GOOD NEWS ABOUT RCA RADIOTRONS



A set of new RCA Radiotrons will make

LOWELL THOMAS

... LOWELL THOMAS again

Are you hearing the real

LOWELL THOMAS?

Clear as crystal the "Radio Voice of the Literary Digest" snaps the news of the day into the microphone. But the voice of Lowell Thomas sounds dull

and colorless if tubes are old and lifeless. Weary tubes leave the real thrill of hot news in the

air. Take it out of the air—with a set of new RCA Radiotrons!

If the clear, vibrant voice of Lowell Thomas sounds blurred and "fuzzy," have your tubes tested! Half-dead tubes rob millions of the full enjoyment of radio's glorious programs.

GET your money's worth! You've paid good money for your radio. You are paying for the current to operate it. Get your money's worth. The world's greatest entertainment is on the air-it's too good to miss.

Millions of radio owners, who think they're not missing it, are missing a lot of it. And in 80% of the cases, it is because they need new Radiotrons. How about yours?

If radio tubes didn't wear out so very gradually, you'dalways know when you needed new ones. But that's what deceives you. The loss of tone and volume and sensitivity is by such slow degrees that your ears cannot detect the difference from day to day. You become accustomed to dimness, distortion, loss of tone.

But put in a set of new RCA Radiotrons today—and then you'll hear the difference! Isn't it worth it? The price of RCA Radiotrons has never been lower. They are the tubes that 200 of the big broadcasting stations use -the tubes backed by the guarantee of RCA!

RCA RADIOTRON COMPANY, INC. HARRISON, NEW JERSEY



BEWARE TUBES!

Worn-out tubes cheds
you of the pleasure that
should be yours. They
sive but a feeble imitation
of the splendid musicthat
others the studio microphone. Have your tubes
tested at least once a year.
Have yours been tested
since last Christmas?

RADIOTRON **WORN-OUT TUBE** UX 245

RCA RADIOTRONS

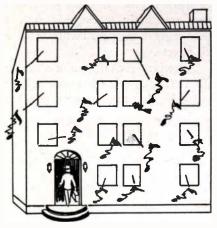
The heart of your radio

GOOD NEWS

About RCA Radiotrons

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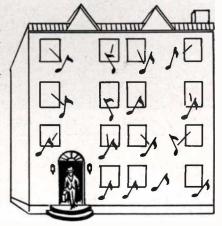
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WHAT A PLAN!

John Wheeler, Jr., of Castner and Knott, Nashville, Tenn., called on an apartment house in connection with his house-to-house work, following out the plan suggested by the Radiotron Company. The apartment house had 68 apartments, 43 of which were equipped with radio sets. Out of these 43 Mr. Wheeler was able to gain admittance to 29 apartments. In these 29 apartments he sold 115 Radiotrons and two radio sets.

That is real selling. As a matter of fact you'd have to go a long way before you'd find a record to beat it. Just one more example (you'll find another in the story on Glick's) of what can be done with a carefully worked out house to house proposition. Mr. Wheeler had the plan, he had the tools to work with and then he went out and did the above job.



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A magazine of radio merchandising counsel to help distributors and dealers of RCA Radiotrons make more profit.

Published Monthly by RCA Radiotron Company, Inc., Harrison, New Jersey.

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Some European Impressions

By S. L. Rothafel ("Roxy")

"Roxy," dean of radio impresarios, now in charge of the Radio-Keith-Orpheum theatrical interests in the Rockefeller-Radio City project, was one of a group of Radio City and National Broadcasting Company representatives who recently made a tour of European capitals to observe the latest features in the development and design of foreign amusement enterprises. The group studied the development from many angles—theatre, radio, soundproofing, ventilation, architecture, construction, traffic, acoustics, lighting, presentation and stage attraction. "Roxy" here presents some of his reactions to the trip.—ED.





"Roxy" snapped upon his arrival in New York aboard the S.S. Europa

Europe's Interest in Radio City

throughout Europe in the Radio City development. This is true in Russia, as well as in Germany, France, and Great Britain. They knew a great deal about it and seemed anxious to learn more. Everywhere we were received most cordially. Radio City intrigued their imagination and impressed them. It is a source of wonderment that an enterprise of such magnitude can be carried on under present conditions, even in America, and it seems to be a real inspiration to them.

One of the most interesting parts of all our trip was the time spent in Moscow, Soviet Russia. As we were there only a few days-five to be exact—it will be impossible to give more than a fleeting impression of the conditions that prevail. One cannot go into Russia and its communities without being profoundly impressed immediately one crosses the border. We were fascinated by the people and the visible hurry and scurry evident in Moscow. It was exactly like a huge ant-hill with ants swarming hither and thither, and as we began to see under the surface in going about, we truly felt that here was the enactment of one of the greatest human dramas of all times.

America Must Keep Ballet Alive

The theatres, opera, and ballet were visited—we saw "Russlan and Ludmilla." The performances as a whole were good, especially the orchestral parts, although the voices were not exceptional.

With the exception of the opera, everything teemed with propaganda. There was propaganda even in the ballet, and only in one of the acts was there a semblance of a Russian ballet of yesterday. This was sorely disappointing. It brought us to the conclusion that, if the ballet is to be kept alive, we in our country will have to do it.

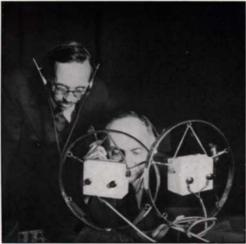
At the Moscow Art Theatre, we saw an interesting performance of Tolstoy's "Resurrection." I visited in the theatre section with Stanislawski and Tairow.

Russians to Teach Art of Make-up

One thing in which the Russians excel and in which, in my humble opinion, they have no equal in the world, is the art of make-up. We shall arrange to bring over their greatest exponents of make-up art to teach us.

The Tairow and Meyerhold Theatres, the strongholds of modern Russian drama, were very interesting, but so filled with propaganda that it spoiled the general effect and no comparison could be drawn because of it. It is my opinion that' this studied propaganda is beginning to have a negative effect, although all the theatres in Russia were packed, with long lines waiting (they are all controlled by the State). During intermission it was a remarkable thing to note that the members of the younger generation were constantly reading—in fact, a great many of them read while walking the streets.

There is no such thing as a cessation of activities comparable to our holiday or Sunday, but twenty per cent of the



O. B. Hanson, manager of the plant operations and engineering department of NBC, and Mr. Rothafel, broadcasting from Moscow, Soviet Russia

population have a holiday every five days.

Radio Plays Important Part

Radio plays a very important part in the scheme of things in Moscow and Soviet Russia. We had the distinction of broadcasting in Moscow, and we

were told we were the first foreigners ever to broadcast over the network of Soviet Russia. It was an unforgettable experience. Public address systems are used for amplifying radio broadcasts all over Moscow and, I understand, all over Russia.

European Theatre Trend Toward Spectacular

The trend of the theatre everywhere is toward the spectacular, and the greatest

activity in the production field was found in London, where Charrell is producing "White Horse Inn." This same production, playing in the Grosses Schauspielhaus in Berlin, was also meeting with great success there. It may be that this spectacle will be brought to America, if suitable arrangements can be made. Sir Oswald Stoll is presenting "A Waltz from Vienna," produced by Hassard Short; and Noel Coward's new opus, "Cavalcade," is being produced by Charles P. Cochran with fine results. It was extremely complimentary to find that the American stage technique is being widely copied throughout all of Europe.

Radio City Theatres to Set High Standard

It is impossible to compare the theatres planned for Radio-Keith-Orpheum in Radio City with the playhouses of Europe, due to the size and appointments of the new theatres here. Our problem is to build theatres of great capacity—one will be the largest in the world—which still must have a decidedly intimate touch. We hope to introduce many innovations and appointments that will set a new standard of production, comfort, and

beauty, even for present-day America.

Stage novelties, or features such as could be adapted to our own requirements, were very rare. While we heard some excellent voices and saw some very fine artists, we will be compelled to draw from our own country for



Leaving Paris for London. Left to right: Gerard Chatfield, NBC technical art director; Mr. Hanson, Mr. Rothafel, Peter Clark, noted stage engineer, and Harold J. Fisher, Paris representative of RKO Radio Pictures. Other members of the party were L. Andrew Reinhardt and Wallace K. Harrison, architects

the majority of our talent. I believe that the little American ballet girl is certainly the equal of, if not superior to, her sister in Russia, and as for our première dancers, there is nothing like them in all Europe.

International Broadcast Productive of Ideas

Our broadcasting experience in Berlin was, to say the least, a great thrill, and I received over 2100 letters from Continental Europe, as well as over 400 cables from my own country.

Our success in the international broadcast from Berlin and the observations of NBC technicians gave us many ideas for future work, and much time and attention will be given to development of this form of radio broadcasting in relation to Radio City by the engineers connected with it.

Lighting Effects for Radio City

Lighting effects as applied to the stage were not striking, with the exception of various new-effect lamps, but we shall arrange to bring some of the electrical experts into our laboratories and work in conjunction with them

for future development of lighting in Radio City.

We found the finest examples of municipal and street lighting in Paris and Berlin. Particularly were we impressed with the squares and fountains illuminated by projected rays from below.

Radio City Scope Broadened

Altogether, the result of our trip will, as far as we can now

see, in no way change or modify the original plans for Radio City. It will, however, broaden its purpose. Radio City must be more than national in scope—it must be international. Every effort will be made to make it so.

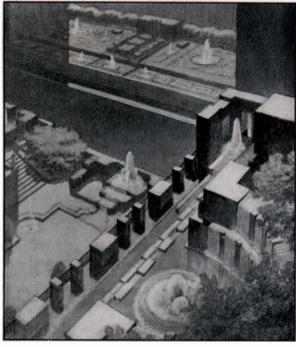


Photo shows part of landscaping planned for roofs of Radio City structures. Trees and shrubbery throughout the development are expected to aid in reducing noise, a problem to which architects are giving special attention. The view is from the roof of an extension building looking toward a sixty-six-story office building

Glick's Scores Smash Hit with Radiotron Plan

Previously Inexperienced in House-to-House Work, Dealer Criumphs with Principle "You Can Do It if You Will Do It"

By Harold Rainier, Chicago Office

HANGING markets require Here was something well worth lookchanging methods"-such, in a nutshell, is the business

philosophy of the house of Glick's, Incorporated. And with a background of 21 years in the merchandising of musical instruments, the Glicks, father and sons, should be in position to know.

It has ever been the policy of this progressive house to be on the alert for

new and novel methods of presenting their sales story, agreeing, no doubt, with Carlyle in his statement "that man is most original who adapts from the greatest number of sources." Be that as it may, they have proven time and again that much may be learned about their business from sources entirely foreign to it.

"Good News" Opens Vista

It was with no little degree of interest, therefore, that the first issue of Good News was eagerly read and studied by all members of the staffor family, for in this institution family and staff are virtually one and the same. Here was a new element in modern radio merchandising—the lowly vacuum tube apparently coming into its own, teeming with sales making possibilities, not only in its own comparatively narrow and restricted field (as it seemed then) but for related, and indeed, non-related merchandise as well.

ing into-and that is just what the Glicks did.



