

Radio News of Canada

and TELEVISION REVIEW

20c

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Vol. 7—No. 3

TORONTO

NOVEMBER, 1928



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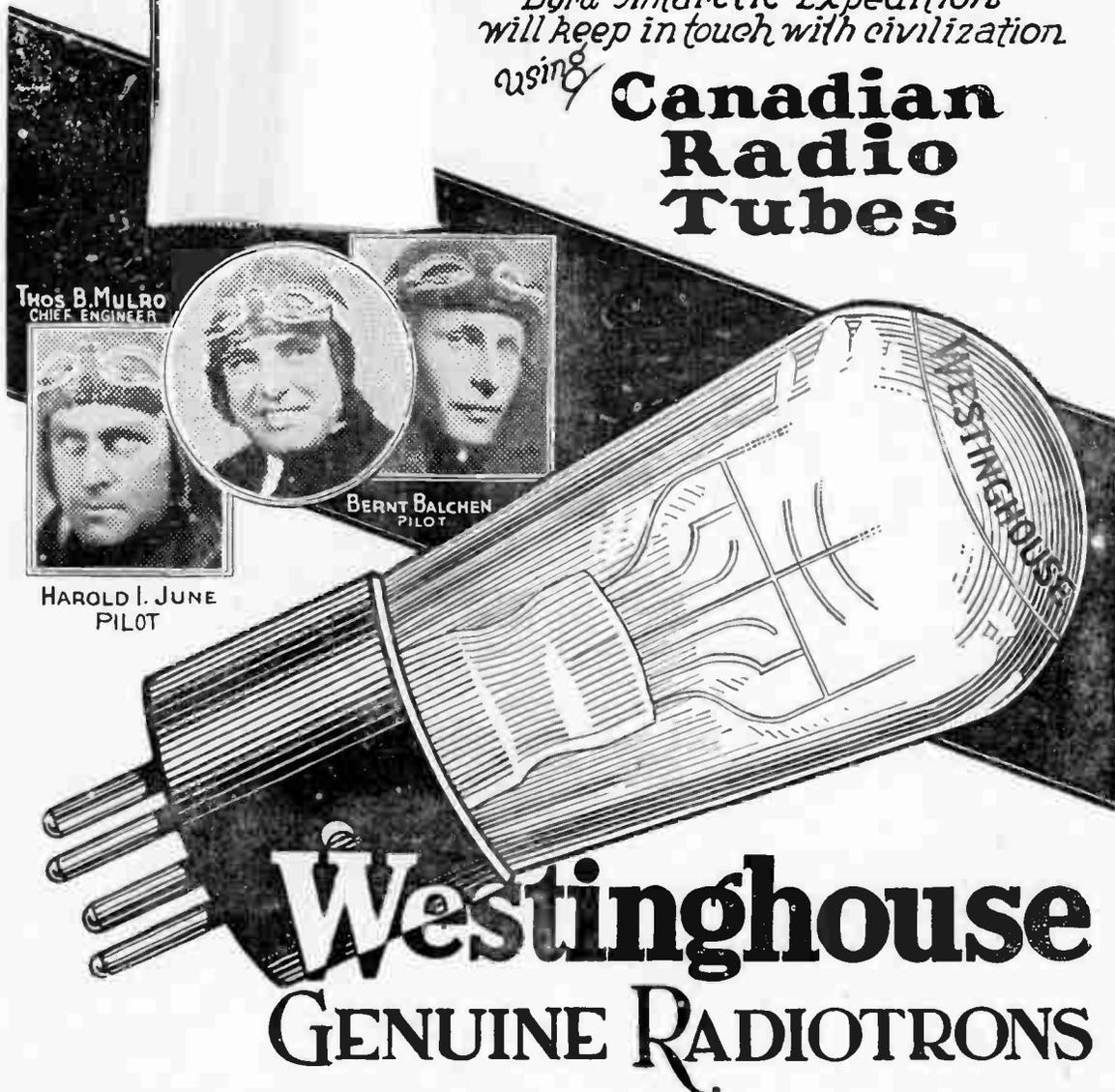
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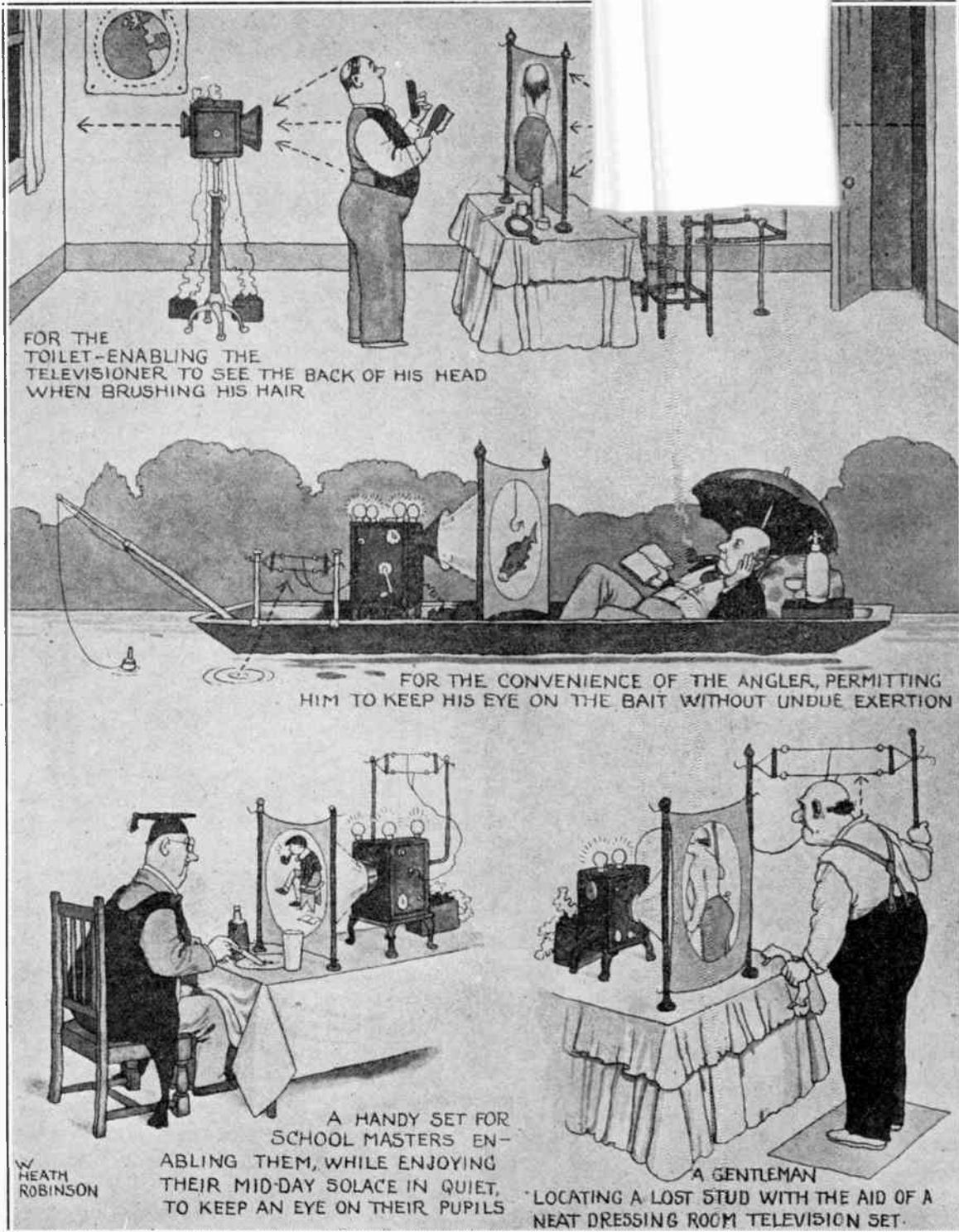
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HAMILTON ONTARIO



How Useful Television Can Be !

Radio News of Canada

and TELEVISION REVIEW

VOL. 7 TORONTO, NOVEMBER, 1928 No. 3

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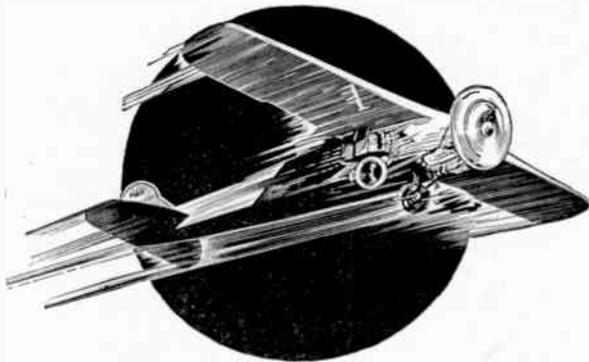


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TRANS-CANADA BROADCASTING CHAIN

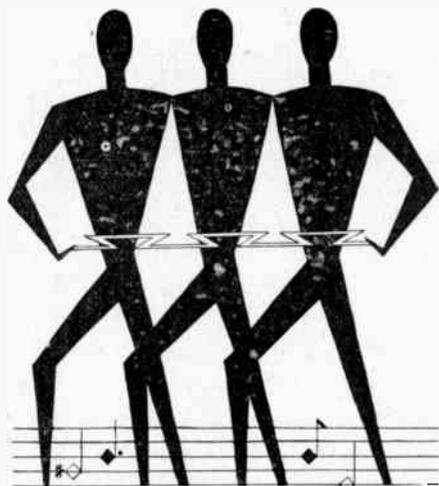
Few people realize the tremendous strides that have been made in Canada during the last twelve months in connection with chain broadcasting. To cite a very good example: just a few months over a year ago, on the occasion of the celebration of Canada's Diamond Jubilee of Confederation a coast to coast broadcast of the carillon in the Peace Tower at Ottawa was made. At that time the preparations incurred weeks of work and an enormous expenditure of money. Today, that same broadcast could be arranged with hardly more than a few hours' notice through the Trans-Canada Broadcasting Company. The idea of this company, which was conceived several months ago, has the financial backing of the well-known Toronto sportsman, Mr. Harry C. Hatch. It is under the management of Mr. R. W. Ashcroft, well known in advertising circles on this continent, while the engineering is under the supervision of P. H. Dorte, both of these gentlemen being also associates with CKGW.

The idea of chain broadcasting is a very sound and simple one, the scheme being to provide those people away from the larger musical centres of the Dominion with first class musical programmes which their own local stations are normally unable to provide. By means of telephone wires, however, these local stations are fed with the best type of programmes originating from the "key station" which is situated in a large city where the best musical talent in all forms is easily obtainable.

The Trans-Canada Broadcasting Company has made arrangements with every commercial radio station in Canada to link up in the chain, which is divided into two sections, the Eastern and Western Networks. Programmes may be given over either of these networks or a part or over the complete chain. In talking of the Company, Mr. R. W. Ashcroft, the manager, explained that while the Trans-Canada Broadcasting Company had no financial interest in any Canadian transmitting station, but arrangements had been made which would allow them to utilize these stations in almost any kind of hook-up. Thus where broadcasting is desired at a certain hour, and certain stations are not available, it will be possible to utilize stations which will be free at that hour. He further stated that in arranging the Canadian network or chain, they were benefiting from the experiences of American radio advertisers, who had found it better to zone their stations to correspond with their distribution, little consistent effectiveness being found beyond zones of one hundred miles radius. The proximity and domination of powerful local stations having a great deal to do with making this choice essential.

The quality of a programme is of prime importance in gaining the attention of a radio audience. Results

(Continued on page 26)

TRANS-CANADA**RADIO CLUB****TRANS-CANADA RADIO CLUB****Introduction by the Secretary, D. H. Copeland**

The productory end of radio is to have a medium of expression, and also a means of discussion of its many and various problems, both as regards the technical and programme detail of the business.

Out of a nebulous idea, discussed during recent months between members of the radio staff of the Toronto station CKGW, has come a concrete idea, that of the Trans-Canada Radio Club.

The Trans-Canada Radio Club has an ideal—a great ideal, that of public service in the radio field which will make for better programmes from Canadian stations. So that all radio stations in Canada through the interchange of ideas and the frank and open discussion of station problems can be of mutual assistance in the presentation of the finest feature programmes—programmes of which Canada can be proud.

Radio, by its very nature, uses a diversity of talent, and more and more as time goes on, the calls on radio talent are becoming more exacting. This is a natural sequence of events, for as radio emerges out of the toy period and takes the status of high class home entertainment, the public who spend the price of a first class piano or a new car for a radio set expect to get value for their money.

Obviously, the type of "talent" which was common on radio stations two or three years ago has been left behind in the march of progress and only the artist with long vision, who saw a future for true artistry in radio work and prepared himself for the day of bigger things, is surviving and building for himself a permanent place in the radio world. His effort is being crowned with success, and properly so, but it raises the question as to whether, in fairness to other good artists, the problems of their art as applied to broadcasting should be left to each one to work out,

or whether a definite effort should be made to make it possible for more artists to have access to such instruction as would be of value in advancement to higher planes of radio artistry.

The contact between the radio station and the artist is usually quite brief, too short in any event to enable the artist and the station to get an eye to eye view of their individual problems. Undoubtedly, through sheer lack of this opportunity, many artists today are not giving their best in the radio field, and some means of contact other than the business period of the individual studios might help to solve this problem. This is another feature of the Club's ideal. To provide a means of social contact between the station and the artist so that on this basis of friendliness the free interchange of ideas is possible, entirely distinct from the commercial angle of the work.

Radio broadcasting in Canada has been financed largely by the advertiser. No one today argues against the value of radio advertising. Agencies everywhere are equipping to handle radio as a corollary of their other advertising efforts.

The contact between the advertiser, the agency and the station also has been up to this time, of a somewhat loose nature, that is, while there has been contact, it also has been much like that of a station's relationship with the artist—on such a basis that the best possible has not been attained.

Here again the Club functions to provide an opportunity for contact primarily on a social basis, which will enable all the parties concerned to know each other and to get others' points of view.

That a Club of such a nature can be a great factor in the extension of radio work is largely dependant upon the good spirit of those who recognize the opportunity provided and are willing to do their part in making it go.

A recognition of the ideal to be attained, a true interest in the future of this great field of public service, a determined effort to give the best so that the best may be reaped, a recognition of other people's viewpoints and an adjustment to conditions as they arise,—all these things are necessary if success is to be achieved. Above and beyond all that is perhaps an acceptance of the Rotary doctrine and rule of conduct, "He profits most who serves best,"—not "what am I going to get out of this," but "what can I do to make this Club a real success."

Now, some of the immediate advantages. In the first place, you members who have the gift of expression are provided with an immediate outlet for your literary gift. The Radio News of Canada is the official organ of the Club, and this magazine will provide ample space every issue for Club doings, in fact we have our own special section provided for this feature. Also the Radio News will give preference to contributed articles of Club members—and many radio men today in Canada have scores of good ideas seething in

RADIO NEWS OF CANADA

their brain pans, but which they never have made any serious effort to give birth to. Then again, the Club and the Club organ offers a round table at which members may express themselves candidly and freely—though not offensively—about any and all subjects of interest to radio work in Canada and the Empire.

It provides a meeting-place for all radio interests, and it is hoped that in Toronto first, and afterward other Canadian key cities, Club premises will be made available through which Club members can meet each other for purposes of mutual entertainment. This development will, we hope, soon materialize locally.

It will be the natural focal point of discussion of radio problems, and that naturally suggests the idea of conventions. 1929, we hope will see the first national convention of the station end of radio broadcasting. Once over the top with this idea and we will



DON H. COPELAND
Secretary, Trans-Canada Broadcasting Club

all wonder how we got along without the Club to help bring us together.

Now a word or two about membership. The constitution and by-laws appearing in this article contain all the necessary information about eligibility. There may be many who read this magazine who feel that they would like to join such an organization. We encourage correspondence from such, and we assure you that your letter will receive courteous and thoughtful consideration. There may be many others who wish to join immediately. To you we say, write us, tell us why you feel eligible to join and we will send you your application blank at once. Your name will be considered in harmony with the rules laid down

in the constitution, and you will be notified of the result.

A word now about our badge. It is a distinct departure from the usual run of radio symbols, and yet it is truly symbolic of the Club. Three men linked together by the conventional radio symbol of lightning—the engineering and programme ends of radio, and between these two, the artists, through whose efforts programmes are made possible, all standing on a bar of music, the notes of which are the first four of "O Canada." We think you will agree that the badge is a true symbol.

Let me say again, in closing this short introductory article that the Trans-Canada Radio Club is today an accomplished fact. It awaits with interest your reaction to its debut, and encourages your correspondence regarding it. Address your letters to "Secretary," Trans-Canada Radio Club, 80 George St., Toronto.

TRANS-CANADA RADIO CLUB

Constitution and By-Laws

ARTICLE I

Section 1.—The club shall be known as the Trans-Canada Radio Club.

Section 2.—The aims and objects of the club are:

To promote the spirit of good-will among owners and staffs of radio broadcasting stations in Canada, primarily, and within the Empire as a broader development of this ideal.

To provide a meeting-place for the exchange of ideas relative to the betterment of Canadian radio, primarily, and within the Empire as in the above paragraph.

To promote the social side of radio broadcasting by developing acquaintance between all Canadian broadcasting station operators and staffs.

To enable radio broadcasting station operating staffs and broadcasting artists to meet for mutual benefit on the basis of friendliness apart entirely from the commercial angle to the work.

To weld together all Canadian radio stations in the common ideal of better radio programmes for Canadian audiences.

To provide for annual Conventions where matters pertaining to the welfare of Canadian broadcasting can be discussed.

To advance both the technical and programme sides of radio broadcasting along broad, national lines.

Section 3.—Those eligible as MEMBERS shall be:

All permanent radio broadcasting station staff members.

Artists engaged in radio broadcasting work and generally designated as "staff" artists.

Advertisers who utilize radio broadcasting.

Section 4.—Those eligible as ASSOCIATE MEMBERS shall be:

Semi-permanent and gratuitous helpers in radio stations.

Artists other than those within the "Members" classification.

Members of accredited advertising agencies who are favorable to radio as a publicity medium.

Wives, husbands, and adult sons and daughters of members.

Section 5.—Membership dues shall be TWENTY-FIVE DOLLARS PER ANNUM, which may at any time be increased by vote of the Directorate.

Section 6.—Associate membership dues shall be FIVE DOLLARS PER ANNUM subject to the same provision as for members dues.

Section 7.—Membership privileges shall be:

Use for personal display purposes of the club emblem.

Use of the club emblem on personal note paper.

Subscription to the official club organ.

The use of club premises, when same are provided, for the legitimate purposes of the club.

(Continued on page 28)

BROADCASTING! EVENTS



DOLORES CASSINELLI

Dolores Cassinelli's decision of a year or two ago has been fully justified. At that time the famous screen star of thirty-two motion pictures decided that she had grown up—that she need no longer be seen and not heard.

Accordingly, Dolores stepped out from behind the silver screen onto the concert platform, a step to which she was urged by her many friends. For Dolores has a wonderful lyric soprano voice, as the millions can testify who heard her recently over the General Motors network of stations.

That was a most unusual experience for the beautiful Dolores, as she confessed. After years as a motion picture star, much seen but never heard, she went to the other extreme and over the radio was heard but not seen.

Miss Cassinelli was born in Chicago. She studied voice for several years under Fucito, Caruso's teacher. Her first appearance as a singer was made May 7, 1925, at the Lyric Theatre, in Baltimore, in a joint recital with the Metropolitan tenor well known to the radio audience, Giovanni Martinelli. This was followed by many appearances.

