

ARROWHEAD



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FLETCHER

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**F L E T C H E R
H O L D I N G S
L I M I T E D**

**GREAT SOUTH ROAD
AUCKLAND, NEW ZEALAND**

IN the last issue of *Arrowhead* we reprinted the first part of a series of articles 'Our Industrial Discontents', and we asked for comments from our readers.

The main reaction has been to ask us to republish the remainder of the series which we are doing in supplement form with this issue. Nevertheless, some readers have sent us their comments and these are published on the opposite page. Now that the whole series is in the hands of our readers, we hope that we will really get a mail bag for the June *Arrowhead*.

Early in February, Fletcher Construction introduced a scheme of incentive bonuses on their State housing contracts in Tamaki and the problem of industrial relations, of new ideas and old prejudices, has come very much to the fore—we have really been in the gun.

We firmly believe that the only way to increase real wages and improve real living standards is to relate in some way earnings to production—and this is the lesson of every developing nation in the world, no matter what system of Government is in operation.

Back in 1954, Sir James, in the Company's annual report, stated: 'It is not a question of speed-up but of the more careful application of equipment, materials and labour which can bring us the things we want — cheaper homes and furniture, more schools, hospitals and social services.'

There is no speed-up at Tamaki; no award provisions are being circumvented; the older tradesmen are not going 'down the road'; the men are working better; there is a more efficient and intelligent approach to the job generally on the part of site management and men.

What is of fundamental importance is that the men are earning substantial weekly bonuses in addition to their ordinary wages and allowances.

We recognise that there has been a background of suspicion about such schemes and that many sincere unionists with long memories are antagonistic on principles, which we for our part sincerely feel are old fashioned. Nevertheless we can report that in almost every case representatives of the unions concerned have been prepared to give it a 'fair go' and a reasonable trial. That is all that we have asked for and all that we can expect.

Our Industrial discontents



... first comments

Mr. P. M. Butler, Secretary Wellington Labourers Union, writes:—

The writer of the article commences and proceeds from a false premise. He ignores historical factors of the past, present day trends and indications of the future. When workers were robbed of their tools and left only with labour power to sell, the employers for the hundreds of years since have helped themselves to the economic cake and the bread and butter too. Governments in all countries and of all shades of political opinions always sided with the employers, either subtly or openly—and they still do. How can there be other than discontent when legalised injustice everywhere condones industrial immorality? Unions which first threatened the robber barons of industry are now part of the scheme of things—even in Russia—and from a beginning of opposing the wages system, are now forced to squeeze a little more periodically from the employers *providing they observe the system*. The "system" is organised solely for profit making. Such being the case, the workers must disregard mealy-mouthed platitudes and continue to press sectionally or collectively for a greater share of the profits (loot) of industry. Until an unambiguous system of production for public welfare is introduced, the workers' attitude to employers should be: "All right! Fire ahead and make profits; we are legally compelled to help in the system; the more you make the better we like it, because we are determined to get a more fair share."

The recurring claims of the workers (referred to as "discontent") are because of what workers see around them, but don't always understand. Such are concomitant to the system. Workers sometimes break the law, because the industrial law is procedural and ignores the fundamentals of economic justice and morality. Workers don't break the law just for the sake of so doing. They break it to obtain something upon which the law is silent.

Employers being fully aware of the law being weighted in their favour, frequently ignore the justice of a claim *in relation to their own steal* and by procrastination embedded in meanness, withhold immediate recognition and thus on occasions paralyse an undertaking, or even national industry.

Unions the world over are weakened by the law, but the human inclinations of enlightened individual workers cannot be ignored. Whilst the wages and profits system is permitted, those employers who get their heads out of the clouds of assumed propriety and more fairly share the loot with the workers (as has the automobile industry in U.S.A.) will gain the advantage over their competitors. Further, they will have continuous and uninterrupted production.

(Mr. Butler's italics).

Mr. H. Robinson of the Auckland Boilermakers Union writes:—

It has been the experience of our Union that most disputes occur over breaches of awards by employers.

We believe that the workers should share in the national income of the country to a greater extent than they are doing at the present moment and that it is not the sole prerogative of the employer to organize a job in the most efficient manner, as there are just as many brains on the workers' side as on the employers', and unless an employer has actually worked with the tools, he is not in a position to appreciate the problems.

Dealing with the fear of unemployment, to a worker this presents a real problem, particularly now with the trend towards automation, the effects of which are to place more labour on the market and from the workers' point of view there is no end to this process. It is only logical therefore, for the worker to ponder where he will be able to find another job.

Lost time from disputes is usually brought about by actions taken by either side without due consideration being given to their effects. While we have in operation a system of Government where the two main parties are representing on one hand the employing section and on the other the workers, it is obvious that for a Government to intervene in labour troubles, other than to advocate to conflicting factions the use of the correct machinery for resolving disputes and, where agreement cannot be reached, calling a compulsory conference, would in our opinion create ill-feelings which last a lifetime.

Our Union views the article with a critical eye, but realising that this is only the first instalment, would be interested to see the remainder.

The Editor,

I have discussed this article with quite a number of people and the general opinion seems to be "Sounds very promising, let's hear the rest of it."

It would seem that any comment on the content matter of the *Observer's* article would be superfluous until we've seen the rest of it, but we can say that we think it is along the right lines inasmuch as Industrial Relations in the Building Industry are all important and, at the same time, extremely difficult to maintain owing to the scattered nature of our work.

Some managerial experts claim that the worker is a part of management, in that he manages his own section of the work in keeping with the policy laid down by top management and passed on in detail by the lower levels of supervision.

Most certainly, in Building, how the worker manages his particular job in terms of time, material conservation, and quality of workmanship is most important to the whole situation.

Top management have the necessary machinery to get instructions over to the worker, but what the worker thinks seldom goes beyond the leading hand; aren't we missing out on something?

Auckland.

Pat Donoghue

The Editor,

I am particularly interested in the *Observer* article which you have reprinted in the February-March *Arrowhead*—and incidentally *Arrowhead* is one of the few well-written, well-produced house organs produced south of the line.

Many of the social cruelties of the past (for example, the treatment of mental patients, paupers, criminals) are intolerable today and no change in economic conditions would remove them. Similarly the changes in the industrial society of the "west" are equally real and abiding.

It is not incorrect to say that what we call capitalism today is a considerably different system from that which obtained three or four decades ago. Yet, as the article points out, the thinking, the attitudes of many who are concerned with industrial relations have not changed. Many managers are reluctant to face the reality of change and adapt themselves to present-day conditions. Many rank and file workers are still suspicious of any movement toward high productivity.

It may not be easy to represent workers faithfully and simultaneously encourage eager co-operation with management. It is easy to be negative, destructive, "against", but surely there is a heavy responsibility on those who fail to show our people how much this cautious attitude is costing them.

Is it not correct to say that, subconsciously, there lingers in the minds of many people a notion that if they wholeheartedly co-operate in getting higher productivity, they are feathering someone else's nest, and undermining their own cause? We do not blame employees for this but rather those whose responsibility is to lead and educate them—colleges, managers, union leaders.

We still suffer a hangover from the days when many sincerely believed that the only way to control industrial power was to obliterate it entirely, to eradicate all profit as "naughty", and to eliminate competition altogether. But history has shown that power can be controlled, that improvement and evolution are better than rash replacements if we are to preserve individual liberty, that competition and advance are the very stuff of life.

Does the average person realise that no government wants depression, for the ability of a Government to manage its long-term finances depends on prosperity? No group of employers wants a depression, for sales depend on spending power, and spending power depends on full, well-paid employment, as recent history overseas has shown. We all want costs and prices to come down. To achieve this, productivity-per-man-hour *must* go up. Every section of the community must be taught this and taught the how and why. There has been too much fear of suggesting it. It's a forbidden subject, a sacred cow. Now and again there are tirades of abusive, passionate warning but little of the constant, constructive, intelligent education on the matter which is needed. "Constructive."

(The writer of this letter is a prominent member of the New Zealand Institute of Management. He has asked to remain anonymous.)