Three members of the Glick family, each of whom has contributed materially to the success and good reputation of the establishment which bears the family name. Left to right, Carl Glick, President; his father, A. Glick, founder of the business, and George Glick, a brother

A. Glick Began 21 Years Ago

Before disclosing what the Glicks have done with Radiotrons, what they are doing now, and the brand new (to them) field into which Radiotrons are leading, a brief résumé of business history is in order. Twenty-one years ago A. Glick opened a music store at the corner of Hoyne and Division Streets in Chicago. Six years ago the business was moved to an apparently more promising neighborhood, and again three years ago to its present handsome location at 2530 Devon Avenue.

Coincident with the last move, the present corporate form-Glick's, Incorporated-was adopted, with Carl Glick, son of the founder as President and General Manager. Carl was brought up in the business, but for a period of a few years prior to the new set-up had been operating in the radio business independent of paternal guidance, establishing an enviable reputation as a constructive merchandiser. So much for history. Subsequent

issues of Good News brought addi-

tional merchandising ideas, but it was not until the inauguration of the RCA Radiotron Headliner campaign with its startling array of facts and figures, charts and graphs, pertaining to the potentialities of the tube renewal market, that active merchandising began.

In a round table discussion it was determined that the battle front would have to be extended beyond the confines of the store. A study of the records of radio sales during the past three years showed that there was a readymade potential market of some 700 set owners who should be annually purchasing some \$8,000 worth of Radiotrons, a market that had been established by the Glicks and which could best be reached and served by the Glicks, as they had, or could most readily obtain, entrée to these 700 homes—all customers of Glick's.

Problems of Manpower and Methods Speedily Solved

Here arose the problems of manpower and the methods to be used in getting into the homes. Happily both problems were solved at one and the same time, but through widely divergent methods. In back of the solution, however, is a bit of Carl's philosophy,

which may, or may not, have had something to do with the case: "If you want a thing strongly enough and don't merely wish it, the thing invariably works out to your advantage." At any rate, so it was with the dual problems.

House-to-House Portfolio Strikes Response

It was at this time that the booklet, "Hitting at the Heart of Your Competition," was issued at Radiotron headquarters, a copy falling into Carl's hands—a booklet providing proven, workable plans adapted to the outside selling field. These plans were adopted in toto, and, to use Carl's expression, "have since proved all that was claimed for them and more."

The outside selling staff was drafted, with one exception, from within the family-or at least, the businesscircle. George Glick, another son of the founder, had recently disposed of his automobile business, and was taken into the firm. Bill Rowe, the company's service man-married, a father, and known throughout the communitywas transferred to the outside selling force, to which was finally added James Brady, an experienced refrigerator salesman, married and a wellknown home owner of the community. A fine, substantial set-up of high class men, ideally equipped for the task at hand-outside selling.

Laying the Plans

The first move was to make a comprehensive survey of the trading area. This was broken down into six sections or parts, two being assigned each of the three salesmen. The next

move was to secure the names of the residents of each of these six sections so that foot work, following the mailing of the cards (shown on this page) would be minimized.



Glick's, Incorporated, carefully followed out the RCA Radiotron House to House Plan to the last detail. The above cards were religiously followed up with personal calls

Two days before a given section is to be worked twenty post cards, bearing the picture of the salesman who is to make the call, are mailed to as many homes and are religiously followed up. This procedure is followed daily.

Results Count: Here They Are-

Actual field work has been in progress for only thirty days. During that time each of the salesmen has averaged from six to eight dollars per day in Radiotron sales in the homes of the community. During this period they have sold one washing machine, two radio sets and twenty-five service jobs, and have secured "hot prospects" for sixty radio sets and

forty refrigerators, many of which they expect to close in the very near future.

Thus Radiotrons and Radiotron selling plans have enabled Glick's, Incorporated, to get into the homes, to make Radiotron sales, to make radio sales and to develop radio prospects, and to make washing machine sales and to develop refrigerator prospects. Better still, the plans have opened up an entirely new field, namely, a broadly diversified electrical appliance business, which, based on the results to date, gives every indication that the depression is over, insofar at least as Glick's, Incorporated, Chicago, is concerned.

Food for Thought

Outstandingly successful people usually have this question raised about them: "Were they born to be successful or did they make themselves so?" We all know examples which seem to prove both sides. The Southern mammy achieved culinary distinction by mixing up "the usual amount" of each ingredient. She was born that way. On the other hand, a woman who holds down a big job on a woman's magazine on the strength of her record of prizewinning recipes, frankly attributes her success to the habit of following instructions meticulously.

While few of us are born to the purple of genius, most of us can learn to be successful if we only have the will to. Whatever the line of endeavor, this involves learning the rules and sticking to them. Sounds simple, but few do it. It may have been in the stars for Carl Glick to succeed, but because he has always practiced this principle he would have succeeded regardless.





As may be gathered from the above photographs, Glick's store, inside and out, is such as to appeal to the most discriminating customer

The Mills Brothers

Four Vocalists Who Sound Like an Orchestra

By Robert S. Taplinger Columbia Broadcasting System

THE four young negroes who had been waiting patiently in the reception room on the nineteenth

floor of the Columbia Broadcasting System were finally admitted to the office of Ralph Wonders, director of the Artists Bureau.

They said they were the Mills brothers. They said they sang. Wonders, who has his share of unannounced visitors, played a hunch and arranged an immediate audition. The brothers sang only one number-Wonders didn't wait to hear a second. He rushed them into a studio which was "piping" an orchestral audition to the private

office of William S. Paley, President of Columbia.

"With your permission, Mr. Paley," Wonders said, "I'd like you to hear the Mills brothers." With that brief introduction, he signalled to the somewhat startled boys to sing. They did, and so delighted was the executive with their unique vocal renditions, that he sent word to Wonders to have them continue. And for more than an hour the four went from one song to another, dozens of them altogether.

Went on Air "Cold"

Three days later they were scheduled for their first broadcast. There was no advance ballyhoo. Not a line of print, other than the bare program listing, heralded their network début.

And as soon as their fifteen-minute

broadcast was over, the telephone switchboard was flooded with calls from listeners. "Who are they?" . . .



Left to right: Herbert, John, Don, and Harry (Flood). John plays the only instrument, a guitar. Harry does the "licks"

"What kind of instruments do they use?" . . . "How do they make themselves sound like an orchestra?" . . . "Where are they from?" . . . "When can I hear them again?"

Veteran musicians and orchestra leaders refused to believe that with only their voices they could simulate such musical instruments as the tuba, clarinet, saxophone, and trombone. Yet nothing but a guitar accompanied the singing of the Mills brothers.

The four youths, a bit bewildered by their sudden success in the big city, are really brothers, and only four years separate them. They are John, 21; Herbert, 19; Harry, 18; and Donald, 17. John is the bass, tuba, and third trumpet—that's how they call themselves—and, in addition, plays their only instrument, the guitar.

This guitar, incidentally, is a mail order model and cost \$6.25, C.O.D.

Herbert plays, or rather sings, the

second trumpet, saxophone, and trombone. Harry does the first trumpet, baritone solos, and "licks"—vernacular for unusual hot intonations. Young Don is the "kid" of the quartet, and he looks as though he is wearing his first pair of long pants. In truth, they are his second pair.

Began Singing Early

All the boys were born and raised in Piqua, Ohio. Before their father turned barber, he and their mother sang in vaudeville and wherever

they chanced to get an engagement.

The boys began singing together when John was but thirteen and Donald a mere nine. At first they performed for stray pennies, nickels, and dimes; then moved into the paternal barber shop, where they doubled business. The next step was to crash the local opera house, which was packed on all three nights of their appearance.

In the years that followed the boys appeared at various smokers, socials, and other entertainments. Then, last year, they moved to Cincinnati, where they immediately won a place on the schedule of a local radio station. They decided to come to New York on condition that their mother would accompany them. She consented, and to New York and Columbia they came, they sang, and they conquered.

Location Counts!



Advantage of Giving Merchandiser Prominent Position Proved Conclusively by Citche-Goettinger Experiment

By Z. V. Thompson Dallas Office

Dallas' outstanding department stores, increased its Radiotron sales from \$2.32 during the first each of the several set lines carried by the organization. In each window was a card reminding people to bring their tubes in for free testing. At the main

> entrance an attractive Radiotron window was installed (pictorial evidence of which appears on this page) and

made during those first three days. Mr. Gates decided that something would have to be done about it. Either the Merchandiser didn't have the stuff or else it had not been given a fair chance. Mr. Gates decided to find out.

Merchandiser Moved; Sales Jump

The Merchandiser was moved to the first floor in a space between two elevators. Sales began to mount. Customers made inquiries. Tube Carry-



B. D. Gates, Manager of the Radio Department, with six of the set models on display during the radio show

three days of the week of September 14 to \$75.90 during the last three days of the same week, has now been duly recorded in the annals of Texas' merchandising history. But for the benefit of those who do not live in the Lone Star State, may we repeat the story?

Titche-Goettinger is an aggressive organization. Of course, the store had been hearing a lot about the word "depression" and hard times, but when Mr. B. D. Gates, Manager of the Radio Department, tried to find a definition of the word in Titche-Goettinger's dictionary, he couldn't do it. So Mr. Gates dismissed all thought of words and turned to the job of making more money.

Window Draws Customers

On September 14, Titche-Goettinger started a special drive on radio. A complete window was given over to

This tasteful window brought many people into the store interior

people paused to get the message.

Then, to further attract people to the store, Titche-Goettinger arranged an exhibit of radio sets in its spacious auditorium on the seventh floor.

To lend added atmosphere to the show, a Radiotron Star Merchandiser was installed, together with elaborate testing equipment. Then, to start the affair off with a bang, Titche-Goettinger arranged to stage a broadcast direct from the auditorium on the opening night of the show. This drew a large crowd of interested spectators.

But the seventh floor was not frequented constantly. It was too far away from the general line of shoppers. Only \$2.32 worth of Radiotron sales had been

ing Cartons were distributed. Other customers whose sets were not operating satisfactorily were turned over to the Service Department. On Saturday, when the receipts for the last three days were counted up, the Merchandiser had accounted for sales amounting to \$75.90 on Radiotrons alone. Additional profit was derived from customers who had been turned over to the Service Department.

If you are statistically inclined, may we call to your attention, that the difference between \$2.32,, taken in on Monday, Tuesday and Wednesday, and \$75.90 taken in on Thursday, Friday and Saturday, represents an increase of several thousand per cent?

Pullman Offsets Depression

Veteran Carrier Company Meets Decline in Cravel by Making Existing Facilities Yield New Profits— Customer Convenience Stressed

ETTING new business to offset losses in regular business during a period of depression is the ambition, seldom realized, of

to determine whether travelers would pay a little more in order to secure the many comforts incident to exclusive occupation of the entire section.

The Star "SOS" Staff, which travels about the country teaching other conductors the fine points of selling single occupancy sections. Left to right, standing: H. DeLeyer, R. R. Jackson, and J. L. Clements. Seated, Sam Jass, head of the campaign

every concern. This is particularly true in railroading, since the number of travelers falls off immediately money becomes scarce. The Pullman Company, however, has such an achievement to its credit, and it has received unstinted praise from the heads of other businesses and, what is of more importance, from the travelers who use the Pullman cars.

