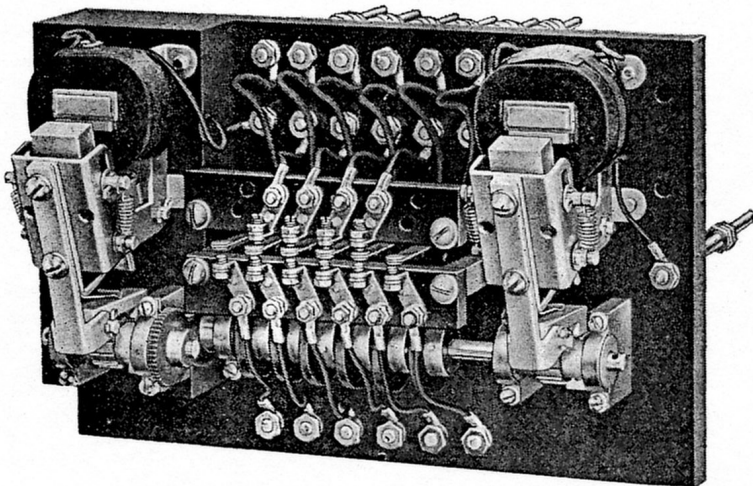
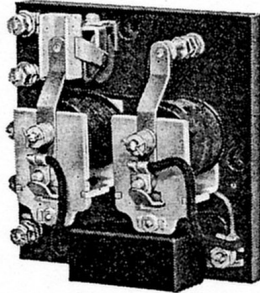


STANDARD RELAYS

... thousands of available types, electrically and mechanically adapted for every-day relay applications.

SPECIAL RELAYS

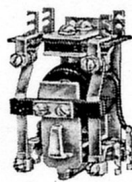
... types that have never been made before—for jobs that have never been done before.



BIG RELAYS OR LITTLE RELAYS

As specialists in relay design and manufacture, Struthers-Dunn has ranged from turning out 20,000 "production relays" a week to devoting a year for the development of a single highly-specialized type.

Twenty-seven years of experience in designing and building thousands of different relay types—for as many different applications—is available to help solve your relay problems.



Write for Catalog "G"—a quick, handy guide to the most widely used Struthers-Dunn relay types.

STRUTHERS-DUNN

5,348
RELAY TYPES

STRUTHERS-DUNN, INC., 150 N. 13th Street, Philadelphia 7, Pa.

ATLANTA • BALTIMORE • BOSTON • BUFFALO • CHARLOTTE • CHICAGO • CINCINNATI
CLEVELAND • DALLAS • DENVER • DETROIT • INDIANAPOLIS • KANSAS CITY • LOS ANGELES
MINNEAPOLIS • MONTREAL • NEW ORLEANS • NEW YORK • PHILADELPHIA • PITTSBURGH
ST. LOUIS • SAN FRANCISCO • SEATTLE • SYRACUSE • TORONTO

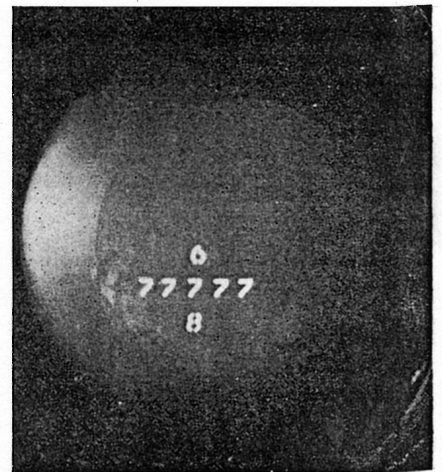
in the case of the battery.)

The battery compartment must be enough larger than the battery (or batteries) so that drops remaining on the surfaces of the battery and compartment will not touch and form leakage paths after activation. For the above sequence of events to take place, the filling port must be at the bottom of the battery compartment and the vent at the top of the chemical compartment. Figure 2 shows the discharge of a battery in such a case.

