

# THE RADIO RECORD

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## Trouble Finding Car for Wellington

### Progressive Experiment Embarked on by Department

**L**ISTENERS in general will be pleased to learn that the Post & Telegraph Dept. has fitted up an experimental trouble-finding van in an effort to locate howling valves, leaking power lines and general induction which may be causing trouble to receiving sets. This departure is based upon the best practices of Britain and America where considerable attention has been given to these factors. The British Post Office has had vans so equipped and in America quite a number of the large car companies, in their own interests, have undertaken the work of keeping the air clear to the fullest possible extent for satisfactory radio reception.

The enterprise of the department will be welcomed by listeners, and if the results anticipated are secured in Wellington, consideration will doubtless be given to the question of extending the practice to other centres where required.

THE van equipped as the trouble-finder is one of the department's Ford vans, but it is admitted that this is only temporary and it is anticipated that a more suitable vehicle will be provided in the near future. The van is equipped with a 6-valve Super-Heterodyne Receiver with a good volume control. There is, of course, a loop aerial for the purpose of direction-finding. A mariner's compass will also be installed for night operation to secure correct direction.

**W**HILE wonderful things can be done by scientific radio apparatus it will perhaps be as well to indicate that, useful as the van will be, it cannot perform miracles and certainly will encounter difficulties which will take time and patience to overcome. Listeners will receive the best results from the P.O. department's enterprise only by full co-operation and care in the manipulation of their own sets. A certain amount of research has already been done by the department and this has shown that the description by the public of interference varies very remarkably, and that what might be described by one person as "severe interference" is treated by another in the same locality as negligible.

This point is emphasised because it is only to be expected that on the public learning of the existence of this van, the volume of complaints and requests for investigation will increase. We therefore, at this stage, specifically ask readers to use discretion in sending reports to the Radio Inspector. Before that is done the public should be sure that the interference complained of is not only temporary and that it is sufficiently serious to warrant investigation. If possible, someone of technical experience should be consulted before a report is sent in, or the local Radio Society asked to assist. If, however, the listener is satisfied that there is a definite case for investigation, then reports should be made to the Radio Inspector with the fullest possible amount of information, including date, time and duration of interference. Name and address should also be given to permit of further information being procured.

THE van will be employed in tracking down all sorts of interference. Howling valves will naturally have attention, and the effort be made to clean the air during broadcasting hours at any rate of this nuisance. Many reports indicate that this interference is most serious after the closing down of the N.Z. stations, the reason being that at that time a number of owners of low-powered sets endeavour to reach the Australian stations, and in the effort strain their valves to the limit and so cause radiation. The Department's first concern, naturally enough, is with the recognised broadcasting hours for N.Z. stations, and it is a moot point how far effort should be made to clean the air after N.Z. stations have closed down. All the same, however, if a bad case of howling is located after the closing of N.Z. stations, unquestionably action could be taken.

THE question as to the power of the department to correct listeners who are howling is covered by the fact that the license requires the operation of non-radiating receivers, and if a set is howling then the owner is using a radiating receiver contrary to his license, and in that event it can be cancelled.

THE definite location of "howlers" is not as easy as may be thought at first glance, because the howling might be of a temporary nature, so that by the time the van has taken one bearing and seeks to secure another in order to get a cross bearing, the original delinquent may have ceased howling and be replaced by another. It was found by the British Broadcasting Corporation in its investigations that greater success was achieved by reliance upon the volume than upon the direction. For this reason, the local van has been equipped with a particularly sensitive volume control.

**I**N spite of the difficulties of coping with the howling valve nuisance, a great deal of attention will be given to it and as thorough a survey as possible will be made of the area concerned. This will be done both in the afternoon and evening.

**I**N the case of interference due to radiation from power lines a special problem is presented because of the fact that any part of a line subject to leakage may be radiating apart from the source of the original trouble. For instance in one case that was definitely located in Wellington, radiation was most noticeable at a point several miles from the point which was primarily causing the radiation. In this case again the volume control has in experience proved to be more effective than the direction-finding method.

