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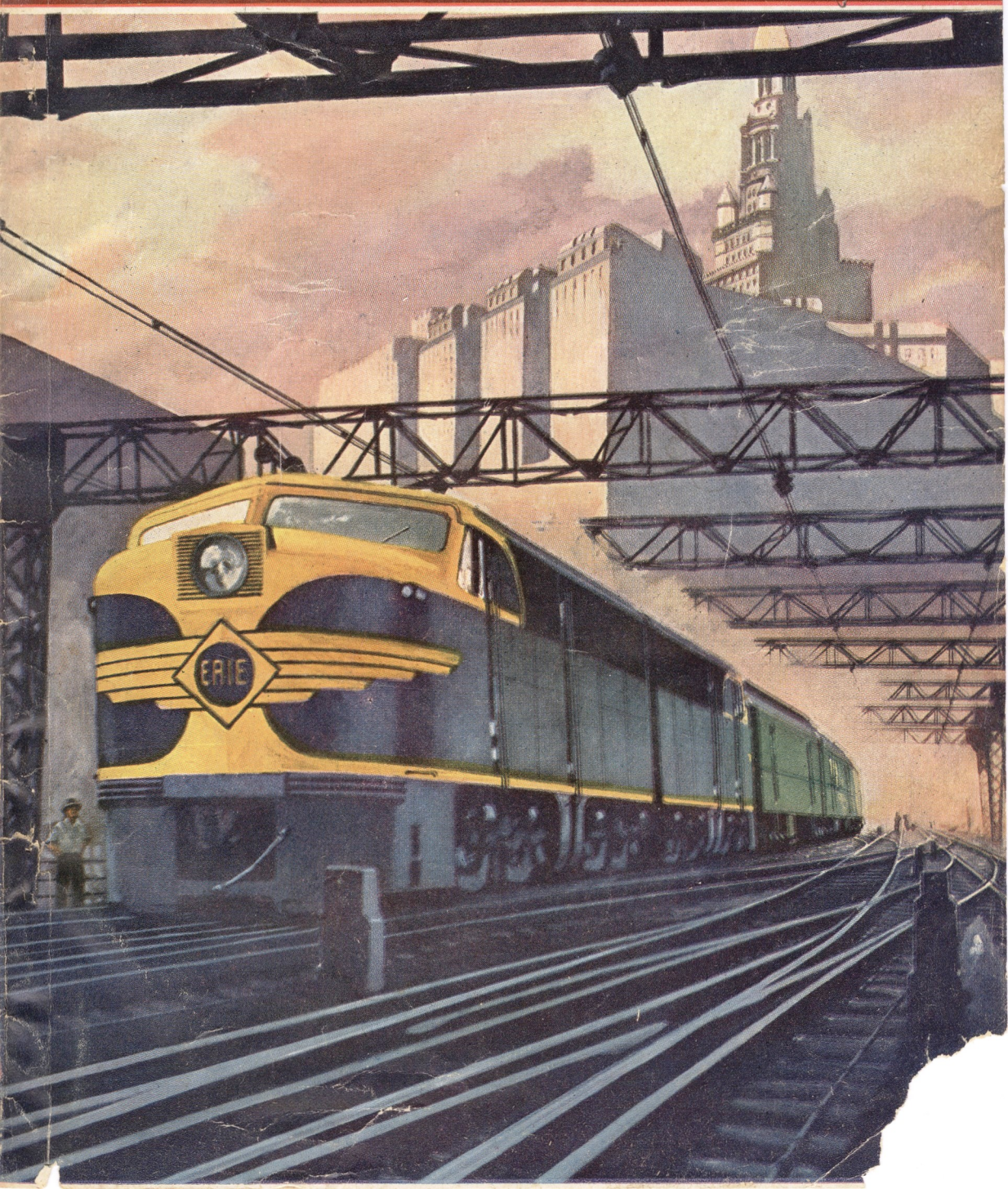

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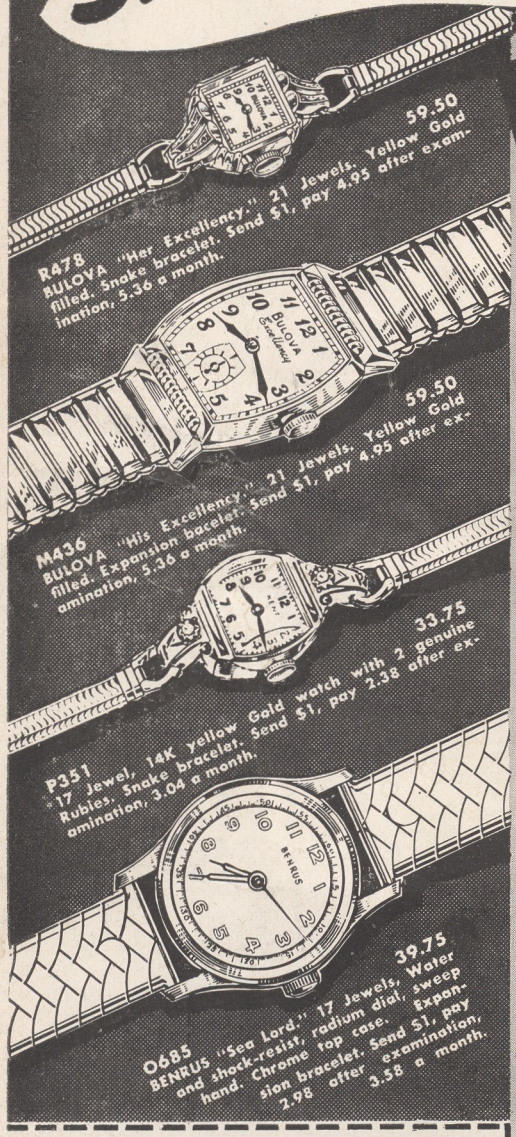

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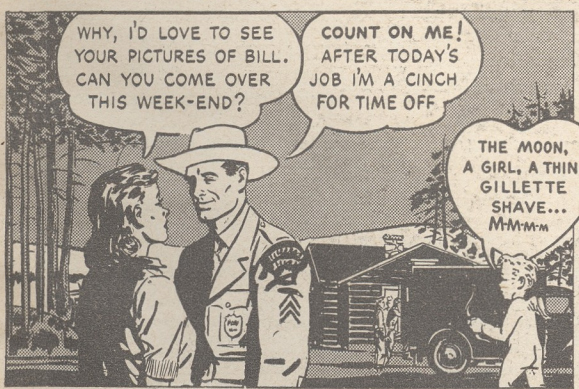

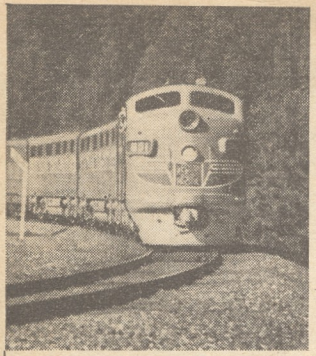

RAILROAD

MAGAZINE

Originally Railroad Man's Magazine, founded 1906

November, 1949 Vol. 50, No. 2 35 Cents

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By Frederick Blakeslee

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Ghost Train in the Sky

An old ashcat was stokin' coal one hard and
weary run
His steam was low and he was tired—he'd
shovelled twenty ton.
When all at once a mighty train up in the
clouds he saw
Her 'gine was belchin' smoke and steam
He watched her come with awe.

Her valves was blowin' steam and her rods
was clankin' loud
Her whole damn crew was feelin' low—a motley
lookin' crowd.
He shuddered as her drivers slipped—her hog-
ger had no sand
To wheel that mighty tonnage train
Across the Promised Land.

Her fireman shovelled hard and his shirt
was drenched with sweat
He's tryin' hard to howl that mill—but he ain't
howled her yet
'Cause her flues are spurtin' water and her
fire is full of holes
But they're tryin' to move that Devil's train—
God bless their weary souls.

As the ghost train wheezed on by him her
hoghead called him shrill
If you want to save your soul from hell a
stokin' on this mill
Then, fireman, change your ways today or
with me you will be
A tryin' to keep this kettle hot—
Throughout Eternity

(*With Apologies to Stan Jones*) —H. L. Kelso

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The teaching is so interesting and the pieces so beautiful I couldn't ask for anything better. I recommend your course highly. My sister shares it with me and feels the same way.

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I am finding a new joy that I never experienced before, for I have always wanted to play, but had given up hope until I heard of your course.

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I hesitated before sending for your course because of an earlier experience I had with a course by ear from another company. I am playing pieces now I never dreamed I would play after only two months.

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Somnambulistic Iron Horses

By GEORGE O. POMMER, JR.

STRANGE, sometimes eerie things have occurred in railroad yards. But when a locomotive walks in her sleep . . . ! Take that case down in the Atlanta yards of a southeastern road a few years ago. Twice in the same night it happened. And plenty of experienced men around that terminal were in a high dither before the puzzle was solved.

On the night in question Engines R 3495 and S 3496 had been put to bed in the usual manner. In the shed their throttles were locked, boilers filled and fires banked. The yard men knew they weren't due out again until the next day. So it's not difficult to imagine their consternation when at about 4 a.m. they saw R 3495 creep slowly out of her shed and start down one of the tracks leading out of the yards. Most amazing was the fact that her cab was empty.

Before anybody could move, the iron horse gathered more speed and was gone. Naturally the alarm went out, and the excitement spread: nobody knew how far she'd go or what might happen. Hardly had the first shock passed when S 3496 emerged from the shed and started down the same track, apparently in pursuit of her sister engine. Two runaways chasing each other through the gloom of the night without lights!

A few miles down the track the last fantastic touch was added to this drama. Slowly the R 3495 came to a halt, while the S 3496—approaching from behind—also eased to a stop, just short of a collision. Amid sighs of relief and troubled frowns, both engines were returned safely and an investigation was begun.

That very night the roundhouse gang checked the valves. No trouble! When that failed to supply a clue, the men explored every other obvious possibility; still the enigma remained. And so the next night, and for several evenings following, special watchmen were detailed to remain in the shed.

Sure enough, not long after being put away, the restless steeds stirred again. More escapades would have followed had they not been summarily halted. Finally, the engineers adopted the extreme precaution of chaining both locomotives to the rails at night. A pain in the neck, to put it mildly.

As no real progress was made toward solving the problem, experts from the builder who constructed R 3495 and S 3496 were hastily summoned. During a careful study of the diagrams of the duplicate interiors, they paid particular attention to the throttle-valve assembly. They knew that the nightly practice of adding feedwater to the boiler raised the water level above the dry pipe—the long steam conduit which extends from the throttle valve to the cylinders. Since the new feedwater was almost 200 degrees cooler than the normal running temperature of the boiler, they knew that considerable contraction of the dry pipe was inevitable. This gave them a lead.

As is usual with most mechanical mysteries, the explanation is simple once it's pointed out. The bell crank lever—a vital connecting link between the throttle lever and the throttle valve—was pivoted on the dry pipe; and when that pipe shortened, the crank lever had to move with it. With the throttle lever locked, the only way the resulting thrust could be released was upwards against the throttle valve. This gradual admittance of steam to the cylinders was sufficient to start the engine. Movement ceased when the relatively small quantity of steam in the boiler was used up.

It was simple to arrange a new mount for the bell crank lever, independent of the fluctuating dry pipe. Thereafter, no more engines roamed the track off schedule.

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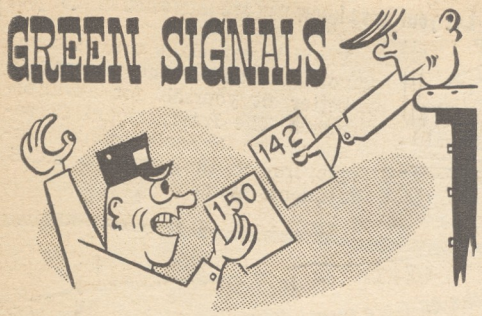

By PETER JOSSERAND

IT WAS raining and cold that night when Extra 4122 East pulled out of A, holding, among other orders, this one:

ORDER No. 142
Extra 4122 East meet No. 77 Eng 1518 at G

Unknown to Engineer Hill and Conductor Daugherty, bad luck was with them in the form of a car with a faulty triple valve—a "dynamiter." They just had running and clearance time to make B for a string of varnish. When the hogger slipped a service application under them preparatory to heading in at B, the brakes went into emergency and broke a knuckle on a car in the middle of the train.

