

NEWS BRIEFS

● **CALIFORNIA PUBLIC UTILITIES COMMISSION** has issued a decision requiring railroads to pay the entire costs of maintenance for warning signals at all railroad-highway grade crossings in California. The decision was issued in two test cases concerning the Southern Pacific crossing of Thorne avenue in Fresno county, near Fresno; and the SP and Western Pacific crossings of Prune and Warren avenues in Fremont. The obligation of cities and counties to pay a share of the installation costs of warning signals is not affected by today's orders.

The Commission also placed all parties on notice that the Commission in future "will not consider evidence or argument addressed to that issue which seeks to have such maintenance cost assessed to any party other than the railroad or railroads involved. We will maintain the Commission's historical policy of requiring the railroad to bear the entire cost of maintaining protective devices at railroad crossings."

Installation costs at the Thorne avenue crossing were ordered paid, half by Fresno county and half by SP.

Two out of five members of the Commission issued a dissenting opinion. The dissent asserts the railroads "made a compelling showing that the ancient formula is not equitable under present highway conditions." It also questions the legality of the declaration that in future no evidence will be received on apportionment of maintenance cost and cites a U.S. Supreme Court decision which it is said upholds this position.

● **C&S SECTIONAL MEETING** to be held May 14 at the Netherland Hilton hotel in Cincinnati, Ohio has scheduled the following program:

Keynote speech: "Improved Communications for Car Tracing," by **F. W. Kirchner**, assistant to vice-president, Louisville & Nashville.

"Changing Communication and the Role of the Communications Engineer," by **Robert Maher**, staff representative, marketing, American Telephone & Telegraph Co.

"Application of AFO Circuits," by **C. E. Staples**, engineer, Union Switch & Signal division WABCO.

"Radio Traffic Control System for Hump Yard Operation," by **P. P. Ash**, superintendent communications and signals, L&N, and **Arnet A. Curry**, national systems engineer, Motorola, Inc.

"Wheel Thermal Scanner," by **T. P.**

Marple, sales engineer, General Railway Signal Co.

Panel discussion of subjects presented, by the following persons: **L. C. Brown**, signal and electrical superintendent, Southern; **P. P. Ash** superintendent communications and signals, L&N; **J. G. Karlet**, superintendent signals and communications, Norfolk & Western; **A. L. Jordan**, signal engineer, Baltimore & Ohio; **H. Alexander**, district signal engineer, New York Central; and **C. P. Huth**, engineer communications and signals, Pennsylvania.

● **CANADIAN NATIONAL TELECOMMUNICATIONS-CANADIAN PACIFIC** are making the final tests on their \$41 million, 3,000-mile microwave system. The 127-station network connects Montreal and Vancouver and numerous intermediate points. Official opening of the system is scheduled for May.

● **CANADIAN NATIONAL** will place its Toronto yard access lines' CTC system into limited operation next month. The approximately 100 miles of access

lines as well as portions of the Hamilton-Toronto mainline will be controlled from a new Traffic Control Center machine at the new \$75 million automatic retarder classification yard.

● **CANADIAN PACIFIC** has placed a \$175,000 order with General Railway Signal Co. for an additional 19 miles of CTC between Toronto and Bolton Ont. The new CTC, which includes seven locations, will be controlled by a type E2 code system from an existing Traffic Master control machine at Toronto.

● **GRAND TRUNK WESTERN** and New York Central have received relief from the requirements of Rule 136.301 by the ICC to the extent that applicants are not required to install signals to govern train movements on NYC track into and through interlocking limits, presently protected by electrically locked hand-operated derail and electrically locked hand-operated switch at joint NYC-GTW interlocking at Battle Creek, Mich. The relief is granted upon condition that the existing electric locks on hand-operated switch (X) and hand-operated derail (Y) be maintained and upon further condition that a target, lighted at night, be provided and maintained to indicate the position of electrically locked hand-operated derail (Y).

● **GREAT NORTHERN** has awarded General Railway Signal Co. two contracts totaling about \$550,000 for signal equipment. One contract is for 118 miles of CTC between Seattle and Merrit, Wash. Control, using type D code system, will be from a pushbutton control machine at Seattle. The other contract is for an additional 59.3 miles of CTC between Sutton and Nolan, N.D. Control, using type K2 code system with type J application relays will be from an existing control machine at Minot, N.D.