Miss Cassinelli is a fluent mistress of five languages—English, French, Spanish, Italian and Portuguese; a knowledge which with her charming voice was lost in the movies, while her natural beauty and grace only add to her concert appearances.

On March 22, 1926, Miss Cassinelli appeared in a special concert at Town Hall, in New York City. Later under the auspices of the Saloam Mystic Shriners, a series of choral concerts at the Masque Theatre, Newark, New Jersey, was arranged. These concerts included such names as Jeritza, Chaliapin, Anna Case and Walter Damrosch, all well known to radio listeners.

So between her years on the motion picture screen, her many concerts throughout the United States, and her broadcasting in the General Motors Family Party, Dolores Cassinelli has a reputation and popularity peculiar to no other radio artist.

A photograph of Dolores is shown on the opposite page.



FANNIE BRICE

Well known musical comedy star who has been featured in the Vitaphone Jubilee Radio Hour

STARS OF RADIO PLAN TOUR OF COUNTRY

Two groups of well-known radio artists will go on a tour of personal concert appearances early in the fall. Announcement of this has been made by George Engles, managing director of the National Broadcasting and Concert Bureau.

The tours have been arranged as the result of a demand on the part of radio fans to see their favorite performers in person. They represent the begin-

ning of a permanent movement on the part of the National Broadcasting and Concert Bureau to arrange for country-wide personal appearance by its finest artists.

"A great ready-made concert audience is waiting for these artists," Engles explained today. "It consists of hundreds of thousands of radio fans to whom their names have become household words through frequent appearance before the microphone. There is no doubt that these fans will prove ready to patronize radio artists in the concert hall. The public is eager to see in person those individuals whom it hears over the radio."

The first unit of the two groups of radio artists who will go on tour is made up of Graham McNamee, internationally known announcer and baritone; the National Light Opera Quartette, Arcade Birkenholz, violinist; Mathilde Harding, pianist; Katherine Tift Jones, diseuse, and Georgia Price, harpist. The second unit includes Gladys Rice, soprano; the South Sea Islanders; the Bonnie Laddies Vocal Trio, Christine Phillipson, violinist; "Happy" Harry Hayden and Kathleen Stewart, pianist.

RECORD TRANSATLANTIC TALK

The longest and most expensive transatlantic telephone call yet made since the service was inaugurated took place recently when an American staying at the Savoy Hotel, London, rang up a business associate in New York and spoke for ninety-five minutes. The conversation cost \$1,400.

The connection was made about half-past nine and the talk was only interrupted by two small breaks lasting a few seconds.

"Did you hear about the flapper being hurt in the explosion last night?"

"No, how come?"

"A smile lit up her face and the powder went off."



DOLORES CASSINELLI

TELEVISION

Television Broadcasting

By R. P. Clarkson

There are now in the United States approximately 640 broadcasting stations, ranging in power from 5 watts up to a permitted maximum of 50,000 watts. These are only the stations in the so-called "broadcast band" which officially extends from 199.9 meters to 545.1 meters, but is commonly spoken of as the 200 to 600 meter band. Many of these broadcasting stations have "short wave" associates, or companion stations which send out on wave lengths below 100 meters the same programmes, at least during certain hours. As a rule, the short wave stations are of quite low power but, in spite of this fact, they are more commonly picked up at greater distances than are the parent stations themselves. So far as the public in America is concerned, the short wave stations are not a factor—virtually non-existent. The usual commercial set used in the home for entertainment has great difficulty getting down to the lowest waves in the broadcast band, and is entirely unsuited to short wave tuning and reception. Nor, is it probable that any form of radio receiving set will be devised which will become popular in the home, and be capable of handling the short waves as well as the usual broadcast waves. At present this can be done by the interchange of coils or by connecting up, to the present set, a separate tuning device. Both arrangements are more or less for the experimenter, however, and the best practice is to use two entirely separate sets with different antenna circuits.

Any television reception by the general public at the present time, therefore, involves one of two things. Either the sending of images must take place within the 200 to 600 meter band or the public must buy special television receivers. If the sending of television images could be done in the broadcast band, it is admitted that most of the up-to-date receiving sets could be used for reception, and in place of the loud speaker one would

merely plug in a device to make the signal visible instead of audible. For the experimenter, this can be done. However, the number of stations which are sending images is so small, the results to date are so crude and so difficult to receive, the apparatus to create the image is so cumbersome and involves moving machinery which in turn requires electrical connections entirely apart from the set, and incessant attention is required for the instant to instant regulation of the device, while no one device can be used except for the particular station it matches, so that there can be no possible appeal to the general public.

The first step in any wide, general development of television will be for the establishment of sufficient transmitting stations so that a purchaser, wherever he may live, has at least one possible programme he can tune to. And, of course, he would prefer a choice. Then, instead of the very few minutes occasionally given to a broadcast at present, there would be broadcasts of such length as to permit some degree of enjoyment. It is also obvious that there must be a standard adopted by the various stations which will permit a receiver to be used equally well on all of them. Otherwise, there can be no nation wide use or sale of television receivers.

At the present time, so far as the general public is concerned, there are only two stations attempting anything approaching television broadcasting. These are WGY at Schenectady, on a wave length of 379.5 meters, and WRNY in the New York area, on 326 meters. There are short waves carrying these programmes also, as follows:

2XAL, New York, 30.9 meters.
2XAD, Schenectady, 21.96 meters.
2XAF, Schenectady, 31.4 meters.

In addition there is 3XK near Washington, D.C., operating on 46.7 meters, and carrying a programme of dancing shadows or silhouettes, transmitted from a film, a sort of miniature moving picture in a rather simple form. There are several broadcasting

stations in the middle west contemplating this type of broadcast this winter.

At one time WLEX of Boston on 62.5 meters, and IXAY on the same wave had regular schedules but they have been discontinued. Also WCFL in Chicago on 61.5 meters has been broadcasting as has also 8XAV of Pittsburg on 62.5 meters, and both continue.

In all cases the hours devoted to this type of broadcasting are few and the time subject to change. In the New York area there are daily five-minute periods at various hours. The Schenectady broadcasts are of half-hour or full hour duration several times a week. In addition to the regular broadcasts spoken of, there have been occasional television transmissions incidental to demonstrations of apparatus or of television systems.

Even aside from the widely different receivers necessary to get every one of these broadcasts, ranging as they do from 379.5 meters to 21.96 meters, it would be necessary also to have different television apparatus, for the different stations send their images at different speeds, and the images themselves are of different "screens" or number of lines corresponding to the screen of a half-tone reproduction. At present the screens used are either 24 or 48, or approximately that. WRNY is using 44, and the Chicago station 45. The Schenectady broadcasts are 24 and the rest are 48, which bids fair to become most popular. The speeds range from 450 R.P.M. at WRNY to 1,260 at WGY. This means from about 8 pictures per second to 21. The usual "movie" is 16 per second.

Just now all the images are square but it is conceivable, unless standards are adopted, that not only will speed and quality differ widely, but also that images of different proportions will be developed according to the tastes of the broadcaster.

In spite of these pioneering stations, most of whom are carrying on this work either to gain experience and knowledge against the time when television actually arrives, or to aid in the encouragement of experimentation,

there is no general tendency for broadcasting stations to enter this field. In fact, it is a question whether the Radio Commission will permit the stations now indulging to continue, except as suggested by one of the Commissioners, it be done after midnight. The idea of this limitation is that, in view of the congestion and interference in the ether and extremely limited number of those who can receive the crude broadcasts, it seems unwise to permit good broadcasting time to be taken up by experimental work on waves entirely unsuited to television purposes.

It is the unsuitability of the broadcast band which is largely responsible for such lack of interest on the part of most of the television broadcasters and is largely responsible, also, for the poor results on the part of those who have taken up the matter. This arises from the legal separation of stations by only 10,000 cycles. The effect of this restriction is to limit the frequency transmitted from any station to 5,000 cycles, ample enough for voice and

music because even Galli Curci's highest note will not reach 1,500 cycles and the overtones of a violin or its harmonics will be of little power above 5,000 cycles. For television purposes, however, a frequency limitation of 5,000 cycles immediately makes impossible either quality or action. If 16 pictures per second are transmitted, no one picture can be made up of more than 312 impulses or dots. Assuming a square picture, and the quality of even an ordinary newspaper cut, the maximum size possible would be about one-quarter of an inch square.

By using a single sideband, and thus utilizing the entire 10,000 cycles the area would be doubled. By reducing the action to the flickering stage of the old movies, and being satisfied with a quality poorer than the crudest of the printers' work, one can secure an image an inch and a quarter square. This particular size is a limit put on the experimenter by the fact that the glow lamps available for reception

happen to have a glowing surface of only that dimension.

In one or two instances, for demonstrations only, the Radio Commission has granted permission to ignore the legal limitations and fair results have been obtained in an image about three inches square. Because of certain defects of the human eye, it can be demonstrated that this size is about the limit that can ever be reached with a good image showing moderate action, using the rotating disc system without a multitude of receivers. Ignoring any difficulties to be overcome, however, it is certain that even 20,000 or 40,000 cycles separation of stations will not ultimately suffice. That means television must go down to the short waves. New stations will have to be built and a new style receiver will have to be developed and marketed. There is no provision for this departure even if we had a television system in which broadcasters had confidence.



Izetta Jewel, former star of the stage, and now the wife of Professor Hugh Miller of Union College, becomes first leading woman of play presented by television. The audience, with suitable receivers saw and heard Miss Jewel in the presentation of "The Queen's Messenger" by J. Hartley Manners, and broadcast by WGY of Schenectady. Miss Jewel is shown standing before the camera which consists of two smaller cases containing the photo-electric tubes and the larger and highest case, containing the scanning-disc and the light-source. A microphone picked up the lines of the drama.

PROPS OF TELEVISION DRAMA

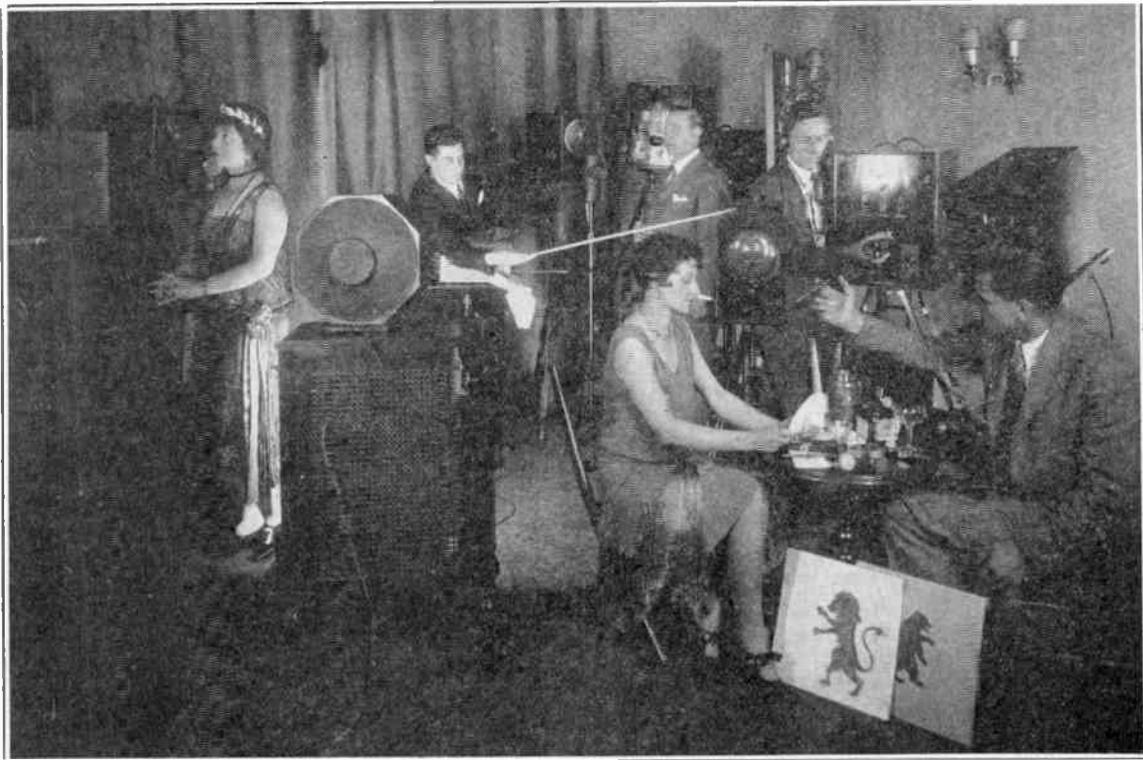
As described in Radio News of Canada, October issue, when WGY, the pioneer in the radio drama, presented the first drama by television on Sept. 11th, three portable cameras or transmitters were used, one each for two characters in the drama and a third camera for "props" and hands. Because of the present limitations of the art, only the faces of the actors can be shown. The picture on the front cover shows the "props" camera and the two people whose hands were reproduced. Under the direction of Mortimer Stewart, action was put into the performance by introducing the hands of a man and of a woman, using revolvers, cigarettes, keys, rings, mask and numerous other things. The play was J. Hartley Manners', "The Queen's Messenger," written thirty years ago and familiar to theatregoers. The play was presented exactly as offered on the stage.

Dr. E. F. W. Alexanderson and Mortimer Stewart, widely known as the producer of radio dramas worked out the peculiar problems in technique of the new dramatic form.

MORE RADIO DON'TS

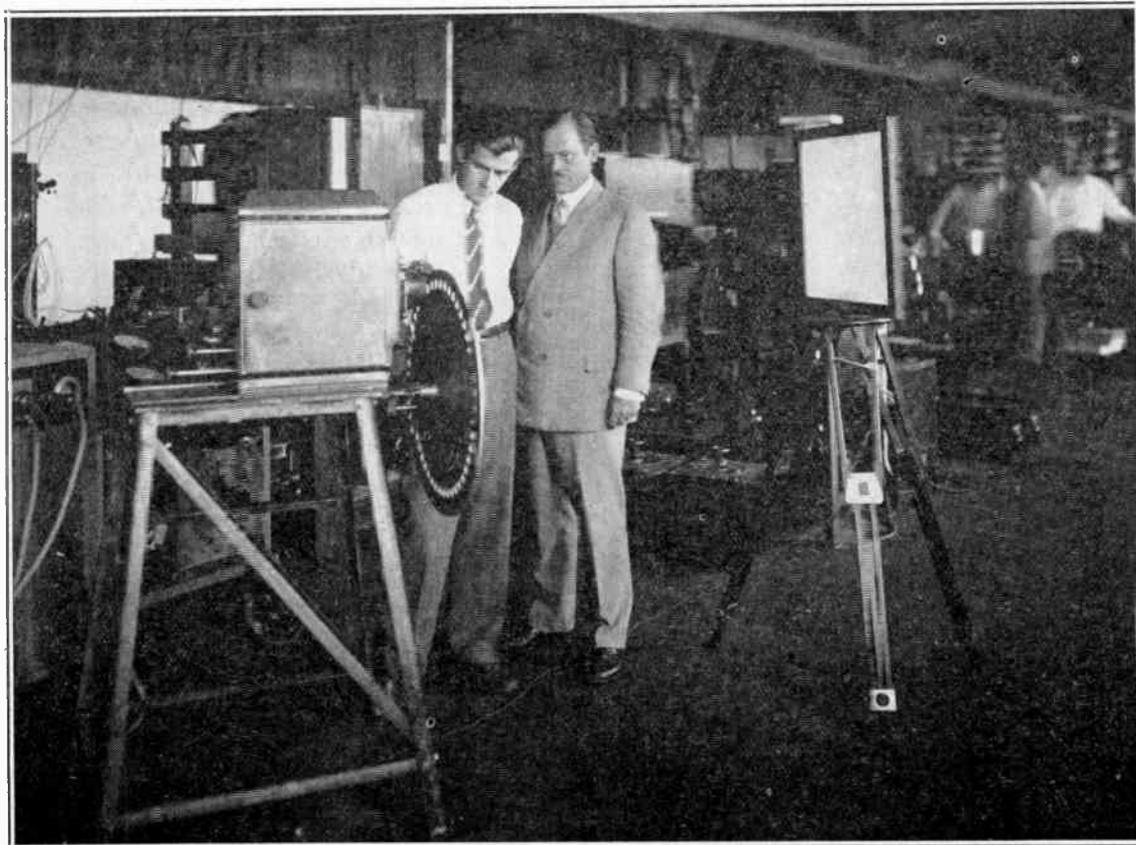
Don't use poorly constructed radio parts when building a receiver or failure will surely follow your efforts. Use the best radio parts obtainable and the results will pay you for your additional outlay on these parts.

Don't think that your receiver is at fault when you are having troubles until you have made sure that other radio fans did not have any trouble on that particular night.



THE STAGE OF THE TELEVISION DRAMA

In the centre is the director, Mortimer Stewart, who controls each of the three cameras. By a twist of a knob he brings any of the three cameras into the circuit. At the left is Izetta Jewel before one camera (camera in this case refers to the unit containing the scanning-disc and light-source, and the two eyes or boxes containing the photo-electric tubes, and before the camera on the right is Maurice Randall. The two people in the right foreground manage the "props" which are placed in the view of the third camera. In the left foreground, facing the director, is a television receiver. In the television receiver the director is able to check the image as it appears on the air.



Dr. E. F. W. Alexanderson, consulting engineer of the General Electric Company and chief consulting engineer of the Radio Corporation of America, with his assistant, R. D. Kell, viewing the new television projection apparatus. The disc contains 48 lenses and the image reproduced on the ground glass screen is 12" square.

Pilot Television Broadcast A Great Success

All Broadcast Stations Can Now Transmit Human Figures and Radio Movies

By M. B. Sleeper

Now you can build your own television receiver! You can get in at the very beginning of a new science—vision carried by invisible waves—a science so entirely new that its future developments and applications are still to be determined by those who are ready to undertake the pioneer work of understanding television, and thinking in terms of its possibilities.

When the first intelligible radio telegraph signals were transmitted over a useful distance, no one expected that the foundation was being laid for a world-wide communication system of tremendous commercial and political importance.

No one dared to suggest that the first successful demonstration of radio telephony was the precedent of the entertainment now provided for every modern home in every civilized part of the globe.

The most profound students of radio engineering did not have the slightest idea, when the activities of American amateur were legislated down below 200 meters, that short waves were to become so vital that they must be split and allocated by international agreement.

On August 14, 1928, John Geloso, chief engineer of the Pilot Company, achieved the first long distance television transmission when he looked into the Radio Eye, shown in the accompanying illustrations, and saw the moving likeness of Mrs. Geloso, 8 miles away, on the other side of the Hudson River.

For months, two groups of engineers had been working in the Pilot Laboratories to evolve a method of transmitting and receiving images of living, moving objects. The specifications which had been given them were:

1. Radio vision as clear as newspaper illustrations.
2. Full reproduction of details—not merely outlines or silhouettes.
3. Transmission from any broadcast station without altering in any way the equipment of the station.
4. Transmission within a 10-kilo-cycle band, to prevent interference with other broadcast stations.
5. A television receiver made up of standard parts, so designed that it can be assembled easily and cheaply by set builders.

By the first of August the Geloso

system had passed the elementary stages. During the second week of August the equipment was rebuilt in portable form, and the transmitter taken to Station WRNY on the west side of the Hudson River, and the receiver installed 8 miles away in New York City.

And it worked! The first television transmission, on August 14, was tuned in as easily and quickly as broadcast signals. As soon as the strange-sounding signals came in on the loud speaker, the switch was thrown to the Radio Eye, and while a group of half a dozen engineers watched the small enclosure, Mrs. Geloso was seen to walk before the transmitter. She smiled with a little embarrassment at the extraordinary part she was playing, waved her hand, and in a moment stepped aside. Others appeared before the transmitter, each readily recognizable.

