How Do You Like This One?
An exceptionally beautiful Fada window by F. W. Knoderer of Columbus, Ohio. See story on page 558.

FADA-SALES
Radio Magazine
Published Monthly in the Interests of Fada Dealers, Distributors, and Friends by F. A. D. Andrea, Inc., Jackson Ave., Orchard and Queens St., Long Island City, N.Y.
New Zealand Dealer Travels 40,000 Miles to Visit The Fada Plant

Ninety miles from Wellington, the capital of New Zealand (a town of approximately 70,000 population), in the center of an agricultural district, is situated the town of Feilding. McLeod and Svendsen are electrical contractors and dealers in Feilding and as you see by the sign in the accompanying illustration are also authorized Fada radio dealers. They handle Fada exclusively and have been selling Fada successfully for the past three years.

As radio became an increasingly important part of the business of this progressive concern, it was determined that one of the partners should visit the Fada plant and Mr. Svendsen was selected.

As New York is approximately half way around the world from New Zealand, it was just as easy to continue on around in returning to New Zealand as it would be to go back over the same route, and so Mr. Svendsen determined to make a round-the-world cruise of his trip but his principal reason for going he tells us was to visit the Fada plant and learn Fada methods of manufacture and testing which would be invaluable to him in his own business.

Mr. Svendsen traveled by steamship from Auckland, New Zealand, to Vancouver, B. C., Canada. He then crossed the Rockies by automobile and later visited many American cities including Chicago, Minnesota, St. Paul, St. Louis, etc., before coming to New York.

Mr. Svendsen plans to go from New York to Montreal, Canada, and from there to London by steamship and from London, he is going to Stavanger, Norway, the home of his father. He will then return to London and probably travel through France and take steamship from a Mediterranean port for New Zealand visiting Egypt, going through the Suez Canal, stopping in India and Australia and then back home to New Zealand. The entire trip will consume more than a year and he will have traveled approximately 40,000 miles.

After spending a month in the Fada factory, Mr. Svendsen cabled his wholesale distributor, The National Electric & Engineering Company of Wellington, New Zealand. The following is an exact copy of his cable:

"JUST COMPLETED ONE MONTH IN FADA FACTORY STOP CONSIDER PRESENT LINE BEST EVER CAN RECOMMEND EVERY RESPECT DYNAMIC SPEAKERS ALSO TIP TOP. HOPE YOU WILL ORDER STOCK SOON. DOMESTIC AND FOREIGN DEMAND ENORMOUS. REGARDS TO WYLE."  

SVENDSEN.

Radio Survey by the New York Times Shows Fada One of the Leaders in the New York Market

The New York Times, one of the leading newspapers of the world, recently published the results of a radio survey of the New York market to determine the best selling, most popular makes of radio receivers and accessories.

It is a well-known fact that New York is one of the most "difficult" markets in the world. Buyers are hard boiled, highly selective and keenly discriminating. Ten million people live in New York and its tributary suburban communities constituting the richest concentrated market in the world—and the most critical of values for opportunities for comparison are almost infinite.

The Times survey as might be expected indicated that the two leaders in volume are those who depend on "price appeal."

Next to these volume leaders in the third and fourth place are two names of which Fada is one. In the quality market Fada is a leader and has been a leader for years. Progressive radio merchants have found that Fada means permanent profits and satisfied customers.

A New Slogan!

Fada
Always
Delivers
And How!

The above was recently suggested as a slogan by R. T. Bolen, Fada salesman.
Watch For Big Sales-Promotion
June Issue of FADA-SALES in Color

The May and June issues of Fada-Sales will be combined into one big May-June issue of forty pages in color illustrating sales helps, new electric signs and many other things now being prepared to help you in a constructive way to greater sales and more profit. Watch for it! Scheduled to appear early in June.

Fada Dealer Re-elected Radio Association Head

Frank J. Lumb, Fada dealer in Auburn, New York, was recently re-elected President of the Cayuga County Radio Association. It is of interest to know that this radio association has purchased three new special type instruments to be used in the detection and locating the interference which occasionally occurs in certain sections of this city.

The consensus of opinion of the association in regard to the new wave allocations was that the new wave lengths did not work out as satisfactorily as expected.