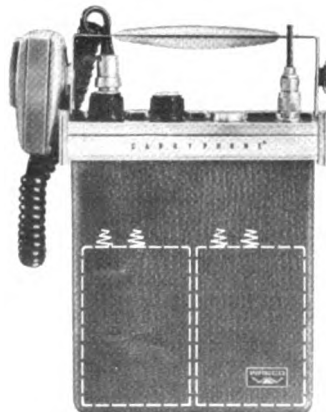
GN has set up a new flagging rule to be used by its m/w forces using switch and turnout tampers in CTC territory. Under this rule, the foreman gets a trackman's permit that allows him to occupy the track for a specified period of time. This rule involves the use of a device for shunting track circuits while the track is occupied by the tamping equipment. The shunt consists of a length of conductor cable with a clamp at each end for attaching it to the rail bases. In non-CTC territory, conventional flagging rules apply.

● **INDUSTRIAL COMMUNICATIONS ASSOCIATION** will hold its 17th annual convention May 3 at Wil-

(Please turn to page 40)

Lantern batteries are exclusive with CARRYPHONE®

... 2-way portable radios. Operating cost is only \$21.00 a year or one cent per hour based on a 40-hour work-week. (Lantern batteries last up to 80 hours on an EIA Use Cycle—10% transmit, 10% receive, 80% standby.) Changing batteries is fast, simple, and foolproof with no stocking problems. Besides being the smallest and lightest 2-way portable, CARRYPHONE radio offers an exclusive 5-ounce speaker-microphone and other battery packs for AA and C batteries. Compare this to your operating costs.

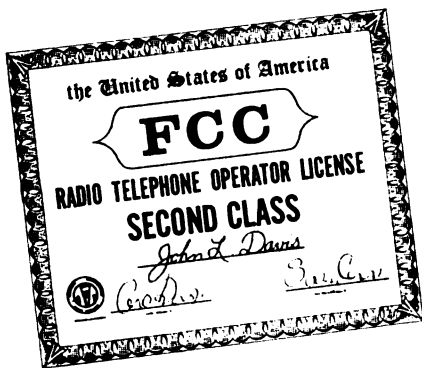


WABCO

UNION SWITCH & SIGNAL DIVISION

PITTSBURGH, PA. 15218 / Westinghouse Air Brake Company

Tried to get one lately ?



It isn't so easy. The examination for the 2nd Class Commercial FCC License now makes a man *apply* electronics knowledge . . . not just "play back" facts and figures. Be sure *your* men are prepared. A Cleveland Institute Home Study program can teach them electronic fundamentals for mobile radio, microwave, carrier communications . . . provide the knowledge they *must* have to pass this tough test! Get details now. Send coupon for free brochure "How To Get A Commercial FCC License".

**NOW IS THE TIME TO TRAIN
TOMORROW'S TECHNICIANS**

Cleveland Institute of Electronics

1776 E. 17th St., Dept. RS-5
Cleveland, Ohio 44114
Attn.: K. L. Ede, V. P.

Please send me your
free brochure "How To
Get A Commercial FCC
License".



Name _____

Title _____

Company _____

Address _____

City _____ State _____ Zip _____

Accredited Member National Home
Study Council

NEWS BRIEFS

(Continued from page 10)

liamsburg, Va. ICA members include communications systems executives and managers from various industrial concerns, including railroads.

- MILWAUKEE ROAD has received ICC approval to install a traffic control system and modify existing automatic cab signal system on two tracks so as to provide a traffic control system for either direction operation on both tracks supplemented by an automatic cab signal system arranged for right-hand direction only on these tracks on approximately 9 miles of line near Red Wing, Minn.

- MISSOURI PACIFIC has ordered electric retarders and additional Class-Matic controls for an additional 8-track group to its automatic classification yard at North Little Rock, Ark.

- NEW YORK CENTRAL and Akron, Canton & Youngstown have received ICC relief from Rule 136.301 to the extent that they will not be required to install a signal to govern train movements from an AC&Y siding connected to its main track by electrically locked hand-operated switch

with pipe-connected derail provided the derail is provided with a target, lighted at night, to indicate the position of the derail.

- SANTA FE has received ICC approval to install CTC and modify existing CTC on portions of single and multiple track main lines between Maine and Winslow, Ariz., approximately 78 miles.

- SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT is considering four new types of automatic train control system. Subcontracts totaling \$2,370,990 have been awarded to four U.S. manufacturers to produce and install the equipment on the BART's Contra Costa county test track. Contracts awarded are as follows: General Electric Co., \$629,510; General Railway Signal Co., \$520,000; Westinghouse Air Brake Co., \$654,480; and Westinghouse Electric Corp., \$567,000. Each of the proposed systems will use a different method of communicating electronic direction signals between high-speed electric trains and trackside control computers.

The GE system will transmit directional signals by a unique radar beam. The WE system will use a specially-devised pattern of wire circuitry sit-

(Please turn to page 42)

From a Tower to a Whole System of Towers

RELY on ROHN

ROHN Towers and Accessories are in use for:

- Communication Systems
- Microwave
- AM Radio
- FM Radio
- TV Transmission
- Mobile Radio
- Industrial Radio
- Radar
- Ground Support Systems
- Military Systems

ROHN towers and tower systems, including ROHN microwave passive reflectors, ROHN lighting equipment and accessories enjoy the benefit of having been tested and proven by long-term service, under every conceivable climatic condition and for practically every major application and usage. *Dependability is built in to every ROHN product.* Towers are available in a wide range of models, both guyed and self supporting, and from all heights up to 1000 feet. Complete engineering service available. For all your needs, call on ROHN—leader in excellent service, unquestioned reliability and dependable products. Complete catalog and specifications available on request.

WRITE—PHONE—WIRE FOR PROMPT SERVICE

"World's Largest EXCLUSIVE
Manufacturer of Towers;
designers, engineers and
installers of complete
communication tower systems."

ROHN

Manufacturing Co.

Box 2000, Peoria, Illinois
PHONE 309-637-8417—TWX 309-697-1488

THIS INSPECTION TOOL

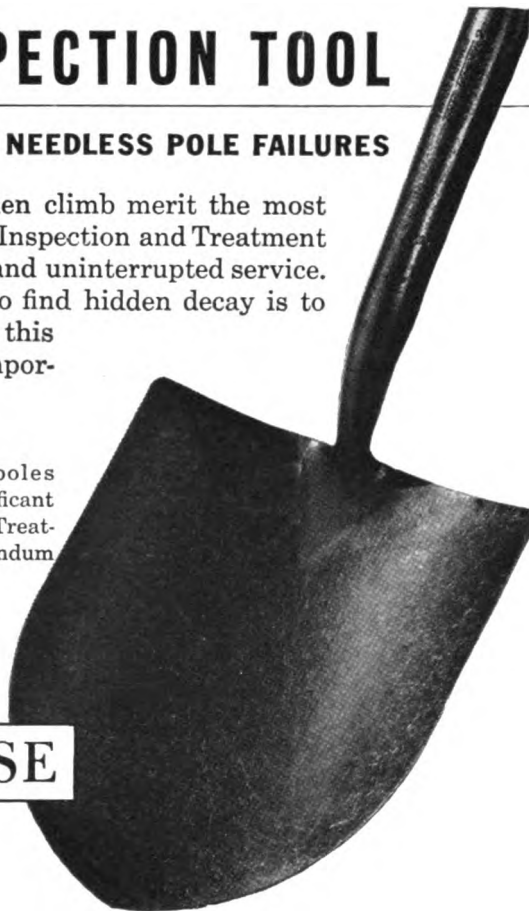
CAN SAVE YOU NEEDLESS POLE FAILURES

The poles your linemen climb merit the most thorough Groundline Inspection and Treatment to insure their safety and uninterrupted service. And the surest way to find hidden decay is to dig for it. That's why this shovel is our most important inspection tool.

FOR PROOF that poles last 10 years without significant decay after each OSMOSE Treatment, write for Memorandum No. 49.



OSMOSE



OSMOSE WOOD PRESERVING CO. OF AMERICA, INC., 990 Ellcott Street, Buffalo 9, N. Y.

REELS roll SMOOTHLY on ROLL-A-REEL

No pulling heavy reels
... no pushing ... JUST
LOAD and away you go!