New Section Rate Creates Interest

When the Pullman Company announced that, beginning May 1, 1930, it would offer a new unit of accommodation at a reduced rate, much interest was aroused among all who deal with travel problems. A full section—upper and lower berths—was offered for occupancy by a single passenger at the regular rate for a lower, plus half the rate for an upper. It was an experiment

Pullman's extensive clientele heartily approved the bargain, as evidenced by the fact that, since the date of its inauguration to October 31, 1931, 867,744 single-occupancy sections had been sold to Pullman patrons, and these

became not only addicts, but missionaries. Section sales, heretofore a negligible item, suddenly expanded to the proportions of big business.

The success in selling single-occupancy sections revealed further opportunities to stimulate Pullman business, and many passengers were persuaded not only to exchange single berths for sections, but also learned the comforts

of rooms and found the additional costs reasonable.

Remarkable salesmen developed among the conductors, and this ability was accentuated in March of this year when a bonus plan was worked out that meant tidy sums above regular salaries to those who got the business. The training of the conductors into salesmen was then taken up systematically, five of the men who had led in selling single-occupancy sections being selected to hold classes of instruction in every section of the country. Beneficial results were apparent almost at once. Conductors who were willing to sell but deficient in skilled approach developed rapidly under coaching. Hence the results were three-fold: passengers obtained greater comfort at a small additional cost, conductors augmented their salary checks, and the company gained substantially in revenue.

Comparative Figures Tell Tale

The citation of a single month's results shows what has been done in the single-occupancy section campaign. In June, 1931, 41,409 travelers boarded

THE SECTION, for a single passenger, best accommodation procurable on one rail-fare. Passenger holds both seats: privacy day and night. Upper berth remaining closed, lower is prepared at night with both mattresses, extra pillows and blankets. Affords a roomy, private apartment for dressing: all at new reduced rate—cost of lower plus half the cost of upper.

THE LOUNGE CAR—the newest thing on wheels. Chairs of all types and all of them comfortable. Ideal for enjoyment of scenery, inviting to easy sociability; in most cases has buffer service. The world's most fetching railroad vehicle. No added charge.



A page from the attractive Pullman folder on available accommodations

With Sales Promotion » »

Pullman cars with tickets for single berths but were persuaded by the conductors to buy a full section. Total

Grohution of the Pallman Car.
PULLMAN LAGIS NO.2

Some proposition of the American State of the American State

Above is shown the cover and an illustration from one of a series of highly effective advertising booklets entitled "Pullman Facts."

Advantages of present-day Pullman travel are neatly emphasized by comparison and contrast

sales of single-occupancy sections by conductors and ticket offices for that month were 67,042, compared with 56,827 in May, until then the high mark. These figures are even more emphatic when it is stated that in June, 1929, before the new section rate was established, but 6,714 sections were

WE LEARN FROM OTHERS

The success of the Pullman Company in making the most of opportunities already at hand might well be an inspiration to every retailer. One important lesson to be derived from this benighted business era is that intensification of activities can often be effectively substituted for expansion of activities. Here is a shining example.

A particular point of interest for the Radiotron dealer is the Pullman Company's success with selling a complete section to customers who ask for only a part of a section: it is no more difficult to sell a complete set of Radiotrons to a customer who asks for only one or two. Notice, too, that the wisdom of our oft-repeated maxim," Make It Easy to Buy," is here again demonstrated—with figures.—Ed.

sold. A little more than a year's experience in the salesmanship field had netted an increase of over 900 per cent.

So much for that. The next move was to sell Pullman comforts to the man and woman who knew them not. The average American is prone to think that practically all his fellow countrymen are familiar with Pullman cars. This is erroneous, although Pullman passengers sometimes total 30,000, 000 a year. Two additional Pullman experiments were sufficient to destroy this thought.

Two Pullman cars that displayed every type of accommodation were exhibited at Middle Western state fairs during last summer and in the Southwest in early autumn. A total

of 238,791 visitors passed through these cars, and from their remarks, it was estimated by those in charge that 75 per cent had never before been inside a Pullman. Many of those in this category learned about Pullmans for the first time during Spring, Summer, and Autumn of this year when various railroads ran bargain week end excursions to and from large cities at reduced rail and Pullman rates.

65,000 Visit Display

On the Michigan Avenue frontage of the Pullman Building in Chicago is a large room in which are displayed practically all the accommodations available for the use of the discriminating American traveler. Since the opening on March 28, more than 65,000 persons have called. Many are experienced travelers who wish to see the latest things in travel comfort, but again there is a large proportion of people who have never before ridden in

Pullmans. Here they see a single-occupancy section made down in all its glory of spotless linen, a double bedroom with individual toilet facilities, and actual examples of other comforts in Pullman cars.

Pullman never stands still, but continually searches for new comforts and conveniences. One of the latter is a cabinet of toilet conveniences—a show case, in fact, displaying those little essentials for a journey that are so often forgotten when the traveler packs his luggage. The porter is the salesman in this instance. This cabinet was first placed on 25 cars operating in various sections and on both overnight and long runs. They proved so successful that 100 cars are now equipped.



The show case of travel accessories is now a feature on 100 Pullman cars

A Practical Plan to Double

At Christmas Cime, More Chan Any Other, People Want Cheir Radios in Good Operating Condition.
Why Not Satisfy Cheir Wants?

By G. C. Isham
Sales Promotion Department



HAT are your plans for the stimulation of Christmas business? Are they all set? Or, are you still thinking about them? There will be a stimulation of business, as there always is, and the big question facing the radio tube retailer is: How am I going to get my share?

Radio Ideal Gift

In studying this problem let us take a few well known facts into consideration. In the past, Christmas has always seen the movement of hundreds of thousands of radios. A radio is an ideal gift for the husband, father or son to bring into the home. No single thing, inside its price class, or out, can be responsible for so much enjoyment. And, this year, as in the past, hundreds of thousands of radios will be given

away because a large number of the homes in any given community are still without radio entertainment.

But what about those homes which received radios last year, and the year before, and the year before that? It is too much to expect that many of these

homes will be buying new sets this year. Many of these sets are not now giving their owners the pleasure they once did. Herein lies an opportunity for the radio dealer to give a practical Christmas present to his customers, and to make a substantial profit doing it.

The plan is to make a Special Christmas Radio Service offer. The charge for this service will be less than the charge for the same service in the past. Therein lies the gift for your customers—and therein lies the smartness of your plan. But what, you may say, about the profit? How am I going to make a profit if I charge less? The answer is easy, and it has the weight of experience behind it.

Profit in Sale of Merchandise

You make a comparatively small charge for the service, and the merchandise you sell more than makes your activity profitable. The wisdom of this has been proved many times during the last few months. Some time ago, Mr. G. C. Lindstrom, a wideawake dealer in Galesburg, Illinois, startled his customers with an offer to check an entire home radio system, including set and aerial, for fifty cents. A waste of money, some would have said. But Mr. Lindstrom tried it and the results were tremendous. He ran one newspaper advertisement which resulted in the sale of 243 Radiotrons and five radio sets.

Since that time many dealers in different parts of the country have

SPECIAL! CHRISTMAS RADIO SERVICE OFFER

In order to insure our customers getting the best out of their radio sets during the Yuletide Season, we will, between now and Christmas, make a complete examination of your radio, test the these and inspect the season of your radio,

50c

This is a special offer, good only until Christmas. By taking advantage of it NOW you will be assured of uninterrupted radio enjoyment during the holideys. Don't run the risk of missing the hig Christmas broadcast programs!

COMMUNITY RADIO CENTRE
167 Main Street Newark, N. J.

Suggested newspaper advertisement to be run in connection with the Christmas service offer

December Profits » »

tried the same idea and in every case increased business and expanded profits have been forthcoming.

Now Is the Time

So, why not tie-up this idea with Christmas and make it even more appealing? Can you think of a time that is more ideal for the rendering of a special radio service? Can you think of a time when people should be more anxious to have their radios in good operating condition? And if they don't feel that way about it, tell them what they are missing and they will agree with you.

From a certain percentage of the homes in any community there are young people away at school. The parents of these young people usually take great pains to prepare for this homecoming, and to make the homestay of the children as enjoyable as possible. Will these parents welcome a special opportunity to have the radio placed in A-1 shape? You're right, they will, if they are reminded.

Then, there are the families that will entertain out-of-town guests over the holidays. Here, again, we find extensive preparations, and much care being taken to insure the entertainment of the guests. Will these people welcome an opportunity to have the radio put in first class condition? You're right, again, and they, too, may forget to check this same message on a postal card or letter (see illustration) and send it out to your mailing list.

Or, you can print your message on



Don't fail to play up the offer in your windows. Emphasize the desirability of having the radio set in perfect operating condition during the Holidays

up on the radio if you fail to remind them that they should.

Furthermore, at Christmas time the air is full of special programs. What person does not enjoy Christmas carols, and where can a better render-

ing of these carols be heard than over the radio, as sung by the world's greatest choirs and glee clubs? Certainly, Christmas marks a time when every radio listener should want his or her radio working at its best.

Use Newspapers, Direct Mail and Store Windows

And so, many Radiotron dealers will ask, "What should I do about it? How can I best make this offer to my customers?" Our answer is:

- (1) Newspaper advertising,
- (2) Direct Mail, and
- (3) Window Display.

On page 10 is a suggested newspaper ad. Run this ad during the first week in December. For your direct mail, put a flyer and have a boy drop a copy in the mail box of each home in your community or town. Also, you can enclose a printed copy of your offer in all outgoing bills or packages. If you have access to a local broadcasting station, as many dealers do, you can make your announcement over the air. Any of these methods will produce results, and that's the goal—results.

For your window display use the window above or one of those shown in "Radio Tonics." Tying in your window displays with your newspaper advertising and direct mail promotion work is very important. Not only does it identify both your store and your advertising, but also it serves as a reminder for those who have planned to take advantage of your offer.

This is a practical, workable, resultgetting plan which will stimulate your Radiotron business and build good will for your organization. By making this offer you will do your customers a service and you will give each one of them a real Christmas present.

COMMUNITY RADIO CENTRE 167 Main Stoot Novel, N. J.

To Day Castemare:

The will be interested to have that this season we are mixing a Special Christman Budio Importion offer thick gives our customers the supertunity of having their ration completely analysed and shouled for lose many than such curries has over cost before.

test all your radio tubes, and mim a general importing of your estima radio and serial system

This remeriable opportunity to being offered for the pre-Ciristems period only. We feel that new, on an other time in the pear, people are intersected in hering radio sets porter at their wars heat.

These as immediately Tears or onperimes, expert knowledge of radio circults, and up-to-date equipment makes it possible for us to do the kind of work you should demand.

Yours very truly,

COMMUNITY MADES CONTRA

The more people you reach with the offer, the more successful will your campaign for prospects be

TUNING IN

With J. W. McIver
Manager, Sales Promotion Department

A KEEN executive remarked the other day that most Americans had grown so accustomed to having business tossed into their laps that they had forgotten how to go after business.

There is an amusing and an amazing thing about our work here. We have been spending money in magazines, newspapers, etc.; we have been buying printing, lithography, art work, ideas, and what-not. Yet I have never seen the time, in the years of my experience, when there were so few men knocking at our door with good sensible ideas, or good sensible sales talks.

In the past, there have been hundreds of people ready with more good ideas and plans than we could possibly use—plans pointing out all that was wrong with the radio industry and giving the complete cure. But today there are very few.

