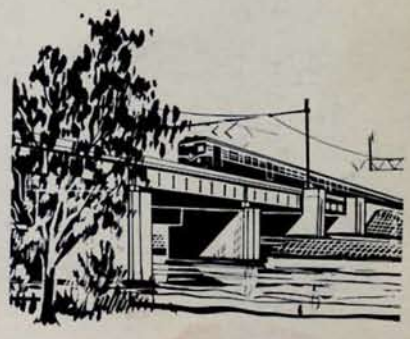
**The structural shop is equipped for work of major proportions, and the steel frames of many prominent Melbourne landmarks were fabricated here —**

**Commonwealth Offices**

**Royal Melbourne Hospital**

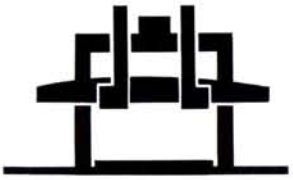


**Olympic Cables Pty. Ltd.**



**Cremorne Railway Bridge, Yarra River**

# MACHINING



## VERTICAL BORING

Ten Vertical Boring Mills in a practical size range handle work up to 25 feet diameter by 11 feet high. One such mill is equipped with profile turning attachment for reproduction of complex shapes.

## HORIZONTAL BORING

Two Horizontal Floor-Type Milling, Drilling and Boring machines are in use — one working over an area of 24 feet by 13 feet; the other over an area of 33 feet by 10 feet. Supplementary equipment includes seven table - type machines of various sizes, and one jig mill.

## PLANING

Of the four Planing Machines in service, the largest, designed and built in the Company's own works, is an open-side type which handles work up to 8 feet by 8 feet by 28 feet long.

## GEAR CUTTING

The largest of our several Gear Cutting Machines will accommodate straight tooth and double helical gears 157 inches diameter by 24 inches face. Others will handle spur and helical gears of similar dimensions, and bevel gears up to 54 inches diameter.

## TURNING

The range of lathes includes Copying Lathes, Turret and Capstan Lathes. The largest of the Centre Lathes is 30 feet long and will swing work 6 feet in diameter.

A comprehensive range of smaller machine tools is provided to supplement all major equipment.

# CASTINGS


## STEEL CASTINGS

Modern electric arc furnaces produce in addition to carbon steels in general use, a range of alloy steels, including —

Manganese steel — Stainless steel
Chrome steel — Nickel Chrome steel
High tensile steel — Chrome Molybdenum steel

**MAXIMUM CASTING: 35 TONS**


## IRON CASTINGS

Special grades of cast iron manufactured include —

Wear-resistant alloy iron
Corrosion-resistant iron
Spheroidal graphite (S.G.) iron

**MAXIMUM CASTING: 35 TONS**


## NON-FERROUS CASTINGS

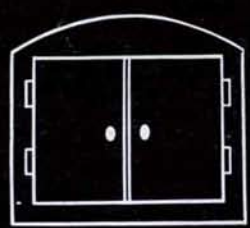
This range covers —

Aluminium Bronzes — Gun Metal
Phosphor Bronzes — Aluminium Alloys
Lead Bronzes — Manganese Alloys
Navy Bronzes

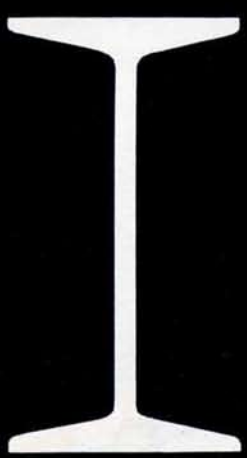
**MAXIMUM CASTING: 2 TONS**

# HEAT TREATMENT

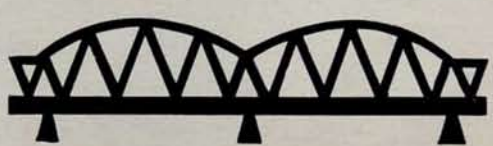
For the heat treatment of castings and fabricated steelwork, facilities are necessarily versatile and stoves of various sizes have been provided. The largest of these is 30 feet by 17 feet wide by 14 feet high.

