

# "SEA, LAND and AIR"

THE AUSTRALIAN NATIONAL MONTHLY

— OF —

## TOPICAL INTEREST

Edited by S. E. TATHAM.

### CONTENTS

(All Rights Reserved)

PAGE.	PAGE.
Topics of the month:	Personal . . . . . 269
The Courage that Counts . . . . . 243	The Man Who Knew . . . . . 270
Australia's First Air Mail . . . . . 244	Australian Airman's Success . . . . . 279
Our Debt to Wireless . . . . . 245	Women's Column . . . . . 282
Electric Power for Industries . . . . . 246	Ross Smith's Last Resting Place . . . . . 283
On the Plains of Western Queens- land . . . . . 252	Lieut. Bennett's Funeral . . . . . 284
The Volcano on Tanna Island . . . . . 249	Wiltshire Wrecked . . . . . 286
Aboriginal Navigators . . . . . 257	Aviation in Australia . . . . . 288
"Illawarra Memories" . . . . . 259	Australian-Built Aeroplane . . . . . 290
At Sea on a Collier . . . . . 262	The Motor World . . . . . 292
In the Face of Death . . . . . 264	Record Amateur Wireless . . . . . 300
Motoring in the Tropics . . . . . 265	Wireless Notes . . . . . 306
A Romance of the Ocean . . . . . 267	Junior Mechanics' Section . . . . . 312
	Wireless Institute of Australia . . . . . 316

The Editor will be pleased to receive, for consideration, contributions on Aviation, Wireless, the Navy, Mercantile Marine or other subjects within the scope of *Sea, Land and Air*. All MSS., photographs, drawings, etc., submitted must bear the sender's name on back and be accompanied by postage stamps for return if unsuitable. Although every care will be taken of all contributions received, no responsibility is accepted.

All Editorial communications should be addressed to:  
THE EDITOR, *Sea, Land and Air*, 97 CLARENCE STREET, SYDNEY.

All business communications to: THE MANAGER.

**Sole European Agents:** THE WIRELESS PRESS, LTD., 12 AND 13 HENRIETTA STREET, LONDON, W.C. 2.

**Sole Agents for United States of America:** WIRELESS PRESS INC., 233 BROADWAY, NEW YORK.  
**Singapore:** KELLY & WALSH.

# HELSEBY V.I.R. WIRES and CABLES

THE BEST THAT MAN CAN  
MAKE OR MONEY CAN BUY



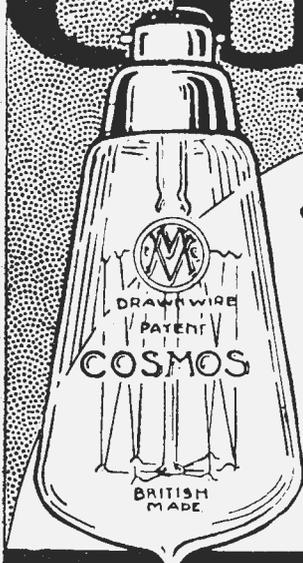
BRITISH INSULATED & HELSEBY CABLES, LTD.

**WILLIAM ADAMS & CO. LTD.**  
AGENTS

175 Clarence St., Sydney.

Howard Smith Chambers, Watt St., Newcastle, N.S.W.

# COSMOS LAMPS



Give a perfect light,  
Strong & Economical.

**METROPOLITAN  
Vickers**  
ELECTRICAL CO. LTD



21 Elizabeth St. Melbourne.

304 Kent St. Sydney.

# SEA LAND AND AIR

AUSTRALIA'S  
NATIONAL  
MONTHLY

VOL. V.

JULY 1, 1922.

No. 52.

## TOPICS OF THE MONTH

### THE COURAGE THAT COUNTS

FROM time to time we read of shipping or other disasters, in which the quality of human courage is tested to its very limit. Such incidents are not rare unfortunately, for in the myriad activities of a busy world the human element is exposed to countless risks—risks which men have long since learned to look upon as “all in a day’s work.”

It is to be feared that very few of us assess at its true worth the calm courage and devotion to duty which is frequently exhibited by ordinary men when face to face with death. Most of us, when we read of some particularly heroic action, are wont to measure our admiration by the importance of those involved and the amount of publicity it receives, without any thought that perhaps we are crediting someone with glory he does not fully merit, or robbing someone of a distinction he richly deserves. The world is not accustomed to rave over the heroism of a wireless operator who sticks to his post until the ship goes down when safety could have been his; the captain, who refuses to leave until the last, when perhaps it is too late; or the passenger, who, without a word, gives up his place in the boat, or hands over his lifebelt to some less fortunate fellow human being when it represented the only chance of escape from death. Countless instances like these have happened, and will continue to happen, of which the world will never know, or, even if it did know, would bestow but

a passing thought. Yet, will anyone dare say that these men are not heroes in the truest sense? Many men can play the hero in the limelight of the public eye when the stage is set, and the audience ready to applaud by word and deed the acts of those who, fired by the dramatic excitement of the moment, have the will and courage to perform deeds which in calmer moments they would shrink from. It is not desired to detract in any way from the countless heroic acts which have been performed under these circumstances, but merely to emphasise that when contrasted with the actions of men who can play the hero unnoticed they lose much of their importance. The miner who gives up his life for his mate in the darkness of the mine, where there is none to witness his act, no one to applaud him for his great sacrifice, or reproach him had he behaved otherwise, typifies the loftiest heights to which human courage can rise. In every walk of life men are constantly meeting with the same grim experience. Without thought of applause or reward, with no possibility of the heroism of their action ever being recorded in the pages of history, the great choice between personal safety and that of others is made without hesitation, but with a full knowledge of what the sacrifice entails. Too much cannot be said in praise of such calm exhibitions of courage.

All too frequently we hear that the days of heroism and chivalry are gone; that

men will not now dare what was done freely and openly a few generations ago. Such an assertion is entirely wrong. The quality of human courage is not less to-day than it ever was; it is simply that men are more modest, and it is left to a fickle world to select and enthuse over

the deeds which history will record as being of outstanding merit.

If we thought more of the unknown happenings of life, and discovered more of the humble and modest merit that adorns every grade of society, we would have little cause to worry over the alleged decadence of human courage.

## AUSTRALIA'S FIRST AIR MAIL

**P**ROBABLY the notice which appeared on the official mail lists, issued by the Postal Department a few weeks ago, was the first intimation that many people had that a regular air mail service was running between Geraldton and Derby, on the west and north-west coast of Australia. The opening of that service, many months ago, was unfortunately attended by disaster to one of the machines, resulting in the death of the pilot and mechanic; but the subsequent enquiry showed that the mishap was due primarily to a badly-prepared landing ground—a circumstance at the door of which the blame for many other aerial mishaps in Australia can be laid. Thanks to the visit of the Controller of Civil Aviation, Colonel Brinsmead, who visited the scene of operations immediately after the accident, the confidence of the people there was restored, and to-day, when the service is operating smoothly and proving a decided boon to settlers in those isolated districts, it is authoritatively stated that the people there would not be without the new means of transport under any consideration.

When the history of the various methods of transport comes to be reviewed, it must be admitted that aviation has not done so badly after all. True, it suffers from the handicap that the ordinary individual instinctively feels that the conquest of the air is outside the scope of human endeavour to a far greater extent than land or sea, and the convictions moulded upon this erroneous belief are exceedingly difficult to dispel. Hence we find that the news of an aerial disaster, when published under scare headlines in our daily papers, provides a ready weapon for those pessimistic people who refuse to admit that aviation will ever pass beyond the experimental stage.

Happily we have the experience of what has been, and is being, accomplished in other countries to reassure us on this point, and with the insistent demand for better transport facilities between isolated districts, which is daily coming from all parts of this great, wide country, we may confidently expect that in a few years Australia will have a network of aerial services carrying out work of a great and useful character.

It cannot be too strongly emphasized that flying in Australia has up to the present been carried on under the most adverse circumstances. Lack of properly prepared landing grounds, allied with a dearth of the most up-to-date type of commercial 'planes, such as are in use in most of the big Continental services, account largely for this. Strictly speaking, therefore, it is unnecessary to make excuses for the comparatively small amount of aviation work that has been accomplished, but mention of the fact serves to emphasize what may be expected when our organisation is brought up to the highest standard of efficiency.

Within the next few months we may expect to see the Adelaide-Sydney-Brisbane air mail service in operation, and we are assured that so far as the type of 'planes to be used and the landing grounds to be negotiated are concerned there will be nothing better to be desired. This is gratifying news to those who have the interests of both aviation and up-to-date communication at heart, for it emphasizes that action along the right lines is guaranteed for the future.

Probably it will be some years before Australia reaps the full benefits arising from a systematic endeavour to exploit the possibilities of aviation. On one point, however, there is no room for doubt. So

long as there are fresh fields to conquer, greater distances to be flown, and more useful interests to be served, the enthusiasts in aviation will never rest content. The burning desire which many of them possess to attain what now seems impossible may some day result in a degree of safety and efficiency in aerial transport which even its most ardent admirers dare not yet hope for.

---

## OUR DEBT TO WIRELESS

---

**S**CARCELY a week passes without some fresh achievement being credited to wireless telegraphy, either in the form of a new long-distance record or the receipt of a timely message from some shipwrecked or distressed vessel summoning assistance in her hour of need.

Slowly but surely the debt of gratitude mankind owes to this wonderful invention is mounting up, and it is impossible to foresee the extent to which it will revolutionize our system of communication in the next few years.

It is easy to realise the feeling of security with which those "who go down to the sea in ships" now embark upon an undertaking that a few years ago presented untold dangers. Life on the ocean wave has lost many of its terrors in recent years, both because of the improvements in deep-sea vessels and the fact that when disaster does occur there is a means at hand to summon assistance. It is too much to expect that the dangers of ocean travel will ever be entirely eliminated. No matter how big and sturdy a ship may be,

instances will always occur in which, through fog or heavy weather, a master may temporarily lose his sense of direction or strike an uncharted rock, in which case disaster, partial or complete, is almost certain to follow.

The crew of the wrecked steamer *Wiltshire*, which came to grief off the New Zealand coast a few weeks ago, probably owe their lives to wireless. No sooner had the disaster occurred than the news was flashed to Auckland, and just as speedily as possible rescue parties were despatched to the spot. The history of the splendid work which was subsequently accomplished is well known, but had there been no wireless to tell the story of the disaster when it first occurred there probably would have been no survivors to rescue when the wreck was eventually discovered.

If it is not already regarded so, it is but a matter of time till wireless is universally recognized as mankind's greatest boon.

---

Life is the mirror of king and slave.  
'Tis just what you are and do; then give  
to the world the best you have, and the  
best will come back to you.

\* \* \*

A man without courage is as helpless as a ship without fuel—he may drift along with the tide, but can make no progress upstream.

The man worth while is the one who can turn his face full into the fierce gale of opposition and misfortune and go forward with brave heart and undaunted spirit.

It is easy to quit cold in the face of defeat—it takes a hero to smile and try again.

To be bright and cheerful often requires an effort; there is a certain art in keeping ourselves happy; in this respect, as in others, we require to watch over and manage ourselves as if we were someone else.

\* \* \*

Honesty is the golden thread that joins the pearls of all the virtues. A brilliant mind cannot atone for a dishonest heart, nor can cleverness of manner or address successfully conceal a seared and dulled conscience.

The genuine satisfaction which comes with the ability to look your fellows squarely in the eye and fear no man, is a far greater treasure than the wealth of Croesus which is bought at the cost of a soul.

# ELECTRIC POWER FOR INDUSTRIES

## WHAT SOME AUSTRALIAN STATES ARE DOING

### AN EXAMPLE FOR ALL TO FOLLOW

By SIR ALLEN TAYLOR, M.L.C.

WITH a country of such boundless industrial and manufacturing opportunities as Australia the provision of cheap motive power is one of the most essential factors to success. There can be no question that we have all the natural facilities for providing a huge supply of electric energy in all States, and it needs but courage and foresight on the part of those charged with the administration of affairs in this country to make this power available for industrial and manufacturing enterprises. The project may involve a big initial outlay, but it would be a wise investment, and it is safe to predict that the progress made by those States that have already launched out in the direction indicated will transcend those which have been less enterprising.

It is an education to learn of the splendid opportunities for cheap production which are being made available to manufacturers in Tasmania and Victoria by the introduction in the former of a huge hydro-electric scheme, and in the latter of the Morwell brown coal scheme.

The Government of Tasmania is deserving of the warmest congratulations on the enterprise it has shown in proceeding with such an ambitious undertaking, particularly in view of the limited population of

the State. Already the results have more than warranted the outlay, and the low cost of production will inevitably induce many manufacturers to commence operations near the source of power supply, to the great detriment of the States not so fortunately situated.

The hydro-electric scheme in Tasmania is operated by water derived from a great lake, 3,300 feet above sea level. The main station is situated about eighty miles south-west of Hobart, at Waddamana, and an installation is now being completed which will have approximately 60,000 horse-power. The scheme has already cost the Tasmanian Government about £2,800,000, and further commitments are due.

It may be argued that the establishment of a hydro-electric scheme to provide cheap power was Tasmania's only chance of becoming a manufacturing centre, and, allowing that it is so, it is another reason why those responsible are

to be complimented. In the vicinity of Hobart such large industries as the Electrolytic Zinc Company's works, which employ nearly 1,000 people, and the Carbide Company's works are already in a flourishing condition, and Cadbury's huge factory is almost completed, while several other industries are expected to follow.

The current supplied to the zinc works



Sir Allen Taylor.

is probably the cheapest in the world. A continuous service is given at the rate of £2 for each degree of horse-power per annum, and the company has contracted for 30,000-h.p. at £2, which is equivalent to £60,000 per annum. This works out at less than one-tenth of one penny per unit. The lowest rate for power in Sydney is about seven-tenths of one penny per unit. The rate for the Carbide Company and for Cadbury's is higher, and works out at about three-tenths of one penny. These rates are much below the cost of producing the power, when all charges are taken into consideration, but the Government is apparently determined to encourage industrial enterprise to the fullest extent. Under the scheme, too, the average rate for lighting for householders and others will not exceed 4½d. per unit, and electric power will be less than 1d.

Can it be doubted that when such cheap power is available the demand for coal from New South Wales, which has done a big business in supplying this necessary commodity, will seriously diminish. Those behind the enterprise in Tasmania confidently expect that at the end of 1923 all interest charges, sinking fund and other contingencies will be provided for, and the scheme will be self-supporting. The basic cost of production to cover such charges is estimated to be 1.3500d. per unit—easily the lowest rate in the Commonwealth. Climatic conditions in Tasmania are distinctly favourable for indoor employment; consequently manufacturers are able to get the best possible results from their employees without resorting to sweating.

#### **Morwell Scheme in Victoria.**

The proposal for providing cheap power for industrial purposes in Victoria, through medium of the Morwell brown coal scheme, promises great things in the near future. The undertaking is administered by a board of commissioners, with Sir John Monash as chairman, and the money to carry out the scheme is being provided by the Victorian Government.

The total cost up to 1925 is expected to amount to £5,000,000. The board of commissioners will possess very extensive powers under a bill now being drafted, and, being free from political control, its activities will not be affected by a change of government or other political happenings. It is expected that the scheme will

serve two-thirds of the present needs of Victoria, and this will prove a powerful inducement to manufacturers to establish factories where Morwell power is available at a cheaper rate than in Sydney. Mr. Harper, head of the Electrical Supply Department, estimates that within a ten-mile radius of Melbourne power in bulk will be available at .5d. per unit, with an average rate of not more than 1.15d. per unit, against the present rate of 1.65d.

The generating station is at Morwell, 85 miles from Melbourne, and adjacent to the supply of brown coal. This coal forms almost a mountain, and there is a considerable overburden of clay and shale. The supply is said to be almost unlimited. From this centre the power will be transmitted to Melbourne, and to other points within a radius of 160 miles. The cost of coal in Victoria during 1921 exceeded 37s. per ton. It is estimated that three tons of brown coal, at a cost of 2s. 4d. per ton, are equivalent to one ton of Newcastle coal. This will mean a saving, with other charges, of not less than 28s. per ton, which, on the estimated total consumption, is equal to a saving of £325,000 per annum. Even when this computation is reduced to £225,000 per annum, there is still a very considerable advantage over the present cost.

Looking the situation squarely in the face, it is obvious that what will be Victoria's gain will be New South Wales' loss. It would be wrong in principle to envy them their good fortune, and, therefore, the only course open to us is to follow the good example our sister State has set. When the Morwell scheme is in full operation New South Wales will lose one of her best customers for coal. During 1920-21 shipments from Newcastle totalled nearly 1,350,000 tons, in addition to which considerable quantities went from the western and southern coalfields. Obviously, to lose this trade is a serious matter, and if, as is probable, the Victorian Government extends the system of electrical transport to places 80 to 100 miles from Melbourne when the cheap power is available it will mean a still further reduction in the consumption of black coal.

#### **Water Possibilities in New South Wales.**

The late Holman Government, prior to going to the country, passed two important bills, namely, (1) the Hydro Gorge,

Clarence River, and (2) Burrenjack, involving initial capital expenditure of £500,000 sterling, but, through the difficulty of raising loans at a satisfactory rate, nothing whatever has been done, except, recently Sir Thomas Henley, late Minister for Works and Railways, made a Press statement mentioning that these important matters, also the Snowy River Storage, would receive earnest attention.

The Clarence River scheme, I understand, is very attractive, and, further, if the installation will carry sufficient "head" it would prove a tremendous boon to this important district, extending north to Lismore and Tweed Heads, serving many thousands of people, and would enable them to install power in many local industries that cannot possibly work profitably at the high cost of fuel.

The Burrenjack would serve a large area of the richest wheat belt in the State, reaching north as far as Goulburn, which important city should be linked up with the southern coalfields generating scheme, which is certain to come. With this connecting link a vast area of our South-Western State would develop by leaps and bounds, while under the existing conditions our State is languishing, simply because we are allowing matters to drift.

This condition of affairs, combined with indifference and apathy, is causing stagnation, and swelling enormously the population of the metropolitan area, which is not in the best interests of the State.

The Snowy River proposed scheme should be fully enquired into, but it would probably be very difficult and costly to impound a sufficient area of water with an elevation that would enable the turbine to work satisfactorily and produce current, after allowing for transmission, that would prove economical and encourage industry and development.

It is unthinkable that any one State in this great Commonwealth is going to lag behind in the matter of making the best possible provision for establishing and operating industries on the most economic basis. There is no suggestion of interstate jealousy involved—it is simply a call to utilise to the fullest the wonderful natural resources which we possess. Individually and collectively there is everything to gain and nothing to lose by girding up our loins and devoting our whole energies to the task of establishing on the soundest basis the industries and manufacturing concerns which go to make true national greatness.

You have not fulfilled every duty unless  
you have fulfilled that of being pleasant.

\* \* \*

To rejoice in the prosperity of another  
is to partake of it.

\* \* \*

It is only as a man puts off from himself  
all external support and stands alone that  
I see him to be strong and to prevail.—  
*Emerson.*

\* \* \*

Set all things in their own peculiar place,  
And know that order is the greatest grace.  
—*Dryden.*

\* \* \*

The deeper I drink of the cup of life the  
sweeter it grows.—*Julia Ward Howe.*

\* \* \*

The power that often wins is simple  
patience.

\* \* \*

Those who are true to themselves are  
never false to others.

### A Change is Coming.

One of the strangest and most unaccountable things in the world is to be found in the fact that we so flagrantly misinterpret the Great Teacher's personality and message. The sunniest and cheeriest of souls and the bravest message of hope and victory that ever came to man have been made the medium for centuries of dolor and gloom to the world—the good news being turned into the bad news, the glad tidings into the tidings of gloom, and the fairest vision that ever greeted the children of men transformed into a death's head!

But a change is coming over the spirit of the long-time hideous dream.—*T. B. Gregory in The Evening World, New York.*

\* \* \*

A promise should be given with caution  
and kept with care.

\* \* \*

When one door sticks, look around for  
another that will open.

# THE VOLCANO ON TANNA ISLAND

## LEGEND OF THE GIANT'S LOOKING GLASS

### SOME WEIRD NATIVE SUPERSTITIONS

By THOS. J. McMAHON, F.R.G.S.



Tanna Volcano, viewed from a distant hill. Smoke is seen issuing from the crater, and at night flames are frequently visible.

**T**ANNA ISLAND, in the New Hebrides Group, boasts one of the most picturesque and interesting volcanoes in the world. It is of comparatively low altitude, and the ascent from base to crater can be easily accomplished in less than an hour.

The island itself is one of the most fertile in the group, and is sometimes called "The English Isle," for the reason that only British people have settled on it. This is rather singular when it is remembered that the population of the New Hebrides consists of both French and English, the former being more active and numerous; and the administration is divided between representatives of the two peoples.

The approach to the volcano is first through jungles of the most gorgeous vegetation, and then for a mile or so over a brown-red lava bed. As one gets nearer and nearer the dome of the volcano the hotter the lava gets under-foot, and the louder the rumbling noises under the earth. Every inch of the ascent presents a wonderful panorama of amazing fertility, glorious effects of distant islands,

spreading sea, and bright blue skies. There are groves of cocoanuts, fields of cotton, the white blossoms, as the open pods appear, making a marvellous effect as of snow in a tropic land; a vivid contrast to the rich green of plant and tree. Dotted about are pretty mission stations, traders' stations, and almost everywhere the deep brown huts of the native villages. Bright as the whole scene at one moment appears, the next it is obscured as the angry volcano belches upwards great volumes of heavy smoke, the winds catching it up and spreading it over the island like a pall. But this is only for a moment; then the smoke is wafted away, the sun shines out in splendour, and nature is gay.

Upon the threshold of the volcano there is a loud and persistent cannonade of booming sounds, followed by wild reverberations through the tiny hills standing round like sentinels to the volcano. In a little time the spectator stands upon the very brink of the crater lip, and looks down into one of Nature's melting pots. There, tossing and foaming, blood-red in colour, is the hissing, glaring lava. Now

tongues of flame dart up, now thin fountains of lava shoot out, and all the time to the weird accompaniment of spluttering sounds. From one side of the crater lip trickles a bright red stream of lava, spreading as it falls, and adding one more layer to the countless numbers that form the lava bed of the mountain side. In the centre of this bed, and near the base of the volcano, is a well-defined lake of the clearest water. It looks like a sheet of glass enframed in lava rock, not a blade of grass, not a shrub to break the bareness. This lake is described as the "Sea-Giant's Looking Glass." The native legend is that every morning a great giant rises out of the sea, and, sitting by the lake, trims his locks and washes in the cool waters. This giant is the friend of the natives; he protects them from the fury of the volcano, or the spirit that they think is working in the volcano. It is the sea-giant that controls the flow of lava, which the bad volcano spirit would spread over the whole of the island, destroying the native gardens of yam and taro. Not far distant from the "looking-glass," and on the way to where the native villages are thickest, stands a huge smooth stone. To this is attached a most interesting legend. Once when the spirit of the volcano was angry with the natives and set out to destroy the island by flooding it with lava the sea-giant rose from the sea, being disturbed by the hissing noise of the red hot lava as it flowed into the ocean. He commanded the spirit to cease his lava outpourings. Taking from the bottom of the sea a huge rock, he placed this on the island, not far from the volcano base, and told the volcano spirit to take care the lava did not pass that mark. If it did the Sea-Giant threatened to end the powers of the spirit by causing the sea to rise and quench the volcano fires. To this day the command has been obeyed, but with much growling grace by the spirit. Strange, but true it is, the lava may flow as freely as it likes from the crater lip, yet not one-eighth of an inch past the huge stone does it go.

On the eastern side of the island there runs down to the sea, through a deep, dark, but beautiful jungle, a chain of hot water springs, used by the native for cooking food. The valley, for such it is, ends in a bay, remarkable for the fact that its waters are ever boiling hot; it is called

in consequence "Boiling-Water Bay," and here the natives, recognising the medicinal and healing qualities of the water, take hot baths for all sorts of ailments, from stomach-ache to headache, from a cut finger to a broken leg.

Day and night Tanna Volcano is active. There are frequent earthquakes and loud volleys as of distant artillery. The courageous folk of the island go on with their duties quite undisturbed. At times when the earthquakes are so severe as to cause the earth to tremble violently, and the smoke is thicker and more ominous than ever, these folk simply say, "Why, what is the matter with the old chap to-day?" and go on with their work unafraid.

In these days the natives, mostly civilized, and many Christianized, take little heed of the angry moods of the volcano, though the children run affrighted to their mothers. Native babes are hushed to sleep in the mother's threat that the spirit is watching them, and they must close their eyes, or he will come and take them to the great red fires deep down in his mountain home, where all naughty children are made into lava. Not so very many years ago the Tanna natives had a bad reputation as one of the most aggressive and blood-thirsty tribes of the New Hebrides. Thanks to the good work of the mission, the natives are to-day a useful and law-abiding people. There are but an hundred or so whites on the island, and many thousands of natives, and yet never, under any circumstances, are the whites molested or the most trifling articles stolen.

Among many interesting customs, the men raise great, fierce-looking mops of hair, and this is done in the following extraordinary manner. Long strands of well-teased and cocoanut-oiled fibre is plaited with the hair of the head. In time, with combing and oiling, it is difficult to tell which is fibre and which hair. When worn on ordinary occasions the mop is tied down with cocoanut fibre string, but in dances and festive functions the mop is teased into a huge ball, standing out strikingly over the head, and presenting a very ferocious and aggressive sight, exciting fear in all beholders, for which purpose it is intended.

On the island there is a little bird with a blood-red head and bronze wings. This fearless little creature darts about from shrub to shrub, and no native would dream

of interfering with it. Of the bird the natives tell a most charming story. Once upon a time a great, fierce black giant came to Tanna, and ate so much that the natives were alarmed their food supply would quickly run out and all die of starvation. The giant not only ate the coconuts, but, as if they were mere shrubs, plucked the palms, roots, stem and fronds, and devoured them in a wholesale fashion. The native warriors assailed the giant with spears and arrows, but the monster took no more notice of them than if they were merely flies annoying him. In despair a conference of native

one day, after a very hearty meal, the giant, to the great joy of the natives, was seen to fall asleep. His mouth was wide open, and he snored and groaned so loudly that the natives were more terrified than ever, and appealed to the magicians to restore the giant to wakefulness. However, the giant fell into a deep sleep, and, as the natives watched, a little brown bird fluttered on to the giant's lip and then disappeared into his mouth. A few seconds later the giant was seen to give a tremendous convulsive movement, and then stretch his long limbs. He was dead; the little bird had pecked at his heart, and



In a jungle of ferns, Tanna Island, New Hebrides.

magicians was called to devise some means of ridding the island of the giant. One famous magician was asked to be given three days and three nights, when he would consult the spirits of departed magicians. Taking copious draughts of sea water (native medicine of the old savage days), the magician slept for the allotted time. Awakening, he gathered the chiefs together, and said a little bird appeared to him, and advised that some drug causing sleep must be concocted and placed in the coconuts, yams and other foods of the island. This was done, and

as the blood gushed forth it covered the bird's head, and from that day to this the little red-headed bird is popular and even revered by the natives.

Tanna Island is commercially famous for its sea-island cotton, which grows in abundance, and is of excellent quality. The natives cultivate it in large areas around their villages, and supply the labour required by the white settlers for their cultivations. Many Australians are resident on the island, and, like true Australians, are famous for their hospitality.

# ON THE PLAINS OF WESTERN QUEENSLAND

## AN OVERLANDER'S EXPERIENCES

### DELUGED BY A TROPICAL THUNDERSTORM

By FRANCIS BIRTLES.

ANYONE who has had the misfortune to be caught by a tropical thunderstorm when crossing the Blacksoil Plains of Western Queensland knows what a fearsome experience it is. We had been making fairly good progress on the long trip to the Gulf of Carpentaria, when, early one morning, I espied on the horizon the indications of a tropical thunderstorm. For nearly twenty-four hours we had been without water, and under different circumstances rain would have been particularly welcome, but when motoring over soil which after rain will bog even a wild turkey if he is foolish enough to alight on it, we knew that if the threatening storm burst we were in for a bad time. There was nothing for it, then, but to race for safety, and, accordingly, I opened up the car and we sped over the plains at an exhilarating speed.