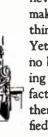
THEN, too, salesmen seem to feel that they must adopt ultra-high pressure technique. It must be that they have been convinced that business is too damned hard to get—that, therefore, they should abandon all they have known and go after it the hard way. Or else not go after it.

Also, they are more easily turned away than I have ever seen them before, and they respond to a "No" in the most peculiar fashion. They all seem to think that the turn-down



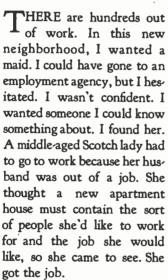
of an order means the starvation of their families of children, rather than that the proposition or the presentation is poor.

Nor is this true in business alone. I have just recently moved into a new apartment. I have purchased many more things than I should have, but there they are—hard times or no hard times. I want to insure that stuff. I have always heard that insurance salesmen were the most persistent and the most successful of them all. Yet, in this new neighborhood I haven't known to whom to turn, nor where to find a reliable insurance firm. You would think that fire and theft insurance salesmen would clamor all over the new tenants of a new apartment house. That certainly wasn't easy for me to buy.



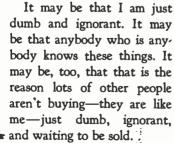
TN THIS apartment we have one of the last words in electrical refrigeration. I have never used this particular make. I have discovered many things I don't like about it. Yet there aren't any leaflets, no book of instructions, nothing to help me in getting satisfaction. I became convinced, therefore, that I wasn't satisfied. A few days ago, a young man came in to put casters on this refrigerator. I then expressed my sincere disgust with the manufacturer who looks on a big apartment house as a nice big piece of business —only that, nothing more. The young man said that I

had made a good point and that they had never thought about it that way. He gave me some simple instructions—which I had not known and which I could not get from their advertising—and I began to like it better. He promised to send the instructions. But I guess times are too hard—I haven't received them.

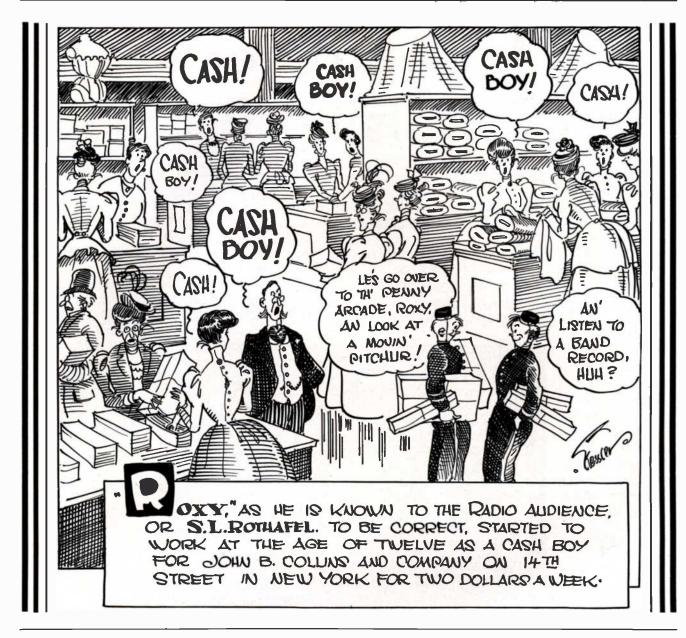




I HAD a piece of furniture I wanted repaired. I called the maker. The young lady on the phone was most courteous. It's five weeks ago, now. In that time, I have had a lot of courtesy and two letters, but no action.







"Who's Who in America"

the publicity given his appearances as counsel in scare-head criminal cases, is not as well-known in his home town of Chicago as are Clara, Lu and Em, members of a daily NBC skit. Atwater Kent is a better-known name in the Illinois metropolis than Ethel Barrymore, or Benito Mussolini, or Sinclair Lewis.

This information on Who's Who in the public mind was obtained through a test conducted by *Variety*, theatrical weekly. Two hundred persons, representing all walks of life, were asked to identify the names on a list of 125

noted persons in numerous fields. The results would surprise the owners of some of the names.

For instance Chase and Sanborn, who are featuring Eddie Cantor over an NBC-WEAF network, are better known than Secretary of the Treasury Andrew Mellon, or John J. Raskob, or Queen Mary of England. Roxy is more widely known than Chief Justice Charles Evans Hughes, who was almost President. Floyd Gibbons is better known than Wilhelm von Hohenzollern, the ex-Kaiser, or than Starr Faithfull, whose name recently was headlined from coast to coast.

Ted Weems, NBC orchestra leader, is known to more people than Sir Thomas Lipton or Arnold Rothstein. In fact he is twice as well-known as Charles Schwab and Will Hays, three times as well-known as Vincent Astor and Walter S. Gifford, and ten times as well-known as Devereaux Milburn, whose name has been publicized in connection with America's international polo teams for years.

The results of the quiz may hold some deep significance, but the eminent psychologists can figure that out. Most of us will be content to marvel at the educational power of radio.

A Headliner's Merchandising Program

Window Displays Are the Most Important Factor in Store Merchandising

By T. F. Joyce
Assistant Sales Promotion Manager

ILLIONS of dollars' worth of merchandise is purchased every day by people on the sidewalks looking at window displays. Although the actual cash transaction

takes place in the store, the decision to buy is made while the customer is standing in the street. This is an important point, for the most difficult task in selling is to get the customer to make a positive decision. Once the decision to buy has been made, the making of the actual purchase becomes a mechanical operation.

As an indication of the importance of window displays as a selling force, I am reminded of some statements made by Ned Mitchell while

he was Manager of Displays for the Liggett drug chain. Said Mr. Mitchell:

"Ninety per cent of the customers who come into a store know exactly what they want when they come in . . . the reason they do ask for what they want and know what they want is because they have seen the article in the window and they know how it looks, and know the price it sells for."

To show specifically the sales value of window displays, Mr. Mitchell cited some actual examples of results obtained by some of their individual stores through the use of window display. One store sold \$1,000 worth of bead necklaces a week; another store

sold 7,122 bracelets in two weeks; another \$2,000 worth of spark plug testers in two weeks. These are just picked from many examples. All of the credit for these sales goes to the window



The attractiveness of this window display assures the potential customer of quality merchandise and right prices at Smerda's Radio Store, Cleveland, Ohio

displays, for drug stores are not ordinarily considered the place to buy these items. No other advertising was used.

No Secret to Window Display Selling

There is no secret to window display selling success. The principles of successful window selling can be followed with as much ease by the merchant of Manhattan, Kansas, as by the merchant of New York City. An honest-to-goodness window display does four things: attracts attention, arouses interest, creates a desire, and stimulates action. Window displays that incorporate these principles offer a real reason for the passerby to stop and come in to

buy. Let us see how this is done.

Attracting Attention

Before a window display can sell, that which is displayed in it must be

seen. That's why attention comes first. Attention can be secured in several ways. A bright spot in the window, motion devices, good lighting, clean glass, bright woodwork, all of these act on the passerby, unconsciously drawing her attention to the window.

Show windows and store exteriors are the mediums by which potential customers judge the entire store. Consequently, the first impression should be a positive impression—one which makes

the customer say to herself: "Here's a place where I can buy with confidence, a place where I'll get full value for my money, a place that is progressive and is in business to stay."

How about your store front? Can it compete with the others for attention? Chain store fronts are not painted bright reds and yellows just because the directors like those colors. They are used because they attract the eye. Is your window glass clean inside and out? If it is, then the chances are that your window has five times the appeal of your competitor's.

How does the lighting compare with those down the street? Repeated tests have shown that nothing takes the place of good lighting as an attention attracter. Does your eye travel to your window when you walk down the street after dark? Or, like the eyes



Originality will hold the attention of the passerby long enough to get your message across

of countless other citizens, does it travel to a more brightly lighted window? Remember that poor store and window lighting is nothing short of business suicide.

Answer these questions for yourself and you'll know just how your store stacks up in the battle for attention.

Creating Interest

Interest in your window display can be secured by the attractive arrangement of merchandise. Backgrounds that please the eye; simplicity of the idea presented; timeliness, neatness and completeness. These factors each have a very definite influence on the passerby's interest in your window displays.

Originality in a display will create interest in the merchandise. It is difficult to secure originality, but any dealer equipped with eight or more Super Selling Fools has no trouble in designing window displays that are original enough to make people walk a block or more out of their way to see them—once he builds a reputation for having interesting and original window displays.

The Desire to Buy

The desire to buy is more easily secured than might be imagined. In most cases it hinges on displaying merchandise which the customer needs.

Merchandise has a tremendous appeal in itself. Evidence of this fact is had in the number of consumer exhibits of merchandise for which the public pays an admission fee. The automobile shows, radio shows, food shows, etc., all have their basic appeal in the merchandise which is on display.

When people will pay an admission fee so that they may have the privilege of examining merchandise, certainly merchandise must have a real, direct appeal to the customer.

For people who are in need of certain merchandise, that merchandise stands at the head of the list for attention value. No need to create a

desire, for the desire to buy is already there. This applies particularly to reminder purchase items such as radio tubes. Hundreds of thousands of people every week fully intend to buy new Radiotrons when they go

shopping, but come home without them because the merchants failed to remind them to buy.

As the desire to own a radio set-or to have a better radio set than the one now in the home-already exists in the minds of millions of people equipped with purchasing power, the real task of the window display these days is to bring the customer into the store. The window display's selling job is really completed when that is done. For getting the customer into the store is more than half the selling battle. If behind the window is a modern store interior containing quality merchandise and a trained selling staff, sales will be made. People want new radio sets and will buy when good salesmanship is used.

Window displays these days, like advertising and salesmanship, are stressing the value that the merchandise offers. More than ever, people are interested in getting full value for their expenditures. Consequently, more than ever before the use of price cards is essential. Having the price prominently displayed saves the time of the customer. It answers the all-important question—"How much does it cost?" Avoid losing customers by answering this question for the passerby.

Change Displays Frequently

Change your window displays at least once a week; twice a week is preferable. Keep them always fresh; always interesting to the shopper. One way to do this is to plan your window displays in advance. In this way you will be certain to tie-in with seasonal changes and important events.

Remember, your window displays are like the front page of a newspaper. They must be forceful enough to the passerby—the potential purchaser—to cause her to stop—interesting enough to cause her to investigate—and convincing enough to bring her into your store to buy. A good window does just



An entire store front goes to work for Acme Radio Service Laboratory, Inc., Indianapolis, Ind.