This private demonstration was repeated for the benefit of newspaper reporters on August 21st, at Philosophy Hall, New York University.

Meanwhile, work has been under way to develop receiving equipment capable of even more perfect vision. The actual production of receiving sets and equipment for the use of tele-



A combination radio eye for receiving Television and broadcast set. A snap switch changes the radio circuit from loud speaker to radio eye. The moving objects or animated picture appear in the opening of the timing control

vision set builders is being pushed ahead as rapidly as possible, for the Pilot Company realizes, of course, that transmission is of no value without apparatus for receiving.

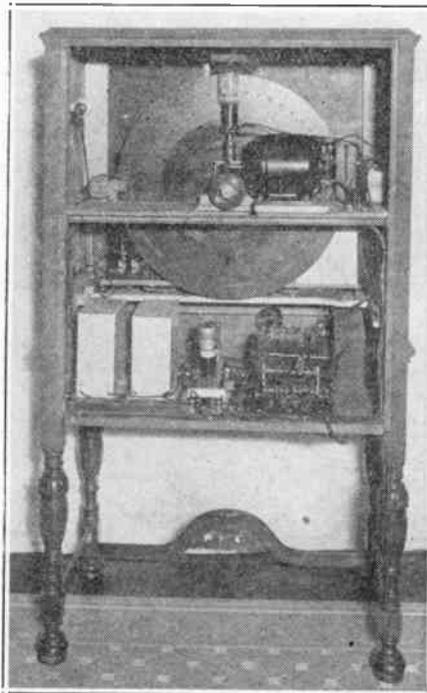
Now that the equipment is being made available, television broadcasting is a regular feature on WRNY. Moreover, the Pilot Company is preparing to furnish television transmitters to other stations throughout the United States. Thus seeing as well as hearing by radio will soon be a part of regular programmes.

What is also of great importance, a start has been made toward the development of special features which will make television highly entertaining, offering far more than a mere opportunity to see people bow and smile before the Radio Eye.

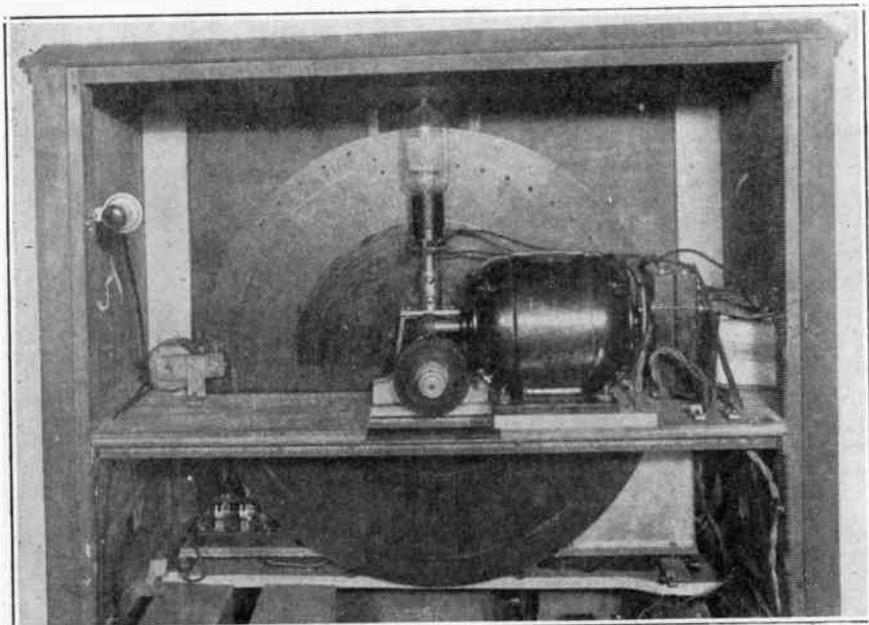
You Can Build Your Own Radio Eye

The first real Radio Eye is not merely a laboratory demonstration. It works, and works marvelously well. Considering the few months which have elapsed since the inception of the idea, the equipment is truly wonderful. It is far more perfect than the early broadcast sets.

Much has been published about "television bunk," and much has been justified, for a number of companies have gone so far as to advertise scanning discs for example, to receive the WRNY television transmission when



Combination Television and Broadcast Receiver



Rear view of combination radio eye and broadcast receiver, showing scanning disk, motor and neon lamp

the Pilot engineers themselves did not know how many holes would be used in the final transmitter disc.

But in making out specifications for this television work the whole idea was to open the field to experimenters, to make it possible for them to get into this new science, and to encourage them in pushing ahead just as they did in the beginning with radio telegraphy, then radio broadcasting and finally with short waves.

The specifications previously enumerated explain why it is possible for set builders, working in their home laboratories, to use standard parts for building television receivers, adding only such special devices as the disc, motor and the neon lamp.

The accompanying illustrations show how the first Radio Eye was arranged at the front and at the rear. However, there are various modifications which were made in the circuit, accounting for the discrepancies between the wiring diagram and the parts shown in the pictures.

On the upper shelf are the television disc, beveled Bakelite gears, synchronous motor, and the two 2 mfd. condensers.

Below, at the front, is the receiver, shielded from the amplifier and power equipment at the rear. The last three tubes and the resistance coupling units are enclosed in three cans. One can, as you will see, has been removed. To the right is one of the new Pilot 250 type power packs, used to provide the plate voltage for the audio amplifier and neon tube.

At the extreme right is a small Pilot

B pack. That was not in the circuit, however, for it was found that 90 volts of B battery gave much better results on the R.F. and detector tubes.

As you will see from the diagram, the radio end is a standard receiver, to which the special audio amplifier has been added.

Scanning Disc

Most of the scanning discs which have been offered for sale are not worth the material used to make them. Some are even made out of thin, hard rubber, others of tin or galvanized iron. Even if the holes are accurately

located they would be worthless because they do not run true.

Pilot engineers have found it necessary to use sheet aluminum $\frac{3}{32}$ in. thick, reinforced by a disc of somewhat smaller diameter, as you will see in Fig. 3.

Never buy a disc unless the shaft is furnished with it. Any slight eccentricity will absolutely ruin reception.

The mounting for the disc must have ball-bearing of the finest quality, of the type to take up end-thrust.

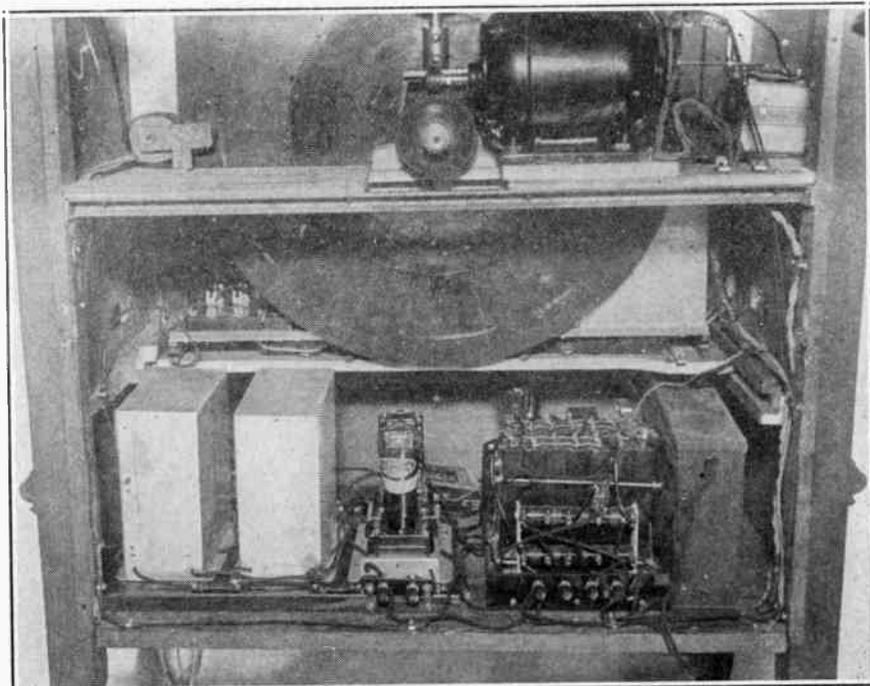
The master disc, from which others are being made for regular production, called for such a degree of accuracy in locating the holes that it was necessary to rebuild what was already a precision machine, in order to locate the openings in such a way that they would not overlap, nor leave spaces between the holes.

Subsequent discs are being produced by a photographic method, for the cost of machining scanning discs one-by-one would make the price prohibitive.

Neon Lamp

Another vital element in the television equipment is the neon lamp. Until the advent of television, very little was known about neon lamps, except as they were applied to electric signs. The production of a suitable type of lamp is not merely a matter of sealing metal elements in a globe full with neon gas.

The whole combination of the quantity and purity of the gas, the metals used for the elements, and their ar-



Detailed view of the amplifier and power pack

rangement and shape determine the results to be obtained.

The illumination must change from zero light over the entire surface of the elements to a brilliant illumination over the entire surface.

If the lamp has a tendency to shine more brightly in one part than another, reception is spoiled, just as a photograph is sometimes partly light-struck.

The light response of the lamp must be accurately matched to the response of the photo-electric cells, at the transmitter. The degree of illumination must be proportioned to the voltage applied to it. If a slight increase in the voltage brings the lamp to full brilliancy, the picture is just a bright blur. On the other hand, if the illumination is very low until the maximum voltage is applied to it, the picture is very dark.

A special Pilot neon lamp, of exceedingly low resistance, has been developed. There is only the slightest voltage drop across it, yet it handles 3 watts undistorted output from the 171 tube.

Synchronous Motor

A synchronous motor of 1/20 horsepower has been developed by Pilot to turn the disc. This is a very simple and inexpensive type, requiring no external regulation. It is simply plugged into the light socket like any other electrical appliance.

Radio Circuits

The radio circuits are standard, as is shown by the wiring diagram. Three Pilot No. 176 broadcast plug-in coils are used, tuned by No. 1617 Pilot

.00035 mfd. condensers. Adjusto-grads are used in the grid circuits of the first two tubes to prevent oscillations.

In the original receiver, Pilot Redi-Blox were used to simplify the assembly. To prevent interaction between the radio circuits and the audio end, the receiver was completely shielded, except at the front, where a Micarta panel was used.

Audio Amplifier

There is so much opportunity for difference in opinion regarding the quality of audible reproduction that even a fairly large degree of distortion can be permitted in such an amplifier.

For television reception, on the other hand, where distortion appears visually, the amplification is either perfect or imperfect.

It was, therefore, found necessary to develop a special audio amplifier that gives such perfect reproduction that it is not even possible to see the distortion.

The three audio stages are assembled with Redi-Blox. Instead of using the small stopping condenser ordinarily supplied, you will see that a pile of condensers are employed to give a total capacity of .2 mfd.

Only two grid leaks are used. The other resistances are displaced by special units, mounted like grid leaks, but in the form of bobbins which serve as a combination of resistance and R.F. choke. In this type of amplifier a plain resistance is not adequate, for it does not keep out the radio frequency distortion. Hence

the specially developed Resistochokes.

All three A.F. tubes take 220 volts, supplied from the heavy duty B power pack. This may seem strange, considering that 301-A tubes are used, but with the resistors employed and the C battery specified, this gives the best results.

Power Pack

Ordinary B power packs cannot be used for the Radio Eye because ratings to the contrary, we have not found any which will deliver 220 volts at 60 mls without overloading the chokes and causing A.C. distortion.

The unit shown here is the new Pilot 250 power amplifiers from which the heavy current is drawn.

How to Operate the Radio Eye

With the equipment assembled and wired according to the diagram, the television signal is tuned in by means of a loud speaker connected in place of the neon tube, or by putting a pair of phones in the plate circuit of the detector tube. As soon as the signals are brought up to maximum intensity, the phones are cut out and the motor started. With the disc rotating at full speed, the set must be retuned to bring the signals in at the centre of the resonance curve of each stage. Then the potentiometer on the 371 tube must be adjusted as well as the Resistograd in the plate circuit of the detector.

The process is very simple. It actually takes less than a minute to adjust the controls to bring in television clearly. The details of the method are clear enough when you are watching the effects of the tuning on the reception.

Television Reception

The first matter of importance that the prospective televisionist must consider in taking steps toward assembling a television outfit for home reception is the radio receiver. Whether it will be for regular broadcast or short wave reception will depend of course on the stations broadcasting television images and also whether they are in the range of good reception. As he probably knows the forty-eight line picture is best transmitted on a short wave carrier because of the high modulating frequency (up to twenty thousand) and the twenty-four line picture on the regular broadcast wave length since its modulating frequencies should not go over the five thousand limit allowed by the Government.

The requirements of a radio receiver

for faithful reception of a twenty-four line picture is that it tunes, detects and amplifies a frequency band of about five thousand without favoring any part of them. Very few radio receivers of today do this. If the regular audio receiver, however, is not too selective and a special resistance coupled audio amplifier such as the T-4 made by the Daven Corporation is used in place of a transformer coupled amplifier, the television images may be received with good quality. Aside from a wider frequency band to be taken care of by the regular radio receiver for twenty-four line picture it should function for television reception the same as for audio. If it gives loud speaker volume free from interfering noises, corresponding strength and quality of tele-

vision images should be received if television transmission is substituted for audio.

If a three-stage radio frequency type receiver is used any loss of quality due to sharp tuning and cutting side bands may be offset to some extent by tuning each stage to a different frequency and thus flatten the frequency characteristics somewhat.

For the forty-eight line picture a short wave receiver will have to be built if the experimenter has none. The regular short wave regenerative receiver or one having a stage of radio frequency amplification using a shielded grid tube may be used. Plate detection in place of grid detection gives better quality as far as the detector is concerned, but as is well known this type of detection does not

give the signal strength as the grid condenser leak type. As with the regular broadcast television reception the audio amplifiers must be of the resistance coupled type.

In television reception the first requisite is that the television signal as picked up by the antenna is of sufficient strength, otherwise very poor results will be obtained. Like in audio reception very weak television signals greatly amplified with a lot of other interference of equal or greater signal strength is very unsatisfactory.

In tuning in television images various defects will invariably show up. Among these are black and white effects where half tones are lacking, distortion of picture, black and white bands and spots, transients, negative images, "ghosts," very fine frequency patterns and many other effects caused by improper condition of both transmitter and receiver. Subsequent television papers will aid the experimenter to recognize the various defects occurring, their cause and remedy.

An important part of the television unit aside from Neon lamp is the scanning disc. For twenty-four line picture reception the disc can conveniently be made twelve inches in diameter which, allowing one-half inch from outer hole of spiral to edge of disc will give a picture a little less than one and a half inch wide at its top. For a forty-eight line picture a disc is usually made twenty-four inches in diameter and the picture again will be one and a half inch in width. The essential requirements of a disc are that it is centered properly, the holes drilled accurately and the size of the hole about ten per cent larger than calculated so that the paths they produce will overlap that much. The discs, of course, should be perfectly flat and have sufficient strength. Its weight should be kept at a minimum so that the size of motor required will not be unduly large. Unless the experimenter is equipped with proper tools to make his own disc, particularly for forty-eight holes, it will pay him to purchase them. A combination disc having both the twenty-four and forty-eight hole spirals and embodying the essential requirements of a disc is also manufactured by the Daven Corporation.

Having obtained the proper disc the question of a suitable motor must be considered. Its essential requirement is that it have sufficient power to rotate disc at the various speed required but not much more. It is, of course, essential that the motor is of the variable speed type and can be operated from the electric circuit available. A

universal motor of about 1/15 H.P. and an 1800 R.P.M. may be used with a light forty-eight hole disc. With a rheostat having a suitable resistance and current-carrying capacity the speed can be varied within that required for television reception, and manual synchronization maintained.

The most important part of the television unit, however, is the neon lamp, the light of which varies directly with the current that operates it and without any lag up to at least a million variations or cycles a second. Whether a twenty-four or forty-eight line picture is received it has been found expedient to design the receiving scanning disc so that the picture is about one and a half inch square. If the forty-eight line picture is made larger the disc becomes too large and a smaller size picture would reduce the illumination because the holes would be correspondingly smaller. Furthermore a smaller picture is not desired. With the twenty-four line no larger picture than one and a half inch square would be desirable as its crudeness would become then too apparent. It could, however, stand to be reduced to about one inch square with improved photographic effect and still retain good illumination.

In viewing a television image one looks through an area one and a half inch square of the scanning disc and at a source of light varying in accordance with the electrical impulses of picture. It is, therefore, obvious that the light source should be about the same size as the area scanned by disc. To operate the one and a half-inch square plate neon lamp properly fifty to ninety milli-amperes of current must be supplied when the forty-eight hole disc is used. To supply the necessary current from the output of an amplifier it is obvious that either a UX 210 or UX 250 power tubes or its equivalent in multiple must be used, if the output power is not to be greatly distorted. A power pack supplying about five hundred volts will be found suitable. For the twenty-four hole disc the current to operate the lamp can be the same as for the forty-eight hole disc but can be considerably less as far as the illumination is concerned, and assuming a one and a half inch square picture is maintained. If a one inch square picture disc and a one-inch electro neon lamp are used the output current of two UX 171 power tubes in multiple will suffice. In this case "B" batteries may be used as the plate current drawn by lamp will be about thirty milli-amperes.

After the prospective televisionist has assembled a television receiver in

accordance with all the information he has been able to collect he is anxious to know what may be expected in the way of results. This answer depends not only on his own receiver but also on the transmission. After his complete television receiver is assembled he should realize that his next task is its adjustment and this may include minor changes of the radio receiver as well as of the television unit. Before he can concentrate on improving the quality of his picture he will find it well to first adjust his motor speed control so that he can with ease hold his picture in synchronism and frame it readily.

Undoubtedly after a little patience and considerable time in adjustments he will be able to discern faces and various objects before the transmitter of the broadcasting station. He may expect also in the very near future not only to discern faces but to recognize them also.

That television will rival our present audio broadcasting and reception in the future there can be no doubt. The amateur and radio fan can further this new and very promising art in no better way than in building television receivers and working out the problems encountered for good television reception.

REPLOGLE APPOINTED CHAIRMAN OF R.M.A. TELEVISION COM- MITTEE

D. E. Replogle, well-known engineer and engineering representative of the Raytheon Manufacturing Company of Cambridge, Mass., has accepted the chairmanship of the Committee on Television Standards of the Radio Manufacturers Association. This committee has been formed for the purpose of studying the wide range of television practice now confronting the radio industry, the nondescript collection of components, and the loose and often meaningless terms used in attempting to describe television systems. The committee plans to adopt certain television standards and television terms in bringing definite order out of the present experimental chaos. Definite standards are to be worked on for such features as scanning discs, scanning disc speeds, neon tubes, photo-electric cells, and so on. The members of the committee have been selected with a view to securing the best representation of present-day television practice.

Television Broadcasting Problems

One of the first problems to be decided upon in television broadcasting is whether the picture to be transmitted is to be of a twenty-four (24) or forty-eight (48) line per picture order. The twenty-four line picture, if perfectly broadcast and received, would be quite satisfactory for the beginning television broadcasting, if the received picture is not more than one inch square. If larger, the photographic effect is not satisfactory because viewing it then at a normal range, its crudeness would be more in evidence. However, as the picture will naturally be more or less imperfectly broadcast and received at first due to various causes in both transmitting and receiving the faces of any individual unless outstandingly characteristic, may not always be identified or recognized.