Hill whistled out a flag both ways; and the front brakeman grabbed his flagging equipment and tore out to stop Number 103, just as Conductor Daugherty's light dropped from the caboose and started through the driving rain toward the head end. Eventually the broken knuckle was found, replaced and Number 103 was allowed to proceed after thirty minutes' delay. Still the crew did not tumble to the "dynamiter." It looked as if the knuckle had broken and the train parted, causing the emergency application of the brakes.

At C the order board was red. When the hogger made a trainline reduction to pick up the "19" order, again the brakes went into emergency. It was lucky in a way, for it pulled a drawbar out of the "dynamite." They set it out at C. The order they received there read:

ORDER No. 150
Extra 4122 East meet First 77 at F instead of G

On arrival at D they picked up another flimsy reading like this:

ORDER No. 154
Order No. 150 is annulled
Extra 4122 East meet First 77 at E and Second 77 at F instead of G
Second 77 take siding at F

After meeting First 77 at E, Extra 4122 East pulled down the main track at F. Second 77 was not there, so the brakeman went ahead to open the switch for them. They didn't have long to wait.

"Isn't that fellow wearing the green?" the tallowpot yelled at the hogger. Before Hill had time to reply, there came a long and two short wails from Second 77; and the eagle-eye grabbed for his orders, as he answered Second 77 with a couple of toots.

"Looks to me like we're on the main track with nothing on Third 77," the fireman ventured.

"Don't believe the dispatcher would put us on the spot like that," Hill replied. "Let's see. We had a meet with Number 77 at G; and that means all sections. Then he superseded the meet with the first section, changing it to F; then he annulled that order and made a meet with the first section at E and superseded the meet with the second section, changing it to F. That leaves us meeting the third section at G on Order Number 142, I figure."

The hogger whistled off when Second 77 cleared and looked back for a highball. None was forthcoming.

"Guess we can't see them because of the rain," Hill remarked as he moved the reverse lever forward and cracked the throttle. The drivers hadn't made a half-dozen revolutions when Hill became conscious of the fact that the conductor had pulled the air on him. He closed the throttle, let the train stop, gave four toots to

(Continued on page 12)

-Hi Fellows! The NEW

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(Continued from page 10)

call for a signal and waited. He didn't have long. Conductor Daugherty was half running and out of breath.

"Where the hell do you think you're going?" he wheezed, glaring at Hill. Then turning on the head brakeman, "Get going and flag Third 77 before they come around that curve smack into this crazy hoghead where he needs it the most—right on the nose."

"Calm down and look at your orders," Hill told Daugherty. "We have a meet with Third 77 at G on order Number 142, don't we?"

"Not on your life," Daugherty retorted. "Order Number 142 has been superseded and is dead as a door nail. That dispatcher has out a lap—got us on the main track on the meet here and nothing on Third 77."

What do you think? (See page 139)

Origins of Rail Terms

IN STUDYING terms used daily in connection with railroading, we find many interesting words and facts. For example, when the train is far away, you hear the *whistle.* This word is from the Anglo-Saxon and means to hiss. It is akin to our word whisper.

Railroad itself comes from two sources. Rail is the old French *reille,* from the Latin *regula*—a straight piece of wood; and road is derived from Anglo-Saxon *rad* and *ridan,* to ride. So a railroad is a place where one may ride on a straight bar of wood or iron.

From the Latin root *traho,* translated to draw, we have taken the word *train.* A train is drawn by an *engine,* from the French *engin,* from the Latin *ingenium—in* plus *gingnere*—to produce. The engine, of course, produces the power.

Now the engine emits *smoke*—a word borrowed from the Anglo-Saxon *smoca.* And the progress of the train is guided by the *telegraph* and *telephone,* formed from Greek *tele,* meaning far, *graphein,* to write, and *phonein* to speak. So we have far-writing and far-speaking.

The train, of course, is in charge of a *conductor,* coming from two words used in the days of Julius Caesar—*con,* with and *ducere* to lead. Trains, as we know, are made up of *cars,* from the Latin *carrus* meaning any wheeled vehicle. If the train is a freight train it will have a *caboose,* and here land travel has been borrowed from the sea, for originally a caboose was a room built on a ship's deck and used as a galley. The word is from the German *kabuse,* a little room or hut, *kabache* or a derivative of a low beer house. Then we have the *baggage* car, coupled behind the tender of a passenger train. In it will be placed what the French call *bagues*—the latin *baga*—meaning bundles or bags.

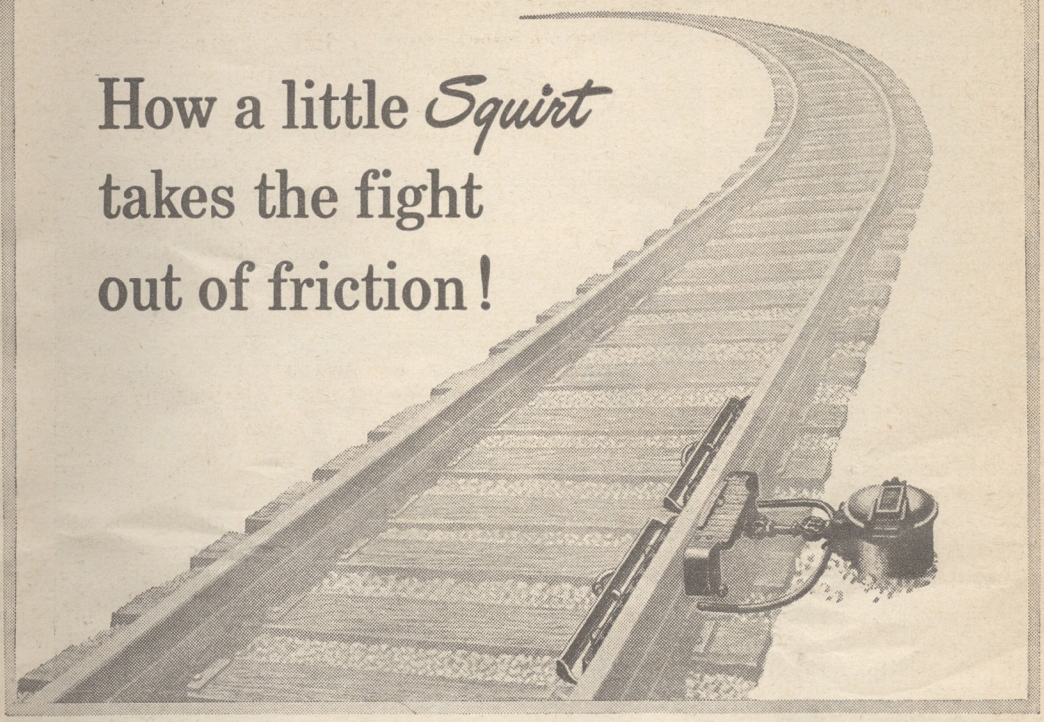
In a small town, the train will usually stop at a *depot,* usually pronounced deepo, but properly dep-o. This is the French *depot,* a place where something is stored, originating from the Latin *depositum.*

He who boards the train is a *passenger,* from the French *passager,* meaning passerby or wayfarer. Perhaps he will ride in a *coach,* and here is a case where our language has done a good deal of borrowing. It comes from the French *coche,* derived from the German *kutsche,* from the Hungarian *koesi,* from the name of the Hungarian village *Koes,* where there were craftsmen skilled in making high-class wagons or coaches.

The word *cowcatcher* is strictly American, and was adopted during the early days of railroading for many reasons. It was invented in 1832 by Isaac Dripps, a young mechanical engineer employed by the Camden & Amboy Railroad in New Jersey, now part of the Pennsylvania Railroad. Dripps first installed a small truck supporting two iron spears on the front end of the locomotive. This was quite effective, but fatal to the cows.

Eventually the engineer changed his design to a crosswise bar much like the present-lay bumper on an automobile, and from this evolved the V-shaped cowcatcher. Its origin explains why it has no lineage of language. **—Nash Chandler**

How a little *Squirt* takes the fight out of friction!



Pulling a railroad train around a curve takes extra locomotive power due to the friction of the wheels against the rails.

But another, more serious effect of this friction was the way wheel flanges *ground off* the rail head, making it necessary to replace rail on sharp curves every few years.

So railroad research engineers developed an ingenious "flange-lubricator" which is installed on curves. As the train approaches the curve, the car wheels come in contact with a tripper bar which automatically squirts a measured amount of lubricant against the flanges. Friction is reduced to a minimum . . . the locomotive load is lessened . . . and the outside rails on curves wear two or three times longer.

Finding new ways to make *every* detail of railroad operation more efficient calls for continuous research on hundreds of projects. It's typical of how American railroads are constantly on the alert to cut the cost and to improve the service of the nation's most economical transportation system.

To keep improving America's railroad transportation network means constant investment, both in developing new and better ways of railroad operation and in the actual installation of research-proved innovations. And because the railroads have always given the "green light" to continuing improvement, the American people increasingly benefit from the thriftiest mass transportation in the world.

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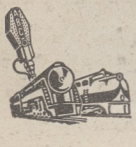

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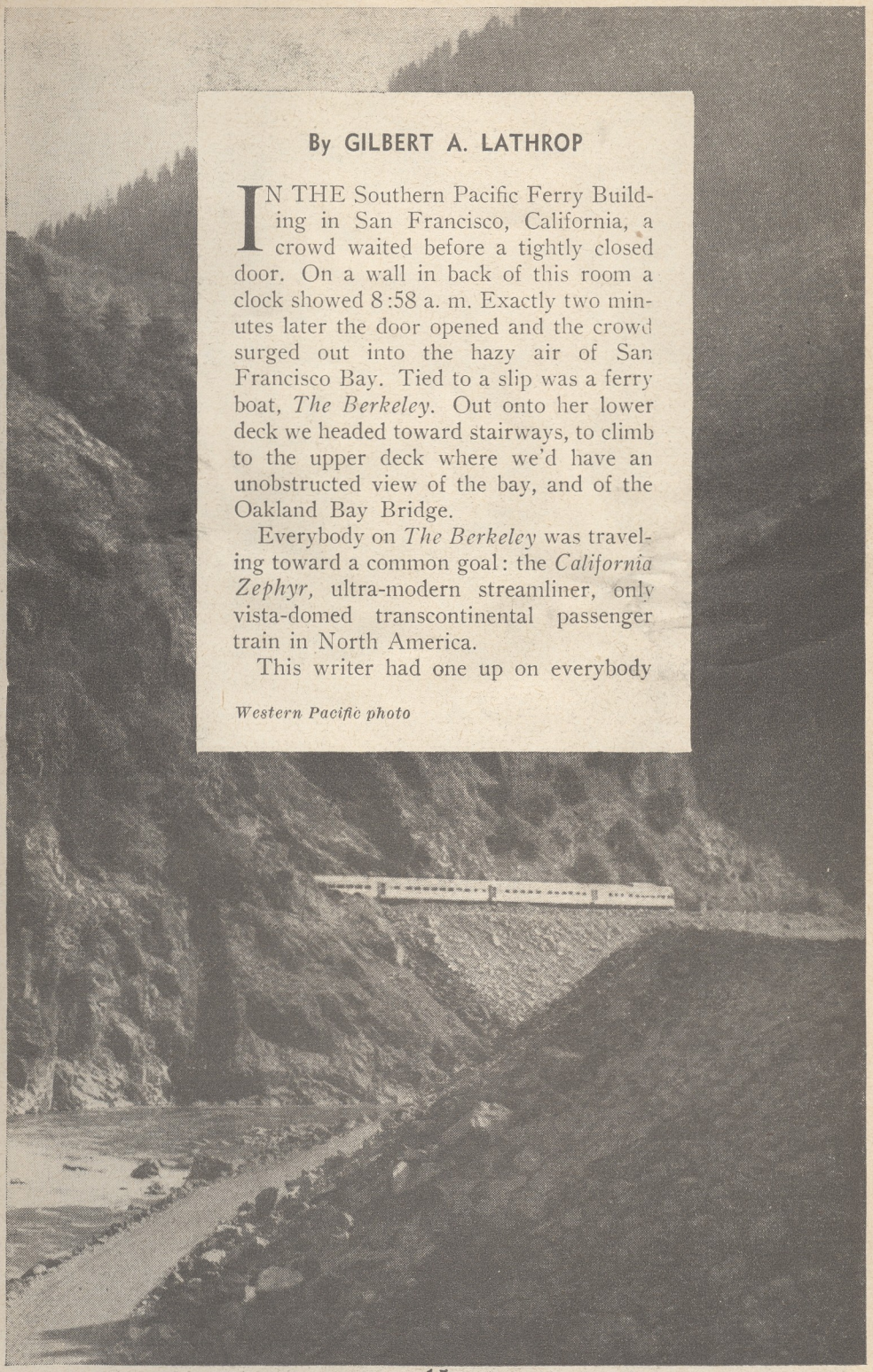
THE CALIFORNIA
Zephyr