New Plans Acclaimed by



Dealer meeting, Newark, N. J., October 19. This meeting was sponsored by General Electric Supply Corporation, Graybar Electric Company, Northern Distributing Company, Radio Distributing Corporation, Warren & Balderston Company, and Westinghouse Electric Supply Company



Dealer meeting, Baltimore, Maryland, Octob Corporation, Lincoln Sales Company, Oller Supply Company, and J



Dealer meeting, Cincinnati, Ohio, September 9. Following were sponsors: General Electric Supply Corporation, Graybar Electric Company, Griffith Victor Distributing Company, and Johnson Electric Supply Company



Dealer meeting, Indianapolis, Indiana, October 5. This n poration, Graybar Electric Company, Griffith Victor D Company, and Van Camp H



Dealer meeting in Boston, October 7. Sponsors: J. H. Burke Company, Coughlin Electric Company (Worcester), Eastern Talking Machine Company, General Electric Supply Corporation, General Equipment Company, Graybar Electric Company, Edwin C. Lewis, Inc., Milhender Electric Supply Company, and Wetmore-Savage Electric Supply Company



Milwaukee, Wisconsin, dealer meeting, Octobe Electric Company, McIntyre-Burrall Company house Electric Su

Dealers in Every Section



er 23. Sponsors were General Electric Supply adorf & Hirsch, Inc., Westinghouse Electric I. M. Zamoiski Company



Dealer meeting, Kansas City, Missouri, October 8. This meeting was sponsored by American Electric Company, Columbian Electric Company, General Electric Supply Corporation, Graybar Electric Company, Moser & Suor, Inc., Richards & Conover Hardware Company, and Western Radio Company



meeting was sponsored by General Electric Supply Cor-Distributing Company, Kruse Radio, Inc., State Radio lardware and Iron Company



Dealer meeting, Watsonville, California, September 25. Sponsored by Chanslor & Lyon, Inc., H. R. Curtiss Company, General Electric Supply Corporation, Graybar Electric Company, Leo J. Meyberg Company, and Westinghouse Electric Supply Company



er I. This meeting was sponsored by Graybar ny, Taylor Electric Company, and Westingapply Company



Dealer meeting, Philadelphia, Pennsylvania, October 14. Sponsors: Elliott-Lewis Electric Supply Company, General Electric Supply Corporation, Graybar Electric Company, Philadelphia Distributors, Inc., Roberts Auto and Radio Supply Company, Raymond Rosen & Company, Schaffhauser-Kiley Corporation, Trilling & Montague, Westinghouse Electric Supply Company, and H. A. Weyman & Son, Inc.

Do They Like It?

Dealers Express Unqualified Admiration for Selling Power of Merchandisers — Record Radiotron Sales Reported on Every Hand as Campaigns Swing Into Action

"New Merchandiser is a new sensation for display and selling Radiotrons."—Triangle Wholesale Electric Company, Muncie, Indiana.

* * *

"Watch our smoke"—Blair's Hardware & Radio Store, San Francisco, California.

"Merchandiser is great!"—Loser's Music Store, Lebanon, Pennsylvania. * * *

"Merchandiser O.K"—Iroquois Battery Shop, Providence, Rhode Island.

"This Merchandiser is 'it' all right."—West Side Radio Service, Joliet, Illinois.

"Very pleased with Merchandiser." — Strakers for Service, North Attleboro, Mass. Mr. Schuele, of Freis and Schuele Company, Cleveland, Ohio, reports that the Star Merchandiser had been on the floor only two days, and that thirty dollars' worth of Radiotrons had been sold.

"This Merchandiser will be a great help in selling the best tubes made—RCA Radiotrons."—Charles H. Davis, Philadelphia, Pennsylvania.

Mr. Allen, of A. S. Dunning Company, Duluth, Minnesota, reports that since receiving a Star Merchandiser, the store has averaged sales of 10 Radiotrons

a day without putting

"We like our Merchandiser immensely. Help us keep it dressed up."—General Appliance Corporation, Portland, Oregon.

"This Merchandiser is very good."—Home Electric Company, Leesburg, Florida.

"Sold set of tubes to bystander watching us set up Merchandiser."—Famous Hardware Company, Springdale, Arkansas.

* * *

"Merchandiser O.K. — more than we expected."—Longmont Hardware Department Store, Longmont, Colorado.

"Merchandiser very good. Have increased tube sales from about 50 a month to 200."

—Reynalds Music House, Pensacola, Florida.

"Nice Merchandiser."—Jersey Radio Shop, Newark, New Jersey.

"Thank you for Merchandiser."—Morisco Radio Service, Astoria, Long Island City, New York.

"The new Merchandiser is very attractive and an addition to any store."—J. & R. Motor Supply Company, Milwaukee, Wisconsin.

* * *

Erick Anderson, proprietor of the Glencoe
Electric Shop, Glencoe, Illinois, reports an
increase in his tube renewal business of 50 per
cent in the month following installation of a
Star Merchandiser and a tube checker.

"Like Merchandiser fine."— Westinghouse Electric Supply, Tampa, Florida.

"Merchandiser received today. Like it very much."—W. A. Landsparger Stores, West Newton, Pennsylvania.

"Merchandiser is O.K. and is bound to help us sell more Radiotrons."—Hunter Hardware Company, Nicholasville, Kentucky.

"We are certainly pleased with the new RCA Radiotron Merchandiser and the Radiotron store selling plans for increasing tube renewal business.

"The first two days after the Radiotron Merchandiser was installed in our store, we sold \$33.30 worth of tubes from the Merchandiser, without the aid of a salesman, and the only expense was wrapping. We consider this business just handed to us.

"We then put the Merchandiser in front of the store with a General Electric Midget Radio in the bottom playing, and we were actually thanked by several people for reminding them that they needed tubes.

"You may put us on record as heartily endorsing the Radiotron Sales Promotional plans"— Leon Electric Supply Company, By B. A. Ragsdale (Signed), Tallahassee, Florida. "Merchandiser best investment ever made in radio."— John G. Dittmar, Baltimore, Maryland.

them.

The Swanson-Nunn Electric Company set up a Star Merchandiser at the Evansville, Ind., Show and, by checking, discovered that 85 per cent of the people stopped to look at the display.

Mr. Fowler, of Fowler Electric Company, Memphis, Tennessee, had scarcely finished setting up his Star Merchandiser when in walked a man with nine tubes to be tested. He bought four new Radiotrons. He had no sooner left than another customer walked in, having seen the Merchandiser from the street. He looked it over, said he would bring in his tubes the next day.

"Merchandiser has increased our tube sales over 100 per cent in the last two weeks." Orchard & Wilhelm Company, Omaha, Nebraska.

·And How!

"Merchandiser makes very attractive display."—Amick Radio Sales, Inc., Indiana Harbor, Indiana.

The Waverite Radio Service Company in Quincy, Illinois, during the month of September, sold 75 Radiotrons. After having a Star Merchandiser installed, it was placed in the window with the lights turned on day and night. During the first week after receipt of the Star Merchandiser, 75 tubes were sold, and up to October 25, it had been necessary to order 250 Radiotrons because of increasing sales.

The Larkin Company, Buffalo, New York, purchased a Star Merchandiser and placed it on the main floor. Tube business has increased 35 per cent since the installation, according to Mr. Tedesco, Radio Manager.

A dealer who sold \$2.50 worth of Radiotrons, the first three days last week, put in a Star Merchandiser and sold \$76.50 worth in the next three days.

"Very much pleased with your Merchandiser."—Wasatch Drug Company, Salt Lake City, Utah.

Kelvinator-Robinson Company, Hagerstown, Maryland, reports a 500 per cent increase in sales since buying the Star Merchandiser. "Merchandiser received O.K.—looks good, hope for big business."—Excelsior Radio Electric Company, Excelsior, Minnesota.

"The Radiotron Merchandiser has pulled my tube business out of the doldrums. From an almost unwanted, back-of-the-store, underthe-counter piece of merchandise, it has boosted my tube sales to the point where they deserve the most prominent display space. My new type tube tester is a wow—it has dramatized tube selling and enticed many of my customers to bring in their tubes for testing, regardless of whether their radios were working well or not. Every customer watches the dial closely—intensely interested—it's naturally fascinating.

"This combination is a hot one; it is a dual purpose set-up that enables the small-town dealer to give exactly the same service as his big-town brother. Tubes are low in cost, larger volume is imperative—and the answer is better presentation. The Merchandiser does it. I try to avoid going to a customer's home, removing tubes, returning to store, testing, and returning tubes. That cuts into profits. The ideal set-up is to have the owner bring in his tubes, and to facilitate this, I place an RCA Tube Carrying Carton on every doorstep, with an appropriate insert telling them of my equipment and free testing service.

"It's the old story—'If you tell 'em, you will sell 'em.' "—V. L. Birkbeck, Good House-keeping Shop, Atascadero, California."

"Merchandiser received O.K.—is very attractive and should step our tube sales up."—

The Bell Music Company, Lawrence, Kansas, as a result of installing a Star Merchandiser and a tester has doubled its Radiotron business over a period of two weeks.

Hallowell's, La Grange, Illinois, furniture store, reports an increase in tube renewal sales of 35 per cent with the aid of a Radiotron Merchandiser.

Anderson Radio Company, Anderson, Indiana, has noticed a marked increase in Radiotron business since installing a Star Merchandiser.

Mr. Minke, of Minke & Miller, Rochester, New York, estimates that his Radiotron Merchandiser has long since paid for itself in Radiotron sales.

Elder & Johnston Department Store, Dayton, Ohio, set up Merchandiser on main floor and spent first day giving away Tube Carrying Cartons. Next day, 15 people had tubes tested, sales amounted to \$5.90. Next day, 18 people came in, sales were \$12.90. Next day, 6 people, and the next, 7 people came in, with sales of \$12.35 and \$16.30, respectively.

"Have just set Merchandiser up, and it sure looks like a business producer."—Fowler Drug Company, Penacook, New Hampshire.

Johnson's Electric Shop, Des Plaines, Illinois, reported an increase in tube renewal sales of 35 per cent, after he had had a Merchandiser in operation for four weeks.

* * * *

Niss Furniture Company, Milwaukee, Wisconsin, had not been selling tubes. The firm purchased a Star Merchandiser and is now



fine."—Columbia Music
Company, Pittsburgh, Pennsylvania.

* * *

A. D. Houck Company, Buffalo, New York,
reports that its renewal business took a phenomFixture & Art Shop,

A. D. Houck Company, Buitalo, New York, reports that its renewal business took a phenomenal jump upwards after the delivery of a Star Merchandiser and a tester.

* * *

"Merchandiser just

Stecker's Book Store, Mt. Carmel, Pennsylvania, put on an advertising and merchandising campaign built around its newly acquired Radiotron Merchandiser. Since the start of the campaign, October 1st, Mr. Stecker reports an increase in Radiotron sales of approximately 300 per cent. It is estimated that the Merchandiser, tube tester, and all advertising, have all paid for themselves over a period of six weeks.

"Just received Merchandiser. Should increase our tube business 50 per cent."—Piasecki Radio Shoppe, Milwaukee, Wisconsin.

Toledo, Ohio.

ARMORED

CAR

"Merchandiser is a progressive step in merchandising."—Tatum & Cunningham, Corsicana, Texas.

Strobeck Electric Company, Hopkins, Minnesota, purchased a Star Merchandiser and sold \$47.00 worth of Radiotrons in the first week.

of five Radiotrons a day without the aid of supplementary advertising of any sort.

Howe & Rogers in Rochester, N. Y., moved Merchandiser from basement department to the main floor, and in three days sold 24 Radiotrons. Tube sales in the store prior to that time were practically nil, all business on that item coming from service men.