The twenty-four line picture represents possible variations from 16 to 10,000 per second. Owing to the nature of the scanning with the disc and the nature of the picture itself, the amplifiers and transmission lines will only have to take care of one-half the maximum frequency variations—about 5,000. Modulating any broadcast carrier, the maximum width of the side bands will be thus ten kilocycles. For example: a 1,000,000 cycle carrier modulated will give rise to two additional frequencies, one 995 and the other 1,005 kilocycles. The width occupied on the air channel by these two side band frequencies would be the difference between these two frequencies or ten kilocycles.

In regular broadcasting, the government keeps the carrier of any two broadcasting stations ten kilocycles apart to prevent any audible heterodyning of the carrier waves and thus eliminating the higher note often heard on receivers by adjoining stations on the dial. The ten kilocycle space between two broadcasting stations permits them to have also a modulating frequency as high as 5,000 but no higher.

In broadcasting twenty-four line pictures, there should be no engineering difficulties in the faithful transmission of the 5,000 frequency band and if the receiver is not too selective and a properly designed resistance coupled amplifier is used such as the Daven T-4 Amplifier, made by the Daven Corporation of Newark, New Jersey, recognizable faces will be received.

The advantage of transmitting a twenty-four line picture is that it can

be transmitted on the regular broadcast wavelength without requiring a special transmitter and secondly it makes the amplification problem relatively simple—the maximum frequency band being only 5,000. The twenty-four line picture can also be received on a regular receiving set with a few simple changes and finally it makes possible a small portable receiving outfit with a disc of eight or twelve inches in diameter and at a very low cost.

A forty-eight line picture, however, will have better definition than a twenty-four line picture (four times) assuming all other conditions the same. It is more difficult, however, to broadcast a forty-eight line picture than a twenty-four line picture unless



REINALD WERRENRATH

Concert baritone, whose educational series, "Famous Songs and Those Who Made Them," has attracted wide interest in his efforts for the advancement of song

the pictures per second transmitted is greatly reduced. The difficulties, however, do not present any real problems for solution. Thus far transmitting a forty-eight line picture on short waves has not, generally speaking, given a much better quality picture than a twenty-four picture. This is mostly due to a number of factors governing quality not being taken care of properly—such as equalizing transmitting lines for high attenuation of the higher frequencies, poor amplification characteristics and other factors incident to short wave transmission and reception. Further, television development will in the near future, certainly establish a forty-eight line picture and thus justify a more expensive television receiver in the home to supplement present audio reception.

To transmit a forty-eight line picture, representing twenty kilocycles

modulating frequency, short waves should be used. Regular broadcast wave length could be used but to do this without cutting the side bands or causing distortion, the transmitter must be detuned by suitable resistance in its circuits. Ordinarily this is not good practice. It is best for forty-eight line pictures to use a short wave transmitter owing to the modulating frequencies being quite high. Ordinarily the ratio of modulating frequencies to the carrier should be one hundred or over. There is also the advantage that there is more room in the short wave region, and allows the forty kilocycle side band readily without interference for television transmission.

Short wave transmission while best for long distance reception has the disadvantage of considerable fading and gives "ghosts" super-imposed on regular picture due to the ground and heaviside waves not arriving at same time on receiving antenna.

To summarize, both twenty-four and forty-eight line picture transmission have their advantages and disadvantages. The former lacks definition, but is relatively easier to transmit and receive whereas the latter possesses definition but is more difficult to transmit and receive satisfactorily. The twenty-four line picture outfit can be made small and inexpensive, while the forty-eight line will be larger and more expensive. The twenty-four line picture does not require as large an air channel for broadcasting as is required for the forty-eight line picture.

At present there are quite a number of broadcasting stations experimenting and developing short wave transmitters, but none except WRNY has started on a regular broadcasting schedule. WLEX has been broadcasting on a regular schedule, but are now off the air temporarily because it is reported they are building a new transmitter. WRNY broadcasts also on their regular wave length. There are a large number of applications in Washington for television licenses both for short and long wave lengths, and a number have already been granted.

To conclude, the commercialization of television is dependent on two factors, first its technical status or stage development and secondly, the transmitting station broadcasting both the twenty-four and forty-eight line pictures on at least a limited schedule. Both has now reached the experimental broadcasting stage and undoubtedly many will report shortly successful reception of television images in their home.

A New Kind of Radio Artist

Sketch of William (Bill) Cook by Anne Bruce Stewart



William (Bill) Cook as Himself

When an artist new to radio gets mike-fright before WGR's microphone, the staff of the Buffalo station worries not a bit as to the scared performer's presentation, because they know that Bill Cook can always "draw them out."

A very bad pun, but it helps to introduce William Cook, newest announcer of the Federal Radio Corporation's station and the "staff cartoonist." The visitor at WGR is always interested in the sketches that Bill leaves casually about the studio and as for the staff—they get no end of fun out of Bill's nimble



pen, as with a few swift strokes he captures the personality of a radio artist and places it in black and white.

Ken Fickett, senior announcer and programme director of WGR

and Bob Brown, announcer and studio director for that station, are familiar figures to Canadian WGR fans and now along comes Bill, his deep, rich voice having the unanimous approval of listeners. He came to WGR from the Buffalo Evening News, where he served as reporter for more than two years. His career is rather checkered and interviewing Bill brings forth a jumble of journalism, dramatics, sketching, public speaking, writing of and performing in humorous skits, art editor, sergeant in New York National Guard,—and on and on. He is a graduate of the University of Buffalo, B.S. degree, and majored in Romance Languages. Was elected to honors course at the university. Is at present editor of the University Alumni News. Oh yes, and he sings bass and plays the piano a bit. We tried to find out Bill's hobbies, but on that point he is most reticent and stalking him down has to date yielded no other avocation than this beloved sketching. We did discover that he went out for football until he came home



with his arm in a sling and due to parental objections, Bill desisted from further pursuit of the pigskin and devoted his attention entirely to the acquirement of a sheepskin. He took it out in cheerleading, however. He didn't suspect then that some day he would have an audience of uncounted thousands to listen to the same voice.

By the way, Bill is announcer for morning household hours which led a lady fan to write inquiring—"Will-eee Cook?"

For the benefit of the feminine readers of Radio News, Bill is good looking, with black hair, merry blue eyes, an infectious grin, and a dimple in his chin. To dash the

hopes of the fairer sex, he's already married. A girl and boy romance culminated last summer in wedding chimes, and pretty Mrs. Bill Cook is the type of dainty blonde that gentlemen unanimously prefer.

Anyway, the other day we asked Bill what he thought of his fellow workers,—his usual wit failed him, he hung his head and after much thought announced that he preferred to let us see them through his pen—the result was so good that we passed them on. He caught Ken, whose home is in Rochester, in the act of dashing to the airport to board a Colonial plane and then "home James." In just such fashion does Ken travel on his week-ends home,—two steps: in the air, then up in the air. Bertis Arnold, WGR's director, like a miracle man manages to be several places at once,—operating room, studios, offices, etc.,—but Bill places him at his desk, where the accumulated woes and joy of a radio station foregather. Characteristic is this pose of Bob's, as artists at WGR well know. Woe betide the orchestra moving the microphone a fraction after Bob has carefully placed it for best results,—the day is utterly ruined.

To return to Bill, the cartooned three met to decide his fate after this outburst and agreed it was time to bring the cartoonist to the point—of his own pen. The result is the last picture, depicting Bill's first reaction to the awesome microphone.





In the event you've never heard of "radio" as it is sometimes called, "I'll explain what it is by referring you to Webster's Dictionary under Ra. That seems to be the solution to the problem and saves me a lot of energy which I may well expend elsewhere. Not only that, but it gives me a first paragraph for this serious treatise or thesis and, disagreeing with my contemporaries, I claim that the beginning of a story is far harder than the end. Believe me or not.

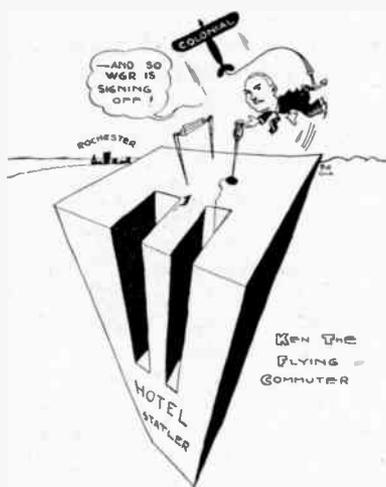
But anyway, there are many who know nothing of the manner in which radio continuity is written nor of the delicacy with which it must be handled. Take the Hyandry programme which originates at WGR, Buffalo. Without any qualms of conscience (whatever they are) I'm going to come right out and say that I wrote the programmes and used my wonderful voice to interpret the part of "Hy." I say "wonderful voice" for only two reasons; both reasons are that no one else would ever bring that fact to your attention if I didn't. The programmes were supposed to be humorous and different than the ordinary run. I am a lover of foolishness and nonsense and seriously believe these have a very definite place in the realm of humor. There is too little nonsense on the air and too many attempts at something "fine." In order to give you a sample or two of how the themes occurred to me, I will recite an instance.

Do you remember when that fellow with the touching ears went over the Falls in a rubber ball? It's history now, and even I, with my remarkable facility for remembering names, can't recall his. Well, it occurred to me that at the time the event was not put on the air, although the radio audience was entitled to hear a description of this epoch-making event.

Accordingly, I devised a scheme whereby I might simulate this odd gentlemen's performance to stay the public tear and assuage the public grief. I should dare the cataract en-

cased in a concrete casket! How novel! How unique! How exasperating! But concrete caskets have a habit of sinking when placed in the water—at least I should think they would. So I sat down in a garden of gorgeous pink roses to think.

In fourteen seconds (I timed myself) I had another splendid idea. If this casket were suspended between two rowboats filled with dynamite, the concussion at the base of the Falls would probably split open the casket and thus free its ponderous human burden. Placing my thumbs carefully in the armholes of my vest as is my



went when pleased, I wandered back to my writing desk with a determined look in my eyes. Where to land after the explosion? I thought at once of the Maid of the Mist, but no, that wouldn't do because a tremendous weight falling upon a perfectly innocent boat might cause her to list.

Then I thought of going to Ken Fickett (Dry, my wet partner) for help, but no, he was busy broadcasting the time or some other silly thing. I was at my wits' end, when what do you suppose happened? Guess!

Nothing happened, exactly, except there appeared in the fast reddening sky an angel—more beautiful than I'd ever seen before. The angel opened

Radio Broadcasting—Its Relation to Electricity or Something

A Sort of a Thesis

F. Chase Taylor

her mouth and spoke. "Young man, why don't you land on the Canadian Customs house, just to be different?" she said, and promptly went into a relapse. The motor hummed and the relapse faded into the distance. Now what little boy or girl doesn't believe in angels? Shame on you, Genevieve!

So there was the nucleus, or crux, of the situation. I acted at once. My pencil fairly glowed as I swept across the lines of the paper. I placed Dry theoretically at a microphone just above the falls. Bob Brown, Fickett's handsome and debonair lieutenant, was perched upon the deck of the Maid of the Mist. I figured that after the casket had moved out to midstream, Dry could jump on his bicycle and be at the Canadian customs house by the time I fell upon it. Everything worked out beautifully and if I had actually made the trip I could demand as big a salary on the vaudeville stage as Moran and Mack on the radio. At any rate, here is the way we did it: (Talking and yelling in background)

D.—Dry speaking, ladies and gentlemen, from the shore of lower Niagara River half a mile above the Falls. It is not generally known, but my partner Hy has just been shoved off shore, encased in a concrete casket and will attempt to go over Niagara Falls and come out alive. Attached to the outside of the casket are two rowboats filled with dynamite and a radio broadcasting apparatus which will enable us to communicate with him at least until he has passed over the brink of the falls. After that, communication may be impossible. I'll try to get him. Hello! Hello! Hy! Hy! Are you there?

H. (faintly).—Hello, Dry! Hello! I'm having a lovely trip, but it's so dark in this casket that I can't see. Every once in awhile we hit a rock, and it's not very comfortable even with these stone pillows under my head.

D.—Ladies and gentlemen, notice how brave he is even under these terribly trying circumstances. He even



ROBERT ("BOB") BROWN

Announcer and studio director at WGR,
Buffalo

says "we," like Colonel Lindbergh, so that the casket will receive some of the credit if the trip is successful. Hello, Hy! Hello!

H.—I can hear you.

D.—How's everything?

H.—Fine, except that I'm afraid the dynamite might go off if we hit these rocks hard enough. I am on my head now and feel rather dizzy. Now I'm on my feet again. I wouldn't be surprised if we were pretty close to the falls. I can hear the turbines in the power plants. It seems as though we were going faster. Yes, we are going faster. My goodness, my speedometer shows 30 knots an hour. Say goodbye to everybody for me and be sure to have those pink flowers I loved so much as a boy.

D.—Yes, he's correct, ladies and gentlemen, I can just—see—the casket as it bobs up and down in the rapids. A great crowd has gathered now and are cheering him on. He is nearing the brink. Hello! Hy! Are you still conscious?

H.—No, I'm unconscious. I'm not sure whether I'm in the casket or whether the casket's inside of me. The speedometer now says 80 knots and the compass needle went around so fast it flew off.

D.—Goodbye, boy. Hope you make it. Good luck.

H. (with voice growing fainter and fainter).—Goodbye everybody! Goodbye! I guess this is the Falls. Yes, I guess this is the falls!

D.—The concrete casket containing

Hy has just passed over the brink of the Horseshoe Falls, ladies and gentlemen, and I will now switch you over to Robert Brown, announcer for WGR, who is stationed at a microphone on the steamship Maid of the Mist.

Loud explosion.

Brown.—Good evening, ladies and gentlemen, this is Robert Brown announcing from the Maid of the Mist in Niagara River just below the Horseshoe Falls. I have been so excited that it's rather difficult to express myself coherently. The trip over the Falls was successful, though, as some of you may be pleased to know. Just as the concrete casket struck a large rock at the bottom of the Falls, the dynamite in the rowboats exploded, split open the casket and shot Hy skyward like a thunderbolt. Just as he passed over the Canadian side of the top of the embankment, he had presence of mind enough to pull the cord on his parachute and landed on the roof of the customs office. It was a great spectacle and I hope you heard the explosion. I will now switch you over to the customs office, where a great crowd has gathered to congratulate the daring gentleman. Click.

(Loud talking, congratulations and cheers. "Is he alive?" "Is he dead?" "Marvelous." "Get a doctor," etc.)

D.—I certainly had to hurry to get over here, ladies and gentlemen. If I hadn't had eighteen motorcycle cops I never could have made it. Hy is apparently resting comfortably and the color is coming back in his cheeks. His eyes are opening now. Maybe he'll say a word or two. Wait a moment. Hy! Hy! You're alright, now. Everything's all right.

H.—Where am I?

D.—You're alright, now. Don't worry. You made the trip for the first time in history in a concrete casket. You've got movie contracts and a fortune ahead of you.

H.—Where am I?

D.—In the Canadian Customs Office.

H.—Where?

D.—In the Canadian Customs Office.

H.—Tell them—I—haven't got my license. I'll have to give them a bond.

D.—He's going to sleep again. We'd better leave him alone, boys.

(Crowd: "Certainly." "Let him sleep." "Sure." "Certainly." "He needs a rest," etc.)

Frosh: "You're so modest you wouldn't work improper fractions."

Co-ed: "And you're so dumb you think a tutor carries a horn."

MARCONI COMPANY SECURES RIGHTS TO RADIO PATENTS

Marconi Wireless Telegraph Company, Limited, through an agreement with the Hazeltine Corporation, has obtained British Empire rights to all Hazeltine neutrodyne radio patents, with the exception of Australia and Canada, where licenses have already been granted.

RAYTHEON ANNOUNCES LINE OF FOTO CELLS

For television and other applications calling for photo-electric or light-sensitive cells, the Raytheon Manufacturing Company of Cambridge, Mass., now announces a comprehensive line of Raytheon Foto Cells. These cells are made in the hard-vacuum and the gas-filled types, as well as in bulb and tubular shapes.

The hard-vacuum Raytheon foto cell has the characteristics of instantaneous response—no lag; response directly proportional to illumination; maximum photo-active surface; permanent characteristics; no leakage or "dark current." The gas-filled Raytheon foto cell has the characteristics of super-sensitivity; instantaneous response—no lag; response directly proportional to illumination; no damaging effect from ionization; low operating voltage; no leakage or "dark current."

The Raytheon Foto Cells are available in two spherical bulb types and three tubular types, to meet a wide variety of uses in television, daylight recording, photometer, fire alarm system, laboratory, experimental and other applications.

Radio Expert: "What on earth are you grinding that wire for?"

Novice: "I'm building a radio set and they tell me a good ground wire is essential!"—New Zealand Radio.

We once read an advertisement that ran:—

Is Your Set Noisy?

Noisy operation no longer need annoy radio set owners. A great scientist has at last discovered a way to put an end to all "Sizzling" and "Frying" noises. Wonderful discovery keeps the crackle of static out of your loud speaker. No parts necessary. Full instructions, 10 cents. Address, Box 711.

You sent in your dime and received a slip of paper which said:—
"Cut the Loud Speaker Cord."

Rogers-Batteryless and Majestic Amalgamate for Canada

Standard Radio Manufacturing Corp., Ltd., Toronto, acquires Majestic Trade Mark and Manufacturing Rights for Dominion.

Grigsby Grunow Co., Majestic Manufacturers, become Stockholders in Standard Radio Manufacturing Corp. Ltd.

Q.R.S. Canadian Corporation, Ltd., appointed Sole Distributors for Canada on Majestic and continue distribution of Rogers in Eastern Canada

Negotiations between the Standard Radio Manufacturing Corporation, Limited, of Toronto, manufacturers of Rogers-Batteryless Radio in Canada, and the Grigsby Grunow Company, of Chicago, manufacturers of Majestic Electric Radio in the United States, have just been concluded; whereby the Standard Company has acquired the Majestic trade mark and exclusive Canadian manufacturing rights for the Majestic Electric Radio receiving sets of the Grigsby Grunow Company for Canada.

The Grigsby Grunow Company has acquired a substantial stock interest in the Standard Radio Mfg.



EDWARD S. ROGERS
Vice-President, Standard Radio Mfg.
Corp., Ltd.

The young Canadian Radio engineer who, after several years' research, invented the well-known Rogers Batteryless radio receivers. He personally directs the manufacture of the Rogers "AC" tube and also the extensive laboratory and development work which is carried on by the Standard Radio Manufacturing Corporation, Limited

Corp. Ltd. and Mr. B. J. Grigsby, its President, will join the Board of this Company.

The Q.R.S. Canadian Corporation Limited who are the distributors of Rogers-Batteryless Radio in East-

ern Canada, initiated these negotiations and have now also been appointed by the Standard Radio Manufacturing Corporation Limited, its sole Canadian distributor for the Majestic Electric Radio.

This is one of the largest and most important transactions in the history of Radio Reception in Canada, bringing together, as it does, the pioneer Rogers-Batteryless, the best selling radio in Canada, and the unique Majestic electric, whose enormous production of more than 3,000 sets per day—continually oversold—marks it as one of the most popular radio receivers in the United States. Here are two wonderful products—each distinct in type and different in construction, each the greatest value in its field and each the leader in sales, with the manufacturing consolidated in one plant, and with well organized distribution.

The Rogers-Batteryless Radio, conceived, created, developed and perfected right in Toronto, was the world's first successful Batteryless Radio and has, over a period of the last five years, proven its worth in thousands of homes throughout Canada. It is sold by the very finest class of stores throughout the Dominion and is to be found in most of the better class homes all over the country.

