



### Electrolytic Battery Charger

#### Construction and Operation

By R. M. SHERRILL  
(Radio Engineer)

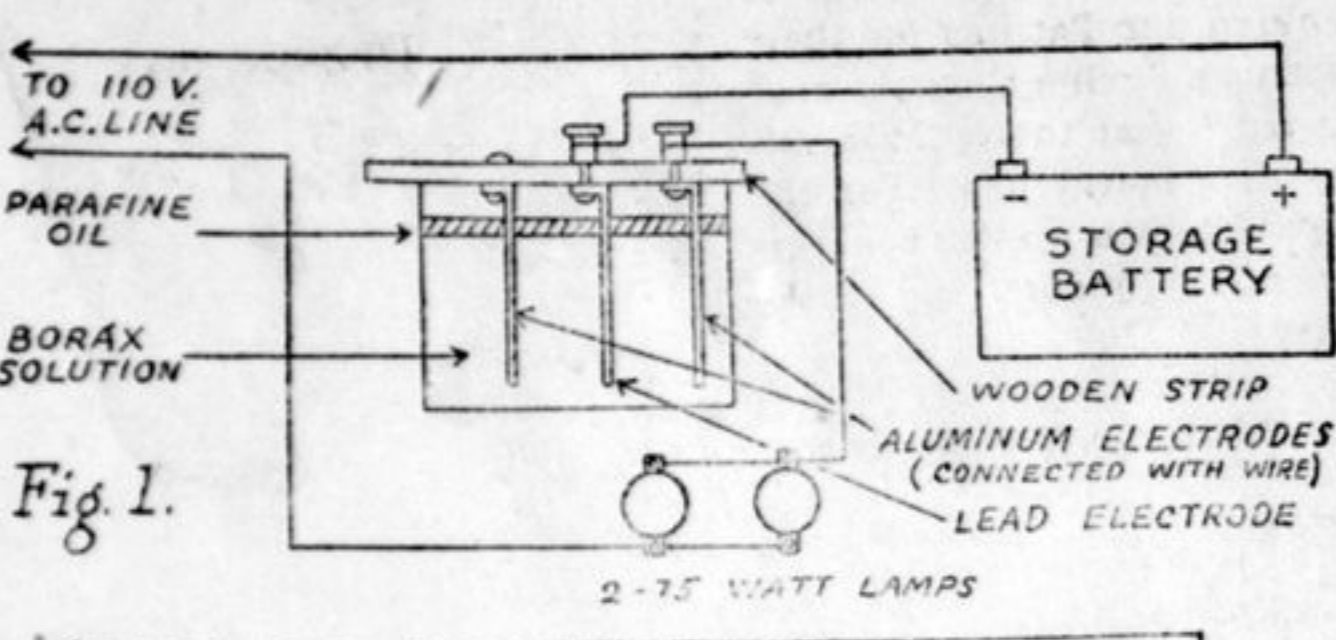
A rather practical rectifier and charger for storage batteries may be easily made and used wherever there is a 110 volt A. C. line available. An alternating current is one which flows first in one direction and then in the other, altering its direction many times per second. Before such a current may be used for charging purposes, it must be rectified, or in other words, made to flow in one direction only.

This type of rectifier consists of lead and aluminum plates immersed in a saturated solution of borax. Its action depends upon the fact that the current flows freely from the aluminum into the solution but encounters a high resistance in flowing in the opposite direction.

The electrodes consist of two aluminum and one lead plate, each about 4x8 inches. The aluminum electrodes should be of 14 gauge pure sheet aluminum. The other electrode may be 1/16-inch sheet lead. The ends of the electrodes are bent over and mounted on a strip of

are finally mounted, the aluminum plates must be "formed," as it is a coating on the surface which does the rectifying rather than the aluminum itself. This forming is done by placing the aluminum plates in a borax solution and connecting as shown in Figure 1.

After the solution heats up to the point where it steams slightly disconnect, it will cool again. When cool, connect again, and repeat the process several times. It is well before starting the forming, to cleanse the aluminum thoroughly by washing with soap and warm water. When formed, mount the plates as shown in Figure 1, connecting the two aluminum plates together with a wire. Use a fresh borax solution before putting the charger in use.



wood, as shown in Fig. 1, and hung in a glass container of suitable size. If a container of convenient dimensions is not at hand, the shapes of the electrodes may be changed to suit any container. It is only necessary to have about the same amount of surface exposed to the solution. The top and bottom of the wooden strip on which the electrodes are mounted should be covered with paraffine to prevent corrosion and electrical leakage.

