

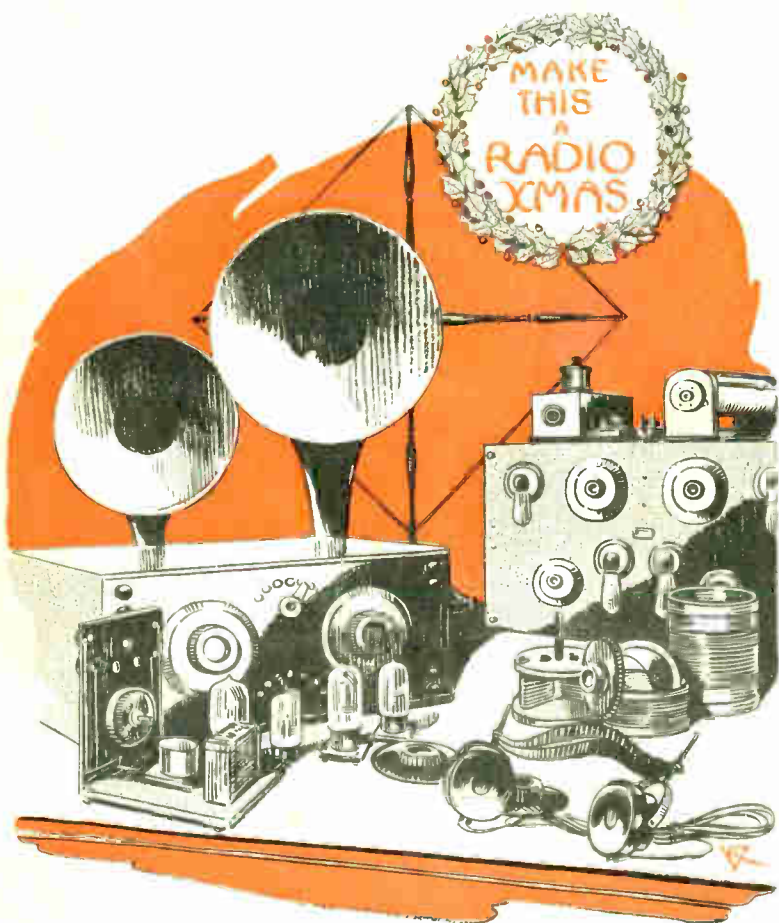
RADIO

Merchandising

THE MAGAZINE OF THE RADIO TRADE

DECEMBER, 1922

\$1.00 a Year



PUBLISHED FOR

Central Electric Company
FOUNDED 1887
THE HOUSE OF SERVICE

316-326 SOUTH WELLS STREET, CHICAGO, ILL.

Radio's Most Attractive Merchandising Proposition



THE HOMCHARGER

is unquestionably the most popular and the most successful battery charger on the market. A necessity to every Radio Fan and Car Owner—over 50,000 now in use. HOMCHARGER dealers are backed by the most comprehensive advertising campaign in the entire field—over thirty-five publications regularly carry the Homcharger message to over ten million prospects.

Attention compelling sales helps, window trims, streamers, counter cards, circulars, etc. will bring these prospects into your store to buy.

The Homcharger's exclusive selling points will make nearly every inquiry a sale—self-polarizing, over five ampere charging rate approved by Underwriter. Finished in mahogany and gold and furnished complete with Ammeter, charging cable and battery clips, at the popular price of \$18.50.

Our liberal discounts and close Dealer Co-operation insure more sales and **GREATER PROFITS** than any other charger on the market. Write **NOW** for proposition.

THE AUTOMATIC ELECTRICAL DEVICES CO.

156 West 3d St.

Cincinnati, Ohio

Let Us Help You Cash-in On This RADIO Christmas

THERE is going to be a tremendous demand during the next few weeks for radio sets and parts—and the dealer who is ready with a complete range of equipment is the one who will get the business.

In placing your orders with us, you will avail yourself of a most complete and comprehensive radio stock in the country——

A stock that stands ready for immediate shipment to meet the requirements of your Christmas business.

No matter how small or how large or varied these holiday demands may be, we are in a position to take care of you promptly and satisfactorily.

Thirty-five years of merchandising experience stands behind us and we offer you the benefit of this experience in meeting the popular demands this year—A Radio Christmas.

Write us, order today and get your radio stock in hand for the rush that's sure to come.

A Radio Catalog of Real Worth

Our Radio Catalog is now ready. It is a practical and helpful handbook on Broadcasting and Receiving Apparatus and Standard Parts.

We want every reliable retailer of Radio to have this new and unique book, for it not only catalogs our complete stock of Radio equipment, but also gives a fund of interesting and unusual data on Radio fundamentals.

Write today for your copy.

Central Electric Company

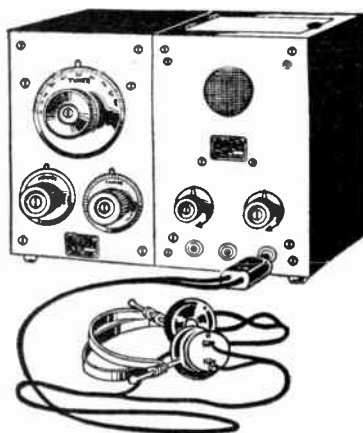
FOUNDED 1887

The House of Service

316-326 South Wells Street

CHICAGO





Short-Wave Regenerative Receiver Model RC

Combining RA Tuner and DA Amplifier In One Cabinet

Model RC is a highly sensitive long distance receiver splendidly suitable for receiving broadcasted news, music and concerts.

The radio enthusiast who desires a modern, compact, portable and efficient receiver for general reception, will find these requisites in Model RC Short-Wave Regenerative Receiver.

The receiver comprises a combination of the type RA Short-Wave Regenerative Tuner and type DA Detector and two-stage audio frequency amplifier. Distant radio telephones, amateur and ship stations may be received on any wave length within the range of 180 to 700 meters.

You should have the RC model in your home. Write today for complete information and data.

Short-Wave Regenerative Tuner, Model RC..... \$132.50

Central Electric Company
FOUNDED 1887
CHICAGO



G-E Tungars For Charging Radio Batteries At Home

The Tungar Battery Charger, so long in popular use for charging automobile starting and lighting batteries from any alternating current lamp socket, is particularly suitable for charging storage batteries used on radio receiving sets with vacuum tubes. In fact, the bulb used in the Tungar is quite similar in action to the Radiotron used in the receiver.

The storage battery used with the radio set should be quite frequently charged for the following reasons:

First—Frequent charging keeps the voltage of the battery near its maximum (something over six volts), giving better results on the receiving tubes.

Second—Frequent charging keeps a reserve capacity always available, which would not be the case if a battery were allowed to reach the discharge point before charging.

Don't take chances with your customers by selling a new and untried device by an unknown manufacturer.

The Tungar is of well-known reliability, manufactured and guaranteed by the General Electric Company.

The Tungar can also be used to charge your automobile battery. We carry a large Chicago stock and are in position to make immediate shipments.

Order to-day.

Central Electric Company
(FOUNDED 1887)
CHICAGO

HERE are some of the **Radio Parts** We carry in Chicago Stock

Magnavox Horns
Magnavox Power Amplifiers

HEAD SETS

Brandes Superior Type 2000 Ohm
Brandes Navy Type 3200 Ohm
Frost 2000 Ohm
Frost 3000 Ohm
Holtzer-Cabot 2200 Ohm
Kellogg 2400 Ohm
De Veau Gold Seal 2200 Ohm
De Veau Gold Seal 3200 Ohm
Baldwin Head Sets
Baldwin Head Phones Single Unit Only With Cord

Ralco Variocoupler
Ralco Grid Variometer
Ralco Plate Variometer

CONDENSERS

Ralco Variable Condenser Panel Type 3 Plate
Ralco 5 Plate ditto
Ralco 11 Plate ditto
Ralco 21 Plate ditto
Ralco 43 Plate ditto
Ralco Variable Condenser Panel Type with Knob,
Pointer and Graduated Metal Scale 11 Plate
Ralco 21 Plate ditto
Ralco 43 Plate ditto

Central Electric Company

FOUNDED 1887

The House of Service

316-326 South Wells Street

CHICAGO



MuRad = Radio Amplification = Distance

TYPE MA-13 RECEIVER

HEARD WITH TWO FOOT LOOP

Regular Performance
of
Mu-Rad Receivers

A MU-RAD Radio Frequency Receiver with a small loop aerial is more sensitive, more selective, simpler to operate and more compact than any other type of receiving equipment.

Guaranteed for 1000 Mile Reception

A positive, written guarantee on each Mu-Rad Receiver of 1000 miles reception on a loop.

Their Performance Sells These Sets

The astounding advance in radio reception marked by these receivers starts real business wherever they are demonstrated. It is *the* set your customers will welcome, the set you can sell in large quantities.

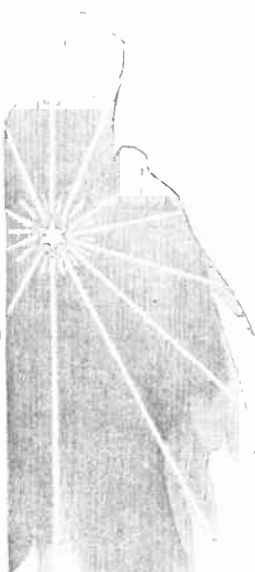
Type MA-12
3 Stage R. F.
and Detector
List \$128.

Type MA-13
3 Stage R. F.,
Detector and
2 Stages A. F.
List \$160.

Too Good a Proposition to Wait—
WRITE TODAY

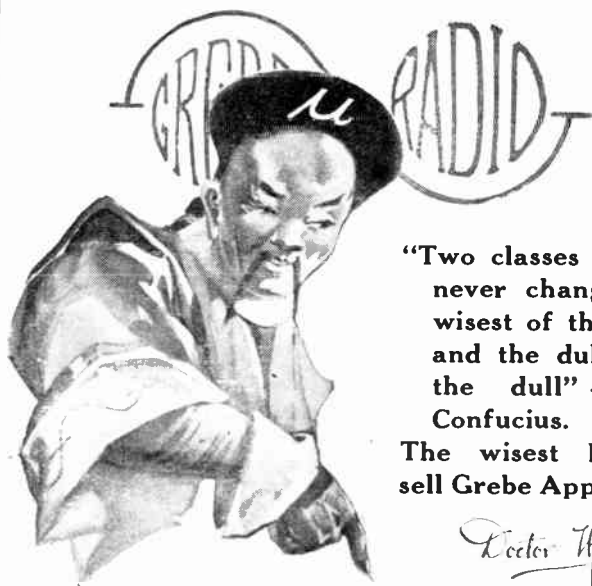
MU-RAD
LABORATORIES
INCORPORATED

802 FIFTH AVE. ASBURY PARK, N. J.



The New
Star in
the **Radio**
World





"Two classes of men never change, the wisest of the wise, and the dullest of the dull" — said Confucius.

The wisest Dealers sell Grebe Apparatus.

Lester W. H.

DULL indeed is the dealer who believes the public still foolish enough to buy inferior radio equipment.

Grebe apparatus supports our strongest claims for the kind of service a "radio-wise" public is demanding.

This is a "Grebe Radio Christmas"—Rush orders are flocking in. Now is the time to order your stock of Grebe Receivers. Delay means lost profits!

A. H. GREBE & CO. INC.

General Offices and Factory
80 Van Wyck Blvd.
Richmond Hill, N. Y.

Western Branch
451 East 3rd St.,
Los Angeles, Cal.



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RADIO

Merchandising

THE MAGAZINE OF THE RADIO TRADE

G. DOUGLAS WARDROP
ROY F. SOULE,
EDITORS

VOL. 2

DECEMBER, 1922

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G. D. WARDROP, Pres. F. C. THOMAS, Vice-Pres. D. MAGOWAN, Sec.-Treas.

HARRY B. CHILDS
Business Manager

FRANK C. THOMAS
Advertising Manager

342 Madison Avenue, New York

DETROIT OFFICE:
Roy Buell
516 Lightner Building
242 Lafayette Boulevard

CHICAGO OFFICE:
H. C. Teller
3312 Eastwood Ave.

SAN FRANCISCO OFFICE:
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"VICTOR JUNIOR"

A highly efficient tuner and detector at the price of a Crystal set
and its

TWO STAGE AMPLIFIER



TWO STAGE AMPLIFIER

matches the
Victor Junior
Same size and
style case.

Type 625

List

\$27.00

Tuner and Detector, Type 600 List \$22.50

Look at the price—think of it—a GUARANTEED outfit. You cannot beat it anywhere, and it's selling like wild-fire.

The VICTOR JUNIOR demonstrates wonderfully. It is THERE on performance!

SIMPLICITY, EFFICIENCY and QUALITY

—are its strong points, and it is the simplest set to operate, now on the market AT ANY PRICE. Tunes with only one dial. Interference is easily tuned out. Distance is one of its strongest features.

The tuner and detector has a wave length radius of 150 to 600 meters—with the amplifier it has brought in stations clearly up to 1,500 miles.

Built up to the Victor standard of *quality*, and at a price which *sells it*. Even the school boys can afford this—the cost is less than that of the usual parts required for a tube set.

VICTOR JUNIOR can be supplied with either W.D. 11 or Radiotron sockets, and it's a *knockout*.

Swing in on this for the XMAS trade—WRITE or WIRE for a sample and get started on this live one NOW.

Liberal Discounts to Jobbers and Dealers

Victor Radio Corporation

Manufacturers of Complete Sets and Parts

795 East 135th Street

New York City



Radio Chautauqua

Our Plan Hailed by Industry as Having Tremendous
Sales Possibilities—Will Add Hundreds of Thou-
sands to Radio Audience

By Douglas Wardrop



When we have struck our first dead center bulls eye! In the November issue of RADIO MERCHANTISING we presented the radio world with a new old idea—for who can say that there are any new ideas—and this idea, Radio Chautauqua, has gone right to the center of one of the most besetting of problems confronting the radio industry today, that of making radio broadcasting a constructive and worth while force aiding civilization.

The thought in its most rudimentary form has been presented to the management of several hundred broadcasting stations and without exception our correspondents endorse our idea of Radio Chautauqua and are ready to co-operate with us in rendering, through radio, the same valuable service that is rendered to thousands of communities by the summer Chautauqua.

Radio broadcasting as we know it today was of mushroom origin—it literally sprang up over night. There were no parallels by which it could be guided; the ever existing parasites were ready and did take advantage of their opportunities; the public were buncoed with poor equipment, and the indifferent programs broadcasted were translated into shrieks and calamitous noises in the ears of the expectant listeners. The institution of radio

broadcasting was hastily and poorly erected and the fact that under all its mal-treatment it has not crumbled and melted away into nothingness, is the most compelling testimony to the permanency of the institution when it is placed on the firm foundation that it is slowly but surely evolving. The reconstruction is now going on the inexorable law of supply and demand—with the sub and important ingredient of quality—is at work and the proper foundation will soon be achieved.



So far as the general public is concerned, as a writer in the Scientific American aptly put it recently, radio broadcasting is looked upon with three different frames of mind, depending on the experience of the individual. First, there is the individual who knows nothing about radio, and he is very rare indeed. That individual, of course, is ready to be introduced to radio and, if the work is properly carried out, he may become a radio novice in short order. Secondly, there is the individual who has heard a loud-speaker in front of a hardware store or poorly managed radio shop, and has experienced the shrieks and groans and hisses and whistles which were said to be radio. That individual is through with radio. His mind is made up, and it will require a skillful and persistent campaign through advertising and

salesmanship to disillusion him. The loud-speakers, by the way, in the hands of inexperienced persons have done more harm to radio than almost any other factor. Thirdly, there is the radio novice who is reasonably satisfied with the present broadcasting situation, although he admits it could be greatly improved and expects it to be improved in the future. Meanwhile, this individual, whom we will call the novice, is making the most of an unsettled situation.

All of these facts are known to the men in the industry who have made a serious study of the question, and movements are now on foot to achieve co-ordinated action among manufacturers, distributors and merchants of radio apparatus in clearing the atmosphere of existing chaos and putting in its stead a broadcasting service on the high lever which the scientific achievement of radio merits.

Very many publicists and men of affairs who have been compelled for various reasons to think seriously of radio have come to the conclusion that the deluge of public enthusiasm came too soon; but strangely and with rare exceptions, this view is not shared by the men who have been identified with radio for years. The fact that Smerna is ahead of the world today in the quality and quantity of its broadcasting stations is due to the fact that we got away to a quick start. The number of our stations is increasing steadily; every state is now on the roll and the installations now being made have back of them the lessons gained during the past year. Which is all to the good for the public.

We now have close to six hundred broadcasting stations and a glance at a radio map will show the tendency to overcrowd in certain areas. And overcrowding has the same relation to good broadcasting that a four-party wire has to efficient and rapid telephoning.



QUALITY and power of broadcasting stations is worthy of every consideration, but that consideration must be tempered with justice—justice to the pioneers who saw the vision and who were early in the field giving to the public to the fullest extent of their financial ability. Remember many of the small stations were the pioneers and for that fact they are entitled to more sympathetic consideration.

Eventually proper laws governing broadcasting will go on the statute books; just when only a soothseer can say. If the following changes in the law are made, according to a close student of radio broadcasting, there cannot be too many broadcasting stations, since they can arrange amongst themselves to send out different kinds of material at the same time and thus use several wave lengths.

