

NEWS BRIEFS

- SOUTHERN PACIFIC has begun construction of a microwave system between Fresno and Los Angeles, Calif., 277 miles. Another microwave system has been authorized for construction between Fresno and Dunsmuir, Calif., 501 miles.
- ONTARIO NORTHLAND has announced plans for a \$7,200,000 communication project, including microwave facilities.
- CANADIAN NATIONAL and Canadian Pacific will soon begin construction of a \$350,000 communications center on Lutz mountain outside Moncton, N. B. The center will add telephone channels, teleprinter, facsimile and other communications to an existing Moncton-Montreal microwave system that now handles only French language television.
- SOUTHERN has ordered equipment from General Railway Signal Co. for the installation of 80 miles of Type K2 CTC between Orange and Monroe, Va. An existing control machine at Alexandria, Va., will be enlarged

to control the new territory via a Type H transistor-operated carrier link.

- ILLINOIS CENTRAL has ordered equipment from General Railway Signal Co. for the modernization of the classification yard at East St. Louis, Ill. Automation equipment will be installed for control of the hump retarder and for complete route selection.
- DELAWARE & HUDSON will spend \$264,000 this year to extend its CTC system between Watervliet and Mechanicville and between Plattsburgh and Rouses Point, N. Y., about 19 miles, total. Existing CTC totals 299 miles. The D&H will also spend \$87,000 this year to extend and rearrange automatic crossing protection at several areas on its system, including Cohoes, Albany and Green Island, N.Y.
- SEABOARD AIR LINE has just placed an order for 21 hotbox detectors. When installed, they will bring the road's total to 59 detectors, 49 with a radio-relay feature for line-of-road use, and 10 for yard inspection. In the radio-relay type, the location

of a detected hotbox is automatically radioed to the train crew by means of a tape recorder (RSC July 1961, p. 22). The radio-relay, or "talking" portion of the detector system was invented by J. R. DePriest, superintendent communications and signals for the SAL. The rights for this radio-relay system have been purchased by the Servo Corp. of America, which has supplied all of the SAL's hotbox detectors. As received, the line-of-road detectors are equipped to transmit only a "beep" when a hotbox is indicated. These will be converted to the "talking" type as fast as the voice equipment becomes available. The detectors for yard inspection use carrier to bring the heat signals to a pengraph recorder in the yard office.

- NEW YORK CENTRAL and Baltimore & Ohio have received ICC approval to replace a manual interlocking with an automatic plant at a Norris City, Ill., crossing of the two roads.

- DULUTH, MISSABE & IRON RANGE has sold its telephone properties in seven northeastern Minnesota towns to the Mille Lacs Telephone Co. and the Continental Telephone Co. About 8,000 stations were involved.

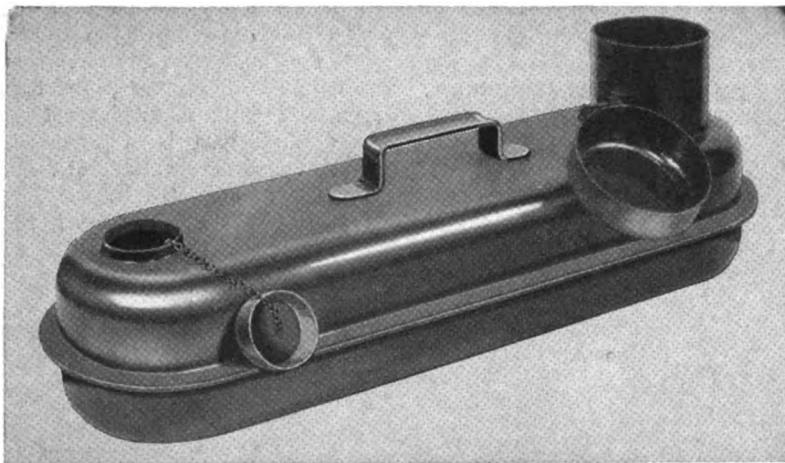
- MISSOURI PACIFIC and St. Louis-San Francisco have received ICC approval to install an automatic interlocking to replace a mechanical plant at the Lamar, Mo., crossing of the two roads.

- PENNSYLVANIA has received ICC approval to install a traffic control system on 88 miles of single main track between Oil City, Pa., and Brocton, N. Y., and on three miles of one main track between Lovell and Corry, Pa.