The Spirit of Thirty-Two

AMBITION—AND—FADA RADIO

Is It Your AMBITION To Be a REAL FADA DEALER?

Ambition is the stuff that makes a man. It's pride; it's guts; it's enthusiasm. It's the stuff that causes a man to feel he's as good as anybody else, and makes him prove it.

It puts the "kibosh" on the inferiority complex. It proves that "It can't be done" is bunk.

It makes a knock-kneed, tow-headed, awkward boy of sixteen slick his hair back, wash behind his ears, dress up, and look for a girl and trouble.

It takes a green country rail-splitter like Abraham Lincoln sends him to Congress, and finally makes a President out of him.

It doesn't make much difference where and what we came from. What the world wants to know is where we are determined to go, and what we are determined to be.

Are You DETERMINED To Be a REAL FADA DEALER?

Yours, chock-full of FADA AMBITION.

The above is an excellent letter to Fada dealers written by the Triangle Radio Supply Co., Fada distributor in New York.

Fada in China

W. T. Cook, Hingking, Manchuria, China, writes us about his Fada in that far country on the other side of the earth. He says in a recent letter:

"We can report great satisfaction in its use. We have gotten fifteen stations which include Harbin, Moukden, Peking, Seoul, Tokyo, Osaka, Shanghai. Shanghai is the farthest we have gotten so far, 850 miles. But in the winter we hope to hear a name strike the hours in London. Are we too ambitious? America being east from us and nine o'clock in Seattle being 2 P.M. here, we shall always be impeded by the daylight from hearing America I am afraid.

"I will not take more of your time now telling you about the beauties of FADA! Presumably you know them better than I do."

Fada On Bed Spring Antenna

Has Them All Backed Off the Map Writes Arizonian

The following letter by R. C. Whipple of Fort Huachuca, Arizona, was recently received by the Gibson Company, Fada distributor in Indianapolis, Ind.

"Gentlemen: I am writing this while listening to our Fada radio that we brought out here with us from Indiana. You know this is a country where radio does not work very good as a rule so we hesitated about buying batteries for ours. We got the batteries, but when I went to put up the aerial, the army officer at the post (this is a military reservation) would not let us put it up. I didn't know what to do but I happened to think of our bed springs, so I connected our old Fada up to the bed spring and turned her on and say, boy, I have got them all backed off the map. The old Fada brings them right to our door and everyone that has listened to it says it is the best radio they have ever heard out here. I am writing you this letter so you will know that the Fada will work when others fail. I have found out that there are quite a number of other radios here and that they are having all kinds of trouble. If you want to use this letter, you may do so and if they can't put up an aerial, tell them to connect it to the bed springs and the old Fada will do the work."

Three Hundred Million Dollars Set Business in 1928

It is an interesting comment on the growth of the radio industry that in 1922, two years after the Fada company was founded, the total radio receiver business was only $5,000,000.

In 1928, six years later, the total business on radio receiving sets was $306,000,000 says Radio Retailing for January.
$3,572 Profit on Radio Service Department in Kansas City Power & Light Company

Electrical Merchandising for January is the authority for the above statement, and in an article entitled, "Radio Service" in regard to the Kansas City Power and Light Company. It is also reported that the same company’s service department sold $32,100 worth of new parts, tubes and accessories.

The following is quoted from the article:

"We would handle radio but service eats up all the profits. The wisdom of this assertion, which has frequently been voiced by central station managers is belied in the case of the Kansas City Power and Light Company, Kansas City, Mo., whose service records show a net profit of $3,572 for 1928. This figure represents a net profit of 2.05 per cent on gross income.

"These percentages do not include credits for set sales obtained or retained through the efforts of the service department. It is estimated by C. F. Farley, general merchandise manager, that not less than $60,000 in set sales, created or kept on the books, is due to the work of his ten service men.

"There are three reasons for this interesting record:

"1. The company makes a flat charge of $2 per service call after the set has been used 90 days. If the work takes longer than 70 minutes there is an additional charge of $1 per hour. If the call comes from beyond the city limits another dollar is added. However, if the fault is due to a defective set or installation these charges are waived.