VENEERS OF STRENGTH AND BEAUTY

Every week nearly a quarter of a million square feet of plywood is produced at the Penrose factory of New Zealand Plywood Limited on the Great South Road, Auckland. This factory, one of the most modern of its kind in the Southern Hemisphere, employs about 100 people and is a wholly owned member of the Fletcher Group. In the original issue of "Arrowhead" (October, 1954), we wrote about the problem of glue and its relation to the plywood industry: in this issue Brian Cooper describes the Penrose factory and its operations, with a little bit of history about the industry thrown in for good measure.

The earliest evidence of the art of veneering was discovered in the Sculptures of Thebes, dated as early as the time of Thothmes III (1500 B.C.), and it is quite evident that the rudiments of woodworking and the practical use of glue were well understood nearly 3,500 years ago. Thin sheets of veneer were hand-hewn from contrasting coloured woods, spread with glue, then super-imposed on each other and weighted down with sandbags until dry.

The few pieces of early Egyptian furniture discovered in sealed tombs are examples of overlaying and inlaying with veneer and other materials.

At the time of Augustus (63 B.C. to A.D. 14), veneers were cut and applied because by this means the most beautifully marked or figured specimens of the woods could be chosen, and a much richer and more decorative effect could be produced than would be possible when only solid timber was used.

After a long gap, there was a marked revival of the artisanship of

woodwork and veneering in the Seventeenth and Eighteenth Centuries. The classic furniture of these periods emphasise the use of walnut and mahogany veneers, and these types still supply the background for the graceful designs of a large part of the better furniture that is made today.

The earliest mechanically-operated saw used in the production of veneers was of the reciprocating-blade type, and is known to have been in use about 1650. The first patent on a circular saw appears to have been granted in England to Samuel Miller in 1777, but it was not used effectively until about 1805, shortly after the advent of the steam engine. Circular saws were very wasteful in saw kerf, which at that time was far more than the thickness of the resulting veneer. Band saws, continuous or endless, could be made of much thinner steel than circular saws, and their invention is first recorded in the English patent of William Newberry in 1808 but their use was quite limited, until around

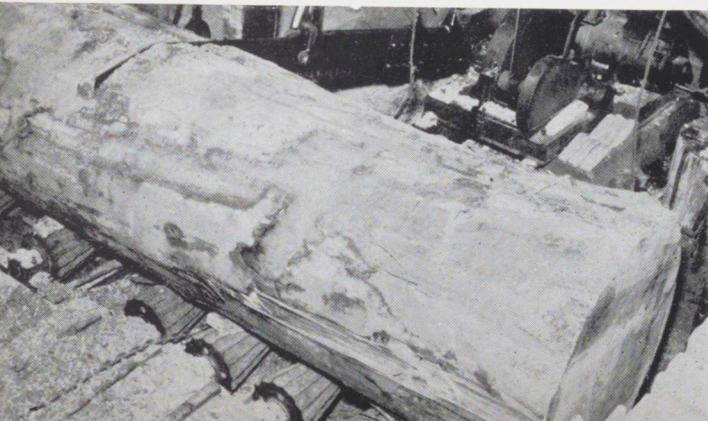
1870 when the types employed today began to evolve.

A large power-drawn plane was brought out in the early 1800's—a type of shaving machine to cut slices of veneer; again the steam engine facilitated its operation, but there is no evidence that it was extensively used and the first distinct veneer-cutting device was a modified turning lathe, on which an American patent was taken out by John Dresser in 1840.

Although the decorative value of veneer has been apparent from the earliest days of civilisation, its merits in the commercial and utility sense were not generally appreciated until much later. For many years master cabinetmakers alone appear to have made use of the principle that strength was given to wood by gluing three pieces together, "the middle pieces being laid with the grain across", and during the 1880's this theory was applied to the manufacture of chair seats.

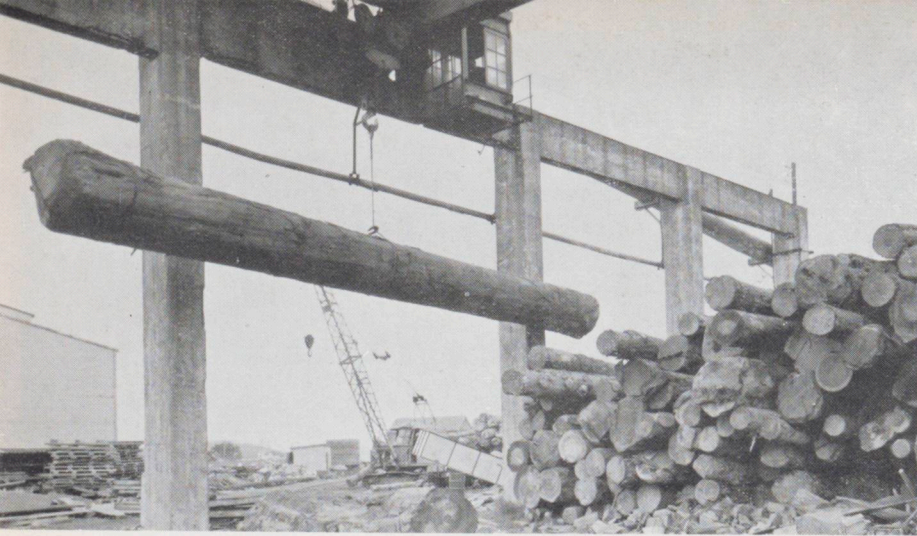
It was not until the invention of the rotary cutter about 1890 that large

Cutting "bolts" to size.



Malcolm Edwards lowering "bolts" into vats for cooking.





Stacking peeler logs with gantry crane.

The principal supplying countries were Australia, Japan, U.S.S.R. and Canada.

The effect of the war in 1939 meant that a big proportion of the supply was cut off, and it was then that plans were made to increase the production of plywood in New Zealand.

The Penrose Factory

In 1942, N.Z. Plywood Limited, Penrose, began operations simultaneously with another manufacturer, Henderson and Pollard Limited, and by 1943 the annual production of plywood in New Zealand had increased from an estimated figure of 3 million square feet in 1939 to 15 million square feet.

From that date onward both demand and productive capacity increased steadily until in 1946 the total plywood produced in New Zealand was 22,500,000 square feet.

In 1950 a new factory was established in Christchurch. This was N.Z. Plywood (South Island) Limited, jointly owned by Fletchers and the Kauri Timber Company. The capacity of this Christchurch unit is 13½ million square feet. By 1955 the total output of plywood in New Zealand exceeded 30 million square feet.

N.Z. Plywood Limited, Penrose, has played a big part in this expansion, and during the last ten years has averaged over 12½ million square feet.

More recently plywood has been adopted for many uses, and new methods are being introduced in construction to put to advantage the qualities of plywood for shuttering in the production of fair-faced concrete work. The Penrose factory has been to the fore in the development of many new uses for plywood, and today manufactures several proprietary lines, one of which is well known as 'Weldtex' a striated panelling which receives

sheets of veneer became available, and it then became apparent that, by using these veneers and applying to them the idea of cross-grained construction, boards of exceptional size and strength could be built up. Some six years later, plywood, made primarily for tea chests, was evolved and the commercial three-ply board followed shortly afterwards.

The new product 'plywood' was called into important industrial service in U.S.A. during World War I. Up to that time, plywood products had been called 'veneered' and the process was described as 'veneering' but the unfavourable dictionary definition of 'veneer' proved to be detrimental to the growth and promotion of a rapidly expanding industry.

Makers of motor vehicles, designers of aeroplanes, architects and contractors, all were attempting eagerly to evaluate the advantages of plywood, then still called by its unhappily inherited name of 'veneered stock'. In 1919 the Plywood Manufacturers' Association was organised in Chicago, succeeding the old Veneer Association. It was a milestone in the history of

industry and swept away a serious obstacle to its favourable recognition.