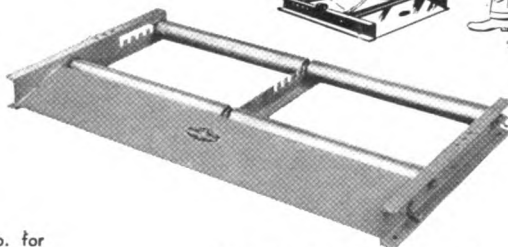
- Easily portable
- No jacks
- Handle any reel diameter
- Heavy steel frame
- Slanted front
- Ball-bearing adjustable rollers
- Positive roller lock for unloading

STYLE B — 4,000 lbs. cap. for 1 reel up to 48" wide; or for 2 reels up to 24" wide each. Weight 110#. PRICE \$89.50 f.o.b. Cincinnati

STYLE A — 2,000 lbs. cap. for reels up to 28" wide. Weight 60#. PRICE \$49.50 f.o.b. Cincinnati

● Special sizes on request.

for pay-out or take-up of anything on reels



All are drilled for optional auxiliary ball-bearing side rollers, \$6.00 per set extra.



ROLL-A-REEL

4636 Reading Road
Cincinnati 29, Ohio

NEWS BRIEFS

(Continued from page 40)

uated between the transit rails. Both the GRS and WABCO systems will utilize varying types of high-frequency waves, reports **Keneth Hoover**, BARTD director of development and operations.

A completely automatic train control system is required for the BARTD's rail transit network. Trains will be scheduled as frequently as every 90 sec. At station platforms, they will stop within 6" of a given point.

Versions of all four automatic control systems will be installed for comparative evaluation on three special test cars to be placed in operation on the 4½-mile test track located between Walnut Creek and Concord, financed in part by a U.S. Housing and Home Finance Agency grant.

The program, to begin in March 1965, will be the most extensive performance comparison ever made of transportation control equipment, according to **John R. Asmus**, chief electrical engineer for the BARTD consulting engineers, Parsons Brinckerhoff-Tudor-Bechtel.

● SOUTHERN has ordered 212 Link model FSD-1A presence detectors from Western Railroad Supply Co. for installation at three automatic retarder classification yards: Inman at Atlanta, Ga., Ernest Norris at Birmingham, Ala., and John Sevier at Knoxville, Tenn.

● SOUTHERN PACIFIC has ordered signal equipment from Union Switch & Signal division of WABCO for installation of CTC on 106 miles of line between Eugene and Portland, Ore. SP is planning to install microwave, this year, between Eugene and Portland, and also between Sacramento, Calif. and Sparks, Nev. Closed circuit television car identification system is planned for Phoenix, Ariz.

● VIRGINIA ELECTRIC & POWER CO. has placed a radio-controlled 80-

RAILROAD RADIO SALES REPRESENTATIVES

Leading FM 2-way radio manufacturer needs representative for Eastern and Midwestern areas. Salary, commission and liberal benefits. EE or electronics experience desirable. Age open. Send complete resume and salary requirements. All replies held in confidence. An equal opportunity employer.

Box No. 93
RAILWAY SIGNALING
AND COMMUNICATIONS
30 CHURCH STREET
NEW YORK, N.Y. 10007

ton diesel-electric locomotive in service at a power station near Richmond. The operator, using a walkie-talkie, controls the locomotive which is handling 80 loaded cars per 8 hour shift, moving them to a dumper and thence to an empty yard. The radio control equipment is manufactured by General Electric Co.

● **WESTERN UNION TELEGRAPH CO.** has advised American Telephone & Telegraph Co. of its interest in acquiring the Bell System's teletypewriter exchange service, the two companies have jointly notified the Federal Communications Commission. According to *Telecommunications Reports*, the two companies emphasized that "until the parties have together explored further the possibilities of such a transaction, it would not be proper to characterize the furnishing of facts or any of the discussions as negotiations, or as indicating that any negotiations will necessarily follow."

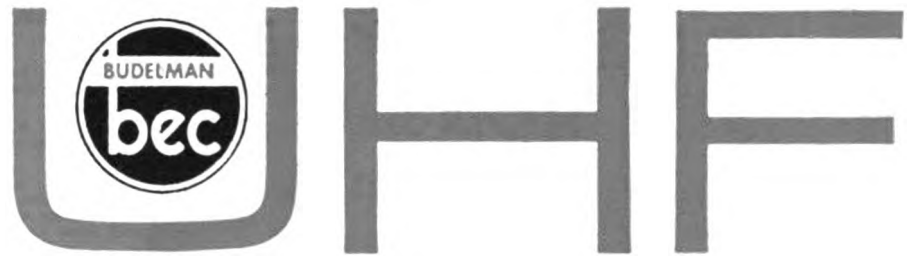
In response, chairman Rosel H. Hyde, FCC Telephone and Telegraph Committees said the committees cannot speculate on the ultimate disposition of any such proposal, but "we do commend the effort to explore this possibility." Further, he said, "without prejudice to whatever action the Commission may hereafter deem appropriate in that connection, we offer you such assistance as we may, with propriety, be able to afford, and would consider a request for such assistance at any time that you believe such action is warranted."