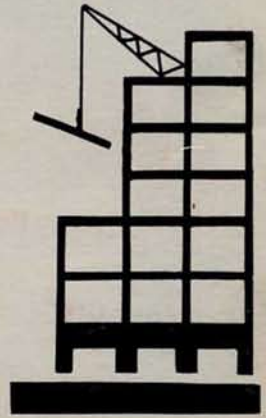


# STEEL FABRICATION

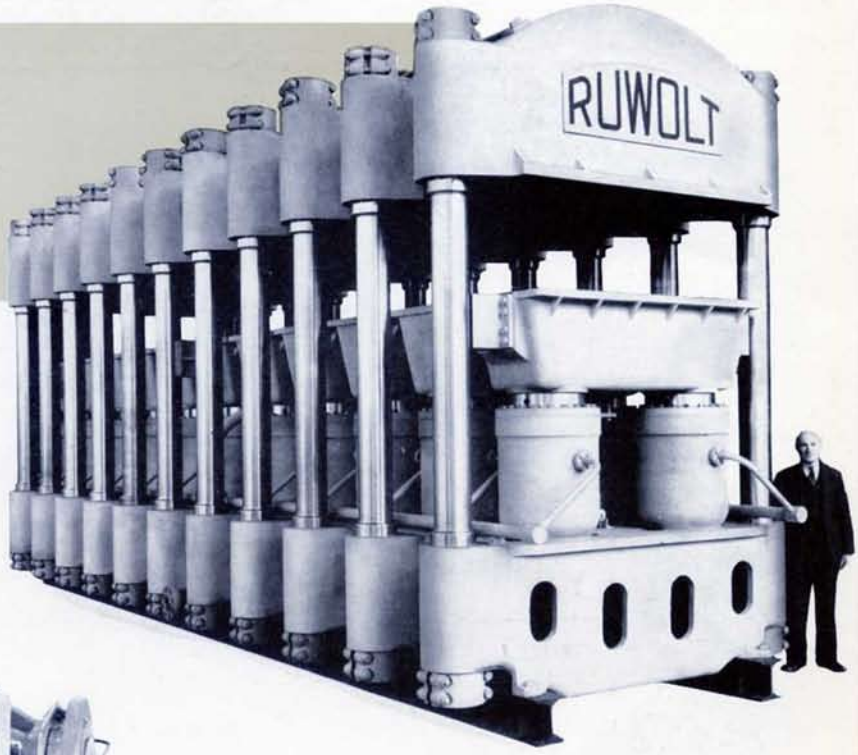


**Design and fabrication of building steel work, machine frames, pressure vessels, bridges and tanks.**

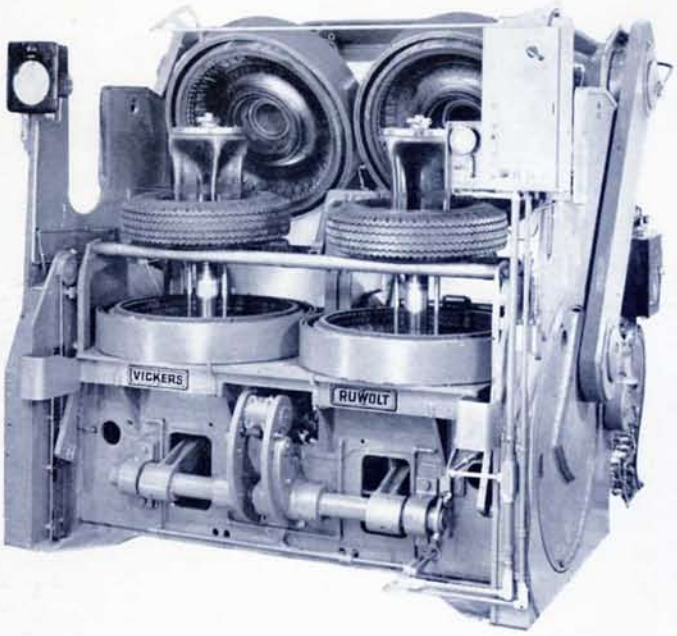




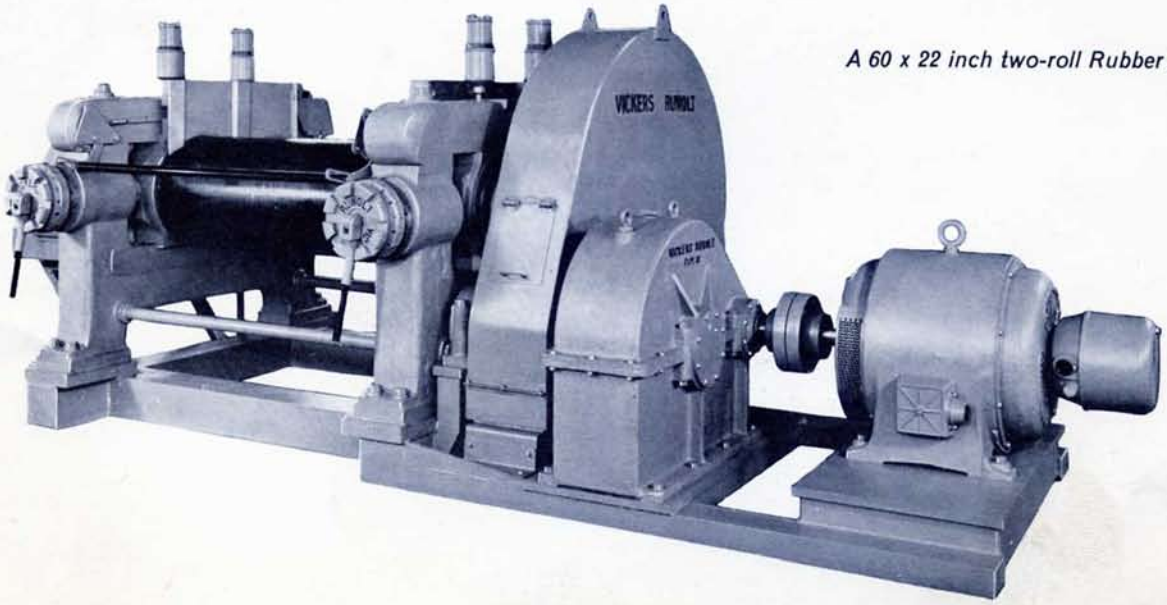