By GILBERT A. LATHROP

IN THE Southern Pacific Ferry Building in San Francisco, California, a crowd waited before a tightly closed door. On a wall in back of this room a clock showed 8:58 a. m. Exactly two minutes later the door opened and the crowd surged out into the hazy air of San Francisco Bay. Tied to a slip was a ferry boat, *The Berkeley*. Out onto her lower deck we headed toward stairways, to climb to the upper deck where we'd have an unobstructed view of the bay, and of the Oakland Bay Bridge.

Everybody on *The Berkeley* was traveling toward a common goal: the *California Zephyr,* ultra-modern streamliner, only vista-domed transcontinental passenger train in North America.

This writer had one up on everybody

Western Pacific photo

Western Pacific

Car builder looks at 1949's most publicized streamliner—Burlington-Rio Grande-Western Pacific's *California Zephyr*. Budd's photographer caught the orange-and-silver, vista-domed train on WP trackage high in the Altamont, Calif., hills with flags flying on triple-unit Diesel 803, the EMD *growler* that powered Author Lathrop's run on June 12th

else on the boat this Sunday morning, June 12, 1949. In an inside pocket of my coat was a permit signed by H. C. Munson, vice-president and general manager of the Western Pacific Railroad, giving me permission to ride the cab of the Deisel-electric locomotive all the way from Oakland to Salt Lake City, Utah, 928 miles away. In addition, I had a pass made out to G. A. Lathrop, switchman. So I have the honor of being about the only employe below the grade of official to have ridden this train all the way over WP on a pass, the entire distance to "The Lake" on the locomotive.

Halfway across the bay we passed the Western Pacific tug, *Humaconna,* towing a barge loaded with 13 hoppers and boxcars from Oakland to San Francisco. There is no direct rail connection between the two cities. Oakland lies on the north side of the bay while San Francisco squats on a thumb-shaped peninsula to the south. Both the WP and the Santa Fe send their loads and empties across via barges. The SP has a bridge, the Dumbarton, some 30 miles to the east.

The *Berkeley* nosed into her Oakland slip about 9:25. We hurried off the boat to head toward a gleaming, stainless-steel symphony of luxurious speed and comfort, the *California Zephyr.*

On the way to the three-unit Diesel electric I halted long enough to show Conductor W. D. Edgerton my credentials. He was calling "a-a-board," by the time I reached the cab. I scrambled up the side ladder and told the engine crew, "I'm gonna deadhead with you fellows today."

In answer to their doubtful looks, I fished out my permit and Engineer Geo. T. Rutherford gave it a quick reading. "I'm getting a story for *Railroad Magazine,*" I explained.

Somebody called up to Rutherford, "I think Mr. Whitman is riding the train today."

Rutherford nodded his head. Prior to July 1st, Frederic B. Whitman was executive vice-president of the WP. On that date he became president. The fact that he was riding with us seemed to bother the engine crew not at all.

Rutherford put his left foot on the dead man's throttle, and looked back for a highball. At our backs 4500 horses muttered impatiently.

Rutherford's watch hung from a hook in a circular receptacle, face out. Fireman C. M. Bancroft had a page of our timetable folded and hung before him. A paper clip showed our location, Oakland, and our leaving time was 9:30 a. m. I compared my time with the engineer's; we were together to the second. And at exactly 9:30 we moved off so smoothly and effortlessly I had to watch a fixed object beside the track to be certain we'd started.

Now began 924 miles—it's four miles across the bay—of some of the sweetest railroading I've ever seen. We slipped down the SP tracks leading from the Mole to Chestnut Jct. to connect with the WP mainline.

We made a short stop at the WP passenger station at 3rd and Washington. Quite a number of passengers boarded the train here. At 9:44 we pulled away from the depot. Ahead lay a non-stop run of 87 miles to Stockton. Time over this stretch: 2 hours and 7 minutes.

"You won't hit any fast track until you get out on the desert," Rutherford told me as he worked our speed up to thirty. "There's some ninety-five mile-per-hour track out there."

Between Hayward and Niles we stepped up to 70 for several miles. That's fast, perched above the track with the right-of-way spinning past. I kept an eye on the clock which not only registers the speed, but records every foot of the trip on a paper tape.

When working up to the speed governed by wayside markers the throttle is worked in the 8th position, or wide open. But with each shift of the phases of the traction motors it is momentarily closed. This eliminates all jerking of the coaches behind. When maximum speed is attained the throttle is set in 4th, 5th or 6th position and the powerful Diesel motors si-

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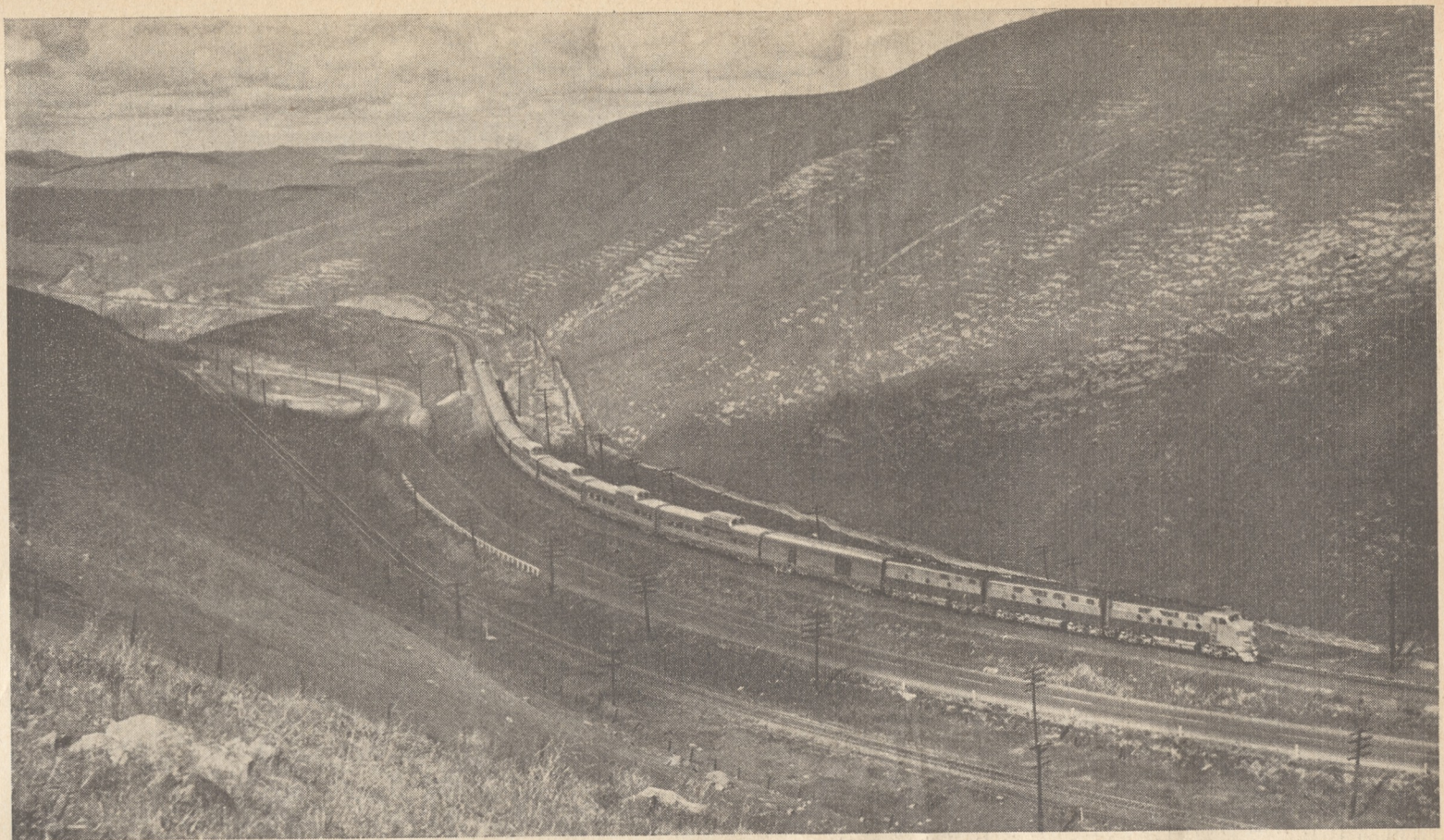
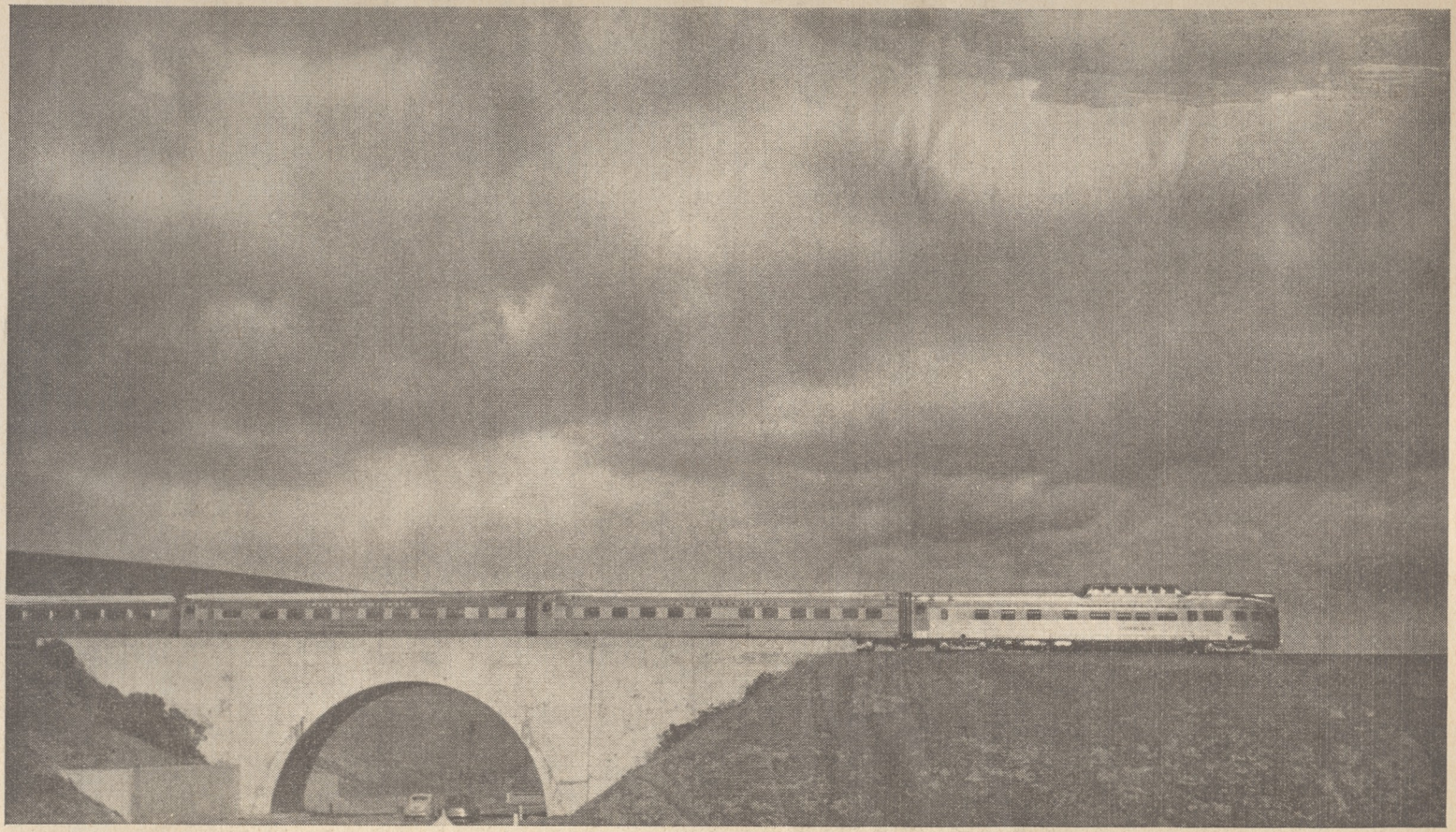