- CHICAGO, BURLINGTON & QUINCY has added four voice channels to its Chicago-St. Paul communications service. Lenkurt 45A carrier terminals and 45A repeaters (at nine locations) were installed to operate over an existing 30 kc transposed wire pair. Cost of the installation was about \$100,000. Eight additional voice circuits are planned.

- CANADIAN NATIONAL is installing 35 base radio stations to extend its train-to-wayside and yard radio coverage in the four Atlantic provinces of New Brunswick, Newfoundland, Nova Scotia and Quebec.

- AUTOMATIC SPEED CONTROL system for the Seattle, Wash., monorail will be provided by General Railway Signal Co. The monorail system will have two trains, each with four
(Please turn to page 34)



NEW SWITCH HEATER BURNS 4 DAYS WITHOUT REFILLING or MAINTENANCE

The advanced design HI-BALL, original oil burning switch heater developed by the Mississippi Supply Company, Chicago, is still considered the finest switch heater available. The latest refinement of the

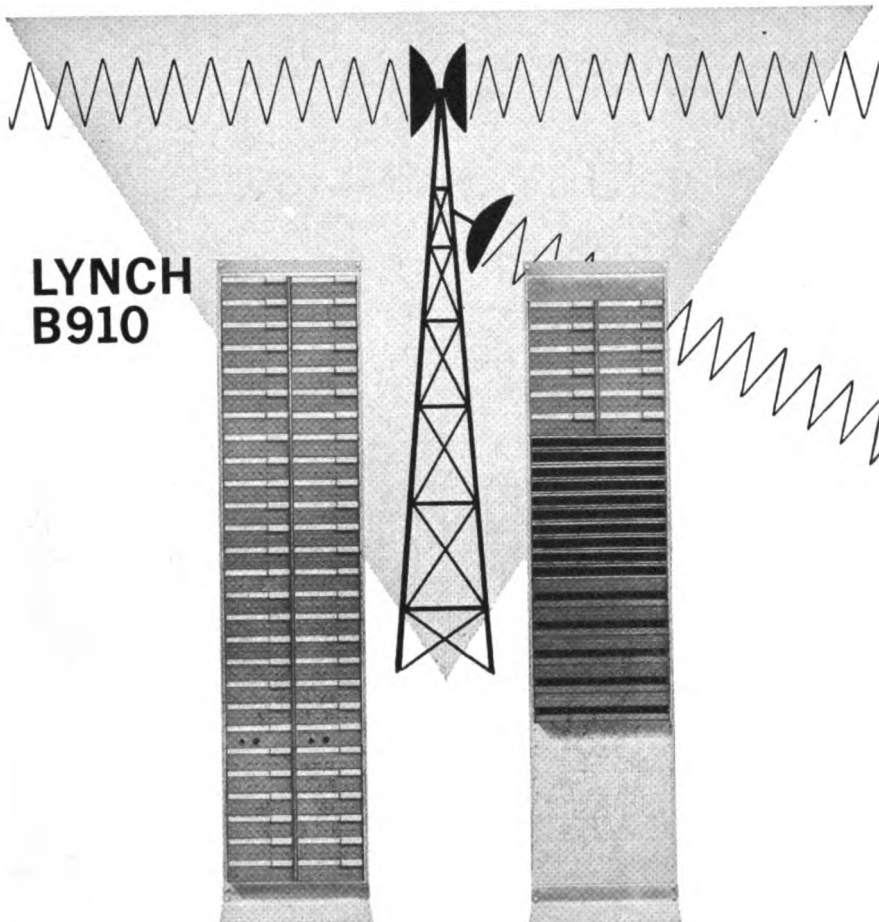
HI-BALL is its greatly increased capacity, which allows greater freedom for work schedules—no need to attend switches on week-ends. Never a "flame-out" with the original HI-BALL patented chimney.

For more information, write—

MISSISSIPPI SUPPLY COMPANY
27 WEST CALENDAR AVE., P.O. BOX 233
LA GRANGE, ILLINOIS

LOW-COST DEPENDABILITY

IN TODAY'S MOST VERSATILE
MICROWAVE COMMUNICATIONS SYSTEM!