# *Rubber and Plastics*




*A 5,500-ton Rubber Vulcanising Press with a platen area of 31 feet by 6½ feet. It is used for the manufacture of rubber flooring and belting up to 6 feet wide.*

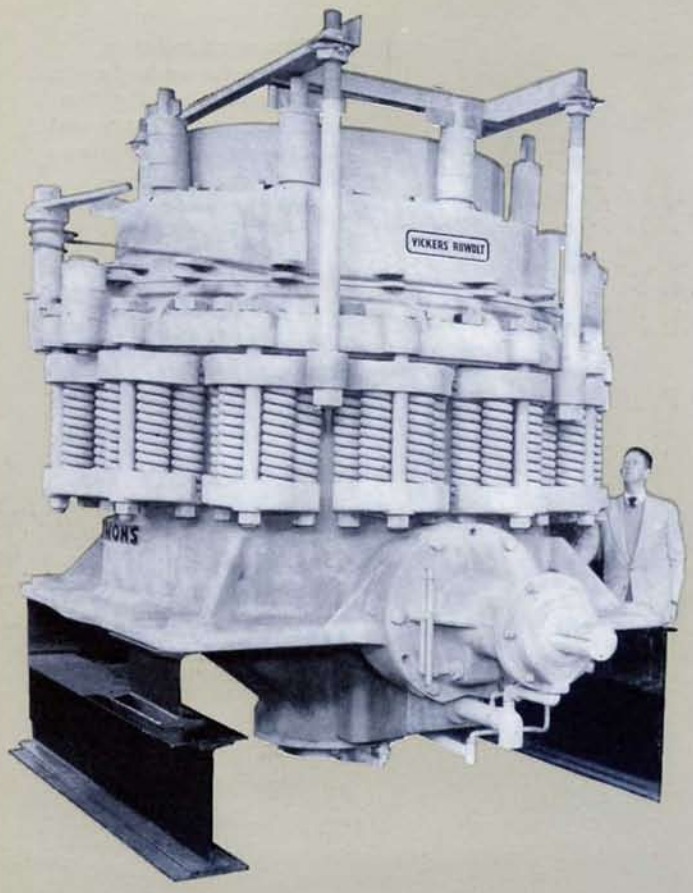



*A McNeil twin tilt-back Bag-O-Matic Tyre Vulcanising Machine of completely automatic operation, for the manufacture of large truck tyres.*