(a) Broadcasting licenses to be issued only to organizations and institutions which are strong enough financially to put out really worth-while programs. (b) No experimental licenses to be issued to individuals unless they have sufficient funds and are otherwise evidently in a position to make some real contributions to the art. (c) No amateur licenses to be given to spark transmitting sets; only continuous wave transmitters to be allowed to operate. Much of the present dot-dash interference is due to

spark sets which do not send out sharp waves and therefore cause interference over a wide range of wave lengths. (d) Wave bands to be allocated to certain types of programs, such as, jazz, classical music, vaudeville, educational lectures, news, etc., and any station

to be allowed to transmit on the appropriate wave length for the material that it is going to put out.

Which preliminary statements bring us to the special subject of this article—Radio Chautauqua, broadcasted on a special wave length.

What Is Chautauqua

FORTY years ago, Chautauqua was a geographical name, now it is a common noun. Four million Americans in a single year respond to its summons.

The following will tell you how and why the Indian name of a county and lake in Southwestern New York has become so broadcast:

On the first Tuesday of August, 1874, a group of earnest people met at Fairpoint on Chautauqua Lake to found a Sunday School Assembly. John H. Vincent had long wanted to establish an institute for training Sunday School teachers. His colleague, Lewis Miller, proposed to take this into the woods. Dr. Vincent feared that the new enterprise would be confused with the camp meeting which just then was a highly emotional institution. Mr. Miller's counsel prevailed and Chautauqua was chosen. The spot was full of natural charm—a heavily timbered point stretched out into a lovely lake. Behind, the ground rose in wooded terraces to a rolling countryside. The men and women who responded to the call were Sunday School workers, and all the leading denominations were represented at this

first assembly. It is significant that the "Chautauqua Idea" was a logical development of the purpose to make Sunday School instruction more efficient.

Lectures on science, travel, literature, social problems, the esthetic side of life, music and art collections were provided for the program.

This course, naturally, in a short time, attracted other than Sunday School teachers. Within a few years, instruction was provided in languages, history, science, pedagogy. Dr. William R. Harper, President of the University of Chicago from 1891 to 1906, came in 1883 and by 1890 a complete season of summer schools had been established. Men and women from the leading institutions of the country joined the summer staff, and firmly established the reputation of the schools to which many thousands continue to resort.

Chautauqua preached the gospel of education as a process of personal growth; insisted that all education is self-education and that for ambitious people "education ends only with life." The circle passed through a stage of rapid growth, then settled down to a normal plane which it has maintained for years.

The Chautauqua idea permeates the fifteen thousand lyceum courses and three thousand

Chautauquas conducted in all parts of the United States during the year. The paid attendance in one year is said to have exceeded ten million persons. Broadly speaking, the Chautauqua is a summer and the lyceum a winter program of similar character based upon the idea of providing lecture education for the people in community centers. The lyceum originated in New England for winter evenings indoors. Chautauquas began as an all day institute in the open air. Such differences persist to an appreciable extent if one's attention is called to them. Lyceum courses consist of from five to twelve program events occurring at intervals from November to May. Chautauquas in open air were grouped according to feature programs: morning, afternoon and evening, for a number of days in succession, and as a rule organized supplementary attractions and activities for children or special groups of men and women in order to foster a crowd spirit while the Chautauqua lasts.

Each method has obvious advantages and disadvantages compared to the other, from the standpoint of platformist or audience concerned about effectiveness of impression. In substance, their aim is the same; in practice their complements of each other in spreading a type of intellectual stimulation and wholesome understanding. Indeed, communities which support Lyceum Courses in winter have proved to be good Chautauqua towns, and vice versa; and, while one does not hear of summer Lyceum Courses, Chautauquas are being conducted somewhere

in the United States nearly every month in the year. The booking bureaus which make a business of providing lecturers, musicians, readers and entertainers may be able to secure the time of certain important personages during the Lyceum season who are unavailable in the summer vacation months, but on the other hand educational, congressional and other public celebrities are more apt to be available during the Chautauqua season. As an organized, though unstandardized phase of popular education today, the Lyceum and the Chautauqua are adaptations of the same kind of idea and the Chautauqua type of concentrated program has been rapidly gaining in favor during the recent years.

By current usage the Lyceum has come to be a common noun standing for almost any course of lectures and entertainments selected by a local organization or committee to which a course ticket secures admission. The number and character of attractions depend upon the judgment of the committee and the amount which can be guaranteed or probably covered by the sale of admission tickets. There is no fixed standard or proportion of lectures to other features. Some bureaus offer series of lectures or recitals on the university extension model as well as single addresses by notables. In the smaller towns a course is likely to consist of two lectures or popular addresses, two concerts and an interpretative reading, a dramatic performance, or an evening of magic for the fifth feature.

Radio Chautauqua, through the pioneer work of Lyceums and Chautauquas, will immediately appeal to millions who are acquainted with the idea.

Mr. Retailer — Mail this blank — properly filled in — to your nearest broadcasting station today

To the Director

Station

City

State

We are thoroughly convinced that the plan for broadcasting a Radio Chautauqua program, developed by RADIO MERCHANDISING, is one of the most constructive suggestions that has so far come to our attention. We suggest that you give the matter of utilizing this Chautauqua course serious consideration and that you communicate with RADIO MERCHANDISING at 342 Madison Avenue, New York, asking them to send you details of the course that they have had prepared by experts.

In going over our lists we know that of our customers would be interested in RADIO CHAUTAUQUA, and we are certain that additional prospective customers that we have on record will buy apparatus the moment we can tell them that your station will use this course.

RADIO MERCHANDISING will provide you with this course entirely free of charge. It is their contribution to the stabilization of the broadcasting situation and the upholding of radio in America.

Name

Address

Linking Up the Sales Possibilities



FROM the foregoing, you undoubtedly have visualized Mr. Radio Retailer, the virgin territory that this new broadcasting feature will open up in your territory. It will now be in order for you to take an inventory of your customer prospect list, check those whom you know will be interested, get the Chautauqua idea squarely before them and then watch your sales grow.

Go further than this. Check up on the families who are sending students to night school. If a family produces a young man, or a young woman, imbued with the idea of getting more education, the chances are that the heads of that family are imbued with the same spirit, and if you can show them, as you can show them with Radio Chautauqua that this education will come right into their home, you can do business with that family.

Remember that there are hundreds of thousands of adults in the United States who would be

listed as students in night schools were it not for a false modesty that prevents them from giving what they surely feel would be an exhibition of their ignorance. Everyone sharing these feelings would welcome Radio Chautauqua in their homes, for they could study as industriously as they wished and only their family circle would be aware of their diligence in making up for lost time in the matter of education.

If there is an element of foreign born citizens in your community, they represent for you a potential buying public, and when you install a set in such a home it is well to remember, Mr. Retailer, that you are not only selling radio—you are selling Americanism of the highest order, and you are doing a powerful share of Americanization work. This should be a powerful stimulous in your selling work, for you are not only improving your business, you are making your community a better place to live in.

Dealer Cooperation Necessary

RADIO MERCHANDISING has launched Radio Chautauqua throughout the entire country. To put it over for all there is in it, we must have the co-operation of every retailer of radio. It is to your interests that you fill

out the blanks printed herewith and mail as indicated, so that we may have all the information that we require and so that the broadcasters will be compelled to give ear to our suggestion and arrange for our Radio Chautauqua program without delay.

Mr. Retailer—Fill out this blank and mail to Radio Merchandising today

**To RADIO MERCHANDISING,
342 Madison Avenue,
New York.**

We are retailers of radio and we welcome your Radio Chautauqua plan as of extraordinary interest and value.

Our customers hear the following stations clearly and regularly:

Station	Program Director
(1)
(2)
(3)
(4)

What percentage of these programs is educational:

(1)	(3)
(2)	(4)

Have you sent the blank completely filled out to your nearest station?

Name of your company

Address

Radio Grand Opera

A Plan That Will Give Tremendous Stimulus To Interest in Radio



PERA by wireless from the Metropolitan Opera House—the dream of millions of radio fans throughout the United States—has been advanced a step nearer by the Radio Corporation of America, which is now erecting atop the Aeolian Building, New York City, the most powerful broadcasting station in the world. Before many weeks the Radio Corporation hopes to be broadcasting selections by some of the foremost concert artists appearing in Aeolian Hall.

Eventually it is the aim of the Radio Corporation of America to run a wire to the Metropolitan Opera House from the Aeolian Building station, and to give to the world the melody now limited by the capacity of the opera house. The broadcasting station will be so powerful that it will be possible for the innumerable radio fans, even those with the home-made outfits, over a very wide radius to pick up whatever may be sent out by the Aeolian station.

The plans to reproduce opera by radio have not been worked out in sufficient detail to submit to the management of the Metropolitan Opera Company. It is known that the Radio Corporation of America is not the only broadcasting concern that has its eye upon the Metropolitan Opera House.

POSITION OF OPERA DIRECTORS.

Directors of the Metropolitan

Opera Company who were questioned about the possibility of broadcasting opera were unwilling to make any comment for publication in view of the fact that the Metropolitan has received no formal proposition from any of the broadcasting companies. But it is understood that the Metropolitan management would be governed in any action by the conditions under which the broadcasting companies shall prove themselves able to reproduce opera to the satisfaction of both opera management and artists.

The fact that opera can be transmitted more or less faithfully from the stage of the Metropolitan Opera House has been recognized for some time by the management of the opera house, for they have installed an electrical device from the stage to the offices of the management so that it is possible to sit in the office of the manager during a performance and keep up with the progress of an opera. Persons who have heard parts of operas so carried from one part of the Metropolitan Opera House to another said they had no difficulty in recognizing the voices and mannerisms of artists to whom they listened. The wiring connections are made at a point near the box of the conductor.

The new station on top of the Aeolian Building will take the place of Station YJZ, in Newark, which was the first and the most powerful opened for broadcasting in this country. Station WJZ will be closed when the big sta-

(Continued on page 67)

Rebuilt Radio Outfits

A Courageous Prediction of What Will Clean the Field
and Make Immediate Buyers by the Thousands

By Roy F. Soule



If you are satisfied with present conditions in the Radio Field back away from this editorial.

If you dislike radical changes back further away because this is revolution personified.

There is an imperative need for a Big Second Hand Radio Shop in every city in America right now.

That's abrupt. Some people won't like it. Some sellers who see only through a network of "new goods for immediate delivery" will probably start gunning for Radio Merchandising for daring to breathe such a thing above a whisper when so many retailers are listening in. Others will be scandalized and still more will be curious. We don't give a rip about the scalp hunters but we do hope that most of the Trade will be curious—even mildly so will help.



MOST Business Papers devoting their energies to a single field of merchandising have stopped predicting. We know it isn't the custom. We also know what stopped it. Editors who were not in tune with events or were lacking in experience, "Predicted" things that didn't materialize. Readers are not apt to enthuse over a Publication whose pet idea has cost them a lot of money.

Nevertheless we predict Big Second Hand Radio Shops.

There is Powerful Precedent to back up this Prediction. Slip that Phone off the top of your head and go into this with every sense alert. There was a time well within your memory when the manufacturers and distributors of automobiles were yelling to high Heaven that the market was "Saturated" with gas driven vehicles. Just because a lot of them were building cars that would stand the gaff for ten years they became obsessed with the fool idea that once a man bought an automobile he was out of the market until his old boat decorated the rusty rubbish pile back of some garage.

Most manufacturers actually believed that only the financial giants in the field would survive. "Saturation" was the wail of the quitter among the traveling men and the majority of the Retail Distributors believed absolutely that they had skimmed the cream. A lot of them, believing this, sold their agencies and for a brief spell the following winter glowed ruddy with the belief that they had unloaded a lemon.



WHEN spring business opened up and sales records of the previous year were smashed to smithereens. Some of those who had sold out, bought in again at stiffly advanced prices. Those who were dead sure that a big slump in the automobile business was coming turned out to watch

a funeral and witnessed some red hot speed. It was a year of surprizes and the reason was apparent wherever a wide-awake dealer could be found.

It was simply this—a few progressive retailers who owned shops and prepaid equipment and possessed mechanical skill began to advertise the fact that they would buy any kind of an automobile providing the price paid would be applied toward the purchase of a new car from them. This system made immediate customers of many people who had not dreamed of buying new cars because it was not good business economy to scrap their old buses or to own more than

one. But the opportunity to "Trade-in" looked good and took like lightning.

Then the dealer, who usually took the old car in exchange at about his own price, put a skilled mechanic to work on it and in a week or two it was rolled into the Sales room under the cognomen "Rebuilt Car."

Manufacturers representatives soon began to report that practically all their repeat orders were coming from these "Traders" and Headquarters sat up and took notice.

We will not dwell upon the development of the automobile industry through this merchandising method. You know all



Courtesy N. Y. Globe.

about it. You know dozens of men who blossom forth each spring with a new car who wouldn't think of such extravagance if it were not for the second hand department. Beg Pardon, the Used Car Department. You know just about how long a manufacturer would last in the motor field if all his dealers should suddenly stop "Trading". You don't need the statistics of a Babson to tell you that the carefully developed and frequently very profitable Used Car Dept. actually saved the Automobile Industry, which rates about third among the big things that make the wheels go around in America.

And what happened to automobiles and automobile men is going to happen to Radio and Radio men, just as surely as there is red blood in the business.



RECENT investigation conducted by one of the Editors of RADIO MERCHANDISING in Newtonville, Mass., brought out these facts. There is an average of fifteen receiving sets to the block in the residential district of that Boston suburb. Two-thirds of the outfits are antiquated. Men usually learn radio with an inexpensive outfit—just as most auto enthusiasts either learn to drive with a

low priced car or pay some big repair bills on high priced cars.

Five out of those 15 people to the block in Newtonville were found to be keenly interested in the Radio Exchange we suggested and a lot of their present equipment in experienced mechanical hands could be made mighty marketable.

In a field where methods and materials are changing as they are in the Radio field, Equipment ages rapidly. There are plenty of "Antiques" less than three years old. There are receiving sets that look like Patch work quilts. The modern and the mummified are mixed in the same outfit and hooked up to the same wire. To the enthusiast whose love of Radio exceeds his actual mechanical skill and knowledge, the simplest way out of his messy outfit is to get rid of it and start all over with something absolutely new, and right there is where the Used Equipment shop comes in. There is an immediate business awaiting the man or men who will blaze this trail. It will come quickly because the field needs a cleaning—because the time is ripe and because there is big money to be made by it.

The Used Radio Equipment Shop deserves the support of the Industry. It will be one of the big constructive movements of this stage of Radio Merchandising Progress.

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Get the High School Students on Your Sales Staff

By Ray Yarnell



RADIO sales possibilities, growing out of a hookup with grade and high school physics departments by dealers, apparently are tremendous and are so easy to cash in on that no dealer can afford to ignore this channel of increased volume.

The situation in Kansas has just become especially favorable thru the action of the physics department of the Kansas State Normal school at Emporia. This school works in the closest harmony with grade and high schools in every part of the state as it supplies many of the teachers.

This week the school announced a special radio broadcasting service for schools all over Kansas. Once a week a complete chapel program will be broadcasted from the Normal at a given hour which may be picked up by high schools having radio receiving sets. Other special programs will be given at stated intervals.

All over the state high schools, especially, are installing radio sets for experimental and instructional work, in response to the very strong demand from the students for this information and the physics departments are fostering radio on an ever increasing scale. This action of the Normal will stimulate this interest immensely, especially in districts where radio has not progressed so far as in others.

Analyzed from the dealer point of view this activity is the best kind of selling publicity he can obtain if he will really hook up with it in his own locality, and get a contract with the physics departments which is possible from several angles.



THE dealer alive to his opportunities would find it profitable to get personally acquainted with the instructor in charge of radio work and to find means, from this acquaintanceship, to actively co-operate with him.

It would be a decided asset to a dealer to have the privilege of taking new radio equipment, such as receiving sets, new head sets, loud speakers, and other equipment to the physics department of the local high school for demonstration. In this way he could get before the boys and girls the merchandise he has to sell and get them interested in it and in him personally.

It would be easy to arrange with the instructor for a talk to the children by the dealer on some phase of radio work and such a talk would be invaluable. At the same time the dealer could invite the students to come to his store, not only to listen to programs and see demonstrations, but to inspect radio merchandise and have it fully explained to them.

It is a safe proposition to assume that nearly every student in the physics department will be interested in possessing a radio receiving set, either one made by himself or the manu-

factured outfit. If it is to be a home made affair the dealer has the opportunity of selling the material out of which it is to be constructed. If a special set is desired, he can sell that.

The names of these boys and girls and their addresses, will make a valuable list to follow up. It can be taken for granted that the majority of students having home made sets, sooner or later will desire more finished and more efficient apparatus and the dealer can cash in on this

desire if he keeps in close touch with them.

It is quite possible that considerable sales of equipment may be made directly to the department for use in the class room. Probably the dealer should make his approach in this way as it will at least give him entree and a logical reason for evincing interest.

The dealer in the larger town very well can work out-of-town schools thru direct by mail solicitation or by personal vis-

"Modern Stuff"

By G. V. G.

*She's listenin' to a flow of gaff which wouldst have choke a cow
And they is much of smilin' on her face;
The love words what is greetin' her wouldst make a duchess bow,
Awares am I how fickle is the race.*

*I swears I hears a smack as though a kiss was hein' give
And yet they's not a dude what I has seen;
I'm wonderin' has I chillblains, is my coco but a sieve
When didst I see a radio machine.*

*Well, ain't it tough to sit at home in cushions to your eyes
And read a book and swaller limey fizz;
While some guy on the radio is heavin' lovin' sighs?
Well is it? You can tell the world it is.*



its if the schools are not too far away. This business would be highly profitable as it would come from outside territory and would not interfere with the volume his local territory should produce.



