

W-T-A-M

Willard Storage Battery Company

RADIO BROADCASTING STATION

Cleveland, Ohio

Dear Friend:

Just put yourself in the position of the radio entertainer. No applause - no crowd out in front to stimulate you to your best efforts. Only an uninspiring microphone to look at.

It is because of this peculiar feature of radio entertainment that letters like the one just received from you are so greatly appreciated here at WTAM. They tell the artist what he would not otherwise know - - just how his contribution to the program was received by one of his audience.

So letters have an important place in radio. It is up to them to take the place of the hand-clapping -- and the bouquets -- and the curtain calls. Few things can cheer up the radio artist like a big stack of letters.

There is another reason, too, why we are glad to get letters. That is, because we look at them as a guide in the preparation of our future programs. We can't hope to please everybody all the time, but letters are the guidepost by which we can at least map out our course. If a certain kind of music is preferred we try to broadcast that kind. If some form of entertainment seems to lack popularity, we try to avoid it. Thus we are guided by your preference.

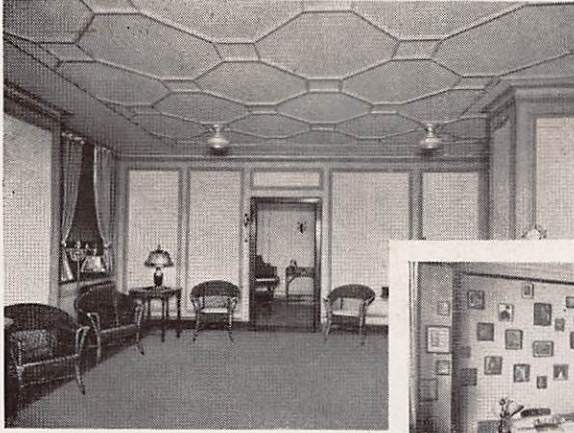
We're glad you wrote --

Let us hear from you again -- and often.

Sincerely yours,

WILLARD RADIO STATION WTAM

S. E. Baldwin



The views of the station show at the left the large broadcasting studio, at the right the smaller studio used for quick changes in program and solo work. Both



of these studios are fitted with special sound-proof walls which eliminate the use of drapes around the room. In the center is shown one of the executive offices



“THE VOICE from the STORAGE BATTERY” 389.4 Meters

WTAM is one of the most powerful Class B stations in the United States using storage batteries alone for transmitting power. 10,000 volts of storage batteries, specially designed and built for broadcasting purposes, are used for plate current in this station.

WTAM broadcasts every day, including Sunday. A luncheon hour program, beginning at 12:30 P.M., and a dinner program, beginning at 6 P.M., are daytime features during week days. Regular evening programs begin at 8 P.M. and last until midnight. All broadcasting is on Eastern Standard time.

The luncheon concerts are devoted to dance music four days each week and to organ recitals on the remaining two days. The dinner concerts vary from popular to semi-classical music.

The Sunday afternoon musicale is strictly classical. Sunday evening the entertainment lapses from church services to popular music.

The Monday evening concert is a program of varied appeal, mainly classical in tone, with occasional lapses into popular ballads.

Tuesday evening contains a number of features relayed from the New York Studio.

An hour of Wednesday evening's broadcasting is offered by the Cleveland Public Auditorium from the Blue Room and another hour is devoted to a program of semi-classical music from the Home Studio.

The Thursday and Friday evening programs alternate between relays from New York and studio offerings or special features, such as the Cleveland Symphony Orchestra.

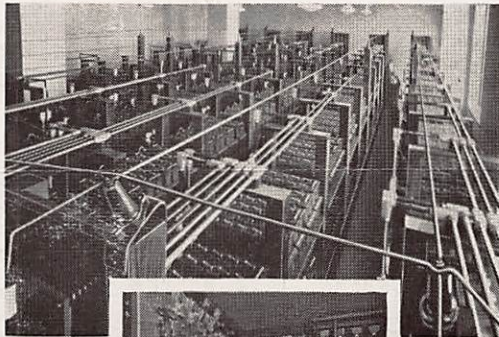
The Saturday programs begin with varied concert music by the New York Symphony Orchestra or from the Studio, preceding the vaudeville session by the WTAM Merry-makers, led by Ev Jones and assisted by other entertainers.