"The following statistics tell the story of the revenue obtainable from service calls:

"Total calls (Jan. to Dec., inclusive) 12,980
Calls charged to the customer 5,400
Revenue from calls charged for $7,331
Service dept. merchandise sales $32,100"

A Fine Letter on the Trade-in Problem From a Rhode Island Fada Dealer

Mr. Leon M. Peirce, Fada dealer of Lafayette, Rhode Island, writes to us as follows:

"In reading your much appreciated Fada-Sales Radio Magazine, your articles on trade-in suggestions interest me very much.

"Although I may not be able to enlighten the situation any, I have a few words of appreciation.

"I realize this is a perplexing problem that confronts all radio dealers today, and will continue to be one as long as radios are bought and sold and that means indefinitely.

"Therefore, I believe it is very commendable and space well used to continue publishing all solutions sent in on the trade-in problem inasmuch as some of the solutions may not appear on the surface to be of any great value, yet indirectly may be an incentive to the thoughtful dealer or salesmen whereby part of one solution coupled or linked with another may be the means of bringing forth a plan that will help solve a problem that is very annoying and apparently impossible to dodge.

"As I read the different methods employed by the various dealers and salesmen (and some are very good indeed) there seems to be no one solution that would be applicable for all sales.

"However, I believe it is advisable for the salesmen to use a little discretion, draw out the interested person thoroughly but modestly and upon this information decide what method he can best employ in accepting or disposing of the old, used or misused set.

"I have tried various methods. I do not strictly adhere to any one in particular. I have paid twenty dollars flat regardless of what they were, and found that this was prohibitive as many purchasers would strip the old set of everything that was worth a dollar and with plenty of brass bring forth the old relic and tell what a wonderful set it has been. The ten-per-cent method used by some of our salesmen or dealers, rather, that is, paying ten per cent of the purchasing price for the old set seems to me to be a very good base to work upon and also very remunerative for an old worn-out set.

"And then again, it is not really sufficient and is not readily accepted without a murmur of dissatisfaction when offered for the later models especially the console cabinets of which some of these are very good today.

"Therefore, I find this a matter that is very delicate to handle without offending our patrons, and really calls for the salesmen to keep his wits about him at all times and to use a little prudence and much good sound judgment."
Fada in the Schools

Fada radio receivers are increasingly popular for installations in schools because of the superior quality of Fada performance. Authoritative Fada dealers everywhere should investigate the possibility of selling Fada installations to public schools, private schools, hospitals and other institutions.

The Condon Company, Inc., Fada distributors in Portland, Ore., writes to us recently as follows:

"We have installed several Fada receivers in various Portland schools so that their music teachers could use the programs of the Symphony Orchestra in their classes.

"We have received several very interesting letters commending on the loan of the sets."

Mr. H. W. Ager, Principal of the Hotof School, Portland, Ore., writes the Condon Company as follows:

"Permit us to express to you the appreciation which you have afforded them to hear the Symphony Orchestra installations in schools because of the superior quality of Fada radio receivers."

The Fada proved entirely adequate and at no time were we troubled in our reception.

The principal of the Cleveland Public School, 19th and Butler Streets, Philadelphia, Pa., writes Hillard's Sales:

"The faculty and pupils of the Cleveland School of Commerce have installed eight Fada installations to public schools, private schools, hospitals and other institutions.

"Among the more conservative radio business men, it seems to be the consensus of opinion that 10% allowance on the original price of the new radio is the utmost maximum which can be allowed with safety. It follows that merchants who are selling quality sets at higher levels have greater opportunities for profit when accepting trade-ins, as on the quality models, there is a greater dollar volume of gross profit on each individual sale. When a trade-in must be accepted or you lose a sale, wise merchants are concentrating their selling efforts on higher priced quality sets in order that the increased volume of gross profit may offset a modest trade-in allowance without net profit loss.

In the automobile industry, the retail dealer is suffering from unsound trade-in policies which have reduced his net profits to a point where in many cases they are almost negligible.

The trade-in problem is one belonging exclusively to retail merchants and must be satisfactorily solved if they are to remain in business. In some cases, this may be possible through an efficient retail merchants' association. In the meetings of this association, a frank discussion of the trade-in problem may be followed by the formulation of wise policies which if adhered to by the members may lead to a satisfactory solution. Trade-ins are a circumstance from which there is no escape because the public is educated to expect them and hence it is a question which must be solved.