HERE is still another angle that might be worked with profit. Students always would be interested in suggestions on radio and information about it. The dealer very well could get out a monthly or weekly letter, full of information gleaned from Radio magazines such as Radio Merchandising, which would greatly interest those who received it. This could be mailed to all the students in his trade territory.

In addition some space could be devoted in this letter, which should be mimeographed, to answering questions about radio, with some technical information. Also new radio devices could be described and illustrated with drawings. There is no question but that such a letter would very greatly interest boy and girl radio fans and that it would be the best sort of advertising for the dealer who got it out as it would carry his name and business address.

The cost of producing such a mimeographed letter would be small and the mailing, under one cent postage, would not amount to much.

The whole campaign with the grade and high schools and even colleges in towns where they are located, could be hooked up with the dealer's store thru the use of signs and proper window displays. It would be of wide interest if the dealer could obtain several home made sets or sets made in the physics department

of the school and use them in a window display. For contrast he could place one of his special sets in the background. It would serve to create the desire to possess a better instrument in the minds of the persons viewing the display.

At the same time such recognition of the school and of the work of the students would tend to win a world of good will for the dealer, not only among the students but among their parents and school officials. It would be a boost for the school and also for the dealer.

A large sign, stating that the store was the downtown headquarters for the radio fans of the high school or grade schools, would be effective in attracting students to the store and would pave the way for many sales.



HERE is a wonderful opportunity for radio dealers in every state to build sales out of cooperation with the schools. In states where it is not already being done dealers would profit if they got the state Normal or university to broadcast a chapel program for high schools once or twice every week.

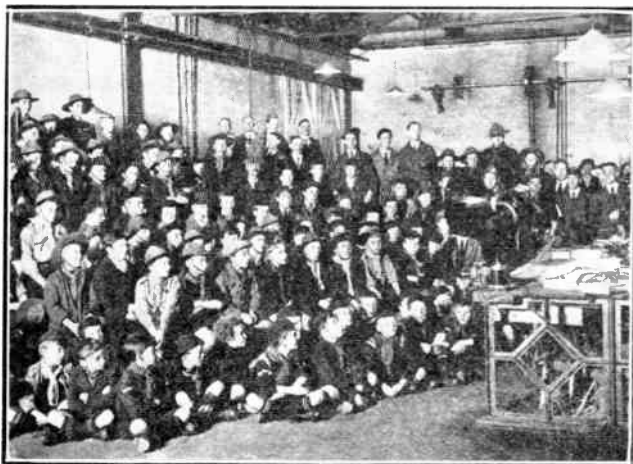
The radio dealer who is first on the job in his community no doubt could arrange with the school officials to place in the physics department a display of his apparatus and equipment with his firm sign included. The physics instructor undoubtedly would be glad to have this merchandise available to use in illustrating his talks on radio and for the purpose of demonstrating. It would certainly pay a dealer to use some of his stock in this manner as it would not suffer any damage and it would

be a strong advertisement for his store.

If the school has a good aerial, and if it does not the dealer could well afford to present it with one as an advertising stunt, the dealer easily could get permission to put on a radio program some evening for the entire school. A loud speaker would make the radio concert or program very interesting. He also could arrange to give a talk before the student body on the development of radio and an explanation of the new things that constantly are coming out. In this talk the dealer also could make suggestions regarding the use of the radio in homes, mention the pleasant features of reproducing the concerts given in distant cities and pointing out the benefits to be derived by every member of the family.

It is very likely that many parents would come out to such an entertainment and the dealer would have an excellent opportunity to sell them on purchasing a set for their children. He would do well to emphasize the fact that a radio set in the home would do a great deal toward eliminating the desire of children to go out at night and at the same time would instruct them in many lines.

Thru such work as has been suggested any dealer can get considerable publicity from the local newspapers because he is working with the schools which the newspapers support actively. This publicity will cost nothing and it is the most valuable of any that can be obtained, much more so than paid advertisements.



©Kadel & Herbert

Mr. Retailer, when you have sold the idea to the High Schools, then tackle the Boy Scouts. Above is a group of English boys listening to a speech broadcasted by the Prince of Wales.

The Pallo - Photo - Phone a Broadcasting Innovation



An ingenious apparatus for recording sounds upon a photographic film so that the sound may afterward be re-produced in ordinary telephones, loud speakers, etc., has been developed in the General Engineering laboratory of the General Electric Company, and brings unmeasurably nearer the day of the practical talking movie.

It also means a boon to radio broadcasting studios. For from a central studio, say in New York City, the world's greatest artists can perform before this machine which produces the film. Copies of this film may then be made and sent to other stations and reproduced with exactly the same clearness as if the artist were himself present.

It makes possible the talking movie, for on a film of the normal width, can be the picture of the voice of the actor, as well as the photographic record of his action, both voice and action absolutely synchronized because they are part of the same film.

C. A. Hoxie is the man credited with the invention of the device which is called the Pallo-Photo-Phone.

The record is made by causing the sound waves to produce vibrations on an exceedingly minute and very delicate mirror. A beam of light reflected by this mirror strikes a photographic film which is kept in continuous

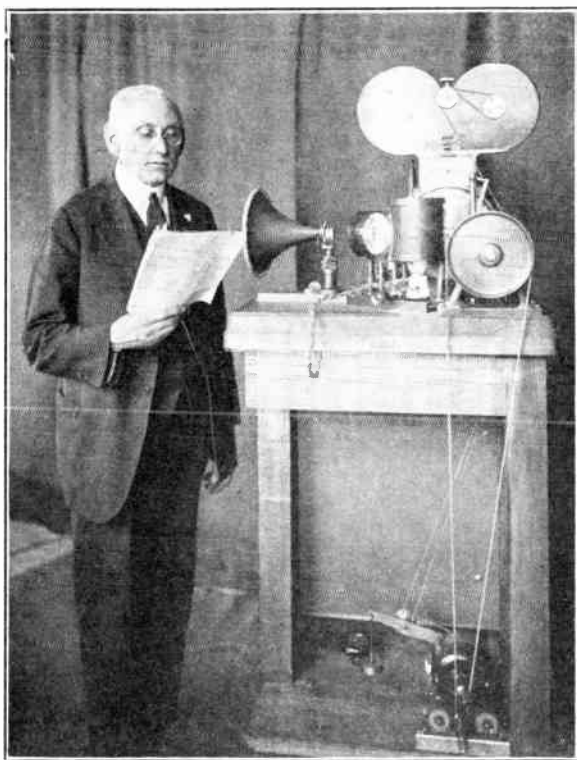
motion. The film when developed shows a band of white with delicate markings on the edges which correspond to the sound which has been reproduced. On account of the exceedingly small size of the mirror, its low inertia, etc., it is possible by this means to produce a sound record which includes the very delicate "overtones" which give quality to speech and musical sounds. This has not been so successfully accomplished by any other method of recording sound waves.

The reproduction of the sound from the film is accomplished by moving the film in front of an exceedingly delicate electrical device which produces an electromotive force which varies with the amount of light which falls upon it. In the past attempts have been made to produce these results by means of selenium cells, but a selenium cell, though it responds to the changes in the amount of light which it receives, does not respond with sufficient promptness to produce good results; there is a sluggishness in the response which seriously interferes with the quality of sound which is produced.

By an ingenious combination of vacuum tubes, there has been produced an apparatus which responds to variations in the light falling on it with a speed that is so high that it can only be compared with the speed of light itself, or with the speed of propagation of wireless waves in space. Therefore, when this film is moved continuously in front of such a device, the device produces an electric current

which corresponds very accurately to the original sound wave. This electric current may be used to actuate a telephone or loud speaker. It was actually used recently to operate the radio transmitting station WGY of the General Electric Com-

pany. The well known voice of the WGY announcer "KH" was recorded on a photographic film and sent out by WGY with such accuracy that it was impossible to distinguish it from his voice as ordinarily directly transmitted from the station.



C. A. Hoxie demonstrating his new Pallo-Photo-Phone.

The Official Suggester

By Roy F. Soule

How Putting the "Tryout" Up to "Source of Sales Suggestion" Made a Winner of a Salesman Who Threatened to Become a Nuisance.



N every sales force there is an official suggester. Frequently he is known as a nuisance and very often he "suggests" himself out of a job. His brain seems to run to inventions. If he were of a mechanical turn of mind he would probably be working on perpetual motion, but being a salesman he seems bent on revolutionizing the force of which he is a part. He usually approaches his sales manager in a manner that would indicate that he is Atlas the Second. Most of his plans are no good—frequently they are foolish—sometimes absolutely ridiculous but he keeps at it. You can't shut him up. He takes more of the sales manager's time than any other man on the force and the boss damns him with frequent fervid fluency.

A DEADLY SERIOUS OPTOMIST

I want to tell you about such a man who once worked for me. His name was Tom Moore and he took life so seriously that his face had leathered itself into deep creases of concentration. He scowled himself into isolation.

Tom produced his sales plan ponderously. To him every one of them was the keystone that was to keep our business arch from tumbling. He was naturally a pessimist on every plan that was being used in that sales force and a deadly serious optimist on every new plan he proposed. He never seemed to run

dry. Shut him off flat-footedly on one plan and he would appear a week later with a brand new one. As the rejections multiplied he became moody. I worried about him because he took life so all-fired seriously.

PLAYING A HUNCH

Then, one day, I had a hunch. I resolved to assume no further responsibility for dumping Tom's sales plans overboard.

That afternoon when he came in doggedly determined to sell me his latest plan he was the most surprised man on the map when I accepted it. I asked him to chart it and to put on paper every detail he could suggest for the handling of a sales campaign.

A COMMITTEE OF ONE

The next morning he was waiting in my office when I came down to work. I know he had worked most of the night on it.

I took the time to go over his outline carefully and then said, "Tom, I think you have struck it. That plan has corking possibilities but I always try out new plans with a minimum of expense. If the results warrant I'll plunge. Now you are a salesman and this is your baby. It has more chance to succeed in your hands than it would have if tested by another man who would have to break up his present system to try this. I'm going to appoint you a committee of one to go out and demonstrate that this plan will deliver the goods."

A COMBINATION OF FAITH AND STUB- BORNNESS

And Tom tackled it. He was working on commission and that plan flattened his income to pancake proportions. But he didn't stop proposing and in the succeeding weeks and months Tom's proposals dwindled. Stern necessity limited them to his income, but to his credit that boy placed his own money on Tom. In the wake of every sizeable commission he backed himself for another try. An ordinary man would have quit,—either quit the innovation idea or sacked the job altogether,—but Tom wasn't ordinary. He was as stubborn as a mule and he resolved to show me before the year passed out.

TOM STRIKES PAY DIRT

Then one day he hit a bull's-eye. One of his wild swings hit the ball squarely on the nose and he knocked it out of the lot. He came in the first day with more sales than he had ever turned in for a week's work. The lines in his face loosened up and softened his whole appearance. He was riding the top of the world and reflected it. That month he led a sales force of 1400 men. His plan was put into operation generally and produced for the organization the greatest month's business of the year, and I'll never forget that Tom Moore had tried out fully fifty plans before he struck pay dirt.

SINGLE FAILURE VS. MUL- TIPLIED SUCCESS

And get this. His 49 failures

were not such a frightful economic loss to us because they were one-man failures. His success, on the other hand, was glorious because it was multiplied by 1400 who succeeded with it.

Tom's triumph will always stick with me as double sales lesson. First is punched a little more patience into my impulsive system. Tom also taught me how to put the responsibility of a try-out up to the source of the sales suggestion. That system is worth its weight in gold.

Then it taught me that the man who eternally proposes new plans is a man to be encouraged—a man in whom the sales manager must believe and he must let that man know of his faith.

ENCOURAGE THIS MAN

Woolworth took half a dozen bad jumps at the merchandising game before he came through with the plan that produced enough successful 5 and 10 cent stores to build the world's largest skyscraper. Since Tom Moore came through, I'm looking, every day, for the man in my sales force who will duplicate his achievement and from the results I'm just about convinced that such a man is on every sales force.

I believe in either a small salary and commission or a straight commission for salesmen, and on such a basis every "Plan-Proposer" who can stand the gaff of his own try-outs is a jewel in the rough.

My hat is off to the Official Suggester.

In a Nut Shell

By Roy F. Soule



WHAT is Salesmanship? It is a creation of desire in your prospective customer to own something you have for sale?

Yes, partially. It is selling a man something he did not think of buying? Yes, that's some of it. Is salesmanship courtesy coupled to an honest effort to please every customer with whom you come in contact? Certainly, that's more of it.

All these are essentials to a salesman and stepping stones to true salesmanship which I have learned to describe as **THE CREATION OF ADDITIONAL BUSINESS WITHOUT ADDITIONAL EXPENSE.**

That puts it in a nutshell and we all know men who have been swinging a post maul at that little chestnut for years without cracking it. The salesman who doesn't keep a weather eye on expenses is riding for a fall. He may get by when the selling is easy, but let him strike snags and he will be bottom up in swift water before he knows it.

THE WRONG WAY

Store owners tackle two methods of expense reduction. One is to cut the eternal life out of everything that in any way tends to either temporarily or permanently take the cash out of the till. I have seen cheaper clerks work overtime and discontinued delivery wagons gather rust while the first class stores that discontinued them drifted into third raters. Slashing right and left is usually the action of a panic-

stricken merchant. At such a time necessary merchandising investment is usually confused with needless expenses and the panic mad proprietor pays heavily for every such error.

The average clerk in the average retail store doesn't know how to sell. He is an order taker and he will be handing out goods to people who come in and ask for them until old age or an irate employer kicks him out, unless some dynamic force can be made to blow his eyes open and give him a clear view, not at the horrors ahead but of the opportunities at hand.

BEFORE YOU BET

I fully realize that the starter of this story may call for a storm of protest, but let's spade the ground thoroughly and see if we can't turn up something besides fish bait. Let's watch our men in action a while before we lay any heavy money on coming events and we may be surprised to learn that we are drawing clerk values, at the rate of 49 cents on the dollar. The fault may further prove to be on the Boss's doorstep. It is frequently.

TOO COCK SURE

The clerk who has been behind the counter three years thinks he knows how to sell goods. The man who has been in sales harness for ten years is cock sure of it. Most sales managers, when questioned along this line, will reply that they were brought up on it. We who pay our bills with cash collected in return for our sales effort are quite generally pretty well satisfied with ourselves, but facing cold facts most of us are mere order takers. Now

"order taking" requires skill, tact, brains and ability and falls far short of a fool's job, but order taking should not be confused with honest-to-goodness salesmanship. They are as different as the fat woman and the human skeleton.

The other method of expense reduction we will discuss in detail. The stage may be your store; it may be mine, but the actors are the same the world 'round and the owners are usually hustling for the same elusive dollar.

Let's try to keep our well-paid, deserving clerk and the hard-working old delivery man. They are both ready to jump at any-

thing that boosts business. Let's make a mighty resolve to keep on spending money to earn money but let's multiply our efforts to get a real run for every dollar we do spend.

SALESMANSHIP IN STOCK ARRANGEMENT

I was in a store the other day watching a bright looking clerk who was busy arranging on the shelves a lot of new goods, which had just been unpacked and marked. He was piling those goods from left to right.

"What's that?" asks the cub clerk who may read this, "what's left to right?"

Well, here's a chance for the



Courtesy N. Y. Globe.

boss to get more action on his expenditure. Tell the cub that the proper way to arrange goods on a shelf is to begin at the left side—arrange the smallest sizes of a line at the extreme left and then the next larger size and so forth on over to the extreme right. If there is any blank or vacant space to be left on a shelf that space should always be at the extreme right. Pile every box or item flush with the edge of the shelf and keep them that way. If there are several rows of the same sized article and an odd count requires that some rows must be piled higher than others, let those high piles be always at the right side of the shelf. Now most of us sell files. Suppose we are piling up a stock of 5 in., 6 in., 7 in., and 8 in. mill bastard files, arrange them as per diagram herewith illustrated and follow that system throughout the entire stock. Appearance has a heap to do with selling. Don't let your cub clerk get in the habit of chucking new goods into any old holes in the shelving. Open but one box of each size, put a cross on the end of that box. Stocks that look like they were spattered on the shelves with a shot gun don't attract trade. A clerk can move faster and wait on more trade intelligently from an orderly stock than he can from the jam-em-in kind. Most dead stock finds its hiding place in disorder. The good retail salesman works every spare minute he is in the sales room in cleaning or arranging his stock. If he can't find enough such work to keep him busy he doesn't belong. Clerks who read the papers with their elbows on the show cases are generally standing with their backs to a disorderly stock of goods on the shelves.

GOOD, AS FAR AS HE WENT

Well, to get back to that chap who was on to his job. A customer came in and asked for a padlock. As the clerk brought out his sample board he asked what the customer was going to lock up. The brief reply was—"Building a wood shed. Got to lock up good wood this year."

The clerk didn't say a word for the customer selected a lock on sight, but that boy bent down below the counter and came up with a hasp and staple in his hand and "By George, I nearly forgot that," from the customer closed a second sale without a lot of wasted energy. Then that clerk talked hinges and sold again.

The customer paid him with a \$5 bill, and while they waited for the change talked about the lovely weather. In less than five minutes he opened the door for a satisfied customer who had come in to buy a padlock and who had been sold a hasp and staple and a pair of hinges for good measure.