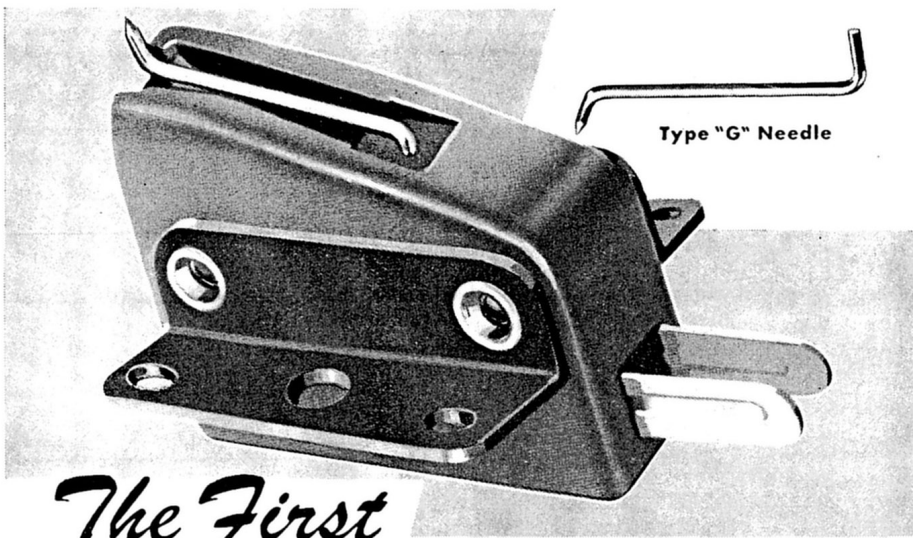
To prevent damage by premature moistening of the battery or chemical, the case should be sealed, with tape or foil over the ports, until the equipment is put into use. Silica gel can be placed in the case before it is sealed to absorb moisture that may be present.

Letter-Printing C-R Tube

BY INSERTING between screen and gun of an ordinary c-r tube a multiple deflecting electrode arrangement for passing the beam through a character-shadowing disc, any desired combination of letters and numbers can be produced on the screen at will. As indicated in the accompanying diagram, the shadowing disc has punched-out letters or numbers, each positioned behind its own set of deflecting plates. Some plates serve to route the beam through the desired hole, and others (presumably on the other side of the disc) bend the formed beam so it



Example of numerals formed on c-r tube by passing beam in sequence through holes cut to shapes of numbers in metal shadowing disc



The First
CERAMIC CARTRIDGE
with **CHANGEABLE NEEDLE**
LIGHT WEIGHT
LOW PRESSURE

HERE'S THE FIRST major engineering stride in phonograph pickup cartridges employing ceramic elements since Astatic first pioneered in this type unit last year. It's Astatic's tiny new gem—the "GC"—the first cartridge of its kind with replaceable needle. Takes the special new Astatic "Type G" needle—with either one or three-mil tip radius, precious metal or sapphire—which slips from its rubber chuck with a quarter turn sideways. Resistance of the ceramic element to high temperatures and humidity is not the only additional advantage of this new development. Output has been increased over that of any ceramic cartridge previously available. Its light weight and low minimum needle pressure make it ideal for a great variety of modern applications. Details of performance appear in the accompanying table.

Model	Cartridge Type	Minimum Needle Pressure	Output Voltage	Frequency Range (c.p.s.)	Needle Type	Application
GC	Ceramic	6 gr.	0.5*	50-10,000	G (1 mil tip radius)	33-1/3 and 45 RPM Records
GC-78	Ceramic	12 gr.	0.65†	50-10,000	G-78 (3 mil tip radius)	Standard 78 RPM Records

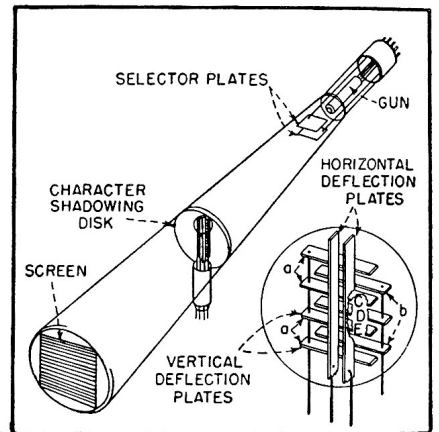
*Columbia #281 Test Record †Audio-tone Test Record



Write for additional information



J. T. McNaney of Consolidated Vultee demonstrates his Electrontype system for producing messages or numerical results on screen of Charactron cathode-ray tube in response to coded signals applied to multiple deflecting electrodes



General details of character-forming c-r tube. Letters C, D and E are actually punched-out characters in character-shadowing disc

hits the screen at the desired spot. Experimental tubes already constructed in the Radio and Electrical Laboratories of Consolidated Vultee Aircraft Corp. have successfully produced a limited number of characters. On the basis of this, it is claimed that tubes can be built for use in conjunction with motion picture film to record results of electronic calculators at speeds up to 20,000 characters per second.

Improved Phase Meter

AN ELECTRONIC PHASE METER having significant advantage over previous instruments (see for example E. L. Ginzton's meter described in ELECTRONICS, p 60, May, 1942) has been developed by E. F. Florman and A. Tait of the