Ahead was an ironstone ridge, and there were possibilities of a camp if we could make it. Suddenly the ridge disappeared in a rain squall, in which we were enveloped a few minutes later. It was like sitting underneath a tumbling waterfall. The back wheels began to skid, and we slipped the chains on, and soon were going axle deep in the morass, with the engine running splendidly and pulling like a whole team. Between us and the ironstone ridge on which we had built our hopes, and hoped to build our camp, was a creek, running strongly and filling fast. It was going to be a banker in a few minutes, and we had not time to think how deep it might be now. So into it, full tilt!

#### Over the River.

Right on the edge of the water I shut off the throttle, and threw out the clutch. When we hit the water it rose in a wave

and swamped the car, being at least three feet deep, but our momentum took us over, and, with two cylinders firing, we crawled out, got bogged, and stopped. But we had crossed the river, which was now rising very quickly, and were that much to the good. Then came a time of chopping down boughs and branches, and making a track over which we could travel on to the ridge. The engine, being hot, had dried the cylinders and fittings, and when we put the question she came on with a rush and a roar—just in time, too, for the water was washing up to the back axle. On a little sand island we pulled up, wet, muddy and shivering, and in spite of the abundance of water around us we had as yet omitted to quench our thirst. On a fire, started with benzine, we boiled the billy, and made a meal on tea and tough johnny cake.

#### Running a Banker.

A noise, like the rolling of the surf, attracted our attention, and an investigation showed that the creek was coming down a banker. More than that, there was a six-foot wall of greasy water riding on top of the stream we had come through. Behind this was a racing pace of fifteen miles per hour, and borne on the flood were hundreds of swirling logs, masses of grass, and bundles of sticks. High-water mark was just below our camp, and the plain, as far as we could see, was a lake, with strings of ducks and pelicans already settling on it. They had followed in the track of the rain storm from hundreds of miles inland, probably, and the consequence of their migration was—duck for our supper. There might have been a big bag of ducks, for the newly-made lake was alive with them, and they came on in thousands, 'planing gracefully to the sur-

face, had not a white, yellow-crested cockatoo taken office as sentinel for the water fowl, and kept watch over me as I crouched, waiting for a shot which would tell. Each time I stood up to get a view he sat up and screeched, and away went the ducks to another corner of the lake. When they went the cocky left, and I made a long, muddy, wearisome stalk to try and get a shot. Just at the moment when there might have been something doing I heard the wretched squawk of the yellow-crest, and saw the ducks going. This was over the odds, so I fired both barrels at him. This terminated his career of usefulness as a sentry—but he was of venerable age, and no good for the pot.

As more birds were wanted I sat down

car, a tarpaulin covered right over the turnout. The dog was lying with us, when suddenly there was a commotion outside, and he went out to investigate. Soon there were mixed noises, which indicated that the bull terrier was busy with something that could fight. I crawled out, and found that he had a wild boar bailed up against the hind tyre of the car. The tusker was snapping at the dog and grinding his molars. A horrible mix-up was inevitable if he got under the car, so I proposed to get in with the gun. This fell from my wet hands into a puddle of water, and I had to fall back on a spare steel axle, with which I placed one on his ribs, knocking him sideways, and giving the dog an opening for the ear hold, which he seized.



An Opossum Trapper's Camp Outback.

and waited, and, by-and-by, a flight came into view. The speed was about sixty miles an hour, but I took a chance with both barrels and got some birds. A blue crane and a couple of wood ducks made a bag, and the lot was soon stewing in a benzine tin. One of the plumpest of the ducks Brother Clive rolled in clay and baked in the ashes. When the cooking had gone far enough the clay ball was raked out of the fire, and there was the beautiful white bird cleaned of the last feather, tender and juicy.

#### A Wild Boar Bails Up.

The rain was coming down, good and steady, and we were bunked under the

The boar bolted into the inky darkness with the dog hanging to him, and in the interests of our third mate I had to go out after them. I overtook them at the foot of a mulga bush, and could dimly see the bull terrier sparring around for an opening. He did not know how to attack this variety of opponent, but was evidently hopeful. I could not shoot for fear of hitting the dog, and, more than that, if I fired and missed the boar would charge me. Another thunderstorm was now breaking, and vivid flashes of lightning showed me a stump, which I mounted and tried to get a mark to fire at. The boar was walking sulkily around, with the

dog following him, and I was waiting on the stump in the pouring rain, with no boots and very little clothing on, and the wind blowing strong and cold. If I got down the boar would make a mess of me; if I stayed long I would perish. Suddenly the terrier cut in and took a tail hold, and while the boar was thinking out a stop for this I scaled up a sapling. The dog and pig circled at the foot of my shelter, and at last I got a shot, as a result of which the dog sustained severe shell-shock and the boar got away. In the daylight we found a pig's tail, which the terrier had evidently bitten off in the excitement of the moment when I fired. We stayed here three days, but the boar did not come back.

### Looking Ahead.

On my previous journey through this country it was waterless and without grass. Now it was a vast, placid lake. In time to come, when the area is settled, all this bounteous water will be accounted for. Some of it will be conserved; much of it will have gone into the soil, and made it fit for the production of agricultural products which will grow in this portion of Australia. These numberless ridges are suitable for wheat growing, vineyards and orchards, while the outlying plains could be used for growing rice, and also as pasture and dairying lands. In this country, lying within the artesian area, bores could be utilised for the production of electricity, by means of a dynamo worked from a small water-wheel, the current being stored in accumulators. These small sources of energy would light up a homestead, work a small shearing plant, and do odd household work. As a means for light transport purposes on the road an electric car could obtain its source of power from here. Sometimes the water is charged with alkali, but it could be made use of for irrigation if it were first of all filtered instead of being distributed straight on to the soil. A series of pot-hole filters through the earth destroys the alkalis to a large extent. These filters could be chemically treated to destroy the retained alkali. The trouble so far with bore water for irrigation is that the chemicals with which it is charged soak through the soil and harden it to such an extent that plant life cannot grow.

Scientific water conservation is essential to the settlement of this country, but, in my opinion, not much will be done till these dry areas are divided into small States and private enterprise given the opportunity of developing in a big way, with a certainty of big profits to themselves and large benefits to the Commonwealth.

### On the Road Again.

The road to the McKinley was rough, and we bumped over miles of heavy black soil on the way. The grass was alive with snakes, centipedes and flies. Grasshoppers were there in millions, and, borne along on the head wind, we got some sharp slaps in our faces, one of which bunged one of my eyes up. Overhead hawks followed us, swooping down on these plagues as the whirling wheels of the motor car stirred them up. The air was thick with mosquitoes. Of course, we had nets. These are made for camping out, and are oblong in shape—six feet six inches long, thirty inches wide, and three feet high. The ordinary mosquito netting is of no use here. It must be made of fine cheese or butter cloth to keep out sandflies, small ants and the malaria mosquito, which would go through the domestic net.

This net has to be erected to eat under, as the flies abound in millions and would cover everything. In the morning the first thing to be done is to empty one's boots. They are sure to have been made a home of by centipedes, snakes and all manner of ground vermin. The habit of shaking out the boot sticks. I am a long time in the city before I get out of it. Another bush habit one carries to town is swinging the hand in front of the face to chase away the flies. They may not be there, but one thinks they must be.

Nearing Cloncurry we got wind of the approach of a camel team. Usually in timber country you get advance information of the approach of the ships of the desert. They can be smelled at a long distance, and their groans and grumbles can be heard from afar. Cloncurry is the end of the North Queensland railway from Townsville, and is a very rich copper district. Closer settlement has followed the prospector—as it has done all over Australia in the cases of mining districts which have survived the inevitable slump. Where the settler does not follow the

mines there is soon an end of the district, and we have the deserted fields and the forlorn shops and dwellings as pathetic reminders of the time of the mining booms. The climate of Cloncurry is good, and the place is one of the finest of the dry climate sanatoria of the State. The air is crisp and pure, and there is none of the "livery" conditions of the people living in the lowlands. Normanton, chief of the lowland district, is one of the healthiest of the lowland towns, and is now becoming a better place to live in. In some inexplicable way closer settlement drives out malaria and dengue fevers, and the people thrive now, where they suffered from most of the northern ailments a few years ago.

### Going West.

From Cloncurry westward the country is rich in fine scenery, and there are plenty of indications of minerals. We ran over some mountain ranges with magnificent gorges, at the bottom of which were deep pools, where fish of all sizes and colours were to be seen. I secured several cinematograph pictures of some of these natural aquaria. In the rocky gorges now and again we would hear the clattering of hoofs, and catch a glimpse of a mob of wild horses flying down the hillsides as agile as a mob of goats. Rock wallabies, perched on the summit of the cliffs three hundred feet above, were sunning themselves in the evening glow. Dingoes came around the camp at night, and treated us to a little of the peculiar music of the wilds. In the morning we saw one of these, a gaunt old dog, fishing for crabs near the pool below. He would burrow into the holes in the sand where a crab should be, and, finding none, would start rolling the small flat rocks over, using his nose as a lever. When a crab came out he would knock it with his front paw, and then roll over it with his hairy chest, in which the claws of the crab would entangle and break off. Then the old dingo would swallow the remains. After staying himself with crabs he would go a-fishing. We were not able to see how he caught them, but that the dingo *does* catch fish is testified by the piles of fishbones outside their dens.

### A Fifteen-Foot Snake.

One of the sights of the same morning was a fifteen foot carpet snake. This is

a kind of rock, or, sometimes, tree python. His movements were graceful as he crawled down the face of the cliff. He took a turn on his tail round one of the small bushes, then let his length run out downwards, like a stream of dark water, till his head touched a sun-sprayed rock, on which he intended to camp. Here he coiled, and hundreds of little birds, annoyed by the intrusion of the enemy of their kind, set up a most indignant chattering and twittering. To relieve the anxiety of the birds, and in accordance with natural instincts, I put a high-power thirty bullet into the coil of serpent, and rock and bits of snake flew into the air, to fall splashing into the pool far below. A water iguana, frightened by the report, took a header from his *siesta* rock to the liquid depths, and disappeared, leaving a track of bubbles on the surface of the water. The firing of the shot scared away all life from the vicinity of the camp, so we packed up and set off again. It was rough going in those mountains. More than once the car heeled over on to two wheels, balancing gingerly on the edge of a cliff. Sometimes we had to hang her on by ropes to trees on the upper side of the hill, while I sat in the machine driving, on low gear, up the boulder-strewn spinifex slopes.

Once again on the open plains, we shaped our course for Camooweal, across country which was well in the grip of the drought fiend, dry as the top side of an old saddle, and criss-crossed with cracks like enormous mouths gaping for a drink. These cracks are the wise provisions of nature for the preservation of the grass seeds, which, on the heat of the surface, would be shrivelled up to lifelessness. They drift into the cracks, and remain in the cooler chambers of old earth until the rains come, when they float to the top and spread out on the flood waters, to strike and germinate when these have subsided.

The animal life in this particular section of the north is of the small variety, mostly kangaroo rats and opossums. Now and again we noticed where dingo pups had tracked and treed a 'possum. The hunt ended at the foot of the tree, and there we struck the wallow of a snake, where one of the big reptiles had been rolling in the dust to get rid of ticks, and gone to sleep in his camp—a nice little

bundle for a swagman to step on when making a night march to avoid the heat of the day. Dingo poisoners (or "dog stiffeners"—the local term) have set baits all about the line of traffic; mostly in tins which have held sardines or other food-stuffs. These have a little water left in them—poisoned, of course—with a bit of bark placed on top to keep the bush birds from sampling. The dingo comes along, shifts the cover, and has a drink—his last if he takes enough. Where the poisoned bait is relied on cyanide is preferred. This is rolled in a little ball of grease, and placed a few inches from the line of a dingo pad. After taking this bait the victim often makes for the nearest water and dies there. Sometimes he dies in a water trough or waterhole; at times he vomits greasy, poisoned filth, which floats about on the water. Stock and human beings can be poisoned from this. At one time I had an experience of this kind of poisoning after taking a drink from a rock-hole, at which a dingo had taken his last. For months afterwards I suffered from cramps, muscular and internal, with a sort of paralysis of the fingers. There is no restriction on setting poison in this country. Any wandering lunatic—and parts of the wilds are full of them—can drop baits on the main roads or at wells and tanks. He may get a few scalps of dingoes, and cause the death of valuable dogs, stock and human beings. These grease poison balls retain their activities for years.

### A Drought-Smitten Cyclist.

Out along the heat-scoured plains we came across a very wobbly track, made by some bush cyclist. It came out of a dry clay-pan, and wriggled along ahead of us. Now and again we saw the marks of boots, where the rider had dismounted and padded it for a space. By-and-by the tracks became broader, showing that his tyres had punctured. Three hours later we sighted him, toiling along slowly in the shimmering haze. We caught up to him—he was lying camped in the scanty shade of his upright bicycle. He had had a bad time for a good many miles. His waterbag, carried at the back of the saddle, had chafed through, and every drop of the precious fluid had run out. He was exhausted when we got to him, so we made a temporary camp and boiled the billy. The drink of tea put him into better shape,

and then we put him on top of our luggage and carried him to the next waterhole, twenty miles further on. We had to leave him, as he was going in a different direction. We examined his machine, and found it all to pieces. The tyres were cut in many places, and the outfit in bad mechanical adjustment. We overhauled and repaired as well as we could, made him a set of rope tyres, and gave him what food was necessary to see him to his distant stage. He was a kangaroo shooter, and had come thirty miles through the belt of dry scrub country and twenty miles across the shelterless plains. His courage failed when he found his waterbag empty. Had we not happened along he might have furnished another one of those mysterious disappearances of the bush.

## BOOK REVIEW.

### ALL THE WORLD'S AIRCRAFT— 1922 EDITION.

Published by Messrs. Sampson Low,  
Marston & Co., Ltd., London. Fully  
illustrated, £2 2s. net.

THE 1922 issue of the volume entitled "All the World's Aircraft" contains a very complete and accurate account of the aeronautical history of 1921. Both the civil and military activities in flying have been dealt with, and the scope of the history embraces all countries of the world, and describes in the most complete manner possible every known type of aircraft and aircraft engine that was either built or in service during 1921. Hence, it is almost impossible to overestimate its value to anyone who wishes to be accurately informed upon a subject which is now assuming its proper importance in the public mind.

A perusal of the volume indicates the immense amount of research work necessary to gather the mass of information contained therein, but that the publishers will be well rewarded for their labours by a generous demand on the part of the public is assured. Australian enthusiasts in aviation will be particularly interested in the book both for the concise and accurate résumé of what has been accomplished here during the past twelve months, as well as for several fine illustrations of aeroplanes on Sydney Harbour.

Our copy from the publishers.

# ABORIGINAL NAVIGATORS

## UNCANNY SKILL IN HANDLING CANOES

### FEATS BEYOND WHITE MEN

By "BILL BOWYANG."

THE North American Indian figures largely as a master-hand in manipulating canoes, but, although the writer has never seen the redskin handling his craft, he is convinced that they cannot have displayed greater skill than the Australian aborigines. The aborigines can perform many surprising feats in their management of canoes—driving them along with amazing velocity, and shaping a course that would delight the heart of a pilot.

Although some writers on aboriginal life have stated that the blacks were not navigators, it is recorded that the Port Jackson natives often went out to sea to a distance of several miles, and, in the far north they still paddle their frail craft out to islands that lie many miles from the mainland. When pearling in Barrier Reef waters blacks are often met with far out at sea during stormy weather, and an incident may be quoted that occurred at Port Denison during the night of the "Sigma" cyclone. A male and a female aborigine were camped on Gloucester Island, and just before the cyclone arose they set out in a small bark canoe toward Port Denison, a distance of about sixteen miles. These two aborigines successfully crossed this stretch of water in their canoe with the cyclone raging around them—a feat that no small boat, handled by white men, would have dared to attempt. Inside the closely-sheltered harbour of Port Denison boats dragged their anchors and were hurled on the shore. A bathing-house on the beach was destroyed, and the township suffered severely. These facts are quoted to illustrate the almost miraculous feat of the dusky couple in the canoe. When questioned the next morning regarding his experiences, the male aborigine replied: "Oh, it was easy. I been paddle all the time, while Mary been bailem out water." Many similar cases could be quoted.

The commonest form of aboriginal canoe was a sheet of bark, carefully removed from a tree, and shaped over a fire. The

ends were tied or sewn up, and sometimes caulked with mud. The Murray River natives made their canoes from the bark of the redgum. When this was not procurable the bark of other trees was used, but such canoes were merely for temporary use, as they would not stand the weather without curling up or splitting. The canoes were always made from trees with natural bends, as such curves obviated the necessity of having to use fire to give the required rise, stem and stern. These canoes were very quickly completed, but if the craft was expected to last for years much care was shown in shaping it, and the processes, especially those of drying and hardening, took several days.

When the bark for a canoe was cut stretchers were placed across it at intervals of three feet to prevent it from curling up. Short props were placed under the bow and stern. If, at this stage, the canoe did not have the exact shape desired by the dusky builder he placed heavy billets of wood inside at those points that required pressing outward. After this, while the weights were still in the canoe and the props outside, a coat of well-puddled clay was spread all over the interior, which effectually prevented sun-cracks. In this condition the canoe was left in the sun to season. After ten to fifteen days' exposure the bark became so hard that it could retain its shape ever after, no matter how roughly it might be handled. It was, therefore, launched without ceremony upon the waters where it was destined to float for the few brief years of its existence.

These single-sheet bark canoes were propelled by poling by short scoops of bark or regular paddles. New South Wales aborigines often carried a fire in their canoes when they went fishing, and over the blaze fish were broiled and eaten half-cooked.

In North Queensland the blacks use a dug-out canoe, and at Port Essington an outrigger is attached. This has certainly been introduced from Papua. Near Cape York the blacks use a double outrigger.

and the canoes often have a length of fifty feet, and are navigated with sails as well as paddles. These sails are in the bows, and, although the craft make a good deal of leeway with the wind anywhere but dead aft, when they are running free they attain a speed of seven or eight knots. These canoes are extremely narrow, and their capacity is not much greater than that of the bark canoes, though they are, of course, much safer. The largest crew that can be carried in an outrigger canoe is about sixteen men.

These dug-out craft are generally hollowed out of the solid trunk of a selected gum tree. Many weary days are spent in the work of hewing out, and then fashioning the boat to glide easily and buoyantly over the water. The waterlines of these canoes are somewhat similar to those of present-day steamers, and they have many advantages over other types of small boats. Being composed of one solid piece of wood, they are more rigid; it is impossible to waterlog them, as they do not leak, having no joints, and although they roll considerably when empty they are difficult to overturn.

On some parts of the West Australian coast, as far as Port Essington, the only means of voyaging by the blacks is a raft. In its rudest shape, this is simply a log on which a man sits with his legs in the water, and propels himself with hands or feet. A stage above this is a raft made of several logs, or sometimes simply a mangrove tree of the right shape, on which one or more

individuals sit and propel themselves with paddles or spears. Very raft-like is a strange form of canoe that is used by the natives of the Adelaide River, in the Northern Territory. This craft is composed of several layers of bark to a depth of nine inches, with one end pointed and the other about four feet wide. It is sixteen feet in length, and large enough to carry ten persons.

Living in country occupied by many aborigines one notices that they hold their canoes in higher esteem than any of their other possessions.

As an illustration of the skill of these dusky navigators, the exploits of two Queensland aborigines in carrying cargo in a bark canoe is worth mentioning. Owing to a scarcity of meat on Whitsunday Island Mr. Withnall, the proprietor of a sawmill there, sent two blacks to Molle Island to procure the meat required. The distance between the two islands is about twelve miles. The outward journey was performed in safety, and the natives placed a large bag of meat and a bag of salt in the canoe and set out again for home. When in the middle of the passage the canoe capsized. The bag of salt was allowed to sink, but not so the meat. In some mysterious way one of the blacks managed to keep the precious meat afloat while his companion baled out and righted the canoe. Then they proceeded on their journey, and arrived safely with the rations.

## TABLOID HUMOUR

### Accuracy.

Editor: "Are you the chump who wrote about the dance on Friday?"

Reporter: "Yes."

Editor: "Well, look at this, 'Among the prettiest girls in the room was Frank Newman.' Nice rubbish, that is. Don't you know that Frank is a boy?"

Reporter: "Sure, but that's where he was." \* \* \*

### A Matter of Gas.

Molly was out riding with the preacher. "Where shall we go?" said the preacher. "Don't know. Where do you want to go?"

"To heaven," said the preacher.

"Do you think you have gasoline enough?" asked Molly.

### Just-so Stories.

Gladys: "Did you know that Alyce is very fond of Kipling?"

Burnie (who has been out with Alyce): "Oh, is that what she calls it?"

\* \* \*

"What's the latest news, Larry?"

"I'm not reading the news. Ah's lookin' for a job."

"But dat's the female column."

"Well, ain't ma wife a female?"

\* \* \*

### Noble Line.

Her Father: "My daughter, sir, sprang from a line of Peers."

The Lover: "Well, I jumped off a dock once myself."

# “ILLAWARRA MEMORIES”

## GLIMPSES OF A ROMANTIC HISTORY

### A PEEP AT THE DISTRICT SEVENTY YEARS AGO

By D.L.D.



View on Shoalhaven River, at Nowra, South Coast, N.S.W.

**T**O the man who knew Illawarra over seventy years ago comes a flood of memories when reading of the sales of historic properties, which for considerably over a century remained in the family of the pioneers who originally selected them. This has happened within the past few months, thus bearing out what is a generally accepted fact that properties seldom pass a third generation when entail is an absent factor. The inevitable law of peopling the earth by the children of men—the “Great Creator’s” laws of human occupation—have demonstrated this through countless ages.

The history of Illawarra may be called a romance—its historic youth and the characters it produced are subjects in which Mr. C. H. Bertie might revel. The discoveries in 1786 by Bass and Flinders in the small boat, the “*Tom Thumb*” (the lagoon is still known by that name), are matters of history known in all our schools.

It was quite twenty years after this before any prominence was acquired by this remarkable portion of New South Wales, which has done much to enrich the whole Commonwealth in natural and commercial production, as well as men of note, who will be mentioned in due course.

Illawarra properly begins at the junc-

tion of the main South Coast Range at Bulli and the Pacific Ocean, and extends south to the Shoalhaven River, the range being for a long period considered an impassable barrier. Illawarra was thus a strip of country on its own, reached only by sea.

The country boasted rich tropical brush lands, large, well-grassed forest trails, and innumerable lakes and lagoons, with small tributaries of purest water. These, combined with the huge swamps and gullies, rich with magnificent cedar trees—an early commercial product—which stretched away southward, and coupled with a soil capable of growing all kinds of cereals, and a climate suitable for English and tropical fruits, made it an ideal place for early settlement. Another undeniable advantage the district possessed was its proximity to Sydney, and it is not to be wondered at that free grants, ranging from many thousand acres to areas of about one hundred, given to Waterloo veterans, were eagerly sought after and secured in this favoured region. To some of the grantees these proved useless, and were afterwards given away for next to nothing, while some of those who secured large areas were either long delayed in settling or never occupied the land at all. The changes which took place during one century

baffle description. From aboriginal occupation, now non-existent, the district gradually evolved as a busy coal-mining centre, with large steamers berthing alongside stately piers to receive their cargo of coal for overseas; smelters, for the treatment of refractory ores from all over the Commonwealth and even New Caledonia soon sprang up, and Illawarra became the cradle of the great dairying industry in New South Wales. To-day the "iron horse" traverses the whole district, and the milk supply of the metropolis, together with numerous other commodities necessary for the well-being of the city population, come from this fertile and picturesque spot.

Numerous small towns, equipped with most of the conveniences of a modern city, adorn the Illawarra district, and the volume of tourist traffic which passes through each year, over good roads built through mountain passes and over mountain tops, is in striking contrast to what existed sixty years ago, when the district, viewed from the mountain ranges, was a ribbon of inaccessible country.

#### Link With the Past.

Messrs. Badgery Brothers, the well-known cattle salesmen, of Sydney, are the great-grandsons of the man who occupied the whole of Illawarra as a cattle run in 1810. Some years after, the great colonist, Alexander Berry, received his large grants in Shoalhaven, which have since passed from the original family, and are now of immense value to their present owners. The grandfather of the first-named gentleman told the writer many interesting stories of those days, at which time he was a young man, and, with his father, comprised the first white men to settle there. The entrance made was somewhere through the southern end via Shoalhaven River, but the exact locality is doubtful, and small wonder, for the neighbourhood is a labyrinth of gullies.

Animal instinct led some cattle up a mountain spur at Dapto, and through a crevice they were tracked, the first to surmount the coast range, ever since known as the "Bong Bong" track, and for many years the only means of access between coast and tablelands. It is still used at the present day. In the period between this and 1850 good progress was made in settlement and the founding of industries. Wollongong was the centre of communi-

cation by sea, and the paddle steamer *William the Fourth* (known as the *Billy*) filled the bill for many years, while ketches ran further south and conveyed the farmer's yearly output to market. To enable him to sell his products it was the custom to grant a free passage to Sydney.

The gold discovery in 1851-2 brought other changes. Good seasons and over-production, with only local markets available, caused a general depression, and wheat-growing, owing to the rust, was abandoned in 1861, which, of course, meant the closing down of the mills, never to be reopened.

#### An Era of Progress.

The noiseless foot of time moved steadily on, and in the next few decades a transformation took place—the packhorse and bullock dray, as the only mediums of transport, were relegated to the past, to be replaced by trains and motor cars. Probably some of the present generation never even saw the old means of transport, as motor cars have been doing duty for many years.

The question may be well asked: "What made Illawarra prosperous, and on what foundation was the prosperity built?"

Grantees were occupying and developing the lands in those days. The assigned servant system was in existence for a time, and many of them made good, and became reputable citizens, but the grantees themselves were mostly half-pay officers, army and navy men of reputation, some of whom had never completed the full curriculum of education, and, despairing of employment in the home country after the Waterloo period, had turned their attention to Australia.

In those days at least twelve months elapsed between the time letters were posted to England and replies received; consequently, the settlers had to adjust differences as they arose without waiting for authoritative advice from overseas. This sharpened the spirit of initiative, and produced independence of character, which made for the good of the community. The magistracy was formed from this educated class, men of character, who "feared God and loved justice." Differences were settled by homely advice when appeals were made, and in the main harmony prevailed, due to the tact and good judgment of all concerned. Immigrants came, principally from Scotland and portions of Ireland, and they in turn sent home for

friends, thus helping to swell the population of the district. Some had small means, while others were assisted. Hospitality and neighbourly co-operation in helping each other at all times developed mutual interests, and slowly built up the present intelligent, thrifty and industrious race. Land sites were given or purchased, and schools erected, and the rising generation of the district received most, if not all, their education there.

The "Free Selection Act," in 1862, opened up a new vista. Previously land acts had favoured the land jobbers and squatters only, but now an avalanche poured over the country. Brush lands like

those noble pioneers, who at the present time are prominent in Church and State. Some of the most notable of these are Sir William Cullen (Chief Justice of New South Wales), Sir Joseph Carruthers (author of Million Farms Scheme), Sir Denison Miller (Governor of the Commonwealth Bank), and Sir George Fuller, Premier of N.S.W. Our leading bankers have done much to foster the industries of the district, for many of them had hard-won experience on the land, and they know the national value of these industries.

Can any other place vie with Illawarra? If so, it is deserving of the same eulogy. The writer is of the second generation, and



Stanwell Park, from Bald Hill.

those of Illawarra were ideal training grounds for labour, and the early generation soon discovered the Northern Rivers and made the Richmond River what it is. The descendants of these early Richmond River settlers are now in turn spreading farther north into Queensland and coastal regions, establishing co-operation in their path. To-day in Atherton, with Cairns as a port, there is another Illawarra in embryo with an immense hinter land.

#### Home of Prominent Men.

"Illawarra the Great" should be the name applied to the district when we leave commercial matters and turn to the intellectual achievements of the descendants of

can count only three living, excluding himself, who have passed through most of the period reviewed, and who all did their utmost to foster the dairying industry.

The rugged country, with frowning battlements of rocks, inspired the poet Kendall to record its grandeur in imperishable verse. It is gratifying to know that the visions of a great and prosperous district, one that would win for itself the distinction of being known as the "gem of New South Wales," which unquestionably inspired the pioneers, have come to be realised. Perhaps some day a more able historian will set out to do justice to the romantic history of this beautiful and fertile district.