10,000 View Merchandisers



Dealer and distributor meeting in Portland, Oregon, September 15. This meeting was sponsored by Fobes Supply Company, General Electric Supply Corporation, Graybar Electric Company, Harper-Meggee, and Stubbs Electric Company



Dealer meeting in New Orleans, Louisiana, September 15. This meeting was sponsored exclusively by the General Electric Supply Corporation in New Orleans



Exclusive Radiotron dealer meeting conducted by Elliott & Waddington in New Castle, Pennsylvania, September 14



Dealer meeting, Atlanta, Georgia, September 28. Sponsors of this meeting were Beck & Gregg Hardware Company, General Electric Supply Corporation, Gilham Electric Company, and Graybar Electric Company



Dealer meeting, Fresno, California, September 23. Sponsored by Chanslor & Lyon Company, H. R. Curtiss Company, General Electric Supply Corporation, Graybar Electric Company, Leo J. Meyberg Company, and Westinghouse Electric Supply Company



Dealer meeting in Nashville, Tennessee, September 21. Sponsors: Braid Electric Company, Gambill Distributing Corporation, General Electric Supply Corporation, Graybar Electric Company, Claude P. Street Piano Company, and Tafel Electric Company

at Scores of Presentations



Dealer meeting in Toledo, Ohio, September 11. Sponsors: Cleveland Talking Machine Company, Commercial Electric Company, General Electric Supply Corporation, Graybar Electric Company, Poll Electric Company, and Westinghouse Electric Supply Company



Dealer meeting, St. Louis, Missouri, October 15. Sponsored by Aeolian Company, General Electric Supply Corporation, Grant Storage Battery Company, Graybar Electric Company, Tiemann Hardware Company, and Westinghouse Electric Supply Company



Dealer and distributor meeting, Sacramento, California, September 21.
Sponsored by Chanslor & Lyon Company, H. R. Curtiss Company, General Electric Supply Corporation, Graybar Electric Company, Leo J. Meyberg Company, and Westinghouse Electric Supply Company



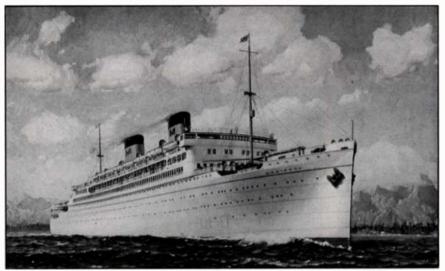
Dealer meeting, Rochester, New York, September 1. This meeting was sponsored by General Electric Supply Corporation, Howe & Rogers, and Westinghouse Electric Supply Company



Jacksonville, Florida, dealer meeting, September 30. Sponsors were General Electric Supply Corporation, Graybar Electric Company, Southern Radio Distributors, Inc., and Westinghouse Electric Supply Company



Dealer breakfast meeting, San Diego, California, September 15. This meeting was sponsored by Electric Supplies Distributing Company, General Electric Supply Corporation, and Leo J. Meyberg Company



The new Matson liner, "Mariposa," which will be completely radio equipped, even to the lifeboats, the latter a significant innovation

about radio in the home and the important rôle it has assumed in family life. But while radio in the home has so far greatly out-distanced its companion performer—radio away from home—the latter has been quietly passing through a course of development that before long is destined to make it as much of an every-day necessity as the domestic kind.

While radio in the home performs the inestimable functions of providing relaxation and diversion, promoting culture, relieving tedium, and keeping one informed on daily happenings, radio for the traveler or the patient in a hospital has the added attraction of assisting in the prevention of homesickness. Indeed, the reasons for the growing popularity of centralized installations in hotels, steamships, hospitals, and-yes-office buildings is not far to seek. Although the business man in his office cannot be classed as a solitary wayfarer, still, he has his reasons, practical as well as recreational, for wanting the ether waves always on tap.

It is by no means too early for the dealer in radio tubes to begin formulating plans for securing as his Radiotron customers the centralized systems in his vicinity. It can be easily understood why customers of this type are frequently in need of renewal tubes—the sets are more or less constantly in use. And, with people

coming to expect radio entertainment on all occasions, such

installations are bound to increase in number. By showing aggressiveness now, you can easily acquire a nucleus of customers that will develop as the number of installations grows.

Floating Palaces Radio Equipped

Some outstanding installations of the centralized type—forerunners of



Guests at the Hotel Governor Clinton, New York, have four radio programs always on tap

the coming era—have recently been called to public attention. The Dollar liner, *President Hoover*, which embarked on her maiden voyage in

Radio Away from Home

Centralized Systems in

Hotels, Hospitals, Office Buildings, and Ocean Liners Promise to be Valuable Radiotron Outlets of the Future

August, is equipped with a most elaborate radio and sound distribution system. On this ship, which was built at a cost of \$8,000,000, radio and recorded programs are available in more than 35 special staterooms and suites, as well as in all the public spaces. Even the two mess rooms for the crew will be equipped with built-

in loudspeakers. Engineers of the RCA Victor Company have installed a powerful central receiving station with electric phonograph on the promenade deck. From this point, a sensitive superheterodyne receiver, capable of picking up shore radio stations without interference from the ship's commercial wireless transmitter, will deliver the radio programs simultaneously to more than fifty loudspeakers located in various parts of the new vessel.

When the palatial new Matsonliner, Mariposa, which is now under construction, sails on her maiden voyage early next year, she also will be completely equipped with radio facilities. She will have powerful radio

telegraph apparatus of world-wide range, and a centralized radio system for reproducing broadcast programs at various locations in the vessel. One of the Mariposa's modern innovations will be the radio equipment for lifeboats, as developed by the Radiomarine Corporation of America. The design and construction of this new equipment is considered an engineering achievement not only because such apparatus must represent the utmost in reliability, but also because its service must be accomplished under



Showing the new porous receiving pillow, a boon to hospital patients

difficult conditions and with limitations not usually encountered in other applications of radio.

Hotels Grasp Opportunity

While the sea voyager only recently has been able to enjoy radio facilities comparable to those in his home, the land traveler is more of a veteran. Hotels were one of the first institutions to recognize the advantage in making a guest room a "home away from home," and today there are hundreds of hotels supplying patrons regularly from centralized systems.

We may take as representative one recent installation in New York. Over this system, a choice of four radio or phonograph programs is made available in each of 1300 guest rooms and public spaces. In addition, voice announcements are made to all or any part of the house by the manager, who may wish to welcome guests or point out any special features available.

The Latest in Office Buildings

An office building of the modern type is the 33-story edifice of the Philadelphia Savings Fund Society in the Quaker City. This building is equipped with a special antenna receiving system for the operation of radio receivers in every one of the more than 425 offices.

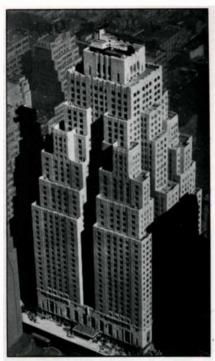
The new structure is the first large office building in the United States to make such elaborate provision for modern radio reception, according to George Cole, Manager of the Centralized Radio Section of RCA Victor.

The radio equipment used in the new building will be the new RCA Antenaplex System, a recent development of the Camden laboratories. Two single antennae located on the roof of the building will supply antenna and ground connections from a wall-plate socket to approximately 500 receiving sets of any standard type, providing equal operating efficiency for each receiver regardless of location.

Aiding the Sick

Unquestionably, the most humanitarian of all such enterprises is the radio system for hospitals. A few weeks ago, such an installation was completed in Bellevue Hospital, New York, marking the end of the first step of a campaign to install similar systems in the city's 26 municipal hospitals. The event was formally heralded by a special broadcast, in which Graham McNamee, NBC's ace, described the facilities, consisting of RCA porous receiving pillows, headphones, and loudspeakers. The loudspeakers will only be used at points where there would be no danger of

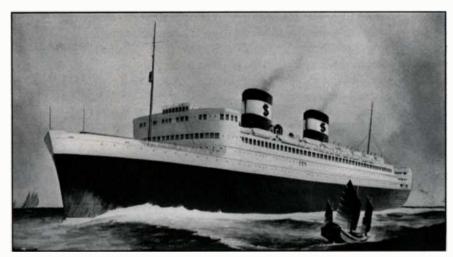
disturbance or where all patients are in a receptive mood. The porous pillow, an innovation in hospital systems, per-



The Hotel New Yorker, another modern Manhattan hostelry with four-channel radio for every patron

mits a patient to listen to either one of two programs, one being received in each end of the pillow, without adjusting headphones or disturbing other patients.

Dr. William J. G. Greef, Commissioner of Hospitals, is reported as saying that the psychological reaction to be gained in listening to radio programs will materially shorten convalescent periods.



No passenger on the new Dollar steamship "President Hoover" will be allowed to miss his home radio facilities. Loudspeakers throughout the ship will reproduce programs from shore stations

The New Way to Buy Sets

Manufacturers Are Encouraging Customers to Look Inside the Cabinet for Cangible Evidences of Quality

By T. J. Bernard Sales Promotion Department

"SEE what you are getting" is the best kind of advice to the prospective buyer, whatever he may be buying. Unless he has this thought firmly in mind, he is apt to



run amuck in the welter of extravagant claims advanced by the purveyors of multitudinous brands. Not unnaturally, the inexperienced person is attracted to the surface glitter, the front, which may, and often does, conceal a fundamental weakness. In many cases this flaw would be apparent even to the untutored if he took the trouble to investigate.

New Product Hypnotizes Buyer

Even the experienced buyer is apt to lose his head in the early days of an industry. The glamor of a new gadget or device, such as radio in its infancy, overpowers his better judgment, nullifies his carefully fostered sense of caution and canniness in parting with money. He has never before had

experience with the product, feels he knows nothing about it (and probably doesn't), and, contrary to his customary practice, trusts to the first person who sets himself up as competent to

advise him. If this person happens to be a salesman with a fly-by-night product, it's just too bad for the customer. He is already dazzled—he's out to buy something wonderful—and the more wonderful it appears to be, the more he is attracted by it.

As time goes on the glamor

drops away, the buying hysteria vanishes, the industry settles down to a conventional regime of manufacturing and selling, and the public learns more about the product. It becomes increasingly harder to pull the wool over people's eyes. The customer arrives at the amazing con-

clusion that his own judgment, upon which he has relied for years when buying commoner products, is worth something in radio. He knows names and terms and he asks questions. Before he buys, he himself must be convinced that what he is getting is good. And apple sauce won't convince him.

Intelligent radio manufacturers and dealers are aware of the change and are shaping their methods accordingly.

They are capitalizing on the knowingness of modern buyers. In the past few months some of the leaders of the set industry have plainly shown their intentions by appealing directly to the public on this point. "Look into the back!" says one . . . another: "Turn it around!" What a change from placing all the emphasis on listening! The new order is to encourage people to look for visible and tangible evidences of quality.