There is no sound business or economic reason why the second-hand division of an industry should be identified with that section which is selling new merchantable goods.

Here is a true story of a trade-in in a certain middlewestern city. A customer owned an old set which originally sold for about $150, and was worth on the open market at the time he decided to buy a new set perhaps $20 or $25.

He went to one radio merchant who said he would not accept any trade-ins or give any allowance. He next went to another radio merchant who said he would allow him $80 on his old set. He then went to a third dealer who suggested that he be permitted to install a $100 set for demonstration and that he would talk trade-in and allowance afterwards.

This demonstrating the Allston Music Shop says that it keeps such a large majority of sales are being made after store demonstrations have been given. Every radio merchant should seriously consider the construction of sound-proof demonstrating booths in his store.

The Importance of Acoustics in Demonstrating Radios

It is an interesting fact, but little known, that walls of brick, stone, plaster or wood are more perfect reflectors of sound than a mirror or of light. The walls, floors and ceiling of your store are probably made of these or similar materials. Have you ever stopped to think of the effect on a radio demonstration these almost perfect sound reflectors will have?

Suppose, while music is being played on a radio, that the note C issues from a speaker which is in a room or store built of these sound reflecting materials. That note C bounces back from the floor, walls, ceiling, and mingles with the next note which is G. This condition causes discord and dissonance never intended by the musician who composed the music. This is the acausal reason why so many store demonstrations are so unsuccessful and deceptive to the customer.

Because the usual home is provided with sound absorbing materials, the demonstration should never be made in a room of brick, stone, plaster or wood. It is an interesting fact that the walls, floors and ceiling of the store are usually made of these sound reflecting materials.

The merchant with a properly equipped demonstrating booth can overcome this difficulty. The all brick or stone store can be provided with sound absorbing materials so that the demonstration will be pleasing.

Glass is a very efficient sound reflector and hence should never be used in the construction of demonstrating booths or rooms.

A radio demonstration given in a booth or demonstrating room which is properly provided with sound absorbing instead of sound reflecting materials will be far superior to the demonstration of the same receiver under the usual adverse conditions.

There are several ways in which a demonstrating room can be provided with sound absorbing materials which will vastly improve the quality of a demonstration. The merchant who has a properly equipped demonstrating room will have a distinct advantage in that the same receivers and speakers will sound much better than under ordinary demonstration conditions. There should be carpets (preferably thick and soft) on the floor. The walls should be hung with heavy soft materials such as monks' cloth or velvet. Such hangings should be at least six inches away from the wall surface behind them.

The Importance of Acoustics in Demonstrating Radios

"The Fada sure is the best radio that I ever handled in my life," reads these words on a letter from M. G. Harlow, owner of M. G. Harlow's Garage of Spring- field, Vt., recently welcomed into the Fada family as an authorized dealer, Mr. Harlow says:

"The Fada is the best radio that I ever handled and my only regret is that I did not sign up for them before this late in the season."

April 1929
Pennsylvania and North Carolina Report Reception from Honolulu on Fada Sets

The Asheville Radio Service Company, authorized Fada dealer in Asheville, N. C., writes us a very interesting letter as follows:

"We are enclosing herewith page from 'The Asheville Citizen,' of Sunday, February 3, 1929, in which you note under 'DOWN THE AIRWAY,' by Gosh, a very interesting article which we believe you will want to tell others.

"Gosh, as he is known in the paper is Mr. G. O. Shepherd, General Manager of the Citizen Broadcasting Company, leasees of WWNC, our local 1000 watt station. On the night of January 26th, WWNC was on a test program until 7 A.M., the next morning. Mr. Shepherd phoned us and asked that we loan him a FADA radio to install in his office on the 8th floor of the Flatiron Building, directly beneath the station transmitter. We installed a FADA 50 and for an aerial we merely hung a piece of 14-gauge insulated wire 30 feet long out of the window. All of the stations they logged were gotten on loop with exception of KGU Honolulu and that was received on the 30-foot wire thrown out of the window. In view of the fact that the motor generators were located on the floor directly overhead and WWNC towers a hundred feet above, we consider this very exceptional reception."