# AT SEA ON A COLLIER

## HOW TINY VESSELS BATTLE ALONG THE COAST

### FEATS OF SEAMANSHIP THAT PASS UNNOTICED

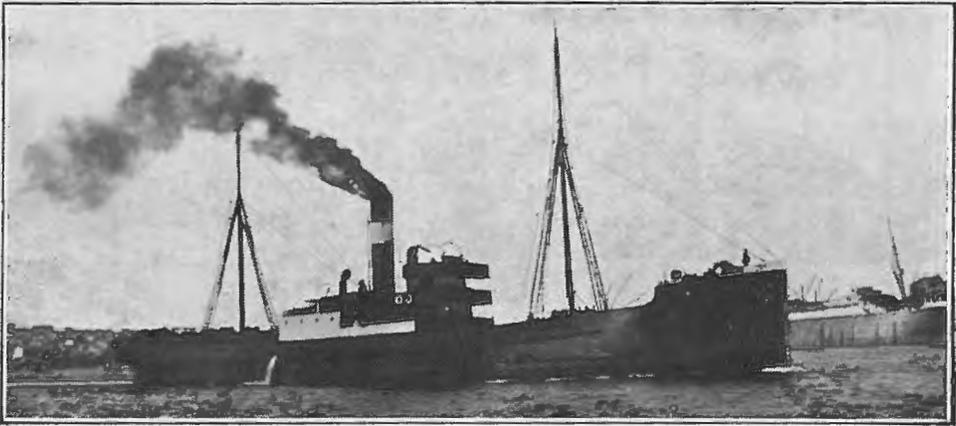
By J. W. ROBINSON

The Liner, she's a lady, and she never looks nor 'eeds;  
 The Man-o-War's 'er 'usband, and 'e tends to all 'er needs.  
 But, oh! the little cargo boats that sail the wet seas roun',  
 They're just like you and me, Jeannie, plyin' up and down.

—Kipling.

**A** HOWLING south-easterly gale is sweeping along the coast, lashing the grey waters of the Pacific and tipping the waves with white caps of foam. The wind raises the soft sand from the Newcastle beach and sweeps it across the esplanade, making it almost impossible to walk along the ocean front. The promenades are deserted and an angry sea roars along the beaches. Wild greybacks hurl themselves fiercely against the breakwaters at the entrance to the port, and smother Nobby's lighthouse with foam. Darkness falls, and the white, red, and green

truck swings back, a crowd of men trim down the pile to the level of the combings, hatches are closed and battened down and all is ready. Some minutes later the sturdy figure of a man, clad to the eyes in oil-skins and wearing heavy sea boots mounts the ladder of the small bridge. The man at the wheel silently takes his place, a hoarse "let go aft," comes from the skipper, and the little vessel, with no fuss and no "good-bye" slides away from the wharf, swings the white and red leading lights of the port into line, and heads for the open sea. The cranemen gather around



The "Pelaw Main," a well-known collier, running between Sydney and Newcastle.

harbour lights show out mistily through the murk and spray.

Away inside the harbour a snug little collier lies alongside the Dyke. Under the purple gleam of an arc lamp one of the big hydraulic cranes hoists the last truck of coal, swings it across the wharves and lifts it into position over the for'ard hatch. A begrimed lumper knocks out the pin, and with a muffled roar the truck empties itself on top of the pile of coal which has formed on the hatch of the collier. The

cheery fire on the Dyke and wait for the next ship to arrive; and the collier sliding down the harbour ports her helm to pass a ferry, starboards again, and resumes her trip.

High up on Nobby's cliff the lamp at the signal station winks, a series of flashes are returned from the collier's bridge, a silent good-night is "spoken" and a few moments later the little craft meets the first sea.

Away back in Newcastle a telephone rings, the signal station reports the de-

parture, a line is added to the list on the shipping board at the post office, and so the story of the collier's departure is recorded, to perhaps be passed unheeded by all save an interested few.

"Out there," however, a splendid fight goes on. A big wave hits the little packet as she rounds the outer beacon and she climbs high into the air, only to descend with a sickening thud. With the coming of the next wave she buries her fo'c'sle head deep into the wall of grey water, ships several tons, throws the spray over her little bridge and rolls what remains of it out of her scuppers. Climbing and swooping, swooping and climbing, she battles her way along the coast. Norah Head light swings into view and the mate, who is standing his watch on the bridge, loses sight of it as, with bows raised high in the air, the little vessel chases her tail. Almost immediately afterwards he catches another glimpse of the light, and as he does so his charge buries her bows into the next sea, and raises a wildly racing propeller high into the air. Down below, in an atmosphere reeking with grease, a sweating engineer clutches madly at the stop valve to prevent his engines racing.

And so through the long, long night the battle rages. The figure on the bridge is used to it and he knows his ship and her ways. He understands her habits and is able to tell how she likes to behave herself in such weather. Knowing this he treats her as he would treat a human being and humours her little whims. Perhaps he carries out his work subconsciously. He is a typical sailor, and instead of standing valiantly on the bridge of his vessel, glorying in the wild storm, as he would do in fiction, he crouches behind the weather cloth and curses the sea. Then he wonders how the vegetables he planted in his garden just outside Sydney a couple of weeks ago are getting along, and whether the wind and rain are spoiling the flowers he planted during his last day ashore. At any rate the mad struggle with the elements is his life's work and he treats it as such. During the night the lights of a big inter-State liner, bound north, show up, creep closer, and then disappear astern; and he remembers one time hearing a shipmate recite something from Kipling about "Seeing some liners lights go by like a grand hotel."

He isn't too sure whether the words are

right, but anyhow what does it matter? Norah Head has faded astern, and he is straining his eyes to catch a glimpse of the red glow of Barrenjoey light. Soon it comes into view and is passed, and then a little later he picks up South Head light and keeps it well open from the North Head cliffs. He knows that this spells safety, and means that the little craft under his care is well clear of the treacherous Long Reef.

A dull grey dawn is breaking as the little vessel, with funnel coated white with spray, creeps up Sydney Harbour and ties up to her berth. A night of turmoil and struggle is over, and the collier's crew are free to spend a few hours in the comfort of their own homes before the vessel is ready to return to the northern port.

It will be a question of a few hours only, for the coal is wanted in Sydney and very little time is lost in loading or discharging. Soon she will run north "light ship" in good style, and unless the weather clears, her next night will be spent battling down again in much the same way.

And the case of our little collier is by no means an isolated one. Day by day and night after night dozens of these gallant little vessels fight their way up and down the coasts carrying the freight which keeps the wheels of industry turning in Sydney. They creep up and down the coasts and harbours in a never-ending procession, and are passed unheeded by almost all who use the ferries. They come from the north and the south, and unless a disaster like that which happened to the ill-fated *Myola*, *Undola* and *Tuggerah* some little time ago occurs, the average man in the street is hardly aware of their existence. A brand new liner berthed in style and splendour at Circular Quay is an object of attraction to one and all, but the dirty little collier lying alongside of her is regarded by most as a blot on the seascape.

And yet for continuous displays of skilful and daring seamanship, the handling of the coasters is extremely hard to beat. Manned in most cases by sturdy men who have spent all their lives afloat, many of them in deep-sea sailing ships, they battle their way along the coasts in weather which holds many larger vessels up, and should there unfortunately be any rescue work to do along the coasts their crews have never been known to fail.

## IN THE FACE OF DEATH

By LEO N. BURNETT

THE nameless hero of the *Grontoft*, the radio operator of the Norwegian steamer, who jested with death as his ship sank in a mid-Atlantic hurricane, has caused several millions to ask themselves how much nerve they have and what their words and actions will be when it at last becomes evident to them that the light is flickering.

"Well, the steward is making sandwiches for lifeboats. Looks like we were going on a picnic," wired the *Grontoft* operator in one of his jesting comments which were picked up by the Danish steamer *Estonia*.

"We are sinking stern first," came the final message. "The boats are smashed. Can't hold out any longer. Where did I put my hat? Sorry we can't wait for you. Pressing business elsewhere."

During the great war it was frequently observed that the British soldiers went to die with stoic calm, that the emotional nature of the Frenchman often expressed itself, not unmanfully, in tears, and that the Americans in many cases were known to die with a laugh or a joke on their lips.

History shows many varieties of emotion during the last hour, and the bitter jest does not seem to be confined to any nationality.

Thomas Hood, the English poet, is said to have remarked that he was dying out of charity to the undertaker, expressing himself in a lowly pun. He referred to the undertaker as wishing "to urn a lively Hood."

The scaffold of the executioner was the scene of many bitter last-minute observations. "No, no; you can get them off more easily afterward. Make haste! Make haste!" said Louis Philippe Joseph to his executioner who attempted to pull off his long and handsome riding boots, which fitted tight to his legs.

"It is small, very small, indeed," said Anne Boleyn, clasping her neck.

Robert Burns remained true to type till the end, expressing himself with blunt Scotch wit: "Don't let that awkward squad fire over my grave," he is reported as saying.

The maxim expressing the futility of earthly possessions, "Shrouds have no pockets," was recognized with frank regret by Rachel, the French actress. Fondly contemplating her jewels, she said: "And must I part with these so soon!"

While even the basest of monarchs usually commended their spirits to God when the hour of death approached there were some who with their last breath gave voice to a regret or even a curse. "O shame! shame!" exclaimed unhappy Henry II. "I am a conquered king—a conquered king! Cursed be the day on which I was born, and cursed be the children that I leave behind me!"

Alexander Pope at the last uttered a good-natured paradox. A friend called to see him as he sat in a chair dying, just after his physician, who had spoken encouragingly of his condition, had gone out. In answer to the friend's inquiry relative to his health, he said: "I am dying of a hundred good symptoms."

Hundreds of dying people whose words have been recorded have spoken of the pleasantness of death. "If I had the strength to hold a pen," said William Hunter, "I would write how easy and delightful it is to die."

Among the dying words most frequently quoted are those of William Sidney Porter (O. Henry), so typical of the man himself. When he was expiring in a New York hospital in 1910 he said to the nurse: "Turn up the lights. I don't want to go home in the dark," applying the words of the popular song which was then being whistled in the streets.

Rousseau, not unlike O. Henry, asked for more light, bidding his wife to open the window that he might see once more the magnificent scene of nature.

There is certainly nothing of irreverence in most of the bitter, laconic expressions of those who have "business elsewhere." It is of such stuff as well as of prayers and humble confessions that the human drama is made. The courageous mariner who enters the greatest of mysteries with a stout heart and a smile on his lips is a worthy example for us all.

# MOTORING IN THE TROPICS

## THE TOURISTS' PARADISE

By BERTRAM SANDHAM



"Main Street" in Apia, Samoa.

WHEN speaking or reading of the South Sea Islands one's mind naturally drifts from the bustle and hustle of the day's routine and the cities' turbulent traffic to the quiet, palm-lined beaches, the natives in their outriggers coasting in on the huge breakers, and the moonlight dancing on the sands.

One would hardly imagine that back from this beach a few feet lies a highway, over which motor vehicles of all descriptions travel. This I found, during a two-years' sojourn in the South Seas, was true of a great many islands in the Southern Archipelago.

On entering the harbour of Apia, in the Samoan Group, one is greatly surprised in viewing the amount of activity along its shores. Motor trucks can be seen backing into their positions to receive the ship's freight, and passenger cars are waiting to whisk the travellers to the island hotels. Facing the bay are many commercial and mercantile stores, and intermingled with these one will find numerous automobile dealers and garages.

The merchants and traders have found the motor truck indispensable in hauling the island's products from the plantations to the waiting schooners and liners anchored in the harbour. The island's white residents, and not a few of the natives, take great pleasure in the touring car and

motor cycle. Each evening vehicles of all descriptions spin along the island roads, taking advantage of the cool trade winds and seeking relief from the tropical sun.

The "taxi cab" is ever on the alert for the tourist. "Steamer Day" finds the taxis rolling along the roads with the ship's passengers that have come ashore for a few hours of sightseeing before proceeding on to their intended destinations. I might add that one can lay special emphasis on the syllable "tax" in taxi cab. The tourist, as he hums along the road under the tall cocoanut palms enjoying the primitive scenes and customs, is burning benzine that costs the driver the best part of a dollar per gallon, and wearing off rubber on which the freight is as broad as the tyres are wide. He has thrown all his cares to the winds, and is thinking how wonderful the world is after all. But his enjoyment of the scenes and the happiness he has experienced in his journey will receive a frightful bolt when he is handed his taxi bill!

The island roads are well built. Although of dirt construction in most cases, they are kept in very good condition by natives employed for that purpose, despite the torrential downpours for which these tropical islands are noted. The ever-present and dangerous coral reefs, in addition to trapping vessels, offer their help in the building of some of the roads. The

coral, after being broken up with sledge hammers by the natives, is spread over the road, forming a solid base and affording quick drainage.

The shore drive is replete with scenic splendour as the road winds along the rugged coast, leaving now and then to enter into the interior communities of the natives. By following the winding roads along the coast one encounters numerous indentations and lagoons, which, with their settings of weathered and leaning cocoanut palms, the background of shaded green foliage, the white stretch of spotless sands, over which the waves roll at each high tide, portrays a scene which one cannot soon forget. The stretches of lava, or "iron bound coast," are exceedingly picturesque, and show much evidence of early volcanic eruption. The air becomes trapped in these apertures by the onrushing combers, and throws geysers of salt spray up for fifty to a hundred feet through the escape holes which are situated yards inland.

One may stop at any of the native villages and receive a cordial welcome. The cool and refreshing water from the cocoanuts, together with bananas and other Samoan dishes, are offered you with no intention of being recompensed.

There are many points of historic interest to be seen. On the reef in the harbour of Apia one can still see the rusted and disintegrated hull of the German warship *Adler*, which, with five other men-o'-war of the German and American Governments, were driven on to the reef, and to destruction, by the terrible hurricane in 1889. Diplomatic relations between these countries were strained at the time over Samoan affairs, and this terrible disaster did much to bring about a settlement. The tourist never overlooks the

opportunity offered of viewing the tomb of Robert Louis Stevenson, and also his home, which is situated on a hillside overlooking Apia Harbour. Many natives will be seen along the beaches in their outriggers, and the motorist who has his bathing suit and craves a thrill can have his wish fulfilled on short order. The natives will carry the tourist in the canoe out to where the huge breakers topple over, and, with clever manipulation of the paddle, guide him into the beach at express speed on the crest of the intruding waves.

Last, but not least, is the motor cop! Upon my return to Apia from an afternoon drive with some friends my relaxed and joyous feelings were given a terrible setback when I was instructed to appear before the island magistrate. He in turn informed me that I had been driving faster than the law allowed, and that another such offence would cost me a considerable sum of money.

The smaller island of Tutuila, though equally as fascinating, is only in its early stages of road building, and a few motor vehicles were evident during my extended visit. A road, fourteen miles in length, stretching from Pago Pago to the village of "Leone," was well under construction upon my departure. This road, continues the writer in *Touring Topics*, when completed, will furnish the motorist with one of the most beautiful drives that these southern islands have to offer. Tutuila has a United States naval base, but has no hotels.

A variety of primitive beauty and customs await the tourist and motorist, and those embarking for these enchanting isles will bring indelible impressions of their fascinations and loveliness that will remain in their minds for many years.

Ship Captain (to applicant for job): "Suppose a young lady had fallen overboard and each big wave was washing her further out to sea. What would you do?"

Applicant: "Well, sir, I would throw her a piece of soap."

Captain: "Soap! What could she do with soap?"

Applicant: "She could use the soap to wash her back again."

Professor: "What is ratio?"

Student: "Ratio is proportion."

Professor: "What is proportion?"

Student: "Proportion is ratio."

Professor: "But what are ratio and proportion?"

Student: "I can only answer one question at a time."

# A ROMANCE OF THE OCEAN

## PROVIDENTIAL RESCUE FROM A WATERY GRAVE

**S**HE was only an old iron trawler, and had served her time in the North Sea under conditions which would test the seaworthiness of even the stoutest vessel. When her service there was ended the coast of Labrador claimed her, and once more it was for the fishing business.

On the occasion on which disaster overtook her the crew numbered six—all Newfoundlanders—men who were thoroughly seasoned to the hard, rough life their calling involved, and who had more than once faced death with a courage borne of life on the sea.

The trip which lay ahead of them was only a short one—a mere trifle of thirty miles from the starting point to St. John's, consequently only a day's supply of food and a few tons of coal were taken on board. A moderate wind prevailed at the outset, but it soon died away, and the stout little vessel made good progress over the motionless sea.

Before many hours had passed, however, a strong south-east breeze sprang up, and, fearing treacherous weather, the skipper made every effort to keep his little vessel as close as possible to the shelter of the cliffs. Soon a raging gale was screeching overhead, and every time a cove or inlet was passed its effect was felt in the shape of fierce gusts, which rushed down upon the trawler groping her way along beneath the cliffs.

Soon they were rounding the northern head of St. John's Harbour, and shelter was close at hand. But Fate had willed that the stout little vessel that had survived so many ordeals was to undergo a still sterner test, and that the friendly shelter of St. John's Harbour was to know her no more. Just when all ahead seemed plain sailing a fierce hurricane blast enveloped the tiny vessel, and soon it became apparent that, despite a full head of steam, she could not make the entrance. Slowly but surely the hurricane prevailed against steam power, and the trawler was blown towards the open sea, where a mountainous wave swept her deck, flood-

ing the engine-room and carrying off every movable object. In such desperate situations men think quickly, and the captain realised that the only chance of safety was to turn their back on the friendly, but to them impossible, harbour, and fly before the gale. To turn the little vessel in such mountainous seas was a hazardous undertaking, but it was soon accomplished, and a few minutes later they were speeding out over the boundless waste of waters.

Darkness fell, with the hapless trawler many miles at sea, still flying before the gale. The fury of the hurricane seemed to increase as night wore on, and the little vessel rolled helplessly under the weight of waters which from time to time swept her deck. The skylights were broken, and great quantities of water found their way into the hold, which necessitated steam being kept up to keep the pumps working. The supply of coal was by this time almost exhausted, but not so the courage and resource of the men. They tore off the canvas boat covers and converted them into a sail, which served to keep the vessel's head before the storm.

Daylight found their plight pitiable in the extreme. Only moving mountains of water greeted the eyes of the anxious watchers, but they still hoped on, and every man stuck to his post. The question of fuel to feed the furnace was solved by breaking up the chairs, tables and lockers, and later the cabin doors were demolished for the same purpose. Once more night fell, and still the vessel staggered along, but each hour her position was becoming more desperate. Next day the lining of the deck, cupboard and deckhouses was cut up for fuel, and later the jolly-boat met the same fate.

During the afternoon the glad tidings that the smoke of a steamer was visible on the horizon brought fresh hope to the hearts of the hapless crew. Immediately the captain, who had remained at his post from the very outset, ordered steam to be raised at once, and, following his order, the last of the coal was heaved into the

furnace. In order to raise as big a smoke as possible all the available rags were collected, and after being saturated with oil were thrown into the fire. That it was a race for life was apparent to all, but, despite everything they could do to increase her speed, the progress of the partly-waterlogged ship seemed painfully slow. The stranger's course was obviously across their bows, but in the tumbling seas the captain dared not alter the trawler's course, otherwise disaster would have immediately overtaken them. All they could do was to continue on, and pray that the lookout on the other ship would observe their helpless plight and bear down on them. Every article that could be raked up was thrown into the furnace, and so great did the pressure of steam become that the danger of the boiler bursting at any moment added to the perils of their position. But desperate men cannot afford to hesitate when life is at stake. Over the mountainous seas the little vessel staggered, at one moment high on the crest of a huge wave, and the next instant lost to sight in the troughs. Each time she mounted the top of a billow the anxious crew noted the position of the other vessel—apparently a liner bound for the old country—and gradually their hopes dwindled, until at last it was plain that there was no chance of the other vessel sighting them. For a brief space the trawler's crew were seized with blank despair, but gradually they realised that there was still hope if the waves subsided of reaching a haven of safety. Their plight, however, was desperate, for the food was now exhausted, and the only water they possessed was a nasty tasting mixture condensed in the engine. With this they made a paste out of some flour, which helped to appease the pangs of hunger somewhat.

The next day they burned the hawser and some cables, and later the lockers, drawers, some of the lifebelts and buoys followed.

Another night passed, and what a night it was! Cold, hungry, and almost bereft of hope, the crew remained huddled in the most sheltered parts of their dismal abode, waiting for daylight to come in the vain hope that rescue might be at hand.

On the fifth morning the skipper estimated that they were at least 1,000 miles from the home port, and quite fifty miles

out of the track of trans-Atlantic steamers. Can it be wondered then that hope was almost dead within them, and had it not been that the rapidly-increasing water in the hold spurred them on to fresh efforts to keep their frail craft afloat they must soon have been swallowed up by the hungry waves. But it is the unexpected that always happens, and just at the moment when hope seemed at its lowest ebb there was a cry from the watch that a sail had been sighted. Instantly it became apparent that the skipper was bent on taking one last desperate chance, for he altered the trawler's course ever so slightly until she was no longer running directly before the waves. The barquentine appeared to be bearing right down on them, and had it not been that she was sufficiently close to enable every outline to be clearly discerned the crew of the half-sunken trawler might have regarded her as a phantom. It was so unusual to find a vessel of her type sailing such a course that it seemed as if Providence had sent her to succour the destitute crew of the trawler. On she came, and still no sign appeared aloft—only a man's head was visible over the rail. Closer and closer she approached, and suddenly shot by within hailing distance, while the hearts of those on the trawler chilled with horror at the thought that their hopes of rescue were again doomed to disappointment. But once more there was a lightning-like change—down went the barquentine's helm, up she shot into the wind's eye, over went her yards, and she flew back over the tremendous seas on a course which took her within hailing distance of the battered little ship. Those on board appeared to be shouting to the trawler's crew, but owing to the roaring seas no sound was distinguishable. Three times she circled round, and then a three-flag hoist broke out from her halyards. Its meaning was uncertain to the shipwrecked men, their code book having been used as fuel the day previously, and the only thing they could do to make the stranger understand their helpless plight was to climb into the rigging and wave their arms frantically.

Presently the skipper of the barquentine ran his vessel close to the trawler's stern, and conveyed to those on board that he had lost his boat, and, therefore, they must launch theirs. Then he sheered

off and "hove to," awaiting the next move of those he was trying to rescue.

Realising that it was futile to attempt to launch the boat, the skipper of the trawler ordered six lifebelts, which had been saved from the furnace, to be brought out and donned. Then the boat was lashed amidships to the deckhouse, and the men took their places in her—three of them armed with axes. The plan was to turn the vessel broadside on to the waves, and then when she became swamped cut the ropes and allow the boat to float clear. Hardly had their plans been decided upon and the steamer brought broadside on than a great mountain of water threw her almost on her

beam ends. The fastenings were cut, and before the anxious men could realise what had happened the boat swung clear and was floating on the foaming waves.

The barquentine was standing not far off, and under her lee they found a great area of calm water, on which oil had been poured. They were quickly hoisted aboard, and well treated, but the air of mystery which they had at first detected still hung around the vessel, and little was seen, and less heard, of the captain during the week they spent on board. They were, however, none the less grateful for their providential rescue at a moment when death stared them in the face.

## PERSONAL

Sir Keith Smith, who attended the funeral of his brother, the late Sir Ross Smith, in Adelaide, and that of Sergeant J. M. Bennett, in Melbourne, has planned to return to England in the near future to complete certain business arrangements in connection with the proposed world flight, which he abandoned on the death of his brother.

\* \* \*

A handsome presentation was made by the staff of Wireless House, on June 17, to Mr. J. F. Wilson, assistant manager and secretary of Amalgamated Wireless (Australasia), Ltd., on the eve of his marriage. Mr. F. W. Larkins (chief accountant), in making the presentation, spoke of Mr. Wilson's many sterling qualities, and instanced the progress he had made in climbing from a comparatively small position to a high executive office during the past ten years as evidence of his business ability.

Messrs. D. Campbell (equipment manager), G. Apperley (technical superintendent), R. Rose and M. Perry (Australalectric, Ltd.) also spoke in felicitous terms of the guest, and voiced their sincerest wishes for his future welfare and happiness.

Mr. Wilson, in responding, expressed his cordial appreciation of the many flattering sentiments which had been expressed, and also of the fine presentation he had been asked to accept. He confessed to a lack

of words to voice his true feelings, and feared that he would have to resort to "wireless" to convey his thanks to those present.

The gathering dispersed with three cheers for Mr. Wilson and his future life partner.

\* \* \*

The late Mr. A. C. Rowlandson, managing director of the N.S.W. Bookstall Co., who died at Wellington a few weeks ago, was an outstanding feature in the publishing business in Australia. Under his able management the Bookstall Company prospered exceedingly.

\* \* \*

Sir Allen Taylor, who contributes an interesting article to this issue of *Sea, Land and Air*, was Lord Mayor of Sydney during the years 1905-6-9-10-11-12. As head of the big timber firm of Allen Taylor & Co., Sir Allen is one of the leading commercial men of Sydney.

\* \* \*

The party of New South Wales parliamentarians who toured Mildura and other districts a few weeks back showed their appreciation of the organizing ability of Mr. J. S. Cormack, Director of the N.S.W. Government Tourist Bureau, who mapped out the itinerary and accompanied the party, by making him a handsome presentation on their return to Sydney.

# The Man Who Knew

*A Story of the Boat Race*

BY HYLTON CLEAVER \*

“HEART!” A young man with that word resounding in his ears came slowly down the steps of the grey house with the brass plate on the door.

He heard the hum of traffic, saw men passing by, heard a boy rattling with a stick along the railings, and yet he did not know he saw a thing—did not know that he even heard a sound. His name was B. A. Murdoch; he was the Cambridge stroke, and in two days he had come up against the most appalling frightfulness of fate: he had been told that he must never row again.

The race was five days distant.

He turned like a somnambulist and moved mechanically down the street, and presently he found a telephone call-box, whence, in a hollow voice, he told the news to Putney; and so it was that in a few hours there were posters grasped in every newsboy's hands, with great black letters that proclaimed, “Boat-race Sensation! Change in Cambridge Crew.” And Basil Andrew Murdoch heard them shouting it as he sat in his own home, with his head bowed and resting in his hands.

“It's no use coming down to Putney,” he had said. “I'd like to go home for an hour or two and tell them.”

The Cambridge President had voiced his shock in slow, deliberately spoken words of sympathy, and then eventually he had said, “All right, I'd better sit down and think what on earth to do.” Basil knew that there was but one thing he could do. Bell-Smith, who had stroked the other trial eight and who was spare man to the crew, would be brought in.

But it was not only Basil who would suffer; nor was it just the Cambridge crew. There was someone else—an old man who sat all day in a high-backed chair, and who,

since first the Cambridge crew had taken early shape, had been always surrounded by the morning papers, each one opened at the page that told the story of the rival Blues at practice.

He was the father of the Murdochs, and his life since he had first had sons had been a long, sad tale of crushing heartbreaks.

He was a Cambridge Blue, and he had had four sons to carry on the name. Some had called him fanatical; others knew only that he was a sterling loyalist, and that his heart's desire was to send first one boy and then another to the 'Varsity, and watch them work their way into the Cambridge boat until the name of Murdoch grew into a household word.

So he had sent them, and fate had dealt with him as fate will sometimes deal with those who set their hearts on an achievement, and who get up after the first shock of a knock-down blow and try again.

Son after son had gone forth by way of public school; son after son had managed to stay out the years allotted and had journeyed on to Cambridge; then, whilst the old man sat back to watch proudly what his sons would do, each of the three had slithered off the straight path and had been sent down. The household word had been created sure enough. The name of Murdoch was well known indeed; it was known as the name of three outstanding rotters. His boys had not gone up to Cambridge and won great renown, they had not even found mere failure; they had earned permanent disgrace.

Then it was Basil's turn. Four years had elapsed between the coming of the third Murdoch into the world and Basil. Basil had gone on to Cambridge after all three had been sent down. So he had had the aftermath to face. He was another Murdoch. People had looked him up and down; whispers had gone round; he had

\* In the “Captain”

been left in isolation; but he had squatted down with tight-set teeth, and he had just dug in. Term after term went by, and then by slow and natural degrees he started to come pluckily out from the shadows; he scraped off the mud that had been thrown, and he moved resolutely out to meet a puzzled welcome. No one had questioned him; they had just stood aside to watch, and Basil Murdoch had got busy.