Current Publications

● **AMPLIFIER.** The HRA-1000 receiver amplifier places complete control of receiver volume at the subscriber's fingertips, and permits the user to adjust the listening level to his own preference. *Stromberg-Carlson (CP-6)*

● **LAB STANDARDS.** Catalog F gives descriptions and specifications of standard signal, pulse and square wave generators, megacycle, frequency, standard deviation, intermodulation radio noise and field strength meters; vacuum tube voltmeters; crystal calibrators; I-F converters; transistor test sets; amplitude modulators; RF attenuators; and special test instruments. *Measurements (CP-7)*

● **HANDBOOK.** The 10th edition of the GE receiving tube, capacitor, and picture tube handbook features basing diagrams, typical characteristic curves, circuit diagrams showing typical applications as well as tube classification charts. *General Electric Co. (CP-8)*
(Please turn to page 45)



FIXED RADIO EQUIPMENT
450 Mc/s • 960 Mc/s • 2000 Mc/s
FOR EXPANDING COMMUNICATIONS

36 paired channels (72 frequencies) plus 4 non-paired channels, of which six are available for omni-directional transmission, are available in the 950-962 Mc/s band for point-to-point communications, telemetry, remote control, data transmission and base station control—plus 10 low-power Business Radio channels and 49 Citizens Radio channels in the 450-470 Mc/s band available for fixed service, as well as considerable unallocated channel space in the 1700-2300 Mc/s bands.

TELEPHONY • TELEGRAPHY • TELEMETRY
FACSIMILE • CONTROL • DATA

FIXED LINKS

A pair of Budelman full-duplex UHF radio terminals can be used to extend data and communications circuits to off-line and on-line points, over land or water. Lower in cost than construction of wire line or cable facilities.

TRANSPORTABLE LINKS

Temporary or emergency communications facilities can be set up quickly with a pair of BEC UHF radio terminals installed in trucks, vans or transportable shelters, licensed as fixed or mobile stations.

BASE STATION CONTROL

Mobile radio system range can be increased by installing base stations at high locations away from noise sources — use BEC 960-Mc/s band single-frequency, push-to-talk radio terminals or full-duplex terminals for full base station remote control and telemetering. Baseband capacity for voice, order wire and control tones. For multi-point control of a base station or pick-up of data on a programmed or interrogation basis, omnidirectional antennas can be used.

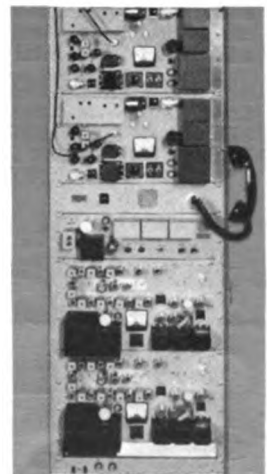
BUDELMAN UHF/FM MULTIPLEX RADIO

Terminals are compatible with standard FDM telephone carrier and tone signaling equipment.

Transmitter and receiver are crystal controlled for 0.0005% frequency stability. Designed for continuous operation, 24 hours per day, 365 days per year.

BEC equipment is used by railroads, pipe lines, industry, state police, telephone companies . . . and in many military applications, BEC off-the-shelf equipment is used in lieu of more costly MIL-spec equipment.

Write today, or call (203) 348-9231 for "Planning UHF Radio Links" and full data on Budelman UHF and microwave radio and multiplex, the complete communications equipment line.