The Majestic Electric Radio is this year's sensation throughout the United States, manufactured by the makers of the famous Majestic "B" Eliminators and Power Units. The set itself is a seven-tube all-electric set, furnished in two console models, both with beautiful burl walnut cabinets and both with built-in dynamic speakers.

The co-operation of the two Companies will result in greatly improved and enlarged engineering and production facilities, enabling the Standard Company to adequately supply from a new and well equipped factory in Toronto, the requirements of the Canadian radio trade in both these great lines of receivers, and to maintain and improve their present pre-eminent position, following the further advances of the radio art.

Built by Specialists in Batteryless Radio

ROGERS^{A/C}

BATTERYLESS RADIO

OVER three years ago Rogers-Batteryless, the first radio receiver so successfully operated direct from the ordinary home electric light current without batteries or chemicals, appeared on the Canadian market. Each year since has witnessed continued research, development and refinement in Rogers-Batteryless by the specialists whose genius first gave completely electrified radio to Canadian homes. And now come the new 1929 models embodying exclusive technical features, such as Rogers A/C Tubes, Automatic Voltage Control, and the Rogers Output Filter—establishing an entirely new standard of electric radio ability—and only made possible by four years of specialization in the creation and production of the finest in batteryless radio. Each new model is priced to represent more dollar for dollar value in high quality electric radio than has been thought possible heretofore. And remember that behind each Rogers-Batteryless receiver stands a four-year record of Proven Batteryless Performance—irrefutable evidence of assured reliability and efficiency.



FIRST in the Field
FIRST in Proven Performance
FIRST in Value

Six models to choose from in
Genuine Walnut Cabinets by
Malcolm. Priced from \$165.
Slightly higher west
of Fort William.

Created and Manufactured Solely by

STANDARD RADIO MFG. CORPN., LIMITED, TORONTO

Owning and operating CFRB, Canada's First Batteryless Broadcasting Station

Authorized Distributors:

ONTARIO—Q.R.S. Canadian Corp., Ltd. 310 Spadina Ave., Toronto
QUEBEC and MARITIME—Q.R.S. Canadian Corp., Ltd.
Confederation Bldg., Montreal

MANITOBA, SASKATCHEWAN and ALBERTA

Winnipeg Office of Standard Radio Mfg. Corp., Ltd., 370 Donald St., Winnipeg
BRITISH COLUMBIA—General Distributors, Ltd., 509 Burrard St., Vancouver



Created and
Produced in Canada

Tell Them You Saw It In "Radio News of Canada"

ROGERS-BATTERYLESS RADIO

and

MAJESTIC ELECTRIC RADIO

Consolidate for Canada

*An announcement to the Radio Trade by the
President of The Standard Radio Mfg. Corpn. Limited*

STANDARD RADIO MANUFACTURING CORPORATION LIMITED

OFFICE OF
THE PRESIDENT



TORONTO 2
CANADA

To the Canadian Radio Trade.

October 25th, 1928.

The Standard Radio Manufacturing Corporation Limited, manufacturers of the Rogers Batteryless radio receiving sets, announces that through an agreement made with the Grigsby-Grunow Company of Chicago, it has acquired the Majestic trade mark and exclusive Canadian manufacturing rights for the Majestic Electric radio receiving sets and radio apparatus of that great Company. It is in effect, a consolidation of the Grigsby-Grunow Company's Canadian radio interests with those of the Standard Company, and assures the full support to our manufacturing of both the Rogers and Majestic lines, of the combined engineering and production resources of both Companies.

The Grigsby Grunow Company has acquired a substantial stock interest in our Company and Mr. B. J. Grigsby, its President, will join the Board of our Company.

A new manufacturing plant will be constructed in Toronto, affording us greatly increased manufacturing capacity, and facilities adequate to meet the greater demand for our products in both lines; so that the trade and public, who have been so kind to us in their appreciation all through our pioneering and our improvements in Batteryless Radio, may not be disappointed in our ability to fill promptly, the still greater demand which we anticipate for each of these two unique lines of radio receivers.

We have appointed the Q. R. S. Canadian Corporation Limited, our sole distributor for the Majestic line, and it continues to be the distributor for the Rogers line in Eastern Canada.

A. S. Rogers President.

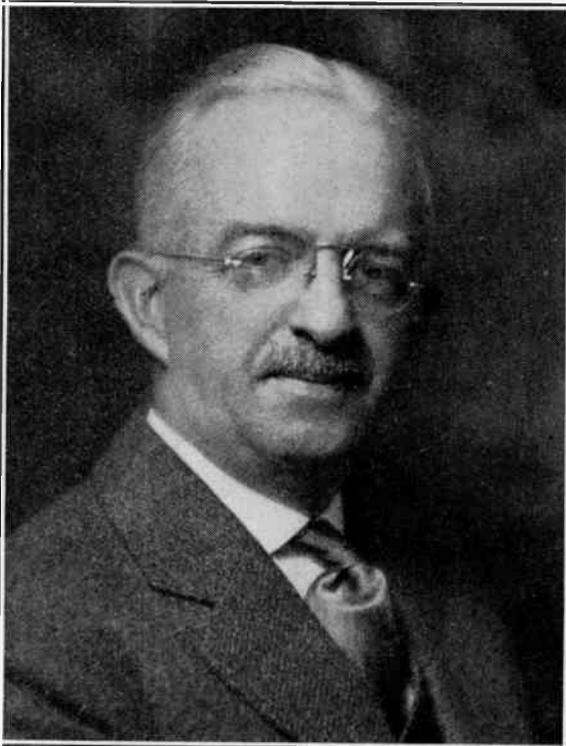
Standard Radio Manufacturing Corpn. Ltd.

OWNING AND OPERATING ROGERS BATTERYLESS RADIO BROADCASTING STATION C.F.R.B.

Progressive Policy of CKGW

R. W. Ashcroft is Appointed Manager

Owing to the resignation of the late Manager, the organization at Canada's "Cheerio" Station CKGW of Toronto has undergone some changes recently. This station, which has been on the air since March 5th, 1928, is owned and operated by Gooderham & Worts, Ltd., of Toronto. Realizing that there was a need in Canada for such a modern high powered radio station, Mr. Harry C. Hatch, the well known Toronto sportsman, decided a 5000 watt station. The station opened under the most favorable auspices and being Canada's most powerful station, was heard far and wide and in many cases, being the first Canadian radio station heard in distant parts of the world. A broadcasting station can never rest on its laurels, and, having all the facilities available, the new management



R. W. ASHCROFT

of CKGW has set as its objective a progressive policy of better programmes for the general listening public and better service for the sponsors of programmes.

The new manager of CKGW is R. W. Ashcroft, who is one of the most experienced advertising men in Canada, and was at one time publicity manager for the famous American writer, the late Mark Twain. Mr. Ashcroft is remarkably suited for the position he occupies, combining a keen business intellect with an acute appreciation of the needs of the modern broadcasting station and the public.

The present staff of the station is as follows: Man-

ager, R. W. Ashcroft; Chief Engineer, P. H. Dorte; Asst. Engineers, W. A. Shane, H. Stanley Hamilton, J. Spalding and G. C. MacDonald; Chief Announcer, Don H. Copeland; Asst. Announcer, C. W. Jennings; Musical Director, George Stewart.

Since the change in management has taken place, a remarkable improvement in the quality of the programmes is noticeable, the policy of the station for the future being one of expansion. Programmes will be, to use a stock phrase, "bigger and better." All artists appearing—or rather being heard over this station, are noted as being leaders in their profession in this and other cities. At the present time, upwards of one hundred thousand dollars a year are being spent by the station on artists, instrumental and vocal. So large an amount is surely indicative that the programmes are of a very high standard. Outside of this is the fact that the station provides employment for a great many musicians, who to otherwise gain a living, would undoubtedly be lost to Toronto's musical ranks.

It is a rather remarkable thing that whereas there are a number of wave lengths in Canada possessed by stations, which are either in a state of complete inertia or not using all their allotted time, station CKGW is compelled to share a wavelength. One, an especially bad example of this sort of thing, is station CKCO of Ottawa, which shares a wave length with station CNRO of the same city and which has not, as far as is known, made any use at all of its allotted time during the past six months. This is a state of affairs which might well bear looking into, as it is unfair to the listener-in to deprive him of good programmes, because no wave length "time" is available for their transmission by an up-to-date station, whilst smaller stations are idle.

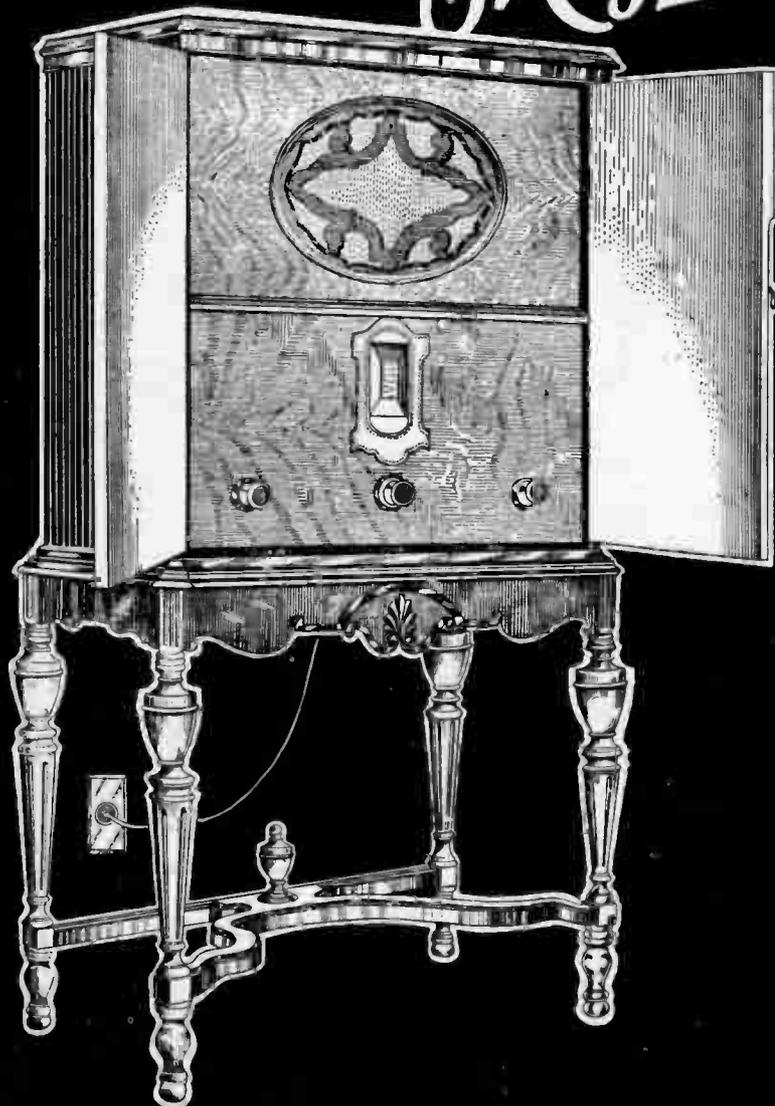
Diversified programmes, carefully planned and of a type which should ensure pleasure to the listener, is the slogan of CKGW for the future. Instead of the old fashioned method of twisting the dials and trying to get as many stations as possible in one evening, the radio fan is beginning to treat radio in the same way as he would, if he were going to spend the evening at a theatre. A few minutes in examining the radio programmes in the daily newspapers and he decides, where he shall secure his evening's entertainment. He tunes in and sticks with the station. That is CKGW's idea. And another thing of interest, jazz is heard only after eleven o'clock in the evening, the most appropriate time for this type of music. After eleven o'clock, dawn is the limit for jazz.

It might be interesting for the reader to cite some

(Continued on page 37)

The set that set the Radio World agog!

THE AMAZING *Majestic* RADIO
AC-ELECTRIC



\$260⁰⁰
TUBES EXTRA

**\$50 to \$100
 less than any
 similar radio!**

Majestic Radio has simply taken the country by storm. 24 carloads of Majestic Sets leave Majestic's 6 huge plants every day—and these don't begin to supply the demand.

Absolutely the highest quality receivers in the world—for the money. You should hear its Dynamic Speaker!

Don't hesitate for a minute to take on the Majestic franchise. It's the biggest opportunity that will ever come your way in radio.

Tubes
 \$35.75
Extra



\$215⁰⁰

Exclusive Distributors for Canada:

Q.R.S. CANADIAN CORPORATION LIMITED
 Doherty Building, Toronto. Confederation Building, Montreal

Write us to-day for full particulars!

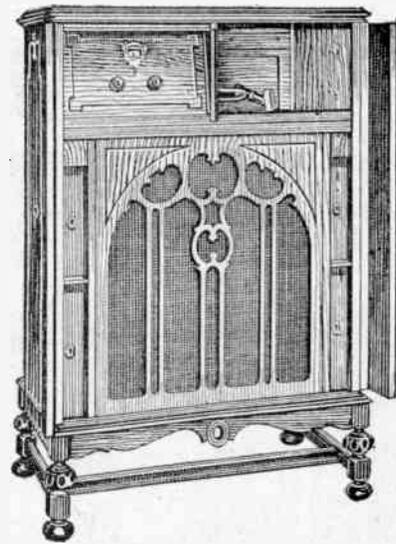
Tell Them You Saw It In "Radio News of Canada"



SPARTON EQUASONNE

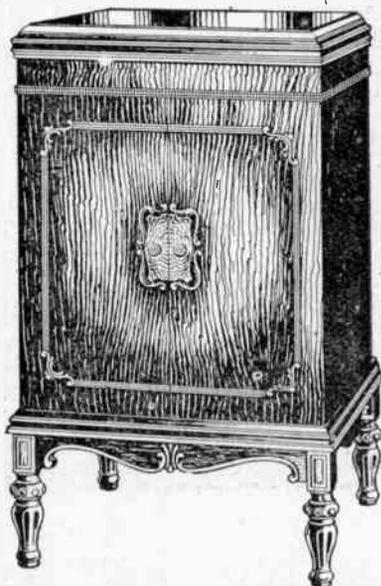
All-Electric Radio and Phonograph

Combination Console, automatically changes records, playing 10 records without stopping. The change of records is made in nine seconds. This model has special built-in free-edged moving piston type speaker as harmonious as a rare old 'cello.



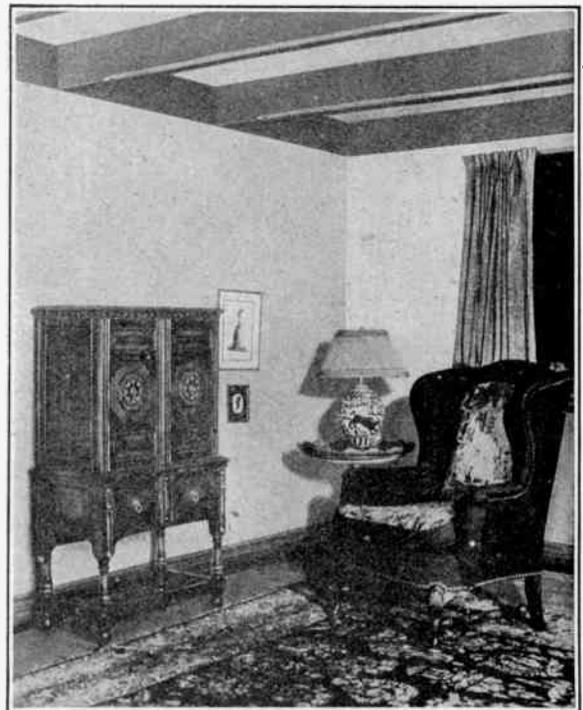
MARCONI DE LUXE "THERMION-IC" PHONOGRAPH AND RADIO

A complete musical instrument. Puts the whole world of music at the listener's disposal. Seven Tube Batteryless Radio with electrical reproduction of recorded music. Changes from one field to the other by means of a simple switch. A marvellous instrument of never failing entertainment



BRUNSWICK PANATROPE WITH RADIO

A combination of Brunswick Panatropes with a 6-tube, radio frequency Radiola, both utilizing the same electrical equipment. Either an indoor or outdoor antenna may be used. Ground wire may be connected to any grounded piece of metal. Equipment also includes specially designed noiseless electric motor to operate record turntable, and complete set of rigidly inspected radio tubes.



THE NEW ELECTRICAL REPRODUCING ORTHOPHONIC VICTROLA NO. 9-16 WITH RADIOLA 18

This new combination in Early English style is the last word in advancement. Volume and tone are the very finest, made possible through a power amplifier and specially fine reproducer unit. Electrical reproduction of both records and radio. Beautifully colored albums revealed when doors open. Inlays and overlays in the front panels add beauty.

Some of the Newest and Most Popular Records

For the benefit of our readers, who have gramophone attachments to their radios, we shall in future give a monthly list of the newest releases.

APEX RECORDS

- 8813—My Angel (Angela Mia)—Fox Trot (Voc. Chor. by H. Lambert)—Lanin and His Orchestra.
There Is No To-morrow—Fox Trot (Voc. Cho. by Ralph Haines)—Hollywood Dance Orchestra.
- 8818—Jeannine, I Dream of Lilac Time—Waltz (Voc. Cho. by Harold Lambert)—Dixie Marimba Players.
My Last Waltz With You—Waltz (Voc. Cho. by Ralph Haines)—Hollywood Dance Orchestra.
- 8825—The Dance of the Blue Danube—Fox Trot (Voc. Cho. by Harold Lambert)—Lou Gold and His Orchestra.
Who Wouldn't Be Blue—Fox Trot (Voc. Cho. by George Beaver)—Ernie Golden and His Orchestra.
- 8826—Memories of France—Tenor Solo—George Beaver.
Sweetheart I'm Sorry (That I Made You Cry)—Tenor with Orchestra, Harold Lambert.
- 8827—Memories of France—Waltz (Voc. Cho. by Harold Lambert)—Dixie Marimba Players.
What Good Are Tears?—Waltz (Voc. Cho. by Ralph Haines)—Hollywood Dance Orchestra.
- 8822—My Angel (Angela Mia), Tenor with Orchestra—Harold Lambert.
The Rose You Gave To Me (Baritone with Orchestra)—Ralph Haines.
- 8809—That's My Weakness Now—Fox Trot—E. Golden and His Orchestra.
Somebody's Making A Fuss Over Somebody—Fox Trot—Original Indiana Five.
- 26118—Swing Along—Male Quartette—The Radio Four.
John Peel—Male Quartette—of Belleville, Ontario.
- 26119—That Beautiful Land—Male Quartette—The Radio Four.
Open Up the Gates of Glory—Male Quartette—of Belleville, Ont.
- 26120—Sally of My Dreams—Baritone—Johnny Keechstrings.
I Can't Give You Anything But Love—Baritone—Johnny Keechstrings.
- 8802—The Bum Song—Comedy Song—Jack Kaufman.
Hallelujah! I'm A Bum—Comedy Song—Jack Kaufman.
- 8779—Little Marian Parker—Tenor—Vernon Dalhart.
In the Hills of Old Kentucky (Trio)—Dalhart—Robinson—Hood.
- 8767—Ramona—Baritone—Harold Lambert.
Girl of My Dreams—Tenor—George Beaver.
- 26118—Swing Along—Male Quartette—The Radio Four.
John Peel—Male Quartette—of Belleville, Ontario.
- 8778—Get Out And Get Under the Moon—Fox Trot—Pelham Inn Society Orchestra.
Boo-Hoo-Hoo (What Am I Gonna Do?)—Fox Trot—Billy James' Dance Orchestra.
- 8777—I'm Away From the World When I'm From You—Baritone—Harold Lambert.
Get Out and Get Under the Moon—Vocal and Instrumental Quartette—Eddie Lewis and His Tropical Serenaders.
- 8596—The Wreck of the Number Nine—Tenor—Vernon Dalhart.
The Wreck of the Royal Palm—Tenor—Vernon Dalhart.
- 8805—Ready For the River—Fox Trot—Hollywood Dance Orchestra.
Two Lips (To Kiss My Cares Away)—Fox Trot—Lanin and His Orchestra.
- 8828—Evening Star (Help Me Find My Man)—Fox Trot—Lou Gold and His Orchestra.
My Darling—Fox Trot—Lanin and His Orchestra.
- 8798—Constantinople—Fox Trot—Lanin and His Orchestra.
Your Smile—Fox Trot—Al Lynch and His Orchestra.
- 8745—Ramona—Waltz—Dixie Marimba Players.
That Melody of Love—Waltz—Pelham Inn Society Orchestra.