*A 60 x 22 inch two-roll Rubber Mixing Mill.*

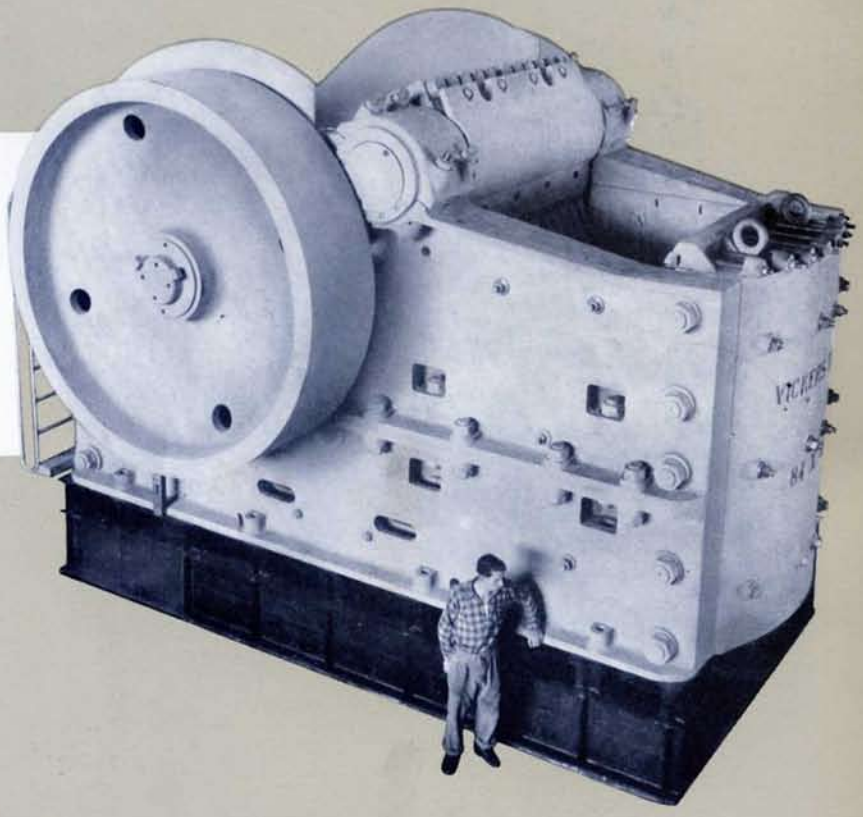
**This is a representative view only of equipment produced by the company. Special literature describing units manufactured for specific industries is available, and should be consulted for complete information of services and equipment offered.**




*A Symons heavy duty, cone-type 5½-foot Rock Crusher. Weight, 40 tons.*

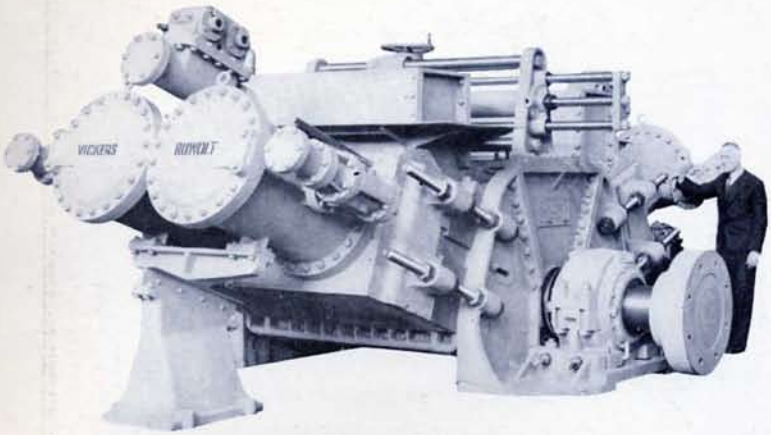
*A double toggle-type Rock Crusher, 84 inches by 60 inches. Weight, 220 tons.*