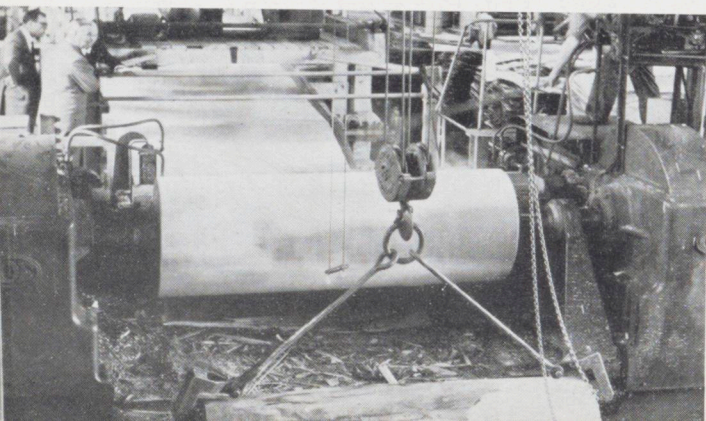
Progress in New Zealand

The manufacture of veneer and plywood in New Zealand was first undertaken by a well-known King Country milling company (Ellis and Burnand Limited), which began production in 1910, at first concentrating mainly on the manufacture of cheese scaleboards and strawberry punnets and, to a less extent, plywood.

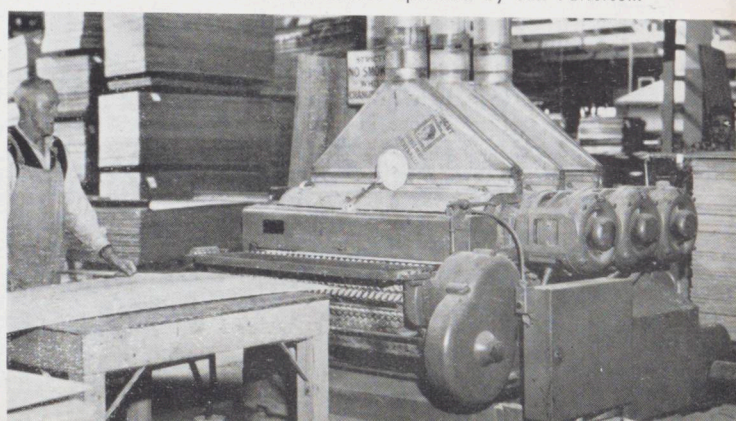
But in fact prior to 1939 the main requirements in New Zealand for veneers and plywoods were largely met by imports, and an indication of the growth of demand from 1933 up to that date is seen in the statistics of the value of imports arriving into New Zealand:—

1933	---	---	£19,492
1934	---	---	32,320
1935	---	---	35,371
1936	---	---	61,923
1937	---	---	89,697
1938	---	---	70,119
1939	---	---	100,499

Veneer lathe in operation.



Drum sander operated by Jim Patterson.



considerable favour in decorative work both in New Zealand and Australia.

The original capacity of the factory was calculated at 12 million square feet per annum, but later developments and new installations have now raised this potential to at least 16 million square feet per annum.

The Plywood Process

After the logs are unloaded from the trucks by a gantry crane, they are graded for their peeler-content* and that portion is extracted and cut into bolts relative in length to the desired length of the sheet of plywood. Generally the different species of timber to be processed are kept separate so that one species at a time is processed in the daily operations.

The logs are cooked for approximately 36 hours in vats containing hot water. This is done to raise the temperature of the sap within the log and thus soften the fibres before peeling.

The logs are then taken from the vats, the bark is removed on a debarking lathe, and the clean bolt is next placed in a rotary lathe. This robust machine holds the log between centres by chucks at its ends, and rotates the log against a 110-inch knife and pressure bar which peels the veneer in a ribbon.

This ribbon of veneer, the thickness of which can be controlled from 1/28th in. to 1/6th in. is then conveyed along a deck system and through a multiple clipper. The clipper cuts the veneer into pre-determined widths and extracts the veneer containing faults from that which will make good face material.

The damp green veneer is then passed through roller driers which extract most of the moisture, reducing this ultimately to approximately 8-10 per cent., the moisture level necessary for obtaining good adhesion of the veneer in the later gluing process.

After drying, the veneer is sorted into various categories of 'face', 'back' and 'crossbanding' (or centre-lay), and the narrower strips are joined together to sizes corresponding with the standard size sheets which range from 3/16th in. to 9/10th in. in thickness, from 3 feet to 4 feet in width and from 3 feet to 8 feet in length.

There are several adhesives used in plywood construction (see *Arrowhead*,

* A log or bolt suitable for manufacture into plywood is usually termed a 'peeler', i.e., capable of being peeled on the rotary lathe.



Presses being loaded by Ned Thomas and Cyril Wood.

October, 1954): for interior use, a urea-formaldehyde resin is the chief adhesive, and for exterior work (boat construction and the like), a water-resistant phenol-formaldehyde synthetic resin produces the best bonding.

The assembled sheets are pressed at pressures of 150-200 lbs. per square inch and at temperatures from 220 to 290 degrees Fahrenheit.

After cooling down, the sheets are sawn for size and the faces sanded to determine their ultimate grading. Packing and despatch then complete the cycle.

The operators work under an incentive scheme based on work-study and every encouragement is given to the staff to obtain the maximum benefits from the system which has been operating successfully now for eighteen months.

The plywood produced by the Penrose factory is marketed through the N.Z. Plywood Distributors' Federation which effectively covers the length and breadth of the country.

Supplies of peeler logs come from the bush resources of Fletcher Timber and its contractors as well as from the N.Z. Forest Service. Considerable quantities of Radiata Pine veneers are also supplied to the factory from the operations of N.Z. Forest Products Limited at Kinleith. It has become increasingly evident over recent years that supplies of native timbers, particularly those suitable for plywood manufacture, are steadily declining, and that the ultimate future for plywood production in New Zealand lies largely in the use of our exotic pines such as Radiata Pine and possibly imported logs.

Factory staff: Left to right: Charlie Davis (charge hand, splicers), Ike Ohlson (charge hand, pressers), Stan Thompson (charge hand, driers), George Dixon (factory supervisor), Len Townley (charge hand, lathes), Jack Beavis (engineer), Tony Philson (chemist).



Incentive Bonuses

Considerable interest has been aroused at the introduction of an Incentive Bonus System by Fletcher Construction on their State-housing contracts at Tamaki, Auckland.

The scheme has been put in operation by a well-known firm of British industrial consultants, who have had many years of experience in this type of work. This article gives a brief description and answers some current criticisms of the scheme.

The scheme is based upon a very careful analysis of the building methods used at Tamaki and the introduction of many organisational improvements which are aimed at conserving the effort of the workers so that more can be accomplished without excessive physical effort. This reorganisation of the methods took many months and it is generally conceded by management and men that the flow of work and the organisation of supplies have been substantially improved. It is important to appreciate that the greater volume of work is largely the result of better planning rather than more physical effort.

One of the problems that had to be faced was the employment of apprentices in the small groups that deal with different phases of the job. It is obvious that a small team of fully experienced men can work more effectively than a team in which two or three apprentices are being trained. In order to compensate for this the target times are adjusted according to a scale which reflects the number of apprentices and their degree of experience.

The target times have been set on the basis of teams with average ability, and allowances have been included to cover necessary rest, 'smokos', and general contingencies which are always experienced in the building industry. There is no atmosphere of rush or tear at Tamaki, but rather one of an orderly progression of work from one job to another without losing unnecessary time or being held up for lack of supplies or equipment. It is no part of the scheme to encourage skimmed work or dangerous short cuts. The correct methods and standards of work have been specified and the scheme of payment is so designed as to positively discourage the 'rush and tear artist'.

Because previous attempts to introduce bonus schemes on construction

work have failed due to the absence of proper planning and methods improvement, it is natural that employees should be cautious and sceptical about the possibility of ever achieving an equitable scheme which is incorruptible. A number of meetings have been held with the Trade Unions concerned and a great number of questions have been asked and answered. Some of the more significant questions, together with the answers that have been given, are set out below:—

(1) *Will the allowed times be cut once the scheme has become established?*

The allowed times are guaranteed, providing the methods employed remain unaltered. Allowed times will only be altered if improved methods are introduced which enable the work to be done more easily. The method of work upon which the allowed times are based is specified in writing for every operation and a copy of this specification is available to the workers' representatives.