That clerk was better than the average. He had both eyes open and was probably rated as a real money earner for the store, but he has more to learn and it's up to his boss to give the information and to give it to him now.

AN ANALYSIS

That hardware store had just put in a line of Radio equipment. It was new and occupied a special table in the center of the store. That table was less than ten feet from the clerk and the customer who talked lovely weather while they waited for the change. Let's analyze the conditions:

First that customer came into that store voluntarily — came there because he needed something and wanted to buy it in that particular store.

Second, he had responded to two direct sales suggestions. In other words, he was forgetful and susceptible.

Third, he had money left for he was waiting for change.

Fourth, he was socially inclined—any man is who will stop to talk about the weather.

To sum up that clerk was all there for the first half and then he played the game like a bush leaguer.

TIME TO TALK TURKEY

I don't need to tell you that he should have known that the weather didn't pay his salary, that sunshine or dews or wind or rain had nothing to do with his relationship then and there with that customer. It was up to him to show that new Radio line—and to show it not as a salesman trying to make a sale but as one enthusiastic human being sharing something of absorbing interest with another. A sale might easily have resulted. Some man-to-man advertising could certainly have been accomplished. Additional business without additional expense.

CHECK UP

Just check yourself after each sale. See if you couldn't have

really SOLD something you didn't even mention.

Then one by one camp on the trail of each clerk and check their efforts—and when you find the key to missed sales, don't ride the clerk with spurs. The fault is probably your own. Reason it out. Talk additional sales without additional expense. If you can jump your sales only three additional to the man it will bring surprising results.

You know it costs no more for rent if your boys can by this method land twenty additional sales a week, costs no more for coal—no more for overhead, or a dozen other standard expenses. It makes a business grow and more than that it makes men grow.

I have seen sales—additional sales without additional expense jump twenty-four a day in a store employing just four men. You can do it, or any other merchant can who will apply himself to the job.

We are all in business to make money. Selling is the most important duty of a retail merchant. Additional sales without additional expense is frequently the whole difference between success and failure.


You May Opine So, But He Doesn't

Listen, old-timers, and your fones
will resound
With the well-known squeal of
the CQ hound,
Whose sending won't stop for
fire or flood,
Though every old-timer thirsts
for his blood.
It's always, "Hello, and how am
I now?"
And "QSU now, for it's time to
chow."


He is always on deck, though
"QTC NIL,"
His message will read, "Is this
you or Bill?"
Oh! For his presence and a huge
retty-snitch,
A double-barreled shotgun, a bar-
rel of hot pitch.
That never again could we hear
that sound.

—"Radio Digest."

EDITORIALS

VERY radio retailer is now set, or should be for the first real radio Christmas. The country is ripe for sales amounting to many millions of dollars, and any retailer who fails to get his share of this business can only blame himself. By the time this issue of **RADIO MERCHANDISING** reaches its readers, every store window should be telling the story of radio Christmas, every piece of retailers advertising copy appearing in the local press should have the slogan "This is a Radio Christmas", and every customer, and prospective customer, on the retailers list should have a special message on the subject. Tell the kiddies their Christmas stocking should be a radio stocking; tell the old folks the joys of bringing the world into their home via the radio route. And on the morning of December 26th use the columns of your local advertising mediums to tell the youths that there is no better way of investing their five and ten dollar gold pieces than in the joys of radio. Go to it, Mr. Retailer, there's a lot of loose change coming your way if you get after it.



HE village of New York is going to have a big radio exposition during Christmas week, and all the enthusiasts of the metropolitan district are going to have an opportunity of seeing the latest in radio, for most of the leading manufacturers are going to be there with bells on. The exposition will be a real stimulus to local business, for all orders taken by manufacturers at the Grand Central Palace will be credited to the distributor and the dealer. This means that every dealer in Greater New York and New Jersey are going to be enthusiastic boosters, and in consequence a good time should be had by all.



COMMENTS which we are receiving from every section of the country bear testimony to constantly increasing volume of radio business. Last year's selling records are being beaten, and this is attributable to the complete coverage of broadcasting which the country now enjoys. There is no hamlet in these United States that is not now within reach of at least one or two broadcasting stations. We have nearly double the number of stations that we had at the beginning of the year. This means, Mr. Retailer, that everybody living in your area, unless he is already sold, is a prospective customer.



It is apparent that the task of the radio broadcasting director is to find music and speech of a character that will bring real information and pleasure to the greatest number who listen in—but when the program you get doesn't quite meet with your approval, always remember the many problems that the poor director has to overcome. Next to running a grand opera, the running of a broadcasting station is the best test of the mental stamina of humankind.



THE West is leading the East, and Chicago is again broadcasting its grand opera and bringing enjoyment and musical culture to hundreds of thousands of radio fans. It is difficult to estimate the value of this broadcasting service, but that it is a great stimulus goes without saying. Plans are now being developed looking towards the broadcasting of the Metropolitan Opera in New York and when WJZ moves from its present home to its new home atop the Aeolian Building, in the heart of theatrical New York, it is almost certain the plans will be consummated. When this is done, fifty thousand new sets will find homes in Greater New York.

Cause for Thanksgiving

By Roy F. Soule



MAN does not have to be the portly possessor of a flowing chin with three ripples in it to appreciate Thanksgiving Day. Our New England forefathers were surrounded mostly by thin men with a decided leaning toward pumpkin pies, cranberry sauce and turkey. The "taste" of those simple Pilgrims was simply great, and the way it has been transmitted, unimpaired, down through the ages, makes it a comparatively easy matter for most of us to demonstrate that Pilgrim blood courses through our veins.

The first demonstration of the spirit of thankfulness for the bountiful mercies of God was staged before a background of primeval forest filled with savages. The solemn scene was enlivened here and there by activities around a whipping post or a ducking board. Stern stocks surrounded the shin-bones of feet that had strayed from the straight and narrow paths.

The setting was completed by a few carelessly arranged torture stakes on which an occasional witch was burned alive and her evil, damning influences wafted away in thin blue trails of smoke.

In the foreground, a shooting match was often under way and the reckless manner in which slugs were hurled from old bell-muzzled guns spoke volumes for the trading post.

Before being carried away by the great uplifting spirit of Thanksgiving, however, it may

be just as well to take a good, careful look at ourselves and see wherein we differ from the Pilgrims of the rock-bound coast. Their leaning toward pumpkin pie has been "a la moded." The wild cranberries which furnished their sauce have been grafted to the produce trust, and descendants of the gray-haired New Englander buy at 30 cents a quart. The turkey on the holiday table no longer represents skill in marksmanship or in game stalking. To-day it denotes the cleverness of the coin collector or the luck of the dice thrower at the village raffle.



O longer do we tolerate the whipping post or the ducking plank. These crude methods have long since been replaced by modern systems, and our matrimonial differences are aired at Newport and settled in Reno. The wayward youth of our time does not sit on hard slivery benches with his feet in stocks. No, indeed. We cover those bones with shin-guards and send him forth the Saturday before Thanksgiving to seek gory glory on the football field.

The wail of the burning witch is no more wafted on the gentle breezes together with the smell of pumpkin pies and 'possum. We have gone beyond that and, in approved twentieth century manner, do nothing worse than burn a few ignorant, helpless negroes.

The shooting match is still popular, and to modern firearms is due the credit that a man can, with but little practice, shoot as

well or better than the old-timer who slept with his gun.

The evolution of the Trading Post has been complete, merchandising has made great strides and has outstripped many other civilizing influences. The merchant is a better, cleaner, more wholesome distributor. Pure living evidences itself in attractive displays of goods that are strangers to old necessity. These goods lend tone and color to the somber shades of more sturdy merchandise, and in their own pretty, pleasing ways, strengthen the fiber of salesmanship and improve the quality of customers.



HE merchant has tackled well the great problems that have confronted him. In the elements about him he has discovered new and unseen forces and each offering of the inventor is a healthy stimulus to resourceful distributors.

Business men have discarded the monitor of mercenary motives and extended their endeavors from store to town, from town to State, and from State to nation. This is reason enough for Thanksgiving, and RADIO MERCHANDISING is privileged to extend you Greetings.

My QRN Party

It was nice to keep a-tunin'

With the nabors sittin' 'round;

They come to hear the music,

But I couldn't get a sound,

'Cept the demons of perdition

That were floating in the air,

It seemed their boss was with 'em,

And they were everywhere.

They made my heart beat faster

When I thought they were so near,

And I cussed the poor broadcaster,

Because I couldn't hear.

With their growlin's, squakin's, squealin's,

I could hardly keep my chair,

For regardless of my feelin's
They had taught me how to swear.

I hate to meet my nabors,

When I am out alone,

For they are sure to twit me

About my Radyfone.

There's little satisfaction

While Satan's 'lower to roam,

'Till someone takes some action

To keep his imps at home.

When they are on vacations

We are happy as can be,

For the people of all nations

Can hear sweet melody.

There's nothing I can mention

That keeps me closer home,

And takes so much attention

As my little Radyfone.

J. D. Myers.

The Pleasing Voice and a Patience of Job



ES sir! the telephone service is improving. The snippy answers of Miss Central have toned down and the I-own-

the-earth attitude of the contract department is once more becoming human and business like. Not that the Telephone Companies have joined the elect—that they are really rendering the service of which they are capable—but they are improving and any struggling industry that is doing better is entitled to an encouraging word. Given a lenient consideration they may, in another five years, get their service back to the pre-war standard. We hope to live to see it.

The Phone has come to play such a very big part in our business life that its importance cannot be over-estimated. Properly used it is a business stimulator that compares favorably with the merchant's windows or his show cases. This is particularly true in the larger towns, though the network of rural lines has made the telephone a very important sales producer in country stores.

MAKING THE PHONE BILL LOOK SMALL

A record of the amount of business that comes in over the store's phone during the year would astound most merchants. Too frequently we think of telephone bills as frightful but necessary expense. We seldom stop to analyze phone profits—we are decidedly more inclined to figure phone loss.

It is true that there are plenty of telephone losses. There is the good and the bad side to most things, and there are plenty of phone losses other than the heart of your youngest clerk to the blonde "Hello" girl. There are losses that make the lump sum of your year's phone bill look insignificant, and when the investigation is finished and clew after clew is trailed to its origin you will know that the lack of a regular store telephone system is the cause of most of your red figure entries.

MUSTS FOR PHONE SERVICE

One man should as nearly as possible answer a store's phone calls and that man should be blessed with qualifications some of us couldn't cultivate in a life time. Good looks don't go very far on a telephone, but a pleasing voice and careful enunciation backed by a patient disposition are qualifications which when coupled with a thorough knowledge of the stock, go right out on the copper wires to win business.

MUCH ALIKE

The wholesaler who received your telegram asking for a shipment of certain items and failed to make that shipment for a week didn't get your next rush order. You thought he should have interpreted a telegram as an urgent need and you were right. The man who treats a telegraphed order as he would a mail order needs a commercial Big Ben to tattoo him into action. Apply that lesson at home. When customers telephone they

want action. The phone locally is locally just about what the telegram is over a greater distance. If an order that is telephoned to your store at 10 A. M. isn't delivered before noon, your customer usually begins to think that you pay less attention to phone orders than you do to counter trade and a phone order is a compliment of the highest sort. Frequently a failure to come through with speed on such an order means another telephone call from the customer. This second call is usually a hummer. The customer is impatient and goes into the clinch without preliminaries—right there is where the store end of the wire should be manned with diplomacy, patience and a voice that has a way of saying things. A complaint call answered by the I-don't-know clerk, or by the question King, or by the I-don't-seem-to-care voice will cost you a customer nine times out of ten.

HE DIDN'T LOOK IT

Have you ever done business with a man over the phone for weeks or even months without seeing him and become so imbued with respect and confidence in that person that you would hardly believe your eyes when you finally met him and saw a homely, cross-eyed, uninteresting appearing little shrimp. It is then that you realize as never before that "handsome is as handsome does." **TALKING** is **DOING** on the phone.

RETURN THE COMPLIMENT

I called a printer a few days ago to place an order for some stationery we needed in a hurry. Some one in that office answering my call said "The Boss is

out to lunch—call him again in about an hour if you want to talk to him." That hour will never come. That printing job went to another house where by strange coincident the Boss was also out, but the phone answer was—"I am very sorry Mr. Porter is out—we expect him back in about fifteen minutes. If you wish to speak to him personally I will take your number and I know he will call you as soon as he comes in." He did and he landed the order.

If your phone system has no regular answer for people who call any particular person in your store just take a tip from my printer. Don't ask them to call back later. Take their number and call them as soon as you land at your place of business.

NOT MARRIED TO ALL OF THEM

You may be six feet tall and wear your perfectly fitted clothes like a tailor's model, but you must either possess a pleasing voice and a patience of Job proportions, or hire some other man to answer your business phone calls. Your wife may know your disposition and make loving allowance for your sharp tones, but you are not the husband of every woman who orders goods over your telephone. The merchant who does not keep a careful list of the telephone numbers of his regular customers is missing the chance of a lifetime. Most stores wait for customers to call them. The real progressives call the customers. What about it? Well what's new? Go on—try it out—Give 'em a ring!

PHILOSOFY

If you see that an employee is not fit for his position, it is better to pension him with his full salary than to keep him.

The chap who makes a great noise and fuss to impress the boss with his energy does not fool any one but himself.

To deal harmoniously with others it is always advisable to try and see through their eyes. It's a mighty wise procedure.

Persistence in selling, as in every other endeavor, is a prime essential.

Love for work man be cultivated where it does not exist.

Salesmanship should rarely, if ever, use destructive criticism. Value each piece of merchandise, each musical composition, for its own points and never condemn it for lacking what it does not embody.

Have you noted that the diligent says "To-day," the slug-gard says "To-morrow"?

Making promises is a harmful practice unless the intention is to live up to them. Many a customer has been lost because a dealer or salesman promised to secure an article or make a delivery on a certain date and did not do so.

Only one-third of so-called salesmanship is done outside the plant. The other two-thirds is done inside—by accurate order clerks and shipping clerks, by well-trained, efficient workmen, and by careful, conscientious, on-the-job department managers. It

is the outside man's job to get the business, but those inside must keep it.

Form in business is knowledge of the job. When that is mastered you become runner-up for the opening just a little higher up. But before you can climb there must be a foundation upon which to get a toe-hold.

The fellow who plans ahead of his competitors is usually winner in the race for business.

There are three ways in which to find the value of a dollar; one is to find out what you have to give in order to get a dollar; the second is to spend it and see what you can get for a dollar; the third is to save it and see what you can do without and keep the dollar.

There is no truer test of a man's qualities for permanent success than the way he takes criticism. The little-minded man can't stand it. It pricks his ego-tism. He "crawfishes." He makes excuses. Then, when he finds that excuses won't take the place of results, he sulks and pouts. It never occurs to him that he might profit from the experience.—Thomas A. Edison.

If you want knowledge, you must toil for it. Toil is the law. Pleasure comes through toil and not by self-indulgence and indolence. When one gets to love work his life is a happy one.—Ruskin.

Life is not so short but that there is always time for courtesy.—Emerson.

The N. R. C. C. and Broadcasting

Chamber Plans to Render Constructive Co-operation



TO aid the Government and the American people in peace or war, to eliminate the confusion of rapid development, to work with the Federal departments in devising a rational scheme of broadcasting for the nation, to promote on a universal scale effective organization of all radio instrumentalities, and in general to undertake at once the solution of the pressing problems of the industry, now leading to conflict," are the declared purposes of the new National Radio Chamber of Commerce.

In a statement announcing the practical completion of the task of selecting the executive personnel of the Chamber, which in-

cludes the appointment as general counsel of Henry T. Hunt, 111 Broadway, New York, late member of the Railroad Labor Board and former mayor of Cincinnati, it was said that a committee had been appointed to investigate the whole question of broadcasting. One of the first steps in the committee's work was the holding of an open meeting of the Chamber in Chicago during the week of the Chicago Radio Show. At this meeting the committee received a large amount of constructive suggestions from all interests involved.

William H. Davis, the president of the Chamber, at its headquarters, 165 Broadway, New York, summed up the Chamber's general attitude toward broadcasting as follows:

"The only scheme of broad-



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A radio enthusiast keeping tabs on the Domestic Science Broadcasted Course—a good argument that can be used when trying to sell radio apparatus to the housewife.

casting which can prevail in any real sense is one in which the end to be attained reconciles all conflicting elements, even to the submerging of private interests."

The vice-president of the Chamber is Harold J. Power, the secretary, George Lewis; and the treasurer, Cloyd Marshall. The Board of Governors consists of A. H. Grebe, Richmond Hill, N. Y.; C. B. Cooper, New York; A. P. Morgan, New York; B. L. Moore, Buffalo; J. R. Crawford, Long Island City, N. Y.; E. R. Harding, Boston; Boden Washington, New York; and Gordon Sleeper, New York.

A plan of regional organization has been adopted by the Chamber, with the following district vice-presidents:

First District (Boston)—O. K. Luscomb, Cambridge, Mass.

Second District (New York and Northern New Jersey) to be elected.

Third District (Philadelphia, Baltimore, Washington) — Atwater Kent, Philadelphia.

Fourth District (Atlanta, Savannah, Jacksonville) — to be elected.

Fifth District (New Orleans, Memphis, San Antonio) to be elected.

Sixth District (San Francisco, Los Angeles, San Diego)—Colin B. Kennedy, San Francisco.

Seventh District (Seattle, Portland, Tacoma)—Robert H. Marriott, Seattle.