**Plates Must Be Formed**  
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When the rectifier is completed and is working properly, cover the top of the solution with a 1/4-inch layer of paraffine oil. This oil will prevent the rapid evaporation of the solution.

**RADIO QUESTIONS AND ANSWERS**  
Mr. Sherrill will be glad to help you solve your radio problems. Write him, care of The Durham Chronicle.

R. M. C. wants to know: "If it is possible to operate two receiving sets from a single antenna?"  
Ans.—The two receivers could be operated all right but the operation would not be very satisfactory as the tuning of one would be likely to affect the tuning of the other also.

C. D. McK. writes: "I am using a single tube reflex receiver with a 6V201A tube. This set has always given good results until the last few weeks when the signals started to become steadily weaker. The B battery tests about 95 volts. Can you suggest the trouble?"  
Ans.—It is probable that your tube is becoming insensitive. Try lighting the filament with 6 volts but with the B battery disconnected. After about a half-hour of this, the tube may be O. K. again.

D. C. writes: "I have made up a push-pull amplifier, but it doesn't seem to give any more volume than the old amplifier did. What is most likely to be the trouble?"  
Ans.—The push-pull amplifier is not supposed to give any louder signals but to amplify loud signals with less distortion.

**SHORT-CHANGING THE CHURCH**  
(Vancouver Sun)  
Sunday sermons over the radio are becoming very popular in Vancouver.

The worshipper can now stuff himself religiously with a good Sunday dinner, recline in a devotional attitude in the nearest chestfield, mutter a few short words of prayer about the Sunday pianist in the flat above, build himself a nice cigar smoke halo, turn on the radio and let the words of salvation roll in through the loud speaker.

It is a case where after 1302 years, science has at last actually brought the mountain to Mahomet.  
It is nice to think that the devotional spirit fills the very air, that prayers, like sparrows, are clinging to every aerial in the city.

But the fact remains that the fellow who lies on his back and eases his conscience by taking his religion per radio, is seriously short-changing the collection plate.  
Radio sermons are doing much good. They reach invalids and shut-outs who otherwise would never hear a sermon.  
But if church services are worth hearing, they are worth paying for. And the man who prefers to listen to the gospel according to Mr. West-linghouse, should at least have the inghouse, should at least have the grace to send in his quarter just as though the radio had never existed.

Advertise in The Chronicle. It Pays.

### NEIGHBORHOOD NEWS

Interesting News of Nearby Towns Clipped From Local Exchanges.

**A Bankrupt Town**  
The Town of Battleford, Saskatchewan has reached the limit of its resources and is applying to the Provincial Government for help to save it from a debenture debt of \$700,000 nearly half of which is long overdue. In the garish immigration days, Battleford spent municipal funds on public buildings with the probability of a drunkard. Then came a railway along the north bank of the river, and a new town sprang up that outrivalled the old town in growth and attracted many of its citizens. Its population began to dwindle, and one after another of its institutions closed, and taxes rose until they became an impossible burden on a population that had become less than 1,000. Extravagance whether by corporations or individuals, always exacts its penalty, and the plight in which Battleford finds itself should serve as a warning to all other corporations.—Canadian Echo, Winton.

**Two Dollars Pays Three Accounts.**  
A little incident occurred in The News-Record office on Saturday morning last which illustrates how much good a single two-dollar bill will do if kept circulating. Chief Strong came into the office to pay for some funeral cards ordered for the late William Irving, which amounted to two dollars. We wrote out a receipt and gave it to Chief Strong, then, noticing a bill for street oiling lying there waiting to be paid, we picked it up, asked the Chief to accept it, it being his business to collect same, and handed him two cents in change. Then Chief Strong said he might just as well pay his renewal for The News-Record while he was in the office, so we wrote him out a receipt for subscription for two dollars. "That two-dollar bill has been made to serve several purposes this morning," remarked the genial Chief as he pocketed his receipt. This illustrates how a single bill can be kept in a healthy state, by everyone paying his just debt, thus keeping money in circulation. Money is to the business world what blood is to the body, and it needs to be kept circulating.—Clinton News-Record.