(2) *Will the bonus rates be cut once the higher rate of working has become established, particularly if competition forces management to look for economies in their costs?*

Bonus rates will not be cut since to do so would encourage a return to the previous less efficient methods of working, and the improvements that have been introduced would not be maintained. It would thus be foolish to cut or remove the bonus since the resulting deterioration in the methods of working would cause costs to rise.

(3) *Why not pay out extra money in wages instead of bonus?*

If the target times are achievable, and they are, the bonus will be

earned. If the target times are not achieved the money has not, therefore, been earned and there would be no justification for paying it. The fact is that the bonus is available if, and only if, certain conditions are fulfilled. The most important condition is that the standard methods are followed and standard times attained. Without these conditions being fulfilled, the bonus, which can amount to approximately £3 per week extra, simply could not be afforded.

(4) *What happens if the work is held up through no fault of the workers?*

The scheme is arranged so that all time lost through no fault of the workers is credited at their basic rate. Provision is also made so that any bonus earned up to the time of the stoppage is safeguarded.

(5) *Does the scheme place the older employees at a disadvantage as compared with the younger workers?*

The target times are established on the basis of workers of average ability. Furthermore, much of the physical effort can be reduced by the older workers by virtue of their longer experience and greater know-how. There are, in fact, workers of all ages on the Tamaki site, and there has been no evidence that the younger workers have any special advantages.

The present position is that the scheme at Tamaki has been in operation for a little over two months, and it is being carefully watched by the Unions concerned to see that it operates fairly. In order to ensure that it is properly maintained, members of the Company are being trained by the consultants to work and control the scheme in the way it is designed. The consultants themselves will be available to advise top management from time to time whether the scheme is being properly worked. Furthermore, all the relevant information regarding the operation of the scheme is available to workers' representatives so that they will be in a position to supervise the scheme themselves.

Since 1939 housing costs have risen substantially and although the bungalow of today has more amenities and built-in storage units, it is certainly no larger than its counterpart of 30 years ago. Housing costs are getting seriously out of line with incomes and, in an attempt to restore the balance, the Government has been trying to popularise the low-cost house. One practical incentive is the Suspensory Loan which is virtually a subsidy to purchasers of houses priced up to £2,600 or higher in the case of large families. But few can avail themselves of the elusive £200 maximum Suspensory Loan which is pegged to new houses costing £2,300 or less. (The scale drops by £50 per £100 of house above this price.)

Many New Zealanders have to take on the responsibility and burden of purchasing a house and section priced as high as five times their annual income. In the U.S.A., on the other extreme, it is often expected that the ratio should not exceed two and one-half times the family income. Somewhere between these two should lie a happier medium. Further encouragement to this end is the Government-sponsored Group Building Scheme under which the State Advances Corporation agrees to buy unsold houses from builders registered as members of the Scheme, providing the houses are designed to meet the needs of families of moderate means and that prices are consistent with costs and a fair margin of profit.

The Parade of Homes is an annual exhibition of low-cost houses organised under the auspices of the Ministry of Housing as a demonstration of what the public can buy in the low price range. Of the 18 houses in last year's Parade, the average was £2,650 without section. This, it is contended, is still too high to be financed out of modest savings. The problem for many is not to meet mortgage commitments, but to find the initial deposit to bridge the gap between the rising price of houses and land and the maximum loan available (£2,000 including Suspensory Loan in the case of State Advances Mortgages).

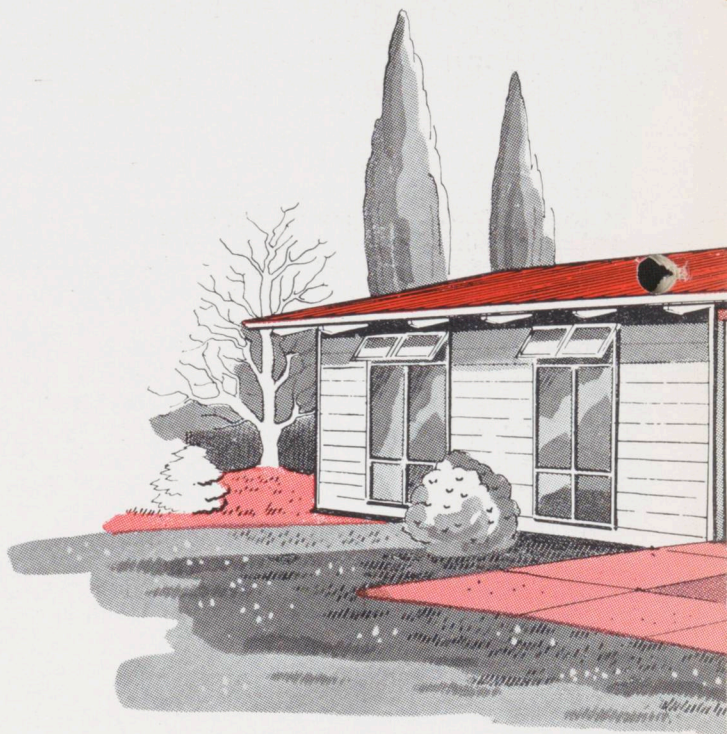
Fletcher Construction, in its aim to bring down costs without any reduction in standards, has spent considerable money and specialists' time in months of careful research and experimentation. Believing that economies should not really be made by merely reducing the floor area of a conventional bungalow, Fletchers decided to engage the services of a team of young architects with an *a priori* approach to low-cost housing: these are Group Architects led by W. D. (Bill) Wilson. For a year and a half a committee chaired by Dr. John Watt worked closely in liaison between Group Architects and our housing, timber, joinery and service divisions. Although this work was no real secret, we did not shout it from the house tops: not without a smile did we call the work "Project X", and it stuck.

The essential difference between the Project X house and others currently on the market is that it is much cheaper, £2,450 for a three-bedroom house of a design which deliberately emphasises living space and conveniences for the modern family. It looks different, but that does not mean to say that the house is a tourist class version of a more elaborate model. The design has the clean simple line of architecture that expresses honest values and does not pretend to be related to wealthy cousins in Paratai Drive. Contrary to accustomed practice, the design of Project X has been planned to fit the methods of construction—not the other way round. The modular principle*

PROJECT

TWO MEN AND A HOUSE

John Wall and Bill Bryson put up the shell of the project house in four days.

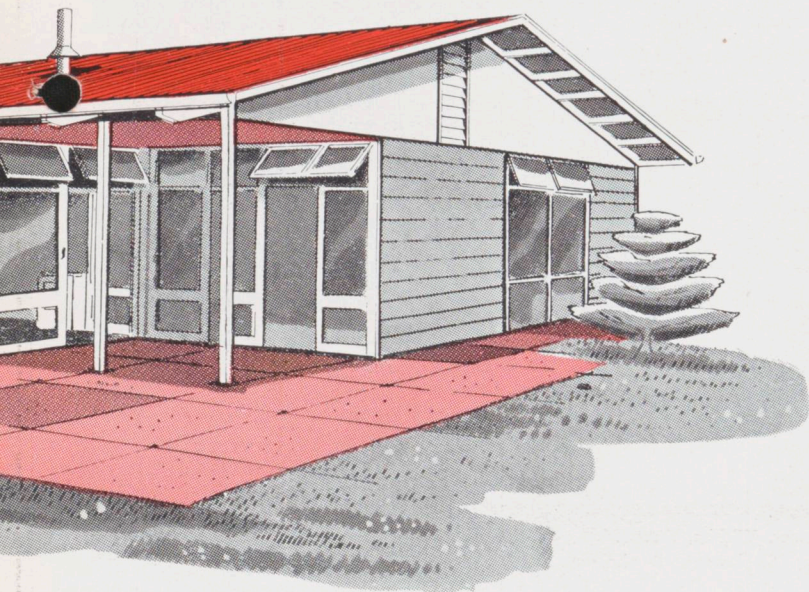


has been used throughout to enable rapid erection on the site once foundations and floor joists have been laid. The units are made of the best commercially available materials selected and sized to avoid waste. A maximum of the work such as framing and sheathing the wall panels and making the roof trusses has been done under factory conditions. Interior and exterior joinery was prefabricated even to hanging the doors on the jambs. Everything was brought together on the site at the stage when the sub-floor structure was completed, and then progress was spectacular. (See illustrations). On the first day the exterior panels were positioned and fixed, on the second the roof trusses were mounted on the shell of the house. Next day roof purlins were fixed and the corrugated iron went on and, within a week of commencement, interior frame sections were fixed

* Modules are conveniently sized and spaced panels and members—in this case 3 ft., 6 ft. and 12 ft. exterior wall sections, 6 ft. wide interior wall sections and 6 ft. joinery sections with fixed glazing or french windows.