The following is quoted from the Sunday Citizen, Gosh's column mentioned above:

"And, while the broadcast station was out angling for the ears of distant listeners, a little group of interested folk carried on some angling on their own from the offices of the local broadcasting company, which are located on the floor beneath the transmitter. A Fada receiver, installed for the evening, was used and a surprisingly large list of stations brought in, in spite of the fact that the one thousand watt transmitter was perking merrily overhead. KFI, KGO, KNX, KOA, WILL and others located distant from Asheville were picked up. And KGU, Honolulu, Hawaii, was heard, faint as the volume, but distinctly, in the wee sma' hours of that Sunday morning last week. The writer was not present, being upstairs handling announcements, but the four who were present were all disinterested parties and, when they realized what they had they dispatched a messenger post haste to inform the rest of us. We believe that this is an exceptional performance, especially so, in view of the close proximity of the transmitter. KGU uses five hundred watts and 940 kilocycles as its wavelength assignment."

We also recently received a letter from C. P. King, authorized Fada dealer of West Catasauqua, Pa. It reads:

"It may interest you to know that part of a program was received on a Fada 10 from KGHB, a 250 watt station at Honolulu, Hawaii, at 3:30 to 4:00 A.M., Sunday, February 3rd.

"It is a common occurrence to receive Pacific coast stations nightly, but to get this station was so remarkable that it prompted me to inform you of this."

THINK OF IT!

TWO DIFFERENT FADA RECEPTIONS OF HONOLULU BROADCASTING FROM POINTS IN THE EASTERN U. S.

The F. W. Knoderer Company, one of the large progressive radio stores in Columbus, Ohio, has two windows and as you can see in the display below, they devoted both of them to Fada. The one on the left is the one appearing on the front cover of this issue. These windows were designed by Mr. Carl T. Dickman, sales manager of F. W. Knoderer. Mr. Neiswander of the Hughes-Peters Electric Corporation, Fada distributors in Columbus, tells us that F. W. Knoderer Company is one of the best known radio dealers in Columbus, known as such because of the efficient sales service given by their sales department.
Old Timer's Contest

Who is going to win the “Old Timer’s Contest?”

If you have sold Fada for more than four years, write to the contest editor of Fada-Sales and give him the date of your first Fada purchase. Many dealers have handled Fada for years because of its tone quality, permanent profits and freedom from service. This contest will determine the winner as the oldest dealer in Fada products in the United States who is still continuing in business.

“What is Turnover?”

In the Talking Machine World & Radio Weekly of February, there is a very interesting article on this subject by Morris A. Hall, explaining in simple language, the factor of turnover and its importance to all business. This article is recommended to every reader of Fada-Sales.

Accountants define turnover as being the result of dividing the cost of sales by the average inventory. The Talking Machine World and Radio-Music Merchant says:

“Surveys taken in the past have shown that many dealers have vague and conflicting ideas as to what constitutes turnover. In this article Mr. Hall gives in easily understood language definitions of turnover illustrated with examples. The influence of turnover on profits is summed up in the statement that all things being equal, the faster the turnover the greater the profit.

MODERN

An Example of a Good Fada Window Display from Chicago with a "Modernistic" Background.

Surveying the Radio Audience

The Literary Digest for January 19th quotes from an article by C. W. Steffler in Commerce and Finance.

"The National Broadcasting Company has made a comprehensive attempt to get first-hand information about the likes and dislikes of this great body of Americans. A survey of broadcasting conducted for the company by Dr. Daniel Starch of Cambridge, Massachusetts, has provided interesting facts and figures of the radio industry. The study is based on personal interviews with thousands of families in the United States east of the Rocky Mountains, believed to comprise a representative cross-section of the country.” Says the paper named above:

"* * * At present, the survey shows, there are 9,640,348 families in the United States owning radio receiving sets which, figured on a basis of 4.3 members to a family, gives a total radio audience of 41,453,496.

"Radio, heretofore, has been regarded as primarily a fall and winter 'indoor sport,' although any Manhattan cliff-dweller could long ago have exploded this fallacy. Manufacturers and distributors of sets have considered the problem of creating an all-year instead of a seasonal demand as insurmountable. The survey disclosed, however, that nearly four-fifths of radio families use their sets in the good old summer-time just as well as in the winter. It was found that about three-fourths of families 'listen in' about equally on all evenings.

