

mental telegraphic reports are sent from a local office to a relay telegraph office, then Teletyped to the Topeka general telegraph office where they are received on page printers. These reports are torn off and delivered to the car accounting office where the information is manually punched on cards.

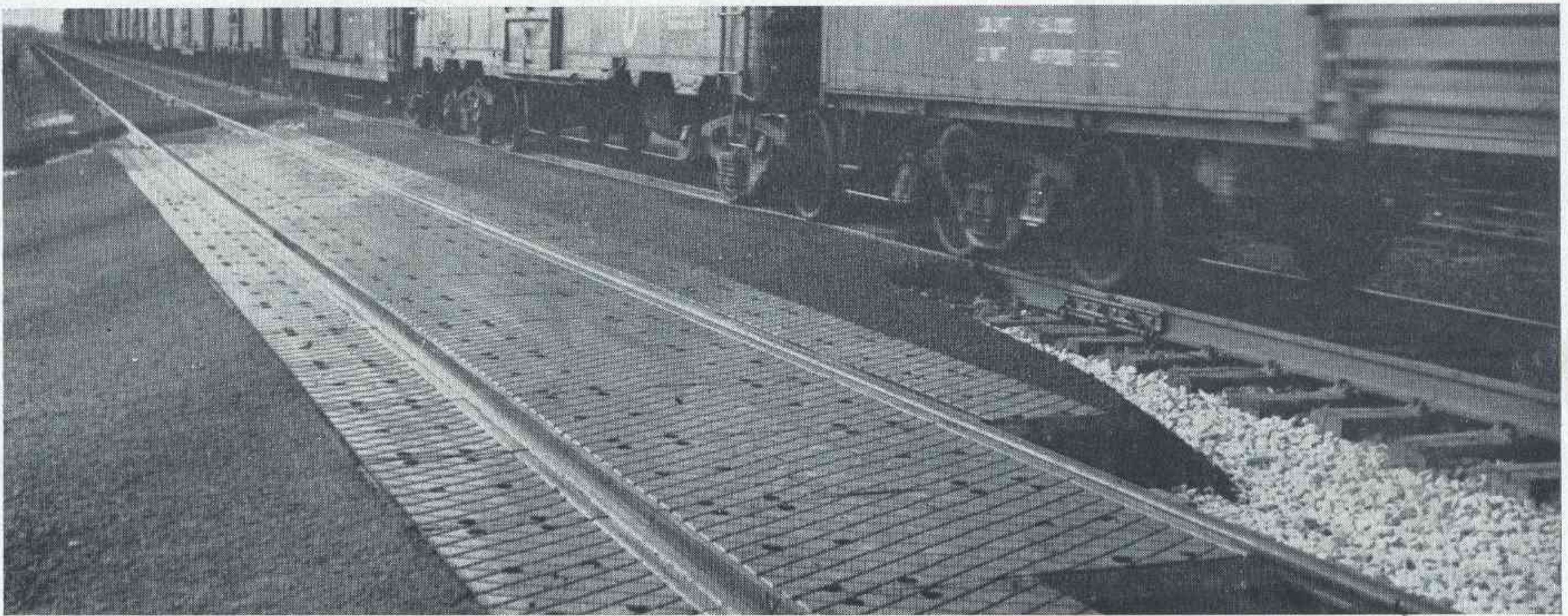
Additional Circuits Required

The adoption of this system required the installation of additional telegraph and Teletype circuits because (1) some existing circuits would not handle the additional traffic because they were already operating at capacity; and (2) if existing circuits could handle the machine car accounting traffic, other traffic would have to be deferred or transferred to other circuits.

To provide additional circuits for the car accounting system was not just a simple matter of installing enough

carrier equipment or physical circuits to handle the new traffic. Some of the larger cities have a traffic volume sufficient to warrant separate circuits, but such circuits from smaller offices would be idle much of the time if they were devoted exclusively to car accounting traffic. Separate circuits to handle car accounting traffic from all offices would be inefficient and economically prohibitive. Thus car accounting traffic is handled in part on multiple traffic circuits, and from some offices on exclusive circuits.

