



Published Weekly  
REGISTERED G.P.O., WELLINGTON, N.Z., AS A NEWSPAPER.

Price 3d.

Vol. II., No. 8.

WELLINGTON, FRIDAY, SEPTEMBER 7, 1928

# All Eyes on the Tasman Flight

## Aviators await Favourable Weather Conditions

**W**ITH the definite announcement that the long-expected flight across the Tasman from the Richmond aerodrome to Sockburn (Christchurch) would be attempted by Captain Kingsford Smith this past week-end, public interest was raised to concert pitch. Unfortunately that interest was doomed to temporary disappointment. Owing to adverse weather conditions the departure on both Saturday and Sunday evenings, tentatively fixed, was deferred, and at the moment of writing no indication is available as to when the attempt will be made. It can only be assumed that the first opportunity of satisfactory conditions will be seized and the flight may be launched at any moment independent of the moon, which, although a material factor in navigation, is not absolutely essential.

**L**ISTENERS will be well served when the flight does take place. All four stations will be on the air throughout, giving official news to be provided by Government sources as transmitted from the plane itself. Two warnings are given listeners. The first is to amateur transmitters requiring them to keep off the air to avoid interference during the progress of the flight. The second is to those able to listen direct to the morse messages of the "Southern Cross." Much of the matter to be transmitted by the aeroplane will be copyright press matter or copyright private messages, and it will be a breach of the regulations for such matter to be decoded and committed to writing by any listener. News of the aeroplane's progress will be available from official sources and, as indicated, will be broadcast at regular intervals by all stations.

Special accounts of the departure and arrival will be provided through special independent sources, all arrangements to this end having been made.

**T**HE reliability of all equipment associated with the "Southern Cross" has been strongly impressed upon the public by the proof of performance. On the Pacific flight the radio transmitting apparatus never failed, although, for one period, the approach of dawn and its effect upon atmospheric conditions did prevent their messages being heard. The reliability of the transmitter was greater than that of the receiver, although this last was more affected by the noise of the motors than any technical defect. Interference from the ignition system on the plane was not at all serious, but the operator, Mr. Warner, although he kept the 'phones clamped closely to his ears, could hear only the loudest signals. The aerial used consisted of 15 feet of copper wire with weight attached suspended beneath the aeroplane.

**A**LTHOUGH on the earlier stages of the Pacific flight the "Southern Cross" received some assistance from radio beacons, such aid will not be available on this flight which will need to rely upon expert navigational skill for success. The radio beacon offers the solution for reliable aerial travel on established routes and the most modern equipment presents a practical miracle in its guiding powers. As aviation progresses in these parts so will radio equipment expand.

Just what radio does mean to aviation can be glimpsed from this account of technical equipment now available and in use on recognised air routes. It is taken from the July issue of the proceedings of the Institute of Radio Engineers, New York. "The directive radio beacon is a special kind of radio station, usually located at an airport, just off the landing field. Instead of having a single antenna like an ordinary radio station, it has two loop antennas at an angle with each other. Each of these emits a set of waves which is directive, i.e., it is stronger in one direction than others. When an aeroplane flies along the line exactly equi-

distant from the beams of radio waves, it receives signals of equal intensity from the two. If the aeroplane gets off this line it receives a stronger signal from one than the other.

**"T**HE indicator connected to the receiving set on the aeroplane shows when the signals from the two beams are received with equal intensity, by means of two vibrating reeds which are tuned to different modulating frequencies used on the two antennas at the directive radio beacon station. When the beacon signal is received the two reeds vibrate. The tips of these reeds are white in a dark background so that when vibrating they appear as a vertical white line. The reed on the pilot's right is tuned to a frequency of 65 cycles, and the one on the left to 85 cycles. It is only necessary for the pilot to watch the two white lines produced by the vibrating reeds. If they are equal in length, he is on his correct course. If the one on his right becomes longer than the other, the aeroplane has drifted off the course to the right (into the region where there is more of the 65 cycles). If he drifts off the course to the left, the white line on the left becomes longer.

**"S**UCCESSFUL flights have been made up to 135 miles, in fog and over hazardous mountain terrain. This distance is more than enough to demonstrate the success of the system, as it is contemplated that the directive radio beacon stations will be placed not over 200 miles apart. Beacons placed at such distances, with a straight airway between them, will be supplemented by small marker beacons at intervals along the route. A characteristic signal from a marker beacon will show on the visual indicator aboard the aeroplanes what point is being flown over.

"The whole receiving system comprises a small indicator unit on the instrument board weighing one pound, a receiving set weighing less than 15 pounds, and a 15 pound battery."