For three long years he hovered on the outskirts of the Cambridge crew. He had rowed in the trials in his second year; in the third he had stroked his college eight head of the river, and had gone on to Henley to reach the final of the Grand. But he was a dog with a bad name clinging still, and it was not until his fourth year that he stroked a trial eight and stepped at last without much question from the critics into the stroke seat of the Varsity boat.

That was his chance at last, and on the Cam, at Henley, and at Putney he had made the rowing world sit up and look. He had a raw crew, and he pulled that crew together and gave them good length; they were a heavy crew—he gave them liveliness; they lacked experience—he gave them style. Cambridge had three defeats in three successive years to look back on, and Basil gave them hope. He made them steady favourites. He got them record time over a mile by sheer fine stroking. And through it all that old man sat there in the high-backed chair and counted off the days. Murdoch was on the lips of men at last in admiration; the three who had each slipped in turn upon the self-same piece of peel had been discounted; Basil was going to wipe their bad deeds off the slate. It had been giving Basil's father a new lease of life.

Now Basil sat and said, "How am I ever going to tell him?"

A girl stood by his side. She was Basil's sister, She reached a hand out, and she rested it on Basil's back.

"No one will say it's your fault. He'll know that."

Basil looked up.

"Won't they? You never know. We've got the things that Jack and Ralph and Gerald did chalked up against my name. They could say that I must have broken training; sometimes a man's heart goes that way. They could say I'd done that."

"They won't."

And as they spoke the door was slowly opened, and the gaunt and noble figure of that old man stood on the threshold of the room. He leaned upon a stick; a copy of the early paper they had shouted down the street was in his hand. He stood there, and he looked with straining grey eyes at Basil, and Basil answered with a look of hopelessness.

"What is it?" asked the old man slowly. "What's gone wrong?"

His voice was tragically low.

"I've strained my heart," said Basil dully. "The vet. says it's been pretty well done in. I've never got to row again."

He slowly spread his hands. "I did my level best to do it for you, pater. I tried all I knew. It's just hard luck."

The old man did not speak. He just stood much as Basil had stood when the door of the doctor's house had closed behind him. He reached out for a chair, and he sat slowly down, an old man and a broken one. He had never had a son who rowed for Cambridge in the Boat-race.

Basil had judged aright. The Cambridge skipper brought Bell-Smith into the crew at stroke.

That he would do this had been almost certain from the start.

The other members of the Cambridge crew had guessed it, and when the news that Murdoch had dropped out so suddenly had first spread round amongst them they had stood around the dressing room, some leaning up against the lockers, others sitting on the forms, all looking funnily at one another. It was Pitkin who eventually spoke. Pitkin was the kind of man who at the start out of a picnic party will look round the cloudy heavens and observe, "I think it's going to rain," just when everybody else is feeling this is true, but has been trying to pretend it isn't.

He looked up now, hands in his pockets, feet widespread, and pursed his lips, and it was not so much the words he used as the way that he spoke that mattered.

"Just what everyone has always said, and now we see that they were right."

Another man, loth to believe the first thought that had jumped into his mind, looked up.

"How are they right?"

Pitkin shrugged his shoulders sadly, and

then he answered, "They always said it wasn't any use—a Murdoch is a Murdoch; and when you find a family with a streak like that it comes out in the best of them sooner or later, and it comes out worst in the one who hides it longest."

"I understood," the other muttered, "it's his heart."

Pitkin turned a few times on his heel, and then stood whistling absently.

Then he looked at the man who had spoken last, raised his eyebrows sadly, and then jerked his head.

"It always is, when a man breaks down in his training; and that is just why everyone who's spoken to me about him has had a funny look. They all know the other Murdochs, and they—understand."

"Then all I can say," said the other, "is I'm jolly sorry, for I liked him very well."

"And I," said Pitkin, "but the fact remains, he turned out—like the rest."

Basil, torn with bitterness, stood on the boat-house balcony and watched the crew start off from the embankment the next morning, and he knew what everyone was thinking. A vague hint of it had come to Basil with the morning paper.

"Whether the change will make the difference to the chance of Cambridge that one might at first suppose is open to debate. There are those on the riverside at Putney who, though the change has come at the eleventh hour, believe that whilst Murdoch undoubtedly had a big hand in pulling the Cambridge crew together, his power of holding them at a racing pace over the full course in a ding-dong struggle had never yet been proved. About Bell-Smith's power there can be no doubt. He is a racing stroke, whose stamina seems everlasting, and whilst never having Murdoch's perfect length and style some think that if the crew suit themselves to his ideas in time he may yet prove that the exchange has not been wholly a disaster."

Basil had read it thoughtfully, and afterwards he had read others not unlike it, and he thought he could read also between the lines. His was a family name of ill-repute; exactly why his heart had crooked up so, whether it had in fact crooked up or whether it was a mere excuse for his withdrawal from the boat, were matters that the public were invited

to question within themselves. There was still a little flung mud clinging to the name of Murdoch, and it seemed to sap the confidence of ordinary men in Basil.

As days went by Basil grew certain this was so, and it just filled his cup of bitterness up to the brim. Supposing that his father heard—supposing even he himself had doubts! Basil went to his sister.

"I have loved Cambridge just as much as the Old Man did," he confessed. "I wish I'd told no one, and rowed, and chanced it."

"You'll be more use to Cambridge living than you would be dead," his sister pointed out. "So don't be such a perfect ass."

"I'm no more use to anyone," said Basil. "How's the pater?"

"He never speaks," said she. "And it makes me afraid. When a man's old like that, and frets—as he does—I wonder how it ends."

Basil rose.

"If there was only something I could do," said he, and once again he sat down and let his bowed head rest upon his hands.

There was still something that he did not know. On Friday evening his brother Gerald came to see him, and all his after-life Basil remembered how he stood there a moment looking, for an elder brother, curiously abashed. He was a tall, lean man, with stooping shoulders, and he shook hands with Basil and stood a moment looking at him sympathetically, and then he said:

"How's the old man been taking it?"

"He doesn't speak," said Basil briefly—"that's all; just doesn't speak to anyone. Polly sees most of him; she says it's the beginning of the end."

Gerald lifted his head, as though some kind of guilt was still upon him, turned for a moment, and turned back.

"I've come to tell you something," he said patiently. "If I told anyone else, they'd not believe me. I'm not the kind of chap who gets believed—only this happens to be true. When Jack and I got sent down, d'you know who was the most to blame? You don't—nobody does; but it was Bell-Smith. He saved his own skin, and we paid." He paused a moment, and seemed to be tightening his lips. "We never gave the man away; now, if we told

the truth, nobody would believe us, only Ralph, because he got snapped in the same way afterwards. What makes the difference is that we used to go about a bit with Bell-Smith, and we got to know his friends. I still know some of them, and I sometimes come across a type of man you wouldn't meet." He paused once more, and then he looked at Basil solemnly. "I've never been much of a white-wash saint. I still do things perhaps you wouldn't care about; but there's one thing I stick at." He seemed to swallow, and then he sat down, leaned forward on his knees, and so looked up.

"Bell-Smith is stroking them a good deal better than might have been expected—eh?"

"They seem to think they haven't lost a lot."

"Yes," Gerald said, "Cambridge are still the favourites, although they dropped a bit at first; and there's a bit of betting on this race, you know. Bell-Smith has just been keeping up the odds. There's something only four or five men in the whole of England know, and by sheer chance I happen to be one of them. Oxford are going to win."

Basil had gradually stiffened till he looked absolutely rigid. Now he was leaning forward, with one hand still resting on the table; his eyes looked peculiarly set.

"What makes you talk like that?"

"Because Bell-Smith is going to see they do. He's always been about the cutest, twistiest snake in long grass that I ever met in all my life, and he hides it by being strong and genial. I don't suppose he's put a penny on this race himself, but he's got friends—this little clique; and they've put something small on it with every bookie they can get to take it. Not one big bet that would get talked about—it's all divided up, so that no one will notice it. Instead of putting on £500 they've staked a tenner with each bookie, and it's mounted up to something you might not believe. The odds are two to one. Bell-Smith has got a chance that's much too good to miss. Now that you've gone he's stroking, and he's turned it to mighty good account. He's going to stroke Cambridge to lose."

"Are you dead certain?"

"The man who told me told me late at night, when he'd got confidential. He thought I was still Bell-Smith's crony, and

he showed me the vouchers for the bets they've made."

"Then," said Basil tensely, "Great Scott! man, why ever don't you go and tell Crosthwaite. He's President. I'm not."

Gerald stood up and spread his hands with a new look of bitterness.

When next he spoke his voice had taken on a louder ring.

Why don't I go and tell Crosthwaite? Because I'm Gerald Murdoch, and there's no man in the crew who would believe me. My word of honour is about on a level with the German mark. I'm known to be a rank outsider, and yet I've nothing but my word to give them. There's no evidence, no witnesses who'd tell the truth, no one to bear me out at all till it's too late. There's no one that I can tell but you. You're the one Murdoch who's made good. P'raps if *you* tell Crosthwaite he might take notice."

Basil looked back at him deliberately.

"Would he? It's just the very thing he wouldn't do. I'm a Murdoch too, and, furthermore, I'm the chap who's got most cause to be sick at the fact that Bell-Smith's got a boosting in the Press for the way he's taken on the crew. So see what happens: I creep round to Crosthwaite behind his back and I spin this yarn—sheer bright-green jealousy—dog-in-the-manger Murdoch; and when they ask me how I know and I can only say you told me, what will they say then, d'you suppose. If I went and told Crosthwaite this he'd get up and he'd quietly kick me out."

He paused, stiff with despair.

"Are you *sure* you can get no evidence?"

"What could I get? Just this one man, and when he's sober he'll say it's all moonshine. I don't know who the bookies are, and I can't even get the vouchers. I can't prove Bell-Smith has so much as made a bet at all. All I know is that this man told me, and that at that time he was telling me the truth."

The two Murdochs stood there and looked unblinkingly one at the other.

At last Basil found voice again.

"Are you sure there's nothing we can do?"

"Nothing, except to kidnap Bell-Smith and keep him shut up until after the race."

"And who'd stroke Cambridge then? There's no one who could do it. Oxford

would win then just the same, and Bell-Smith would rake in his money. And the race is to-morrow morning!"

Gerald pathetically shrugged his shoulders.

"I'm absolutely helpless. I don't really count. If you say you can do nothing, then nobody can."

He glanced down at his watch and reached out for his hat.

"I'll have to go. I simply came to tell you. It's the most I could do. You're the one Murdoch with any influence."

He nodded wretchedly, turned, and went slowly out.

Basil was left alone with hands upon his hips and a peculiar dryness in his throat. He was the only one! It was no use. He could do nothing.

And yet in spite of it his hand moved up with a forlorn instinctiveness towards his heart and rested there. He felt its beat. To him it sounded pretty regular—a little quiet, perhaps—but of course he was standing still. He kept his hand there for a moment or two quaintly. A self-effacing sort of heroism of the kind they cultivate in far Japan was moving upward in his soul. There might be one way. But supposing he went back to stroke and then collapsed half-way? That doctor had said he would certainly collapse—he had said it would very likely kill him; and if it killed him half-way up the course how would he then have benefited Cambridge?

He could not see light through the fog, and yet a queer mood was upon him; like that old man, his splendid father, he was something of a fanatic. He still kept his hand pressed against his heart, and he began to jump about the room like a man upon a pogo-stick. He did not fall; he did not even gasp.

Extraordinary! How was that? He started to jump higher. He reached for chairs, and started vaulting over them. But still he felt no pain. He stood upon his head; he somersaulted; he struck himself a heavy thump upon the left side of the ribs. And then he suddenly stood still. A strange light had begun to sparkle in his eyes. He stood a moment listening with head tilted to one side, and he felt his heart again. There was absolutely no effect. And then he suddenly began to run amok.

He flung the door wide open, and he

started chasing down the stairs, got to the bottom, sprang round and came at full speed up again, taking three steps at every stride; then once again he listened, and now his whole countenance was filled with joy of life. He punched himself again with cruel violence underneath his heart; he started lifting heavy furniture. He ran for clubs, and swung them till beads of perspiration broke out on his brow; and then he let out one extraordinary war-cry, and went flying down the stairs again. Polly was at the bottom of the stairs. He nearly bowled her over; but she held on to him, and said, "Whatever are you doing? He said you weren't to run or jump or lift things! Are you mad?"

"No, I'm not mad!" cried Basil. "Don't you breathe a word. I didn't make much row, did I?"

His sister smiled in an expansive manner.

"I thought p'raps you were looking for your collar-stud," said she—"that's what it sounded like."

"You keep this absolutely to yourself," said Basil, gripping her dramatically. "If anybody asks, say you heard nothing—*nothing!* I don't know—but there's just a chance for Cambridge!"

He had snatched up his hat, and he was slipping on his coat; he grabbed a stick, flung wide the front door of the house, slammed it behind him, and had vanished. His sister stood there for a moment listening to feet that she could picture threading their way at top speed and in a zigzag manner down the busy street, and when they had at last been swallowed up in the continual hum of traffic she turned and went upstairs with the expression of one who has seen a thing that she does not believe was really there.

\* \* \*

Now the scene changes, and we next find Basil at the door of that same doctor's house from which he had been sent a few days back, sentenced to give up rowing for the term of his life. But he stands there with a brow puckered in perplexity, because he has rung and cannot get an answer to his ring. The blinds of that tall house are down. There are no lights; and here is one more fact—there is no brass plate on the door.

Basil stood for a few exciting moments looking at those windows and at the spot where the brass plate should have been;

and then at last he noticed one more feature that explained it all—there was a small bill in the window of the front room, and it said, "To be Let Furnished."

He stared for just a moment longer at that sign, and then, as though it were a pretty feeble joke, he turned, with the name of the agents who wanted to let it dancing before his mind's eye, and moved off along the road. He found that office, and he found it shut.

That was for Basil an extraordinary night.

He went home, wooden with bewilderment, and sat down in a room alone to do some good hard thinking, and there gradually he began to see daylight.

He went to his own room again, sought out a letter, looked at it with fixed determination and made sure it was indeed a letter from another doctor, and then he put that letter in his pocket, said no word to anyone, slipped out by the front door again, and hailed a taxi. The next scene was that doctor's house: this time his luck was in, so was the doctor. Basil stood in that professional consulting-room, and when the doctor came at last he just held out his letter.

"I say," said he, "did you write that to me?"

"Did I?"

"It's got your signature below, that's all," said Basil, "and it comes from your address. Do you see what it says?"

The doctor took it with an unfeigned curiosity.

"A few days back," said Basil, "I felt queer—not very bad—just rotten after rowing; and somebody said perhaps I'd overdone it. They said I'd better come to you; and so I rang you up—do you remember?—and you said I'd better come and see you between half-past nine and ten the next day, and you'd go through all my points. And then when morning came I got this note. Do you see what it says? It says you're called away, and will I go to Doctor Pirrie at a town address; he knows a lot about the rowing business, and you've made an appointment for me there. So," Basil said, "I went there—and I've just been again. The house is shut up and to let. The brass plate's gone."

"I never wrote this," said the doctor simply. "Who is this fellow Pirrie?"

"That's what I'd greatly like to know."

"Then I'll find out," observed the other.

"Just a moment." He reached out for a Medical Directory, and Basil watched him find a name and then go to the telephone. He heard him say, "There is one, but not this address—nowhere near there at all."

He rang up, and in a few more minutes he had hung the receiver back and had turned round with a peculiar smile.

"Now, here's a funny thing;" said he. "This doctor had his brass plate stolen on the night after you first sent down to me."

Basil did not wait. He had already bared his chest.

"Do you mind listening to this?" said he. His hand was lifted with a rare enthusiasm to his heart. There was a tense excitement in his eyes. The doctor made a brief examination.

"There's nothing wrong with you," said he.

"You're just as fit as you can be. What made you think your heart had gone?"

"I know now," Basil said. "I was very nicely doped, that's what—doped to make me feel queer and send round to you; and then, once that I'd fixed a time—this note, you see, sending me somewhere else—to some man who was just a fake. It's been a rig, and I was properly taken in by it. I was bound to have found out sooner or later, but they guessed that I wouldn't find out quite so soon, and that even if I did find out I wouldn't know who'd done it. They've guessed wrong."

When he left it was late—too late to rouse up Crosthwaite. It was the night before the race, and the crew would be fast asleep in bed. No use to go there now; but in the morning—if he could manage it!

"Where's pater?" he said, when he first got home. "In bed? All right—say nothing. Just listen to me. I'll be gone early in the morning, and I mayn't come back. If I *don't* come back you've got to bring the old man down to Putney—even if you've to get him there by force—because he may see something down there that'll make him young again.

\* \* \*

It was morning.

Basil had waited till the agent's office opened, and he went in with a stride, and leaned across the counter before the man had got his hat off.

"There's a house up the road," said he, "to let. Four days back there was someone there. I went—"

"Yes, so did he," the agent said, "by night." He had looked up.

"We didn't find out till next day. There's a man comes in every morning now about this time to find out if we've heard what happened to him. He was engaged there to open the door and clean the brass plate, but he only opened the door once, and now the brass plate's gone. It's what you'd call a twist."

Basil leaned forward eagerly across the counter.

"Well, the man he opened that door to was me. Where is the fellow now?"

The agent looked with a smile of significance just over Basil's shoulder and Basil turned. The door had just opened, and a man stood there inquiringly. Next moment he had been gripped by the arm.

"Now, then," said Basil, "do you remember me?"

The other looked at him without much haste, and then he slowly nodded.

"Yes, I opened the door to you the other night," said he.

"The whole time you were there," said Basil earnestly, "you saw nobody else—except the fellow who employed you—no one else—*nobody?*"

The other seemed to be considering.

"There was one other gentleman," he said at last. "He only came in once, and he came with the man who took the house. I didn't let him in. In fact, he didn't seem to want to be seen—only I went into the front room thinking there was no one there, and he turned round and looked at me."

"Would you know him again?" said Basil.

"Yes, I'd know anyone again," replied the honest fellow.

Basil drew from his pocket a picture postcard of the Cambridge crew, and held it out deliberately.

"Do you see his face anywhere amongst all those?"

The other took a long time looking. He scrutinised each face with care. Clearly he was a sound and cautious man. And then at last he pointed with his finger and looked up.

"Yes," he said brightly, "that's the fellow—there."

He had picked out the face of the spare man for Cambridge. He had picked Bell-Smith.

There was no waiting. Basil still had the man by the arm, and he drew him outside. A taxi came up, and the man was bundled in with the greatest possible enthusiasm and despatch—only when once the taxi had got on the move did Basil turn round to him with an excited smile and start an explanation of the details.

\* \* \*

The taxi came down Putney embankment with the high whir of a motor travelling at speed, and pulled up with a sideway skid and a loud grinding of the brakes.

Basil stood up before it had stopped, flung the door open, and took a kind of high dive off the step, landing a trifle off his balance. That didn't matter. Crosthwaite stood just outside the boat-house talking to the coach.

Basil had not much time for ceremony. He grabbed the President of the Boat Club by the arm, glanced with a word of apology towards the coach, and said:

"There's something happened, Crosthwaite—something you may not believe; but, for all that, you've got to know it. Can I just speak to you for half a minute?"

Next they had vanished slowly from the scene and found a corner in the club-house.

For a time, to those who stood outside, there seemed not much development; then someone came out and called in the man who had been sitting patiently there in the cab, and now there was a further wait—a long one. We leave it there, and we pick up the tale again a short hour later, at the moment when newsboys were running rapidly through London, waving posters which proclaimed in big black letters as before: "Boat-race Sensation! Change in Cambridge Crew!"

It was a bit of luck they had so many posters with those words on left upon their hands.

\* \* \*

The crew had carried out their boat, had gone back for their oars, and now at last they sat in patient readiness whilst cox stepped gingerly into his seat and faced them.

The most depressing sight of all the year had been the view a few folk had been granted during the last two hours of this crew playing ha'penny nap around a table, whilst they valiantly tried to make believe the race had no place in their thoughts at all. But it was better now that they had

got afloat and could feel once again the true grip of the oars.

There was an affectionate welcome in the steady cheering from the river-banks and boat-house balconies; there was a homely influence in the staccato barking of the cox.

Then they were on the stake-boat under Putney Bridge; they could see Oxford level with them on the Middlesex station. Then there came sharp commands. "Eyes in the boat. Get ready. Touch her gently, bow."

The boats were straight again. The dense black crowd that lined the bridge looked down intently; there seemed no movement anywhere save from the launch, in which the umpire was leaning forward in the bows.

Basil had time to make one last resolve. He had got back as stroke. His father was on a club-house balcony, with a high heart and laughing eyes. If Oxford won the Bell-Smith clique would get their money!

That was not Basil's first thought. His first had been for Cambridge, and his second something like a prayer that he might prove his worth to all those cynics who had not believed in it. The thought of Bell-Smith was just an extra *casus belli*, and he never afterwards forgot it.

There had come sudden further words of warning. "I shall ask you once, and if there is no answer I shall say, 'Go!'"

Silence, and then a shout, a sudden splash of blades, and they were off.

Oxford had shot into a canvas lead, and they were holding it amidst a deafening roar. For the first minute Basil never knew it. He put in thirty-eight, and when next he became aware of anything except his striking blade they were along the boat-houses, and he found Oxford were ahead. Already he had lengthened out; his men were swinging splendidly behind him and driving very slowly up, but not enough. Basil was still not even level with the Oxford rudder, and he was gaining only in such inches that he seemed scarcely to be going up at all; but he would not be flustered. It was his most insistent resolution. His crew had been for some few days behind Bell-Smith, and he had yet to win them back again to his own rhythm before he dared to ask them for a spurt. So long as Oxford did not get too far ahead, so long as he could hold them at something less than a length at present, he

need not feel despair. They had reached Beverley Brook, the Fulham Football Ground, the Mile Post, and then the Crab Tree Wharf.

Basil could feel now something of the old perfection in the time behind him; he had gripped his crew again, and he could handle them. They were nearly to Harrod's; he glanced across once. Oxford had gone up into almost a full-length lead: the time had come. He jerked his eyebrows at the cox and started out upon an effort to get that length back. He could tell now that they were going up. There was more life and swing behind him, and out of the corner of his eye he could see that the Oxford cox was falling back and was more nearly opposite. He held on just a little longer; it was time now to take the lead before they shot the bridge.

But Oxford were replying, and high above the roar of cheering from the banks he seemed to hear the Dark Blue cox calling upon his men to answer. They had reached Hammersmith Bridge now, and they were through it, and then up beside the Stork, then Chiswick Eyot, and Oxford had gone up again into the lead and had got almost that length back; and now for the first time Basil began to feel a queer sense of foreboding. His crew must have got woefully unsettled in these last few days; had there not been those two sensational changes. Oxford would never have shown the way up half the course like this; but he could tell now that his first rosy optimism had been overstrong; the crew were not entirely as they had formerly been behind him; the rhythm of the swing had come back, but there was something like a hurry forward that they had learned from Bell-Smith's quicker dip, and in the long race it was going to lose them distance. He set his teeth and gave the signal for another longer, stronger effort yet, and the crew backed him up.

Foot by foot they were making up the leeway now. Thornercroft's was past, and they were nearing Barnes Bridge, but he could not even now catch Oxford. Stroke for stroke he had pegged them back; but, as before, now that the effort had begun to drop away, Oxford were starting out to make their own, and they stalled off all further gain. It was a lead now of three-quarters of a length; and as Basil dropped back into a steady racing-stroke in the resolve to hold his crew together at all

costs, Oxford went hard on with their spurt and went still farther up, until they held more than a length.

All forms of grim incentive had begun to urge Basil. He had vowed to stroke Cambridge to a victory; if Oxford won Bell-Smith would get his money; his father had set his heart on a son rowing for Cambridge and stroking the crew to a triumph; and, last of all, his personal pride spoke up, and in this moment of anxiety so keen that it came very near despair; it was perhaps this most of all that counted. He *would not* fail; he *would not* be stalled off.

Once more he started out into a third and greater effort still. He worked his stroke up with taut sinews and set teeth, and kept it going up, up always, until he had the men behind him rowing literally all out; and when he knew they were supporting him he stuck at it and began to watch eagerly for signs of Oxford coming back at last. But the sign did not come: Oxford did not come back. The Oxford stroke was watching Basil now, and he gave spurt for spurt. There is an adage that the crew which reaches Barnes Bridge first in this race always wins.

Basil vowed that it should not be so now; he would not drop away. As Oxford started on their own spurt he answered with another that was only a long continuation of the first. His hair had fallen forward, and it was matted stupidly across his brow. His heart was pumping. His legs had started to grow stiff and slow in answering his behests; his arms were cramped with sheer fatigue. There is no race so gruelling to row as that in which one is behind and striving to catch up throughout. The critics had had doubts if he could row a race like that. He would show them he could. His eyes seemed to be giving him now only a very misty view of things. His breath was coming with a long-continuous ache; the muscles round his waist were weakening, but he alone knew that. He kept his stroke up with superhuman grit.

He glanced despairingly across, and saw a fogged view of the Oxford stroke turning across his shoulder to shout to seven, and knew that he was nearly level now and that it was to be a ding-dong, killing finish.

Once his heart almost failed. He nearly wanted to give in. Like the so famous Belgian he longed to cry, "I am exhaust! I row no more!" His limbs were beaten, bruised, defeated. He had been five days absent from the boat, and it had told, and yet he found in that great hour the will to carry on. Oxford were going through a bad time too. If he could once let them see he was coming up hand over hand it might make them most gloriously flustered and uncertain. His head was back, his chin hard set, his shoulders moving still in perfect action to the stroke, but he was losing all idea of things and distance. He could think no more of his father or of Bell-Smith or of his pride. He could think only of Cambridge and that they were behind. He could not tell how much farther there was to go. Barnes Bridge was almost out of sight, and that was all he knew.

He heard the thunder of enthusiasm from the banks, and did not understand what it conveyed; he saw the weird, contorted face of cox, and knew that that little man was bellowing his imprecations and his prayers over his, Basil's, tugging shoulders. Still Oxford led. He could not do it; he was done. One of the two crews had to crack—it would be his; and yet there came to him then for the last time a wide-eyed and staring courage, and he began to open out once more yet into a further and more wondrous effort still.

Foot by foot he was creeping level now. He heard the short sobs of a man behind him—heard the frantic gasp of seven, but he still held on; and there came suddenly, as though in aid, a crash of deafening cheering from both sides, where crowded banks of people stood on tip-toe waiting for the finish. Basil heard it and he closed his eyes, and then he rowed right out for Cambridge. Up, up, up, harder, faster yet, inch by inch, foot by foot, and then in one remarkable moment he knew he had done it. He had made Oxford crack. Right on the post he had beaten the gallant Dark Blues back at last. Their last, long spurt had died. Cambridge shot by!

They had won. Basil had made good for the Murdoch name at last.

# AUSTRALIAN AIRMAN'S SUCCESS!

MAJOR F. SIDNEY COTTON IN NEWFOUNDLAND

**FIRST AIRMAN TO FLY TO LABRADOR —  
FLIES FARTHEST NORTH — HUNTS SEALS  
BY AEROPLANE**

The whole of the information contained in this article was kindly supplied by his Excellency, Sir Walter Davidson, State Governor of New South Wales.—Ed.

**D**URING the war many Australian airmen distinguished themselves overseas, but now that things are settling down to normal again it is indeed gratifying to learn that an Australian has blazed the trail by air from Newfoundland to Labrador in Canada.

The successful aviator was Major F. Sidney Cotton, who was born in Bowen, North Queensland, and in 1914 joined the Royal Air Force, later transferring to the Royal Naval Air Squadron, where he attained the rank of Flight-Lieutenant.

Some little time after the armistice Major Cotton proceeded to St. Johns, Newfoundland, where he engaged in commercial aviation.

### The Start for Labrador.

Quite recently he decided to fly to Labrador, and although it was midwinter, with the temperature below zero, he was determined to start. Braving snowstorms off the North Atlantic in winter is very daring, because the Atlantic conditions are the most perilous of all.