Eighth District (Pittsburgh, Cleveland, Toledo, Detroit, Cincinnati, Columbus) — Powell Crosley, Jr., Cincinnati.

Ninth District (St. Paul, Milwaukee, Chicago, Indianapolis, St. Louis, Kansas City, Minneapolis, Denver)—Harry Bradley, Milwaukee, and Dr. C. F. Burgess, Madison, Wis.

Saying that broadcasting is receiving probably greater consideration than any other activity in the radio world, the Chamber's statement appealed for national co-operation, adding:

"The very nature of radio in the present phases suggests broadcasting. Until our wireless is brought to a point nearer to perfection, radio is not at its best in any form except in broadcasting. This is being internationally recognized. That there should be at this early stage of the art's development a considerable amount of conflict is natural.

"Realizing that this subject is one of universal interest, the National Radio Chamber of Commerce, after conference with the departments in Washington, has decided to take up the whole matter very earnestly so that a solution of the general problem may be reached.

"It is recognized, of course, that near the seacoast, particularly, the Navy communication, easily the most important, must not be interfered with. But this Chamber, after an exchange of views with the Navy Department, feels sure that in a real effort to erect a satisfactory system it will have the hearty co-operation not only of the Navy Department but of the Department of Commerce, the Department of War, the Bureau of Standards and of other governmental departments and agencies.

"Some excellent constructive work has been accomplished by the so-called Hoover Conference in Washington and considerable improvement in the New York district has centered around the office of inspector of this district. The Broadcasting Committee of

(Concluded on page 68)

RADIOLAFS

Then He Took Up Radio

"Can you explain Radio to me?"

"To be sure. Take heterodyne action. Suppose that the frequency of oscillations in the receiving antenna is 100,000 cycles per second when that circuit is in resonance with passing electromagnetic waves, it would require a generator of undamped waves possessing a frequency of 101,000 cycles per second to be heard."

"I understand perfectly now."
—Louisville Courier-Journal.

Oh Gosh, Ain't Radio Wonderful?

Come, for the night is falling,
And my set is tuned so fine
It will pick up a peal of thunder
Or the red ant's plaintive whine.

Come! And sit close beside me.

My head-phone's built for two.
It will be a night of rare delight—

With the world's wild sounds
—and you!

The Rhymes Were Howling Successes

"Tonal poems" is the way one romantic writer describes program numbers.

The Modern Wedding Band

In days of old, a band of gold

Bound many a pair together;
The latest thing, in place of ring,
A double headset two together.

"Zeke Scroggins Says"

This Broadcastin' stunt is gettin' tu be all day long, 'twouldn't s'prise me tu see some feller try tu broadcast uh a'larm clock.

Thin we won't have a durn thing tu do, but set and listin' an' thin they'll wake you up tu listen again.

—Bon Nivel.

Sh! Don't Tell the Prohibitionists

The most remarkable thing about the rapid spread of Radiophones is that it has occurred without a law forbidding it.—Baltimore Sun.

But He Can Turn Off the Set!

If these Radio telephones keep on, a man's wife can talk to him no matter where he goes.—

—Greenville Piedmont.

Human Regeneration

In the Canary Islands the inhabitants convey signals and bits of news by a system of whistling. The system dates back hundreds of years. When Radio takes hold the islanders will not know whether their apparatus is out of tune or some inhabitant is trying to whistle a message.—Daily News.

Kisses by Radio

Thus ran the headline of an article of recent date, when some love-sick swain tried his luck at long distance kissing from somewhere off the Newfoundland Banks. The object of his adoration lives somewhere in Brooklyn. We were just wondering if the blush accompanied the kiss, which would indicate perfect reception, or whether it sounded like some terrible interference or possibly a cow in some nearby pasture pulling its hoof out of the spring mud.—"Radio Digest."

Ned Townley's Suit Case

How a Great Advertising Man's Habit of "Dressing from the Bag" May Help You Make More Sales

I AM going to write about Ned Townley because he is worth writing about. I've known him for many years and the longer I know him the better I like him. He does one thing better than any man I know. Ned is in the advertising business. His specialty is the direct appeal. A part of his program is a House-Organ. He writes the best House-Organ I have seen—writes several of them and into his work he puts a thoroughness mingled with a lightness that fuses laughter and good humor with all the things that go to make a day's work.

But I never really knew Ned or the key to some of his accomplishments until recently when we shared the same room in a New England hotel. Ned handles the advertising of the Stetson Shoe Company and at their Semi-Annual "Sample Fest" I was scheduled as a speaker on Sales.

In the early evening we went up to our room to slick up a bit for the banquet. Ned's suit case lay on the foot of the bed. It had not been unpacked.

DI-RECKT.

I know a farmer named Giles up in Pelham, N. H., who recently asked me out to his barn to witness a demonstration of distribution. He got a milk pail and stool and seated himself in front of a Holstein. At the first sound of milk striking the bottom of that pail, a little white-faced kitten came running out of the hay loft and seated herself expectantly at his side. Giles paid no attention but kept on milking. Then the kitten began mewling and into her plaintive

wail she wove—"please and pretty please"—then he looked at her and spoke.

"You're hungry again, are you, Mittens "

"Meow, meow," and then a delighted gurgling splutter stopped the conversation. Giles had shot a stream of milk straight at the kitten and she had opened her mouth to receive the nightly treat.

The farmer looked up at me and said, "Roy—that's what I call from Producer to Consumer—Di-reckt."

DRESSING FROM THE BAG

Well, Ned Townley's dressing was direct. There wasn't a lost motion in it. He calls it dressing from the bag. First he reached in and took out a roll of toilet articles, stepped into the bath room—took a shower—combed his hair and came back to the bag. With scarcely a glance at the contents he reached in and came out with a fresh suit of underwear. He slid into it and reached again. This time his hand came out with fresh socks, which he put on. Then he reached again, and as he dressed he took in order from that bag—a clean shirt—collar and tie—pants—coat. The blamed thing had been packed with a system. He knew that system so well that he hadn't overlooked anything. It was there in order and it certainly saved time on the road.

NED'S SYSTEM APPLIED TO SALES

I've been thinking for a week about Ned Townley's Bag. It has told me as nothing else has

how this immaculate man does so much work and does it so well and from his habit or system or whatever you want to call it, is a lesson for the selling man. I know it hits me and I am going to profit by it. You and I may be something alike and the same thing may help you. First, let's suppose you carry a case in which is arranged a line of samples or a lot of literature to prove or to amplify your sales' arguments. Are they put in any old way or are they arranged in such order that you may use them quickly and effectively? Are they so arranged that one line or one proof follows another naturally and helps the more powerfully to carry the mind of our customer from where we find it to where we want it? If so, you are in Ned Townley's class. If not, join me in re-arranging.

And not only is this true of such physical effects as samples and pictures and sales literature, but it is equally true of our thoughts—our sales' arguments.

SELL THE KEK TO THE SITUATION

I've seen a lot of men who could answer any sort of a question about a tool or a machine who would serve hash if they started to tell an uninformed prospect about it. They didn't have the fine art of arranging their knowledge—or classifying their arguments—of bringing out points in Sales sequence. They didn't start with vital points on

which the customer was bound to agree and then work out to the other things where opinion might be divided. They did not first sell the object that created demand for other things to be mentioned later. They started selling belting when the gas engine would have naturally created a demand for belting.

THAT BUSINESS BREEDING GROUP

We've got to pian our sales—to put some headwork into the things we do each day,—to try harder to sell the key to the situation more frequently. To go over our line and pick out the six items that are most apt to help sell other things and then to put the best there is in us into a wholesome endeavor to advance the sale or consumption of that business breeding group.

And while you're at it—I know you believe in Team work—just write me a letter telling me the items you have selected and why. To the man who mails me the best list I'll give one of the greatest books I've ever read. It is a book that will make the way plainer—I mean the way to bigger things in a sales-life. Then, too, we may prevail upon the editor to publish the list of the six Big Brothers to smaller sales.

Anyway, let's line up our arguments—line up our literature—line up our samples so they fit our sales needs just like Ned Townley's clothes fitted him that day he dressed from the Bag.

Someone has said that there is nothing so broadening as kindness and in business there is nothing so effective as courtesy and consideration for your customers.

Will the "can't-be-done" crowd keep in mind that a postage stamp will get them close to their prospects even when bank presidents are kept out?

GENERAL NEWS OF DEALER INTEREST

General Harbord Elected President of R. C. A.

The Radio Corporation of America makes the following announcement:

James G. Harbord, the fighting General of the Marines at Chateau Thierry, has been elected President of the Radio Corporation of America.

Retiring from the United States Army, in which he ranked next to General John J. Pershing, he succeeds Edward J. Nally, who has resigned as President of the Radio Corporation to become that Corporation's Managing Director of International Relations with headquarters in Paris.

The creation of the office of Managing Director of International Relations for the Radio Corporation and the election of General Harbord as the new President took place at the regular meeting of the Directors of the Corporation in New York on Friday, and General Harbord today tendered his formal request for retirement to Secretary of War Weeks, who approved it effective December 29th. General Harbord takes over his new duties on January 1st. The post to which General Harbord has been elected is regarded as of vital importance to the government, as well as to the public, since the Radio Corporation was formed at the suggestion of representatives of the United States Navy in order that that single strong world wide wireless communication company, free from foreign domination, might be built up under American ownership and control.

General Harbord becomes head of a company whose activi-

ties include international wireless communication with all the principal countries of the World, the setting up maintenance and operation of radio set and apparatus on ship at sea, and the development and sale of broadcast receiving sets for the home.

In approving the application of General Harbord for retirement, the Secretary of War made the following comments:

"The business he will enter is in its infancy, and it will offer full scope for his abilities. That he will prove himself a great leader in industry and commercial affairs seems as certain as his great leadership in military activities."

A statement given out after the meeting says that the foreign relations of the corporation, in the interest of World Wide Wireless, have grown to such great importance that it has become necessary to appoint a responsible officer who will give his entire time to the foreign field.

General James G. Harbord was elected president, to succeed Mr. Nally, the changes to be effective January first next.

Mr. Nally has just returned from Europe, after several months' visit there, during which he concluded arrangements with the great wireless concerns of England, France and Germany, by which the radio interests of the four great nations will act together in creating and operating international wireless communication with all parts of the world, but especially with South America.

The Radio Corporation of America has assumed the leadership of this consortium, which carries heavy responsibility to

our own people and the world at large.

Mr. Nally, who has been in communication business all his life, has been a prominent figure in the development of radio in this country. Indeed, he is credited with the vision which has made the Radio Corporation of America the leader in World Wide Wireless. Because of his familiarity with conditions abroad he is especially qualified to represent the growing interests in the foreign field. He will make his headquarters in Paris.

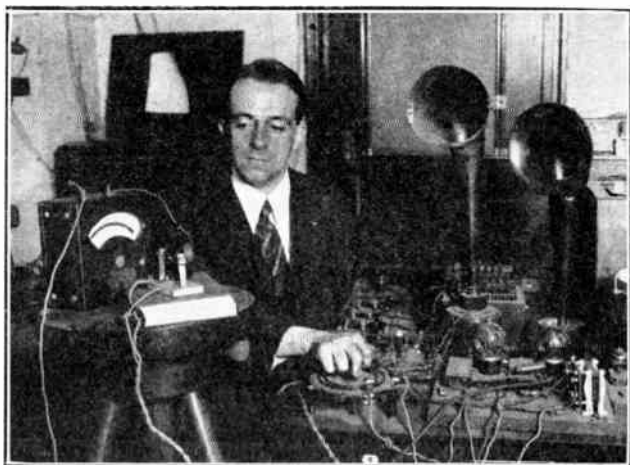
General Harbord, until his retirement from the service, was Deputy Chief of Staff of the Army. During the war he administered and commanded the Services of the American Expeditionary Forces, and was Chief of Staff under General Pershing. Since his return from France he has continued to perform important executive duties.

New York Radio Exposition

S. H. Fairbanks, who managed the recent successful Radio Show

in Boston, Mass., has been retained as Advisory Director by the management of the American Radio Exposition. This Exposition will be held in Grand Central Palace, New York, December 21st to 30th, and from present indications will far surpass any radio display of the past. Mr. Fairbanks will take charge of exhibits, the apportionment of space and other details of staging the huge show. L. S. Byers, executive secretary of the committee in charge of the show, will continue with the aggressive program of organization already projected. A series of novel and sensational features are being worked out at present to make the exposition unusually interesting to the general public—those who are unfamiliar with radio, as well as the “fans.”

A number of new exhibitors contracted for space during the past few days. These include the Electric Storage Battery Co., A. H. Grebe & Co., Jewett Manufacturing Co. of Newark, N. J., and the Burgess Battery Co.



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How loud speakers are tested at the Electrical Research Laboratories

Especially interesting exhibits are promised by the Western Electric Co., Inc., The Radio Corporation of America and the National Carbon Co., and a number of these will spring some surprises.

The exposition will be New York's principal contribution to the "National Radio Week," which will be celebrated throughout the country during Christmas week. This co-operative National Radio Week idea has "caught on" from coast to coast and is expected to prove a great boom to the industry. No effort will be spared to make the New York Exposition national in its scope and analogous to the Annual National Automobile Show in the automotive industry, the Chemical Exposition in the chemical industry, the Silk Show, which adds a great impetus to the Silk business, et cetera.

For economical reasons practically all industries holding yearly expositions have learned that the East will support only one exposition a season, with perhaps one in the Middle West and one in New England. In view of the importance of the metropolis as an industrial and export center, the numerous manufacturers exhibiting are talking co-operation in one big annual New York event, staged in a manner that will mean profit to manufacturers and dealers alike and pleasing to the public.

Following is a partial list of the exhibitors:

Western Electric Co., Radio Corporation of America, C. Brandes, Inc., National Carbon Co., Novo Battery Co., Sleeper Radio Co., General Insulate Co., Sound Wave Corporation, Patent Electric Co., Executive Radio Council, Stromberg-Carlson Mfg. Co., Holtzer Cabot Co.,

National Airphone Corporation, Clapp-Eastham Co., Hutchison Radio Co., Henry Hyman & Co., De Forest Radio Tel. & Tel. Co., Dubilier Condenser Co.

Radio Cadet Corps

New York has a Radio cadet corps. The boys are taught the fundamentals of the science at nine years of age and in three years are efficient in all its branches. Mr. Dealer, why not start such a corps in your area?

Canadian Fans Vote for One Night Each Week of Silence

At the regular meeting of the Wireless Association of Ontario in Toronto, it was decided to request the director of the Radio service to make an order that all amateur transmitting licenses in Toronto be made subject to a restriction preventing transmission between the hours of 7 to 10:30 o'clock every evening.

The previous meeting of the association had ruled that all members regard these three hours and a half as a "silent period," to prevent interference with entertainment programs which were being broadcasted. All members of the association have since refrained from transmitting in the "silent period," but a few others, perhaps not aware of the decision of the club members, have continued to make a nuisance of their sparks when thousands of people are listening to concert programs.

Broadcast in Uruguay

Recent modifications of the rigid laws of Uruguay governing the installation of Radiophone and telegraph stations have made possible the institution of

Radio broadcasting, according to Vice Counsel Edwin B. Montgomery, of Montevideo. Applications are now pending which, if granted, should mean the opening of a splendid market for Radio telephone receiving apparatus there.

Census Shows Increase in Radio Manufacturers

In the five years from 1914 to 1919 the manufacture of Radio apparatus in the United States increased more than eleven times, according to figures reported by the Bureau of Census. The value of the apparatus made in 1919 was \$7,834,698, while in 1914 the total was only \$672,575. In 1909 it was a little less, being \$448,262. The next census of manufactures will be taken in 1924, and it is expected to show increases many times in excess of that of 1919, inasmuch as broadcasting did not start until fall of that year.

Some authorities estimate that the value of the apparatus made during 1921 will exceed \$100,000,000.

Publish New List of Commercial Stations

An index to commercial and government Radio stations of the United States has just been issued by the Department of Commerce, and is available to the public for fifteen cents a copy at the office of the Superintendent of Documents at the Government Printing Office, Washington, D. C. It gives complete lists of all commercial and governmental stations both on land and sea licensed up to June 30, 1922, including the broadcasting stations. The list of amateur stations is still in press but will soon be

available for distribution by the Superintendent of Documents at about 25 cents a copy.

Boston Gets Silent Periods

As a result of the new Radio time schedule drawn up by Radio Inspector C. C. Kolster, which went into effect the week of October 15, there are now some silent periods in the broadcasting which allow fans to tune in for distant cities at intervals between programs of the nearby stations and get a variety of entertainment, as well as practice in catching far-a-way places. In addition they can play "Radio Golf" without sitting up until nearly daylight to get "DX" stations in order to beat their scores in this new indoor sport.

Consider World Communication

At the request of the Department of State, each governmental department interested in or having to do with wire and Radio communication has appointed a representative to serve on an inter-department committee for the consideration of problems of International electrical communications. At a meeting, soon to be called in Washington, the several members of the United States Committee will study the problems to be considered at the forthcoming international conference to be held in Paris, and the American agenda and policy will be worked out in detail.

Railroads Feature Phones, Not Scenery

The lure of Radio is stronger than the lure of scenery. The old-style railroad advertisement featuring the beauties of the scenery has been supplanted by an-

nouncements that Radiophone concerts and entertainment may be heard aboard the Buffalo Limited and the New York Limited. The road with the best broadcasting stations along its route will soon "tell the world."