THE actual experiences that have been recorded in the United States in connection with investigation of interference are very interesting and illuminating, and show that the possible causes of interference are far more numerous than may at first be imagined. Electric light and power companies in the States have been keen to help

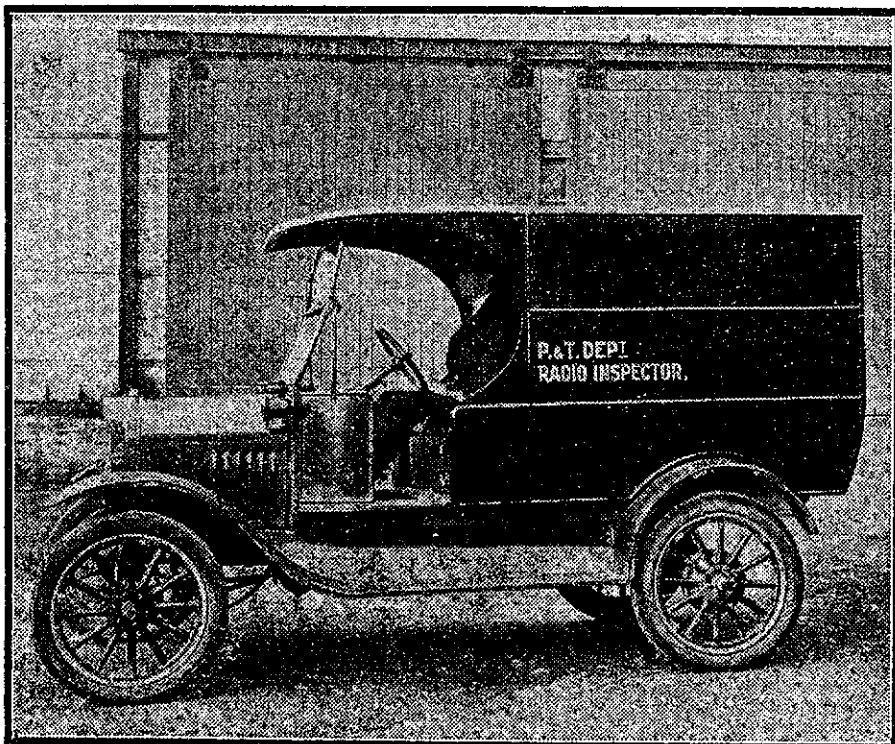
the cause of radio by reducing interference. In this they have been actuated by two motives, first the desire to keep people at home to listen to radio because they then use more light and power and become better customers for the commodity these companies are selling. In the second place the location of interference is valuable as reducing leakages and effecting economy in transmission. The same motives operate in New Zealand in relation to the Power Supply Boards, City Corporations, etc. In the case of Wellington it is fair to mention that the officials of the City Corporation Electrical Department have been most accommodating and helpful in the investigation of complaints.

#### AMERICAN EXPERIENCE.

THE National Electric Light Association of New York City has gone thoroughly into the causes, detection, and cure of interference with radio reception. In a special report of the Technical National Section of the Association in respect to basic conditions it is stated:—"All who have had any part in the location of sources of radio interference, have agreed upon certain basic facts. Even the smallest arc may cause interference. An imperfect contact in house wiring may disturb two or three neighbours. An air break switch not in exact adjustment, may disturb radio sets over quite a radius. In all such cases, the high frequency current are propagated along the circuits much as carrier current is propagated, and will affect all receiving sets which are tuned to any part of the frequency range of the interfering currents. Tree contacts, faulty lightning arresters, grounded arc circuits, leaky insulation of all kinds, have caused interference. When it is realised that one ten-thousandth of one per cent. of 10,000 kw. is 10 watts, and that this much power might easily be radiated from an important contact or dirty insulator of a 66 kv. transmission line, it will be obvious that these conditions offer a new opportunity for resourcefulness on the part of the utility engineers.

The Association suggested the following questionnaire forms, which, by the way, could be used by the New Zealand P. & T. Department for assisting their radio inspectors in locating the source of electrical interference. (These forms could perhaps be made obtainable at all post offices on application.)

1. Name of party complaining.....
  2. Address of party complaining.....
  3. Nature of disturbance: (be brief) .....
  4. Is the disturbance continuous or intermittent? .....
  5. Does the.....trouble exist in the day time?.....  
If intermittent give exact time it starts and stops for 7 days.  
Sunday, starts..... stops.....  
Monday, starts..... stops.....  
Tuesday, starts..... stops.....  
Wednesday, starts..... stops.....  
Thursday, starts..... stops.....  
Friday, starts..... stops.....  
Saturday, starts..... stops.....
  7. Was the temperature below freezing when the trouble occurred?..
  8. Have you replaced or recharged both A and B batteries recently? Give approximate date.....19..
  9. How many other listeners in your vicinity are having the same trouble? .....
- Give names and addresses below.



Motor van equipped by the Telegraph Department for the Wellington district radio inspector to undertake a campaign in respect of howling valves—, power line leakages, induction, and interference to satisfactory radio reception.

—Wallace, photo.

—(CONTINUED ON P. 14.)