Leaving Botwood, St. Johns, at 10.15

a.m. on March 3 last, in a *Martynside* plane, specially fitted with skids for running on ice, with his mechanic, J. R. Stannard, and a trapper, named Hart, Major Cotton commenced the first lap to St. Anthony. The flight was made through great masses of cloud, visibility, of course, being bad.

### St. Anthony.

St. Anthony—the first stop—is a fishing settlement in the north of Newfoundland, where Doctor Wilfrid Grenfell, C.M.G., founded his chief and best-equipped hospital, in the famous Grenfell Mission to fishermen of Northern Newfoundland and the coasts of Labrador. Dr. Curtis is the principal medical officer in charge at St. Anthony, which is frozen in for many months from December to June. Doctor Grenfell used St. Anthony as his winter headquarters, and visited

patients from long distances as far as the Belle Isle Straits in winter on dogsleds. He also kept here a herd of reindeer, which he imported from Lapland.

The Grenfell Mission is supported by five societies, with headquarters in Lon-



Major F. Sidney Cotton.

don, Boston, New York, Chicago, Toronto, Montreal and St. Johns. The control of the funds of the five societies is vested in the International Grenfell Association, in which each society is represented by two members.

### Through Blinding Snowstorm.

After a stay of four hours, during which mails were landed and others placed on board the machine, the airmen, after being entertained by Dr. Curtis, took off for Battle Harbour at 3.45 p.m. Fifty minutes after the start the coast of Labrador was reached, and as he passed over the rugged coastline Major Cotton had the satisfaction of knowing that he was the first airman ever to do so. Shortly afterwards a blinding snowstorm was encountered, and visibility was reduced to half a mile. Major Cotton brought the machine down to a very low altitude, and so low did he fly at times that the cliffs of the coastline which he was following loomed high above him. The snow froze to his goggles, and in spite of the intense cold he was compelled to remove them, baring his face to the lash of the storm. At last the wireless mast at Battle Harbour came into view, and, turning the machine, Major Cotton flew up the tickle and landed on the ice at 5.12 p.m. The term "tickle" is an old West Country word for a narrow sea passage in which the Labrador coast abounds.

### Battle Harbour.

At Battle Harbour there is an important station for the summer and autumn cod fisheries. These fisheries provide income to thousands of Newfoundland fishermen, who sail in small schooners "down north"—as the phrase is—as far as the most northerly point at Cape Chidleigh.

Although Battle Harbour is frozen in for more than half the year, the fishery makes it a busy little township, as the schooners follow the fish north in the autumn, and the stores have to be well stocked.

A series of wireless stations were established by the Marconi Company, in conjunction with the Government of Newfoundland, along the coast of Labrador in order to keep the Government and the merchants of St. John's in touch with the fishing fleets. Most of the operators are withdrawn in the winter months, but the

operator at Battle Harbour braves the terrors of the winter in solitude up at his station. There is never lack of volunteers for at least one season.

As the aeroplane approached Battle Harbour the wireless operator picked up strange sounds, made by the 'plane's magnetos, and, not knowing what was coming, threw off the telephone headpiece and rushed from his office. The aeroplane was tied down for the night by means of anchors sunk in the tickle, which soon froze over again. Major Cotton stayed with Mr. Parsons, manager of the Hudson Bay Company's trading post, and his companions were looked after by Mr. Porter, the representative of an American firm of furriers. Battle Harbour is not a very large settlement, but is the furthest point in Labrador in touch with civilization by wireless. Nevertheless the airmen found that goods which could not be bought in St. John's could be obtained there.

### Flying Farthest North.

The next day Major Cotton took off for Cartwright, 140 miles north of Battle Harbour. Soon after the start a terrific blizzard was met. The flight was made at a very high altitude, and through thick clouds. The only map which Major Cotton had to guide him was a chart prepared by Doctor Grieve, the use of which made the flight possible. The temperature in the air during the flight was ten degrees below zero.

Cartwright was safely reached, the landing being made on the ice, and the whole population of the place turned out to see the machine. At first the people were frightened, but curiosity soon overcame their fears.

Cartwright—named after a hero of exploration—is situated in a branch of the great estuary known as the Hamilton Inlet, into which flows Hamilton River. The falls of this river and the enormous iron deposits may some day be developed in a great combination of industries. Mrs. Swaggham, the wife of the Hudson Bay Company's agent at Cartwright, hails from Tasmania.

All the adventurous trappers volunteered for active service in the war, and were much annoyed when a large proportion were told that they must go back and help to keep alive the women and children.

They were still more furious when the medical officer turned them down for flat feet, advising them that they could not march. They wear mocassins, and have flat feet, and if compelled to wear army boots it is doubtful if they could walk.

Several days were spent at Cartwright, during which time the airmen were the guests of the Hudson Bay Company's agent.

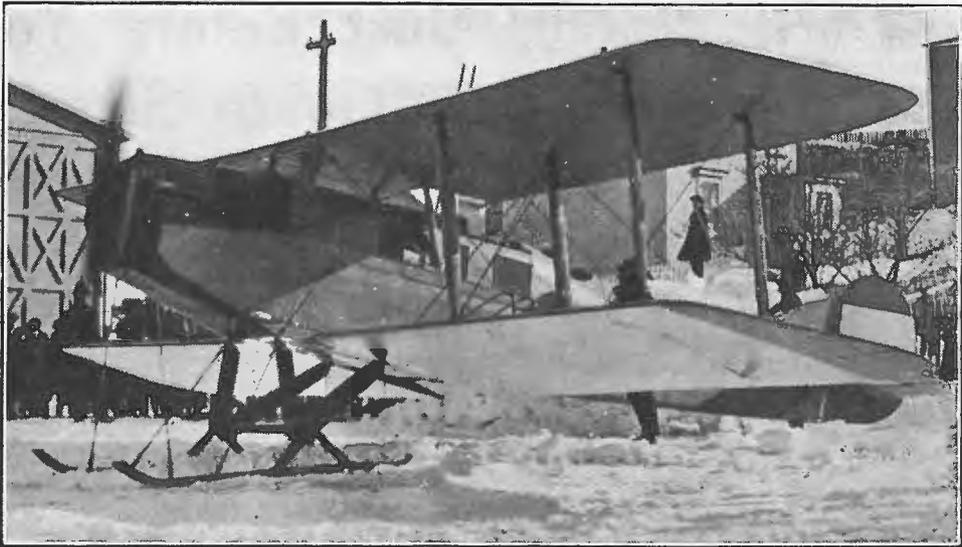
#### The Return Flight.

On leaving Cartwright Major Cotton flew past Battle Harbour direct to St. Anthony, then on to Botwood, where he had a short stay. The final hop to St. John's was a good trip, the aeroplane making a splendid landing. The actual

ships fit out in St. John's and proceed to the fields of ice, where the seals swarm by thousands. The crews of the ships are kept busy for two or three weeks in a slaughter of the "whitecoats." After the ships are loaded they return to St. John's.

At times the seals do not come altogether—there is what is known as the "main patch," which contains the bulk of the seals. There are minor pans of ice, which have broken off, and also carry seals. If the main patch is missed by the ships it may mean a loss for the owners and the men. Everything, then, is contingent upon striking the main patch.

It is here that the aeroplane comes in. Major Cotton has established a base at



Major Sidney Cotton's aeroplane on skis at St. John's, Newfoundland, where the first air post has been opened.

flying time during the journey was five hours—a truly wonderful achievement—and a large number of citizens gathered to greet Major Cotton on arrival. Three bags of mail and a quantity of furs were brought to town. During the return trip the air speed register and oil pressure gauge were rendered useless by the cold.

#### Hunting Seals.

Hunting seals by aeroplane is another thrilling job that Major Cotton performed in Newfoundland this winter.

The seals come down on great pans of ice with the Arctic current to the Newfoundland coast regularly every March, and about a dozen specially constructed

Botwood, on the mainland, and flies over the vast ice fields, with an experienced sealing captain as observer, locates the main patch, and then advises the ships of the position by wireless.

Major Cotton had many difficulties to overcome, but in future the great sealing industry of Newfoundland will be made certain and scientific.

Major Cotton has now established a reputation of which he may well be proud, and while Newfoundland again becomes prominent as the scene on which a further step is made in the progress of the science of aviation it is very pleasing to know that an Australian has been responsible.

## WOMEN'S COLUMN

### THE BUSH BOOK CLUB.

**T**HE report of the Bush Book Club, which was read at the annual meeting recently, presided over by Dame Margaret Davidson, gave an insight into the valuable work that this association is doing in providing relaxation, amusement and companionship for people outback, who are beyond the reach of Schools of Arts and lending libraries. The report stated that between seven and eight thousand books, exclusive of magazines and illustrated papers, had been despatched to far-away homes during the past twelve months.

In moving the adoption of the report, his Excellency the State Governor, Sir Walter Davidson, made an appeal for an increased membership for the club. He paid a tribute to the excellent work that is now being accomplished, and spoke in glowing terms of the secretary, Miss Beulah Bolton, to whose energy and enthusiasm the club owes much of its success.

A strong committee was elected for the ensuing twelve months, and every effort will be made to extend the club's sphere of usefulness.

### CHILD WELFARE.

At the opening of a child's welfare centre in Sydney recently, Mr. Innes-Noad, M.L.C., made the startling statement that "during the war period nearly 50,000 babies died in Australia, at least half of which might have been saved. Other countries," continued Mr. Innes-Noad, "have recognized their great responsibilities in this direction, and we must do the same. If we do not people the land with virile children, how can we, who inherit the grandest country of all, retain our heritage, and keep our place in the great race of progress and civilization?"

The Minister for Public Health, Mr. C. W. Oakes, explained that the ground on which the new home stood had been presented by the late Lady Dixson. "It was a practical gift towards helping a great work."



## Just Before You Go to Sleep

**T**HAT'S the time to get rid of the defects in your complexion. Wash your face in warm water, and while the skin is still damp lightly smear a little pure mercolized wax over your face and neck, and leave on until the morning. After a few nights of this treatment the blemishes on your skin should disappear.

Mercolized wax dissolves away the old dry skin and leaves behind a new, healthy complexion. Beauty is but skin deep—mercolized wax brings it to the surface. It is emphasised that this wax is quite harmless, and contains only the purest ingredients, being free from any poisonous mercury salts.

The meaning of the word "mercolized" is "active," and its activity is obtained from its oxygen content, which is Nature's own beautifier. As a general facial skin cleanser mercolized wax is unequalled, being in universal everyday use by up-to-date, discriminating women—husbands also find it beneficial for use after shaving, especially if the skin is chafed. It should always be used before the application of powder, as the wax will prevent the pores of the skin from becoming clogged and unhealthy.

All chemists can supply you with pure mercolized wax, in net, original tins, containing sufficient to last from six to eight weeks. Price, 5/6 per tin, or from

## DEARBORN (Australia) LTD.

(Dept. L.A.)

279 CLARENCE STREET, SYDNEY.

# ROSS SMITH'S LAST RESTING PLACE

## IMPRESSIVE FUNERAL IN ADELAIDE

### TRIBUTES TO ILLUSTRIOUS AIRMAN

**T**HE remains of Sir Ross Smith, who, as the whole world knows, was accidentally killed in an aeroplane flight in England some months ago, were laid to rest in Adelaide on June 15. The funeral was an impressive one, many thousands of people thronging the route to the cemetery as an earnest of their desire to pay a last tribute of respect to Australia's illustrious son.

The atmosphere of profound sorrow created by the homecoming of the corpses of the two airmen was not confined to any

by the *Largs Bay*, and when the liner berthed at Adelaide the casket containing the remains of Sir Ross Smith was slowly and carefully drawn from the hold and landed on the wharf. The coffin was draped with the Australian flag, and immediately it reached the wharf a party of sailors from the ship bore it to a waiting conveyance. Every head in the great crowd that had assembled was bared in reverence throughout the whole proceedings. The casket was borne to St. Peter's Cathedral, where the coffin, which was a



The casket containing the remains of the late Sir Ross Smith being placed on the aeroplane trailer after the service in St. Peter's Cathedral, Adelaide.

one part of Australia; it was just as deep and sincere in those centres far removed from where their last mortal remains lie as it was amongst those who followed them to the graveside. The feeling was in every heart that the greatest tribute which could be paid to the memory of the two men was insufficient to express the true feelings of Australia—the land that gave them birth, and rejoiced when they covered themselves—and her—with glory.

The bodies were brought to Australia

handsome one of dark English oak with gold mountings, was received by the Dean of Adelaide and other Church dignitaries.

Wing-Commander Williams and Flying Corps officers took charge of the catafalque, and the men draped it in a Union Jack, and placed a black plush cushion upon it, bearing the cap, gloves and goggles of the dead airman. On another cushion were displayed Sir Ross Smith's medals and decoration. There were many official wreaths, six being from various

branches of the firm of Vickers, Ltd. The Governor-General sent a wreath through the Commissioner of Police, Brigadier-General Leane, the Commonwealth Government and the Lieutenant-Governor also sent wreaths. Four members of the Australian Flying Corps took positions on guard, resting on arms reversed.

Later in the afternoon Mr. and Mrs. Andrew Smith, the parents of the dead airman, and other relations saw the catafalque, and subsequently the public, numbering many thousands, were admitted, and filed quietly and sadly past.

### The Funeral.

A solemn service was held in the Cathedral prior to the coffin being carried from the edifice by members of the Royal Australian Flying Corps. It was placed on an aeroplane trailer at the head of the State funeral cortege, which was of unprecedented dimensions. Throughout the city an atmosphere of sorrow prevailed, and thousands of people waited in solemn expectancy for the funeral to commence. Flags were half-mast on all buildings, and business was entirely suspended until the funeral was over.

The order of the procession was as follows: The mounted troopers came first, followed by the firing party and the Returned Soldiers and Sailors' Imperial League Band. The casket was then placed before the fleet of motor cars laden with flowers and wreaths. The near relatives,

Mr. and Mrs. Andrew Smith and Sir Keith Smith, followed, the latter having Lieutenant W. I. Shiers with him. Then there followed Wing-Commander R. Williams, D.S.O., representing the Air Board, ex-members of the A.A.F.C., and ex-members of 3rd Light Horse. The chief mourners included representatives of the Federal and State Governments and leading citizens. So vast was the cortege that it extended all along the route to the entrance gates at North Road. Four aeroplanes soaring overhead added a touch of realism to the sad proceedings, and revived memories of the many remarkable exploits of the deceased aviator.

At the graveside the Reverend Julian Bickersteth (headmaster of St. Peter's College) delivered a stirring address, in the course of which he eulogised the many notable deeds of the late airman, whom he described as a "brave and Christian gentleman." "It has too often been thought," said the reverend preacher, "that courage and unselfishness and high endeavour are the prerogatives of war. Our deeply mourned friend lived long enough after the war to show that they belonged to the days of peace. But there is something more precious and more enduring than these, and that is a life spent full of strenuous effort to increase the mastery over nature, and to make rough places smooth for those who come after them. For this noble cause he gave his life."

---

## LIEUT. BENNETT'S FUNERAL

### GREAT CROWDS PAY HOMAGE

THE remains of the late Lieut. J. M. Bennett, soldier and airman, who met his death while on a trial flight with his leader, the late Sir Ross Smith, in England some months ago, were laid to rest in the St. Kilda Cemetery, Melbourne, on Saturday afternoon, June 17. On Friday afternoon and Saturday morning, while the body lay in state in the Queen's Hall, Federal Parliament House, it was viewed by many thousands of people. The catafalque, draped in the colours of the Royal Air Force, rested in front of the statue of Queen Victoria, and

members of the No. 1 Squadron of the A.F.C., in batches of four, mounted guard over their dead comrade.

Prior to the funeral starting off a short but impressive service was conducted by Bishop Green, of Ballarat.

The coffin was placed on an aeroplane trailer, with full military honours, and, with the Air Force Band playing Chopin's Funeral March, the long procession set out through the crowded streets of St. Kilda. Overhead four aeroplanes, draped in black, formed an escort, and when the cortege reached St. Kilda Junction a halt:



The remains of the late Lieut. Bennett being borne from the Queen's Hall, Federal Parliament House, Melbourne.

was made while the 'planes, with their black streamers spread out horizontally, formed a perfect cross.

The chief mourners who followed the coffin were Mr. Bennett, senior, father of the dead airman, in the centre, and on each side of him marched Sir Keith Smith and Lieut. Shiers, now the sole survivors of the first historic flight to Australia.

On the extreme right marched Wing-Commander Williams, and after him came the pall-bearers, and then followed forty-five motor cars containing relatives and official representatives, including Brigadier-General Foote (representing the Governor-General), Lieut.-Colonel Cox (representing the Governor), Mr. Massy Greene (representing the Prime Minister), the President of the Senate (Senator Givens), Mr. J. M. Chanter (Chairman of Committees of the House of Representatives, representing the Speaker), the First Naval Member (Vice-Admiral Sir Allan Ewrett), Lieut.-Generals Sir Harry Chauvel

and Sir Brudenell White, and other senior military officers, senior officers of the Air Force, Lieut.-Colonel Brinsmead (representing the Civil Aviation branch), Mr. Merritt, M.L.C. (representing the Premier), the President of the Legislative Council (Sir Walter Manifold), and Mr. R. W. V. McCall, a number of Federal and State Ministers and Governors, the Lord Mayor and councilors of the City of Melbourne, the Mayor and councilors of St. Kilda, the Mayor and councilors of Hawthorn, naval and military officers, representatives of the Federal and State executive of the Returned Soldiers and Sailors' Imperial League, including one from South Australia, and representatives of other bodies.

Amongst the numerous beautiful wreaths laid on the coffin were several from Vickers, Limited, Lieut. Shiers and his wife, old comrades of the First Squadron, Sir Keith Smith, and Mr. and Mrs. Andrew Smith, of Adelaide.

## CONTROL OF WIRELESS.

In accordance with the provisions of the agreement between the Commonwealth and Amalgamated Wireless (Australasia), Ltd., a notification was published in the *Commonwealth Gazette* last month, announcing that the control of wireless in the Commonwealth will be transferred from the Postal to the Prime Minister's Department.

Free and fair discussion will ever be found the firmest friend to truth.

\* \* \*

I would rather have the affectionate regard of my fellow-men than I would have heaps and mines of gold.—*Dickens*.

\* \* \*

By continually looking upwards our minds will themselves grow upwards.—*Dr. Arnold*.

# WILTSHIRE WRECKED

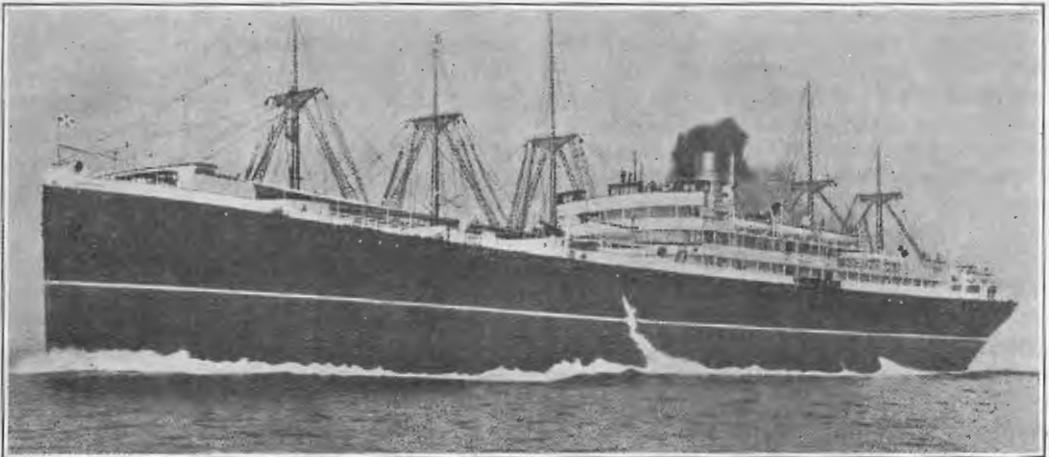
## LINER'S TRAGIC END

### FINE RESCUE WORK

THE Federal Steam Navigation Company's steamer *Wiltshire* (12,000 tons), which went ashore on Great Barrier Island, near the mouth of the Hauraki Gulf, Auckland (N.Z.), provided another instance of resource and courage on the part of both rescuers and crew, which was the one bright spot in the whole tragic-occurrence. It was a dirty, black night, with a fierce south-easterly gale raging, when the vessel struck at a point about three miles north of the extreme south of the island. The coast there is one

*Tasmania* stating that she was proceeding at full speed to the scene of the wreck. The next few hours were full of anxiety to those who knew of the *Wiltshire's* plight, and to the helpless crew on board they must have been tragic in the extreme. Later on the wireless spoke again, this time to say that the vessel had broken in halves, the stern portion having disappeared into the boiling seas, leaving the crew gathered on the fore part, which was firmly embedded on the rocks.

In the meantime rescue parties were

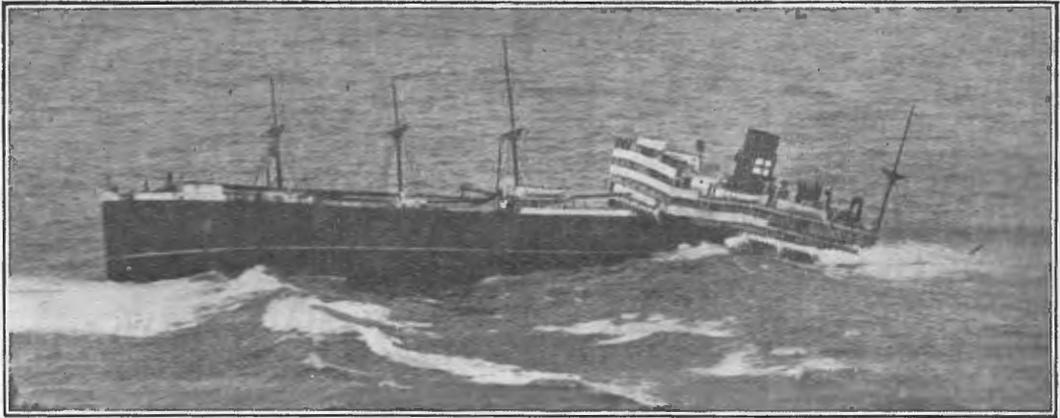


The *Wiltshire*, as she appeared before the disaster.

of the rockiest and wildest on the gulf islands, and it was obvious to those on the ill-fated liner that she could not long survive the fierce pounding to which she was subjected.

The first wireless message telling of her plight was received in Auckland at 11.30 p.m., and was followed almost immediately by another call indicating that her position was desperate. The steamers *Katoa* and *Arafura* immediately set out to render assistance, and an hour later a radio message was received from the steamer

being despatched from all quarters. The mountainous cliffs in the background made it impossible to render assistance from land, while the fierce gale which was raging destroyed all chance of any vessel approaching the wreck. Many heroic attempts were made to get a line ashore, but it was nearly nightfall when it was accomplished, and darkness fell when only four men had been rescued. The anxiety of the watchers on the cliffs was almost as great as those on the ill-fated vessel. All night long they maintained a ceaseless vigil, and



The same vessel, as she lies with her back broken on Barrier Island.

made every preparation to have food immediately available to the men as they were brought ashore. The *Moeraki* came on the scene, and landed a rocket apparatus, and a party of bluejackets from H.M.S. *Philomel* at Tryphena, while additional gear was brought by special train from Wellington. Meanwhile the storm raged pitilessly, and drenching seas and bitter winds, accompanied by heavy rain, rendered the plight of the men on the doomed vessel pitiable in the extreme. The naval party landed at Tryphena had a terrible journey across country to the wreck, having to wade through flooded creeks and scramble through dense brush.

All next day the rescue work was continued, and late in the evening the last of the crew, totalling 103, was brought on shore. They told a vivid story of the sufferings endured, and their feelings of thankfulness at being rescued were only exceeded by their gratitude and admiration for the splendid work performed by their rescuers. The people of Auckland received them with open arms, and everything possible was done to compensate them for the awful experience they had been through.

#### Captain Hayward.

The master of the *Wiltshire*, Captain Hayward, is commodore of the fleet of vessels owned by the Federal Steam Navi-

gation Company, Limited, having the longest service with the company of all its ship commanders. He has been in command of the *Wiltshire* ever since she entered into commission in 1912. In addition to the personal interest which Captain Hayward had in the company he is also reputed to be a shareholder in the Federal Company.

#### Other Wrecks Recalled.

Barrier Island will be remembered as the scene of the wreck of the Union liner *Wairarapa*, in 1894, with the loss of 126 lives. Among other ocean tragedies that have occurred in New Zealand waters are the wreck of the steamer *Tararua*, off Wai-papa Point, in April, 1881, with the loss of 130 lives; the *Elingamite*, lost off the Three Kings, March 9, 1902, with the loss of 40 lives; and the *Penguin*, wrecked off Cape Terewhiti, near Wellington, February 12, 1909, with the loss of 70 lives.

The Great Barrier Island (*Otea*) is on the eastern side of the Hauraki Gulf, at the entrance to Auckland. It is 21 miles long N.N.W. and S.S.E., and 10 miles across in its widest part, which is about the centre. A range of mountains extends through its whole length. The water is deep close up to the island, ranging from three fathoms alongside to 32 fathoms a mile off shore.

#### Questions in Seamanship.

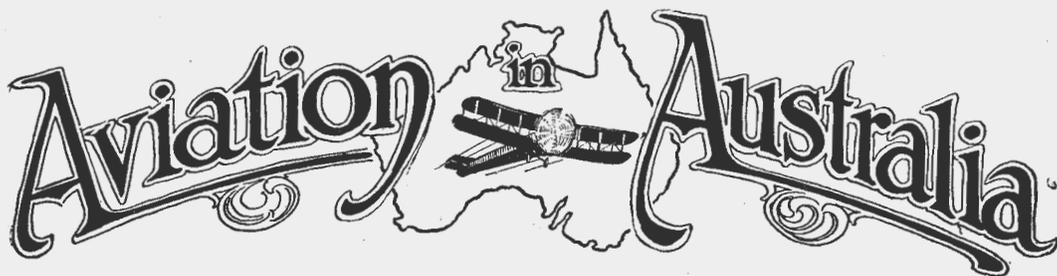
Is the "shivering of timbers" confined exclusively to cold latitudes?

No, they shiver when a ship gets coaled.

To what school are cables sent to get taut?

Is a ship "in irons" when she is placed in dock?

I am a knot and not a knot. You will find me forward on the starboard side, inside on the outside and alongside the ship's side.



## NIGHT FLYING OVER SYDNEY.

UP to a few weeks ago night flying over Sydney was unknown, but Lieutenant J. H. Butler, who has long cherished the belief that it is not only practicable but absolutely safe, determined to put his theory into practice.

Accordingly in an *Avro 504K* machine, fitted with a 100-h.p. *Sunbeam-Dyak* engine, he left Mascot Aerodrome at 10.30 p.m. one night recently on a trial flight over Sydney.

The weather was by no means favourable for night flying, for at the outset and many times during the flight heavy banks of clouds obscured the moon. The best possible lighting arrangements were made at the aerodrome to enable the aviator to take off and alight with the greatest degree of safety, but, as might be expected, the illumination fell far short of what would be provided if night flying were regularly carried on.

After leaving the aerodrome the machine soon attained a height of between four and five thousand feet, and a course was shaped directly over the city and harbour.

Describing his experiences afterwards, Lieutenant Butler said the flight, though brief, provided a whole heap of interesting emotions. There was something peculiarly fascinating in being able to gaze down on the myriad lights of a great city and pick out the various places of importance without the observers themselves being visible to those below.

When the machine passed over the Harbour the searchlight of the destroyer *Anzac*, according to a pre-arranged plan, was played on the machine for nearly twenty minutes. After circling over the Harbour the *Avro* was headed towards Mascot, and a safe landing was effected about 11 p.m.

## AIR MAIL SERVICE. GERALDTON-DERBY (W.A.).

Aeroplane leaves Geraldton every Friday, calling Carnarvon, Onslow, Roebourne, Port Hedland, Broome, arriving Derby Sunday, and on return leaves Derby Sunday, reaching Geraldton Tuesday.

Only mails containing first-class matter superscribed for aerial transmission, and bearing special fee, threepence per half-ounce, in addition ordinary postage transmitted by this service.