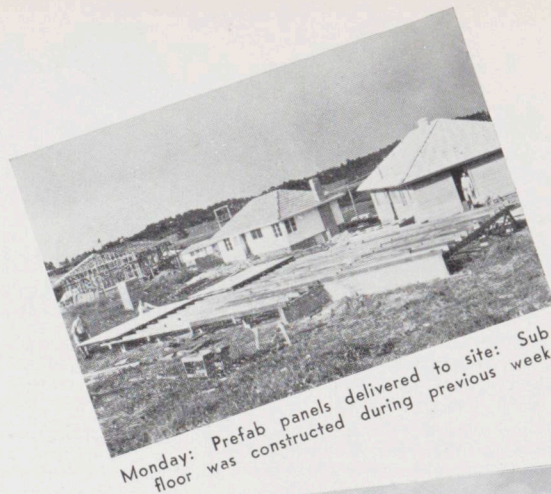
The problem of designing and building a genuine low-cost house to conform with New Zealand's multifarious (sometimes archaic) by-laws and to satisfy the requirements of government and private lending institutions is an elusive one. We may have found the answer. If you are in Auckland during the early part of May you can see it at the Parade of Homes at Mt. Roskill.



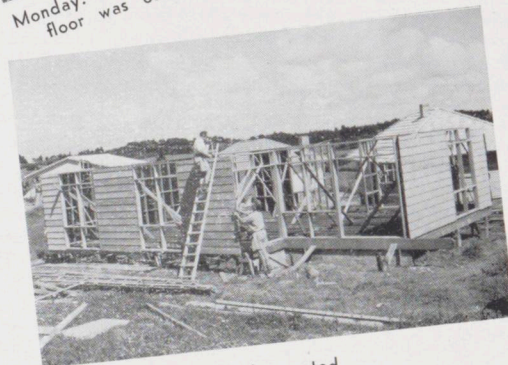
and lined and the ceiling was placed. At that stage the sub-trades took over their various jobs, hooking up the centralised plumbing unit round which kitchen, bathroom and laundry are located, laying drains, installing electric wiring and painting and papering the walls.

Although the components are standardised for factory production, this does not mean that other houses built on the same principle would be identical. Considerable variations of floor plan are possible and the re-arrangement of modules would enable a redistribution of windows, entrances and verandahs. Further variety would be possible by the use of additional features such as trellis-type fences and carports in different positions. Landscaping to suit sections and tasteful variations in colour scheme would give each house the stamp of individuality that owners look for.

Permits to build the project house have been approved by the Mt. Roskill Borough Council and the Auckland City Council. The State Advances are reserving their decision until the exhibition house has been inspected.



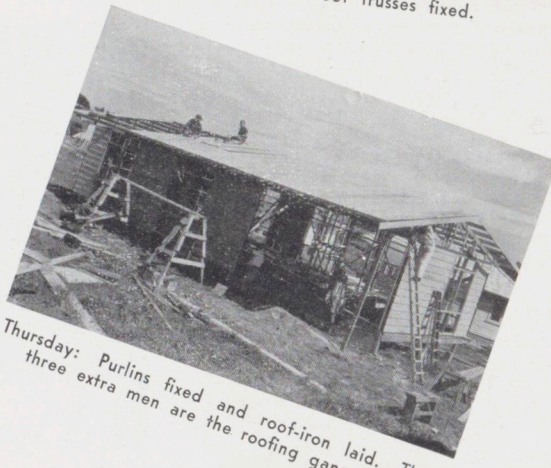
Monday: Prefab panels delivered to site: Sub floor was constructed during previous week.



Tuesday: Exterior panels erected.



Wednesday: Prefab roof trusses fixed.



Thursday: Purlins fixed and roof-iron laid. The three extra men are the roofing gang.

KAWERAU COOKS "DOWN POTS"

The brief strike of cookhouse staff at Kawerau in early March was settled after negotiations between Fletcher-Merritt-Raymond and the Hotel Workers Union.

The dispute arose over the interpretation of a complex clause in the Hotel Workers' Award which both parties agreed never contemplated Kawerau conditions when it was drafted.

It was a clause making provision for employees commencing work without an eleven-hour break from their previous knocking-off time. Dr. A. M. Finlay, an Auckland solicitor, agreed to act as arbitrator and interpreted the clause generally along the lines of the Union's contention.

One of the Company's arguments was that during the eleven-hour break period for city workers an employee would have to find his way to and from his home, whereas at Kawerau free board and lodging (not required under the Award) was available adjacent to the job.

A SHIPLOAD OF WORKERS

The Waiwera's Immigrants Navvies for the Main Trunk

WELLINGTON, May 28*—Making cat-paws of the joggle that came along in a dripping northerly, the *Waiwera* sheered up to the Queen's wharf yesterday morning, all the way from London. The hawsers were thrown over, and the big hull lay impatiently breathing them slack and taut. A grey sleet-shower drifted across the harbour as 141 pale and foreign faces peered above the decks, and scanned the visible fringe of the city with wonderment.

"Say, there's a man-o-war," cried a Scotsman, full of surprise at the sight of something so familiar, as the wind freshened and blew away the curtain of drizzle from the Railway Wharf.

"How long has this colony been going?" queried another, indicating the slopes of Mount Victoria at Oriental Bay, where he presumed the "toffs" lived.

"Well," said a third, "this climate's as bad as the Old Country."

"What part do you come from?"

"Yorgzshire."

"I bet it was a worse day than this when you left London." Silence.

Out of the 141 passengers, there are two cattle-dealers, a fitter or two, forge-workers, farm servants, etc. One is Irish, six are Scotch, and the rest are English, which means anything from Somerset to Yorkshire.

* 1906.

MT. WELLINGTON FACTORY OPENED

The new assembly factory and offices for Fisher & Paykel Ltd. at Mount Wellington, Auckland, were officially opened by Hon. Dean Eyre, M.P., on Friday, March 2.

In his opening address, Managing Director, Woolf Fisher, paid a compliment to Fletcher Construction who designed and built the plant. There is 75,000 square feet of space in the factory, which at present employs about 250 people.

NEWS PAGE

In producing "Arrowhead" we have found many small items of news not covered, or not covered fully, by newspapers but which are of interest to our readers.

This News Page is something of an experiment. For reasons already stated some of the news is dated, and we will await our readers' comments as to whether or not to run it regularly. Please write and tell us what you think.

ARRIVALS:

Harry Knight, Howie Moffat, Sydney.

Jerry W. Komes, Bechtel Corporation, San Francisco.

H. C. (Hank) Boschen, Raymond Concrete Pile, New York.

'Ned' Brown, Brown Drilling Company, Long Beach.

M. R. Renner, Wichita, Kansas.

Sir Arthur Stephenson, Stephenson and Turner, Melbourne (seen below with Sir James, on our Chairman's 70th birthday).

DEPARTURES: Sir James and Lady Fletcher for U.K. and U.S.A., on May 4.



OUR BLUFF TENDER UNSUCCESSFUL

The contract for the Harbour Works at the Bluff was awarded to the French firm Societe Nationale de Travaux Publiques in association with Etudes et Entreprises. The accepted tender was for £3,221,438.

The tender submitted by Fletcher-Raymond was not successful and naturally we were disappointed because we have taken considerable interest in the proposed works for a number of years and engineers from the Raymond Company have inspected the site on a number of occasions.

To W. A. Bloodworth and his Company, E. D. Adams, Chairman of the Board, and D. E. S. Mason, Chief Engineer, we extend our best wishes for a speedy and successful contract.

To our Raymond friends and Bob Stanbrook and his team in the Heavy Construction Division we say, better luck next time.