Plan \$2,000,000 Vancouver Plant

The Marconi Wireless Telegraph Company of Canada, in co-operation with the parent company in England, is contemplating erecting at Vancouver what will probably be one of the largest and more powerful Radio stations in the world for direct communication with Australia and the East. It will cost upwards of two million dollars and will be the last word in modern Radio engineering.

The British government has been anxious for some time past to establish a great chain of imperial wireless stations around the empire, under government operation and control and has been urging the different parts of the empire to co-operate.

Britain All Ready For Broadcasting

Sir Henry Norman, member of Parliament, recently opened the first all-British Radio show and convention, at the Horticultural Hall, Westminster. At the ceremony he made the announcement that the difficulties among the companies engaged in Radio, and between the companies and the postmaster-general had been happily set aside, and in a week or two broadcasting would be begun in London; that it would speedily be followed by broadcasting from the Manchester center and, as soon as might be, also from the other six centers into which the country was to be divided.

Speaking at a luncheon given by the organizers of the exhibition, Sir Henry Norman said there were those who looked on broadcasting as a new fad, a passing craze that would amuse people for a month or two, and then would be dropped like ping-pong and "put and take."

They were wrong. Broadcast Radio telephony was destined to become a natural part of our social life, as the ordinary wire telephony is today.

Sir Henry Norman predicted the time when a receiving set would be in the home of nearly every member of the community, and said that the final triumph of broadcasting would come when the King addressed the Parliaments of the Empire simultaneously by such means.

To Test Sets

F. H. Day of the Bureau of Foreign and Domestic Commerce, is to take over the activities of the Bureau of Standards in connection with Radio receiving apparatus now on the market. Mr. Day will issue from time to time data which was formerly made public by the Bureau of Standards.

Gigantic Wireless Station Will Link Up British Empire

The last link in the British scheme of a world-wide chain of "All Red" wireless stations giving instantaneous communication with all parts of the empire is to be erected at Bourne, in the County of Lincoln, England. This gigantic station will be the second largest in the world and will be capable of talking direct to Australia, India, South Africa and Canada. The report regard-

ing the authorization of this station says:

"While it will not equal in actual size the great new French station which was opened this week at Saint-Assise (near the Forest of Fontainebleau), the varying functions of the respective stations have to be borne in mind, the one being for general and commercial purposes, the other primarily for official purposes.

"There will be at the English station eight steel masts, each 800 feet high (more than twice the height of St. Paul's). These masts are used for supporting the antenna and constitute the most costly item of a wireless station. Because of the fact that steel is a conductor, and therefore liable to cause loss of electrical energy, the masts will be insulated in sections and will stand on an insulating base. They will be guyed to concrete anchorages and will be designed to take a horizontal pull of ten tons at the top and a wind load of sixty pounds per square foot. The masts will be arranged in the form of a square, in the center of which the transmitting station will be situated.

"The buildings will include an operating room, a boiler room, an engine room and a high-frequency room, together with workshops and an emergency operating room. The apparatus will consist of thermionic valve sets capable of transmitting continuously at ninety words a minute for reception in Poona, Johannesburg or Perth as the case may be.

"The new receiving station at Banbury, which will represent the other terminal of the imperial chain, will be built on similar lines to the station already in existence there in connection with the Leafield-Abu Zabal (Egypt) link of the chain. In

general, it will comprise a central plot, 250 by 50 yards, for the operating building and two other plots, 220 yards square, on either side of the operating building, and about 550 yards removed from it, on each of which will be erected a mast 300 feet high."

How to Solder Connections In a Radio Receiving Set

It has been stated that certain connections in radio receivers should be soldered. In fact, one could well advise that all connections about a radio circuit be soldered, but soldered correctly. There are some general hints that may be given, but judgment and experience are essential. The soldering copper must be clean and the tip well coated with solder. If the tip of the soldering copper is not bright it should be filed clean. It is then heated, care being taken that the tip is not in the soldering flux or paste, and the copper tip coated with solder. The wires are cleaned where the soldering is to be done, using fine sandpaper, then a small amount of soldering flux or paste is applied at the joint and the wires to be soldered are tinned or coated with solder before the wires are joined. After the wires are tinned they are soldered together using just enough solder to make the joint solid. The joint should not be jarred while the solder is still soft; to do so weakens the joint and gives the solder a dull appearance. A good soldered joint will be smooth and bright. All excess soldering flux or paste should be cleaned off. Gasoline or alcohol will assist in cleaning off the paste. This last point is sometimes overlooked and the excess flux often causes the copper wires to corrode.

National Radio Week to Emphasize Educational Value of Radio Broadcasting



HE tremendous contribution of radio broadcasting to the educational life of the country is to be especially em-

phasized during NATIONAL RADIO WEEK, to be held from December 23 to 30.

Broadcasting has assumed many roles since its inception, but none has received such whole hearted and enthusiastic support from the nation's leaders as when it dons the toga of the educator.

Sending of operatic arias out on the air has become frequent within the past few months. All the progress thus far made in that field, together with a wealth of new material and ideas, is to be assembled during NATIONAL RADIO WEEK for a grand display.

Announcement to this effect has just been made by J. Andrew White, chairman of the Executive Committee of NATIONAL RADIO WEEK. Mr. White and the Committee feel that the broadcasting of the highest type of music not only has recreational value but is inspirational in home circles, as well, and there is tremendous economic benefit to be gained in educating the American people through radio to an appreciation of the higher forms of culture.

Radio's use in the church and school are also to be demonstrated in special nation-wide programs from scores of stations.

NATIONAL RADIO WEEK is an unselfish, co-operative effort on the part of everyone in radio, from listener to manufacturer, to demonstrate what the new science and industry has accomplished thus far in the brief span of one year of general popularity and to give the listener an insight into the yet unrealized possibilities of the near future. It is an organized effort to add to the ranks of listeners—to double this number in fact.

FACTS ON NATIONAL RADIO WEEK

What it is—NATIONAL RADIO WEEK is a movement to popularize radio, to double the number of broadcast listeners, to show the progress made thus far in broadcasting, to reveal new possibilities, to kindle the spirit of radio in as yet unresponsive breasts.

What it is NOT—It is NOT a movement by any one organization. It is NOT a manufacturers drive. It is NOT intended to be anything but a thoroughly unselfish, co-operative effort, national in scope, exhaustive in material.

When it is to be held—December 23 to 30 (inclusive) this year.

General information—The campaign is being directed by an Executive Committee, of which J. Andrew White, editor of The Wireless Age, is chairman.

Headquarters—Headquarters for NATIONAL RADIO WEEK are at 326 Broadway, New York City.

What is the Finest Receiving Set Made?

To be worthy of this distinction, the set must have three characteristics—

World-wide receiving range—
Reception in all wave lengths—
Reception without distortion.

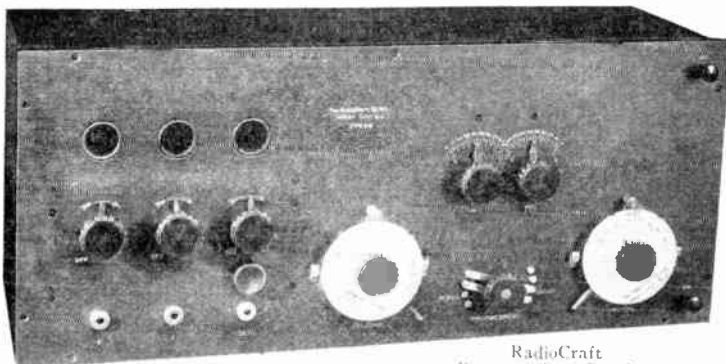
RadioCraft D-6 Regenerative Radiophone* (by permission of De Forest Radio Tel. & Tel. Co.) will receive even European stations, and of course all those on this continent.

It receives on all amateur, broadcasting, and transatlantic wave lengths.

In clearness and avoidance of distortion, it must be heard to be adequately described.

D-6 uses outside aerial only, and head sets or loud speaker.

It claims to be the finest receiving set now manufactured and any authorized De Forest dealer (who also carries the RadioCraft line) will be glad to prove this to you by actual demonstration.



RadioCraft
Regenerative Receiver
Type D-6

RadioCraft Regenerative Radiophones* (by permission of De Forest Radio Tel. & Tel. Co.) range from the simplest to the most elaborate.

It is unnecessary to add that this entire line of De Luxe radio equipment is most exquisitely finished in every detail.

The RadioCraft Co. 139 Franklin St., Jersey City, N. J.



*Reg. U. S. Pat. Off.

What is to be accomplished—

Every listener will endeavor to interest one person into a radio. This will double the number of broadcast listeners. Programs from every station in the country, especially prepared to fit the holiday season and the spirit of the week, will be sent

out on the air. Sporting events, operas, jazz bands, speeches, and other particularly interesting programs will fill the air. Nationwide broadcasts of a single event to be heard in every section of the country at once, will be made.

I'm a Radio Widow

Helen Tyler-Cope

I've been a poker widow,
Alone night after night.

I'm oft a baseball widow—
The game is man's delight!

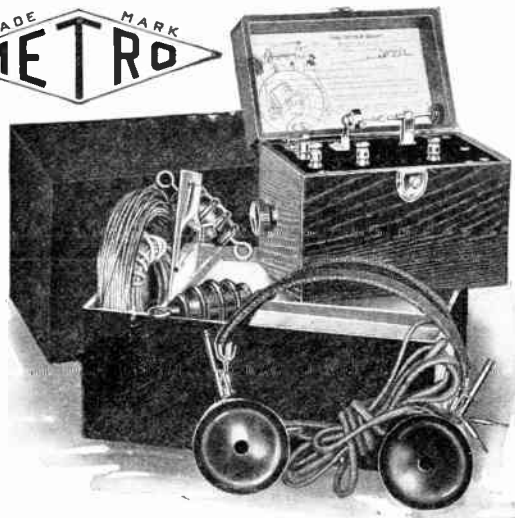
I was a poor golf widow,
At clubs friend husband stayed.

But now another widow
Of me radio has made!



Courtesy N. Y. Globe.

The Outfit Everybody Wants!!



THE LITTLE GIANT RECEIVING OUTFIT

Greater Simplicity — More Efficiency — Popular Price

The Little Giant Receiving Outfit is surprising dealers everywhere with its extraordinary sales. People, who never showed any interest in radio, are buying this greatly improved high grade receiving outfit. It overcomes all the objections of difficult operation, unsightliness, inconvenience and great expense common to most types. Dealers are increasing business with this rapid seller. Things are brighter after they give the Little Giant a chance to prove its appeal to everybody.

The entire set is contained in a highly polished American Walnut cabinet that you can hold easily in one hand. The only adjustment necessary (once the detector is fixed) is the pulling out of a small rod on the side until the sound is clear and loud. Designed on entirely new principles. Combined with supersensitive Metro Headphones, the Little Giant outfit is surprisingly simple and efficient. Everything needed to install the Little Giant is packed in the neat, black leatherette box.

Little Giant Outfit Complete

With Metro
Headphones, Insulators, Ground Wire, Ground Clamp and Complete Aerial. In Black Leatherette Box; **\$15**
List

Write for circular and interesting proposition. Get your share of the profits in Little Giant Receiving Outfits.

METROPOLITAN RADIO CORPORATION

67-71 Goble Street

::

NEWARK, N. J.

Radio Activities at the Bureau of Standards



THE Bureau of Standards has developed a very precise method of standardization of radio wave lengths and frequencies, which is the fundamental basis of radio measurements in this country. By the process used, the frequency of radio waves is compared with that of an audible musical note. A tuning fork is mounted in such a way that it may be made to control the frequency of an oscillatory circuit. The frequency of another oscillatory circuit operating at much higher frequencies is then compared with it by means of a cathode-ray oscillograph.

This latter instrument consists of the cathode-ray tube, a special kind of vacuum tube in which the narrow stream of electrons is subjected to the action of electric fields applied by the two alternating - current generators. When neither generator is operating, the electrons, impinging on the active screen at the end of the tube, cause a single luminous spot. If one generator is connected, the spot is deflected back and forth along a single line, horizontal or vertical as the case may be, with such rapidity that it appears as a solid line. If both generators are applied simultaneously, the spot oscillates both horizontally and vertically, and appears, in general, as a blurred luminous rectangle. If, however, the frequencies of the two generators bear a simple ratio, such as four to one, the spot traverses and retraverses a

definite simple path, forming a figure by which the frequency ratio may be recognized. It has been found possible to compare frequency ratios as high as twenty-one to one.

The Bureau is at present engaged in the standardization of a high precision standard wavemeter by this means. A tuning fork of known frequency, approximately 1,000 cycles per second, is used as the basis of the standardization. A low - frequency generator is tuned to successive multiples of this frequency by means of the cathode-ray oscillograph and corresponding settings of the wavemeter are obtained. A third generator is similarly tuned to multiples of these frequencies and thus by successive stages the standardization is extended to include frequencies as high as 5,000 kilocycles (60 meters). It is intended that this wavemeter be used as the basic standard for the standardization of commercial wavemeters.



SCIENTIFIC PAPER
No. 449 of the Bureau of Standards describes the construction of a radio-frequency amplifier which uses the transformer coupling method.

Radio-frequency amplification consists in the amplification of the received radio-frequency current before it is detected. By the use of radio-frequency amplification and a coil antenna, a signal which is very feeble can be made loud enough to be heard throughout a large room.

Three methods are described

American RADIO Exposition

The Official Exposition for American Manufacturers

with the endorsement of the

NATIONAL RADIO CHAMBER of COMMERCE

and sanction of the Radio Apparatus Section of the

**ASSOCIATED
MANUFACTURERS of
ELECTRICAL SUPPLIES**

GRAND CENTRAL PALACE

New York

DECEMBER 21st to 30th

(Sunday excepted but Christmas Day included)

This first really comprehensive Exposition to be staged in a manner worthy of a great industry includes such representative exhibitors as:

Western Electric Company, Inc.
Radio Corporation of America
National Carbon Company
C. Brandes, Inc.
Sleeper Radio Company
General Insulate Company
Executive Radio Council
Coto-Coil Company

Weston Electrical Instrument Co.
American Radio Relay League
Stromberg-Carlson Mfg. Co.
Holtzer-Cabot Company
Clapp-Eastham Company
Dubilier Condenser Company
DeForest Radio Telephone & Telegraph Co.

All of the above and other leading manufacturers have contracted for space and many more are at present negotiating for representation. The opportunity to display Radio products to thousands of buyers during the holiday season is an unusual one. The exposition will be one of New York's big features in connection with National Radio Week.

For further particulars, write or wire

AMERICAN RADIO EXPOSITION CO.

120 BROADWAY

NEW YORK

Telephone John 0009

by which the electron tubes may be coupled together so as to give radio - frequency amplification; resistance coupling, tuned plate coupling and transformer coupling, the latter having been found most satisfactory.

In order to operate well, the radio - frequency amplifier should have a transformer designed so that it will have small capacities in the windings as well as between the windings, and in connecting the transformer in the amplifier circuit care must be taken to have all connecting leads as short as possible.

It has been found that either "air-core" or iron core transformers may be used for coupling the output of one tube to the input of the next tube. The air-core transformer gives more amplification per stage, but is responsive to only a narrow band of frequencies owing to the low effective resistance of the windings; the iron-core type, while not giving as much per stage, allows amplification over a much broader band of frequencies.

A special type of air-core transformer, which will respond to signals on wave lengths from 600 to 1,000 meters, is described. The coils of the transformer were wound in the form of a flat doughnut, the wire being wound in a manner similar to that of the open or basket type of coil winding. They are wound continuously from the inside to the outside. Two of the coils constitute an air-core transformer, one coil being connected in the plate circuit of one tube and the other being connected to the grid circuit of the succeeding tube. It is found that when the primary and secondary transformers are placed about one-half inch apart, the transformer

gives best amplification at 600 meters; and when the coils are placed close together, the amplifier operates best at 1,000 meters. This is due to the increase of the capacity between the coils when placed adjacent. An amplifier having three stages of radio-frequency, two stages of audio-frequency amplification, and a detector tube may be constructed as described in this paper. The complete paper may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 5c per copy.



SCIENTIFIC PAPER

No. 450, obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 5c. per copy, describes an electron tube amplifier which uses 60-cycle alternating current to supply power for the filaments and plates.

Such an amplifier has the advantages of low first cost and cheapness of operation besides doing away with the inconvenience of the storage battery and the "B" battery.

The amplifier developed at the Bureau of Standards uses a crystal detector and five stages of amplification, three stages of radio - frequency amplification, and two stages of audio-frequency amplification.

The first arrangement tried consisted of one radio-frequency stage of amplification, tube detector, and one stage of audio-frequency amplification. The filaments of the three tubes were lighted by 6 volts supplied by a step-down transformer, the primary of which was connected to 110 - volt, 60 - cycle power mains.

The alternating current was

MALONE-LEMMON LABORATORIES

CANADIAN PACIFIC BLDG. MADISON AV. AT 44TH ST. N.Y.



This is the MARK OF CERTAINTY of the MALONE-LEMMON LABORATORIES placed on such radio apparatus as has been tested and approved by them as your insurance of quality in manufacture and scientific accuracy in design.

DEVELOPMENT

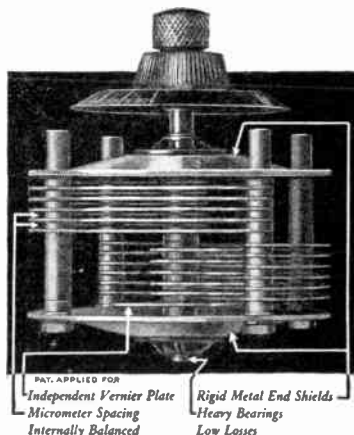
The growing number of broadcasting stations and the assignment of closely separated wave lengths, has made finer tuning vital to Radio receiving. The Radio owner knows this and is now buying better tuning devices.