BRUNSWICK RECORDS

- 3965—Just Like a Melody Out of the Sky—Nick Lucas.
For Old Time's Sake (Vocal and Guitar)—Nick Lucas.
- 3966—When You Said Good-Night—Nick Lucas.
You're a Real Sweetheart (Vocal and Guitar)—Nick Lucas.
- 3969—Because My Baby Don't Mean "Maybe" Now—Cotton and Morpheus.
That's My Weakness Now—Cotton and Morpheus.
- 3984—Headin' Home (Vocal with Orchestra)—Wendell Hall, "The Red-Headed Music Maker."
Old Fashioned Locket—Wendell Hall, "The Red-Headed Music Maker."
- 3986—I'm On the Crest of a Wave—Arnold Johnson and His Orchestra.
What D'Ya Say? (Vocal Chorus)—Arnold Johnson and His Orchestra.
- 3994—You're a Real Sweetheart (Fox Trot)—Abe Lyman's Orchestra.
Down Where the Sun Goes Down—Abe Lyman's Orchestra.
- 3999—Get Out and Get Under the Moon—Edith Evans.
Oh! You Have No Idea—Edith Evans.

- 4001—There'll Be Some Changes Made (Fox Trot)—Chicago Rhythm Kings.
I've Found a New Baby (Vocal Chorus)—Chicago Rhythm Kings.
- 4003—Thunderer March (Military Band)—U.S. Military Academy Band.
On Wisconsin—U.S. Military Academy Band.
- 4016—Someday, Somewhere—Nick Lucas with Lew White at Organ.
Chiquita—Nick Lucas with Lew White at Organ.
- 4017—Someday, Somewhere (Vocal Chorus)—Regent Club Orchestra.
Jeannine, I Dream of Lilac Time—Regent Club Orchestra.
- 4019—Think of Me Thinking of You—Chester Gaylord, "The Whispering Serenader."
My Window of Dreams—Chester Gaylord, "The Whispering Serenader."
- 4020—When Polly Walks Through Hollyhocks—Ben Bernie and His Roosevelt Hotel Orchestra.
Ten Little Miles from Town (Fox Trot)—Ben Bernie and His Roosevelt Hotel Orchestra.
- 4022—The Whole World is Waiting—The Blackstone Trio.
The Shadow Song (Popular Concert)—The Blackstone Trio.
- 4023—Anita—Waltz—Vocal Chorus by Jack Parker—Joe Green's Novelty Marimba Band.
Twelve O'Clock Waltz—Joe Green's Novelty Marimba Band.
- 4033—Sonny Boy (With Whistling Chorus)—Al. Jolson.
There's a Rainbow 'Round My Shoulder—Al. Jolson.
- 4041—Gotta Big Date with a Little Girl—Galla-Rini.
You're a Real Sweetheart (Accordion)—Galla-Rini.
- 4042—Hindustan (Fox Trot)—Ben Bernie and His Hotel Roosevelt Orchestra.
Cannon Ball Rag (One Step)—Ben Bernie and His Hotel Roosevelt Orchestra.
- 4043—Moonlight Madness (Tenor with Orchestra)—Harold "Scrappy" Lambert.
Revenge—Harold "Scrappy" Lambert.
- 4044—Don't Mess Around with Me (Fox Trot)—The Hotsy Totsy Gang.
Jubilee Stomp (Fox Trot)—The Washingtonians.
- 4051—Ace in the Hole (Comedian with Orchestra)—Jay C. Flippen.
I'm a Ding Dong Daddy—Jay C. Flippen.

COLUMBIA RECORDS

- 1560D—Two Black Crows in the Jail House—Parts I and II—Moran & Mack.
- 1444D—That's My Weakness Now—Paul Whiteman and His Orchestra.
'Taint So, Honey, 'Taint So—Paul Whiteman and His Orchestra.
- 1402D—C-o-n-s-t-a-n-t-i-n-o-p-l-e—Paul Whiteman and His Orchestra.
Get Out and Get Under the Moon—Paul Whiteman and His Orchestra.
- 1448D—Chiquita—Paul Whiteman and His Orchestra.
Lonesome in the Moonlight—Paul Whiteman and His Orchestra.
- 1512D—Jeannine I Dream of Lilac Time—Ben Selvin and His Orchestra.
Grieving—Ben Selvin and His Orchestra.
- 1413D—My Angel—Eddy's Hawaiian Serenaders.
Like a Bird That's on the Wing—Eddy's Hawaiian Serenaders.
- 1485D—King For a Day—Ted Lewis and His Band.
Moonlight Madness—Ted Lewis and His Band.
- 1463D—Nagasaki—Ipana Troubadours.
Down Where the Sun Goes Down—Ipana Troubadours.
- 1506D—Old Man Sunshine—Leo Reisman and His Orchestra.
I Still Belong to You—Leo Reisman and His Orchestra.
- 1514D—Chiquita—Ukelele Ike.
All of the Time—Ukelele Ike.
- 1531D—Ten Little Miles from Town—Paul Ash and His Orchestra.
Out of the Dawn (Vocal Refrain)—Paul Ash and His Orchestra.
- 1532D—I Love You Truly (Fox Trot)—Guy Lombardo and His Royal Canadians.
Starlight and Tulips (Fox Trot)—Guy Lombardo and His Royal Canadians.
- 1545D—My Angeline (Vocal Refrain)—Mississippi Maulers.
Don't Mess Around with Me—Mississippi Maulers.
- 1550D—'Round Evening (Vocal Refrain)—Jan Garber and His Orchestra.
Sonny Boy (Vocal Refrain)—Jan Garber and His Orchestra.
- 1515D—Out of the Dawn (Vocal)—Henry Burr.
Sweetheart Lane (Vocal)—Henry Burr.
- 1540D—Right or Wrong (Vocal with Piano)—Art Gillham.
It's Never Too Late to Be Sorry (Vocal with Piano)—Art Gillham.
- 1523D—It Goes Like This (That Funny Melody), (Vocal)—Ukelele Ike.
Half Way to Heaven (Vocal)—Ukelele Ike.
- 1520D—Moonlight Madness (Vocal)—Pete Woolery.
If You Don't Love Me (Vocal)—Pete Woolery.
- 1534D—Doin' The New Low Down (Vocal)—The Diplomats.
Diga Diga Doo (Vocal)—The Diplomats.

RADIO

VICTOR RECORDS

- 21564—Jeannine, I Dream of Lilac Time—Gene Austin.
Then Came the Dawn (Tenor with Orchestra)—Gene Austin.
- 21566—Old Man Sunshine (Fox Trot)—George Olsen and His Music.
King For a Day (Waltz)—George Olsen and His Music.
- 21591—My Angel (Angela Mia)—Franklyn Baur.
Revenge (Tenor with Orchestra)—Franklyn Baur.
- 21531—Blue Yodel No. 3—Jimmie Rodgers.
Never No Mo' Blues (Sing. with Guitar)—Jimmie Rodgers.
- 21565—Just Imagine (From Good News)—Jean Goldkette and His Orchestra.
My Darling (Fox Trot)—Jean Goldkette and His Orchestra.
- 21588—Rag Doll (Fox Trot)—Victor Arden-Phil Ohman and Orchestra.
Kiddie Kapers (Fox Trot)—Victor Arden-Phil Ohman and Orchestra.
- 21609—Old Man Sunshine (Tenor with Orchestra)—Johnny Marvin.
If You Don't Love Me—Johnny Marvin.
- 21604—I Tore Up Your Picture—Bud Billings.
Do You Still Remember—Bud Billings with trio.
- 21589—Ten Little Miles from Town—George Olsen and His Music.
Just a Little Bit o' Driftwood—George Olsen and His Music.
- 21606—When Love Comes Stealing (Waltz)—Nat Shilkret and the Victor Orchestra.
A Kiss Before the Dawn (Waltz)—Nat Shilkret and the Victor Orchestra.

- 21601—Sweet Ella May (Fox Trot)—Jacques Renard and His Orchestra.
There'll Never Be Another You (Waltz)—Jacques Renard and His Orchestra.
- 21603—Moonlight Madness (Fox Trot)—Nat Shilkret's Orchestra.
Nagasakia (Fox Trot, Refrain by F. Crumit)—Inter. Novelty Orch.
- 21590—Memories of France (Waltz)—The Troubadours.
That's Just My Way of Forgetting You—Jean Goldkette's Orchestra.
- 21599—Three O'Clock in the Morning (Waltz)—Paul Whiteman and His Orchestra.
Oriental (Fox Trot), (Cui's Orientale)—Paul Whiteman and His Orchestra.
- 21602—Don't Cry, Baby (Fox Trot)—Frankie Masters and His Orchestra.
Is It Gonna Be Long (Fox Trot)—Frankie Masters and His Orchestra.
- 21632—What D'Ya Say (Fox Trot)—Johnny Hamp's Kentucky Serenaders.
Blue Shadows (Fox Trot)—Johnny Hamp's Kentucky Serenaders.
- 21633—Some Day—Somewhere (Waltz)—The Troubadours.
Neapolitan Nights (Waltz)—The Troubadours.
- 21643—Flower of Love (Fox Trot)—Ted Weens and His Orchestra.
Lonesome in the Moonlight —Nat Shilkret and Orchestra.
- 21652—Out of the Tempest (Waltz)—George Olsen and His Music.
The First Kiss (Waltz)—George Olsen and His Music.
- 21514—I Can't Give You Anything But Love—Johnny Hamp's Orchestra.
Dream House (Fox Trot)—Art Hickman's Orchestra.

TRANS-CANADA BROADCASTING CHAIN

(Continued from page 3)

gained from this method of advertising are in direct ratio to the quality of the programme given. While variety is provided to attract different classes and ages, the better class of entertainment pays in the long run.

For instance, on Monday, October 15th, a particularly interesting series of programmes was broadcast over the eastern network of the Trans-Canada Broadcasting Co. At eight o'clock the first feature of the evening began. This was the programme of the Dominion Cartridge Company, which, incidentally, was also broadcast over the western network. The programme was a scene laid in the camp of some duck-hunters. Interspersed with dialogue were some excellent banjo numbers and a very good male quartette which sang appropriate songs. At nine o'clock the chain was suspended for one hour to allow the key station CKGW to broadcast a local programme. At ten o'clock the chain was resumed and the first chain programme of the Imperial Tobacco Light Opera Company was sent out. These programmes have for some time been very popular features of the Cheerio station, but this was the first one on the chain. At eleven o'clock dance music began and a programme by the Jack Frost Anti-Freezers Band was given. From midnight on till 1 a.m. Jack Denny and his dance orchestra were broadcast over the chain from the Mount Royal Hotel in Montreal. And thus ended what was Canada's first long commercial chain broadcast.

In addition to these programmes the Rowntree Chocolatetown Carnival has been heard for the past several weeks over the Eastern network every Friday evening from eight to nine o'clock. While these programmes themselves are of the very highest type, the point of this writing is not to eulogize them but merely to show how far Canadian chain broadcasting has progressed.

It is expected that, in the near future, listeners to the Trans-Canada chain will hear more and more excellent programmes as time goes on. Time on the chain is rapidly being booked and many new and delightful musical features will be heard this coming winter. Among the prominent advertisers who are coming on the chain shortly are Laura Secord Candies and the Maple Leaf Milling Co. The type of programme to be broadcast by Laura Secord has not as yet been disclosed, but the programme of the Maple Leaf Milling will take the form of a series of concerts by the Toronto Philharmonic Orchestra under the direction of Reginald Stewart, the celebrated pianist. The Philharmonic will be assisted by the most outstanding artists. A special feature of the Maple Leaf Milling programme, outside of CKGW, which will be the key station, two other Toronto stations will be hooked up in this broadcast, CFCA and CKNC. This being the case, Toronto audiences, and the radio public in the immediate vicinity of Toronto, will find no difficulty in securing this outstanding programme.

That chain programmes are appreciated by those audiences who are usually dependent on local stations for their features and music is borne out in the following letter from Mr. Harry G. Link, the manager of the London, Ont., station in the network:

Mr. R. W. Ashcroft,
Trans-Canada Broadcasting Co.,
King Edward Hotel,
Toronto, Ont.

Dear Mr. Ashcroft,—

The series of programmes broadcast Monday night has taken Western Ontario by storm. During the time I have been associated with this station I have not experienced such a continuous flow of favorable comment.

Everybody is talking about us. Everybody is saying "Canada is coming into her own in broadcasting." Everybody has praise for Dominion Cartridge, Imperial Tobacco and the Anti-Freezers. And those who stood the gaff and heard Jack Denny are telling their neighbors they missed a real programme.

The cry is for more chain programmes, featuring the wonderful male quartette. The type of programme used by the Dominion was deeply and enthusiastically appreciated. The singing was good, the theme was good,

although some asked why we did not feed the hungry hunters when they came in just "craving food."

Too much cannot be said about the Imperial Hour. It was a hit from start to finish.

We are promising the people more. There is such a feeling of happiness, enthusiasm, goodwill and everything else that you can think of right now, that the fellow who steps into the chain broadcasting is going to win hundreds of thousands of friends.

Yours very truly,
Harry G. Link, Station Manager.

In addition to letters like these which come from men associated in the radio business, hundreds of letters are received from delighted listeners who, up till now, have enjoyed only the more or less uncertain business of tricky tuning to pick up good programmes. It must be realized that the city dweller with so many facilities at hand can scarcely realize the important influence that radio has on shut-ins and residents in remote rural districts where it is almost their only form of entertainment.

Chain broadcasting on a large scale in Canada has at last become an assured fact and with the co-operation and goodwill of the various radio stations the finest entertainments will be at the disposal of even those in the remotest parts of Canada—a boon which is of inestimable value—and for which many will be grateful to its originators.



ELEANOR SHALER

Formerly of "The Garrick Gaities," "The Manhatters," and other successes, who was leading lady and star comedian in a recent Three-in-One Theatre Hour heard through the National Broadcasting System

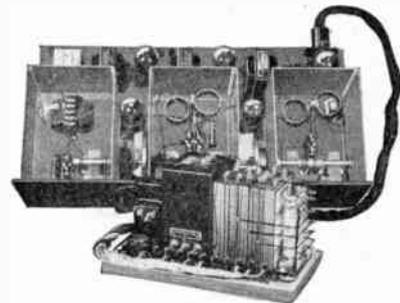
Special Service FOR Our Canadian Customers

To give our customers in Canada speedy service, we have a specially trained force to handle your orders.

Place your orders with the best known Radio and Electrical House in New York. Our 31 years' of Service to the Trade is ample proof of our stability.

Official **Hammarlund** Distributors
For Better Radio
PRECISION PRODUCTS

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for new
Hi-Q 29
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All
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Raytheon Tubes
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Air Chrome
Carter

Tungar
Frost & Remler
Temple Speakers
Corbett

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Lionel Electric
Toy Trains
Elkon
Jewell

Samson Amplifiers
Thordarson
Electrad
Weston

AERO SHORT WAVE COILS AERO TRANSMITTERS

Yaxley
Sterling
Abox

Lynch
Parvolt
Bodine

We are ready to ship all kits or parts produced by the above manufacturers, as well as any others specified in any radio publication.

Over 50,000 sq. ft. of floor space stocked with the very latest radio, electrical and television apparatus—31 years of Service to the Trade. Royal-Eastern pays the Freight.

Send for FREE 100 Page 1929 Wholesale Catalog

Royal-Eastern Electrical Supply Co.
15 West 21st Street
NEW YORK CITY

TRANS-CANADA RADIO CLUB

(Continued from page 5)

To presentation of papers on radio topics as a club member, when such papers have been approved as is hereinafter provided. (See Section 9, Act 2).

To participation in club social activities subject to such arrangements as shall be made at the time.

Section 8.—Associate members' privileges shall be:

Annual subscription to the club organ.

To presentation of papers on radio topics subject to the same provisions as are provided in Section 7.

To participation in club social activities subject to same provisions as Section 7.

Section 9.—Permanent club premises shall be provided when membership warrants the expenditure. These shall be in the City of Toronto.

Government**ARTICLE II.**

Section 1.—The club officers shall be a President, Vice-Presidents (limited to three), Secretary, Recording-Secretary, Treasurer, and three members elected to serve as Directors. The President and Vice-Presidents shall also be Directors.

Section 2.—Honorary officers shall not act as officers except by request of the Directorate by vote.

Section 3.—Election of officers shall be annually, one month prior to the commencement of the fiscal year.

Section 4.—The Fiscal year shall commence December first.

Section 5.—Election shall be by majority vote of members in good standing present at time of election.

Section 6.—Notice of election shall be sent out by Secretary, in writing, at least two weeks prior to the date of election.

Section 7.—Committees to arrange for the various activities of the club shall be from time to time appointed, such appointment to be made by the Directorate, who will also determine the period of such appointment.

Section 8.—There shall be a committee appointed to pass on all membership nominations.

Section 9.—There shall be a committee appointed to approve all articles, etc., which any member or associate member wishes to present or publish under the aegis of the club.

Election of Members**ARTICLE IV.**

Section 1.—Members and associate members' names shall be nominated by any member in good standing, in writing, to the Directorate, who shall turn over all such nominations to the Committee appointed for recommendation.

Section 2.—Upon recommendation by the Membership Committee nominees shall be advised by the Secretary of their approval and proper form of application shall be sent them.

Section 3.—Any nominee not replying within one month to such form of application shall be considered as ineligible, his name shall be removed from the nomination list, and shall not be reinstated for a period of three months.

Use of Club Premises**ARTICLE V.**

Section 1.—The club premises shall be available to the use of members each day, but shall close at twelve o'clock midnight unless by special arrangement of the Directorate.

Section 2.—All legitimate amusements shall be allowed in the club except where such amusements interfere with the interests of club members.

Section 3.—No games of hazard or chance, nor gambling in any form shall be tolerated on the club premises.

Section 4.—Club members found violating the provisions of Section 3 of this article shall be summarily barred from all club privileges at the discretion of the Membership Committee, for a period of one month. A second offence shall result in permanent disbarment.

Section 5.—All loud, boisterous, profane or vulgar conversations or conduct, tending to disturb the peace and good order of the club shall be deemed to come within the provisions of Section 4 of this article.

Permanent Meetings**ARTICLE VI.**

Section 1.—There shall be a weekly luncheon at a place to be decided on by the Directorate, each Friday.

Section 2.—The last Friday in each month shall be the general monthly business meeting, which shall be conducted during or immediately following the luncheon.

Section 3.—The Annual Meeting shall be December 1st, or the nearest Friday thereto in each year, at an hour to be decided on by the Directorate, at which time there shall be the election of officers and such other business as shall properly come before such a meeting.

Section 4.—Extraordinary meetings shall be called at the discretion of the President.

Payment of Dues**ARTICLE VII.**

Section 1.—Dues are payable annually unless otherwise provided for, on or before December 1st each year.