"Approximately three-fourths of families regularly listen to one or two favorite stations, while one-fifth generally seek distant stations. Approximately 80 per cent of the families report that they use their radio daily. The majority (52.87 per cent) have had their radio from 1 to 3 years. Only 3.19 per cent have had one more than five years.

"Preferences for most of the different types of programs are practically the same on the part of farm, town and city families. There are significant differences, however, with respect to several types of programs. Semi-classical and classical music, and grand opera are preferred by city families, whereas religious services, crops and market reports, and children’s programs are preferred more by farm than by city families."

In the above, among the interesting points that the survey disclosed is that the majority of the radio owners use their sets in the summer-time as well as in the winter.

RADIO CAN BE SOLD IN THE SUMMER IN SATISFACTORY VOLUME.

AGGRESSIVE DEALERS DO NOT SUFFER FROM THE "SUMMER SLUMP" BECAUSE THEY DO NOT RELAX SELLING EFFORT.
Trade Paper Publishers Cooperate with Fada and Make Special Subscription Offers to All Readers of Fada-Sales

As These Offers Are Available Only to Readers of Fada-Sales, It Is Important That Fada-Sales Be Mentioned When Sending Subscriptions.

The importance of reliable trade papers in any industry can hardly be over-estimated. Readers of Fada-Sales have been repeatedly urged to read the radio trade papers carefully, both for news of the industry and ideas that may be profitably applied to your specific circumstance.

The publishers of the outstanding radio trade papers are offering special subscription prices to readers of Fada-Sales, and it is urged that radio merchants who read Fada-Sales take advantage of these special introductory offers. These special prices do not apply to renewal subscriptions but only to new subscribers. The purpose is to more widely disseminate sound news of the radio trade and sales and service information that may prove useful to you in your own business.

The following are the introductory subscription offers mentioned above given in alphabetical order:

RADIO BROADCAST: Garden City, N. Y. $2.00 for a full year’s subscription.

RADIO BROADCAST: Garden City, N. Y. One year’s subscription and the Radio Broadcast Book of Data sheets, $3.00 for both.


THE TALKING MACHINE AND RADIO JOURNAL: 5941 Grand Central Terminal, New York, N. Y. $2.00 for a full year’s subscription.

TALKING MACHINE & RADIO WEEKLY: 146 Water Street, New York, N. Y. $3.00 for a full year’s subscription (new subscribers only).

TALKING MACHINE WORLD & RADIO-MUSIC MERCHANT: Graybar Building, 420 Lexington Avenue, New York, N. Y. $1.50, special offer to Fada-Sales readers only, for a full year’s subscription.

The above rates with the exception of Radio Retailing do not apply for any renewals or old subscribers.

As this offer is made only to readers of Fada-Sales, it is necessary that Fada-Sales be mentioned when sending subscriptions. You are also requested to send your subscriptions on your business letterhead or to tell your connection with the radio industry when taking advantage of this offer.

Fada dealers in Canada or other countries outside of the United States should write direct to these publications asking for information as the above does not apply outside of the United States.

Sells Five Fadas in One Block

B. W. Ebersole, Fada dealer of Lancaster, Pa., writes to us in a recent letter:

"This is the fifth FADA sale I have made within the block where the writer makes his residence, and it is needless to say that none of these neighbors have kept me worried with trouble or complaints about having sold them something that was not just as I had represented it to be."

It is evident from the above that Mr. Ebersole realizes the advantage of selling a quality product which does not worry him with complaints or the expense of unnecessary service.

Proud To Be A Fada Dealer

The Superior Electric Company, Fada dealer of Clermont, Florida, in a recent letter writes:

"On February 1st we had the pleasure of selling Dr. James M. Kirk a Fada Model 16, which we installed in his winter home at Howey-in-the-Hills, Florida."

"Dr. Kirk advised us at the time of his purchase, that although he was not a radio enthusiast, he would like to 'get on the air' now and then. Naturally we were a bit surprised when on yesterday morning he came to our store, and made arrangements for the delivery of a 'Fada 70' to his home in lieu of the model 16, advising that because of the wonderful receptive qualities of the '16' he desired to incorporate a high-class receiver in an attractive piece of furniture for his home."