To render accurate tuning easy and certain the MALONE-LEMMON LABORATORIES undertook to develop a condenser of improved electrical and mechanical construction.

The result is the new VERNITROL Condenser, capable of finer electrical variation and having greater mechanical rigidity than has heretofore been available in any except laboratory equipment.

Exercising its function of improving Radio apparatus, the MALONE-LEMMON LABORATORIES will from time to time bring out new or improved devices. These will be offered to the trade when, "and only when," there is a recognized demand for them.

We will gladly furnish further detailed information concerning this VERNITROL Condenser — also concerning the new MALONE-LEMMON DUOTROL Rheostat.



rectified by means of a gas-filled two-element rectifier tube called a "Tungar" tube, but it was found that the residual hum was greater than when the alternating current was not rectified.

When an electron tube is used as a detector, there is impressed on both the plate and filament a 60-cycle alternating current voltage, which, although small, becomes objectionable when amplified by one or two stages of audio - frequency amplification. When, however, a crystal detector is used instead of an electron tube detector, it has been found that the 60-cycle hum is practically eliminated, and that the crystal gives as good rectification as the tube detector.

After much experimental work, a circuit consisting of three stages of radio-frequency amplification, galena crystal detector, two stages of audio-frequency amplification, loud-speaking reproducer, and the necessary power transformer and rectification circuits was developed which allows the reception of music and telegraphic signals without eliminating the residual hum.



THE enormous increase in the use of radio telegraphy and telephony during the past two years has created a demand for apparatus capable of being operated with a minimum of interference. Wherever the need is not for broadcasting but for point-to-point communication, the case seems hopeless unless directive transmission can make it possible. Directional transmission on very short wave lengths (below 20 meters) may offer a solution of this problem.

Recent reports by Marconi, Franklin, and others show that

interesting and valuable data have been obtained on directive radio transmission using wave lengths below 20 meters. The Bureau of Standards has just completed a series of similar experiments, the preliminary results of which confirm the work of these investigators.

The experiments conducted at the Bureau of Standards were made with a parabolic reflector (cylindrical type), which was designed for a 10-meter wave length. It was made by constructing a parabolic wooden frame with an aperture of 1 wave length. This frame was suspended in the air and 40 wires spaced 1 foot apart were suspended from it. The source, located at the focus, consisted of a 50-watt electron tube. The output from this tube was coupled to an antenna which was a linear oscillator of the Hertzian type, which was tuned to a wave length of 10 meters. The complete reflector system was arranged so that it could be rotated.

Numerous polar curves were obtained by rotating the reflector and taking reading of the received current at every 10 degrees position of the reflector. The receiving apparatus was located 170 feet from the reflector in most of the work and consisted of a loop antenna (single turn) with a thermoelement in the loop circuit. A portable galvanometer was connected to the thermoelement.

With all adjustments correctly made at the reflector, good directional transmission was obtained. With the reflector turned 20 degrees from the direct line of the receiver, the received current dropped off to $\frac{1}{2}$ of what it was with the reflector directed to the receiver. There was practically

FIBER RADIO HORN

The Fiber Radio Horn is more than a loud speaker. It is a scientific development and is guaranteed to reproduce true tones.