RADIO PATENTS ISSUED DURING THE MONTH OF SEPTEMBER, 1928

282,948—Sound Amplifier. James S. Bach, Sept. 4, 1928.

283,022—Sound Reproducer. The Brandes Laboratories, Inc., Cyril A. Brigham, Sept. 4, 1928.

283,023—Sound Reproducer. The Brandes Laboratories, Inc., Cyril A. Brigham, Sept. 4, 1928.

283,037—Radio Transmission. The Canadian General Electric Company, Limited, Chester W. Rice, Sept. 4, 1928.

283,041—Signalling System. The Canadian Westinghouse Company Limited, Karl C. Randall, Sept. 4, 1928.

283,086—Wire Bending Mechanism. The Radio Corporation of America, N. V. Philips' Gloeilampenfabrieken, Walther Dalheimer, Sept. 4, 1928.

283,109—Crystal Controlled System. The Wired Radio, Inc., Albert H. Taylor, Sept. 4, 1928.

283,144—Cabinet for Radios and Phonographs. Jose Acosta, Sept. 11, 1928.

283,309—Wave Filter. The Western Electric Co., Inc., Ralph G. McCurdy, Sept. 11, 1928.

283,459—Wireless Receiving Apparatus. Arthur Elliot Beattie, Sept. 25, 1928.

283,596—Electrical Condenser. The Radio Patents Corporation, Arthur J. Weiss, Sept. 25, 1928.



The Talmadge Sisters, Norma and Constance with "Mike"

Announcement

WE DESIRE to announce that under the patents controlled by Canadian Radio Patents Limited, for the manufacture and sale in Canada of Radio Receiving Sets to be used only for the non-commercial reception of public radio telephone broadcasting, licenses have been reserved or granted to the following:---

- Canadian General Electric Co., Ltd., Toronto, Ont.
- Canadian Westinghouse Co., Ltd., Hamilton, Ont.
- Northern Electric Co., Ltd., Montreal, Que.
- Canadian Marconi Company, Montreal, Que.
- Standard Radio Mfg. Corp., Ltd., Toronto, Ont.
- DeForest Radio Corp., Ltd., Toronto, Ont.
- King Quality Products, Ltd., Bridgeburg, Ont.
- Stromberg-Carlson Telephone Mfg. Co. of Canada, Ltd., Toronto, Ont.
- Splittorf Electrical Co., Ltd., Toronto, Ont.
- Grimes Radio Corp., Ltd., Kitchener, Ont.
- Federal Radio Corp., Buffalo, N.Y.
- WorkRite Mfg. Corp., Brantford, Ont.
- Canadian Brandes Ltd., Toronto, Ont.
- Freed-Eisemann Radio Corp., Toronto, Ont.
- Stewart Warner Speedometer Corp., Toronto, Ont.
- American Bosch Magneto Corp., New York.
- McLagan-Erla, Ltd., Startford, Ont.
- Mohawk Radio, Ltd., Toronto.
- Philadelphia Storage Battery Co., Philadelphia, Pa.
- Grigsby Grunow Company, Chicago, Ill.
- Malcolm and Hill Limited, Kitchener.

Any other manufacturers of Radio Receiving Sets sold in Canada embodying the following features:—

- (a) Regenerative or feed back circuits.
- (b) Tuned radio frequency sets having a plurality of stages of tuned radio frequency amplification coupled with vacuum tubes.
- (c) A grid-leak arrangement comprising a condenser shunted by a high resistance.
- (d) The neutralization of inter-electrode capacity in an amplifying stage,

are infringers of the patents controlled by Canadian Radio Patents Limited. Among these patents are the following:—

Rice	241,138	Franklin	187,793	DeForest	174,361
Alexanderson	208 583	DeForest	159,794	DeForest	218 235
Langmuir	244,847	DeForest	169 332	DeForest	218,468
Hartley	174 690	Mathes	183 275	DeForest	218,238
Nichols	183 276	Mathes	209,777	DeForest	218 242
Armstrong	216,321	Arnold	213,999	DeForest	218,473
Round	179,703				

In the maintenance of its property rights it is the duty of Canadian Radio Patents Limited, to see that its patents are respected. Therefore, notice is given to manufacturers, purchasers or users, of infringing Radio Receiving Sets that they will be held liable to Canadian Radio Patents Limited, on account of such infringement.

Canadian Radio Patents Limited

Head Office - Toronto

consists of 40 to 45 turns of No. 24 wire with an antenna tap at about the 15th turn, depending on the length of antenna used. Less turns for a long one, and more for a shorter one. The grid end runs over onto the oscillator coil and has 6 turns wound of the grid end of the coil, leaving a space of three-sixteenth inch between the two windings. For the oscillator coil use the same size tubing, 4 inches long. The primary has 35 turns and the secondary 50 turns, all No. 24 wire. These windings correspond to the tuning for broadcast reception 250 to 575 meters using .00035 variable condensers. No grid leak and condenser was used in the first detector. Some tubes may require this in the first detector.

The oscillator and tuner coils should be mounted at right angles to each other and also the intermediate transformers with as much space between them as possible depending on the size of cabinet. If the set squeals with or without the 8th tube, try changing the position of some of the transformers or tuning and oscillator coil. When the set has been completed and battery connections properly made, remove the eighth tube for the first tuning, when a station is brought in insert the tube turning the rheostat way down, bring on the current slowly and note the increase in volume. If the set refuses to function, reverse some of the connections marked.

A GAP-LESS LIGHTNING ARRESTER

The Amoroso Manufacturing Co., of Boston, Mass., are now producing the Gap-Less Lightning Arrester. One of these arresters will be found in every aerial kit put out by the company, also they can be had separately if desired.

The Gap-Less Arrester is made of strong brown porcelain and the hardware is of nicked brass. The size of the arrester is $4\frac{1}{2}$ inches long $1\frac{3}{8}$ inches wide and 1 $\frac{3}{16}$ inches high and it operates on the Amoroso Gap-Less principle. This article has been tested and is listed by the Underwriters Laboratories as standard. The intended retail price is 75c each.

George Stambler & Co., of 43 Adelaide St. E., are the Toronto sales representatives.

Doctor: "You certainly have acute appendicitis?"

Fair Patient: "Oh, doctor, you flatter me."

Canada Aids the Byrd Antarctic Expedition

Canada played its part in assisting The Byrd Antarctic Expedition. Quebec is supplying him with the dogs he is taking to the Antarctic, and it was in Montreal that he made the contract which enabled him to secure these dogs.

It was Commander Byrd's original intention to secure a portion of his dogs from Greenland as well as to secure some of the Eskimo dog-drivers from Etah. As Etah is inaccessible to boats except for a few short weeks in the summer, Commander Byrd took advantage of

real, who arranges the Arctic and Sub-Arctic Broadcasts. This message which was broadcast from the Westinghouse Stations last winter, read as follows:

"To: Noo-ka-ping-wa, Royal Canadian Mounted Police, Bache Peninsula, Ellesmereland. Would you like to go down to the Antarctic with me next summer? Want two others of your tribe to go along, and two of their wives who are good at sewing. Want good



THE ARMSTRONG QUAKERS

A mixed vocal octette heard every Friday night through the NBC. The Quakers are (front row), Dorothy Miller, Edith Thayer, Mary Hopple, and Janet Hall; (rear row), Victor Hall, Norman Le Moyne, Randolph Weyant and A. R. McAdams

the fact that the Westinghouse Stations had schedules every Saturday night with The Royal Canadian Mounted Police Post at Bache Peninsula, Ellesmereland, northwest of Etah, $10\frac{1}{2}$ degrees from the North Pole. At Bache Peninsula a number of the Etah Eskimos were attached to the Royal Canadian Mounted Police Post, among them was NOO-KA-PING-WA, the outstanding Eskimo character of the Arctic.

As Commander Byrd was aware that the Westinghouse Radio Stations were reaching Bache Peninsula regularly, he sent a message to George A. Wendt, of the Canadian Westinghouse Company of Mont-

strong men and good dog-drivers.

(Signed) "R. E. BYRD."

The above message went out night after night, and according to reports were heard over the entire Arctic from Alaska to Greenland.

Noo-ka-ping-wa and his Eskimos, and their dogs, are not going to the Antarctic with Commander Byrd.

It developed late this spring that apparently the Danish Ambassador of Greenland were not favorable to letting any of the Greenland Eskimos, or Greenland dogs, go south with Commander Byrd, with the result that the Commander put it

(Continued on page 35)

Short Wave Radio Stations

Call. Sig.	Location	Wave Length	Power	Call Sig.	Location	Wave Length	Power
CANADA							
CF	Drummondville, Quebec	32.00					
CJRX	Winnipeg, Man.	25.60	2,000				
UNITED STATES							
KDKA (8XK)	East Pittsburgh, Pa.	62.50	40,000				
	(8XS, SXP-portable)	42.75					
		27.00					
KEJK (6XAN)	Los Angeles, Calif.	105.90	250				
KEWE	Bolinas, Calif.	14.10					
KEPY (7XAB)	Spokane, Washington	105.90	100				
KFQU (6XBH)	Holy City, Calif.	31.00	50				
		53.00					
		63.00					
		106.00					
KFQZ (6XAL)	Hollywood, Calif.	108.20	50				
KFVD (6XBX)	Culver City, Calif.	105.00	50				
KFWB (6XBR, auto)	Los Angeles, Calif.	105.00	50				
		40.00					
KFWO (6XAD)	Avalon, Calif.	53.07	100				
KGER (6XBV)	Long Beach, Calif.	48.86					
KGB	San Diego, Calif.	65.18					
KGDE	Barrett, Minn.	40.00	50				
KGO (6XAX, 6XN)		10 to 40	10,000				
KHJ (6XAU)	Los Angeles, Calif.	104.10	50				
KJBS (SXAR)	San Francisco, Calif.	61.00	50				
KJR (7XC, 7XO)	Seattle, Washington	105.20	250				
KMOX	St. Louis, Mo.	49.00	15				
KMTR	Los Angeles, Calif.	108.20	250				
KNRC (6XAF)	Santa Monica, Calif.	108.20	100				
KNX (6XA)	Los Angeles, Calif.	107.10	100				
KOIL (9XU)	Council Bluffs, Iowa	61.06	500				
KWE-KEWE	Bolinas, Calif.	14.10					
KWJJ (7XAO)	Portland, Oregon	53.54	100				
WAAM (2XBA)	Newark, N.J.	65.18	50				
WABC (2XE)	Richmond Hill, N.Y.	58.50	500				
	(Yacht MU-1, 2XAO)						
WAJ	Rocky Point, N.Y.	22.48					
WBRL (1XY)	Tilton, N.H.	109.00	250				
WCGU (2XBH)	Brooklyn, N.Y.	54.00	150				
WCSH (1XAB)	Portland, Maine	63.79	250				
WCX	Pontiac, Michigan	32.00	75				
WEAJ	Rocky Point, N.Y.	22.48					
WEAO (8XJ)	Columbus, Ohio	54.02	25				
WGY (2XAF)	Schenectady, N.Y.	31.40					
	(2XAD)	21.96					
		5.00					
WHK (8XF)	Cleveland, Ohio	66.04	500				
WJR-WCX (8XAO)	Pontiac, Michigan	32.00					
WIZ	New Brunswick, N.J.	43.45					
WJZ (3XL)	New York, N.Y.	59.96	30,000				
WLW (8XAL)	Cincinnati, Ohio	52.02	25				
		49.96	250				
WNAL (9XAB)	Omaha, Neb.	105.00	50				
WNBT	Elgin, Ill. (Time Signals)	35.50	500				
WND	Ocean Township, N.J.	46.48					
WOR (2XAO)	Kearny, N.J.	65.40	50				
WOWO	Fort Wayne, Ind.	22.80	1,000				
WRNY (2XAL)	New York, N.Y.	30.91	500				
WTFB	Mt. Vernon, Va.	56.00					
AFRICA							
4B	Johannesburg, U.S. Africa	32.00					
JLO	Nairobi, Kenya	70.00	4,000				
AUSTRALIA							
2BL	Sydney	32.50					
2FC	Sydney	32.00					
2ME	Sydney	28.50					
3AR	Melbourne	55.00					
3AR	Melbourne	55.00					
3LO	Melbourne	32.00					
6AG	Perth West, Australia	32.90					
AUSTRIA							
EATH	Vienna	37.00					
	Vienna	22.20					
BELGIUM							
EB4A2	Brussels	42.00	300				
DANTZIG							
EK4ZZZ	Dantzig	40.00					
DENMARK							
7MK	Copenhagen	32.00	500				
7RL	Copenhagen	42.12 and 84.24	250				
ENGLAND							
5SW	Chelmsford	24.30	15,000				
2NM	Caterham	32.50					
GBS	Rugby	24.40					
FRANCE							
Radio LL	Paris	61.00	500				
F8AV	Nogent	80.00	500				
Radio Vitus	Paris	37.00	1,500				
Radio Lyon	Lyons	40.00	250				
YN	Lyons	58.00	3,000				
	Nancy	15.50	500				
FW4	Ste. Assise	24.50					
GERMANY							
AFI	Konigswusterhausen	14.00					
AFT	Konigswusterhausen	14.00					
AFU	Konigswusterhausen	14.00					
AFK	Berlin	45.30, 43.12,	41.50				
HEA	Nauen		11.00				
	Nauen		13.50				
	Berlin		17.20				
AGC	Nauen		56.70				
AGJ	Nauen		11.00				
AGK	Nauen		43.90				
LA	Langenberg		43.90				
POF	Nauen		11.00				
	Nauen		14.90				
POZ	Nauen		18.10				
	Konigswusterhausen		52.00				
	Stuttgart		41.00				
HOLLAND							
PCJJ	Eindhoven	31.4	30,000				
PCKK	Kootwijk	16.00					
PCLL	Kootwijk	18.10	32,000				
PCMM	The Hague	46.50					
PCPP	Kootwijk	16.50					
PCRR	Kootwijk	37.00					
PCTT	Kootwijk	21.00					
PCUU	The Hague	37.00					
ITALY							
IAX	Rome	45.00					
IAY	Rome	45.00					
IMI	Milan	45.00					
JAPAN							
JFAV	Taipeh, Formosa	39.50					
JHBB	Ibarakiken	37.50	2,000				
JIPP	Tokio	20.00					
JKZB	Tokio	20.00					
IAA	Iwatsuki	40.00					
JAVA							
ANE	Malabar	33.00					
ANF	Bandoeng	15.93					
ANH	Malabar	56.00					
	Bandoeng	17.00					
	Batavia	46.50					
MEXICO							
XC51	Mexico City	44.00					
MOROCCO							
AJN	Casablanca	51.00					
NORWAY							
LCHO	Oslo	33.00					
U.S.S.R. (RUSSIA)							
RDRL	Leningrad	28.50					
RDW	Moscow	83.00					
RFM	Knabarovsk (Siberia)	70.20	12,000				
RA19	Tomsk (Siberia)	37.00					
SPAIN							
EAM	Madrid	30.70					
RAE55	Barcelona						
SWEDEN							
SAJ	Karlsborg	47.00					
SMHA	Stockholm	41.00					
SWITZERLAND							
EH90C	Berne	32.00					
EH9XD	Zurich	85.00 and 32.00					

For Better Radio
Hammarlund
PRECISION
PRODUCTS

- "MIDLINE" CONDENSERS
- DRUM DIALS
- SHORT WAVE PLUG-IN-COILS
- SHORT WAVE CONDENSERS
- R. F. CHOKE COILS
- SHIELD GRID COILS

Canadian Distributors:

WHITE RADIO LIMITED

41 West Ave. North Hamilton, Ont.

A cosmopolitan group collected on the corner—Ikey, Sambo, Sandy, Pat and Hans. What was the nationality of each?



JUNE PARKER

Droll Singer of droll songs at Warner Bros. Motion Picture Studios, Radio Station KFVB

Principal: "Why do you close your eyes when I kiss you?"

Teacher: "So my pupils won't see me."

'Round the World with New Karas Short-Wave Receiver

Enjoy the thrills of hearing stations thousands of miles away. Karas engineers have developed short wave equipment to highest point. Easy to build. Easy to tune with Karas Micrometric dials, 63 to 1 ratio. Uses Karas condensers, built like a fine watch. Karas coils and audios—standard of the world. Send to-day for complete information and construction blue print. Free.

KARAS ELECTRIC COMPANY
4056L North Rockwell St., Chicago, Ill.

Name _____
St. and No. _____
City and Prov. _____ 4056L.

BROADCASTING FOR NOVA SCOTIA FISHERMEN AT SEA

Broadcasting of programmes and features of interest for Nova Scotia fishing fleets was begun recently by a new wireless station at Louisburg, states the Department of Commerce.

Information will be broadcast twice daily on a wave length of 434.5 meters. Weather reports formerly given out by the Halifax Lightship will now be taken over by the new station. In addition it will send out daily bait reports received from the Magdalen Islands, Canso, Hawkesbury, North Sydney, Halifax, Lunenburg, Liverpool, Lockeport, Shelburne and Yarmouth, showing the quantity of frozen bait in storage, quantity of fresh unfrozen bait available; ice conditions; prevailing local prices for dried fish, for slack-salted fish; and including, whenever possible, news items.

AMOROSO

- AERIAL KITS
- "NIFTY" LEAD-IN
- "NIFTY" GROUND CLAMPS



GAP-LESS LIGHTNING ARRESTER

QUALITY PRODUCTS—
—LASTING SERVICE

Amoroso Manufacturing Co.

Manufacturers of
RADIO AND ELECTRICAL ESSENTIALS
60 INDIA ST. BOSTON, MASS.

Employer (to new stenographer):
"I suppose you have been through algebra."

Stenographer: "My yes, but it was at night and I couldn't see the place."

TELEVISION TIME-TABLE

Station	W.L. Meters	Disc Holes	Disc Speed R.P.M.	Pic. Per Sec.	Time
WRNY—New York City...	326	48	450	7.5	Every hour on hour when station is on air.
2 XAL —	30.91	Same as WRNY			
W G Y—Schenectady	379.5	24	1260	21	Tues., Thurs., Fri., 12.30-1.00 p.m.
2 XAD —	21.96	Same	Same	Same	Tues., 10.30-11 p.m. (WGY and 2 XAF).
2 XAF—	31.4				Sun., 9.15-9.30 (WGY and 2 XAD), E.S.T.
3 X K—Washington, D.C....	46.7	48	900	15	Mon., Wed., Fri., 8-9 p.m., E.S.T.
1 XAY—Lexington, Mass....	51.62	48	900	15	Radio Movies.
8 XAV—Pittsburg, Pa.	62.5	60	960	16	No Regular Schedule.
4 XA—Memphis	120-125	24	900	15	No Regular Schedule.
9 XAA—Chicago	62.5	48	900	15	Mon., Wed., Thurs., Fri., 9-10 a.m., C.S.T.
6 XC—Los Angeles	65.22-66.67	36	1080	18	Will start Sept. 15th. Daily—10.30-11.30 p.m. P.S.T.
WLEX—Boston	62.5	48	900	15	
WCFL—Chicago	61.5	45	900	15	

CALL LETTERS FOR AIRCRAFT AND RADIO CONTACT

To simplify radio communication to and from airplanes, the craft are assigned specified call letters so that the identification of a particular plane is positive and operators are spared time in sending and receiving messages. The purpose of the plan is essentially the same as the system of designating broadcasting stations by a series of letters. As worked out by the international bureau, at Berne, airplanes will have five letters in their calls. The first will signify the nationality and the other four will be the registration mark of the plane.

The young man had been bragging in the boarding house.