Willard Foresaw the Need of Special Radio Batteries

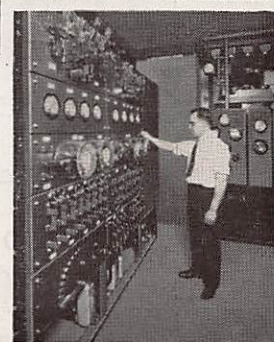
EARLY in the history of radio broadcasting Mr. T. A. Willard and his associates, who have always led in the development of automobile batteries, saw that no existing type of batteries met the requirements of radio service. Therefore, they set to work to produce a new and original “B” storage battery—one that would be electrically leakproof, that would deliver all its energy in the form of useful current, and that would maintain its voltage for considerable periods without recharging.

In their efforts they were aided by long and extensive experience in making various kinds of batteries—automobile, aeroplane, railway, lighting plant and the like—and by a previous Willard achievement—Threaded Rubber Insulation. Threaded Rubber Insulation was found to solve most ideally the problem of possible electrical leakage within the battery.

The result was the Willard Radio “B” Storage Battery—entirely original in design—which accomplished all that was desired, and gave radio a new meaning for the set owner.



Top, view of Battery Room of 5000 cells



Left, the large Control Panel and Radio Engineer

Glass jar containers and wide air gaps between cells make external electrical leakage impossible. Extra heavy plates are used, insulated with the well known Threaded Rubber Insulation. Each cell of the Willard “B” battery produces 2 volts as against 1½ volts for the dry battery cell.

Among its many advantages may be found freedom from battery noises, constant and greater voltage, so that the volume of sound is maintained and you get stations you would not hear with weaker batteries, easy adjustment of voltage, much heavier and fewer connections, a clear view of the conditions of every cell at all times and various other improvements. Naturally you might expect the cost of a Willard “B” battery to be higher. As a matter of fact, its use means actual economy.

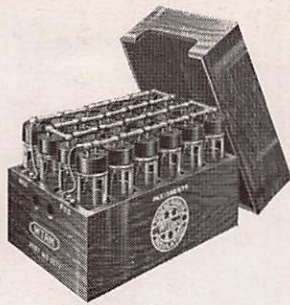
Willard “B” batteries, with only an occasional recharge, will last for years without necessity of replacement, and work at top notch capacity night in and night out.

These “B” batteries are fully covered by Patents No. 1,506,874 and 1,440,024.

Anything You Need for Radio Power—Batteries or Power Units



Willard "A" Battery



Willard "B" Battery



Willard "A" Power Unit



Willard "B" Power Unit

APPRECIATION for the need of a thoroughly reliable "A" battery, built especially for radio service, has been rapidly growing. In radio "A" service there is need for constant voltage, otherwise frequent retuning is necessary on account of falling voltage.

The outstanding result of the Willard Company's efforts to produce a thoroughly economical and efficient "A" battery is the Willard All-Rubber Radio "A" battery. Willard has other good radio "A" batteries, too. All are priced as low as volume production, skillful distribution and expert building can make them.

All Willard Radio Storage Batteries are insulated with Willard Threaded Rubber Insulation, the greatest advance in battery construction yet achieved, and a feature found only in Willard batteries. Because of Threaded Rubber Insulation, Willard Radio Batteries are shipped bone dry and charged so that they can be carried dry in stock by dealers. The electrolyte is not poured in until it is ready for use. Consequently a Willard radio battery is not deteriorating on dealers' shelves as other batteries do.

All that is necessary to put it in working condition is to pour in the electrolyte. No charging or forming. It is all ready to be put to work.