**FLEXIBLE MULTIPLEXING EQUIPMENT • HIGH DENSITY OR
LOW DENSITY TRANSISTORIZED SYSTEM, EMPLOYING TOTALLY
UNIQUE TECHNIQUES TO GIVE YOU THESE ADVANTAGES:**

Economical initial purchase of 1 to 12 channels, easy expansion to 600 channels. Lower initial, expansion and maintenance costs. Greater flexibility, with elimination of the need for common equipment. Filter options for easy drop and reinsert configurations. New level of reliability . . . up to 12 channels without common equipment and up to 120 channels with no equipment common to more than 12, except for the power supply.

LYNCH COMMUNICATION SYSTEMS INC.

Dept. R-3, 695 Bryant Street, San Francisco 7, Calif.
EXbrook 7-1471 Area Code 415



Contact your Graybar Representative or call us direct for complete information.

7134-A

NEWS BRIEFS

(Continued from page 32)

cars, and each train will operate as a shuttle train on its own monorail beamway for a distance of about one mile. The speed control system will continually monitor train speed and will enforce the operator's compliance with predetermined speed limits. Closed-circuit, fail-safe principles were followed in designing the system. The beamways will be divided into zones which will be of such lengths and sequential arrangements as to provide the desired operation and to allow for suitable braking distances. Maximum train speed will be 50 mph. A 30-mph speed restriction will apply to curves, 6 mph in approach to the station areas, and 3.5 mph in the station stopping areas. If an overspeed condition exists in a restricted speed zone, the operator must take appropriate braking action within a predetermined time period after the audible warning, or an automatic brake application will result. The train carried equipment will also be so interconnected with propulsion and brake controls that should the equipment fail to receive and interpret the wayside transmitted information, an automatic brake application will stop the train. Following such a stop, the speed control system permits emergency operation of the train at 3.5 mph until normal operation of the system can be restored.

● SECTIONAL MEETINGS of the C&S Section, AAR, will be held at the Hotel Netherland-Hilton, Cincinnati, Ohio, on May 9, and at the Marriott Motor Hotel, Dallas, Texas, on April 24. F. J. Hacker, supervisor of communications and signals, Louisville & Nashville, will be the chairman of the Cincinnati meeting, and V. P. Shepardson, assistant chief engineer-signals and communications, Richmond Fredericksburg & Potomac, the sponsor. J. H. Laughlin, signal supervisor of the St. Louis Southwestern will be the chairman of the Dallas meeting, and C. T. Marak, signal engineer, Missouri Pacific, the sponsor. The following papers will be presented at the Cincinnati meeting: "New Developments in Communications," by W. B. Snell, American Telephone & Telegraph Co.; "Centralized Monitoring of Hotbox Detection," by N. C. Pace, general communications engineer, Southern; "Signals and Communications for Automatic Control," by J. W. Hansen, manager-marketing services, Union Switch & Signal-Division of WABCo.; and "Progress and Development of Rectifiers for Communications and Signal Applications," by Glen Ramsey and Glen Iaggi, Fansteel Metallurgical Corp.

(Please turn to page 40)

NEWS BRIEFS

(Continued from page 34)

● NATIONAL OF MEXICO has ordered equipment from General Railway Signal Co. for the installation of 150 miles of Type K2 CTC between La Griega and Huichapan, Mexico. A Traffic Master control center at Queretara will be expanded to control the new territory.

● AIEE-IRE merger plans tentatively call for the name of the merged organization to be Institute of Electrical and Electronic Engineers (IEEE) or

Society of Electrical and Radio Engineers (SERE). Each section of the American Institute of Electrical Engineers and the Institute of Radio Engineers would be a section of SERE.

● U. S. GOVERNMENT may abandon its Conelrad program because of the switch in world military emphasis toward guided missiles, and away from manned bombers, which can be guided by radio signals.

● INTERCONNECTION TARIFF changes, filed by American Telephone & Telegraph Co. with the FCC, became effective Feb. 1. The new tariff

permits interconnection of railroad-owned and telephone company facilities at both ends of a through circuit for emergency calls, and at either end, but not both, for calls related to the safety, continuity, or reliability of railroad service. The tariff revision brings to a close an extensive hearing and discussion by eight railroads and AT&T over interconnection (FCC Docket No. 12940). Last year the railroads and AT&T agreed upon tariff changes (RSC June 1961, p. 30).