BUDELMAN ELECTRONICS CORPORATION
375 FAIRFIELD AVENUE / STAMFORD, CONNECTICUT 06902 / 203-348-9231 / CABLE ADDRESS: BUDELCO

A UNIT OF GENERAL SIGNAL CORPORATION

(Continued from page 43)

● **IN-BAND SIGNALING.** Type 927A in-band signaling equipment is transistorized and converts DC pulses to tone pulses and vice-versa. It can be used with carrier systems where 2,600-cycle E and M signaling is desired. Form 927A-P4. *Lenkurt Electric Co., Inc. (CP-9)*

● **UHF RADIO.** The unique characteristics and advantages of UHF communications are outlined in a new brochure, which also contains information about new mobile radio and base station products developed exclusively for UHF operation. *Motorola, Inc. (CP-10)*

Railroad Personnel

● **CHICAGO, SOUTH SHORE & SOUTH BEND.** Charles F. Mulrenan, office engineer, signals, New York Central at Syracuse, N.Y., has been appointed signal and electrical engineer, succeeding Robert B. Hendrickson (RSC Mar. 1964, page 42).

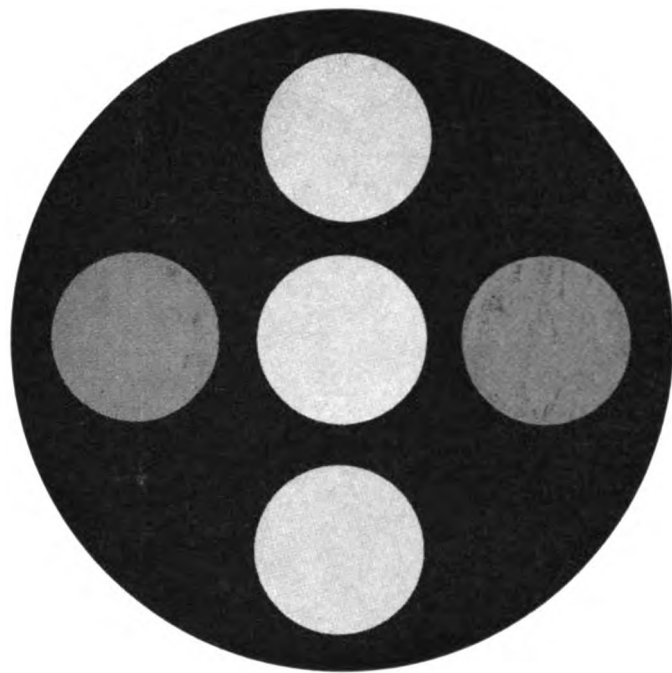
Mr. Mulrenan is a native of Bridgeport, Conn., and graduated from Worcester Polytechnic Institute with a B.S. degree in electrical engineering. Upon graduation he joined NYC signal department, holding various positions in the past 12 years. Two years ago he was appointed office engineer in the signal department at Syracuse.

● **ERIE-LACKAWANNA.** Raymond G. Zvara, assistant communications engineer, is appointed communications engineer, succeeding Walter J. Lyons, retired. Harry A. Wilson, general communications inspector, Youngstown, Ohio, is promoted to assistant communications engineer, also with headquarters at Cleveland Ohio. Mr. Wilson's former position at Youngstown has been abolished.

● **MONON.** R. W. Gorham is appointed signal supervisor for the entire system, with headquarters at Lafayette, Ind.

● **NORTHERN PACIFIC.** R. R. Pettitt, communications maintainer at Jamestown, N.D. has been named to the new position of communications supervisor at Mandan, N.D. F. L. Steinbright, general manager lines west, Seattle, has been promoted to vice-president operations with headquarters at St. Paul succeeding C. H. Burgess, retired. Mr. Steinbright was superintendent of telegraph for the NP from 1941 to 1951 at which time

(Please turn to page 46)



For dependable railway signaling and communications, rely on GCC wire and cable. Top quality in transmission cable: Qualpeth®—with guaranteed lengths...up to 900 guaranteed pairs...and the lowest level of noise, echo, crosstalk, for aerial (including Figure 8), duct or direct-burial applications. Also from General Cable: Polypic Figure 8 multipair distribution wire... Stalpeth (steel-aluminum-polyethylene sheath over paper cable)...paper-lead cable (in pairs, quads, or Western Union specifications)...video pairs (with various cable configurations)—plus a complete line of wire and cable for every communications job. Rely on General Cable, for signal cable, diesel and car wire, track wire, trolley wire, tower and case wire—order all your requirements for carload or less than carload shipments. See your nearest General Cable sales office, or write

General Cable Corporation, GCC
730 Third Ave., N.Y. 17, N.Y. GENERAL CABLE CORPORATION

NEWS BRIEFS

(Continued from page 45)

he was appointed superintendent of communications. In 1953, he was promoted to assistant to the vice-president of operations.