"Now then," said one of the listeners impatiently, "we've heard enough about what you can do. Tell us if there is anything you can't do, and I'll undertake to do it myself."

"Well," came the prompt reply, "I can't pay my bill."

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1254 BROADWAY CONSULTING ENGINEER
NEW YORK

Canadian Broadcasting Stations

Call Sig.	Location	Owner	Wave Length	Power Input	Call Sig.	Location	Owner	Wave Length	Power Input
ALBERTA									
CNRC	Calgary	Canadian National Railways	434.5	500	CFCH	Iroquois Falls	Abitibi Power and Paper Co.	499.7	250
CFCN	Calgary	W. W. Grant	434.5	1800	CFMC	Kingston	Monarch Battery Co.	267.7	50
CFAC	Calgary	Calgary Herald	434.5	500	CFRC	Kingston	Queen's University	267.7	500
CJOC	Lethbridge	J. E. Palmer	267.7	50	CJGC	London	London Free Press Ptg. Co.	329.5	500
CJCR	Red Deer	North American Collieries Ltd.	356.9	1000	CKPR	Midland	E. O. Swan	267.7	50
CJCJ	Calgary	Radio Service and Repair Shop	434.5	250	CNRO	Ottawa	Canadian National Railways	434.5	500
CHCA	Calgary	Alta., The Albertan Pub. Co. Ltd.	434.5	250	CKCO	Ottawa	Dr. G. M. Geldert (Ottawa Radio Assn.)	434.5	100
CNRE	Edmonton	Canadian National Railways	516.9	500	CFLC	Prescott	Radio Association of Prescott	296.9	50
CHMA	Edmonton	Christian Missionary Alliance	516.9	250	CKPC	Preston	Wallace Russ	247.8	25
CHCT	Red Deer	Messrs. G. F. Tull & Andorn Ltd.	356.9	1000	CKNC	Toronto	Canadian National Carbon Co.	517.	500
CJCA	Edmonton	Edmonton Journal	516.9	500	CNRT	Toronto	Canadian National Railways	356.9	500
CKUA	Edmonton	University of Alberta	516.9	500	CJSC	Toronto	Evening Telegram	517.	500
CKLC	Red Deer	Alberta Pacific Grain Co., Ltd.	356.9	1000	CFRB	Toronto	Standard Radio Mfg. Corp.	312.3	1000
					CFCA	Toronto	Star Publishing and Printing Co.	356.9	500
					CKCL	Toronto	Dominion Battery Co., Ltd.	517.	500
					CHNC	Toronto	Toronto Radio Research Society	517.	500
					CKOW	Toronto	Nestles Food Co. of Canada	356.9	500
BRITISH COLUMBIA					PRINCE EDWARD ISLAND				
CFJC	Kamloops	N. S. Dalgeish & Sons and Weller & Weller	267.7	15	CFCY	Charlottetown	The Island Radio Co.	312.3	100
CHLS	Vancouver	W. G. Hassell	410.7	50	CHGS	Summerside	R. T. Holman, Ltd.	267.7	50
CJOR	Sea Island	G. S. Chandler	291.1	50					
CNRV	Vancouver	Canadian National Railways	291.1	500	QUEBEC				
CHWK	Chilliwack	Chilliwack Br'dcasting Co.	247.8	5	CFCF	Montreal	Canadian Marconi Co.	410.7	1650
CKFC	Vancouver	United Church of Canada	410.7	50	CNRM	Montreal	Canadian National Railways	410.7	1000-1650
CKWO	Vancouver	Sprott Shaw Radio Co.	410.7	10	CKAC	Montreal	LaPresse Publishing Co., Ltd.	410.7	1200
CKCD	Vancouver	Vancouver Daily Province	410.7	1000	CHYC	Montreal	Northern Electric Co., Ltd.	410.7	750
CKWX	Vancouver	A. Holstead and Wm. Hanlon	410.7	100	CNRQ	Quebec	Canadian National Railways	340.7	50
CFCT	Victoria	Vict. Broadc. Ass.	475.9	500	CHRC	Quebec	E. Fontaine	340.7	45
					CKCV	Quebec	G. A. Vandry	340.7	50
					CKCI	Quebec	Le "Soleil," Ltd.	340.7	22½
					CKSH	St. Hyacinthe	City of St. Hyacinthe	296.9	50
MANITOBA					SASKATCHEWAN				
CNRW	Winnipeg	Canadian National Railways	384.4	500	CJRM	Moose Jaw	Jas. Richardson & Sons, Ltd.	296.9	500
CKY	Winnipeg	Manitoba Telephone System	384.4	500	CNRR	Regina	Canadian National Railways	312.3	500
					CKCK	Regina	Leader Publishing Co.	312.3	500
					CHWC	Regina	R. H. Williams & Sons, Ltd.	312.3	15
					CJBR	Regina	Sask. Co-Op. Wheat Producers, Ltd.	312.3	500
NEW BRUNSWICK					CNRS	Saskatoon	Canadian National Railways	329.5	500
CFBO	St. John	C. A. Munro Ltd.	336.9	100	CFQC	Saskatoon	The Electric Shop, Ltd.	329.5	500
CFNB	Fredericton	James S. Neill & Sons	247.8	100	CJWC	Saskatoon	Wheaton Electric Co., Ltd.	329.5	250
CNRA	Moncton	Canadian National Railways	475.9	500	CJGX	Yorkton	Winnipeg Grain Exchange	475.9	500
					CJRW	Fleming	Jas. Richardson & Sons	296.9	500
NOVA SCOTIA									
CHNS	Halifax	Halifax Herald Ltd.	322.4	500					
ONTARIO									
CKGW	Toronto	Gooderham & Worts	312.3	5000					
CKMC	Cobalt	R. L. MacAdam	247.8	15					
CKOC	Hamilton	Wentworth Radio Supply Co.	340.7	100					
CHCS	Hamilton	The Hamilton Spectator	340.7	100					
CHML	Hamilton	Maple Leaf Radio Co.	340.7	50					
CKCR	Brantford	Geo. Patterson, St. George	296.9	50					

ADDITIONAL VICE-PRESIDENTS FOR WESTINGHOUSE

Announcement of the appointment of H. U. Hart as Vice-President and Chief Engineer, and George R. Kerr as Vice-President and Treasurer, is made by Paul J. Myler, President of the Canadian Westinghouse Company, Limited.

In 1893 Mr. H. U. Hart enrolled



A. V. HART

**Vice-President and Chief Engineer
Canadian Westinghouse**

as a Student-Apprentice of the Westinghouse Electric and Manufacturing Company at Pittsburgh. His advancement in the different branches of the Works and Engineering Department was rapid, and in 1899 he was sent to the French Westinghouse Company as Designing Electrical Engineer, and was later appointed as Chief Engineer. During this period Mr. Hart had charge of the design of some very large generators then being built for water power developments in France and Italy.

In 1905 he was secured by the Canadian Westinghouse Company as Chief Engineer, which position he has held for the past twenty-three years, where his guidance in Engineering and Manufacturing have contributed to the remarkable growth of this organization.

Mr. Hart's executive ability resulted in his appointment as General Manager in 1923. He has established many new lines of manufacture such as radio, electric ranges and improvements and larger ratings of generators, motors, transformers and other applications of electricity to various industries.

Mr. Hart is a Fellow of the Am-

erican Institute of Electrical Engineers and a Member of the Engineering Institute of Canada.

Mr. George R. Kerr was one of the original members of the Westinghouse Manufacturing Company, Limited, manufacturers of Air Brakes, and destined to hold later on one of the most important positions in the entire electrical industry. When the Canadian Westinghouse Company, Limited, was organized in 1903, Mr. Kerr was placed in charge of the Accounting end of the business and has been identified with the remarkable progress made by this company since its inception.

Mr. Kerr's appointment as treasurer dates back upwards of ten years, and throughout that period his advice and insight into the future possibilities of Canadian electrical development and prosperity have undoubtedly had a great influence on the enterprise and leadership for which the Canadian Westinghouse Company is famous.

During his service as an officer of the company vast amounts of capital have been required for the undertakings of this large industry, and his foresight, executive ability and control of the assets and finances have contributed much to the



GEORGE R. KERR

**Vice-President and Treasurer Canadian
Westinghouse**

fact that the Canadian Westinghouse Company Limited experienced no financial difficulties during the post war period and finds itself to-day one of the largest and most successful enterprises in the Dominion.

NEED SPECIAL WAVE LENGTHS FOR EFFICIENT POLICE WORK

**BY BRIG.-GEN. D. C. DRAPER,
Chief Constable for the City of Toronto**

Of what value is radio to the officer of the law? That is a question which should be easily answered. For this reason—that anything which tends to speed up communication and contact between the units of a police force, between superior and subordinate, by which the interests of the public may be further safeguarded, cannot be anything else but an excellent thing. The telephone, radio, the high-powered motor car, all of which are taken advantage of by the wideawake criminal, all have their several parts to play in the prevention of crime and the apprehension of the flouters of law and order.

Radio is the latest addition to the family of rapid transit of speech. It is past the experimental stage, therefore may be depended upon to give the help that is expected of it. Many up-to-date police forces have already adopted it with advantage, and their experience should be sufficient to warrant its use by others.

But there is one drawback I see to it at the present time. There is confusion in the air. Now radio is largely a matter of entertainment for the general public; for the police it must be a matter of stern duty. When a crime has been committed and the police desire to make known this fact to their fraternity over the American continent they want to be sure that their brethren are receiving the information with certainty, so that the criminals implicated may be speedily brought to book. For that reason, if for no other, it is desirable that police radio stations should have special wave-lengths of their own. Perhaps high, perhaps low—but whichever it is, it must be a wave-length which will put them beyond interference on the part of those who otherwise would, intentionally or unintentionally, hinder the disseminating of important information.

Radio has come to stay, and we may as well make use of it. Its potentialities are great—greater, in fact, than we recognize at the present time.

There was a fearful crash as the train struck the car. A few seconds later Mr. and Mrs. Pickens crawled out of the wreckage. Mrs. Pickens opened her mouth to say something, but her husband stopped her.

"Never mind talking," he snapped. "I got my end of the car across. You were driving the back seat and if you let it get hit, don't blame me!"

Dry Power Units

110 volt., 60 cycle



List Prices

"A" Eliminator for	\$54.50
"BC" " "	\$47.50
"ABC" " "	\$95.00

Operated by switch on radio set

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Master Aerial Outfits

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All Radio Receiving Sets MUST be Licensed

Penalty on summary conviction is a fine not exceeding \$50.00

License Fee \$1.00 per annum

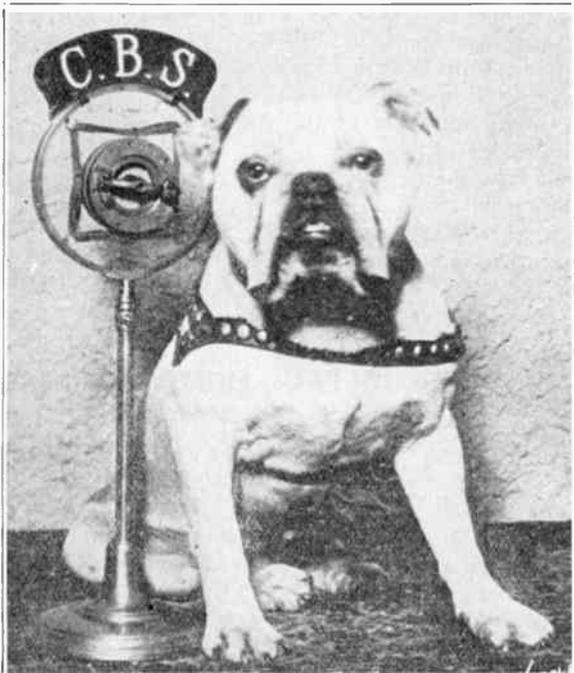
Licenses, valid to 31st March, 1929, may be obtained from: Staff Post Offices, Radio Dealers, Radio Inspectors, or from Radio Branch, Department of Marine and Fisheries, Ottawa.

A. JOHNSTON,
Deputy Minister of Marine

PROGRAMME POLICY OF CKGW

(Continued from page 23)

of the outstanding programmes now being broadcast from this station. There are: Rowntree's Chocolate-town Carnival (chain); the Imperial Tobacco Light Opera Company Hour (chain); the Canadian General Electric Radio Hour; the G. A. Stimson Instrumental Trio Programme, an immensely popular Sunday afternoon feature; the Castrol Concert Band, playing all-English programmes, which draw weekly hundreds of replies from delighted listeners all over the continent, and the Dominion Cartridge Company's Hunting Camp programmes (chain), which are something altogether new to radio fans. In addition, many more programmes of interest and originality, both musical and otherwise, are included in the future plans for the station, and there are musical treats in store for fans of this Canadian Radio Station which will not be eclipsed anywhere else on the continent.



LOOK OUT FOR DX:

Here's the official watch-dog and guard of the microphone at the Columbia Broadcasting System k-y station DX, or Dice, as he is sometimes called, is really owner of the title "Hamisch Allerdyce Secundus." He was born in England about a year and a half ago, and was presented to the Columbia by Eric Palmer, President of the Radio Writers Gridiron Club

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Choice of built-in horn speaker, Farrand or Newcombe - Hawley magnetic cone, List - - \$47.50
With Dynamic Speaker, List - \$90.00

SPOTTON ENGINEERING COMPANY

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ONTARIO

GREAT SATISFACTION FOUND IN NEW TYPE OF AERIAL

The Radio News of Canada recently had a highly interesting talk with Mr. S. A. Purser of 445 King St. W., Toronto distributor of the Trico Cameron Antenna with which is connected an exceptionally interesting story in the development thereof. Mr. Cameron the inventor is a Canadian, born in Toronto—he transferred his business activities to Buffalo some years ago, was engaged in the hardwood business, and having occasion to visit many homes, he naturally learnt of the great interest radio as a whole had created.

He also noticed there were many varied types of aerials, many of which were not satisfactory, particularly in the case of apartment houses, where aerial erection was not convenient. He in due course became a radio enthusiast, but as was the case with many others his home was not conveniently situated to erect a long aerial, with the result that he made use of a loop. Later he used both an inside and an outside loop, the latter being placed outside the window with the stick being jammed under the window for

support. This naturally left the window open causing a draft, with the result that the outside loop was brought in and rather carelessly thrown on top of the inside loop. Mr. Cameron without noticing this, commenced tuning in stations, and was astonished at the remarkable results obtained, particularly in view of the fact that his receiver was of the cheaper type. From this he looked for the cause of the improved reception and discovered the relation of the two loops was the reason.

From this accidental discovery Mr. Cameron then developed the theory and later produced the Trico Cameron Antenna. There was much discussion as to the efficiency of the Cameron Antenna with the result that a sample was sent for test to the Court of Claims of the United States at Washington, D.C., and a report was made expressing the entire satisfaction at the remarkable results found in using this antenna as against many other types.

It will be interesting also to note that the leading radio set manufacturers in the United States, including Fada, Crosley, and Atwater-Kent, fully endorse the use of the Cameron Antenna, a fact which in

itself is sufficient proof of the desirability of using it with any type of receiver. It works out particularly well with batteryless receivers, and is also so easy and convenient to install, that, apartment houses in particular find it convenient in every way.

Any further particulars of the Cameron Antenna will gladly be given by Mr. S. A. Purser of 445 King St. W., Toronto, who is the Canadian Distributor.

HELPFUL HINTS FOR BETTER RADIO

Under the title of "Helpful Hints for Better Radio," Dr. Lee De-Forest, "The Father of Radio" has written an interesting analysis of the entire process of broadcasting and how it may be improved by the individual radio listener. The book contains 32 pages. The text is most fascinating and instructive, and is written in such terms that even the radio beginner can grasp its full meaning.

This book will be sent to anyone requesting a copy from the De-Forest Radio Company, Jersey City, N.J.

McLAGAN ERLA RADIO

Electric and Battery Operated Sets

In McLagan-Erla, two industrial forces, each of outstanding prominence in their respective fields, combine to give you the highest conception in appearance and efficiency in radio receiving sets. The reputations of these two concerns are your assurance of quality, and that in the McLagan-Erla Receiver you buy, you get all that may be expected in range, selectivity, tone quality, volume, and attractiveness.



The "Laurentian" High Boy, Single Dial—Six Tubes

In each individual price class, the McLagan-Erla Model represents the best obtainable value.

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The "Acadian" Console, Single Dial—Six Tubes

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ELECTED DIRECTOR OF RADIO GRIDIRON CLUB

Mr. A. E. Leary, well-known member of the radio staff of the Toronto Evening Telegram, was recently elected a director of the Radio Gridiron Club of America at the annual meeting, which took place during the World's Radio Fair at New York. Mr. Leary has been connected with the radio industry since its inception.

The Radio Gridiron Club is an international newspaper association, of which Eric Palmer, of New York, is

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Prevent the ups and downs of your tubes. Install AMPERITES—the filament control that keeps voltage constant. AMPERITES insure long tube life and better reception. A type for every tube—battery or A. C.

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The "SELF-ADJUSTING" Rheostat

CANDIDATES SUCCESSFUL IN EXAMINATIONS FOR RADIO CERTIFICATE

The Radio Branch of the Department of Marine and Fisheries announce that eighteen (18) candidates were examined during the month of September, 1928, of which the following were successful and obtained Certificate of Proficiency in Radiotelegraphy:—

COMMERCIAL

1st Class

British Columbia—Jakobsen, M. E. D., Stow, J. H., Vancouver, B.C.
Quebec—Relton, H. J., Quebec, P.Q.

2nd Class

Ontario—Saltiel, E., Toronto, Ont.
The following have been further examined and have had their existing Certificates endorsed for additional equipment.

British Columbia—Blacklock, C., Vancouver, B.C.

Quebec—Dufresne, J. P. G., Henderson, J. T. Montreal, P.Q.

AMATEUR

British Columbia—Cuzen, J., Vancouver, B.C.

Ontario—Caveney, M. J., Loader, J. G., Miller, H. W., Timmins, Ont.

Quebec—Robinson, H. L., Montreal, P.Q.

Saskatchewan—Bock, A. R., Pickering, W. J., Regina, Sask.



MR. AL. LEARY

the president. Other members of the club come from England, France, Germany and Denmark. The club's annual banquet on the first night of the New York Radio Show is second only to the Radio Industries Banquet. Mr. Leary has the distinction of being the first Canadian to be elected a director of this international radio club. He is also a member of the American Television Society.

A WAVE TRAP

Here is a simple and effective design for a two-coil wave trap. Secondary, 50 turns of No. 22 cotton-covered enameled wire, wound on a three-inch bakelite tube. The primary consists of 10 turns of No. 18 cotton-covered enameled wire, wound over the secondary. The primary may be separated from the secondary by two or three layers of Empire cloth, or several match sticks, well-shellacked, may be fastened to the secondary with shellac, and the primary wound on these sticks.

SEND FOR NEW RADIO BOOK—IT'S FREE!

New hook-ups. This book shows how to make short-wave receivers and short-wave adapters. How to use the new screen grid tube in D.C. and A.C. circuits. How to build power amplifiers, ADC eliminators. Up-to-the-minute information on all new radio developments. It's free. Send for copy to-day.

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BELL "B" ELIMINATOR

Supplies 180 volts B power—40 volts C power—5 volts to 2 power tubes with steady, unvarying flow and absolute silence.

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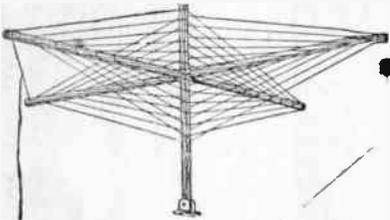
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