Current Publications

● **SPLICING, INSULATING.** An illustrated 16-page catalog of "Scotch" and "Irvington" brand splicing and insulating materials used in communications and signal systems describes tapes, resins, splicing kits, self-stripping wire connectors, splice sleeves, cable blocking materials, etc. Technical data, application photos and ordering information are listed for all products. *Minnesota Mining & Mfg. Co. (CP-11)*

● **MULTIPLEX.** An 8-page technical bulletin discusses the theory and application of time-division multiplex (TDM) to remote control supervisory systems, and data transmission. In addition to covering solid-state TDM systems in general, the discussion describes specific systems and is illustrated with both functional and operational block diagrams. Typical end-user equipment employing time-division multiplex is also shown and described. *Moore Associates, Inc. (CP-12)*

● **PLOTTING AID.** The DB "Measuring Stick" is designed to simplify the task of plotting the latitude and longitude of station antenna locations. It is furnished with a slip case and instructions. Price 50 cents. *Decibel Products, Inc. (CP-13)*

● **FOUNDATIONS.** Bulletin 61268 presents steel foundations for railroad signal systems. Ordering and dimensional information is given on instrument cases, battery cabinets, airline pipe switch valves and dwarf signals. Various units are represented with photographs. *Line Material Industries. (CP-14)*

● **BATTERY CHARGERS.** A four-page brochure describes static silicon-rectifier battery chargers for railway communication and signaling applications. The bulletin outlines a typical installation with lead-acid or nickel-cadmium batteries and lists specifications. Performance characteristics are charted. A schematic block diagram shows internal circuitry. *Fansteel Metallurgical Corp. (CP-15)*

(Please turn to page 42)



air depolarized

AD PRIMARY CELLS



ad 608a

Save users

**LABOR, TIME,
MONEY**

Maximum discharge rates:

1.0 amp. continuous

2.5 amp. max. intermittent

Approximately one gallon of water for 2500 watt hours.

No washing of jars.

No mixing of caustic.

Only one stores item.

**Railway track circuits—
light signals—electrical aids
to navigation, Telephone
exchange batteries, etc.**

Argentina—LE CARBONE LORRAINE, Ezezano 3051/53 Buenos Aires, Argentina

Belgium—LE CARBONE S.A.B., 124 Bd. du Jubilee, Brussels, Belgium

Brazil—CARBONO LORENA S.A.—Rua Barao, Itapetininga 273 Sao Paulo, Brazil

Canada—CIPEL (CANADA) LIMITED—Valleyfield, Quebec, Canada

England—LE CARBONE (GREAT BRITAIN) LTD.—Portslade, England

France—CIPEL, Argenteuil (S&O) France

Germany—CARBONE A.G., Banames, Frankfurt/Main, Germany

Italy—Il Carbonio Viale Lucianina 6, Milano, Italy

Spain—CIPEL, Juan Bravo, Madrid, Spain

Sweden—SVENSKA A.B. LE CARBONE, Sundbyberg, Sweden

U.S.A.—THE CARBONE CORPORATION, Boonton, N. J.



sales representatives throughout the world

NEWS BRIEFS

(Continued from page 40)

● **RCA POWER TUBES**, booklet No. PG-101E, is now available for 75 cents from distributors or direct from RCA. A three-color fold-out chart depicts the tube types that cover various ranges on the power vs. frequency graph. *Radio Corp. of America. (CP-16)*

● **PRESSURIZING CABLES**. A four-page illustrated technical bulletin describes dry-air and dry-nitrogen techniques for pressurizing Spir-O-line coaxial cables and Rigid transmission line systems. Information includes recommended procedures for purging moisture and detecting leaks. It contains engineering data, diagrams, and description of equipment. *Prodelin, Inc. (CP-17)*

Railroad Personnel

● **MONON**. Clarence R. Williams, supervisor of construction, has been appointed superintendent of signals and communications at Lafayette, Ind., succeeding Donald H. Steiner, resigned. Mr. Williams was born in Crawfordsville, Ind., October 31, 1897. He entered the service of the Monon in 1916 as a batteryman, advancing to

assistant maintainer, signal maintainer and relay repairman. In 1929 he became signal inspector and in 1935 supervisor of construction. Mr. Williams was appointed to his present position on February 1.