OIL IN TARANAKI

NEW PLYMOUTH, May 2*—Mr. Fair, manager of the petroleum bore at Moturoa, is confident that the well will now yield 100 barrels of oil a day. Mr. Seddon has wired to Mr. Fair as follows: "I am delighted to hear good news. Pleased to know that success has crowned efforts of those enterprising colonists who persevered against adverse circumstances."

WELLINGTON'S NEW CATHEDRAL

The site for the first portion of Wellington's new Anglican Cathedral has now been cleared and levelled and tenders for the first part—the Chancel and a portion of the Nave—are expected to be called late this year.

One of the buildings which was demolished in clearing the site was the house in which Richard John Seddon lived while Prime Minister.

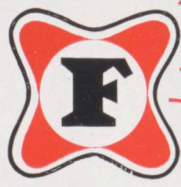
Supervising architects are Messrs. King, Cook and Dawson.

BIG DAM DEMOLITION

KUMARA, May 22*—"It may not be generally known," says the *Kumara Times*, "that pilgrimages are often made to Kumara by admirers of our universally known representative, the Right Hon. R. J. Seddon, to have a look at his home. But such is a fact. Only on Wednesday last a globe trotter was travelling in the coach with our reporter, and in the course of conversation said 'I have seen all I wanted to see in Kumara, and that was Dick Seddon's house'. It was quite a common thing at one time for excursions to be made to the Big Dam for the purpose of seeing where Mr. Seddon once lived, and to take away small pieces of wood from his old house as souvenirs. Now there are bits of his old house at the Big Dam scattered all over the country.



CHANGE YOUR PARTNERS



Readers have asked for some enlightenment on joint venture partnerships; they find switches in partners confusing. In our annual report of 1954 we wrote:

"A joint venture partnership enables a group of contractors to pool their resources of supervisory personnel, engineering talent, specialised experience and equipment for the efficient handling of unusually large construction jobs."

No New Zealand construction company could possibly carry all the specialised staff and equipment for the wide range, but small number, of major projects that crop up from time to time in this country. Big building organisations overseas with a broader range of business to choose from have been able to specialise; for example, Merritt-Chapman & Scott in pulp and paper mills, the Bechtel Corporation in power generation and Raymond Concrete Pile in foundation and marine work. By entering into joint venture partnerships, New Zealand firms are able to get the temporary benefits of specialist know-how and equipment for specific jobs.

Fletchers take credit for being among the first New Zealand construction firms to introduce overseas partners on this principle, and our first association, Fletcher-Merritt-Raymond, were the successful tenderers for the Auckland Harbour Board's Import Wharf. In this contract Raymonds played the leading role supplying the project manager, the late Harry Lutz, A. P. (Pete) Campbell and other skilled technicians as well as the key equipment such as the modern pile driver.

On the Kawerau contract Merritt-Chapman & Scott who have built over twenty pulp and paper mills took the lead and for their part loaned us Walter Hammer, Charlie Goddard and other engineering, administration and supervisory personnel. On both contracts Fletchers provided the local know-how on labour and materials, and in addition supplied some experienced staff. It is normal procedure for each contract to be treated on its merits and it would not be unusual in U.S.A. for instance to find contractors who were venturing together as a partnership on one job, tendering against each other on another.

Now that the joint venture principle has been more or less firmly established in New Zealand, combinations of partners will inevitably change according to the nature of the job and the commitments of the respective partners.

On the Bluff contract (see opposite), we tendered unsuccessfully with Raymonds in the name of Fletcher-Raymond, with Raymond cast to play the leading role on the marine engineering side. Merritt-Chapman & Scott were not included in this group, and did not tender for this job.

On the geothermal steam development at Kawerau we invited the Bechtel Corporation, leaders in the field of power

generation, to join with us and there we operate under the name of Fletcher-Bechtel-Raymond. On the other hand Raymonds and Fletchers decided not to tender for the Mercer steam power station contract, and Merritt-Chapman & Scott submitted a bid in association with two other New Zealand firms.

Thus we change our partners but retain our friends.

We asked our good friend, Charlie Goddard of Merritt-Chapman & Scott who took over the job of Project Manager when Walter Hammer went home last year, to write us a few words about Fletchers, Kawerau and New Zealand generally and here it is:—



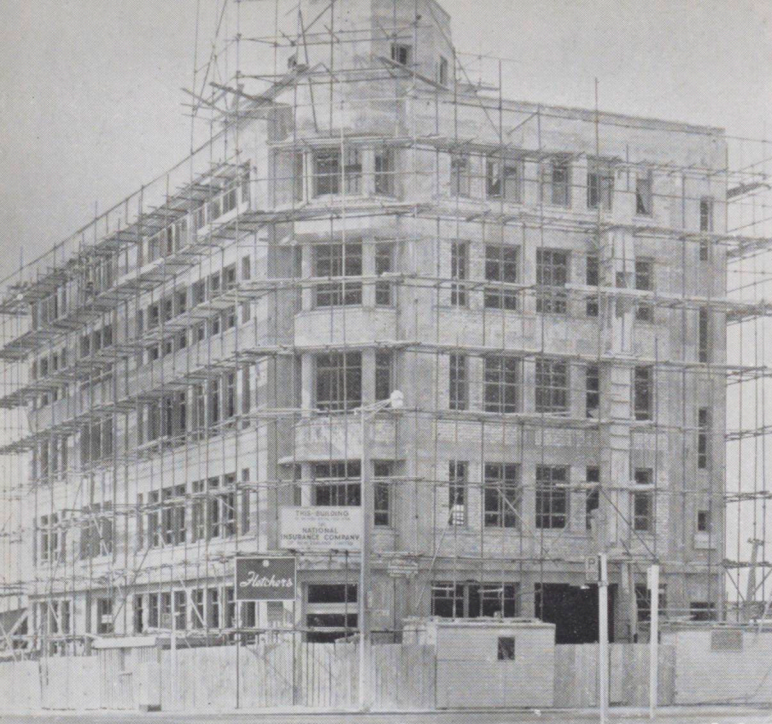
"I wish to thank the Editorial Staff of *Arrowhead* for this opportunity to say *Au Revoir* to my many friends in the Fletcher Organisation. Mrs. Goddard, Gerry and I have enjoyed our stay in New Zealand, more so I believe because of our friends here. It is one of the peculiarities of the construction business that one comes to a project such as we had at Kawerau, makes a

home there while the project is being constructed, and when completed, moves on to another project, leaving behind friends who, although we may never see them again, always have a warm spot in our hearts.

Preceding these few lines is a statement to the effect that I took over the job of Project Manager from Walter Hammer. As a matter of fact I only did my best to follow in Walter Hammer's footsteps and to carry out the policies and programmes which he instituted before he left through ill health. I know that I am speaking for Walter when I say that the Kawerau project, comprising as it does a pulp and paper mill and its associated timber mill, rates as one of the largest projects of this type anywhere in the world and we are both pleased that we had the opportunity to be associated with it along with our partners, The Fletcher Construction Company and Raymond Concrete Pile Company.

The project has been big in all its phases—first in the minds of the people who conceived it, then in the scope of the planning and finally in the magnitude and amount of work put into the construction of it.

In closing I wish to say for Walter Hammer, myself and all Fletcher-Merritt-Raymond's gang at Kawerau: Good luck to all our friends and success to our partners in any future projects they may undertake. Who knows but in the not too distant future we may all be associated again. *Kia Ora.*"



going up

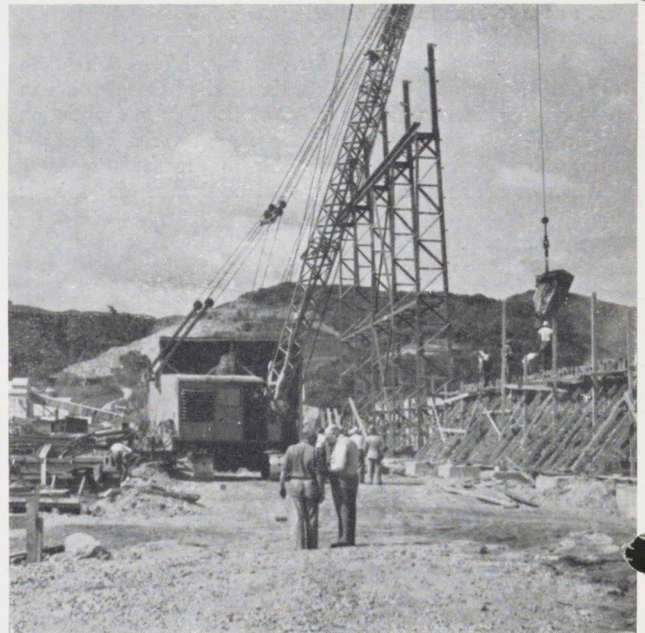
HAMI

• NATIONAL INSURANCE CO. OF N.Z. LTD.