The above is but one of the many testimonials of merit accorded "FADA" in this section, and we are indeed proud to be one of the authorized Fada dealers.

Electro Dynamic Motor Principles Used in Present Day Dynamic Speakers First Applied by an American 100 Years Ago

In 1820, Ampere discovered that a magnetic field would exert a mechanical force on a wire carrying an electric current.

One hundred years ago, Joseph Henry, an American, made the first application of Ampere's principles to motors, relays, etc. Joseph Henry made the first electric motor that continued to move and not to be brought to rest by friction. Henry would not consider this little engine of much importance but did say, "It would not be impossible to apply the same principle or modification of it to a useful purpose."

We wonder what Mr. Henry would think if he saw the application of Ampere's principle in the electrical age of today.
Some Practical Applications of Ohm’s Law

Ohm’s law states that the potential drop in a resistance is equal to the product of the resistance into the current through it. Let

- E = potential drop in volts.
- I = current in amperes.
- \( R \) = resistance in ohms.

Then Ohm’s law is given by the following formulas:

1. \( E = RI \) (1).
2. \( I = \frac{E}{R} \) (2).
3. \( R = \frac{E}{I} \) (3).

Let it be required to operate a 110-volt direct-current receiver (say Fada 18) on 220-volts d.c. It will be necessary to use a resistance in series with the receiver which will cause a drop in voltage of approximately 110 volts so that the proper voltage will be applied to the receiver. The normal current drawn by the FADA 18 is 0.5 ampere. Then applying formula (3) there results

\[ R = \frac{E}{I} = \frac{110}{0.5} = 220 \text{ ohms}. \]

It is usually necessary to specify the continuous wattage to be dissipated by a resistance when ordering it. Now if:

- \( W \) = power dissipated in watts.
- \( R \) = resistance in ohms.
- \( I \) = current in amperes.

Then:

\[ W = RI^2 \] (4).

Whence by (4) the watts to be dissipated by the resistance will be:

\[ W = 220 \times (0.5)^2 = 55 \text{ watts}. \]

and a resistance such as Ward Leonard E B --- 220 (60 watts --- 220 ohms) or equivalent would be satisfactory. It might be used with Hubell series tap 7029 as shown in the diagram. Had the d.c. line voltage been 250 volts, the resistance would have been 280 ohms 70 watt resistor. And had it been 150 volts, the resistance would have been 80 ohms capable of dissipating at least 20 watts.

Exactly the same procedure is applied in determining the series resistance to be used with any alternating current device which is applied to a line of excessive voltage. *It is only necessary to know the current and voltage rating of the apparatus which is to be protected from excessive voltage. Care should be exercised in all cases to insure good ventilation of the series resistor and to keep it well separated from inflammable material.

*See page 473 Fada-Sales for August-September, 1928.

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South American Newspaper Uses Fada as News Service for Receiving Prize Fight

La Prensa, a newspaper published in Barranquilla, Colombia, S. A., was recently able to publish promptly the complete report of a prize fight in the Madison Square Garden, New York, through the reception supplied by Fada radio. In part of the heading of the story about the prize fight this newspaper says:

‘REPORT RECEIVED LAST NIGHT THROUGH A FADA’ BRAND RADIO RECEIVER, WHOSE AGENTS ARE MESSRS. JIMENO, DE LA CRUZ, Y BORELLY.’

Thanks to the excellent FADA radio receivers, represented in this city by Messrs. Andres G. Jimeno, Julio de la Cruz and Rafael Borelly, we are able to render today a detailed account of this sensational meeting.

The progressive firm of Messrs. Andres G. Jimeno, Julio de la Cruz and Rafael Borelly, represent the Fada line in Colombia, S. A.

Tone His Joy

“I used to think that a radio should be judged by the distant stations received but the Fada has taught me that the tone is the real joy of radio.

“I have a low antenna which is only sixty-five feet long including the lead in, fastened to three chimneys. I have received KFI over this short aerial several times early in the evening. I have a high straight aerial over a hundred feet long but I have found that the short aerial is the best for general use.”