Tubes Most Obvious Equipment

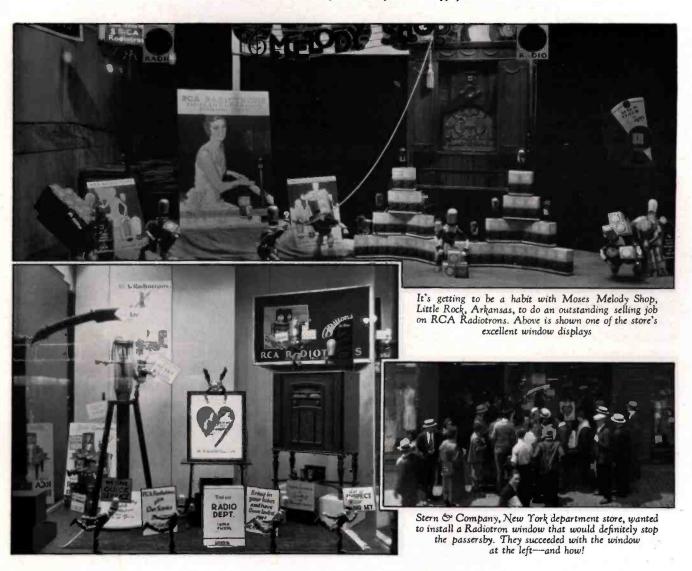
What is the first thing anyone sees when he "looks inside the cabinet?" The tubes, of course! They jump right out at anyone examining the inside apparatus. If these tubes carry a well known, quality trade-



mark, they add immeasurably to the impression of quality that such an examination produces. And if they are tubes of unknown quality they are just as certain to counteract that good impression. Look to the tubes in your sets!

Your Windows . . .

Focal Point of Buyer Appeal





C. E. Wilkinson (Radio Supply Company), Mason City, Iowa, aroused interest with this contest window. Contest lasted four weeks, resulting in the sale of 210 Radiotrons, 5 radio sets, and many prospects



Sears & Chaffee Supply Company, an exclusive Radiotron dealer of long standing, manifested its customary aggressiveness in broadcasting the recent World Series baseball games.

What a crowd!

Service Problems of the Small

Pooling Service Work Recommended Where Individual Dealer's Volume Is Insufficient to Justify Hiring Competent Cechnician

By E. C. Hughes, Jr. Sales Promotion Department

URING the early part of November, we mailed out to 1,000 dealers, selected at ran-

dom from our mailing list, a questionnaire on radio service work. This questionnaire is to serve as the basis of future GOOD News articles, giving pertinent facts and figures about radio service work. As we go to press for this, the December issue, the results are just beginning to come in. There is one point, however, which has been mentioned in the early returns by so many dealers in the smaller towns that we have decided to discuss the question here and

now. We certainly feel that too little time and thought has been given to the problem.

As One Dealer States It

The problem is this: how is the small town dealer to obtain a sufficient volume of service work to enable him to employ competent and qualified service men? As one phase of the problem, several dealers have pointed out that in a small community they are very likely to hurt their reputations by trying to repair cheap grade receivers which need the services of a junk man rather than a radio service man.

One dealer states his problems quite frankly. He lives in a small community in a Middle Western state. He, as with a few other dealers in the town, enjoys a fairly good sized radio and tube business, but there is not enough service work for any one dealer to employ and keep busy a really competent service man. He states that there are quite a few "screw-driver and



pliers" service men in the town, but none of them are qualified to do anything more complicated than replace a burned-out tube or a broken plug on the power lead. Consequently, when he receives a call for service, he goes out on the job personally. He is primarily a salesman, having no technical experience or training, but, as he says, he is undoubtedly as good as any man he could secure to handle the job. If the job requires any serious repairs, he is forced to send the set into a neighboring city where good service men are available.

In the meantime, his customer is without the use of his set. No radio dealer has to be told that customers do not like to be without their sets. This results in lost tempers if not lost business. Furthermore, such a system necessitates the dealer's spending valuable time away from the store.

Pooling Service Work

What, then, can be done? There seems to be but one solution. It is entirely probable that there is enough service work in the town to keep one

man busy all of the time, provided he is able to get all the work. Why, then, should not the dealers pool their service work and hire a man qualified to properly service

radio receivers?

Of course, there are a number of disadvantages that will immediately come to mind. Probably the first objection will be

that the man may influence a customer to buy his new set from a store other than the one which sold the last one. That objection can be removed by securing

the right type of man. Also, it would be inadvisable to pay him a commission on merchandise which he sells, since he might be influenced in favor of one particular store. His pay could be pro-rated amongst all the stores on the basis of the amount of service work he did for each.

The advantages of such a plan are obvious. In the first place, it would mean that the customer of any store in town could obtain competent service. There would be no throat cutting on service charges, as all the dealers, working through the same man, would have a standard service charge. Finally, it would free the dealer from the worry and burden of doing his own service work and enable him to put more effort on sales.

Another small town dealer states his case about as follows. He and the other dealers in his community find

Town Dealer » » »



The "screw-driver and pliers" type of service man is a well-known menace.

An expert on part time is far better than this type on full time

radio service work both unprofitable and inconvenient for the small town dealer. Due to the recent tightness of money, he finds that the public is not willing to spend much money for a radio set. This means, according to him, that there are many cheap and poorly constructed sets in operation in his territory. These cheap sets invariably require service work after a short time, and he sends a man up to take care of the job. The man repairs the broken part or replaces the cheap tube that came with the set. Sooner or later, some other part or another tube goes bad. He then has to go back on the job again, and nine times out of ten, the customer blames him for the second failure. If he makes a charge for the work, the customer thinks he is unreasonable and unfair. If he does the work free of charge, he sacrifices the major portion of his profit on the cheap

Reputation at Stake

The dealer I refer to states that he has been in business in the town for twenty years and has worked hard to build up a reputation for reliability. Now he feels that the major portion of his reputation is being lost due to service troubles on cheap radio sets.

We don't like the "I told you so" attitude, but not long ago we published an article on the causes of service calls, based on the personal experiences of the author. This subject was discussed therein.

Always a Market for Quality Goods

While the solution to the problem is more

or less obvious, it is sometimes difficult to put into effect. The dealer is often faced with the problem of either selling second grade merchandise or losing the sales. It seems to us that it is better to lose a few sales than a hard-earned

reputation. The facts as stated by this dealer seem to prove it. Cheap merchandise has hurt his reputation and cost him money in the form of added service work which is unprofitable. By selling only the best grade merchandise, perhaps half, or even better, of these calls could be eliminated and the customer left in a satisfied frame of mind. Even in these days of close buying, the public can be made to realize that cheap merchandise does not pay. By carefully pointing out to the customer that he is getting only what he pays for, that the dealer cannot honestly stand back of the inferior brands, and by flatly refusing to guarantee poorly designed and constructed receivers, the dealer will do much to restore his customer's confidence in his integrity. There may be a few sales lost, but it is always better to lose the sale than it is to take a loss on a transaction which also means the loss of a customer.

Thus, it would seem that it is more important than ever to give good service. Careful study of the problems at hand will result in successful solutions, and the successful solution of service problems means more money in the till.

Familiar Fallacies—No. 1.



Distributor Salesman: "No free testing?"

Dealer: "No, I don't want my store full of people looking for something for nothing."

Radio Tonics

By G. Gerard Clark and T. A. Jolloff Sales Promotion Department

GAIN, Christmas—the big time of the year for any retailer. Christmas is the only season of the year when people don't have to be persuaded to buy—when they are going to buy whether you want them to or not. Unlike the remaining 364 days in the year, Christmas supplies its own purchasing urge. The selling problem, therefore, resolves itself into one of having the right kind of merchandise, of having enough of it, of making it easy to buy at your store, and of being able to tell the public about it.

Start with Displays

Displays, exterior and interior, are logical starting points for attracting the attention of Christmas shoppers. Unless your windows tell quickly and appealingly what you have to offer, other means of advertising will largely be wasted. The Christmas shopper is a fickle creature, forgetting the last shop-keeper's message as he gives heed to the new one. He must be constantly reminded. Buying must be made so easy that he will buy on the spot.

Play up the entertainment value of a radio set. Its possibilities as a gift are thereby greatly enhanced. Our suggested Christmas window emphasizes this point with the aid of a Christmas tree, a cotton-bearded Selling Fool as Santa Claus, and message cards.

Radiotrons Practical Gifts

Radiotrons are intensely practical, and therefore highly appreciated gifts. Few things could be more welcome to the owner of a radio with worn-out tubes than a complete new set of RCA Radiotrons. A Selling Fool Santa Claus on your Merchandiser, holding aloft a card reading, "A Practical Gift at New Low Prices," will stimulate sales.

In addition to your displays, there are ways of letting the public know the type of merchandise you offer, as well as making it easy for people to buy, that

should receive every progressive merchant's serious attention. You should keep the sidewalk in front of your store clean—free of snow. You should put your store in perfect order. Decorate the interior with Christmas



Emphasize the Christmas message—"A Practical Gift at New Low Prices"

material, and use plenty of illumination, inside and out.

Keep the inside temperature warm and agreeable. Don't mind if shoppers linger, reluctant to step out into the cold—the longer they stay, the more they'll buy.

Check your merchandise stock well in advance. Display gift merchandise and wrap it up in Christmas paper. Use "talking signs" throughout the store. Price all merchandise—the Christmas shopper doesn't like delay. Use gift cards and as a special service offer to cash Christmas Savings Checks. Use gift checks yourself.

Be the most cheerful man in town. Radiate the Christmas spirit. It's contagious. Be sure your clerks have it, especially if you hire temporary sales people for the holidays.

A gloomy sales clerk can scare away more customers and kill more potential sales than a quarantine sign. If, on the contrary, you and your sales clerks look cheerful, act cheerful, and are cheerful, your customers will quickly adopt that same attitude and your sales will have been strongly stimulated, for a well pleased prospect is usually a sold prospect.

Wrap Packages Neatly

After the sale has been made, you should be sure that all merchandise is wrapped neatly and securely in attractive packages. A broken string, a piece of torn wrapping paper, or a loosely tied bundle will go a long way toward nullifying all the good-will that has been created in making the sale. People are but grown-up children at heart, and they like to open packages that are attractively done up, not just thrown together. Make the packages that leave your store representative of the merchandise that they contain. Make them expressive of high quality.

It is also a good practice, from a good will and service standpoint, to have your sales clerks offer to wrap the other packages that the customer may be carrying, with the purchases made in your store.

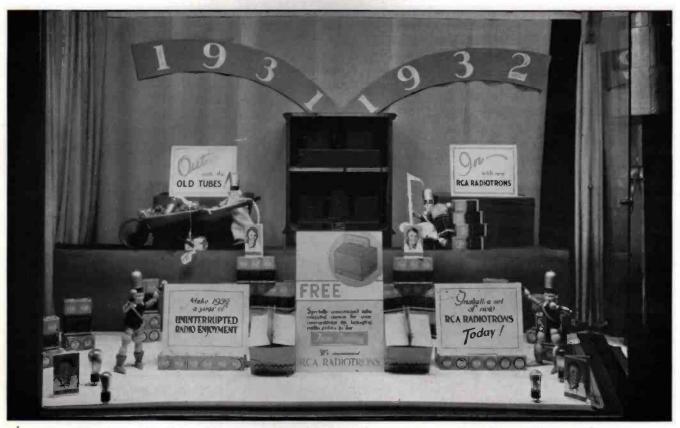
These are little things but they all add to the atmosphere that makes buyers out of Christmas Shoppers.

New Year-New Tubes

After Christmas comes New Year's—the most logical time of all to put in new RCA Radiotrons. Get people in the habit of renewing tubes on January 1st—it's the easiest date to remember—and you can dispense with a lot of reception complaints and unnecessary service calls. An effective tie-in is illustrated on the opposite page. You'll agree that Selling Fools do themselves proud as both Father Time and the be-diapered new-born 1932.