● **UNION RAILROAD.** Dale E. Robinson has been appointed supervisor of signals and telephones.

Supply Trade News

● **CARBON PRODUCTS DIVISION,** Union Carbide Corp. Curry E. Ford has been named general manager of technology in charge of the research and development laboratories in Cleveland, Ohio.

● **STROMBERG-CARLSON,** a division of General Dynamics. Robert J. Klein has been appointed a sales representative with headquarters at Kansas City, Mo., serving a territory comprising Nebraska, Wyoming, Colorado, Kansas, Oklahoma, Texas, New Mexico, Missouri, Arkansas and Louisiana. Gilbert H. Engels has joined the sales staff at Rochester, N.Y. and will serve as communications sales representative covering the Atlantic seaboard.



Elliot A. Barrows



W. Arthur Cubbage



Walt W. Hutchinson



John E. Rogers



Robert J. Klein



Gilbert H. Engels

Mr. Klein has been with S-C since 1956, serving in systems engineering and for the last three years as a commercial sales engineer at Atlanta, Ga. Previous experience included 13 years with Western Electric and three years in the U.S. Army Signal Corps during

World War II. Mr. Engels joined S-C in 1961 in the installation and customer service department. His previous experience included work with IBM, the FBI and Eastern Air Lines, and military service in the U.S. Navy Submarine Service.

● **SIMMONS-BOARDMAN PUB. CORP.** W. Arthur Cubbage and Elliot A. Barrows, sales representatives for the railway division in the New York office have been promoted to district managers. Walt W. Hutchinson railway sales representative in the Chicago office has been appointed district manager there. John E. Rogers, sales representative in the New York office has been appointed circulation manager, railway division magazines.



CARRYPHONE®
is the lightest

... 1.5-watt portable 2-way radio made. The heaviest CARRYPHONE radio, with batteries, weighs only 5¼ lbs.; the lightest weighs only 3¼ lbs. complete. The speaker-microphone weighs only 5 ounces. (And CARRYPHONE radio is the only 2-way with a combination speaker-microphone.) Three different battery packs available. Get light weight, clarity, power, long life and economy with fully transistorized CARRYPHONE, the lightest 2-way portable radio made. Meets and exceeds all EIA, AAR, FCC and DOT specifications.



UNION SWITCH & SIGNAL DIVISION
PITTSBURGH, PA. 15218/Westinghouse Air Brake Company

This Was News 50 and 25 Years Ago

The Signal Engineer, April 1914. George Westinghouse, inventor of the air brake, and also a developer of pneumatically operated semaphore signals, died March 12, 1914. —Wheeling & Lake Erie will install three telephone circuits using 76 selectors. A dispatching circuit, comprising 35 selector stations will be installed from Brewster, Ohio to Toledo with branches to Huron, Dalton and Orrville; and one including 23 selector stations from Brewster to Norwalk, including a branch to Huron. From Brewster to Terminal Junction, a message circuit will be installed comprising 20 selector stations.—Pennsylvania will put all signal, telegraph and telephone wires in underground conduit for a distance of 25 miles from Jersey City, west through Rahway, N.J., instead of rebuilding permanently part of the pole line that was destroyed during the recent storm. **Railway Signaling, April 1939.** Louisville & Nashville reports on the economics of substituting electric lamps for oil lamps on semaphore signals on 136 miles of

single-track APB automatic signaling between Henderson, Ky. and Amqui, Tenn. Changeover using primary battery shows annual saving of \$3,031 on investment of \$6,142. Aspects are improved and maintainers have time for other work.—Wabash developed an arrangement to make accurate measurements of the locations of communications poles during winter months. The arrangement includes a bitometer driven by a bicycle wheel attached to a motor car; the wheel running on the rail operates the measuring device which registers in feet the length covered.—Union Pacific installs remote control interlockings at two crossings with the Denver & Rio Grande Western, about one mile south of the passenger station at Salt Lake City, Utah. About 100 movements daily through the plants are now made without whistles, whereas formerly all trains and engines were required to stop at crossings. Also, vehicular traffic over one railroad-highway crossing has been improved by the installation of the interlock