The above was in a recent letter from Kenneth L. Zeigler, Box 247, Columbus, Ind.
Prevention of Interference and Radiation from Gaseous Rectifiers

If you live next door to a garage equipped with a charging station using gaseous rectifiers, you may be troubled by radiation which may at times seriously interfere with your radio reception.

"It frequently happens that Tungar chargers or A and B eliminators employing gaseous rectifiers radiate simultaneously on several wavelengths. Magnetic or mechanical rectifiers may also be included in the list of offenders of this type. These devices radiate energy at radio frequencies due to the fact that they break down suddenly on each rectifying half cycle causing a surge or pulse of current. Any pulse of current having sharp peaks contains many harmonics, some of which may lie in the broadcast band of frequencies. These surges may be transmitted back into the power line and thence to a receiver or they may be radiated directly from the leads which act as a transmitting antenna.

The obvious method of eliminating radiation is to short circuit the disturbing source of radiation. It is only necessary that it be approximately short circuited at the frequencies it is desired to suppress. A large condenser has a low impedance to radio frequencies but the leads to the condenser may be of sufficiently high impedance to defeat the purpose of the condenser. For this reason the leads to r.f. by-pass condensers should either be short and heavy or closely twisted to minimize lead inductance, and outside wound or non-inductive condensers alone should be used. It is also desirable to ground the metal case of the condenser. The size of condenser to be used depends entirely on the characteristic impedances of the circuits. For storage-battery chargers and A-eliminators 1 mf. is a suitable size while for B-eliminators 0.1 mf. is usually sufficient. If the condenser is too large it will permit too much current of the supply frequency to enter the filter circuit thus causing this device to become noisy. It frequently happens that a condenser shunting the rectifier will not reduce the radiation sufficiently.

Further filtering may be obtained with an r.f. choke inserted in series with the rectifier between the connections to the by-pass condenser. The choke should of course be air core, since it is to take effect at radio frequencies only, and should have an inductance of something over 100 micro-henrys. In A-eliminators and low-voltage battery chargers, the size of wire and number of turns are usually determined by the current to be carried. It is usually permissible to have a d.c. voltage drop of about .1 to .2 volt in the r.f. choke in such devices. A convenient choke for such service may be wound with 50 to 100 turns of No. 14 wire on a form about 2 inches in diameter. Since the d.c. voltage drop in r.f. chokes used in B-eliminators may usually be as high as two or three volts, smaller wire and more turns may be used. A good choke for this type of service consists of about 200 turns of 22-24 wire on a 2-inch form. The choke coil should be housed in a closed copper box which is carefully connected to ground at one point only. All connections should be soldered. A tight fit between the copper box and its lid is absolutely necessary. It is also desirable to connect all metal cases, etc., of the device to ground.

The accompanying circuit diagrams illustrate the above methods of eliminating radiation interference.

A Fada or None at All

The above is the close of a letter recently received from Lawrence Bartholomew, 1737 Grant Street, Berkeley, Calif. In his letter he says:

"I work in a radio store and have not seen a radio that can compare with my Fada when it comes to selectivity, tone and volume, regardless of the price!"

"I believe you are very conservative in your advertisements as to Fada quality. Most people can't realize what it means to have a Fada radio, it is so extraordinary in performance and yet so reasonable in price for something really good. It is the best!"

"A 'FADA' radio or none at all."
Where is the Fada Factory?

Fada dealers and their representatives are always cordially invited to visit the Fada plant when they are in New York. Occasionally, visitors who are not familiar with the city have difficulty in finding us but it is really all very simple. To reach the Fada plant from Manhattan, take an Astoria subway train at Times Square or the Grand Central Station and get off at Queens Borough Plaza, ten minutes away. The Fada factory is then just around the corner, two blocks from the subway station. Queens Borough Plaza can also be reached by taking the B. M. T. subway train marked Bridge Plaza and get off at the Queens Borough Plaza station. New York City is comprised of five boroughs, Manhattan, Brooklyn, Bronx, Queens and Richmond and all of these boroughs are in the city limits. Manhattan itself is an island, the Bronx is on the mainland north of Manhattan, Brooklyn and Queens are on Long Island and the borough of Richmond is Staten Island. Long Island City is the manufacturing section in the borough of Queens, New York City.