Are You Looking for Better Results from Radio?

THOSE noises in your set may be caused by your batteries. Noises may be due to either "A" or "B" batteries, or both, but usually the trouble is in "B" batteries, because they are right in the *phone circuit* and "A" batteries are not.

Disturbances caused by or within the "B" batteries immediately affect the vibrations of the phone diaphragm, producing harsh, rasping noises. The intensity of this effect is greatly increased when amplified, especially when using loud-speaking apparatus.

WILLARD'S most recent contributions to radio are its new "A" and "B" power units.

The "A" power unit consists of a forty ampere hour Willard Threaded Rubber radio battery contained in a steel case with a specially designed two-rate charger of the bulb type.

This "A" unit can be obtained with either four or six volt battery according to the type of tubes used in the radio set. It will give economical operation on any 110 volt, 50-60 cycle, alternating current lighting circuit.

When used with the Willard "B" power unit full radio set operation can be obtained direct from your lighting socket.

The Willard "B" power unit gives perfect radio reception with unusual clearness and tone quality. This unit was approved for production only after two years of testing and analysis in the Willard Radio Research Laboratories and was not announced until a considerable number of them had been in active use in the homes of radio set owners.

The unit utilizes a chemical rectifier instead of a bulb rectifier because of the advantage of a lower voltage drop.

It will deliver a maximum of sixty milliamperes, which is greater than the requirements of the largest radio sets.

Both the "A" and "B" power units are attractively finished in moss brown and are sufficiently compact to fit into practically all radio cabinets having battery compartments.

Where Willard Radio Batteries Are Made

THERE is no battery plant in the world to compare with Willard's. It covers the better part of ten and one-half acres and contains nearly eleven acres of floor space. An average of 2,000 employees are needed to keep a steady stream of batteries going out to the market, for the plant has a capacity of over 10,000 batteries a day.

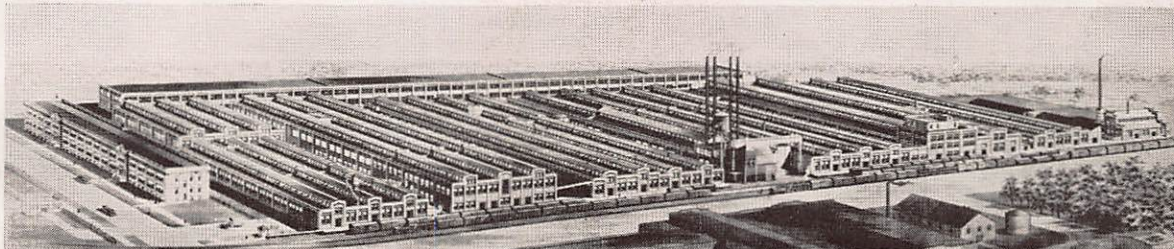
It is the Willard policy to be always looking and working toward future betterment and it was a result of this policy that Willard's greatest accomplishment—Threaded Rubber Insulation—was effected.

Run-down dry batteries will always cause noises in your reception because of one or all of three conditions: 1—Sub-normal voltage, 2—Internal electrical leakage, and 3—Unseen wearing away of connections within the battery due to corrosion.

Noises may be present, too, where storage batteries are used, but here they are the result of external electrical leakage.

The solution to the problem then lies in a storage battery which eliminates all electrical leakage.

This insulation is rubber, pierced by 196,000 tiny threads. It is used in Willard Threaded Rubber batteries in place of wood insulation between the negative and positive plates, because, unlike wood, it is exceedingly durable and uniformly porous. Its durability enables it to last as long as the plates themselves or longer, which is ordinarily not true of wood insulation. And being *uniformly* porous, which any natural product such as wood cannot be, it allows a freer and more even flow of the acid solution in the battery through the insulation and around the plates, increasing the battery's voltage and power.



Bird's-eye view of the Willard plant where 10,000 batteries are produced daily