**Heifer Wedged Between Mows**  
One day last week while threshing at the farm of Mr. Frank Mack, 2nd line, Township, the men were surprised to find, wedged between two mows of grain, a yearling heifer. The animal was the property of a neighbor, Mr. J. Edwards. Ten days previous several of Mr. Edwards' cattle strayed to Mack's, and got into the barn. In driving them home it was not noticed that one of them was missing, and later a search for the missing animal was made, but it could not be found. Both the owner and Mr. Mack were greatly surprised to find the animal wedged between the mows. Evidently the animal had gotten in between the mows ten days previous, and instead of backing out, had worked its way in quite a distance. The animal had failed in flesh but will recover from the ten days' fast without water and on the dry ends of sheaf oats.—Erin Advocate.

**English Courtesy**  
It is somewhat of a shock to learn that at a recent Teacher's Institute meeting in Ontario one of the speakers who had visited England recently said: "Indeed, the courtesy one meets everywhere in England is a joy. I could not help realizing that English people who come out here must find us very crude, very ignorant in that respect." The picture is probably more overdrawn, but the lesson the speaker sought to convey will bear consideration. In the hurry and worry of everyday life, too many of us are prone to forget, or neglect the little courtesies that mean so much in life. Courtesy costs little and brings a rich reward. The courteous considerate man or woman carries a passport that goes far to secure the good opinion of their fellows.—Tara Leader.

**Probably Some Other Austin**  
We have had sent to us by Miss Gladys Ewe from Toledo, Ohio, a clipping containing a dispatch from Memphis, Tenn., telling of the capture there of two desperate bank robbers, Hart Austin and Percy Brown, the former is referred to as a murderer and ex-convict, wanted for the robbery of the Royal Bank in Mount Forest, Ontario, on December 22, two years ago, when the bandits escaped with \$35,750 in Canadian Victory Bonds, and \$7,000 in currency. There are several inaccuracies here. It was Floyd Austin that was brought to Canada and acquitted. The picture accompanying the dispatch does not look like Floyd Austin. Mrs. W. J. Buchanan, who assisted in the capture by following

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up information heard on a radio, received a cheque of \$500 for her part in the capture. She held up Austin, who entered her dwelling, at the point of a shotgun.—Mount Forest Confederate.

**Shot Silver Fox**  
William, son of Mr. John Duncan, Concession 1, Arran, is the possessor of a beautiful silver fox pelt as the result of his hunting expedition last Monday. The fox was shot by him in the bush near his home. A local dealer in raw furs says the pelt is the finest he ever saw and values it at around \$600. This is the first known instance in this locality of a silver fox being shot. Usually when this kind of fox is shot or captured in Southern Ontario, it is generally discovered that it is owned by some fox breeder in the neighborhood. So far no one has claimed Mr. Duncan's rich prize, and it may be possible that he has bagged a fox with no strings attached to it.—Chesley Enterprise.

**Farmer's Hydro Discussed**  
About a dozen farmers living on the 2nd Concession of East Luther near Grand Valley and some on the Garafraza town line the other evening heard Mr. Purcell, rural engineer and Mr. Flannery, district superintendent, discuss hydro electric as it affects farmers. Those present at this meeting had been considering installing hydro in their premises and the information given was highly educational. Basing the average farmer on a 3 h.p. supply, Mr. Purcell stated the annual service charge would be \$51.09, including the bonus allowed by statute. The first energy charge would be 8 cents per k.w. and above that 2 cents. This loan would permit the use of a 3 h.p. motor for chopping grain and cutting wood; a range, but these two were not to be used at the same time; lights in the house, yard and barn; and the use of toaster, washing machine, iron, vacuum sweeper, etc. in the house. He estimated the cost of installation to the building only at 7 cents a foot for a 2-wire system with transformer at the buildings; or 12 cents a foot for a 3-wire system with transformer at the road. The former has this advantage that power for threshing would be available right at the barn should this need arise. It is just a question if any of the farmers will take up the project just now, as the cost would be considerable. Yet it must be borne in mind that the service charge quoted is one of the most favorable in any part of the province.—Grand Valley Star and Vidette.