The general superintendent of communications had to decide which circuits were to be used exclusively for car accounting traffic, and which were to be shared with other traffic. To reach this decision, he relied upon traffic studies made by his own department, and upon those made by the car service department, from which estimates were made concerning the nature and volume of traffic to be handled under the new centralized machine



RUBBER SLABS are applied between rails and to ends of ties. Elsewhere at crossing the wearing surface consists of an asphalt mix.

Here's a Rubber Highway Crossing

... ON THE ERIE AT AKRON

Vehicular roadways at railway-highway grade crossings must meet exacting requirements under difficult conditions. They must resist extreme punishment while presenting a smooth, unbroken surface which is economical to maintain. Various materials are used for this purpose—wood, concrete, asphalt, cast iron and even second-hand railroad rails—and now rubber has been added to the list.

What is reported to be the first rubber highway-railway grade crossing has been installed, appropriately, at the "rubber center" of the world—Akron, Ohio—where it is located at the intersection of Wilbeth road and the main line of the Erie.

In this crossing, the vehicular roadway between the rails consists of specially designed and molded rubber slabs measuring 36 by 59 in., which were supplied by the Goodyear Tire & Rubber Co. The slabs are installed with the long dimension transverse with the track. They are a little more than 3 in. thick, including a sheet of heavy-gage steel sandwiched within each slab. The slabs rest on heavy treated wood furring placed on top of the cross-ties, and each slab is fastened down by 12-in. lag screws extending through metal and rubber grommets. Metal ramps at the ends of the crossing protect it from dragging equipment.

The ends of each slab for installation between the

car accounting system. These estimates were the basis for determining the number of separate and multiple-traffic circuits that would be required.

Direct Wheel Report Circuits

New circuits for this traffic were provided for on (1) new carrier channels; (2) existing carrier channels from which existing traffic could be transferred to other channels; (3) existing channels on which car accounting traffic and other traffic could be carried jointly; and (4) new physical circuits, mostly short runs. The majority of the new car accounting traffic is carried on carrier channels; using those already in service and 40 new channels provided for this service.

Nineteen direct circuits handle wheel reports between 15 major cities and Topeka. Eight of these wheel report circuits are new, seven were existing exclusive wheel

circuits, and four were joint circuits now used only for wheels.

The following three cities have been equipped with more than one direct circuit: Los Angeles, 3; Amarillo, Tex., 2; and Argentine, Kan., 2.

Additional Teletype Equipment

Besides the new carrier equipment required for the car accounting system, the communications department installed 54 sending Teletypes, 48 receiving page printers, 101 transmitter-distributors, 107 reperforators, and 7 non-typing reperforators. Sixty-eight carrier terminals were also installed. The new equipment was installed in offices in 40 cities on the Santa Fe system.

The planning and installation of the communications equipment was under the supervision of the general superintendent of communications.



ONE END of slab for installation between the rails is placed against one rail after which the tapered . . .