### TIME-TABLE.

North Geraldton, dep. 7.0 a.m., Friday; Carnarvon, arr. 10.30 a.m., Friday; Carnarvon, dep. 2.30 p.m., Monday; Onslow, arr. 4.30 p.m., day; Onslow, dep. 7.0 a.m., Saturday; Roebourne, arr. 9.0 a.m., Saturday; Roebourne, dep. 9.15 a.m., Saturday; Port Hedland, arr. 10.30 a.m., Saturday; Port Hedland, dep. 12 noon, Saturday; Broome, arr. 4.0 p.m., Saturday; Broome, dep. 7.0 a.m., Sunday; Derby, arr. 8.15 a.m., Sunday.

South Derby, dep. 10.15 a.m., Sunday; Broome, arr. 11.30 a.m., Sunday; Broome, dep. 7.0 a.m., Monday; Port Hedland, arr. 11.0 a.m., Monday; Port Hedland, dep. 1.0 p.m., Monday; Roebourne, arr. 2.15 p.m., Monday; Roebourne, dep. 2.30 p.m., Monday; Onslow, arr. 4.30 p.m., Monday; Onslow, dep. 7.0 a.m., Tuesday; Carnarvon, arr. 10.0 a.m., Tuesday; Carnarvon, dep. 1.0 a.m., Tuesday; Geraldton, arr. 4.30 p.m., Tuesday.

## ENGLAND-AUSTRALIA AIR SERVICE.

After Sir Keith Smith had explained the proposals for the establishment of an aerial service between England and Australia recently the Prime Minister, Mr. Hughes, said the proposition was a very different one to that which had previously been mentioned. In this one a private company is prepared to provide the capital on condition that reasonable interest on its capital is guaranteed by the Governments of the different parts of the Empire affected by the scheme. The Australian quota will be about £40,000 per annum.

# FLYING INSTRUCTION

## TRAIN YOUR BOY TO BE A PILOT

Australia will most surely need young men in the near future who have been trained as fully qualified pilots. These young pilots will be needed to meet the demand of the future for skilled personnel.

This demand must surely arise as soon as people fully realise the wonderful advantages and safety of aerial travel.

**Pupils trained to qualify for Pilots.**

**LICENSE** (in accordance with requirements of the Air Navigation Regulations).

Write us for our Schedule.

— THE —

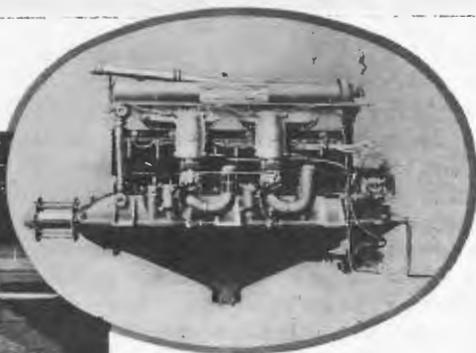
### Australian Aircraft & Engineering Co. Ltd.

BOTANY ROAD, MASCOT, SYDNEY.

# SUNBEAM - COATALEN

6-Cyl. "DYAK" 100 h.p.

## Aircraft Engine



This type of engine has been extensively used in Australia on Avro Biplanes manufactured by the Australian Aircraft & Engineering Co., Ltd., of Sydney, and for reliability of running, combined with extreme efficiency in operation, they have proved remarkably satisfactory.

Catalogues, Installation Diagrams, and full particulars on application.

**THE SUNBEAM MOTOR CAR CO., LTD., Moorfield Works, Wolverhampton**

Export Department, 12 Princes Street, Hanover Square, London, W.I.

Cablegrams: "Subesamoco, London."

Codes used: A.B.C. 5th Edition; Marconi; International; Motor Trade; and Bentley's.

# AUSTRALIAN-BUILT AEROPLANE

## LAUNCHING OF FIRST MACHINE

**F**RIDAY, June 16, was a red-letter day in the history of aviation in Australia, for it marked the launching of the first military aeroplane to be entirely constructed in Australia. And not only did the occasion proclaim that Australia has the men capable of building aeroplanes, but that she has the materials also, for the *Mary*, as the new 'plane was christened by Dame Mary Hughes, wife of the Prime Minister of Australia, is built of local materials.

To the Australian Aircraft & Engineering Company, of Mascot, belongs the honour of constructing the 'plane, which is the first of six to be turned out to the order of the Commonwealth Government. Mr. H. E. Broadsmith, the designer of

flight, in which he performed a number of clever manoeuvres, took the machine over on behalf of the Air Board.

After these performances had been concluded a function was held in the hangar, at which Mr. Scott Fell, M.L.A., on behalf of the company, thanked the Prime Minister and Dame Mary Hughes. He also referred to the difficulties with which aeroplane building had to contend in Australia, and stressed the fact that Government assistance in some form or other was necessary to enable the company to carry on.

Mr. Nigel Love, in the course of a brief speech, mentioned that the last of the six 'planes would be ready probably within a month. The capital expenditure neces-



The 'plane about to take off on its first flight.

the company, is responsible for the excellent design and workmanship of the machine, backed up, of course, by the splendid organization and equipment of the company, of which Mr. Nigel Love, the well-known pilot, is managing director.

As might be expected, a large gathering assembled to witness the ceremony of christening and trying out the 'plane. After the former ceremony had been carried out by Dame Mary Hughes, Captain Nigel Love, with Miss Davey as passenger, entered the 'plane and took off on the first flight. All eyes followed the 'plane as it mounted into space, and after doing a number of "stunts" Captain Love brought it back to earth, making a faultless landing. Immediately afterwards Squadron-Commander Barnewell took the 'plane up again, and after a successful

sary, not only for the plant, but also for experimentation and research with regard to the Australian materials used, was very heavy, and could not be borne without further orders for machines or financial assistance in some form or other. "His company was proud of its all-Australian production, and would execute every order up to the same high standard."

The Prime Minister, Mr. Hughes, said he was glad to have seen the latest demonstration of the skill and enterprise of Australian workmen and business men. He was confident that in a few years aviation would play a big part in Australian affairs, as well as being a most important link in our chain of defence. He congratulated the firm on the excellent workmanship of the machine they had turned out. It was in every sense a credit to them.

# MISSED!

## ENGLISH MAIL

You can catch the English Mail, American Mail or other overseas Mails by Wireless—even several days after the mail steamer takes final departure from Australian Ports.

Hand in your message—coded if desired—at any Telegraph Office.

### EXAMPLE:

Poste London.

SMITH BROS.,

91 Leadenhall Street, London,

“Moreton Bay,” Radio-Perth.

BLIKOBUNPA  
TWOYGAYVXA  
BLASRUPEUJ  
VIODACUCET

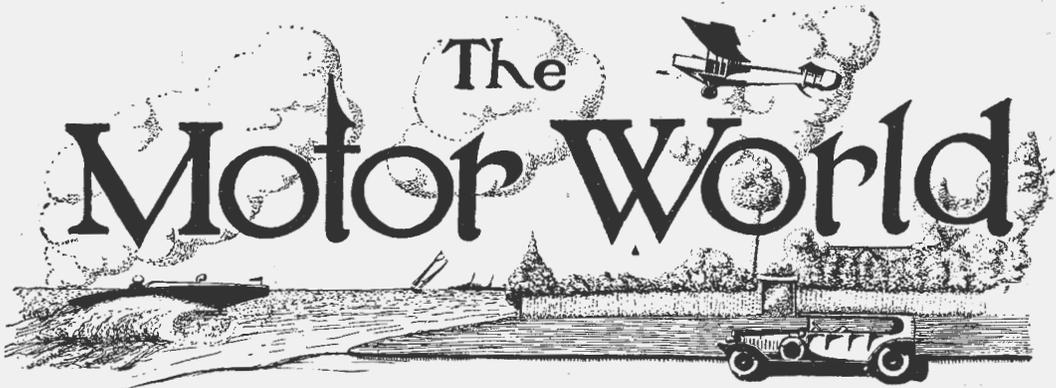
CAGBOPEHBY  
WATEBZYKYS  
ODUNTTUSEB  
BLASQUOJTO

The above message would be transmitted to the S.S. “MORETON BAY” from Radio-Perth and posted on the vessel’s arrival at London.

Rates: Ordinary Wireless charge to the ship plus 2½d. per message for postage.

TRAFFIC MANAGER

**Amalgamated Wireless (Australasia) Ltd.**  
SYDNEY — MELBOURNE — WELLINGTON, N.Z.



By "SPARKING PLUG"

### Thousand Miles Test.

**P**REPARATIONS are now being made for this year's alpine climb through Victoria's wonderful mountainous beauty spots.

The climb is usually conceded as Australia's biggest competition, and this year it is expected to attract many entries from the Mother State. The promoting club is also hopeful of English and American manufacturers being represented. Last year Mr. A. V. Turner (N.S.W.) drove an *Itala* to victory. Now it is proposed tentatively to make a start from Melbourne on Thursday, November 16, and the first day's objective will be Lakes Entrance—199 miles. The second day's run will most likely be to Mallacoota, one of the finest fishing and shooting resorts in Australia. Arrangements will be made to stay there over the week-end, and on the Monday the projected run is via Bruthen to Omeo, through the beautiful Tambo Valley. A petrol consumption test will be held over the Melbourne-Mallacoota run.

On Tuesday a trip to Mitta Mitta will be concluded before lunch and a return made to Omeo in the afternoon, totalling a distance of 140 miles. The long climb from the "Blue Duck" Hotel to the top of Mt. Wells and the descent over many miles of good roads to Lightning Creek—the whole trip through magnificent scenery—will be of absorbing interest to all.

The projected run of the following day over the Alps to the hospice, with a hill climb, probably at Cobungra, and speed and acceleration tests near Harrierville, will certainly be the most interesting section of the tour. The following day will

be spent in enjoying the beauties of Mount Buffalo. On Friday the motorists will still be in scenic country, as it is intended to cross to Mansfield via Beechworth, where a hill climb up the Gap will be contested. On the last day, Saturday, it is proposed to return via Woods Point to Melbourne.

Combining an interesting tour with the reliability test was a popular innovation last year, and in submitting a variation of the route an effort has been made to make the trip even more enjoyable. It may be necessary to limit the number of entries, in which case those making early entry will safeguard themselves against disappointment.

### Scotch the Vendetta Against Motoring.

Scorching motor bus drivers along the main arteries to the eastern and western suburbs have been apparently literally trampling on the official corns of the policemen in those localities lately.

Several of the fraternity have been hauled before the magistrates at the local courts during the past few weeks, and, after being compelled to listen to more or less serious indictments, they are allowed to again breathe God's fresh air and sunshine, but with their banking accounts diminished to the extent of £10 or so as a solatium for his Majesty's fractured traffic regulations.

None there are with souls so dead, or bodies either for that matter, who would desire to break a lance on behalf of the reckless and careless motor driver, but to pillory a motorist simply for driving, say, at twenty miles an hour along Oxford Street or Parramatta Road when the

---

*United States Tyres are GOOD Tyres*

---

United States  
Royal Cord  
Tyres add to  
the economy  
and comfort  
of motoring.



## Royal Cord Tyres

A better tyre—a *good* tyre—**Royal Cord.** A tyre that will stay on your motor car for many thousands of miles, and that will, because of its flexible buoyancy, lengthen the life of your motor car.

---

Obtainable Everywhere

---

---

*United States Tyres are GOOD Tyres*

---

traffic is not too heavy is neither merited nor asked for, excepting by over-zealous officers anxious to add a few shillings to the consolidated revenue.

Nothing is farther from the mind of this journal than to counsel the non-observance of regulations framed to control the traffic in the congested streets of Sydney.

But surely the time has arrived when owners and drivers of cars should no longer have to submit to veiled and camouflaged indictments of manslaughter by police officials and magistrates whenever they have had the misfortune to be caught infringing the by-laws.

How often do tram-drivers exceed 20 miles an hour in many bursts along city streets? The writer was driving along a main city thoroughfare recently, and attempted to pass a Railway tram before it reached its next stopping-place. The speedometer showed 15—20 miles an hour, and still the car made no impression on the tram. It was only by running at 25 miles an hour that the car assumed the lead.

This is no isolated case, as may be tested at will by any car driver. Yet, had a policeman been on the spot he would no doubt have promptly apprehended the writer, and hurled all sorts of allegations at him from the witness-box, whilst leaving Mr. Frazer's juggernaut free to smash more records in the absence of anything more fragile and delicate.

Notwithstanding the criticism levelled at the drivers of most suburban motor 'buses, as a body they have proved themselves a capable, efficient and trustworthy lot. Their task is no easy one, for their mission is to safely and expeditiously whisk their patrons to their respective destinations, and the big support that they receive from the travelling public is certainly sufficient and eloquent tribute to the manner in which they discharge their duties.

One of these days the motoring fraternity will be called on to vigorously protest against the unfair criticism by those who don't own cars against those who are fortunate enough to possess one.

#### 'Bus Passenger on Careless Pedestrians.

At least one of the many passengers travelling by Sydney's motor 'buses has been stirred into writing to a Sydney

daily to protest against the campaign against motorists. If others interested in motordom would similarly send protests to the Press when the occasion arose it would assist in defeating the prejudiced attacks made from time to time on what many are eager to term "motor-hogging."

#### Queensland Reliability Test.

##### Fiat Victorious.

The outstanding feature of the reliability and petrol test of the Royal Automobile Club of Queensland, from Brisbane to Southport, was the splendid performance of the *Fiat* car. Out of 14 competitors in the private owners' class Mr. A. J. Soden, in his 10-15-h.p. *Fiat* touring car, won the competition with seven points to spare. In the petrol test he travelled 40.49 miles on one gallon of petrol.

The success of the *Fiat* in the above competition was closely followed by the splendid performance of the *Essex* car, which in obtaining the maximum results for reliability, was close on the heels of the *Fiat* in the petrol test, doing upwards of 30.113 miles to the gallon, or only a small margin behind the *Fiat*.

#### First-Class Road for Brisbane.

Motorists and public-spirited citizens in Brisbane have launched an ambitious scheme for constructing a new roadway from Brisbane to Redcliffe.

The latter place is one of the northern capital's favourite watering and picnic resorts, and at present is reached either by motor or by a tedious journey on the *Koopa* down the Brisbane River—the time of journey eating well into the day's opportunities for enjoyment.

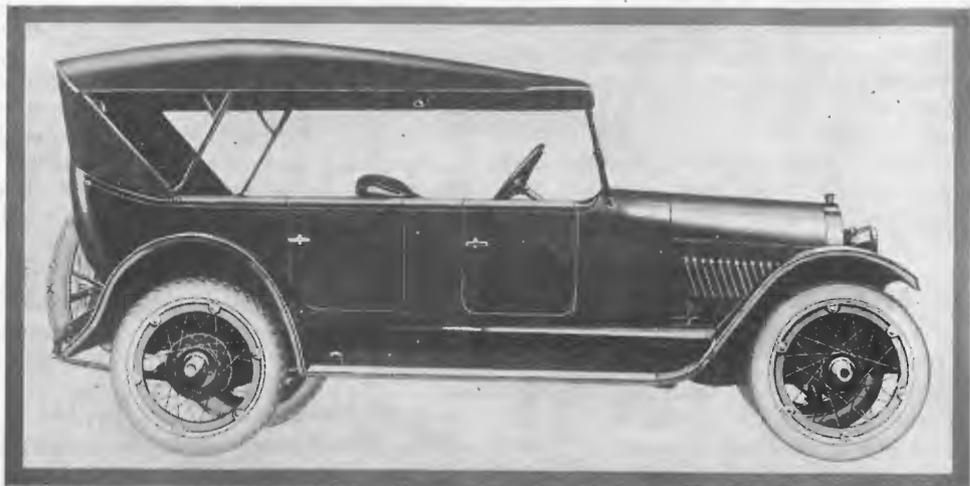
#### Overland Wins W.A. Test.

In a three day's reliability trial and petrol consumption test recently held by the Royal Automobile Club of Western Australia R. J. Adams, in an *Overland* car, averaged 43 miles per gallon, while E. Madden, the absolute winner of the whole contest, averaged 41.73 miles per gallon in an *Overland*.

#### Motor Caravan.

Messrs. Jackson, Thomson, Ltd., are despatching overland in a few days time an International motor 'bus. A start will be made from Newcastle with Broken Hill as

## THE NEW OLDSMOBILE "4" A Wonderful Car at a Wonderful Price



Three Years' Guarantee    Cash or Terms    Ask our Salesman for a Demonstration

**BOYD EDKINS, Ltd.**, also representing Vauxhall and Renault

Telephones: City 626, 1179

25 Wentworth Avenue, Sydney

## A Breakdown at Night—

How difficult to locate and fix;  
Make it easy. **CARRY**

### THE HANDY EXTENSION LINE



in your kit. Then in case of trouble simply fit the plug of the extension line in your dash lamp bulb, and, using the same bulb on the line, you have a safe light on 10 ft. of cord that can be taken anywhere round the car.

**For single contact systems, 10/6 complete; for double contact, 7/6**

Ask for our List of Lighting Equipment.

## AUTO IMPORT COMPANY (Aust.) LTD.

143-145 Castlereagh Street, Sydney

the destination. It will be the first motor 'bus to undertake such a trip, as well as the first motor 'bus for service in Broken Hill.

### Motoring to Darwin.

The six motorists who left Adelaide in three *Dort* cars on May 9, travelling over the proposed route of the north-south railway, arrived in Darwin on June 1 without mishap, or even the necessity for repairs to the cars. Fifty miles of flooded area were traversed. Pine Creek area was well grassed, and covered with a remarkable number of large ant hills.

## MOTOR CYCLING.

### Racing Carnival.

At the time of going to press the Motor Cycle Club of N.S.W. had all arrangements well in hand for the big racing carnival at Victoria Park Racecourse, proceeds from which were to be evenly divided between the club and the South Sydney Hospital.

The racing—confined strictly to motor cycling—attracted record entries from all over Australia, the club having to refuse a number of entries to ensure the programme being run to time.

### Removing Carbon.

The matter of cleaning motor cycles can be treated in a general way, as all modern makes function in the same way.

After approximately 2,000 miles it is advantageous to remove the carbon from the combustion chamber at the top of piston, and, a part often overlooked by the average amateur, underneath the piston. The deposit here holds the heat, upsets the balance, and tends to force the heat on to the cylinder walls.

While the cylinders are off it pays to examine the valves, and grind them in if necessary. At the same time, after 4,000 miles, fit new valve springs—it pays well, as no spring yet made will give efficient service year after year, when subjected to the heat of an air-cooled engine.

Some engines are rather inaccessible. To remove the cylinders from one popular make it is necessary to take the whole of the engine from the frame. This is really a two-man job, and it entails a lot of extra time and labour. Most riders are apt to shirk the job on account of this, but though it may be annoying it has to be done.

Provision for cleaning has been made on another machine. Here it is possible to remove the lower tank bar and tank, which allows free removal of the cylinders. Though to a mechanic it seems like aggravating a fault, it makes the job a little easier.

In another make it is possible to remove the cylinders without interference with either tank or crank case. This design is a step in the direction of accessibility, and allows the fullest access to all parts, besides letting country owners do their own little jobs.

Not only is it a pleasure to do the job yourself, but you also have the satisfaction of knowing that the job is done properly, while the saving is certainly worth while.

### Motor Cycling Trial Results.

The official result of the reliability trial on King's Birthday, of the M.C.C. of New South Wales is:—

Sidecar Class H. Nelson (*Indian*), lost no points; H. Patching (*Indian*), lost no points; A. H. Noad (*Harley-Davidson*), lost no points; A. J. Harry (*Ford*), lost no points; V. R. Blackett (8-h.p. *Sunbeam*), lost one point; T. Burrows (*Harley-Davidson*), lost two points; R. Fennell (*Harley-Davidson*), lost three points; R. Cunliffe (5/6-h.p. *James*), lost six points.

Solo Class: C. Lindsell (8-h.p. *Jap-Pasco*), lost no points; E. A. Thomas (7-h.p. *Harley-Davidson*), lost no points; R. White (7-h.p. *Harley-Davidson*), lost no points; R. Hodgson (10-h.p. *Harley-Davidson*), lost no points; W. Collins (7-h.p. *Henderson*), lost four points; J. H. Goody (7-h.p. *Harley-Davidson*), lost four points.

### The New Oldsmobile "Four."

The new *Oldsmobile "Four"* is undoubtedly the leading high quality car of its type. Its design, simple and well matured, leads directly to economy of operation and economy of investment also. As a transportation unit it rings on true economy, and is built to the highest standard.

An extreme carefulness and discrimination in the procurement of raw material, an exhaustive system of inspection all along the line, are features not thought necessary in ordinary automobile practise.

# DODGE BROTHERS MOTOR CAR

Dodge Brothers Motor Car has become almost an international institution.

Its reliability, its freedom from repair, its economy, and its long life, have won universal acknowledgment.

These attributes have created such deep and abiding satisfaction on the part of owners in every part of the world, that Dodge Brothers Motor Car may now be said to have attained international respect and regard.

## STANDARDISED MOTORS LIMITED

276-278 CASTLEREAGH STREET, SYDNEY

Tel.: City 987-988.

July, 1922.

## These Cold Mornings!

Do you find your engine hard to start?  
An old and worn Carburettor will cause  
you endless trouble these mornings.



### The "SMITH" 4 Jet

will overcome this. It can be adjusted to  
suit atmospheric conditions throughout  
the full range of the throttle.

Sole Distributors in Australia:

## SMITH, SONS & REES LTD.

Phones: City 7518 (3 lines)  
" 4708

30-32 Wentworth Av., Sydney

*Oldsmobiles* have been built for 25 years, and to-day's product is the direct result of the policy to produce a mechanical product which shall be perfect in every detail.

Safety is the first ideal of *Oldsmobile* makers. It is essentially and indisputably a superior transportation unit from the standpoint of dependability. In comfort, too, the *Oldsmobile* "Four" meets out peculiar and difficult requirements in a country where the roads are none too good. Speed and power, coupled with reliability and ease of control, are its salient features. A wonderful "top gear" car, there is no hill around the city which it will not climb "on top," and in traffic it is possible to idle down to four miles per hour.

Boyd Edkins, Ltd., are the local agents for *Oldsmobiles*, and their confidence in recommending the car is substantiated by the fact that they give a three years' guarantee with every *Oldsmobile*, sales being arranged for either cash or very easy terms.

### NOTES.

Road construction is one of the largest industries in America. An army of one million men laboured last year throughout the road-building season in making and repairing highways.

\* \* \*

On a signboard at the intersection of two roads in the southern suburbs appears the following warning to motorists: "Go slow if you prefer your home to the morgue."

\* \* \*

Mr. L. R. Butt, president of the W.A. Automobile Club, has been made an honorary member of the Royal A.C.A. during his stay in Sydney. His club boasts a membership of 800.

### Refitting Old Pistons.

When an old set of pistons requires replacement it is sometimes possible to avoid expense by expanding the old set. The process is by heating the pistons one at a time in a bed of hot charcoal. This will expand the piston as much as .004 of an inch. Pistons so treated are not as good as new, but expense is saved, and the clearance will be very close to normal.

### The Overhead Valve.

Many engineers, whilst recognizing that the overhead valve engine has the ad-

vantage of greater efficiency and accessibility, hold the opinion that in several respects the side valves give the best service. An expert, in discussing this subject, says the most important disadvantage of the overhead valve engine is that it shows its favourable characteristics at the wrong end of the power output scale. No one, he says, can deny that the side-by-side valve motor is the sweeter-running of the two. It is more controllable and fires more evenly and steadily at low speed. One reason of this is because the valve timing is generally designed to permit of high revolutions being used rather than to give good pulling at low speeds. It is next to impossible to have a valve timing of such a type as to give advantage at both ends of the scale. Many designers of engines are not at all satisfied that they should use overhead valves because they are familiar with their disadvantages.

### MOTOR YACHT CLUB.

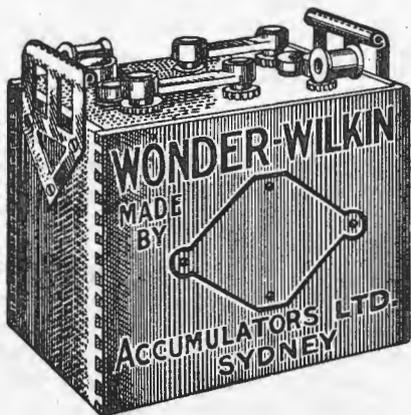
Kangaroo (Mr. C. E. McIntosh) and Miss Aussie (Mr. A. J. Allan) are to meet in a series of three races on July 15. The Rose Bay Pile Light course is to be used, and will be covered twice. The winner of each race will receive a prize, and the boat scoring most points in the three will annex a trophy to the value of 10 guineas.

### AUTOMOBILE CLUB.

The secretary of the R.A.C.A. accompanied Mr. Percy Allen, Chief Engineer for National and Local Government Works, on another tour of inspection of roads which are now being reconstructed under Government supervision. The trip was an extensive one, no less than 140 miles being covered during the day, and the secretary of the club returned from this second visit of inspection fully persuaded that the officers responsible are doing work for which they deserve the commendation of all road users.

\* \* \*

With motor cyclists the danger of hill-climbing and braking lies in allowing the downward speed to get beyond control. The seasoned motorist or motor cyclist puts the engine into low gear and takes the gradient carefully, ready at any moment to stop, should circumstances warrant.



**Y**OU buy a Battery to give you Starting and Lighting Service; but service cannot be seen.

The Battery may look good—most Batteries do.

You are dependent on the quality of the materials and workmanship used in manufactures for the satisfaction it will give you, backed of course by the attention you pay its operation.

## “Wonder-Wilkin” Batteries

Made in Your Country

A local product, worthy of your interest, built on a foundation of faith in Australian raw materials and industry.

**Bennett & Barkell Ltd.**

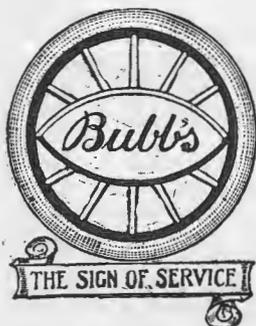
Distributors,  
Meagher Street, Sydney.

**Accumulators Limited**

Manufacturers,  
Blackwattle Bay, Glebe.

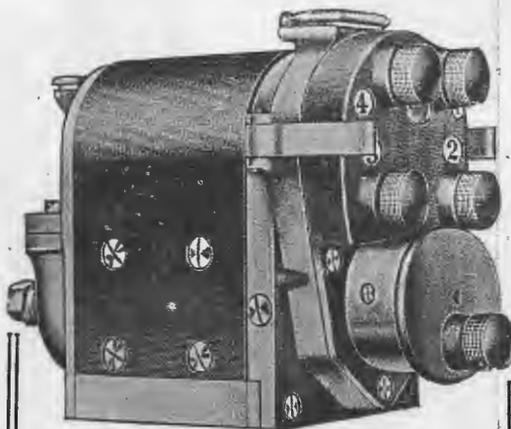
When You Want  
**ACCESSORIES**  
For Your **CAR**

Remember



**R. N. BUBB**

The Motor Accessory House  
4 & 6 Wentworth Avenue  
SYDNEY  
(Right at the Top.)



## Magneto Repairs

Good, Prompt Work—At a Reasonable Price

For many years we have been specialising in the repairing of all makes and types of magnetos, and assure work of the highest standard.