This is the largest building yet to be erected in Hamilton, and will house four large Government Departments, as well as the owners. Begun in November 1954, the contract was completed with Jim Coulson in charge. The exterior plastering is being carried out by Bill Chapman and his team.

• WAITOMO CEMENT WORKS, TE KUITI

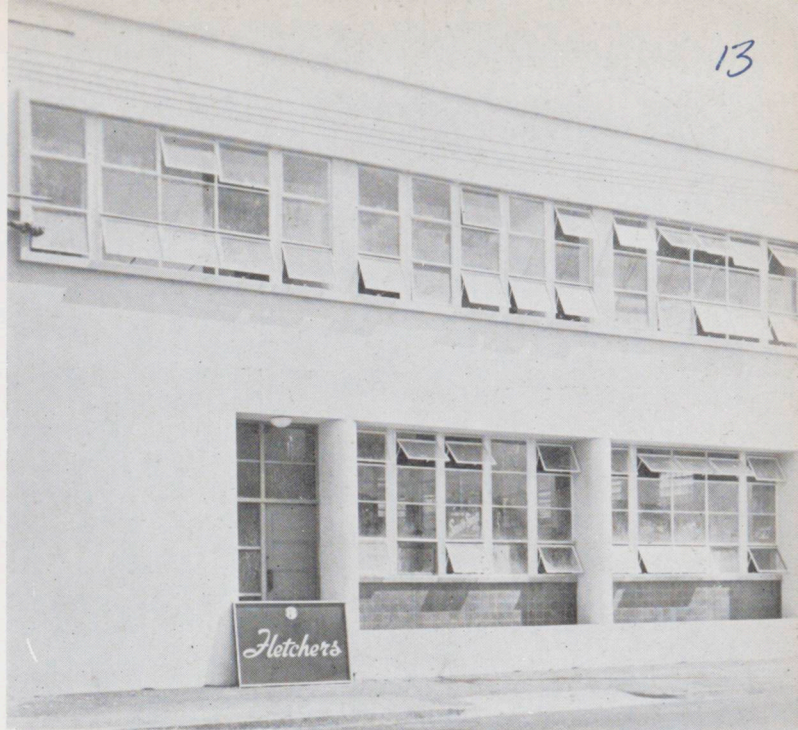
Progress on the industrial buildings for Waitomo Portland Cement Ltd. is up to schedule. Designed by our own engineers in association with our Industrial Consulting Division, the works are being built by the Heavy Construction Division who are also responsible for purchasing and expediting. In charge of the job is Jack Smith, Field Superintendent, who is also chief of operations on the Caxton Tissue Mill contract at Kawerau and the Orawia cement works. Doug Joy is Job Superintendent, Norm Searle Foreman and Ken Stych is Office Manager.



• C. L. INNES & CO. LTD.

This single-storey building with a large mezzanine floor, having a total floor area of slightly over 19,000 sq. ft., is sited on a prominent corner on one of the main approaches to the city. It is a fine addition to the many new buildings in Hamilton. The job was carried through to completion under the foremanship of John Foote.

around HAMILTON



● **AUCKLAND HERD IMPROVEMENT ASSN. INC.**

This building of reinforced concrete with steel supplied by Fletcher Steel, was erected under the foremanship of Fred Jackson. It is of two storey construction and will provide up-to-date accommodation for the organisation assisting the development of one of the major industries in the Waikato.



● **PUBLIC TRUST BUILDING, TAURANGA**

This building caused much local interest while under construction. It is Tauranga's first three-storey structure, and now accommodates in spacious offices several Government Departments besides the Public Trust. Built on orthodox lines of reinforced concrete, it was completed under the foremanship of Len Bain. Steel was supplied by the Vulcan Works of Fletcher Steel.

● **DALGETY & CO. LTD.**

The new 20,000 sq. ft. premises in Hamilton North were built by Fletcher's Preload Division. The interior, free of pillars, gives an unobstructed view of most of the main office area which is finished in a pleasing range of colours. It is the first building of its type to be constructed in this country, using prestressed methods and the obvious advantages are clearly to be seen. Foreman for Preload was J. Bacon, and John Foote was Fletcher Construction foreman on the interior work.



Personalialia



AUCKLAND

CONGRATULATIONS: To Barbara Halcrow (Head Office) who married Mr. W. Williamson on May 2; to Murray Neads (Vulcan) on the occasion of his marriage; to Jim Cansdale (Work Study) who joined the benedictos on a recent visit to Sydney. Jim also tied for first place in the N.Z. Exams of the Institute of Industrial Management (Departmental Supervision).

WELCOME: To Margaret Cunliffe who has joined the office of Sales & Services; to Fay Wales (Head Office); to Jim Harper who has joined Fletcher Construction as Operations Planner; to Malcolm Falconridge and Reg Howan (Quantity Surveyors Office).

SICK LEAVE: Rex Leighton who was convalescing at The Mount, is now back in harness again.

FAREWELL: To Mrs. Lillian Moss (Plywoods) who left after 14 years' service. She was presented with a steam iron and an electric mixer to make life easier at home. The Directors gave her a cheque in appreciation of long service. To Ray Wilson (Vulcan) who has returned to Australia and to Bill Parmenter, also of Vulcan, who has retired after 29 years' service. Presentations were made from his workmates and on behalf of the Company.

THE SOCIAL CLUB: A moonlight cruise was organised in March and 45 people attended.

LONG-STANDING RECORD BROKEN: The Auckland Grammar School's half-mile record which stood for 30 years (a record in itself) was broken at the recent sports held in early March.

The previous holder was our Dr. John Watt of Auckland. John also gained his half blue in athletics at Oxford University in 1933 where he was a contemporary and competitor with the late Jack Lovelock and U.S. Olympic star, Pen Hallowell.

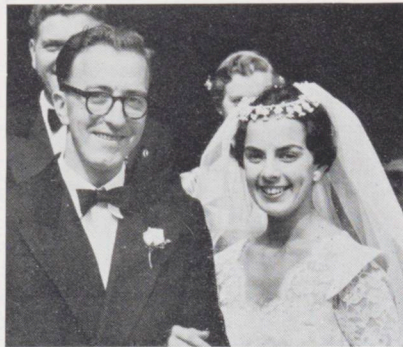
GRAHAM LEACH of Head Office was awarded his Double Blue at the University Easter Tournament held in Wellington. Graham had two firsts in swimming and was placed in the N. Z. Varsity water polo team.

TREVOR CULPETT (Plywoods) of Papatotae Bowling Club won the Intermediate Pairs and is runner-up in the Singles.

INDUSTRIES MANAGING DIRECTOR HONOURED

The appointment of John Watt, M.Sc., D.Phil.(Oxon) to membership of the Advisory Council of Scientific and Industrial Research for the current four year term was gazetted on 5th April, 1956.

Dr. Watt has recently been made Managing Director of Fletcher Industries Ltd.



Yvonne and Neil Vodanovich. Bride was formerly Yvonne Berghan and worked for Sales & Services, Auckland.

WELLINGTON Wisdom

CONGRATULATIONS: To Peter East (Engineers) a son, and Ron Bittle (Timber) a daughter; to Stephen Kemp and Roger Rangitangi on completing their apprenticeship, and to Basil Hanify who is back with us after a serious illness.