David G. Edward, Rail Photo Service, Boston, Mass.

Maiden trip. Streaking through Redmond Gorge on its first official eastbound run last March 30th, ***California Zephyr*** proved more than a match for the curves, grades and forced speed restrictions of mountain territory. Schedule for the 2532-mile trip from Pacific Coast to Chicago cut 12 hours and 15 minutes off timecard of ***Exposition Flyer***, its predecessor



David G. Edward, Rail Photo Service, Boston, Mass.

Through depths of Altamont Canyon, rails and an adjoining highway parallel or play leapfrog with one another. The climb to Altamont is one reason why the non-stop sprint to Stockton requires 2 hours and 7 minutes, an average of only 41 mph.; between Niles and Altamont, tracks rise 684 feet in 27 miles.

(Continued from page 17)

lence to a very smooth, effortless purr.

Our engine, the 803, rode like a Pullman. There was no weave on tangents, no fighting outside rails on the curves.

Absolute automatic blocks control the traffic between Oakland and Oroville. Through Feather River Canyon is CTC.

We passed the station of Niles on the second. The San Jose Branch connects with the main here. Out of San Jose the WP enjoys a very profitable business in dried fruits, canned goods and perishables. Three switch engines are usually worked there and a 1000-horse Diesel handles the branchline trains.

Leaving Niles we began the climb to Altamont, through beautiful Niles Canyon with Sunday picnickers and bathers waving to us. Like a shiny gopher we dove into Tunnel No. 1 where the granite walls and ceiling beat back the throbbing roar of our motors in deafening cadence. We could feel the refrigerated coolness of the tunnel inside the cab and it was welcome after the hot sun of the valley.

"I read about some fireman in the East," Bancroft told me when we were through the tunnel. "Claims he's the only M.D. firing an engine in the U.S."

"He probably gets more kick out of spading coal into fireboxes than shoving physic down sick humans," I grinned.

He handed me a card. "Clarence M. Bancroft. D. C." I read. Below was his office address in Oakland.

"What's the D.C.?" I asked.

"Doctor of Chiropractic," he explained. "So that fireboy isn't the only one sporting the title of doctor."

"When do you practice?"

"We lay in two days between trips. I keep open office hours then."

Some heavy construction went into building the line through here. Tunnel No. 2 was drilled through a hog back over the top of which flowed a magnificent auto highway.

RUTHERFORD had to cut our speed to 30 through the little town of Pleasanton. "Until recently all trains had to slow to fifteen through here," he told me. "But the city dads have verbally agreed to let our streamliners make thirty. They'll amend their by-laws next time they meet, in a couple of months."

I watched the speed permissable boards with interest. Few of the traveling public know about this comparatively recent innovation. On the WP these are set along the right side of the track, generally grouped in threes. Two circular white disks are on top. In the center, directly below, is a yellow one. On the white disk nearest to the cab is the maximum speed allowed regulation passenger equipment; the one on the right shows the speed allowed freights. The yellow governs streamlined trains. So the white disks will show 60, 45; the yellow, 75. And if you're riding a streamliner you can pretty generally bet that your speed until the next restrictive boards are passed will be exactly that stated.

Normally the speed through Livermore, 42 miles from Oakland, is 30. But today they were having a big rodeo and we had to slow to 15 in case a flock of cowboys and cowgirls got their horses on the track. Our deep-throated air whistle blared constant crossing warnings.

"We got hit broadside a few weeks back," Bancroft told me when we'd passed Livermore. "The driver had at least five miles of unobstructed view. We were making sixty. He hit the third unit."

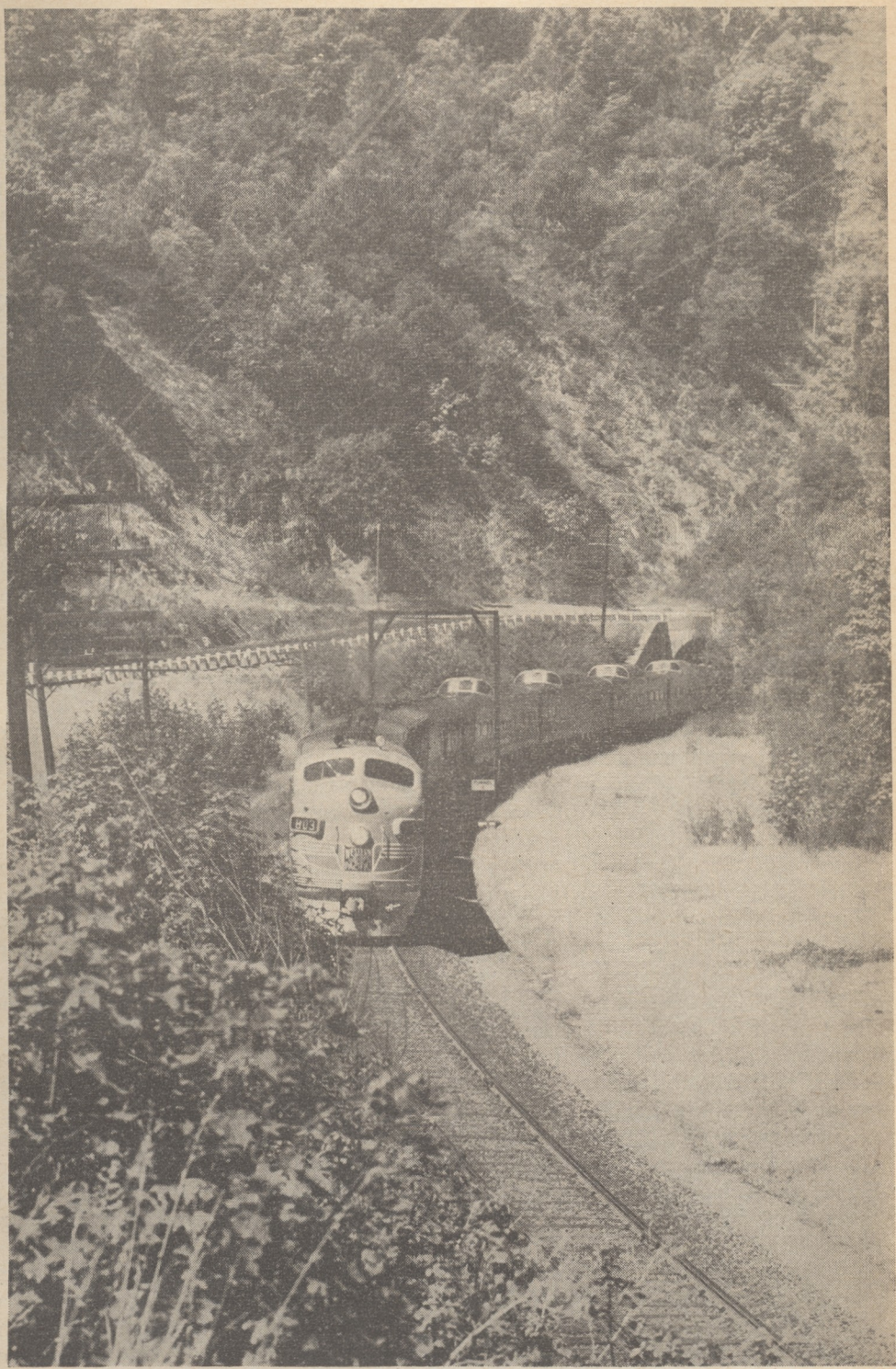
"What did it do to him?"

"Flipped his auto like a rubber ball. Didn't damage anything on the train or engine. The driver was dead when they picked him up. Wig-wag was working, whistle blowing and our bell ringing."

The average motorist has little conception of the speed of an approaching train, particularly after dark.

"We're coming to Tunnel No. 4," Bancroft grinned. "Got a whole flock of pigeons that nest inside. They'll all fly out when they hear us coming."

We rounded an easy curve. Ahead was Tunnel 4. As we approached, half a dozen plump pigeons sailed from the black entrance and flew toward the parched



Peter Josscrand, 233 E. 41 St., Sacramento, Calif.

No. 18 exits from east portal of Tunnel 1 near Niles, Calif.—and vista-dome sightseers strike daylight once again. Of the 66 *Zephyr* cars, 30 have glassed in upper decks

mountainside. They were domesticated birds who had sense enough to find a nice cool, sheltered place to live. The country along there was tinder dry, the rolling hills covered with dry grass and wild hay.

It's claimed that Altamont is one of the windiest spots on the WP. Tales are told of side curtains being blown off engines, and I've even heard that toolboxes have been blown out of cabs.

"I'll show you how our dynamic brakes work from here," Rutherford told me. "It's seldom we have to use our automatic airbrakes any more, except to stop. We simply reverse the traction motors. They generate electricity which is dissipated through screens in the roof in the form of heat."

At steady 60, 65 and 70 miles per we snaked off Altamont as smooth as oil. There was little sensation of brakes, but our speed hardly varied.

The desert appearance of the landscape suddenly gave way to the brilliant green of growing things. Here was a full acre of rose bushes, planted in compact rows and blocked into brilliant color schemes, deep red, then yellow, orange, then pink, and white. Fields of alfalfa that would yield to eight cuttings a year were on either side. This is the San Joaquin, pronounced "San Wa-keen," or Central Valley of California, richest farming country in all the world. It is productive beyond the imagination. Head lettuce grows alongside palm trees, and asparagus and figs flourish side by side. Literally tens of thousands of carloads are shipped out of this valley via the SP, the AT&SF, the WP, the Sacramento Northern and several midget pikes each year. As many as 300 sacks of spuds have been raised on a single acre of peat land here. Hundreds of acres of rice, eye-smarting green, grew in diked paddies beside the track.

We crossed the San Joaquin River on a heavy steel trestle.

Rutherford told me he has 33 years with the WP. Most of the runners on these streamliners have about the same. It requires a total of 84 employes to operate this single train every 24 hours: eight engineers, eight firemen, six conductors, four brakemen, four flagmen, six chair-car porters, 12 Pullman porters, two Pullman conductors, two stewards, 28 dining-car crew, two Zephyrettes and two baggagemen. So the *Zephyrs* must operate with just about a full load every trip to pay their way.