**MOODY & CO.**  
MAGNETO SPECIALISTS,  
343 Kent Street, Sydney.  
Phones: City 1740 and 1741.

## RECORD AMATEUR WIRELESS

### 705 MILES ON 8.7 WATTS

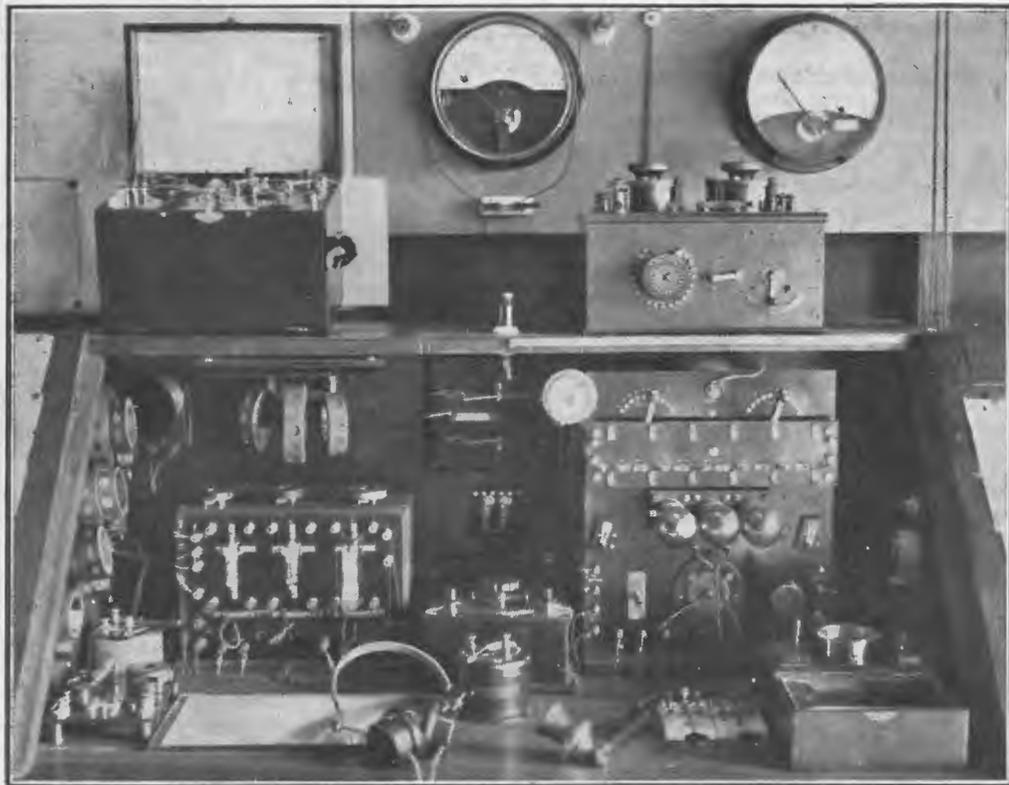
**T**HE results of the recent wireless telephone competition conducted by the N.S.W. Division of the Wireless Institute of Australia, the programme of which was transmitted from Mr. Charles Maclurcan's experimental station, at Strathfield, Sydney, convinced Mr. Maclurcan that from a transmitting point of view his set was not as efficient as it might be. As the weak point seemed to be the aerial, which was long, low, directive, and poorly insulated, it was decided to erect an entirely new one, designed especially for transmission on low power.

Although an account of Mr. Maclurcan's experimental station has already appeared in *Sea, Land and Air*, particulars of recent alterations and improve-

ments will prove extremely interesting to all Australian wireless enthusiasts.

#### Mast.

The new mast, which is eighty feet high, for the re-designed aerial, was constructed of oregon pine, and consists of three sections, the lower section being 28 feet long of 5 x 5, the middle one 30 feet of 4 x 4, and the top 23 feet of 3 x 3. The lower section was first upended and stepped into the tabernacle. The two top sections were bolted together on the ground and upended against the lower mast, using it (the lower mast) as a jury mast. This was next done by block and tackle, especial care being given to the holding of the guy wires, one man being



Mr. C. Maclurcan's station. The telephone transmitter is on the right and the receiving apparatus on the left.

# We Invite You to Test the Realism of the Actuelle

The new Pathe musical invention, The Actuelle, will play all manner of music in such a way as to absolutely defy detection, by the human ear, from the original performance of the living artist.

Public tone tests held abroad have established to the satisfaction, indeed the amazement, of thousands of exacting musical authorities, that there was no difference in tone, technique, colour or expression between The Actuelle and the renditions of the living artists who sang or played simultaneously at the side of this great Pathe instrument.

Ralph Errolle, the prominent operatic tenor who has delighted thousands of Australian theatre-goers, states that in his opinion The Actuelle provides a percentage of actual reproduction of about 94 on the scale of 100, whereas the ordinary talking machine ranks only 80.

If you love music, and if you cannot tolerate the usual phonograph, come and hear the new Pathe Actuelle. Private recitals are being given daily in each of our several auditions chambers at the new Pathe Salon. The cost of an Actuelle in any of many beautiful historical cabinets is surprisingly moderate—little more than for the usual phonographs.



## PATHE SALON

*"In the Music  
Block,"*

337 George St.,  
SYDNEY.

stationed at each guy to pay out as the mast rose into position. All the mast bands, bolts, screws, pulleys, etc., are heavily galvanised to prevent rust.

#### Aerial.

The aerial is of the sausage type, and consists of four 1-18th gauge copper wires equally spaced round 2ft. 6in. wooden hoops. There are twelve hoops, spaced fifteen feet apart. Each span is 100 feet, making a total effective top of 200 feet. The end of each span is elevated by a 25ft. mast. The lead-in is taken from the centre, and consists of four 1-18 gauge wires on 12-inch hoops. The natural wave length of the aerial is 325 metres, and the capacity to earth .001 M.F. The capacity to the counterpoise is .0066 M.F.

#### Counterpoise.

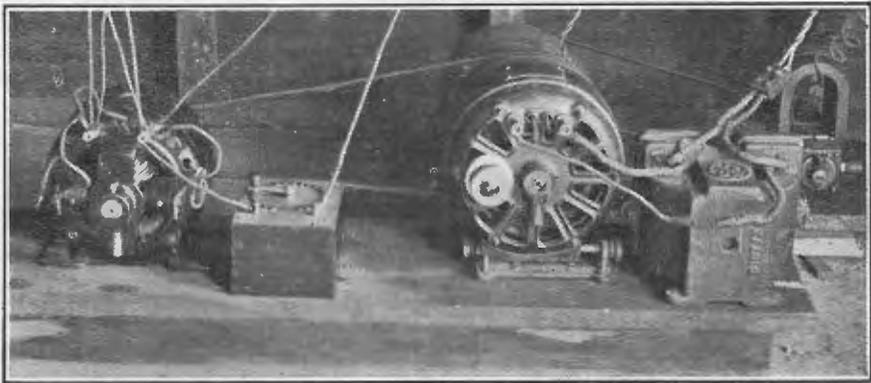
A tuned counterpoise is used in conjunction with the water pipe earth, thus fol-

on three 12ft. spreaders (one on each of the three masts), and spread directly under the aerial about ten feet above the ground. The lead-in is taken from the centre. All wires, including the lead-in, are attached to insulators.

#### Transmitting Set.

The wireless telephone transmitting set has also been re-designed. Three Radiotron five-watt power tubes have been substituted for the eight V24 valves previously used. The circuit has been altered from the "Hersing," or Shunt System (wherein four valves were used as oscillators and four as modulators), to the grid control method, which uses all tubes in parallel as oscillators.

The valves are operated with the filament voltage reduced from 7.5 to 6, so that the total output of the three is really only equal to that of two valves fully



The 300-volt Generator and Motor. At the rear is the 8-volt Accumulator Charging Set.

lowing the latest practice adopted by many of the American amateur stations that were recently successful in signalling across the Atlantic. It will be noted that the capacity of the aerial to counterpoise is .00066 M.F., while to earth it is .001 M.F. It is apparent, therefore, that if both earth and counterpoise are to work in conjunction on the same wave length, loading inductance must be inserted in series with the counterpoise to bring its natural period up to that of the aerial and earth. When this adjustment is correctly made the radiation increases considerably, due to the lowering of the ohmic resistance thus caused. In this instance the radiation was increased from 600 milli-amps to 900 milli-amps.

The counterpoise consists of four wires 220 feet long and 4 feet apart, supported

loaded. This has been done in order to prolong the life of the tubes, which are unprocurable in Australia, in the event of a burn-out. The filaments are heated by alternating current stepped down from the 240-volt house supply. A voltmeter is connected across the filament contacts. The set can be used either for speech, continuous wave, or tonic train telegraphy.

The plate voltage is supplied by a small 300-volt D.C. generator belt, driven by a  $\frac{1}{4}$ -h.p. induction motor. The input plate current is 30 milli-amps, so that the power supplied to the plates is exactly nine watts.

#### Record-Breaking Results.

With this low power the following remarkable results have been obtained to date:—

On 20th and 24th April telegrams were

WHETHER YOU TRAVEL BY SEA, LAND, OR AIR, YOU SHOULD ALWAYS BE  
FORTIFIED WITH

# HEENZO

(Regd. name for Hean's Essence)

OR

## Heenzo Cough Diamonds

the never-failing friends of mankind during epidemics of

### Colds and Influenza

**COSTS**  
**2/-**

Each bottle of Heenzo, when added to sweetened water, produces a big family supply of the finest Cough Mixture known. A like quantity of ordinary ready-made mixture would cost anything from 12/- to £1 or more, according to quality. Heenzo costs only 2/-, and money cannot buy anything better.

**SAVES**  
**£s.**

If you do not require a family supply of mixture get

## Heenzo Cough Diamonds

They are splendid for the throat and lungs and for the breath.

Try them.

To regain health and strength after illness or other debilitating cause take HEAN'S TONIC NERVE NUTS.

Mr. V. P. Taylor, the intrepid Australian airman, who enjoys the distinction of being the most versatile aviator in the world, he being the only man who has piloted all varieties of aircraft, including monoplanes, biplanes, dirigible airships, and gas balloons, as well as having made many thrilling parachute descents, is an enthusiastic believer in both Heenzo and Hean's Tonic Nerve Nuts. He is at present in America, keeping the name of Australia well to the fore in the world of aeronautics. Read what he says:—



Aviator V. P. Taylor.

P.O. Box 35, Long Reach, California, U.S.A.,

May 17th, 1922.

Messrs. HEAN'S ESSENCE PTY.,

Dear Sirs,—

Thanks for having filled my last order so promptly. Though I have been in America for several months, I have failed to find anything equal to Heenzo and Hean's Tonic Nerve Nuts, hence my reason for sending to you for a supply of them. They are in a class by themselves, and, if placed on the market here, they would, I feel sure, command big sales.

Your faithfully,

VIN. P. TAYLOR.

ALL LEADING CHEMISTS AND STORES STOCK HEENZO, HEENZO COUGH DIAMONDS, and HEAN'S TONIC NERVE NUTS, or you may obtain them by post from Hean's Essence Proprietary, 178 Castlereagh Street, Sydney.

received from Mr. P. Shaw, Goondiwindi, Queensland, that he had received and read the C.W. telegraphy. Air line distance 360 miles.

On May 5 Mr. L. V. G. Todd, Tamworth, wrote to say that on the afternoon of Sunday, April 30, he heard the speech and music. Distance about 200 miles.

On May 22 he telegraphed that he had again heard the speech and music on Sunday night, May 21, signals being strong and clear. (Mr. Todd used two-valve detector and audio amplifier.)

On May 18 Mr. Joseph Reed read the C.W. telegraph in Melbourne, 450 miles away. He used two valves (detector and audio amplifier). Mr. Maddocks (secretary of the Wireless Institute of Australia, Victorian Division), also read the signals the same night.

On Sunday, May 21, the wireless officer on the s.s. *Dimboola* heard the music when off Gabo Island. Distance 300 miles. He used only one valve.

On Friday night, June 2, Mr. A. L. Dixon, the senior wireless officer on the s.s. *Montoro*, received, at a distance of 420 miles, the telephone speech and music, strength 6, and the C.W. and tonic train strength 8. He used one expanse B valve.

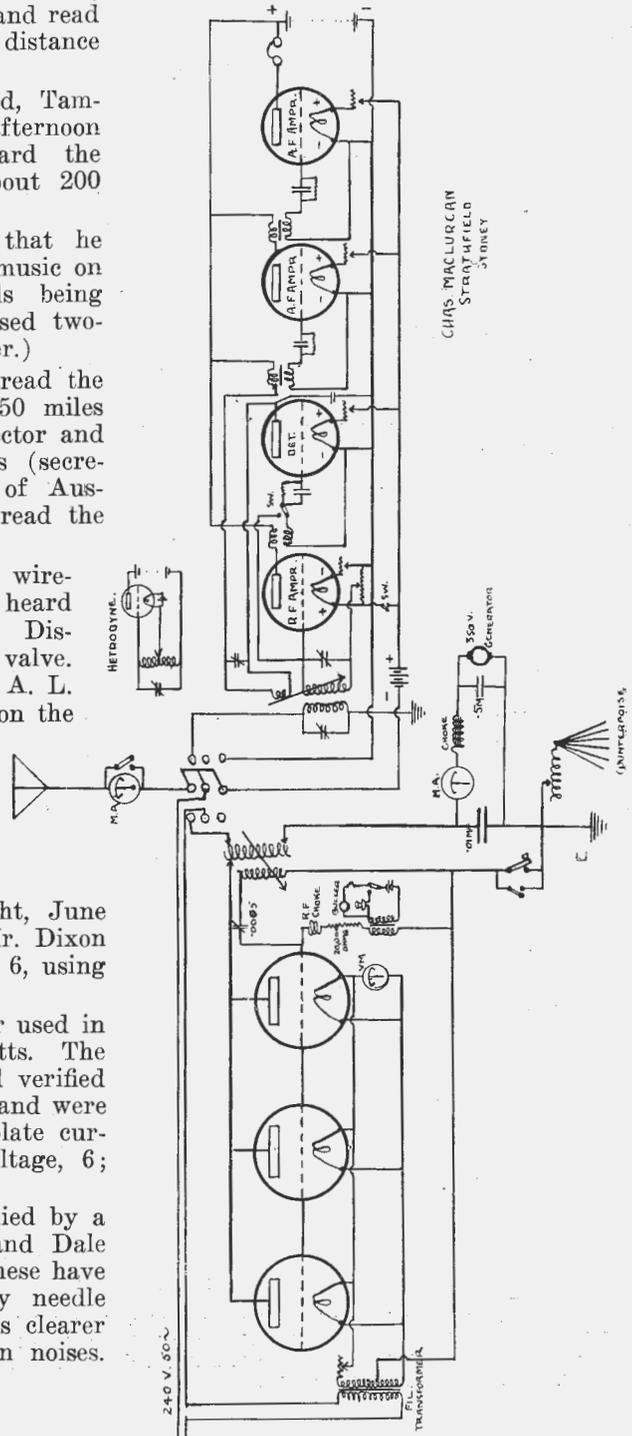
On the following Sunday night, June 4, at a distance of 705 miles, Mr. Dixon again received the C.W. strength 6, using the same Expanse B valve.

The actual (plate input) power used in these last two tests was 8.705 watts. The meter readings were checked and verified by Mr. H. Cureton, of Burwood, and were as follows: Plate voltage, 284; plate current, 31 milli-amps; filament voltage, 6; radiation, 900 milli-amps.

The music referred to is supplied by a pathophone, using Pathé Hill and Dale records and a sapphire point. These have proved superior to the ordinary needle records, in that the modulation is clearer and practically free from foreign noises.

**Receiving Set.**

The receiving set has been greatly improved by the addition of both an independent oscillator (which is also calibrated, and serves as a hetrodyne wave-





# WIRELESS!

## OVER 600 STUDENTS APPOINTED!

The Marconi Schools have already appointed over 600 STUDENTS as WIRELESS OFFICERS.

WE ARE NOW TEACHING

# WIRELESS BY MAIL

SEND TO-DAY for particulars of our Specialised Home Study Course. With the limitless possibilities of Wireless, intending students should not delay.

WE GUARANTEE TO TEACH YOU UNTIL YOU ARE PROFICIENT.

All Marconi Home Study Students are supplied free with a Gramophone and Wireless Training Records, Reference Books, and Key and Practice Buzzer Set. These instruments, etc., become the property of the student.



WRITE TO DAY TO,

**MARCONI SCHOOL OF WIRELESS**  
 97 CLARENCE STREET, SYDNEY;  
 422-4 CHANCERY LANE, MELBOURNE.

meter 600-24,000 metres), and a stage of radio frequency amplification.

The latter instrument, using a V24 valve, as transformer coupled to the detector valve, and with 100 volts on the plate gives a remarkable increase in signal strength. As an instance of this, one evening certain signals could be read twenty feet away from the 'phones, using a detector and two stages of audio frequency amplification. The addition of the radio frequency amplifier so increased the signal strength that they could be read seventy feet away.

### Hook-Up.

The complete diagram of connections is reproduced herewith. The "B" battery for the receiver consists of small accumulators in test tubes, charged from the 240-volt A.C. mains, through an electrolytic rectifier.

Mr. Maelurcan wishes to thank Mr. Joseph Reed, Mr. Humphrey Cureton, Mr. Malcolm Perry and Mr. Harry Stowe for the valuable assistance they have given him in the design, construction and erection of the station.

---

## WIRELESS NOTES

---

### 2,000 Saved by Wireless Compass.

**T**HE army transport *Cantigny*, with 2,000 of the Fifth Infantry aboard, was in a storm off the American coast on March 21, with her compass out of commission, and unable to get bearings, until the wireless compass came to her aid.

With the assistance of shore stations, which sent her bearings by wireless, the *Cantigny* was piloted to safety at Portland, Me.

Captain Hitchcock, of the *Cantigny*, congratulated the wireless operators at Bar Harbour and Cape Elizabeth stations on their almost perfect compass bearings during the storm, which was "our only means of direction, for it was too dark for sights."

### Wireless 'Phones in Ships' Cabins.

"The steamship *Leviathan*, when she starts again in the trans-Atlantic service next year, will have a wireless telephone in every stateroom," Chairman A. D. Lasker says, "and the plans for the reconditioning of the huge liner call for the finest wireless equipment ever put on a passenger vessel."

### New York Hotels to Have Wireless.

On March 23 Chief Magistrate W. G. McAdoo laid the cornerstone of the first hotel in New York City to be completely equipped with wireless telephones. Every room in this structure, the Sherman Square Hotel, which will be sixteen stories in height, and covering the block

front of Seventy-fourth Street from Amsterdam Avenue to Broadway, will have a wireless station at the disposal of guests.

### Wireless Patents.

It will come as no surprise to those familiar with amateur wireless matters to learn that on the 17th February an order was made by Mr. Justice Russell restraining F. O. Read & Co., Ltd., from infringing certain of the Marconi Company's patents.

F. O. Read & Co., Ltd., were further ordered upon oath to destroy all infringing material and to pay the Marconi Company damages and costs. As a sequel, the offending company is now in liquidation, and it was recently stated by one of the principal shareholders that he would lose personally about £8,000, and other shareholders would suffer similar serious losses, against which they could only set off revenue receipts of about £1,500 received from the business since its inception in 1919.

It would, therefore, appear to be only a matter of business prudence for dealers in amateur and other wireless apparatus to assure themselves that they are always fully protected with regard to the very important question of patents.

### Staff Changes in the Coastal Radio Service During May.

G. Apperley, radio engineer, transferred from Collins House, Melbourne, to Wireless House, Sydney.

# Commonwealth Bank of Australia

HEAD OFFICE

SYDNEY.

BRANCHES ARE OPEN FOR THE TRANSACTION OF

## General Banking Business

Established 1912

In the principal Cities and Towns of Australia, New Guinea (2), and London (2).

Banking and Exchange Business of every description transacted within the Commonwealth, United Kingdom, Canada, United States and abroad.

Agents and Correspondents throughout the World.

## Savings Bank Department

At all Branches and Savings Bank Agencies at 3,200 Post Offices in Australia, Territories of Papua and New Guinea, Solomon Islands Protectorate and the Pacific.

Interest, 3½% on balances up to £1,000, 3% on any additional balance up to £300, making a total of £1,300 on which interest is allowed.

1922

Sir DENISON MILLER, K.C.M.G., Governor.



Head Office, Sydney.

## FLYING MEN

NEED THIS BOOK.

## PRACTICAL AVIATION

Including

Construction and Operation

by

Major J. ANDREW WHITE.

A textbook containing all the knowledge of fundamentals required prior to elementary and advanced flying.

Each subject is presented by illustration and described completely for the reader without turning the page.

A broad treatment of subjects never before contained in general aeronautic textbooks.

Only a limited supply available.

Send for a copy NOW.

Price 18/6, post free.

From

### THE WIRELESS PRESS,

97 CLARENCE STREET,

INSURE with

## The Liverpool and London and Globe

### Insurance Company Limited

---

 Assets Exceed £20,000,000
 

---

## LOWEST RATES

## Fire - Accident - Marine

Head Office for Australasia:

### 62 Pitt Street, Sydney

C. DANVERS, Manager for Australasia

P. HEATH, Assistant Manager for Australasia

W. B. CLARKE, Local Mgr. for New South Wales

J. G. Reed, radio engineer, transferred from Collins House, Melbourne, to Wireless House, Sydney.

C. E. Tapp, radio stationmaster, Melbourne Radio, to Wireless House, Sydney.

H. R. Denneen, radio telegraphist, transferred from Port Moresby Radio to Adelaide Radio.

A. G. Flood, radio telegraphist, Flinders Island, to Brisbane Radio.

F. H. Hopher, radio telegraphist, Adelaide Radio, to P.M.G.'s Department, Sydney Telegraph Office.

A. S. MacDonald, from Collins House to England, for technical work.

### A Prophecy.

"I shall be greatly surprised and disappointed if, within two years from now, there are not direct wireless services between Montreal and London, and between Vancouver and Melbourne," said Mr. A. H. Morse recently at the Canadian Club, Toronto. Perhaps the most pressing problem confronting Canadian statesmen today is soldiers' civil re-establishment and the provision of work for the unemployed. It is my firm conviction that no more economical and effective step could be taken to solve this problem than the linking up by wireless of every outpost in Canada. I am not suggesting that the erection of the stations would provide any considerable amount of employment, but the fact that what are at present to hundreds of thousands of people forbidden lands, by reason of their intense isolation, would at once become attractive fields of enterprise.

### Removing Enamel from Wire.

Although there is a certain prejudice against the use of enamelled wire for tuning coils and loose couplers, many operators prefer this kind of wire. There is one great trouble experienced in winding coils with the finer sizes, *viz.*, that the wire itself is often scraped or even broken in removing the enamel. The only way to remove the insulation without injuring the wire is to pass it quickly through the flame of a Bunsen burner or alcohol lamp.

### 'Phones.

Too much care cannot be taken with a good pair of 'phones. A good pair of 'phones are essential to proper reception, and their cost justifies the care taken with them. Do not let anyone open your 'phones regardless of their motive. A telephone receiver is a delicate piece of

apparatus, and a small foreign substance lodged therein will affect its proper working. Do not bang them around, nor let them drop on the floor. Treat them as you would an expensive watch, and you will be rewarded by many years of faithful service.

### Condenser for Aerial being Tried.

A condenser instead of an antenna for transmission and reception of radio signals is being investigated by the United States Bureau of Standards. Taking advantage of the fact that the ordinary aerial corresponds to one plate of a condenser and the ground to the other, a pair of large metal plates is substituted and found to be freer from static disturbances and to offer better opportunity for portable sets.

### "Movies" by Radio Predicted.

Motion pictures transmitted by radio are not only possible, but probable, said L. C. Porter, of Newark, president of the Society of Motion Picture Engineers, recently, in an address at the organization's convention in America.

"Pictures are being transmitted by radio," Mr. Porter said. "It is but a step from the transmission of one picture to the transmission of a series of pictures which, joined together, make a moving picture."

"It is therefore not only possible but probable that we shall show in our educational institutions great educational pictures broadcast by radio."

### Health Talks by Wireless.

In referring to the general effect of the daily health talks broadcasted by the Schenectady wireless station, an up-state paper says: "How valuable is this means of getting important facts to those not in good health can be judged by the report that more than half a million receiving sets have been sold in New York alone since this service was inaugurated."

This makes New York look like anything but a health resort.

### Government-Approved Film on Making Radio Receiver.

The crystal detector set that the United States Bureau of Standards recently published diagrams and descriptions of has been filmed for movie radio fans. This picture shows the experiences of Ray Radio in making a set in accordance with the Government's specifications.

You get the detail operations of making

# Have You a Good Memory?

Yes, you have. For instance, whether you know it or not, here are some of the things you can do yourself:—

**YOU CAN** remember the contents of every book you read, or every speech you hear.

**YOU CAN** remember the name, initials, address, occupation, and phone number of everyone you meet.

**YOU CAN** remember appointments, price lists, statistics, diagrams, plans, numbers, folio pages, quotations, etc.

**YOU CAN** remember every detail of business, educational, professional or social life; every subject of study; everything, quite literally, that you want to.

## The Universal Memory System

is a simple, quick, practical correspondence course, and it enables you to make a swift and complete mastery of anything that you need to remember. Students who have to memorise technical works, diagrams, and so on, find that the sheer mental work is cut down by fully three-quarters.

We make what seem to many people impossible claims for our System. Knowing how very difficult it is to memorise absolutely everything when one has an untrained mind, the average man thinks that nothing, or at best very little, can be done to improve matters. But our work has demonstrated in absolutely every case how false this idea is. What we do in short is show you how to

## Discover the Memory you did not know you had.

What is more, we have such faith in our ability to do everything we maintain that we adopt a method of doing business that is, as far as we know, unique in the world. We absolutely guarantee your success in making a complete mastery of your memory—and we back this up with a legally-binding signed undertaking, if you do not succeed, to

## Return the Full Fees.

We have published a little book (Booklet Y), which gives a full account of our work. Call, or ring, or write us to send you a copy. It is Free.

Phone: B 2991.

## Universal Mnemonic Systems

5th Floor, Gibbs Chrs., Martin Place,

SYDNEY.

# Wireless Experimenters

Install a Loud Speaker in your Set

**S. G. Brown's are the Best  
British Manufacture**

Stocks Just Landed

Price £8 8s. each

**AUSTRALLECTRIC LIMITED**

97 Clarence St., Sydney

422/4 Chancery Lane, Melbourne

this set from the purchase of the materials to the stringing of the aerial, and finally the tuning and listening into the broadcasting stations is shown in great clearness.

#### French Fans "Lift" Telephones.

The opening of the station at Eiffel Tower for broadcasting wireless purposes brought much joy to the Continent and England, but not to the French Department of Communications, which controls the telephone systems there.

In Paris alone it is reported that more than 200 telephone receivers have been "lifted." The radio fans are blamed.

#### New Wireless Club.

Last month a new wireless club was established at the Technical High School, Sydney, for the benefit of students interested in "wireless."

#### N.S.W. Military Radio Association.

As the King's Birthday fell on the usual meeting night of this association the meeting was held a week earlier, on Monday evening, May 29, Lieut.-Colonel J. E. Fraser, D.S.O., V.D., presiding. After the minutes of the previous meeting were read and confirmed, and correspondence dealt with, business was proceeded with.

It was resolved: "That the constitution be altered so as to permit the number on the committee being increased to twelve members." A ballot was taken for the six new members of the committee, with the following result: Messrs. A. E. Steel,

P. B. C. Holdsworth, E. Lavington, G. E. Leggo, V. J. O'Malley and L. A. Davidson.

The president declared the above-mentioned members elected to the committee.

The constitution was further altered to permit naval and ex-naval members joining the association, also ex-Australian Military Force trainees, together with any person who has served with a satisfactory record in any British naval or military force during the period of the recent war, subject to such conditions as may be prescribed by the committee.

With a view to raising funds to purchase wireless apparatus, to be installed in the association's rooms, a dance was held on Wednesday evening, June 7. The function, which was largely attended by members and their friends, was a great success, and everybody thoroughly enjoyed the evening.

A series of elementary lectures is being conducted every Monday night by Lieut. R. Fry. Lieut. Fry has had considerable experience in wireless work, especially during the war, and at a later period was promoted to a commissioned rank in the Australian Air Force.

The club rooms of the association at the Engineers' Depot, Moore Park, are open every Monday, Tuesday, Wednesday and Thursday evening, from 7.30 p.m., when buzzer practice can be obtained.