**Winton To Have Hockey**  
The fans of Winton are assured of their share of hockey this year, although for a time it looked like "nothing doing" in hockey for 1925. After deciding that neither Chesley or Winton had within themselves sufficient good timber for a first-class team, through their joint representative, Mr. A. L. S. Corriegan, they made application for entry of a combination team, but were refused the privilege. However, Mr. Corriegan assures us that with the entry of Markdale into the League at the last minute, the Executive have decided to allow Chesley to enter as a composite team and to play the Winton bunch as part of their team. There will be a meeting of the locals shortly followed by a joint meeting in Chesley. Games will be played at both towns, and this will assure the financing of the team much easier than otherwise. The local contribution to the new club will likely be drawn from Smith, Giddner, McDonald and Symon.

**Talking Turkey**  
The champion turkey of this district seems to have been marketed on Tuesday, when Mr. Dan McGillivray, of 12th Bruce, delivered a 38-pounder at McFarlane's store. This bird is about two years old and weighed 55 pounds alive.—Paisley Advocate.

**Artemesia Council**  
Artemesia Council wound up its business for the year on Saturday. There are not many rumors on the rounds of who will be in next year's council, but Mr. Thomas Moore has announced his decision to compete with Mr. John Hogarth for the Deputy Reeve's chair, and an election will, no doubt, be held. It is thought that Mr. McKenzie will again be

**Reeve by acclamation.—Flesherton Advance.**

**Cooktown Menaced by Fire**  
Fire, which for a time looked as though it might wipe out a considerable portion of Cooktown's business section, broke out in Harry Fisher's general store on Sunday afternoon last at 5 o'clock. With a 40-mile gale blowing, it was with tremendous difficulty that the flames were confined to the Fisher building, solid brick walls being of great assistance. Heavy damage was done to the stock, the loss being estimated at from \$5,000 to \$7,000 covered by insurance. Damage to the building is over \$1,000. The fire is supposed to have been caused by overheated furnace pipes.—Shelburne Free Press.

**THE HOME PAPER**  
The local paper is the small town's greatest asset. No town should fail to appreciate its local paper to the extent of a liberal patronage.—Henry Ford.

The influence of the small town newspaper upon the town and its business men, is often underestimated by business men themselves. The newspaper is going to represent the town to the outside world fairly or unfairly. Nothing speaks better for a town than a newspaper that is well-supported by the business men, and nothing speaks in louder terms against the town than a newspaper that is struggling for existence and which has little or no advertising

patronage from its home business concerns.  
If the business man has a good live newspaper publisher in his town he should never let the paper go to press without his name in its columns in an advertisement. We make this statement without any selfish motive. This paper has a fairly good advertising patronage, for which we are indeed grateful, but if every business concern in town would advertise with us regularly, that fact would not make us rich by any means. There is no such thing on the globe as riches for the country newspaper man.

Lots of men and some business men do not appreciate their local paper as a thing of value except to the owner of the paper, and that is where their vision needs doctoring. The newspaper travels, and is the town's only representative that is always working at the job.

### LAW MAY AFFECT FARMERS

A judgment delivered by Justice Riddell at Osgoode Hall last week may have a sweeping effect in the matter of sales of farm stock, produce and chattels. Should his decision be upheld, farmers who have creditors cannot make bulk sales without appointing a trustee and calling together their creditors. The law was framed for the purpose of protecting creditors against traders or merchants who sold out to evade payment, but Justice Riddell thinks the law extends to farmers also.

## A Merry Christmas

Once again the glad memories of Yuletide cluster around us, and as we put our work aside to take part in this festive celebration, we take this welcome opportunity to extend to every one of our friends—to our old, tried, trusted friends whose goodwill we prize so highly and to our new friends whose esteem and confidence we hope to cultivate and keep—our heartiest and sincerest wishes for a right, Merry Christmas.

R. L. SAUNDERS

## The Variety Store

### For Mud and Slush You Need These Rubber Boots

Every farmer—every member of his family—every man who works out doors in all kinds of weather—needs the dry, foot-comfort given by RHINO boots.  
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This footwear is made from RHINO Rubber—the toughest

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RHINO Rubber Footwear is built for long wear, otherwise the iron-clad guarantee couldn't be given with each pair. We stand behind it because it means full value for your money.  
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