Each train when fully loaded will accommodate 138 coach and 107 sleeper passengers, a total of 245.

Just east of Stockton we got a red block while an SP freight train ambled leisurely across our main. This delayed us about four minutes, but Rutherford assured me he'd pick that up without much effort.

"We do the next sixteen and eight-tenths miles in fourteen minutes," Bancroft told me while Rutherford put the 803 in the 8th position and all 4500 horses took the bits in their teeth.

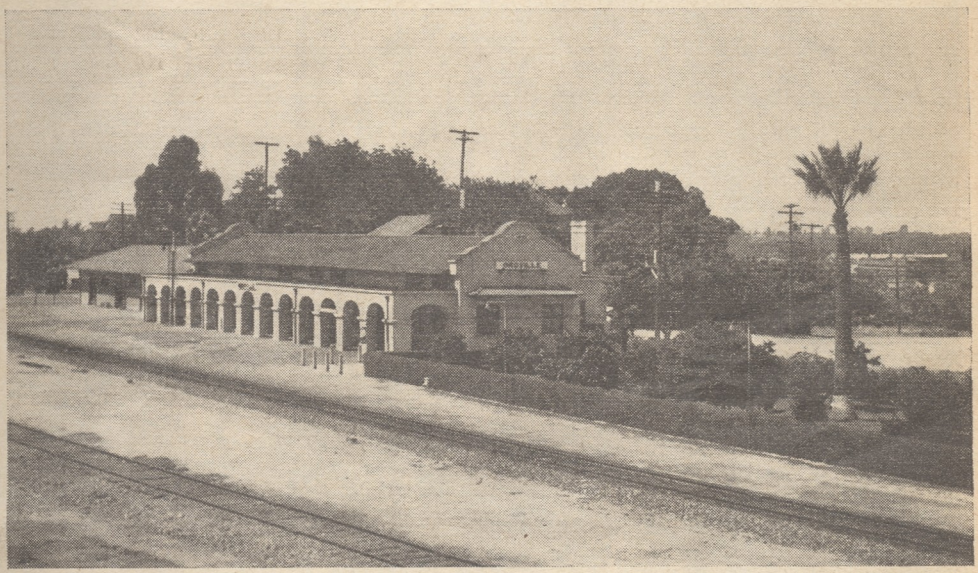
We met 17, our westbound *Zephyr* at South Sacramento and neither train had to stop. Number 17 showed the dust and grime of her voyage, almost 2500 miles from Chicago. But when she came out on her run next day, she'd shine like a brand new train.

The railroad expended $810,000 on coach yard facilities in Oakland to service these hot rods of the rails. Two floodlighted pits, 600 feet long, allow crews of men to work under the coaches. Soap, revolving brushes, and rinse water at 110 pounds' pressure wash the car bodies and the vista domes, while steam jets and a strong soap solution brushed on by two men clean the running gear. It takes one hour to wash thoroughly the outside of the 11-car train. All windows are hand washed and polished, and the interiors completely renovated. I recently saw a crew of four men and a foreman change two pairs of wheels in 37 minutes!

Marysville is known as "The Peach Basket of the World." Any time you eat a canned peach, chances are nine to ten it was grown to lucious goodness on one of the millions of peach trees around this bustling little city. It was hot there that

Sunday, 110 degrees. But it takes hot weather to mature peaches.

"Got a retired blacksmith living along here," Rutherford told me. "Must be around eighty. Lives all by himself and guess his only contact with the outside world is waving at us railroaders. Regardless of the hour, night or day, he's right there with a big highball. At night he waves his greetings with a flashlight."



James E. Boynton

Oroville: center of orange and olive-oil production, WP division point and start of CTC territory. From Oakland to Oroville, single track is guarded by absolute automatic blocks

We were speeding along between Marysville and Oroville. Oroville is famous for oranges; and next to Italy, it ranks as an olive oil center. Groves of this quinine-bitter fruit lined both sides of the track, gray-green ancient trees, all of them showing corn-kernel-sized olives. This is the red soil country. Here Mother Nature has bled herself to a dazzling copper red. But the ground is rich. Even a walking stick stuck in it will sprout and become a tree!

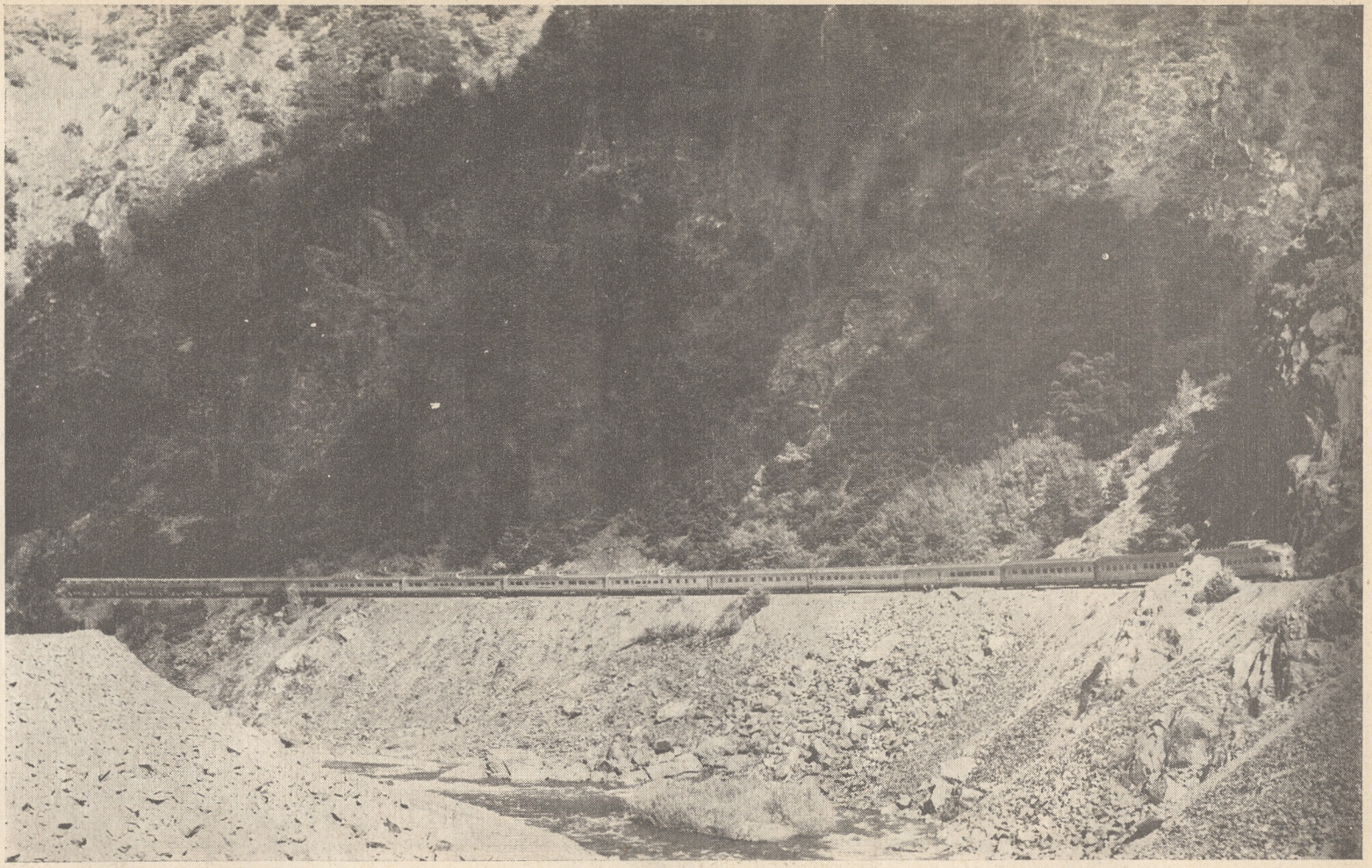
OROVILLE was the end of the run for the engine crew. "We stop three minutes to change," Bancroft told me. We were exactly on time and he was getting their hand valises ready to hand down to the new engine crew.

"You enter Feather River Canyon right out of here," Rutherford said. "And boy, you're gonna see some scenery!"

I was skeptical. Being an old Colorado Rockies boy, I reckoned I'd left all that stuff behind. We were now 210 miles from Oakland and the time was 2:14 p.m. We'd follow the windings of Feather River for 118.5 miles, on a steady water grade.

J. A. Bittick was our new hogger, N. L. Smith our fireman; both were mountain men. Three minutes of rest and the 803 was pulling away from the Spanish-type depot, digging her heels into heavy rails for the steady grind ahead on a ruling grade of one percent.

Feather River Canyon, with pine-spiced air and late wild flowers still blossoming along the track, is the symbol of the Western Pacific. A turbulent, roistering river, crystal clear, cuts through the solid granite of a narrow, crooked gorge. When white men first entered this land of fabulous wealth tens of millions of wild pigeons lived along the river. When these birds moulted, their feathers dropped into the stream literally filling it. Thus the name, Feather River. White men proceeded to wage war on the pigeons and



Western Pacific

Sun and shadow on precipitous, timber-lined slopes of Feather River Canyon. ***California Zephyr*** is first through passenger train to traverse this section in daytime

had almost exterminated them before game laws halted the slaughter. Now the birds are coming back.

"We average about thirty-eight miles an hour through the canyon," Bittick told me. "There are thirty-two tunnels, the longest Spring Garden, one and one-eighth miles."

On either side of the track was breath-taking beauty. Here was none of the stark harshness of the Colorado canyons, but a rounded, towering ruggedness, tree-clad and one curve following another. It would be interesting to know how many complete circles are made by the total curvature of Feather River.

Fireman Smith took out the log book and began thumbing through the pages. Like ocean-going vessels, these streamliners carry a log book, in which each fireman must note mechanical performance. Suddenly Smith chuckled and nudged me.

"We find some good stuff in here now and then," he commented, and pointed to a pencil-written jingle. I read:

"All the way from the 'Lake' to the sea,
We give our all to the WP."

The poet had preferred to remain anonymous.

We were passing hydro-electric power plants now, a few already turning out energy for the bay area, many only in the course of construction. When this gigantic program is finally completed, Feather River will probably be the hardest working stream in the U.S.

The process is fairly simple. A dam is thrown across the canyon, and the water flow is diverted off to one side through a tunnel. Then, following a fairly level line, another tunnel from six to ten miles long is bored. This tunnel comes out of the granite from 500 to 700 feet above the river. Another hydro-electric plant is built at the bottom; the tremendous pressure of the water from the tunnel, piped almost straight down, turns massive generators, and the spent water goes back into the river again.

Suddenly Bittick called, "There're some deer!"

Three graceful does bounded from the underbrush, leaped across the track ahead, and were swallowed by the forest.

"We get one of them now and then," he told me. "And down in the valley it's not unusual to find a fat pheasant on the front of the engine, where it's been hit."

Smith pointed out a boxcar, looking like a toy, bottomside-up in the river. A rock slide had occurred during the war, sending a dozen cars over the dump. A couple of cars of fat pigs were among them, with the result that Feather River Canyon became quite a pig-hunting spot. Wire-electric fences have since been installed at all dangerous points, so damage from rock slides has been largely eliminated.

Across the canyon the auto highway went through three tunnels. The natives do things up proud in California.

"Rich Bar is around the next curve," Smith told me. "A monument on the hill tells of the first white child, a girl, born in California in 1853. Rich Bar is where each miner was allowed only a piece of ground he could cover with his blanket. But many of those little patches yielded thousands of gold nuggets and dust."