Clarence R. Williams



William G. Brittain

● **ALGOMA CENTRAL & HUDSON BAY**. William G. Brittain, superintendent of communications, has been appointed superintendent communications and signals at Sault Ste. Marie, Ont. Mr. Brittain was born in Bristol, N. B., March 17, 1909. He began his railroad service in 1934 as a telegrapher with the Temiskaming & Northern Ontario (now Ontario Northland), advancing to test and regulating repeater attendant and test and regulating wire chief. In 1940 he was promoted to supervisor of communications and signals of the Ontario Northland. He

left that road to become superintendent of communications of the AC&HB in 1951 and continued in that position until his recent appointment.

● **DULUTH, MISSABE & IRON RANGE**. Josef F. Nehring has been appointed communications supervisor at Proctor, Minn.

● **SOUTHERN**. Jack T. Waynick, general foreman communications at Charlotte, N. C., has been appointed assistant communications engineer there, succeeding George E. Ryan, promoted (RSC, Jan. 1962, p. 40).

● **ATLANTIC COAST LINE**. As reported in the February 1962 issue of RSC, Robert D. Liggett has been appointed signal engineer at Jacksonville, Fla. A brief sketch of his career appeared in that issue.



Robert D. Liggett



Virgil L. Cosey

● **CENTRAL OF GEORGIA**. Virgil L. Cosey, whose appointment as assistant superintendent communications and signals was announced in the February issue of RS&C, was born in Reynolds, Ga., and entered the service of the CofG as a signal helper in 1926. He advanced through various positions in the signal department, becoming assistant supervisor in 1945 and supervisor in 1952. In January 1961 he was appointed supervisor communications and signals at Macon, Ga., the position he held at the time of his recent promotion.

● **CHESAPEAKE & OHIO**. Curtis E. Pelfrey, assistant supervisor of signals at Huntington, W. Va., has been appointed signal inspector there, succeeding R. L. Spicer, retired. William E. Brenner, circuit designer at Richmond, has been named to succeed Mr. Pelfrey.

● **LOUISVILLE & NASHVILLE**. Leonard M. Tingle and Richard A. Hicks, Jr., have been appointed general communications inspectors at Louisville, Ky. Mr. Tingle was formerly assistant supervisor of telephone construction and maintenance. Mr. Hicks was formerly assistant signal supervisor at Mobile, Ala., and has been succeeded in that position by Jeff D.

AERIAL "RADAR" TERRAIN PROFILING

FOR RAILROAD MICROWAVE INSTALLATIONS

System Design and Surveying with-

- SPEED
- ACCURACY
- LOW COST—LESS THAN \$20 PER MILE
- GUARANTEED CLEARANCES TO YOUR SPECIFICATIONS
- COMPLETE ENGINEERING SERVICES

TELEVISION ASSOCIATES OF INDIANA, INC.
 A SUBSIDIARY OF MELPAR, INC.
 MICHIGAN CITY, INDIANA, U. S. A.

Atchison, draftsman in the signal department at Louisville. James K. Taylor, general signal construction foreman at Birmingham, Ala., has been named acting supervisor communications and signals at Mobile, succeeding Louis B. Hale, on leave of absence.



R. A. Mountford



G. G. Shaw

● **CANADIAN PACIFIC.** R. A. Mountford, superintendent of communications for the Saskatchewan district at Regina, Sask., has been transferred to the Manitoba district at Winnipeg, succeeding Ernest J. Awishus, promoted (RSC Jan. 1962, p. 38). G. G. Shaw, superintendent of broadcast services at Montreal, has succeeded Mr. Mountford at Regina. Mr. Shaw's successor is J. W. Thorndyke, assistant to the general superintendent of communications at Montreal.

Mr. Mountford joined the CPR in 1939 as a broadcast supervisor at Chappellau, Ont. He served with the RCAF as navigator during World War II and returned as broadcast supervisor at Montreal in 1946. He was appointed general contract and tariff supervisor in 1958 and superintendent of communications at Moose Jaw, Sask., later in the same year. He became superintendent of the Saskatchewan district at Regina in 1959.

Mr. Shaw joined the CPR in 1937 as an operator at Drumheller, Alta. He subsequently served as operator-agent at various locations and was made inspector at Calgary in 1947. He was appointed assistant to the general superintendent at Montreal in 1955 and made superintendent of broadcast services in 1959.