WELCOME: To Dick Carr from Sunny Nelson, now Foreman on the Rongotai College job; to Michael Byrne, Robert Inness, David McAllister, Alex Plews and Roy Whitehead, all recent arrivals from the United Kingdom.

FAREWELL: To Susan Ashford who is leaving for Australia to get married. Congratulations and our best wishes, Susan.

ROTORUA

CONGRATULATIONS: To Kath Green (Typist) on her marriage to Doug Dinsdale; to Heather Rolton (Accounts) on her marriage to John Ray (Te Rimu) since left for Dunedin; to Hori Anaru on his marriage to Muriel Green.

WELCOME: To Jean Donnelly (Accounts); Ann Cooper (Receptionist and Purchasing); Jim Hewitt (Accounts); Gerrard Ward (Kinleith Mill Clerk); Doug Tansley (Ngongotaha Workshop Foreman); Jim Foothead (Precut Mill—from Porirua); Mac Williamson (Te Rimu Head Yardman).

FAREWELL: To Bill Morrison (Purchasing Agent); Ken Bendall (Timber Supply Officer); Colin Bidois (Kinleith Mill Clerk); John Silcock (Ngongotaha Workshop Foreman); Betty Menary (Receptionist); Ted Flight (Te Rimu Head Yardman).

CHRISTCHURCH News

CONGRATULATIONS: To E. J. Clinch of Fletcher Construction on the birth of a son and to Ian McIntyre (Office) likewise; to Doreen Humphries of the office staff on her forthcoming marriage; to Joan Burt of the office staff on her recent engagement; to Jack Grose of Construction on his recent marriage.

SOCIAL ACTIVITIES: A successful and well attended social and dance was held in the cafeteria on March 3. A similar function was arranged for April 14.

DUNEDIN Diversions

WELCOME: To Mrs. Milne and Mrs. Leslie who have joined Fletcher Steel's office staff.

CONGRATULATIONS: To Alec Coleman on his marriage to Melba Horne; to Shirley Walker on her marriage to Jim Sullivan.



FISH STORY: Jack Bourke, Laurie Heron and Bob Ross with their record catch at Mercury Bay. Three striped marlin weighing 260, 274 and 260 lbs. were caught in one day's fishing—the first time in 9 years that this has been accomplished by one party in the Bay.

INVERCARGILL Intelligence

CONGRATULATIONS: To Don Matheson (Plumbing Division), on the birth of a daughter.

WELCOME: To Jack Harrington, who has recently joined the office staff.

SPORT

CHRISTCHURCH

A cricket match was played between the office staff and the factory last month. The factory team was victorious by 70 runs.

WELLINGTON

Our Cricket Team have again won their Championship Grade in the Mercantile League and have qualified for promotion to a higher grade next season. The Club's annual Smoke Concert was a great success and was well attended by players and supporters.

TIMBER TESTS

On the second invasion of Okoroire by the Penrose Pinehearts and the Rotorua Rimustumps for their annual two-day cricket match, Penrose avenged their somewhat doubtful (yet acknowledged) defeat last year by an undoubted victory over Rotorua.

The Saturday cricket saw all players at the height of fitness and the batting yielded 82 runs for Rotorua (Des Beckett 21, Bill Angell 17, Dick Perham 13) and 110 runs for Penrose (Bill Coxhead 35 not out, Bob Carlyle 19, Ron Mace 15). The effort on Sunday produced many and varied incapacities from the day before but Penrose knocked up 115 runs in their second innings (thanks mainly to Wallace's 67 and Bill Coxhead's 15) whilst Rotorua were able to compile only 72 (Jack Smith—another welcome "ring in"—31, and Bill Waller 15 not out). In the field the players were most agile but in the main most uncricket-like and much advice was given and taken by all with Syd Brown doing excellent work for Rotorua in bowling out or talking out the opposition.

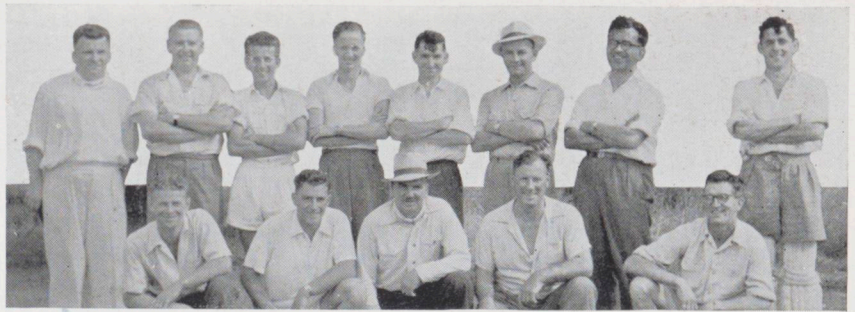
On the Saturday evening spirits were high and some excellent entertainment given by Bill Morrison (fiddle and funny stories) and Roy Clapham (concertina) was well received by all guests of the house. Other highlights of fun were provided in the mineral baths by the under-water wind endurance test (won by Dick Perham with cousin Len Thompson as runner-up) and Bill Morrison's exhibition of (now late) "Opo". —W.R.

MEMORABLE OCCASIONS

Members of the Fletcher family appearing in the photograph are the late Andrew Fletcher (to the left of the stone), and Sir James, who stands behind his son, J. C. Fletcher, then a very small and curious observer.

Also in the picture is Bill Smith, foreman on the job, who is standing behind the late Andrew Fletcher. Bill is still a frequent visitor to the Wellington Office, and his tradition is carried on by his son Jack who is Engineer on the Caxton Mill Contract at Kawerau. "Arrowhead" is pleased to publish photographs recalling old friends and memorable occasions.

There will be a fee of £1 paid to the owner of any historical photo submitted which is accepted for reproduction. Photos will of course be returned in good order.



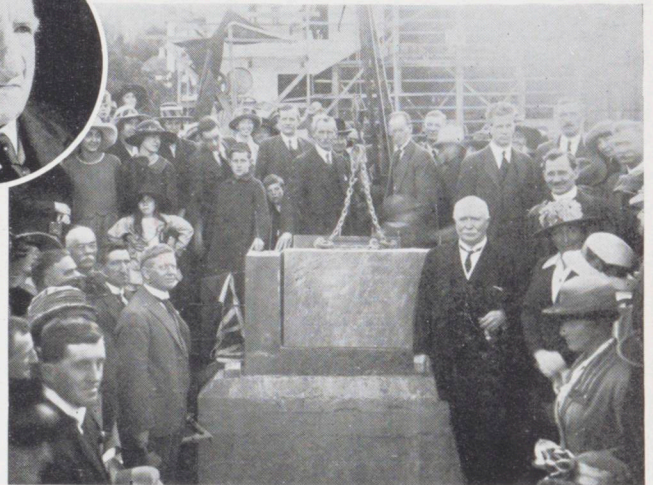
STAFF TEAM

Back Row, left to right: Bill Turner, Eric Adams, Garry Kennington, Frank Ferguson, Evan Langley, Noel McKinley, Bill Weight, Wally Bridgeman.
Front Row, left to right: Nugget Ede, Lionel Truscott, Pat Patterson, Jack Stick, Graham Gunthorpe.



FACTORY TEAM

Back Row, left to right: Maurice Holmes, Nobby Clarke, Snoz Austin, Jock Douglas, Jack Richards, Dick Hudson, Alan Fields.
Front Row, left to right: Alan Hayes, Colin Atkinson, Ginger Pickworth, Brian Gibling, Jim Weir.



MEMORABLE OCCASIONS

This historical photograph has been lent for reproduction by Bill Smith (inset) who was a Fletcher Construction Foreman in Wellington until his retirement in 1950, after 32 years' service.

The occasion was the laying of the foundation stone of St. Andrews Church on The Terrace, Wellington in 1922, by the then Prime Minister, the late Rt. Hon. W. F. Massey.

Look Left.

SHAN-TONG



Coming soon . . . an entirely new plywood surface with the fascinating texture of expensive, woven Oriental fabric . . . a rich, intriguing pattern that blends with any decorative style—a worthy companion to popular and practical Weldtex. Will be available through all plywood distributors. Manufactured by N.Z. Plywood Limited, Penrose, Auckland, a member of the group of Fletcher Industries.