

The Dairy Industry

Wireless Telephony

(Concluded from front page.)

That the outlet in these directions is limited, and is far more spasmodic in its demand than that of the London market.

The West of England, owing to its geographical nearness to Ireland, is bound to take large supplies of Irish during the season, while the north, owing to its nearness to Denmark and the Baltic ports, is a natural home for Danish and "Cask" butter.

THE frequency per second corresponding to the lowest note on the piano is 26.6, and that of the highest note 8192.

THE middle C note on a piano represents a frequency of 256.

IN shortwave work the high-frequency choke is of paramount importance, so only a good quality component should be used.

Tests with Great Britain

THAT the Australian postal authorities have not given approval for the carrying out of wireless telephonic tests with Great Britain has held up the establishment of a commercial service between the two countries. In an interview lately Mr. E. T. Fisk, managing director of Amalgamated Wireless (Australasia), Ltd., set out the position.

"A.W.A. completed a station in Sydney nearly two years ago, for the purpose of conducting wireless telephonic experiments with Great Britain and other countries," he said.

"It was designed by our Australian workmen, and made in our own Australian workshops. It proved highly successful, both in two-way wireless

conversations, and overseas broadcasting.

"We built a similar station in Melbourne, which has also been successfully employed for overseas broadcasting.

"I was anxious to employ the bigger station in Sydney for experiments with Great Britain, but although I tried the British Post Office, the British Broadcasting Corporation, and the Marconi Company, I could not get any of them to co-operate in the tests. I think that, at that time, there was probably some prohibition against such tests on the part of the British Post Office.

"The first important use which was made of the new station at Sydney was for Empire broadcasting, and in this regard we gave a lead to the Empire. We succeeded in transmitting Australian programmes and speeches so effectively that they were re-broadcast throughout Great Britain. I also arranged for the same thing to be done from Melbourne, and since the first transmission the reception in Great Britain of programmes from 2FC, Sydney, and 3LO, Melbourne, has been a regular feature.

"After waiting some months, hoping to experiment with ordinary wireless telephone conversation between Australia and Great Britain, but failing to gain the co-operation from that end, we commenced tests with America.

New Direction-Finding Instrument for Naval Vessels

A NEW wireless direction finder has been developed by the Research Department of the Marconi Company for use primarily on all classes of naval ships as a navigational instrument.

Experience has shown that a wireless direction finder, to meet naval requirements, must be capable of taking accurate bearings from a continuous wave, interrupted continuous wave, spark or telephone transmitters over a wide range of wavelengths.

The new type equipment comprises three units—the frame antenna, the radio-goniometer, and the tuner and amplifier. The frame antenna, working on a well-known principle, consists of two fixed loops totally enclosed in strong metal tubes mounted on a pedestal. This is rigidly fixed to the deck and the leads to the receiver are well protected by being taken through the centre of the pedestal.

In the receiver the tuner and amplifier are combined as one compact unit and cover a range of from 300 to 4000 metres. To obtain this, wave-range three sets of coils are employed and by means of a single switch mounted on the front of the receiver any one set of these coils can be switched into circuit. An indicator shows which coils are in use and their waverange.

Three shielded valves are used to provide high-frequency amplification and four tuning condensers which are calibrated in metres are used to tune the grid circuits of the high-frequency and detector valves. Each of these condensers can be adjusted independently, but a common control enables them to be varied over a range of approximately 10 per cent. on either side of the wavelength to which they are set.

For reception of continuous waves a separate heterodyne mounted in the amplifier is employed. In all seven valves are used, three high-frequency amplifiers, one detector, one note magnifier, one local oscillator generator, which can be used as an additional note magnifier if required, and one coupling valve.

In order that the "sense" of bearings over the whole waveband of the receiver can be obtained with the use of only a short vertical aerial a stage of valve amplification using the coupling valve is employed for the vertical component.

The arido-goniometer is constructed as a separate unit which can be fixed in any convenient position. Two calibrated scales from which the bearings are read are mounted on the face of the unit. The inner scale is fixed and bearings taken from this scale are relative to the centre line of the ship. The outer scale can be rotated until the figure indicating the ship's true course is at the top of the dial opposite the zero mark of the inner scale, and then, if the ship is steady on her course, the bearings read from the outer scale are true bearings.

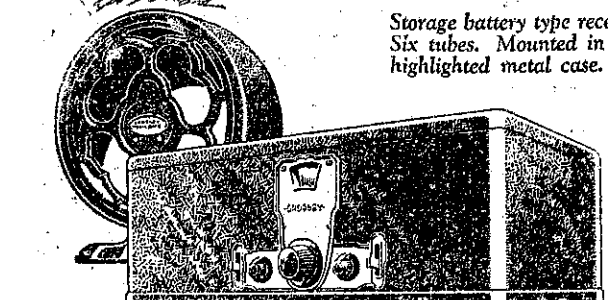
versation, but it has since been reduced to £9 or £10.

This new wonder of wireless is proving a boon to business men who desire urgent communication with persons thousands of miles away.

Will the Airplane replace the Automobile?



WE THINK NOT. Each has its own function.... each satisfies a different demand. So it is with Radio; the A. C. set best serves those who have the service of electric power line current, but to meet the demands of those to whom radio enjoyment is indispensable, to whom power line current is unavailable, or an A. C. set impractical of use, a radio receiver of storage battery type, such as the BANDBOX, has been created by Crosley to meet adequately the most exacting demands.



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Spoke to New York.

"AT various intervals we have had excellent two-way conversations with a station near New York. On one occasion a number of prominent Press representatives in Sydney conversed for two hours from my office with friends in America. Similar experiments were conducted with Java, Amsterdam, and Berlin. We have recently erected an A.W.A. wireless telephony station at Suva, and have had excellent conversation direct from Sydney.

"We have not so far been able to conduct tests with Great Britain, but, judging by Press statements, the British Post Office appears to be ready and willing to co-operate, and have been for several months past.

"I understand, however, that they are now awaiting the approval of the Australian Post Office. This, for some unknown reason, has not yet been given.

"There is a public wireless telephonic service operating between Berlin and Buenos Aires, and a few days ago I had a conversation from my office in Sydney with one of the principals of that service in Berlin. He spoke from his own house, and told me that conversations with Sydney were every bit as clear as those with Buenos Aires. This was a tribute to Australian-designed and built stations."

London-New York Service.

The length of time that will elapse before wireless telephony can be commercially used between Australia and Great Britain will depend on experiments, which have yet to be started. The best wavelengths, power required, and best times of the day for communication, would have to be ascertained. It is impossible to say how long the tests will take, or what the results will be.

Until the tests are carried out, it is also impossible to say what the cost to users will be. The London-New York service is now being successfully used commercially. The original cost of this service was £15 for three minutes' con-