Supply Trade News

● **MC CABE-POWERS BODY CO.,** Powers-American Division. Carl D. Kinyon, midwestern regional manager, has been promoted to sales manager, at St. Louis, Mo.

● **RADIATION, INC.** David D. Bulkley has been appointed sales promotion manager—communication products, of Radiation at Orlando (Fla.), a division of the company. Mr. Bulkley was formerly product line manager for General Dynamics/Electronics.

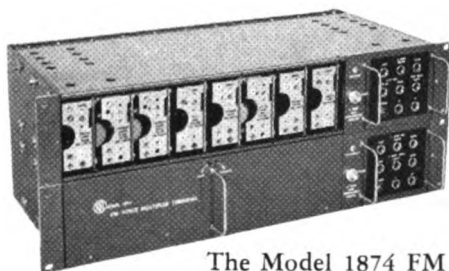
(Please turn to page 44)

TELEPHONE COMMUNICATIONS SYSTEMS



Voice & Data Communication TERMINALS

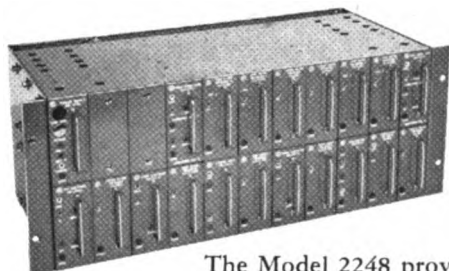
*Transistorized Terminals for Voice and Data
Communications featuring Modular Design for
Custom Appearance and Maximum Flexibility.*



MODEL 1874 FM Voice Multiplex Terminal

The Model 1874 FM Voice Multiplex Terminal will provide for voice transmission and reception on a 4-wire carrier basis for radio microwave, cable or open wire transmission. One voice channel requires a terminal at each end of the communication medium. Up to twenty channels may be multiplexed. Frequency modulated carriers are employed, multiplexed by frequency division and occupying a frequency spectrum from 32 kilocycles to 272 kilocycles. The channel carrier frequencies start at 38 kilocycles and are spaced at 12-kilocycle intervals. The circuits in the terminals are designed to operate from a 48 volt battery source.

Two and four wire voice terminations are available and out of band E and M signaling is provided. All circuitry is mounted on plug-in etched circuit cards.



MODEL 2248 Voice & Data Transmission Terminal

The Model 2248 provides in one compact package all the facilities to derive three full duplex channels in the 0 to 12 KC spectrum for voice and data transmission.

Channel 1 provides voice facilities from 300 to 3000 cps for local order wire purposes; Channel 2 provides a band from 4300 to 7600 cps for the application of data tone signals. Channel 3 is a single sideband derived voice channel of 300 to 3000 cps. This channel is translated to the 9000 to 11,700 KC band. Out of band signalling tones are provided with this channel for E and M signalling. The Model 2248 is presently being used on many microwave systems for service channel applications.



**SEND
FOR
TECH.
DATA**

For additional information, including application data, write or phone DE 4-3100. Demonstrations available by local representatives.

RFL IS REPRESENTED NATIONALLY by experienced Manufacturers Representatives. Write for the address of the RFL Representative nearest your location.



**Radio Frequency
LABORATORIES, INC.**
Boonton, New Jersey, U. S. A.

EST. 1922

NEWS BRIEFS

(Continued from page 43)

● **THOMAS A. EDISON INDUSTRIES**, Primary Battery Division. **Walter E. Olson** has been appointed general sales manager. Since 1937 he has held several managerial positions in the Division's sales department and was acting general sales manager from May 1961 until his recent advancement.



Walter E. Olson



Phillips W. Berg

● **GOULD-NATIONAL BATTERIES INC.**, Industrial Battery Division. **Phillips W. Berg** has been promoted to manager of railway sales for the Chicago region. He is a graduate engineer from Purdue University and was railway specifications engineer in the Chicago office of Gould-National before assuming his present position.

● **GENERAL ELECTRIC CO.** **Walter E. Sutter**, manager of microwave systems sales and services, has been named manager of G-E Telecommuni-

cations systems sales and services, a newly created marketing organization which will be responsible for the engineering, sale, installation and maintenance of microwave radio and carrier-multiplex systems.