# *Mining, Quarrying, Cement Making*

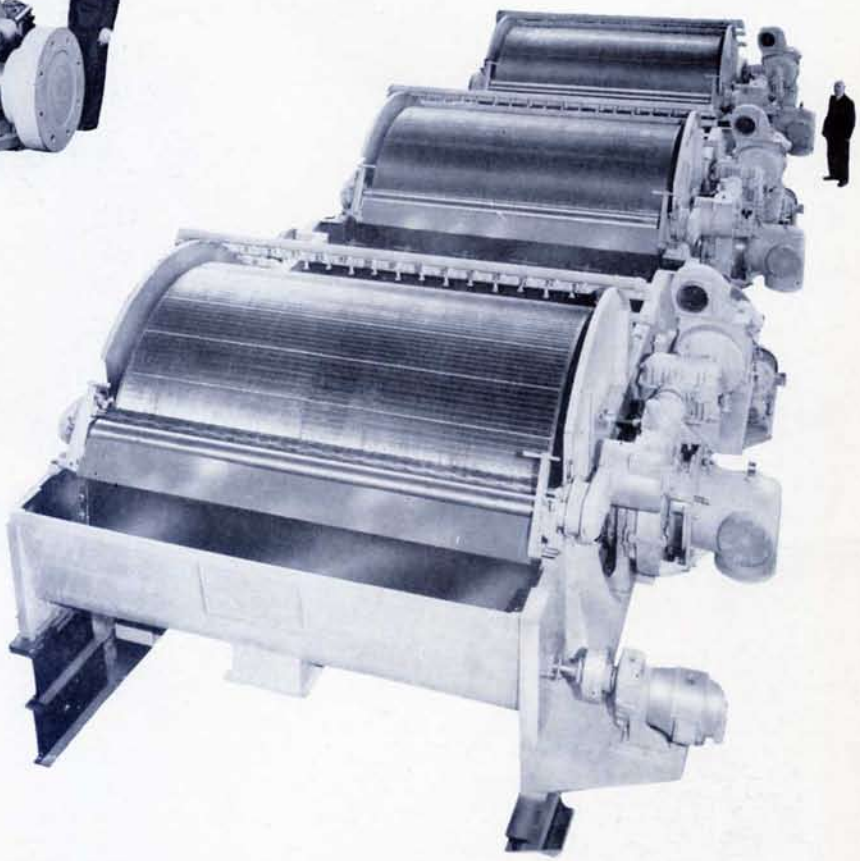


*A 7½ feet by 40 feet Tube Mill for Cement Finishing.*

# *Paper and Pulp*

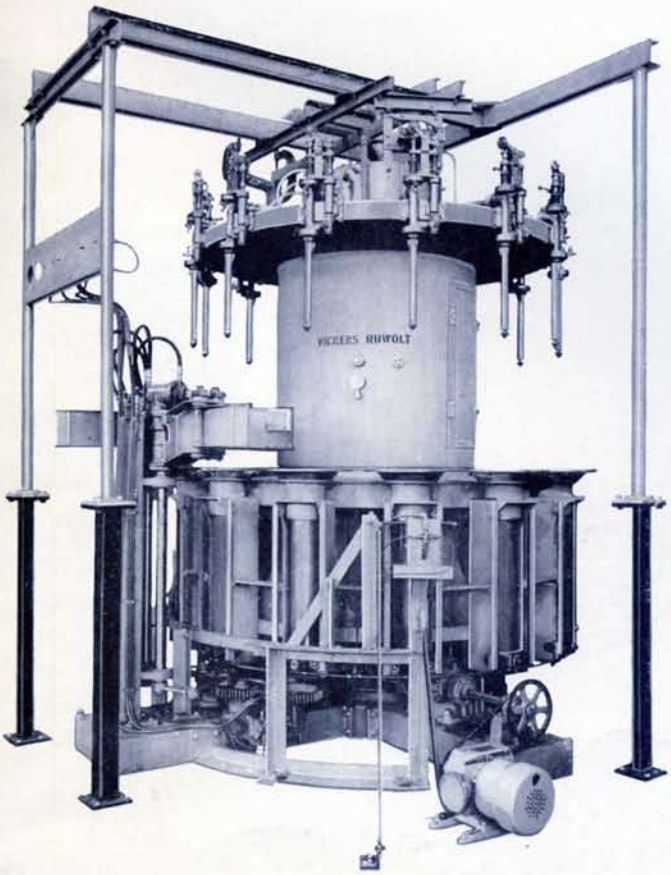



*Wood grinding machine of 1800 h.p., which performs the initial operation in the production of newsprint pulp.*