This window brings out the permanent gift value of a radio set, by playing up the wealth of daily entertainment it is capable of giving



Bearded old 1931 should be taking out with him all radio tubes as ancient as himself—and bouncing, buoyant 1932 should signalize the rejuvenation of every radio set with new Radiotrons

Radio's Place in the Vibratory Spectrum

By L. G. Lessig
Commercial Engineering Department

AVES of any nature may be produced by a vibrating body in any medium capable of sustaining them. A mechanical analogy would be the vibrating piano string

Because the phenomenon is very difficult to conceive, many physicists assume for the sake of simple explanation, that a medium exists in all space and matter and that it is supposed to

be of perfect elasticity. It is arbitrarily called ether. A wave disturbance in ether travels out, like sound, in all directions.* Thus a hot metal bar vibrates to create heat waves of frequencies high enough to be transmitted through ether. These heat waves, known as infra-red waves, are invisible and appear even before the metal takes on color. When the incandescent state is reached light waves are created on an average frequency of 60,000,000,000,000 cycles per second. Ultraviolet waves are produced at still higher frequencies. These are radiated by the sun, electric arcs and X-ray devices to the tune of more than 150,000,000, 000,000 vibrations a second — 60,000,000,000 times faster than the vibration of the middle C string on the piano.

Radio waves, like heat and light waves, travel through ether. These waves ordinarily vibrate

faster than sound waves and slower than heat waves. The initial force necessary to produce such vibrations is supplied by a radio transmitter coupled to a suitable antenna. Because the human senses are not capable of detecting radio vibrations as such, a radio receiver is used to detect and amplify them.

25 Cycles POWER AND to 1000 Cycles COMMUNICATION 10,000 Cycles-LONG WAVE 550,000 Cycles— 1,500,000 Cycles RADIO BROADCASTING SHORT WAVE RADIO COMMUNICATION 3,500,000,000 Cycles HERTZIAN 30,000,000,000 Cycles WAVES INFRA-RED RAYS 1,500,000,000,000 Cycles -AND HEAT 375,000,000,000,000 Cycles LIGHT 2.000,000,000,000,000 Cycles ULTRA-VIOLET 150,000,000,000,000,000 Cycles X-RAYS AND GAMMA RAYS 15,500,000,000,000,000 Cycles COSMIC RAYS

Fig. 1. Diagram of Vibratory Spectrum. Because much of the Spectrum still remains to be fully explored, classifications are not sharply defined

which sets up air waves by constant beating against the air that envelopes it. Heat and light waves, on the other hand, are transmitted by other means.

Mechanism of Radio Transmitters

The lower radio-frequencies can be produced by rotating machinery made possible by refinements in equipment similar to that used in power stations for generating 25- and 60-cycle current. However, circuits containing suitable generators, condensers, and coils, chosen to have a natural period of frequency, are most often used in converting direct current (or alternating current of commercial frequency) to high-frequency alternating current useful for radio communication. In the past the electric arc and spark gap have been used for this purpose, but the older methods of creating radio-frequency vibrations (oscillations) have been gradually supplanted until today the versatile and infinitely superior vacuum tube reigns practically supreme.

Oscillations

Mechanical and electrical oscillations are quite analogous. If we fasten a weight to a spring and release it, the weight bobs up and down (oscillates) for several minutes. The weight has inertia, the spring has elasticity. Coils have "electrical inertia" known as "inductance," condensers have "electrical elasticity," known as capacity.

Another mechanical illustration is that of the action of a clock. As the pendulum swings it works the escapement which permits the main spring

^{*} The length of a wave is taken as the distance from the crest of one wave to the crest of the next wave. See Fig. 2. The variations passed through during one such occurrence are said to constitute one cycle. 1000 cycles are equivalent to one kilocycle. The total number of these cycles which occur in one second is called the frequency.

to deliver a push to the pendulum during each swing in such a direction as to increase the extent or amplitude of the swing. When the friction of the

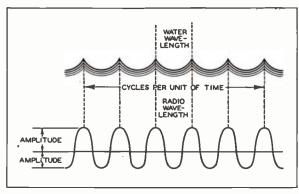


Fig. 2. Radio and water wave analogy

oscillation becomes equal to the impulse given by the spring, the amplitude of oscillation will cease to increase and remain constant. In creating highfrequency alternating currents for sending radio signals we find the spring, escapement and pendulum of a clock analogous to the power, vacuum tube and condenser-coil circuit, respectively. The condenser-coil combination has a natural period or frequency of oscillations similar to that of a pendulum. The vacuum tube acts like the escapement of the clock inasmuch as it supplies a series of timed pushes that keep the electric current in the condenser and coil going back and forth at constant amplitude. Unless the energy is supplied to our electrical circuit at the right time to keep it oscillating, the high-frequency currents soon drop to zero due to the resistance of the circuit, just as the swings of the pendulum are stopped by the friction

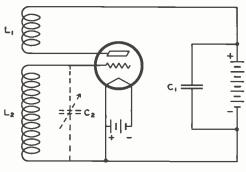


Fig. 4. Simple Oscillator Circuit

of the medium in which it swings if we disconnect the spring. The power

supply, like the spring, provides the energy used in transmitting these pushes to the oscillating circuit.

The three-electrode vacuum tube

connected in a suitable circuit is well-adapted to create and maintain radio waves of high-frequency. In such circuits the output circuit (plate) is coupled by means of coils or condensers to the input circuit (grid) so that some of the plate voltage is fed back to the grid where it produces a change

in the plate current --- which again is returned to the grid where it again produces a change in plate current. This action continues until a balance is reached between the losses due to radiation and heat, and the power supplied by the tube. Beyond this point, the amplitude of the oscillating current remains constant in value so long as a certain portion of every oscillation produced in the plate circuit is put back into the grid circuit at the proper time. Fig. 3. Usually, the time necessary to reach constant amplitude is only a small fraction of a second. The number of pulsations per second is very nearly that of the natural period of vibration of the oscillating circuit (coil and condenser).

The plate circuit of a radio transmitter system is coupled to

the antenna circuit so that the plate energy is transferred to the antenna. Thus radio-frequency waves are created on a large scale and sent out through space. To use another analogy, if the size of a vibrating object is increased, the waves it creates will likewise be increased over their original intensity. Applying this analogy to the antenna, we find that a more powerful radio wave is produced by making some part of the radio transmitting circuit

larger in dimension. The enlarged portion of the circuit is the antenna.

Principle of Simple Oscillator

A simple arrangement for producing an alternating current at radio frequency (high frequency) is shown in Fig. 4. L₂ and C₂ have values such that their natural period of vibration is similar to the frequency desired. The inductance L₁, which is placed in close electrical relationship with L₂, receives some energy caused by the rise and fall of plate current in the oscillatory circuits.

This energy is impressed upon the grid to produce voltage variations which are amplified by the tube and again passed through the L₂ C₂ circuit. The initial and starting rise that causes oscillation to begin, might begin by a

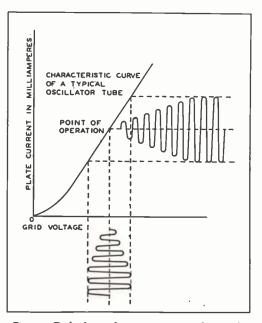


Fig. 3. Grid-voltage plate-current curve showing how oscillations build up to constant amplitude. Oscillator tubes are operated in the straight portion of the curve

movement of electrons in the tube as a result of a change in the capacity of the circuit or because of the flow of a small current when the "A" and "B" battery circuit is closed.

Although the amplitude of the current during the first cycle may be small, the additive effect of the feedback action increases the amplitude of each successive wave. This increase continues until the energy generated is just sufficient to maintain a steady current. Beyond this point an unvarying wave of alternating current is produced in coil L₂ or any other coil in a circuit coupled to the plate circuit.

Dealer Tube Testers



DAYRAD TYPE 375

Uses D.C. from selfcontained rectifier for grid, screen, and plate supply.



Uses different A-C voltages, depending on tube type under test, for grid, screen and plate supply.

RADIO PRODUCTS COMPANY DAYTON, OHIO

HICKOK A-C. 47



Uses D.C. from self-contained rectifier for grid, screen, and plate supply.

HICKOK DE LUXE

Uses D.C. from self-contained rectifier for grid, screen and plate supply.



HICKOK 4302 SERIES



Uses D.C. from self-contained rectifier for grid, screen, and plate supply.

HICKOK 4300



Uses D.C. from self-contained rectifier for grid, screen, and plate supply.

HICKOK ELECTRICAL INSTRUMENT COMPANY, CLEVELAND, OHIO

1931 has witnessed the design and placing on the market of a number of new tube checkers intended particularly for dealer use. These meters have merit for distinguishing between satisfactory and worn-out tubes and in assisting the dealer in the sale of renewal tubes.

From the viewpoint of selling aids, these new meters all stress simplicity of operation and give test results in easily understood terms. From the engineering viewpoint, two distinct types of circuits are available for dealer choice. The first type uses the grid shift method with some form of indicating meter and with alternating current supplied to all tube elements. The use of alternating-current supply to tube elements permits of simplicity of circuit and of moderate tube tester prices. The second type uses a direct reading performance meter with direct current supplied from a self-contained rectifier to the grid, the screen if any, and the plate of the tube under test.

The use of direct-current voltages permits of designing tester equipment which approximates closely tube operating conditions encountered in radio receivers. In general, the more closely tester conditions and set operating conditions agree, the greater the degree of reliability in tester results which can be expected.

A number of new models are illustrated on this page.



WESTON MODEL 596
Uses D.C. from self-contained rectifier for grid, screen, and plate supply.



WESTON MODEL 597

Uses different A-C voltages, depending on tube type under test, for grid, screen, and plate supply.

WESTON ELECTRICAL INSTRU-MENT COMPANY NEWARK, NEW JERSEY

JEWELL PATTERN 214

Uses A.C. for grid, screen, and plate supply.



JEWELL PATTERN 538



Uses A.C. for grid, screen, and plate supply.

JEWELL ELECTRICAL INSTRUMENT COMPANY CHICAGO, ILLINOIS



Price, \$2.50 per 100. In lots of 1000, \$2.25 per 100. In lots of 2500 or more, \$2 per 100. Prices with or without imprint. Maximum imprint, 4 lines.

FOUR NEW

9 New Biographies

FEATURES 2. Complete Kilocycle Index

A GOOD LOG MADE BETTER

SINCE June, we have supplied dealers with 750,000 of the amazingly popular RCA Radiotron Radio Logs. Now we are bringing out a new edition, revised and improved. The new Log contains nine new biographies of radio stars. Station locations are given in the Kilocycle-Index, thereby eliminating cross reference. The dead wood has been cut out of the station listings, and new stations have been added. And we have encased the whole in the colorful new cover shown herewith.

Dealers will find the new edition even more effective than the last, the popularity of which was undoubtedly based on its human interest appeal. To the original collection of gossipy,

readable sketches of radio personalities, Jack Foster, Radio Editor of the "New York World-Telegram," has added the biographies of Ben Bernie, Russ Columbo, Coon-Sanders, Bing Crosby, Raymond Knight, Erno Rapee, Sisters of the Skillet, Kate Smith, and Tony Wons. Other features remain unchanged. The new Log will be eagerly sought after by every real broadcast fan.

3. Colorful New Cover

4 Up-to-the-Minute
Station Listings

RCA Radiotrons