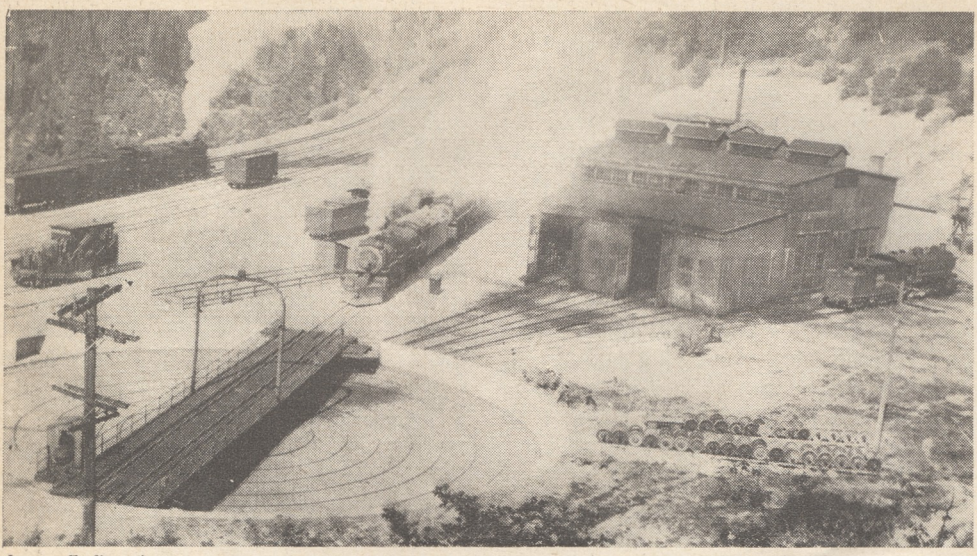
Vegetation had covered all the scars left by those early-day seekers of treasure.

"A short time ago," Smith went on, "the electric company diverted the river, exposing the ancient river bed. Some old prospector slipped in and panned over fifty dollars' worth of gold in less than three hours. He got kicked out when they caught him. Now they're using the sand and gravel to build a new dam. It should be worth plenty, that dam, high as it is in gold content."

"Buried in a dam, or in Fort Knox," I said, "it still isn't doing anybody any good."

The 803 roared to the steady drag behind and weaved from one tunnel into another. This canyon is indescribably beautiful and the railroad right-of-way a marvel of heavy engineering construction.

The inter-communication phone in the cab jangled and Bittick took up the receiver. He called, "This is the engineer."



James E. Boynton

The changing scene: Keddie roundhouse in 1939, when steam was king. Barring accidents, new *Zephyrs* will employ only Diesel-generated horsepower; WP and Burlington favor General Motors' 4500-hp. engines, while Rio Grande sets Alco 6000s to the task

He listened a few seconds, replaced the instrument and told us, "Mr. Whitman is coming over to ride the cab."

My past contact with railroad officialdom had been limited to trying to alibi myself out of a jackpot before the cold eyes of some trainmaster or assistant super. Meeting a railroad president with a clear conscience was going to be a brand new experience.

It's possible to walk the entire length of these trains from locomotive cab to observation car without going into the open. A refrigerated unit furnishes a constant supply of ice cold drinking water. And—shades of Casey Jones!—there's even a toilet built into the first unit. These runners enjoy all the comforts of home and none of the evils.

IN A short while the door behind us opened and a tall, well-dressed man with very deep blue eyes entered, smoking a pipe. He smiled and introduced himself as Mr. Whitman. He shook hands around, and we all shot the breeze, just like a group of common rails in a switch shanty.

"To think," I told him, "that this railroad has always had a million dollars' worth of scenery like this to attract tourist travel, but has consistently operated every one of its passenger trains through it after dark."

"It's softer than Colorado," he nodded, "but just as spectacular."

"How are the new *Zephyrs* going over these days?" I asked.

"Booked solid for several months. At first we averaged about eight days of solid bookings out of fourteen. But they're doing okay now," he replied.

"I've watched our railroad grow from kind of a hit-and-miss proposition to a real pike," I said.

"We've plenty of work ahead," he acknowledged. "And every improvement we make takes dollars. Dollars are hard to get. We've got to buy new equipment out of earnings these days."

"I noticed them laying new rail east of Marysville," I commented.

"Yes, sixty miles of hundred and twelve pound rail at a cost of a million, six hundred thousand dollars," he told me. "The new freight Deisels we have on order will cost us a hundred dollars per horsepower, and they develop six thousand. That makes each one cost six hundred thousand dollars! The three locomotives we purchased to handle these *Zephyrs* cost one

million, four hundred and twenty-five thousand dollars."

Whitman kept calling out the block signals as we passed them. As we rounded another curve Keddie came into view Keddie is the terminal on the south end of the "High Line" which connects with the Great Northern at Beiber, 111.8 miles away. It's a shame no passenger train operates over this branch since some of the most gorgeous scenery in all the Sierras is along its length. Shelves to hold the roundhouse, turntable pit, classification tracks and the mainlines had to be gouged out of the mountainsides in Keddie. The only wye of its kind in the world is in Keddie. Two legs of it cross high steel trestles while the third is a tunnel.

"This is your first trip over the mainline, isn't it?" Mr. Whitman asked me

I nodded.

"Williams Loop is just ahead," he said "It's quite a feat of railroad building."

The 803 dove into an underpass. "We're starting around the loop," Bittick called.

As originally built, the railroad had followed a steady ruling one percent grade to this point. But it had been necessary to construct a couple of miles of over three percent to get over the next hump. To eliminate this steep piece the engineers surveyed a complete loop, the beginning of which was the underpass. In the next mile we'd cross over the top of this same underpass after making a complete circle!

Shortly after we passed the loop, President Whitman left the cab.

"That man's a real railroader," commented Bittick. "He didn't learn the game as a clerk in some general office. He learned it the hard way, right from the bottom."

For a number of miles we'd been in real timber country with busy sawmills and strings of log-loaded flatcars on spurs leading from the main. Several independent logging railroads operated hereabouts.

Just before nosing into Spring Garden Tunnel, Smith told me. "I carried a thermometer through here one day on a *Mallet*. It went up to 140 degrees, then busted. So I don't know how hot it gets."

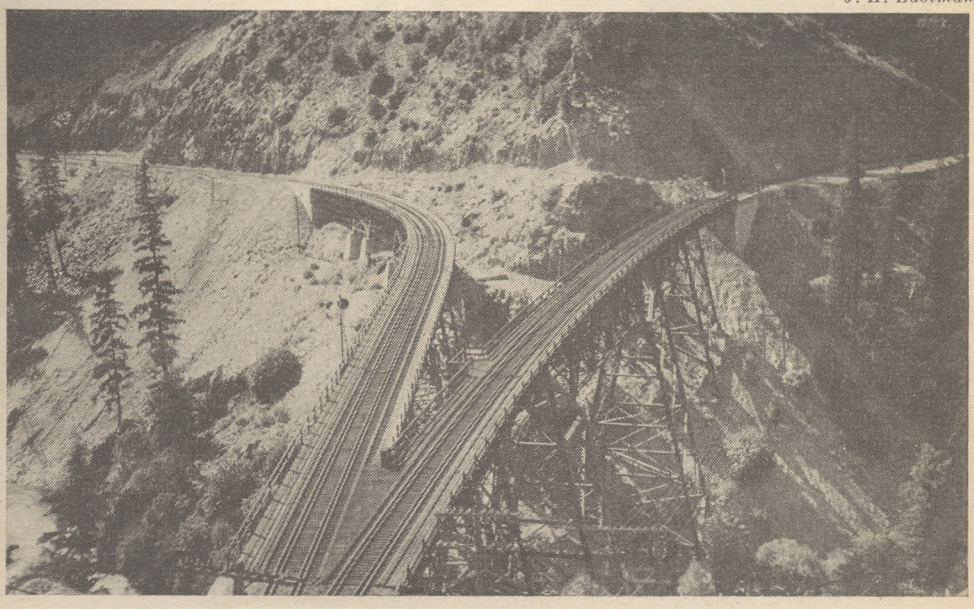
But today with no superheated steam or hot smoke to bother it, the tunnel was perfectly refrigerated.

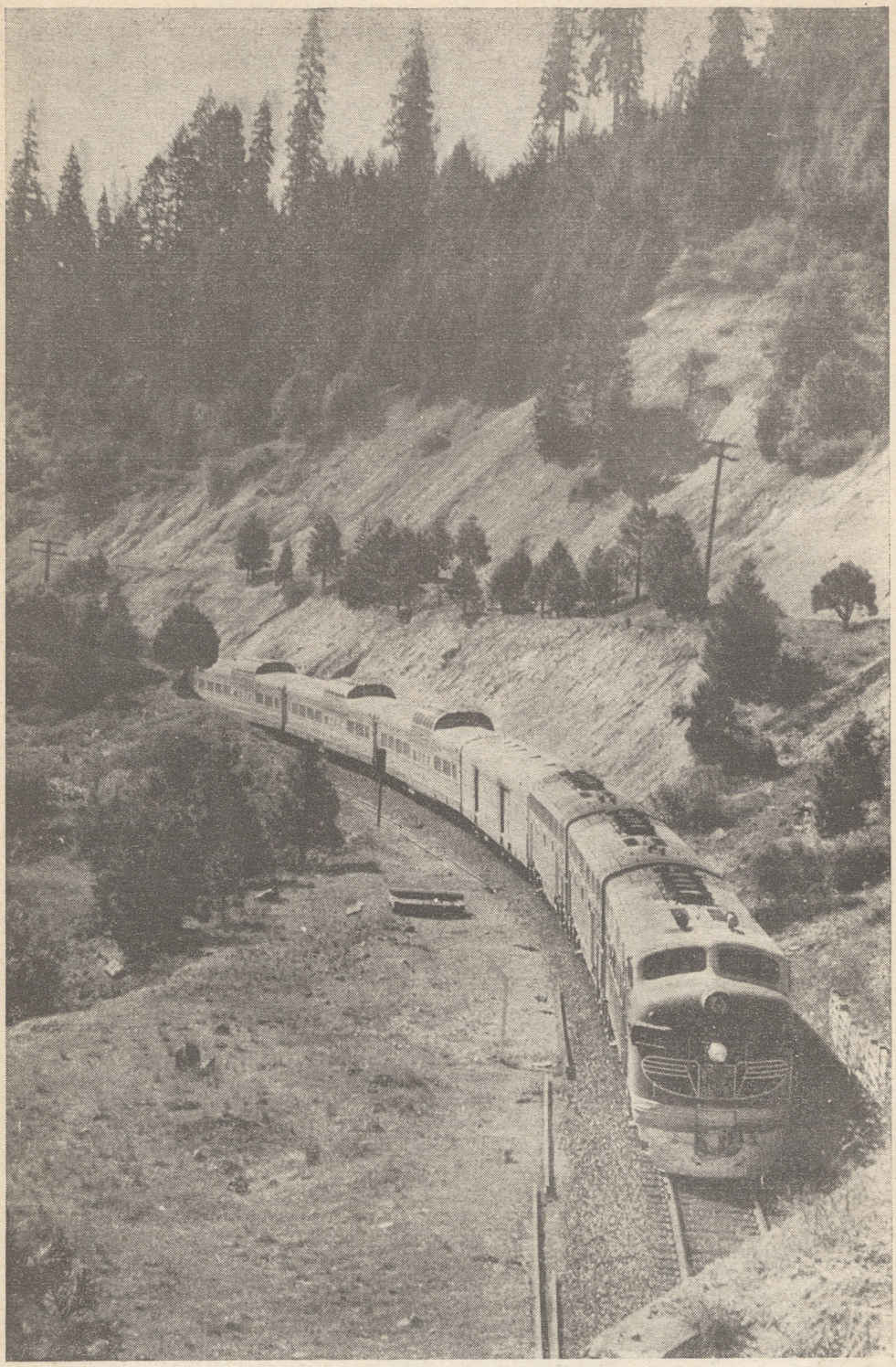
Take the WP out of Portola, next stop to change engine crews, and the town would practically fold up. When we

(Continued on page 30)

Wye at Keddie is world famous—two legs rest on high steel trestles, the third is a tunnel. Major portion of WP right-of-way here consists of narrow shelves gouged out of rock