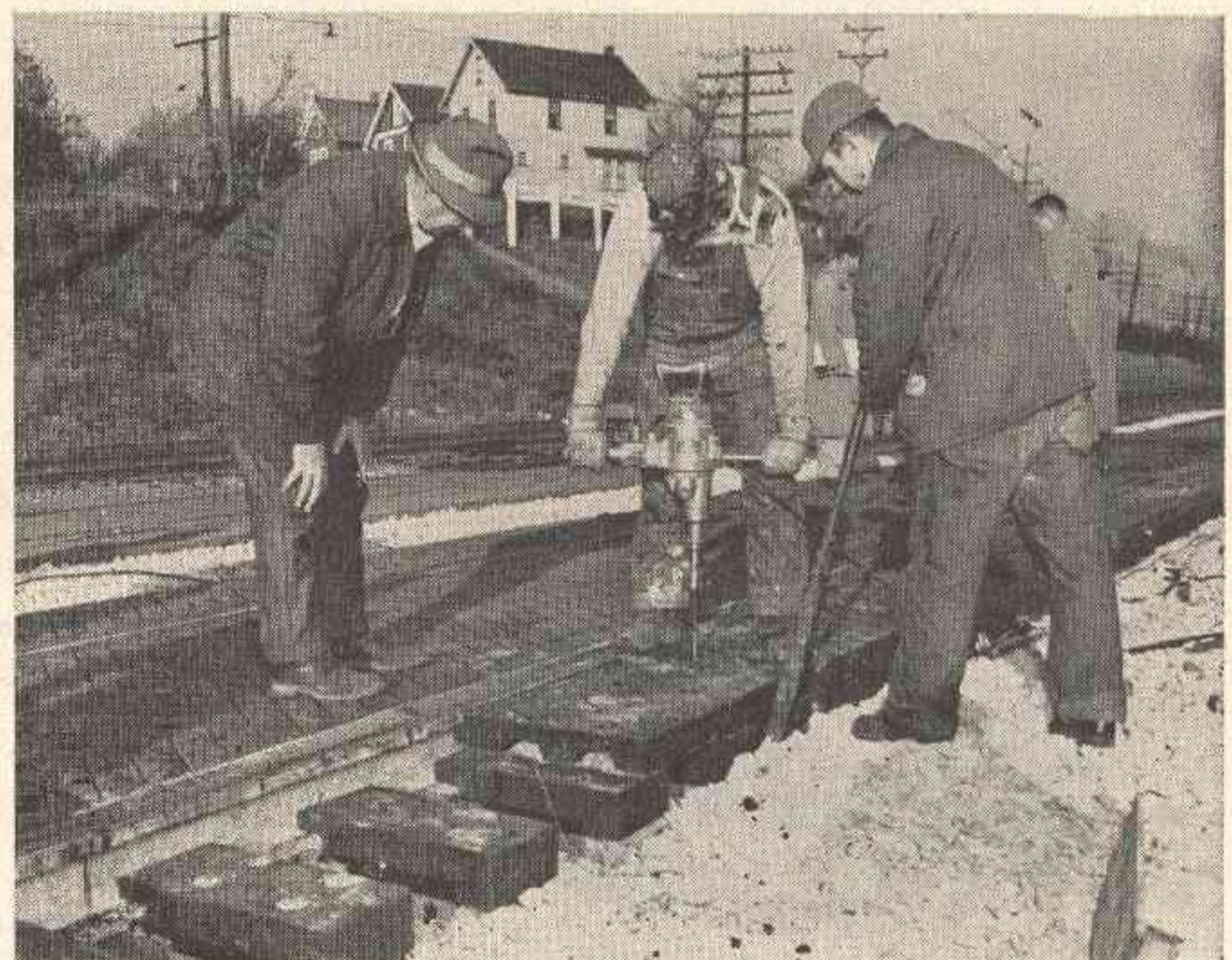


. . . FLANGE at the other end is sprung into place against web of rail to form a water-tight fit.

rails are constructed with tapered flanges along the bottom side. These flanges fit under the rail head and contact the web, and when sprung into place are reported to form a watertight fit against the rail. At the same time, the dimensions of the flanges and the slabs themselves are such that flangeways are formed along the gage sides of the rails. Smaller rubber slabs, placed outside the rails, extend to the ends of the ties.

Special wear and skid-resistant rubber compounds were used in making the slabs. The wearing surfaces are built with a diamond design molded into the rubber, which is similar to the design used on the treads of Goodyear tires.

This new type of surfacing is considered to have possibilities not only for use at grade crossings but also in station areas where passengers and baggage trucks must cross one or more sets of tracks, and in factory receiving and shipping areas where similar conditions are encountered.



FASTENINGS for rubber slabs consist of 12-in. lag screws installed through metal and rubber grommets.