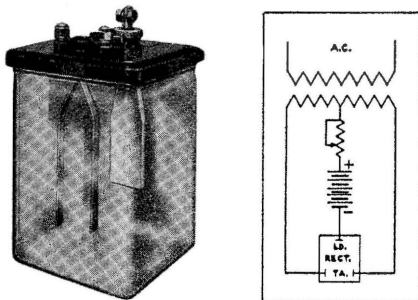


New Devices

Balkite Rectifiers and Transformers

A NEW LINE OF tantalum-electrolytic rectifiers for railway signal service has been introduced by the Fansteel Products Company. These are known as the Types C-10, C-11 and C-12. The C-10 and C-12 units are designed for full-wave rectification on heavy-duty and normal-duty applications, respectively. The heavy-duty C-10 unit is rated at 4-amp. continuous, and 6-amp. boost, on one storage cell, and 2.5 amp.—5 amp. on 4 to 6 cells. The C-11 cell is a half-wave heavy-duty unit rated at 3 amp. continuous output, and 5 amp. boosting charge, to one storage cell, and 1.25 amp. continuous and 4 amp. boost to a 4 to 6-cell battery.

The improvements in the new rectifiers include the use of a tantalum-tungsten alloy rectifying electrode in strip form, which has a larger

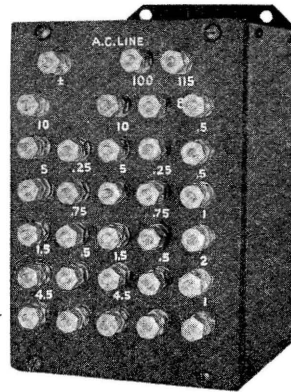


The new C-10 full-wave unit and circuit diagram

contact area with the electrolyte than is possible with a round rod of equal weight, and at the same time being practically free from edge wear. The lead electrode has been increased in hardness for longer life, and is now sealed into the cell cover with an improved gasket and a special acid-resisting compound.

The new rectifiers have been designed for use with the types RS, RT, RU and RW Fansteel transformers, the proper combination being dictated by the class of service intended. Standard types are available with a single primary winding having one or more taps in combination with a variety of secondary windings which provide a wide range of secondary voltages

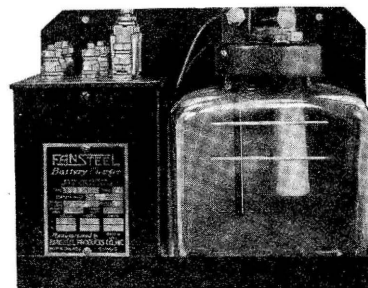
and output capacities. The center-tapped or double windings used in full-wave rectification are also available in all of these transformers, which can be supplied in various combinations with an a-c. lighting secondary or for charging purposes only. The wide range of secondary taps on the full-wave taper-charge



Types RU and RW transformer assembly

transformers permits charging-rate control without the use of resistors.

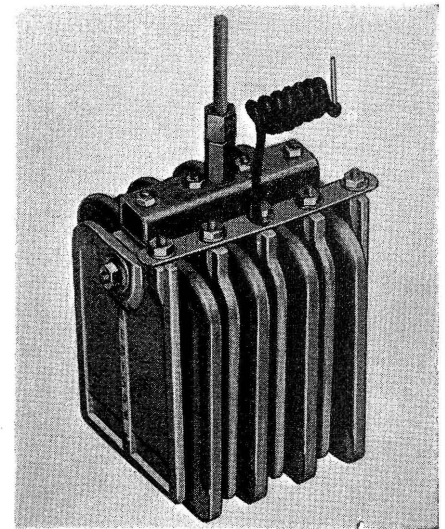
The new transformers and rectifier cells have been especially designed for automatic taper-charge characteristics. Tests by the manufacturer have shown that a C-10 full-wave rectifier in combination with an RT-120 transformer, adjusted for a float charge of 0.5 amp. to 6 lead storage cells, automatically increases its output to 5 amp. during an abnormal discharge of the cells on a 9-amp. lighting load. After the load was removed, the output of the rectifier tapered off again to 0.5 amp. as the battery regained its normal charge. Similar results were obtained with a 1 cell battery using an RS-116 transformer. The automatic output characteristics are obtained with the combination of the units best adapted to the load.



Type RC-8 battery charger

Edison Primary Cell

A SUBSTANTIALLY improved primary battery element with a capacity of 500 a.h., for use with any standard 500 a.h. jar and cover, has been announced by Thomas A. Edison, Inc. The new Type-HA-500 element has nine plates, of which four are oxides and five are zincs. It has been designed to supply the demand for a primary cell that can deliver a higher effec-



New nine-plate battery element

tive voltage at the higher continuous rates of discharge involved in the operation of flashing-light highway crossing signals, as well as other types of light signals.

According to the manufacturer the new cell can be discharged at 4 amp. continuously, and after 125 hr. at this rate the final voltage is 0.58. The minimum voltage after 500 a.h. have been delivered at a 6-amp. continuous rate is 0.52 volts. The improved cell is not intended to supplant the present standard cells. Rather it is an addition to the line for those applications of primary battery that require higher discharge rates than are recommended for the older type of caustic soda primary battery.

The oxide plates are specially surfaced so as to be able to withstand long periods of open-circuit service. The zinc plates carry the usual indicator panels, which furnish a progressive indication of the remaining life of the cell.