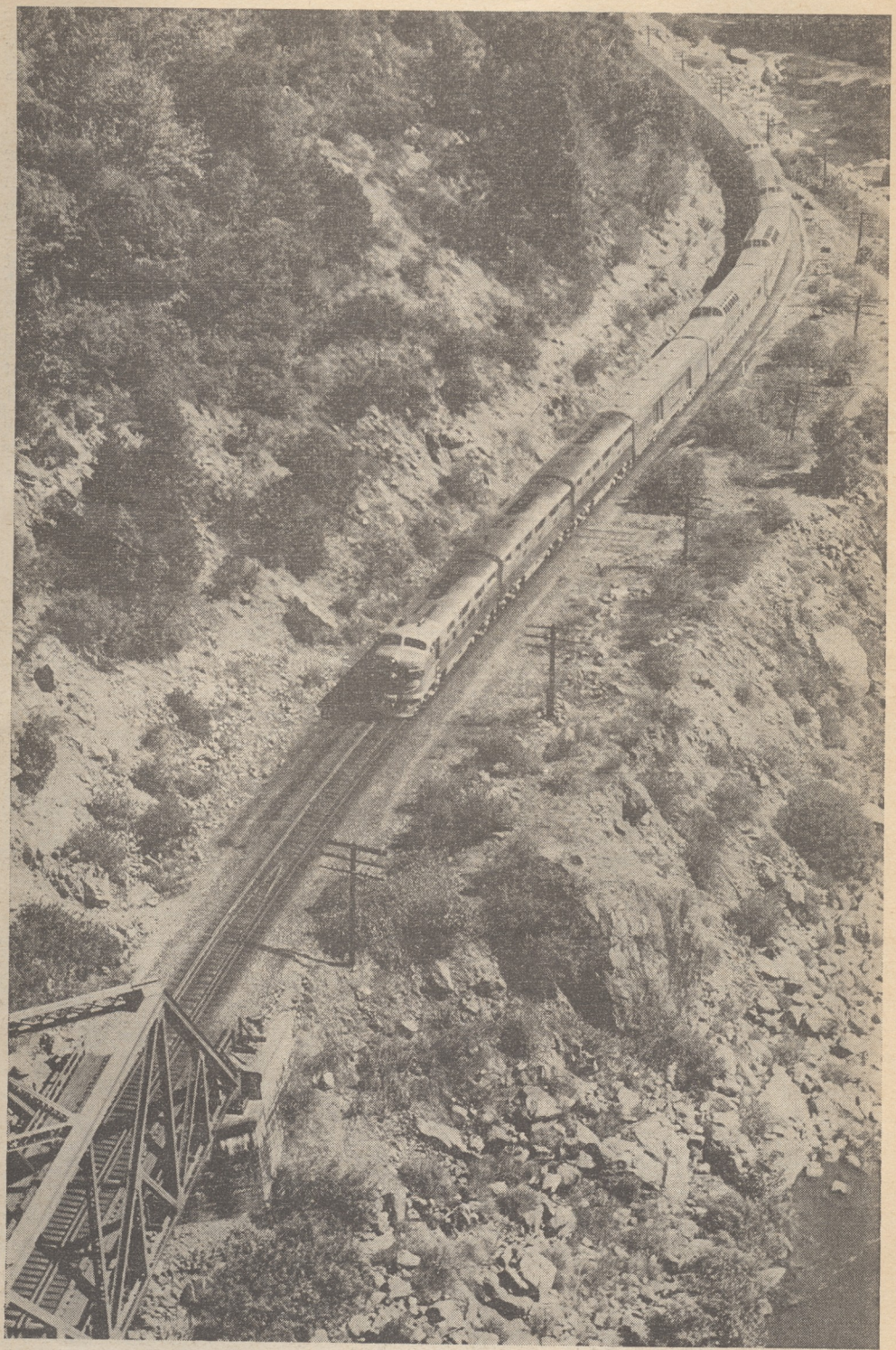
J. H. Eastman





Western Pacific

Williams Loop, spiral staircase through Feather River Canyon. Circling the loop, *above*, is No. 17, westbound counterpart of *Zephyr* which sped Lathrop to Salt Lake City



Peter Josserand, Sacramento, Calif.

No. 18 approaches a Feather River crossing. Christening of turbulent stream was no bit of whimsy: feathers from millions of pigeons once filled its waters during moulting seasons

(Continued on page 27)

stopped at the depot we were 321 miles from Oakland; the time, 5:27 p.m. Portola lies on the east end of Feather River Canyon. From there we'd roar out into the desert where the WP piles up some fast running through Nevada and Utah.

F. T. Wood, an energetic little engineer with over 30 years' service, and I. D. Gregory, fireman, were the new crew. When Wood learned I was getting a story he grew loquacious. With our speed whooped up to 80, he pointed out a smudge of pale smoke off to the south, against a ragged mountain range. "Town of Loyalton," he explained. "Had a railroad, the Boca & Loyalton, running through there. At one time seventeen sawmills were working full blast. My grandfather, who came into this country in 1869, furnished wood for Central Pacific woodburners I helped tear up the rails when the Boca & Loyalton was abandoned. It was a colorful pike. They operated over some 3 percent grade, on 60-pound rails without anticreepers, or tie plates. Used to have to take out from two to three rails every year at the foot of the hill because the rails kept stretching."

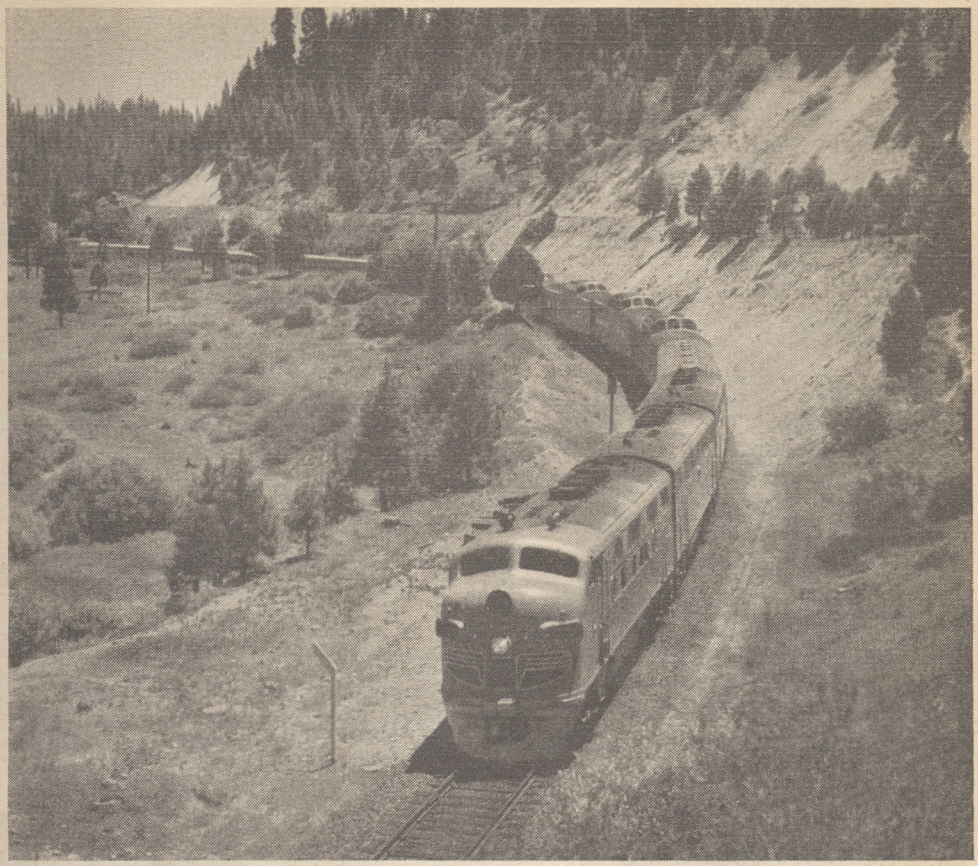
On both sides of the track stretched purple sage, and jack rabbits were to be seen scurrying alongside. "I've seen flocks of five hundred mule deer feeding along here in the winter," Wood went on. He chuckled. "Loyalton was the biggest incorporated city in the U.S. at one time," he said.

I looked a question. "You see," Wood explained, "the city fathers were against booze. They decided to keep it plenty far away from their town. So they included the whole mountain range in back, this whole valley, and darned near to Portola inside the incorporated limits. It covered several thousand square miles."

WOOD reduced our speed to 50 for Chilcoot Tunnel. When we came bursting from the other end he told me. "It's claimed 765 men were killed during

Double cross at Williams Loop, where overpass in foreground represents the achievement of a 3 percent rise without sacrifice of Western Pacific's 1 percent maximum grade

B. F. Cutler, Rail Photo Service, Boston



B. F. Cutler, Rail Photo Service

Diesel 801 cants to one of 387 curves in 118.5-mile Feather River Canyon, slow-order country until the installation of CTC in June '45. In addition to a heavy stepup in capacity of train movements, CTC performs valuable service by warning of rock slides

the drilling of Chilcoot. Most of them got it in gun fights and saloon brawls. But one whole work-train crew was blown up in a premature explosion. And the Greek consul in San Francisco claims that over 800 of his countrymen were killed while building Feather River Canyon."

We were back to a steady 80 mph. again. "We've got a really long curve between Doyle and Flanagan," said Wood. I tried to see it, but the degree was so slight it looked straight to my view.

"The haylift of last winter saved millions of cattle and sheep from starvation. Worst winter I've ever seen," Wood went on. "When the temperature gets around 40 below zero and the wind blows over 60 miles an hour, she's tough!"

I was getting hungry, so I told the engine crew I was going back to the diner and surround a big feed. While eating I met R. H. Buchanan, "Death Valley Red," and his wife. Red told me he'd ridden every deluxe streamliner in the U.S. except the *California Zephyr,* so was completing his itinerary. The pair had traveled 130,000 miles on railroads in the past several years. To my mind, that's quite a hobby!

While I was eating, the *Zephyr* stopped at Gerlach to change engine crews once more. When I got back to the cab I met Engineer T. O. Coats, and Fireman J. C. Nicholson. Coats looked like a young sprig of 35. When he told me he was 62 I could hardly believe it. That clean Nevada air must contain some of the

Fountain of Youth in it. Nicholson had a Scotch burr in his voice. Later he told me he owned a complete outfit of kilts, plus a bagpipe. "Only I can't play the pipes too good," he hastened to add.

Our next stop would be a seven-minute one, at Winnemucca, Nev., where the *Zephyr* would be oiled and watered. The engine crew would go through to Elko, 233 miles from Gerlach.

Between Weso and Alazon the WP and SP use joint track, WP eastbound, SP westbound, 175 miles.

We passed a speed board. The yellow disk said 90. I glued my eyes on the needle on the clock, watched it move around, 75, 80, 85, 90! It seemed we were almost flying. But the 803 had plenty of soup left in her powerful motors. Overhead was a star-spangled sky. Only our headlight stabbed a swath of light through the darkness ahead.

"We're coming to Carlin," Coats called to me. "A girl calls crews there. She meets us to get a register check we throw off. When we show she always looks at her wrist watch to see if we're on time." He chuckled. "Our headlight will pick her out in a minute."

But this Sunday p.m. our gal wasn't on the job. We concluded she was probably taking a day off to be with her boy friend.

"We follow the Humbolt River for miles," Coats told me. "Nevada is around 200 miles across. The Humbolt rises and disappears inside the state. It flows over

500 miles. I don't know how many times we cross it, but it must be dozens. In places the stream simply fades into the sand, leaving a dry bed. Then it gushes into the open again. There's pretty good fishing in it where there's water."