*A series of vacuum washing units for paper pulp.*

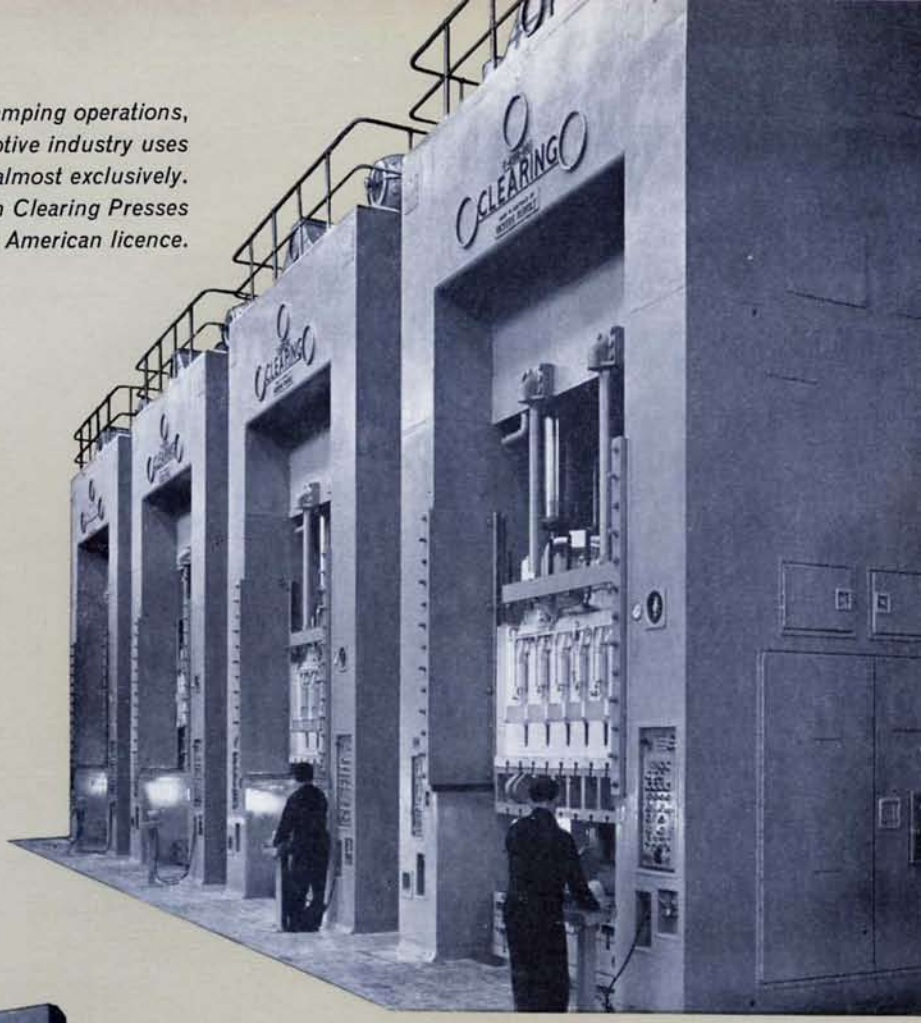
# *Malting and Brewing*



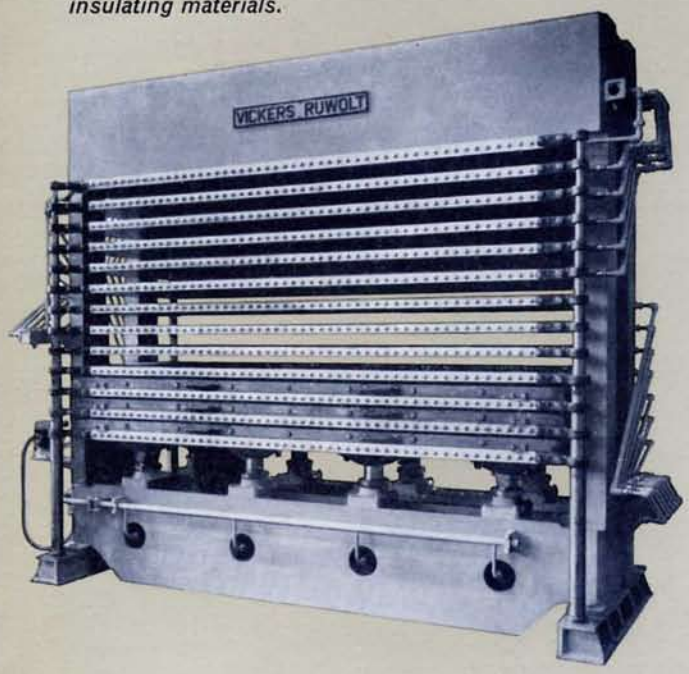

*This automatic beer cask-filling machine is patented by Vickers Ruwolt Pty. Ltd., having been entirely designed and developed in the plant.*