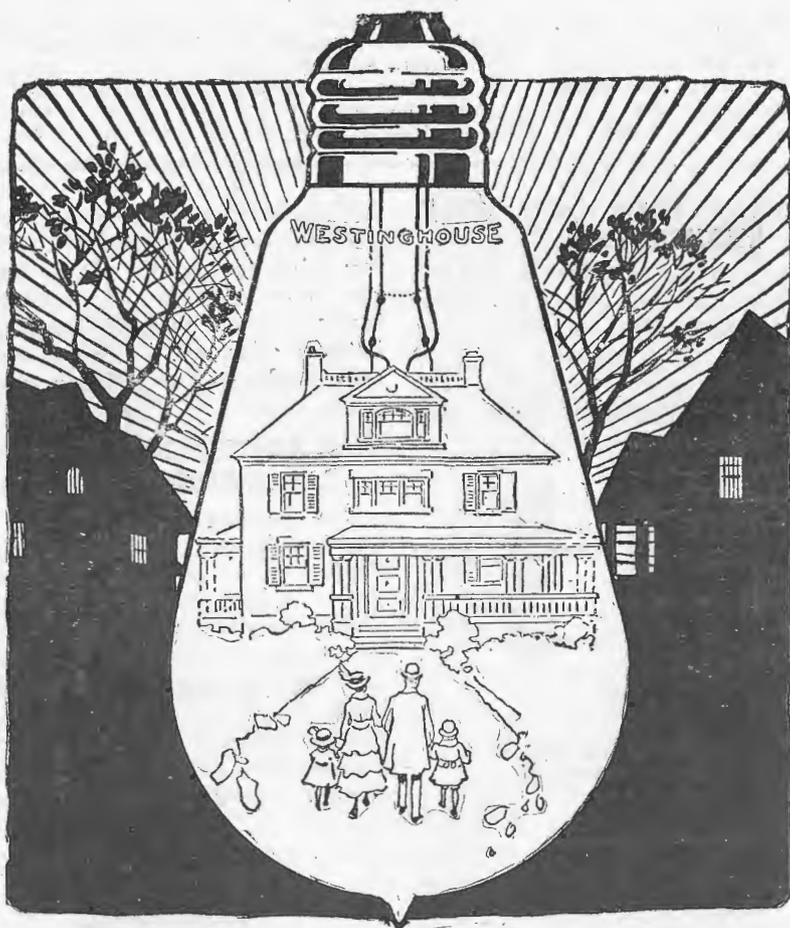
Particulars as to membership can be obtained from any committeeman or the Hon. Secretary, Lieut. O. F. Mingay, Kuringai Chase Road, Turramurra, Sydney.

## MAKE SURE

of receiving your copy of "Sea, Land and Air" each month by mailing 10/- to the Circulation Manager, "Sea, Land and Air"

CLARENCE STREET, SYDNEY

# USE WESTINGHOUSE LAMPS



While giving the brightest light, they are restful to the eyes and, consuming only low current,

**SAVE YOU MONEY.**

The special filament construction will stand vibration above the average.

ASK FOR

## Westinghouse Lamps

Sole Agents:

### AUSTRALECTRIC LIMITED

97 CLARENCE ST., SYDNEY.

422 CHANCERY LANE, MELBOURNE.

'PHONES: CITY 4254 (6 lines).

'PHONE: CENTRAL 7551.

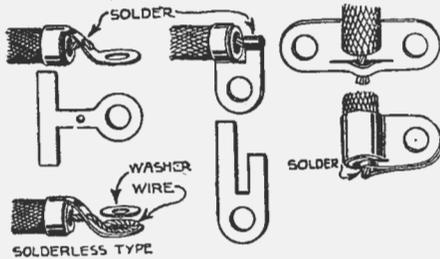
TELEGRAMS: "EXPANSE" — ALL BRANCHES.

# JUNIOR MECHANICS SECTION

In order to keep this section as bright and up-to-date as possible we seek the co-operation of our readers. By contributing simple constructional and experimental items—written in non-technical language that will occupy space varying from a small paragraph to a full page or more—accompanied by diagrams and illustrations, readers will materially assist. All contributions will receive our most careful consideration and, if accepted, will be paid for on publication.—Ed.

## DO YOU MAKE YOUR OWN WIRE TERMINALS?

I have seen so many persons use the plain wire ends twisted under the binding-screws of apparatus for connection that I thought I would describe a way of making your own wire terminals. By employing these connectors, there will be a better electrical contact, the wires



The amateur electrician will be interested in this suggestion

will not become broken, and the possibility of a short circuit is avoided. These connectors may be cut out of sheet copper or brass.

The illustration shows three types of terminals and does not require an explanation.

## JOINING MICA.

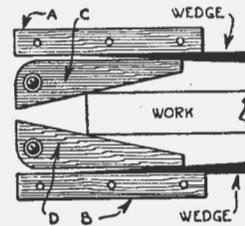
A process for joining mica patented by P.B. Crossley, 6, Chowringhee Mansions, Calcutta, consists in bringing the parts to be joined into contact, applying a mica-solvent, and subjecting the joint to heat, and if necessary to slight pressure. Suitable solvents are vitreous materials or glasses, to which may be added oxides of cobalt, lead or other metals, or boric acid, borates, or borosilicates in order to lower the melting-point of the solvent to below 900 degs. C. The process may also be used for sealing

the edges of laminated mica sheets, and, with the use of borax as a flux, for joining mica to metal. It is applicable to the manufacture of windows, wind-screens, lamp glasses, bottles, tumblers, battery cells, etc. The process may be also employed for welding glass.

\* \* \*

## AN ADJUSTABLE STOP FOR THE CARPENTER'S WORK BENCH.

The illustration shows an adjustable bench stop that is efficient and is easily made and attached to the bench. The pieces *A* and *B* are made of wood 1-inch thick, 2-inches wide and 8-inches long. The holes for the nails are drilled before driving them in. The location of the pieces is shown. The jaws *C* and *D* are 2-inches wide at one end and taper down to  $\frac{1}{2}$ -inch at the other. The piece to be planed is pushed in from the end, and the



A Homemade Bench Stop

jaws *C* and *D* are pushed aside and come against the pieces *A* and *B*. In working very small and thin wood, or a narrow strip of wood, thin pieces *E* and *F* can be used, but they will not be needed in the regular run of work. In using very wide timbers the pieces *A* and *B* can be placed farther apart, or closer for smaller material as the case may be, for the kind of work to be handled.

### TEMPORARY REPAIR FOR A FLASHLIGHT LENS.

A large flashlight was accidentally dropped on the concrete floor, and the impact with the solid surface cracked the lens in three pieces. As they would not stay in place in the ferrule, and as the supply store in the town had no spare lens it seemed as if a new flashlight was the only way out of the difficulty. However, a repair was made so that the light could be used temporarily as follows: The lens holder was unscrewed and the lens removed. The diameter of the lens was found, and the circumference drawn on a piece of heavy roofing paper, and the circle cut



out with a sharp knife. A round hole was cut in the centre of this disk about two-thirds of its diameter.

The resulting washer was then placed over the lens pieces, and the two placed back in the lens holder, and the latter screwed back into the flashlight.

The washer held the lens together, and the light shone through the hole in the centre. This arrangement was used several months before replacing it with a new lens. While the washer cut down the light to some extent, it served the purpose temporarily.

—Illustrated World.

### AN EASILY-MADE FISHING PUNT.

From two pine boards, one and one-fourth inches thick (or, as a second choice, seven-eighths inches thick), cut two pieces ten feet long by nine inches wide for side pieces. On one edge of each side piece mark a point two feet three inches from each end. On each end mark off a point four inches from the corners respectively, as shown in the sketch. Draw a line through the points, and cut off the triangle indicated by the dotted lines in the diagram. Next, cut two pieces of pine of the same thickness as the sides, three feet long by four inches wide for the ends. Screw these firmly in place with galvanized or brass screws. With a plane shape the

lower edges of these ends so that they will be on the same slant as the slope of the bottom. Now give this frame a priming coat of white paint. From seven-eighths-inch pine board six inches wide cut



twenty-two pieces, each three feet one inch long, and lay them across the bottom edges of the sides. Use galvanized iron nails. Nail the first board in place by beginning at one end of the boat frame. Lay a strip of muslin, soaked in tar, along the edge of the board, pushing it up firmly against the first board, and pressing the next board against it as tightly as possible. Continue this until the bottom is finished. Finally plane off the two bottom end boards in a line with the slant, so that the bottom and ends will lie flush. Saw off all the boards that project along the bottom ends, and then plane them up flush.

Screw down on the inside bottom of the boat two stiffening pieces of seven-eighths-inch pine two inches wide by five feet five inches long. These two pieces should be eight inches apart.

Now try out the punt in water. If it leaks in any place plug with hemp, well soaked in tar. Hemp for this purpose may be secured by scraping the unwound end of a rope. When you have stopped all leaks take the punt from the water, and when thoroughly dry paint it with two coats of white paint. Then paint it any colour you wish.

Fix a seat twelve inches wide at each end on cleats and another one four feet six inches from one end for the rower. Put on oar locks to suit and fit the kind of oars you are to use.

When well made a boat of the above character is not to be excelled for fishing purposes, since it is both safe and very convenient.

By Frank Reid.

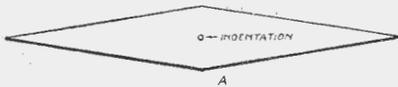
### A HOME-MADE COMPASS.

We fail to appreciate the value of the compass to-day, for the reason that its discovery was so many years ago that we seem to subconsciously think it has always been in existence for the help of mankind. Remember that people thought the world

was flat until the compass came to help prove it a sphere. Captain Cook could probably never have completed his voyages without the newly-perfected mariner's compass, which guided him southward in cloudy weather.

It seems to have been an especial act of Providence to have put a magnetic pole in the earth for our use. It appears much like a mighty magnet sunk in the earth to northward as a beacon to guide ships and men when the sun and stars do not shine. Do you know that the compass does not point due north in all positions. This is because the loadstone that attracts the needle of the compass is not exactly in the same position as is the true north pole of the earth. There are really two poles, the magnetic north pole, and the north pole axis of the earth. The magnetic pole is way south of the real pole, and probably deep in the earth or at its centre, for magnetic needles dip more and more toward the axis of the earth as they are moved toward the northward.

You can make for yourself a compass that will point north for you just as satisfactorily as any that you can buy at the store. The first thing is to cut from very hard steel the part that is to be the needle.

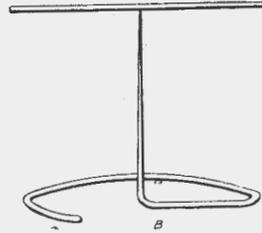


This should be shaped like A on the drawing, and should be two inches long by an eighth of an inch wide at the centre. You may grind this part from an old safety razor blade. Be sure that when grinding it to shape you keep the blade wet so that the temper will not be taken out by the heat. For the grinding agent use a handstone or an emery wheel, and do not try to hurry the process of shaping your needle.

When the part A has been cut to shape the centre should be heated over a flame, so that the temper in the very centre will be taken out of the steel. Next, while hot, bend this centre into the shape shown at B, and with a small nail make a socket in this upward bend for the top of the wire base to be set in, to act as a pivot.

Secure a piece of heavy wire, brass or copper will be best, and bend it to the shape shown at C, pointing the upper end. It is on this upper end that the needle turns when the point of the base is set into

the dent made for it in the needle. If the needle will not balance carefully grind away the heavy end until it nicely balances.

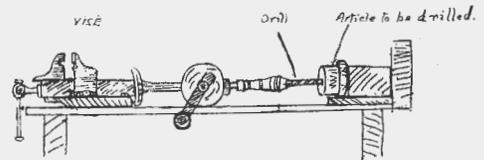


To magnetize the needle stroke it from middle toward one end with one pole of a horseshoe magnet, and from the middle toward the other end with the other pole of the magnet. As soon as magnetized the needle will swing about and point north. Paint the end that points north, or in some way mark it so that you can distinguish from the south end.

By "F.R."

### HOW TO PUT THE NECESSARY PRESSURE ON A BREST DRILL IN HEAVY WORK.

No doubt many amateur mechanics, who, not having a drill press, have found much difficulty and hard work in using an ordinary brest drill in drilling holes of large size or great depth in hard metal. This difficulty may be overcome to a great extent by using an ordinary bench vise to



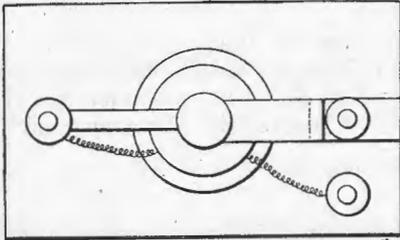
exert a pressure on the plate of drill, as shown in illustration. The drill, as shown, is placed in a horizontal position, and, if the drill be fitted with a spirit level, no difficulty is found in doing accurate work. The use of the drill in this way for boring very small holes, such as one thirty-second of an inch, is impracticable, as it takes such a small twist to break such small drills.

### HOW TO MAKE A CHEAP BUZZER.

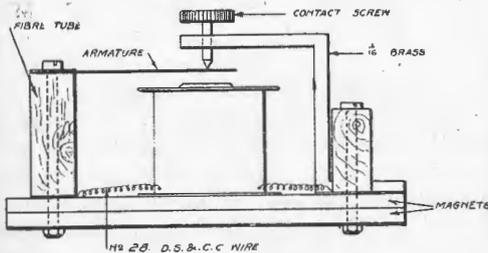
An excellent buzzer can be constructed from a second-hand P.M.G.'s telephone receiver.

From the receiver remove the magnets, take them to pieces, and unwind the fine gauge wire.

Proceed to wind evenly the bobbins with No. 28 gauge double silk-covered wire until full. Then place the magnets back to the original position, screwing up firmly.



Now obtain a thin strip of soft iron, or, better still, an old diaphragm from a receiver,  $1\frac{1}{4}$  inches long and  $\frac{1}{2}$ -inch wide, and drill a hole  $\frac{1}{4}$ -inch in from one end big enough for an  $\frac{1}{8}$ -inch screw. This is for the armature, which is held in position by one of the terminal screws already in the receiver, and insulated from the station-



ary magnets by a fibre tube 3-8-inch long.

A piece of brass strip 1-16-inch thick, 2 inches long, and  $\frac{1}{2}$ -inch wide is now required, and bent into shape as shown. Holes are drilled each end, and a brass screw is fitted in for contact with the armature. A small nut and bolt is required to adjust it to and from the magnets. Con-

nections are exactly the same as an electric bell.

This buzzer emits a very shrill, clear note, and only requires one dry cell.

Better results will be obtained if platinum points are used.

By E. S. Ling.

**RADIO NOTES.**

Never overload the filament of your vacuum tubes. If the tubes are burning too brightly you will get only "howling" and "frying" in the receivers or loud speaker. The vacuum tube needs only a certain amount of current to work with best results, and if you go over that amount you are shortening the life of the tube and spending money uselessly.

Always go over your connections and see that every wire is tightly fastened to the binding posts. If a wire gets loose—particularly in a vacuum tube receiving set—all you will get is a lot of unintelligible results. Many novices think this interference from radio telegraph stations, and do not realize that the trouble may be in their own connections.

**THE BUZZ.**

Father: And what is this little block with the two wires connected?

Son: Oh, that's the "B" battery.

Father: So that's where you obtain the "honeycombs" you are always talking about.

By Rupert F. Starling.

**POOR CAPACITY.**

Kate: "That new preacher must be a poor one."

Duplicate: "Why?"

Kate: "Why, the first couple he married got a divorce."

Duplicate: "Humph! must be a loose coupler."

By Robert Lisk.

**ELECTRICAL  
UTILITIES  
SUPPLY CO.**

FOR  
EVERYTHING  
ELECTRICAL.

605 GEORGE ST  
PHONE, CITY 1487.

# Wireless 'Phones and Apparatus

SEND FOR PRICE LIST

# WIRELESS INSTITUTE OF AUSTRALIA

## NEW SOUTH WALES DIVISION

**A** GENERAL meeting was held at the Club Room, Queen's Chambers, Dalley Street, Sydney on May 23, at 7.45 p.m., Mr. H. A. Stowe occupying the chair. The attendance numbered forty-two.

The minutes of the previous general meeting were read and confirmed, and the minutes of the last elementary lecture were also read.

The following were elected to the institute:—

Members: Henry Hort, 183 Forest Road, Arncliffe; N. K. Gilfillan, "Glengarry," Greenwich; A. H. Edmonds, Closer Settlement Branch, Lands Department, Sydney.

Mr. Phil Renshaw moved, and Mr. Malcolm Perry seconded, a vote of congratulation to Mr. Charles D. Maclurean (vice-president) on radiating C.W., using only nine watts, his signals having been distinctly overheard and read in Melbourne by Mr. J. G. Reed. In the course of his remarks Mr. Perry emphasised that Mr. Maclurean was a hard-working experimenter, whose sole idea was to advance wireless and make it a first-class hobby. He also pointed out that Mr. Maclurean was a kind friend to all experimenters, and endeavoured to assist them on all possible occasions.

The motion was carried unanimously.

A short lecture was then delivered by Mr. Stowe on "Electro Magnetic Induction," and was much appreciated. A brief discussion followed.

An apology was received from Mr. J. Basil-Cooke, F.R.A.S., for his inability to attend the meeting and deliver his lecture on "Loop Aerials." However, at only a few hours' notice Mr. J. G. Reed lectured on the same subject in his stead. The lecture proved most interesting and instructive, and provoked much discussion regarding the merits of loop aerials for varied and also specific experiments and working.

Mr. Reed cheerfully encountered a storm of criticism, and gave most lucid

explanations in reply to a large number of questions.

At the close of the lecture a vote of thanks to Messrs. Stowe and Reed was moved by Mr. Renshaw, seconded by Mr. Crocker, and carried by acclamation.

The meeting closed at 10.40 p.m.

\* \* \*

At the general meeting, held at the Club Room, Queen's Chambers, Dalley Street, Sydney, on Friday, June 13, Mr. Stowe presided over an attendance of thirty-nine.

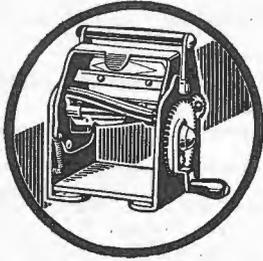
The minutes of the previous meeting and elementary meeting were read and confirmed.

The hon. secretary read several letters from country members explaining their experimental activities.

The chairman then introduced Mr. Robert Hill, who had consented to lecture on "The Vacuum Tube as an Amplifier." The lecture was delivered clearly and concisely, the speaker's remarks being sufficiently free from technicalities to be appreciable to all. During the lecture Mr. Hill detailed the various steps and circuits of radio and audio frequency amplification, and also explained the use of valves as detectors, and enlarged on the purposes of grid leaks. He indicated that there was less squealing and better amplification with resistance coupling than with transformers. He also detailed the types of resistances and copper foil condensers, and further explained the method of coupling valves as high frequency amplifiers, and the use of air core radio frequency transformers. Several types of valves were demonstrated, and the construction and functions of same explained.

At the conclusion of the lecture the following members participated in the discussion: Messrs. McMahon, Marsden, Cooke, Reed, Stowe, Perry, Mawson and Crocker.

Mr. Marsden, in moving a hearty vote of thanks to Mr. Hill for his valuable lecture, mentioned that Mr. Hill's practical



# Rotastrop

SHARPENS SAFETY RAZOR BLADES

Gives a Life of 600 Shaves to Every Blade  
AND YOU DO IT YOURSELF WHEN AND WHERE YOU PLEASE

ECONOMY PROMPTS YOU TO SEND 35/-

**S. SCOTT-YOUNG LTD..** "BROUGHTON HOUSE"  
KING STREET, SYDNEY  
COMMERCE HOUSE, MELBOURNE

## KITCHENER

LIMITED

### Tailors & Mercers

Specialists in  
NAVAL MILITARY  
and  
MERCANTILE MARINE  
: : UNIFORMS : :

Regulation Badges, Braids, Buttons,  
Caps, etc., always in Stock

Uniforms made at short notice

Price List on Application

**227 George Street**

Tel.: City 3449 (Near Bridge St).

## R. HOFFMANN & CO.

58-60 Spencer Street  
MELBOURNE

Phone: Central 6921

CUSTOMS, SHIPPING and  
FORWARDING AGENTS

GENERAL CARRIERS

AGENCIES THROUGHOUT  
THE WORLD

**PRINTING** is a silent salesman.  
Our service will make a strong  
appeal to discerning business men who  
know the value of high-grade printing  
as a business getter. Phone, City 1870

Commonwealth & Hunt Sts., SYDNEY

PHONE  
CITY  
1870



**SHEPHERD  
& NEWMAN**

COMPLETE PRINTING SERVICE

TYPOGRAPHIC ARTISTS  
COMMERCIAL COLOR AND  
HALF TONE PRINTERS.

## If You Want to Know

how the world is progressing there is no better way of securing that knowledge than by reading

## "Sea, Land and Air"

If you are wise you will not miss one issue of this bright magazine. It is yours for 10/- per year, post free.

**Become a Subscriber To-day**

## N.S.W. ELECTROPLATING CO.

For Nickelling, Silverplating, Oxidising, etc.,  
**Ring us.** We pick up immediately by Motor  
Delivery and Re-deliver Early.

8 Parramatta Road, CAMPERDOWN, SYDNEY  
Phone L 2376

## STERLING PLATING & MFG. CO.

(Late Stokes & Sons),

225 CLARENCE STREET, SYDNEY.

ELECTRO, SILVER, NICKEL AND BRASS  
PLATERS.

All kinds of Lacquering, Gilding, Bronzing and  
Oxidising Done.  
Phone: City 6088.

## W. & H. HENRY

GENERAL WOODWORKERS

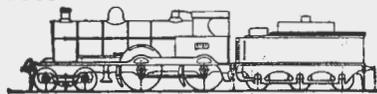
Manufacturers of Office Furniture, Wireless  
Cabinets, Instrument Boxes, Etc.

586 Darling St., Rozelle, Sydney

Phone: W1304

## "BUILD YOUR OWN MODEL LOCOMOTIVE"

Model-  
makers'  
Supplies  
from—



O. BURNABY BOLTON, Daily Telegraph Building  
King Street, Sydney

## The India Rubber, Gutta Percha and Telegraph Works Co. Ltd.

*Manufacturers of*

EBONITE, C.M.A. WIRES  
and CABLES, LECLANCHE  
CELLS, TELEGRAPH  
INSTRUMENTS, PALMER  
CORD TYRES, &c., &c.

*Sydney Branch*

279 GEORGE STREET

## EDWARD WATERS & SONS

(Established 1859)

Patent and Trade Mark Attorneys

905 CULWULLA CHAMBERS,

67 CASTLEREAGH ST., SYDNEY

Tel. City 1187 (And at Melbourne)

For Service

Telephone 1180 City

## The Rapid Freight Despatch Co.

CUSTOMS, SHIPPING & FORWARDING AGENTS

Broughton House, King Street, SYDNEY

## BACON & CO. LTD.

Blockmakers, Engravers

Illustrators

31a PITT STREET

SYDNEY

Phone City 4837.

JONES & PIKE Tel.  
404 PET.

**CABINET MANUFACTURERS**

Specialties:

LETTER FILING, CARD CABINETS  
AND GENERAL OFFICE FURNITURE

Macquarie Street, Leichhardt, Sydney

## C M A

Wires and Cables

JOHNSON & PHILLIPS LTD.

212 Clarence Street, Sydney.

experience was most useful to him as a lecturer. He also referred to the difficulty of getting such information from text books, and said he felt sure that those present thoroughly appreciated the lecture.

Mr. Dewis, in seconding the motion,

said that the value of such a lucid and well-delivered lecture could not be over-estimated.

The motion was carried by acclamation.

Mr. Hill briefly responded, and the meeting closed at 10.30 p.m.

## SOUTH AUSTRALIAN DIVISION.

**T**HE monthly general meeting of the South Australian Division was held at the Y.M.C.A. Buildings, Gawler Place, Adelaide, on Wednesday evening, June 7.

A very large attendance was presided over by Mr. Hambly Clark.

After the minutes of the previous meeting were read and confirmed a letter from the Western Australian Division, dealing with the transfer of members from one State to another, was read and received.

A cutting taken from one of the local papers was read, which suggested that wireless experimenters in Australia were in jeopardy of having their licenses curtailed. After discussion it was decided to communicate with the divisions in other States with a view to securing their co-operation in the protection of experimenters' rights, and to endeavour to have the abnormal license fee reduced.

Eight applications for membership were received. The membership of this division,

having considerably increased, it was resolved to elect an additional council member. Nominations were then called for. As Mr. R. B. Caldwell's name was the only one received, he was elected.

Mr. Caldwell, although only a new member, is a very active man in the interests of the experimenter, and members are to be congratulated in the choice they made for their new representative on the council.

At the close of the business an instructive and interesting paper on "Rectifiers and B. Batteries" was read by Mr. L. C. Spurriu, followed by an equally interesting paper on the "Telephone Receiver," by Mr. C. S. Carter.

At the next meeting, to be held on July 5, Mr. Cook will lecture on "Sets that I have Seen." Members are requested to bring along some kind of condenser, either of the variable or fixed type, so that the various types may be discussed and explained.

## MUSIC IN THE HOME

**W**HILE enthusiasts in wireless telephony are now generally conversant with the part that Pathe Sapphire Playing Records have taken in recent wireless concerts, the other enterprises of the Pathe Company may not be so generally known. This progressive firm has recently introduced upon the Australian market the new phonographic invention named "The Actuelle," which in tone tests held abroad has proved to possess a tone which it is impossible for the human ear to separate from the performances of the actual living artists who sang or played simultaneously by the side of the instrument.

The advent of this wonderful new instrument in America some months ago

met with a success—a spontaneous acclamation of enthusiasm from artistic authorities—the like of which has never attended the launching of a new musical product in the annals of modern musical history.

Perfect realism of tone; gloriously rich and round—honey sweet—crystal pure—as natural as the sighing of the winter wind—enthraling as the song of the siren! Yet words fail to describe the emotions aroused by this musical miracle.

This is the achievement of the Actuelle—latest of famous Pathe inventions. A phonograph; but what a wonderful phonograph. Truly a musical miracle, for at last the world is given the actual duplication of music in its every technical respect.

## The Queensland Musical and Dramatic Times and Cinema Record

The only WEEKLY paper  
in the Commonwealth devoted  
to Music and the Drama.

N.S.W. residents interested  
in Queensland will find it full  
of information.

Pithy articles, analytical notes,  
all the musical and dramatic  
news.

SYDNEY AGENTS:

**N.S.W. Bookstall Co. Ltd., George St.**

Published every Thursday — Price 6d.

## ALL WIRELESS MEN

READ

### "The Wireless World"

with which is incorporated  
"THE RADIO REVIEW."

This popular magazine is now published

**EVERY WEEK**

and sold at the

**REDUCED PRICE**

OF

Per **9d.** Copy

Subscription rates:

Per Year. Half-year. 3 Months.

52 Issues. 26 Issues. 13 Issues.

40/-

20/-

11/-

Sole Australasian Agents:

**THE WIRELESS PRESS**

Clarence Street, Sydney

422-4 Little Collins St., Melbourne, and Australasia  
Chambers, Wellington, N.Z.

## THE WIRELESS AGE

An American magazine presenting  
topical news and information in a  
most attractive manner. The be-  
ginner as well as the advanced  
experimenter and professional wire-  
less man are catered for.

A "GO-A-HEAD" MAGAZINE

FOR

**OPERATORS & AMATEURS.**

Published once a month.

PRICE, 2/2 per copy, post free.

Subscription rates:

One year (12 issues) .. .. £1 4 0

Half year (6 issues) .. .. 0 12 0

Sole Australasian Agents:

**The Wireless Press**

97 CLARENCE STREET, SYDNEY

422 Chancery Lane, Melbourne.

Australasia Chambers, Wellington, N.Z.

## EDUCATIONAL ANNOUNCEMENTS

### "OSBORNE" LADIES' COLLEGE, EPPING

ONLY 14 MILES FROM CITY.

A Boarding School for Girls, in good climate. Pupils pre-  
pared for all Public Examinations.

Highest Results Attained. Excellent Health Record.

Fees Moderate.

For parents' Testimonials and Prospectus apply—

MISS VIOLET GIBBONS, Principal.

### Morven Garden School

North Sydney.

is ideally situated in 25 acres of gardens and play-  
ing fields. School of Music (Director, Stefan  
Polotynski); Arts and Crafts School; Commercial  
School; Domestic Science School.

Prospectus for each on application.

Tel.: J 1613.

### St. Joseph's College

HUNTER'S HILL, SYDNEY

A Boarding School for Boys conducted by the Marist  
Brothers

For Prospectus apply Brother George, M.A., Principal