● **AMERICAN BRAKE SHOE CO.** **Emrick Pohling**, railroad products sales representative at St. Paul, Minn., has been appointed district sales manager there. He has been succeeded by **James B. Eichhorn**, transferred from Chicago. **Richard K. Brush**, railroad products sales representative at Denver, Colo., has been transferred to Chicago.

● **COPPERWELD STEEL CO.** **Robert E. Taylor**, a member of the sales engineering department at Glassport, Pa., has been promoted to sales representative for the Wire and Cable Division in Ohio and a portion of Kentucky, with headquarters in Columbus, Ohio.

● **OKONITE CO.** **Elbridge H. McNeill**, midwest regional manager, has retired after 37 years of service.

● **UNION SWITCH & SIGNAL DIVISION** of Westinghouse Air Brake Co. has announced the following appointments: **J. C. Croft, Jr.**, vice-president-marketing; **C. W. Henricks**, vice-president-railway sales and manager-transportation marketing; **J. W. Hansen**, manager-marketing services; **R. J. Cook**, manager-customer services; **J. E. Rupp**, manager-product planning;

T. C. Schroeder, manager-market research; **J. P. Poth**, vice-president research and engineering; **T. B. Thompson**, vice-president-transportation engineering; **E. F. Brinker**, chief research engineer; **E. J. Agnew**, manager-administrative engineering; **A. Hoogerhyde**, manager-project engineering; **H. G. Witmer**, manager-electro-mechanical equipment; **F. T. Pascoe**, manager-function system design; **W. A. Robison**, manager-electronic equipment; **L. A. Damasio**, manager-marketing for Latin America; **J. A. Cook Jr.**, section engineer-electronics; **T. J. Blocher**, section engineer-digital techniques; **G. W. McKenna**, section engineer-packaging; **E. O. Garrett**, section engineer-mechanical; and **Stanley J. Colcombe**, manager-customer engineering.

Obituaries



Erving N. Fox

● **ERVING N. FOX**, 69, who retired in 1958 as engineer of signals and communications of the Boston & Maine died February 10. Mr. Fox started with the B&M in 1910 while attending Tufts University. Upon his graduation in 1915 he entered the signal department on full time and assumed positions of increasing responsibility until, in 1946, he became engineer of signals and telegraph of the B&M and Maine Central. His responsibility of the latter railroad ceased in 1953 when it set up its own signal department. In 1955 his title was changed to engineer of signals and communications. Mr. Fox was chairman of the Signal Section, AAR, in 1956.

● **H. C. TOWERS**, 59, a frequent contributor of articles to Railway Signaling and Communications, died on December 25 at New Malden, Surrey, England. Mr. Towers was for many years signal engineer on the Bombay Baroda & Central India Railway. In 1951 he was appointed chief signal and telecommunication engineer of the Western Railway, on the regrouping of the railway system in India. He resigned in 1953 to join the Metropolitan Vickers-General Railway Signal Co. in London. He was editor of the Institution of Railway Signal Engineers (London) since 1957.

This Was News 50 and 25 Years Ago

The Signal Engineer, March 1912. Pennsylvania's Penn Station project in New York City extends about 10 miles from Manhattan Transfer, near Harrison, N.J., to Sunnyside Yard at Long Island City, N.Y. Included in the project are 11 interlockings with 313 switches, 644 controlled signals, 104 automatic signals and 512 track circuits.—Union Pacific combines the section and signal forces on the western district of the Nebraska division which consists of 95 miles of double-track ABS and 65 miles of single-track with no block signals. In addition to a net saving of \$30,762 annually, better maintenance and more frequent and more careful inspections of track and block signals are claimed for this combined organization. Other advantages are the transfer of gangs using motor cars to or from any point on a 9½-mile section in 30-40 minutes, compared

to slower hand car transport; men are under constant supervision of a foreman; and there are a sufficient number of men on each section at any time properly to handle ordinary track or signal repairs.

Railway Signaling, March 1937. Santa Fe 10 years' experience with electric switch lamp lighting shows economies over oil lamp lighting. In non-AC signal territory, practice is to install four cells of primary battery for each switch lamp and use approach lighting controls.—Signal Section, AAR, holds two-day meeting in Chicago. In a report by Committee 1—Economics of Railway Signaling, costs of installation and maintenance of CTC and ABS on the Missouri Pacific were compared. It was found that for both ABS and CTC (in the study) the annual operation and maintenance cost was about 3% of the total cost of each installation.