*Portion of a 12-drum Malt Germinating plant, supplied complete with air-conditioning and kilning equipment.*

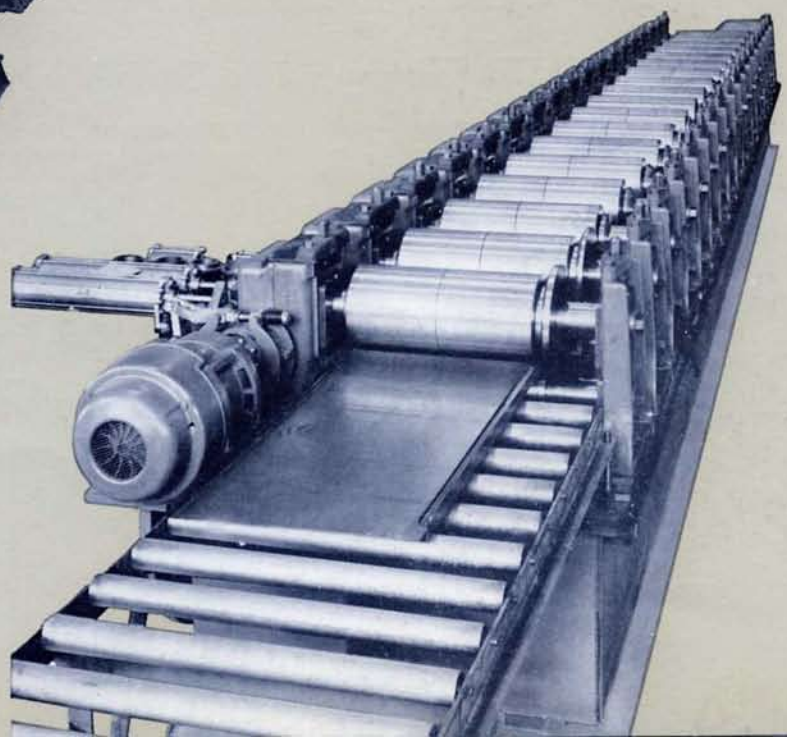
*For its metal stamping operations, the automotive industry uses Clearing Presses almost exclusively. These 550-ton Clearing Presses are manufactured under American licence.*




*A 9-foot by 4-foot Hot Plate Press developed for the production of insulating materials.*




# *General Engineering*



*A typical Roll-Forming Machine used in the production of refrigerators and similar appliances.*

*We attach particular importance to apprenticeship activities, for therein lies much of the future strength of our industry.*

*The large number of apprentices training for various trades within our plant are considered to be a company responsibility.*

*The progress of each is noted and individual gradings are regularly carried out.*

*Personal interest in the trainees is actively encouraged, and wherever it is apparent that a young employee would respond to wider managerial training, the company is happy to arrange and pay for it.*

*Group social activities among apprentices are encouraged, and periodic interstate tours specially planned to interest and benefit industrial trainees are organised by the company.*

# *A stake in the future . . .*

# *Thus far . . .*

. . . and, we are confident, considerably further!

This Company, which was born when the Australian Commonwealth was born, has grown up through its most important industrial years, and its specialised service has stimulated the progress of not just one, but a multiplicity of industries. We are now one of the Vickers Group of companies and have the support of their vast resources.

In this young country, as one industry reaches maturity, another begins to grow, and the operations of our company are geared for this ever-expanding cycle.

The nature of the service we provide demands that, in knowledge and capacity, we hold ourselves ahead of Australia's advancing industrial tide. This is apparent from the context of this book where the finest that modern technology can provide in men, machines and materials is seen harnessed to produce the essential elements of big industrial enterprises.

In our relatively brief span of existence as a company, we have undertaken and completed some of the largest units of machinery produced in this country. Ahead, there are undoubtedly even bigger feats to challenge engineering ingenuity, and, from the vantage point of experience and capacity, we view the future of heavy industry in Australia with assurance.

MANAGING DIRECTOR
VICKERS RUWOLT PTY. LTD.