It is made of Fiber and *eliminates* all *blast*, *discord* and *metallic* tone.

~~~~~  
**REPLACE the  
Storage Battery  
with a Single Dry  
Cell and get the  
Same Results**

### Arrow W.D.-11 Adapter



Fits all makes of sockets and requires no change in wiring of set.

Scientifically correct; base made of BAKELITE. **List Price \$1.00**

**SOCKETS FOR W.D.-11 TUBES**

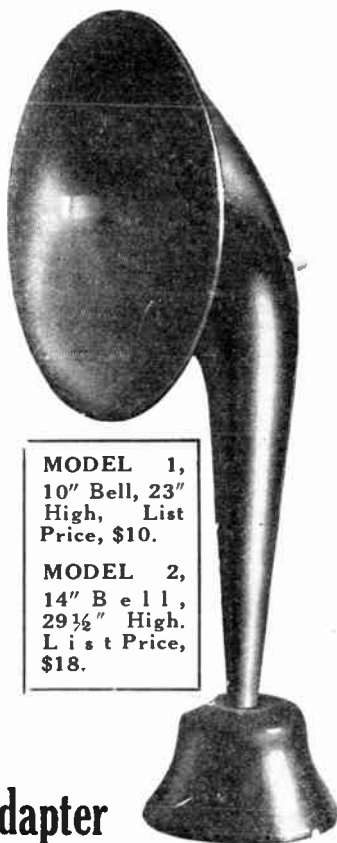
*Ready for Delivery—70c LIST*

## National Light & Electric Co.

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**"Grow With Us"**



**MODEL 1,**  
10" Bell, 23"  
High, List  
Price, \$10.

**MODEL 2,**  
14" Bell,  
29 1/2" High.  
List Price,  
\$18.

no radiation over an angle of 270 degrees while the majority of the radiated power was confined to an angle of 30 degrees. A few experiments were made with receiving apparatus at a considerable distance and good radiophone transmission was obtained over a distance of 3 miles.

The report to be issued on this work will present the results of these experiments and give details regarding the apparatus and circuits used so that others may duplicate or continue this line of investigation. When the publication is issued, details regarding it and information as to how it may be obtained, will be published in the Radio Service Bulletin, obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 25c. per year.



THE Bureau of Standards has prepared a series of pamphlets which deal with radio measurements. These pamphlets are: Letter Circular No. 75, "The Secondary Standardization of Radio Wavemeters," Letter Circular No. 76, "The Standardization of Inductors at Radio Frequencies, and Letter Circular No. 77, "The Comparison of Condensers at Radio Frequencies." Like the other publications in the "Letter Circular" series, they are in mimeographed form and are not obtainable by purchase. A limited supply of these is available at the Bureau to persons who have actual use for such information.

The first pamphlet describes the method of standardizing wavemeters of both the transmitting and receiving type. In the receiving type of wavemeters, the standardizing consists

in measuring by means of a standard wavemeter the frequencies emitted by a generator of continuous waves which is tuned to resonance with the wavemeter under test at various settings of the scale of the latter. In the transmitting type of wavemeters, which consists of a condenser, an inductor, and an exciting device (usually a battery and a buzzer coupled to the circuit), the standardizing process utilizes the make and break of the buzzer which excites the wavemeter by impact and emits waves, the frequency of which is regulated by the wavemeter setting; the frequency of the waves emitted at each setting being known for each setting of the wavemeter.

The second pamphlet describes the method of measuring the apparent inductance at any radio frequency of a fixed or variable inductor. The apparatus consists of a variable condenser, a wavemeter, standardized in terms of frequency or wave length, a thermoelement and galvanometer, current square meter, several non-inductive resistors of known resistance and a source of undamped, unmodulated waves. The observations consist of the readings necessary for standardization in terms of frequency or wave length of the circuit composed of the standardized condenser, the inductor to be measured, and connecting leads spaced well apart and as short as is possible without bringing the coil to within about 10 centimeters of the condenser. With this circuit is combined the device used to indicate resonance.

The third pamphlet describes the method of comparison of the capacity and effective resistance or phase difference of two condensers, one of which has al-

The Most Up-to-date Treatise on Radio

# "TEXT BOOK ON RADIO"

By JAMES R. CAMERON

whose text books are used and endorsed by the U. S. Army,  
Navy, and Department of Public Instruction.



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Written so the amateur can understand it. At the same time—Text Book on Radio—is a standard text book for the technical Radio student.

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130 West 42nd Street, Dept. M

New York

ready been standardized. The method here described is that of comparison by substitution, that is, tested and untested condensers are compared by inserting them in turn in a circuit which is brought to resonance with a source of undamped waves.

These three pamphlets are primarily for research and testing laboratories. Together with Letter Circular No. 78, "The Design of a Suitable Short-Wave Radio Wavemeter," they constitute a supplement to Bureau of Standards Circular No. 74, "Radio Instruments and Measurements."

 HE Bureau of Standards has prepared a pamphlet, Letter Circular No. 73, "Fees for Testing Radio Apparatus," for the information of those who desire to have tests performed. The Bureau limits its test of radio materials to tests for the Government, tests of importance to the Bureau for research, tests in which the Bureau is to act as referee, and a few other special tests in which special reason is shown why these tests are to be undertaken by the Bureau. Before an article is submitted for test, it must be preceded by a written request for test, and if it cannot be undertaken, the applicant is furnished, if possible, with the name and address of one or more laboratories which may make the test if requested.

The request should enumerate the articles, giving serial numbers or other identification marks if any, should state the nature of the test desired, and the conditions under which the apparatus is used and state the reasons for believing that the test should be

made by the Bureau of Standards.

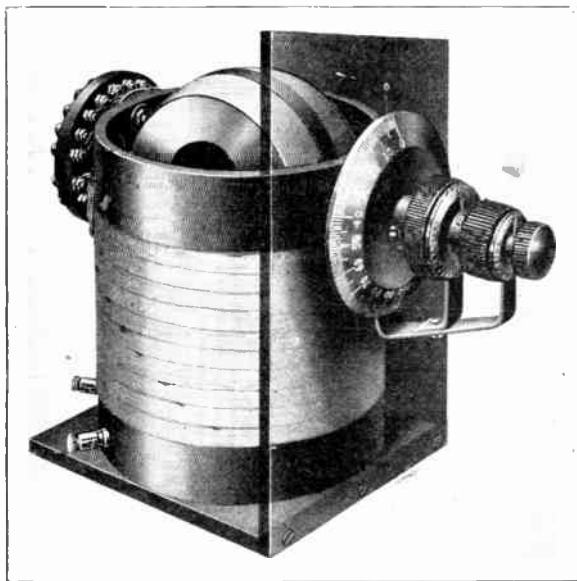
There is a limited number of copies of this fee schedule available at the Bureau of Standards to persons who have actual use for it.



HE Bureau of Standards has prepared a series of pamphlets which give descriptions of parts of very simple radio receiving sets. Two of the series have been published and announced previously, and are available from the Superintendent of Documents, Government Printing Office, Washington, D. C. They are Circular No. 120, "Construction and Operation of a Simple Home-made Radio Receiving Outfit," and Circular No. 121, "Construction and Operation of a Two-Circuit Radio Receiving Equipment with Crystal Detector." The later pamphlets of the series, describing a simple loading coil, auxiliary condensers, and electron tube detector and amplifier units have now been prepared. They are included in Letter Circulars Nos. 46, 47, 48, and 49 of the Bureau of Standards and are not now available to the public. They will be printed, and the time when they become available will be announced in the Radio Service Bulletin, a monthly publication of the Department of Commerce, obtainable from the Superintendent of Documents, Washington, D. C., at 25c. per year.

The description of auxiliary condensers includes two fixed condensers, one of which is connected in series with the antenna to adjust to short wave lengths, and the other of which is connected across the telephone receivers. The purpose of the

## An Epoch-Making Advance in Vario-Couplers



Selector Vario Coupler—3 units in one. Pat. Pending. Cat. No. 970

## The New Norris "Selector"

Every dealer should sell this new Norris "Selector" Vario-Coupler because it is an instrument each "Fan" will want. It combines in one compact unit, an efficient and accurately designed vario-coupler and the necessary tuning switches. It is actually three instruments in one as separate controls are provided for both the coupling and each of the two primary switches.

The "Selector" works easily and gives a very fine adjustment on each of the three controls.

Radio Fans can easily install this new Vario-Coupler on their sets with a great saving of panel space.

Radio Jobbers and Dealers—

*Write us now for full particulars  
and attractive discounts*

**Norris Radio Corporation**

126 Liberty Street, New York City

loading coil described in one pamphlet is to extend the range of the receiving equipment so as to respond to wave frequencies between 100 and 500 kilocycles (that is, wave lengths between 3,000 and 600 meters).

The electrom tube detector unit described may be used instead of the crystal detector with either the single-circuit or two circuit radio receiving sets described in Bureau of Standards Circulars Nos. 120 and 121. It makes the receiving set operate for signals from transmitting stations at greater distances. The audio-frequency amplifier unit described in another of the pamphlets employs a single electron tube. The amplifier unit is used by connecting it to the receiving set in place of the telephone receivers and then connecting the telephone receivers to the output of the amplifier. The distance over which the receiving set receives is increased by the use of one or more of these amplifier units.



At the Radio Telephony Conference which was called in Washington on February 27, 1922, by Secretary Hoover, of the Department of Commerce, two days were spent in hearing the statements of representatives of the many radio interests who were present. The minutes of this open meeting have now been prepared in mimeographed form. Copies are available for reference at the offices of the District Radio Inspectors of the Department of Commerce. There is a very limited number on hand at the Bureau of Standards for supplying the requests of organizations particularly concerned with the work of the conference.



THE Radio Laboratory of the Bureau of Standards of the Department of Commerce was established in 1910, and during the past few months, parts of its work have come to the attention of most of the radio experimenters and radio broadcast listeners throughout the country. The work of the Bureau of Standards in radio research and measurements, and in assisting the various Government bureaus in the solution of technical radio problems covers a wide field.

A glimpse of what the Bureau of Standards is doing to increase the knowledge and extend the usefulness of radio is given in an article by J. H. Dellinger, Chief of the Radio Section, entitled "The Bureau of Standards Lends a Hand." This article appears in the magazine "Radio Broadcast" for November, 1922.

---

Selling is a game and the best sportsman wins.

---

Experience is a good teacher, but only a fool selects this method of gaining knowledge when he can, by very little effort, take advantage of the experiences of others.

---

"A man who boasts he never changes his mind after it is made up," says Trude Hills, "is about as valuable as a glue-pot that has glued its own stopper in."

---

To-day is the day to get down to business; to-morrow never comes.

---

Ideas are everywhere. Good, bright, new ones abound in every line. When applied to your business, they are valuable.

---

Pep is wasted energy unless it is directed along effective lines.

## DEALER WINDOW DISPLAY COMPETITION

**T**HE radio merchant, alert in his calling, and realizing that he must compete with many other activities for popular favor, is giving due attention to adequate and consistent plans for window salesmanship.

As the day is yet so young for radio, it will only be a question of time before there will be window displays which will call for unusual skill and even for lavish expense. Eventually, fixtures for displaying radio merchandise will be worked out, and attention given to color schemes, and to suitable hangings. The subject lends itself to admirable treatment in a thousand ways.

**RADIO MERCHANDISING** contains many worthwhile suggestions for the proper use of show windows—suggestions gleaned from the practical experience of radio merchants all over the country. We want our readers to take practical advantage of these suggestions, and to put them to work in upbuilding their sales.

As a stimulus towards this end we shall give a prize of Twenty-five Dollars for the photograph of the best radio window display—the photograph to be in our hands not later than January 1, 1923.

We shall also give a prize of Twenty-five Dollars for the best five hundred word statement of what a radio window display should be, and what it should accomplish.

Photographs and statements should be mailed to the Editor,

**RADIO MERCHANDISING**  
342 Madison Avenue      New York City

## For CORRECT RADIO MAILING LISTS Use THE POCKET LIST

Of Radio Manufacturers, Jobbers and Dealers in the United States and Canada. Issued quarterly—January, April, July and October. October, 1922, issue corrected to September 15th, 1922. Classified under three different headings—manufacturers, jobbers and dealers—and alphabetically arranged by states, cities and towns and names of firms. Containing over 15,000 names and addresses.

We have been exceptionally careful to see to it that every manufacturer, jobber and dealer is listed and under the PROPER CLASSIFICATION. Most mailing list concerns charge more than \$100 for a list of this kind, and, as a rule, those supplied are far from being correct. Compare this list with any other and you will find it to be the very best obtainable anywhere at any price.

October number ready for distribution September 25th. Price \$5.00 per copy or \$10.00 per year (four issues, including monthly supplements which keep the list absolutely correct and up to date at all times). October edition limited; send in your order with remittance today.

**F. D. PICKENS**

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35c each, 3 for \$1.00

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Genuine

CONDENSITE DIAL

The dial that runs true. Numerals engraved on bevel and knob so shaped that fingers do not hide them.

Thin edge with clear graduation to make accurate reading easy. Concealed set screw in metal insert. Will not warp or chip. Finish and enamel permanent. Low price with this quality possible only through quantity production.

Special dealer and jobber proposition.  
An opportunity.

**ALDEN-NAPIER CO.**

52 Willow St. Dept O Springfield, Mass.

The brilliant and speedy worker who occasionally sleeps by the wayside as exemplified in the fable of the Hare and the Tortoise is very often passed by the persistent plodder even as the tortoise passed the hare.

When you think you have reached the limit try to beat that record. Even if you do not succeed in doing so you will at least have the satisfaction of having tried and undoubtedly you will have accomplished more than would have been the case otherwise.

**SUNBEAM**

RADIO "B" BATTERIES

Long Life — strength — freshness  
and in any quantity

**Western Electric Novelty Co.**

1250 E. Sixth St. Los Angeles

SALESMEN that have been or are calling on electric or a radio trade, see Mr. Rice, 6311 N. Clark St., Chicago, Ill.

**WANTED** — Travelling salesman to demonstrate, sell, install and operate new radiophone loud speaker and electrical phonograph attachment. Must have combination of experience including successful sales record in and intimate knowledge of Radiophones. Graduate electrical engineer preferred. Highest character reference required. Write, stating age, experience and salary desired. If convenient, enclose photographs and names of four references. Address Box No. 1, care Radio Merchandising, 342 Madison Ave., New York.

**RADIO INSULATION**

"SPAGHETTI"—VARNISHES—WAXES—COMPOUNDS—PAPERS, ETC.  
**ESTABLISHED 1889**

WRITE FOR PRICE BULLETIN AND SAMPLES

MITCHELL-RAND MFG. CO., 25 VESEY STREET, NEW YORK, N. Y.

tion is opened in West Forty-second Street.


The removal of the station from Newark to New York was due to the desire on the part of the corporation to be as close as possible to the centre of music in New York City. Particular importance is attached to musical selections because they represent such a large proportion of the entire broadcasting program of the broadcasting stations.

### 100-FOOT TOWER ON AEOLIAN ROOF.

Two towers, each 100 feet in height, are being reared on top of the Aeolian Building. One is to the north and the other to the south side of the structure, one of the tallest buildings on Forty-second Street. The towers form a part of the plant because it is the purpose of the Radio Corporation of America to furnish two programs simultaneously.

Artists of the first rank will be broadcast at the same time with the jazz artists, so that radio fans of divergent tastes may find in the programs what they prefer. The new station is being so developed that two programs may be sent out by the use of different wave lengths. For instance, a concert program might be broadcast on a 360-meter wave length, and the jazz selections on a 400-meter wave length.

The Radio Corporation of America took over space on the sixth floor of Aeolian Hall and on the roof of the skyscraper under a long term lease signed about a month ago. The sixth floor space is to be converted into studios and executive quarters by the company, while the roof space will be used for the purpose of towers.



**Na-ald  
De Luxe  
V.T. Socket**

Contact strips of laminated phosphor bronze press firmly against contact pins, regardless of variation in length. No open current trouble possible. Socket moulded from genuine Condensite. Practically unbreakable. Special protected slot, with exterior reinforcement. Unaffected by heat of bulbs or soldering iron. All excess metal eliminated, aiding reception. May be used for 5 Watt power tube. Highest quality throughout. **Price 75c.**

Special proposition to dealers and jobbers.

**Alden-Napier Co.** 52 Willow St. Dept. O  
Springfield, Mass.



**Radio Reception Explained**

**HOW TO BUILD**

Double Slider Type Crystal Receiving Set  
Loose Coupler Type Crystal Receiving Set  
Single Circuit Vacuum Tube Receiving Set  
Vacuum Tube Receiver and Ten Slip Amplifier  
Loose Coupler Tuner and Vacuum Tube Detector  
Short Wave Long Distance Transmitters  
Regenerative Tuners  
Radio Frequency Amplifier and Variometer  
Regenerative Tuner  
Cathode Ray Radio-Audio Frequency Amplifier Circuit

Great Lakes Publishing Company  
Detroit, Michigan

**BUILD BUSINESS**

by distributing an inexpensive book which not only explains radio reception but also tells how to build eight types receiving sets out of parts you carry in stock. Complete bills of material given for each type. This will save much of your time. Sells for 50c. Send 25c for sample. Liberal discount.

**GREAT LAKES PUB. COMPANY**  
28 Park Pl. West  
Detroit, Mich.

## DEALERS

Our Weekly Radio Comic Strips, pasted on your window, will attract attention and boost sales.

*Free Samples Sent on Request*

## RADIO CARTOON SERVICE

234 Cambridge Ave., Jersey City, N. J.

*Manufacturers, Dealers, Jobbers*

**WE MANUFACTURE**

**Special Design Radio Parts**

**SUCH AS**

Binding Posts, Switch Points, Stops, Etc.

Detector Parts and other Screw Machine Products

*Estimates Given on Receipt of Samples or Specifications*

**LINDEN & COMPANY**  
891 Broad St., Providence, R. I.

# DONGAN

## Radio Transformers

An unusual Radio Frequency Transformer with an adjustable Silicon core—an exclusive patented feature, enabling satisfactory reception at 200 meters as well as on the higher wave lengths. Daily establishing DX records. Price only .....\$4.50



**Dongan Electric Mfg. Co.**

**DETROIT  
MICHIGAN**



Top of Side Panel  
Mounting

An amplifying transformer scientifically constructed to bring out full, clear tones and eliminate howling. Price \$4.00.

# MIGNON CONDENSERS

awarded

**Certificate of Excellence**

*By Evening Mail's  
RADIO INSTITUTE*

**ASK YOUR JOBBER**

**Factory Representatives**

**NIAGARA SALES CORP.**

3-5 Waverly Place, New York, N. Y.

**Metropolitan New York**

**RADIO STORES CORPORATION**

218 W. 34th St., New York, N. Y.

**Pacific Coast States**

**WESTERN RADIO**

**DISTRIBUTING COMPANY**

L. C. Smith Bldg. Seattle, Wash.

**Canada**

**CHAS. A. BRANSTON, INC.**

355 Yonge St., Toronto, Ont.

Manufactured by

**MIGNON ELECTRIC MFG. CORP.**

**ROCHESTER, N. Y.**

The equipment for the station is being built by the General Electric Company, and workmen soon will begin the installation of the apparatus. Officials of the company who were asked recently about the date of opening the new station were unable to fix a date, but at Aeolian Hall the belief was current that the big broadcasting station would be in operation soon after the New Year.

Some of the concert artists musical organizations who have recently appeared or are scheduled to appear at Aeolian Hall where programs may soon be broadcast, are Sue Harvard, May Korb, John Charles Thomas, Ernest Hutcheson, New York Symphony, Emma Calve, Julia Glass, Francis Moore, Flonzaley Quartet, New York String Quartet, Roderick White, Felix Salmond, Beethoven Association, Beryl Rubinstein, Lucy Gates, Helen Stover, Ossip Gabrilowitsch, Ernest DeWald, Eva Gauthier, Frederic Dixon.

(Concluded from page 40)

the Chamber asks the aid of corporations, clubs, individuals and all others interested. This is a task in which everyone can help."

President Davis said that undoubtedly a great deal of very valuable work could be done by the Chamber, but that no attempt would be made to do it all at once. "Conditions in the radio industry now are such as to suggest that much information must be gathered and the views of many interests learned before even the immediately pressing problem can be solved. Meantime, we aim to do what we can in the direction of discussion and agreement, particularly in pushing those matters in which the

departments of the Government have asked our assistance."

Mr. Hunt said that the Chamber planned to be of service in working out "a comprehensive, definite, and continuing policy of wireless development and due control."

### That Proves There Are Better Waves!

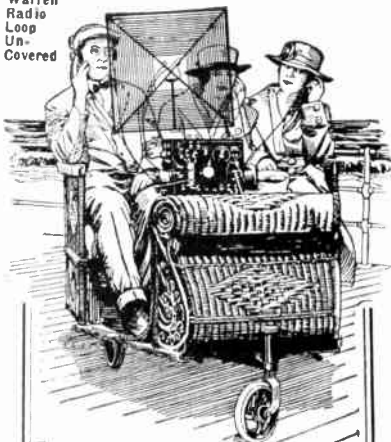
Mrs. Sam: "How does your hubby like the new Radio set?"

Mrs. Ham: "Great. He turns it on at nine o'clock and it isn't ten minutes after the lecture starts before he's sleeping like a baby."

### Send It Back if You Don't Like It

A fan in St. Louis recorded a Radio selection upon a phonograph record and then passed it along. He suggests sending it back to its place of origin by the same process. The first thing we know a fellow talking by Radio around the world will be bothered by the sound of his own voice received at the same time it is sent. And that's going some.

Warren  
Radio  
Loop  
Un-  
Covered



## Large Quantities of Warren Radio Loops Being Sold Everywhere

### How Many Are You Selling?

No mystery about the big profits in Warren Radio Loops. The Armstrong Circuit, regenerative sets and the increasing interference of stations, makes the loop aerial an absolute necessity. *The Warren Loop is supplying this demand* because it is best fitted for the job. National advertising is sending fans into the stores to ask for it. Be fair to yourself—try a small order.

#### A type for every purpose

|                                                       |         |
|-------------------------------------------------------|---------|
| Type A-737 (300-700 meters)                           |         |
| 6 inches square—non-directional                       | \$10.00 |
| Type A-7236 (175-1000 meters)                         |         |
| 6 inches square—non-directional                       | 12.00   |
| Type B-2537 (300-700 meters)                          |         |
| 18 inches square—directional                          | 20.00   |
| Type BL-2520 (200-18,000 meters) with honeycomb coil, |         |
| 18 inches square—directional                          | 25.00   |

Send for Bulletin H, 102

**V-DE-CORADIO MFG. CO.**  
ASBURY PARK, N. J.

Dept. E



### Na-ald Small Space V.T. Socket

35c each, 3 for \$1.00  
Moulded genuine condenser. Requires but small space for mounting. Readily accessible binding

posts. No excess metal to interfere with efficiency. Unaffected by heat of bulbs or soldering iron. Phosphor bronze contacts. Nickel plated brass binding screws. slash cut slot. Price possible because of large production.

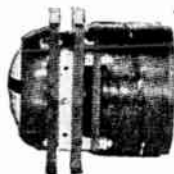
Special proposition for dealers and jobbers.

**ALDEN-NAPIER CO.**

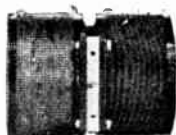
52 Willow St. Dept O Springfield, Mass.

## F. R. S. All Wave Combination

The F. R. S. Banked Winding, when directly mounted on our Vario-Coupler makes an ideal "all wave" coupler with a wave length range of 150-3,000 meters. It is also designed for direct mounting on our Vario-meter. This combination gives the well known Single Circuit Tuner and will respond to wave-lengths up to 3,000 meters.



### This is the Only All - Moulded Universal Combination Giving Five Units in Three.



The accuracy to which these units are built, combined with the best of materials and most rigid inspection, make them highly desirable for the amateur who intends to construct his own Receiving outfit.

These units are sold separate or complete as illustrated.

Three units complete, list price, \$15.00.

## F. R. S. RADIO CORPORATION

409-F East Fort Street      DETROIT, MICH.

**LATEST AND  
MOST POPULAR**

# Radio Books

- |                                                                                                                                                      |        |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
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| Radio Hook-Ups, by M. B. Sleeper.....                                                                                                                | .75    |
| Indispensable to the radio amateur who designs or builds his own receiving apparatus.                                                                |        |
| Radio Design Data, by M. B. Sleeper.....                                                                                                             | .75    |
| Gives tables and data for designing, receiving and transmitting apparatus.                                                                           |        |
| Construction of New Type Trans-Atlantic Receiving Set,<br>by M. B. Sleeper .....                                                                     | .75    |
| Tells how to listen to the high-power telegraph stations of foreign countries.                                                                       |        |
| Construction of Radiophone and Telegraph Receivers for Beginners,<br>by M. B. Sleeper .....                                                          | .75    |
| Tells in detail the building of radio apparatus.                                                                                                     |        |
| How to Make Commercial Type Radio Apparatus, by M. B. Sleeper..                                                                                      | .75    |
| Describes in detail many commercial types of transmitting spark and vacuum sets, both telephone and telegraph, and receiving equipment of all kinds. |        |
| Wireless Telegraphy and Telephony Simply Explained, by A. P. Morgan                                                                                  | 1.50   |
| A book the radio experimenter cannot afford to be without.                                                                                           |        |
| Experimental Wireless Stations, by P. E. Edelman.....                                                                                                | 3.00   |
| A book describing all modern improvements.                                                                                                           |        |
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| A book explaining in detail all about vacuum tubes.                                                                                                  |        |

FREE! Catalogue of Wireless Books Sent Free on request.

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6th Floor, 2 West 45th Street, New York

 **LIBERAL DISCOUNT TO SUPPLY HOUSES**

*Write for full particulars and dealer's proposition*



**THE "MISSING LINK" FOR  
RADIO SETS**

***Lundstrom***

**RADIO CABINET  
with  
LOUD SPEAKER HORN**

**ONLY \$35**

A beautiful, mahogany finish cabinet for completely housing the 2 stage R. C. Westinghouse Radio Receiving Set and Magnavox Loud Speaker. It is completely wired and equipped with switches, ready for quick connecting with receiving set, contains a Loud Speaker Horn and provides hidden compartments for wet and dry batteries, switches, wire connections, etc. Does away with the mess of having radio set, batteries, etc., scattered over tables and floor. When not in use, and with all doors closed, it looks like an attractive cabinet phonograph. When used with Magnavox Loud Speaker the horn, located back of receiving set, throws the sound upward against open cover of cabinet which acts as sounding board and amplifies and deflects sound throughout the room. Can also be used with head sets.

Write for descriptive circular R1

**The C. J. Lundstrom Mfg. Co., Little Falls, N. Y.**

**Order Your Copies of  
"PRACTICAL RADIO ENGINEERING"  
(The Book that you have waited for)**

Not a History—Not a minute of waste time. In the workshop of the expert—

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The minimum of mathematics consistent with properly indicating the Principles underlying the Art of Radio Signaling.

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The Author and Editor have the authority of the Secretary of the Navy to present this matter in book form.—Written in plain language. The notation and fundamental relations are expressed in terms that will be easily understood by the Engineering graduate, as well as by the Practical man and the Amateur, who has mastered the elementary physics of Electricity as well as high school mathematics. The Formulae are collected for their practical utility.

The Book is one of the Radio Engineers indispensable tools.

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DEALERS, MANUFACTURERS, ETC.

SUPPLEMENTARY SERVICE OF  
ADDITIONS, REVISIONS, ETC.

## Sydell's Radio Directory and Service

553 SCHENCK AVENUE

BROOKLYN, N. Y.

Card Catalog Directory of Radio Dealers  
Sent upon **APPROVAL**  
(Also available on **SHEETS**)

No comparison between this directory and similar commercial "mailing lists"

No mailing list companies offer to send theirs upon approval

## WHY?

Names in our directory are annotated to indicate wherever possible the distinction between exclusive dealers in RADIO equipment; those who handle RADIO only as a side line, as dealers in electrical supplies, hardware stores, jobbers, manufacturers, distributors, etc.

This list has been compiled from information secured from State Chambers of Commerce, current RADIO periodicals and newspapers having RADIO departments, and contributions from Manufacturers, Dealers, Jobbers, etc.

Dealers desiring inclusion please send particulars without obligation.

**In Preparation**

**A similar directory of RADIO MANUFACTURERS**

*Please send descriptive literature*

## PATENTS

### To the Man With an Idea

I offer a most comprehensive, experienced, efficient service for his prompt, legal protection and the development of his proposition.

Send sketch, or model and description, for advice as to cost, search through prior United States patents, etc. Preliminary advice gladly furnished without charge.

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Patent Lawyer

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PERFECT ELECTRIC CONTROL  
**RESIST-O-METER**  
 TRADE MARK

*"Better than  
 a rheostat"*

*The Resist-O-Meter illustrated is Type A Filament. Price \$1.80*

**We manufacture  
 the products listed below:  
 Resist-O-Meters**

Type A—Filament  
 " B—"B" Battery  
 " C—"Potentiometer

**Test-Rite Condensers  
 in following capacities:**

Phone .001 mfd.  
 Grid .00025 "  
 Grid .0005 "  
 Grid  
 Leak .0005 " 1-m.g.  
 V. T. Sockets  
 Engraved Binding Posts  
 Accessories

The Scholes Radio and Mfg. Corporation have obtained an injunction against the Radio Service and Mfg. Company in U. S. District Court of the eastern district of N. Y.

This suit was for infringement of Letters Patent to Smith, et al., No. 1,395,921, prohibiting the Radio Service & Mfg. Company from manufacturing, using and selling the condensers in question. Other suits will be filed promptly against all infringers.

## Your Opportunity

Here is an opportunity for every radio dealer.

Sell this Resist-O-Meter—really sell it, don't just put it in stock.

Some of your customers are going to ask for it—they are reading our advertisements in radio papers—but there are lots of them who will certainly want it and buy it if you will tell them about it personally.

### The "Resist-O-Meter" — a Scholes Product

—is micrometer controlled and **continuously** variable between the extreme ranges of its terminals.

—is non-microphonic.

Possesses the lowest resistance at full compression (practically zero).

—is made in models covering every requirement for radio use.

—is in compact and conventional form requiring minimum space for mounting, and has adjustable bracket requiring no new drill holes in panel.

The Scholes Radio & Manufacturing Corporation holds the sole license to manufacture this type of current control, under patents granted Mr. F. A. Rojas, Nos. 15478 and 1366945, other patents pending. It is sold only under the trade mark name "Resist-O-Meter."

**Write to Mr.—G. Lehr**

**Scholes Radio & Manufacturing Corp.**  
 32-36 West 18th Street, New York City

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# 27 Reasons why you should concentrate on Radiobats

Because—entirely distinct from *all* other batteries for radio use—Radiobats are *radio batteries*.

Radiobats are advertised more powerfully than any three of the 27 battery advertisers in the leading Radio publications in October.

Radiobats "A" and "B" are *dry storage* batteries, with the only solid electrolyte. They eliminate battery noises absolutely.

Dealers will find both the list prices and the discounts liberally attractive.

Send for the intensely timely book, "The Permanent Power-UNIT for Radio"—free.

MULTIPLE STORAGE BATTERY CORP.

350 Madison Avenue, New York

"A"  
and  
"B" **RADIOBATS**  
*The Permanent Radio Power-UNIT*