Coats slowed for Winnemucca. In the illumination of our headlight I saw several men waiting, each of them standing beside a hose attached to a valve. The 803 halted, neatly spotted alongside the farthest man. Instantly he attached his hose to the fuel tank and opened a valve. Others were attaching hoses to water tanks and opening valves. Still others were making a careful inspection of running gear, locomotive and equipment.

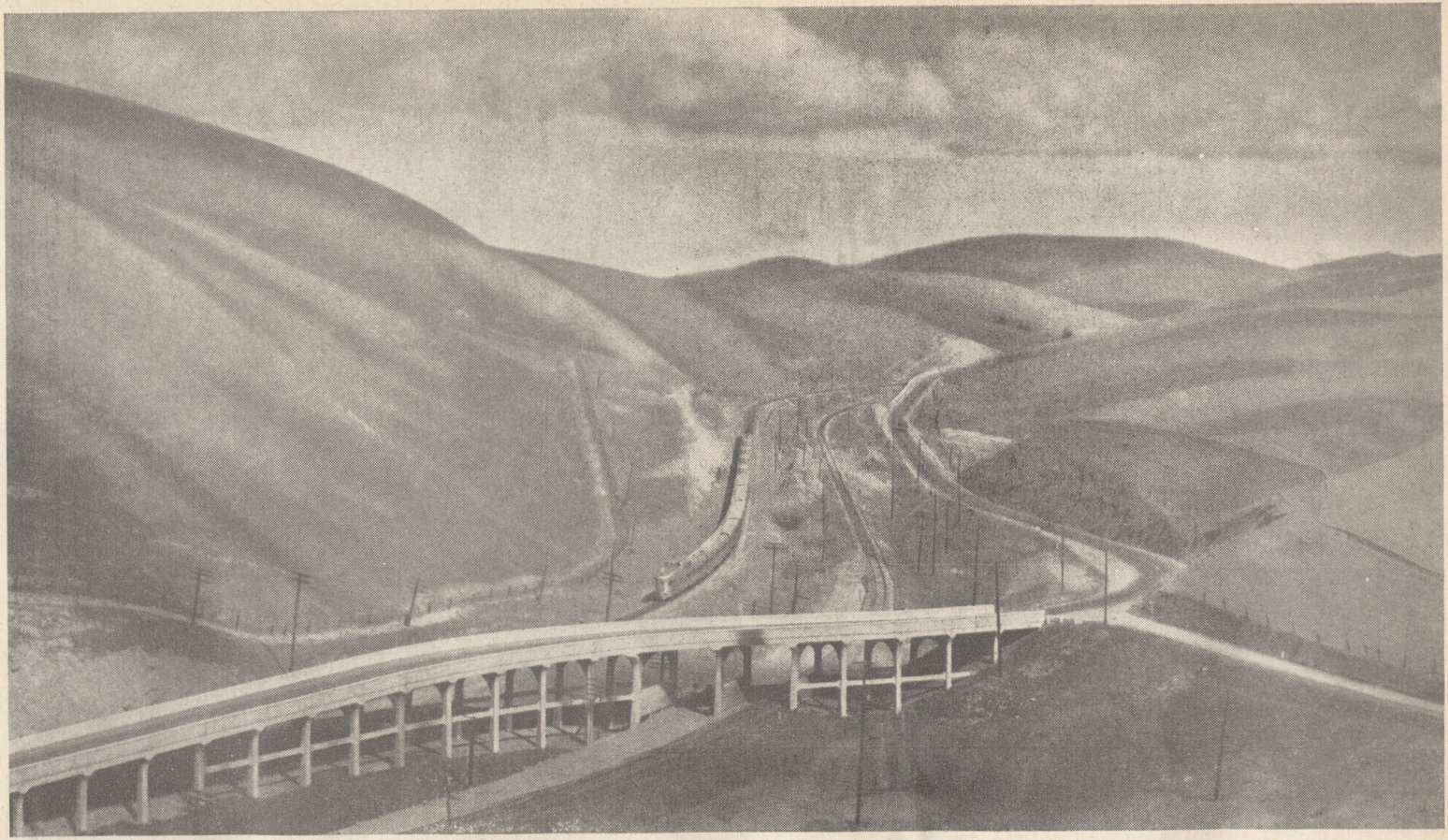
At the end of exactly seven minutes the last valve was closed, the last hose detached and Number 18 was boring her nose into the desert once more.

"The WP crosses Steptoe Valley at Shafter," Coats said. "Steptoe is the longest unbroken valley in North America. It extends from Canada to Mexico."

"Here comes Union Pacific's *City of San Francisco*," said Nicholson. I saw a piercing headlight swiftly approach on the westbound main. "They have ninety-five mile per hour track through here," the fireman went on. The streamliner was hit-

Symphony in stainless steel, *California Zephyr* turns the glitter of hot sun back onto the countryside. Dome passengers greatly approve glare- and heat-resistant windows

B. F. Cutler, Rail Photo Service



Colin Gray Edwards, Rail Photo Service

Typical of the long road ahead—with Wasatch and Rocky Mountain barriers to cross—is this shot of ***California Zephyr*** topping windy Altamont's hump. Western Pacific relinquishes the streamliner at Salt Lake, after 928 miles of highstepping, to Rio Grande which speeds it 570 miles to Denver. Train completes journey to Chicago, 1034 miles, under CB&Q banner

ting the maximum and her long train quickly faded past us.

We followed a crooked, shallow canyon, bordered on the side by the Humbolt. Time after time we crossed the stream on heavy steel trestles. Our speed held to 60, 70, 80. . .

And then directly ahead I saw a cluster of lights. By our timecard we were still 12 minutes from Elko. But those lights seemed only about a mile away.

"What are those lights?" I asked Nicholson.

"Elko," he replied.

"Guess my watch must have stopped," I grumbled.

"What do you mean? We're still eleven minutes from there."

"Then you've got some mighty slow track along here."

"Some damned fast track. Those lights are about fifteen miles away."

I remembered about Nevada and her clear air. "Boy!" I ejaculated. "You can see plenty far away out here."

"You can see farther," grinned Nicholson, "and see less in Nevada than anywhere else in the whole world."

I bade the crew a friendly "so long" as they unloaded in Elko and Engineer E. W. Keller and Fireman S. F. Hiatt took over. The new crew would pilot us the rest of the way to Salt Lake City.

THE Nevada desert offers an eternal challenge with its broken expanses of stone, and tortuous, shallow canyons enlivened by patches of brilliant green where water feeds the parched area. Within view are always the mountains—jagged precipitous masses of granite on which no vegetation can find a foothold. They resemble a lunar landscape in the cold light of a full moon.

Arnolds Loop in Utah found us running a few minutes late owing to a changed meet with Number 17, westbound *Zephyr*. But Keller assured me we'd step into the Lake right on the button.

In its way Arnolds Loop is as clever an engineering feat as Williams. Instead of describing a complete circle, Arnolds is a gigantic horseshoe. On freight trains ascending the grade it is customary for the head brakeman to drop off at the beginning of the loop, inspect his train as it passes him, then walk about a hundred yards up the hill and catch the head engine again.

Originally a switchback was operated here, but the loop eliminated it.

Dawn was gray in the east when we passed Garfield, Utah, and the massive Kennicott smelter, black stacks rolling black smoke into the clear mountain air. Molten slag glowed redly on a gigantic dump alongside the WP main.

Great Salt Lake reflected a rosy glow from the snow-clad, timberline peaks of the Wasatch Range as we nosed down last stretch into the Mormon capitol, on time.

I was dog-tired, but I wouldn't have missed a moment of the trip for the whole State of Utah. At 5:20 a.m., 19 hours and 50 minutes from the time I left Oakland I dropped from the 803 and headed for the railroad beanery to fill up on hot coffee and ham an'.

I rode the coaches returning to Oakland, part of the way in the vista dome, part below. Foam rubber makes those adjustable seats soft as down. There was no sensation of speed, of starting or stopping. The train is a marvel of building for modern day-passenger comfort.

All over the train I heard passengers commenting favorably. Every one of them was equally enthusiastic. I'll venture that going through Feather River Canyon at least ten miles of kodak film was exposed in snapping the outstanding spots of scenic beauty.

We were almost to Oakland when I heard a single complaint voiced. Sitting in front of me was an elderly lady and her grown son. I overheard: "Did you see the box marked 'complaints' in the other car?"

"I certainly did," answered the mother. "And I dropped a complaint in it."

"About what?" he asked.

"My toast was too brown when we had breakfast in the diner this morning," she said indignantly.

ALONG THE IRON PIKE

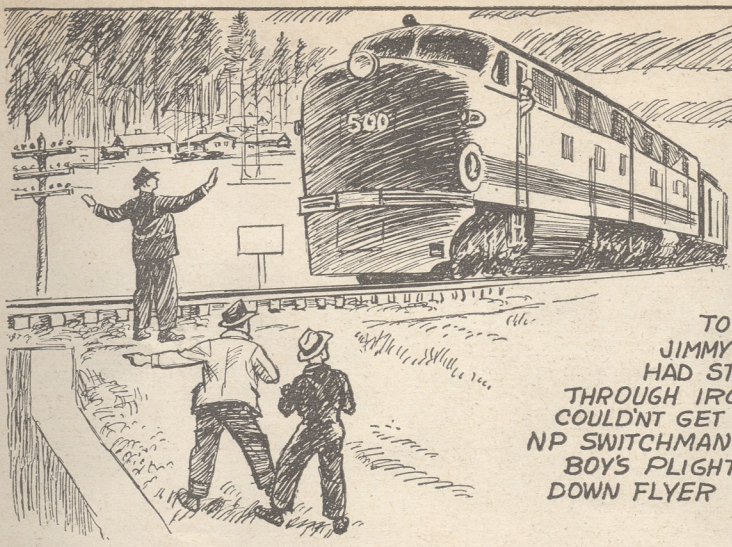
by JOE EASLEY

WHEN BOILER EXPLOSION TORE SANTA FE WORK ENGINE TO SHREDS AT SERRA, CALIF., RECENTLY, POWER LINES WENT OUT AND CAR-COUPLER KNUCKLES THROUGHOUT THE TRAIN WERE BROKEN. YET "EXTRA" FLAGS REMAINED UNDAMAGED IN THEIR SOCKETS

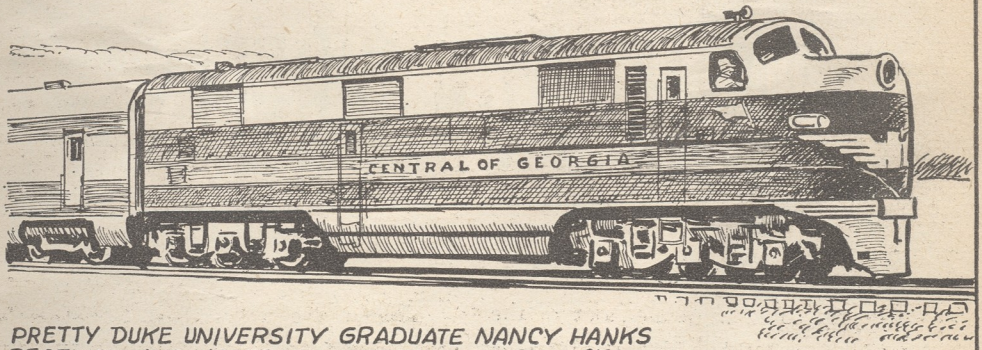
(Alvin A. Fickewirth
El Monte School District
200 E. Columbia St.,
El Monte, Calif.)

VACATIONING PACIFIC ELECTRIC CONDUCTOR R. G. FARR GOT A PASS AND SPECIAL CONNECTION WITH THE **SILVER METEOR** AT JACKSONVILLE, FLA., AFTER INSPECTING APPARATUS OF STALLED SEABOARD DIESEL TRAIN ON WHICH HE WAS RIDING, LOCATING TROUBLE AND MAKING EFFECTIVE REPAIRS. EXCITER SWITCHES BETWEEN GENERATOR AND MOTOR HAD BLOWN

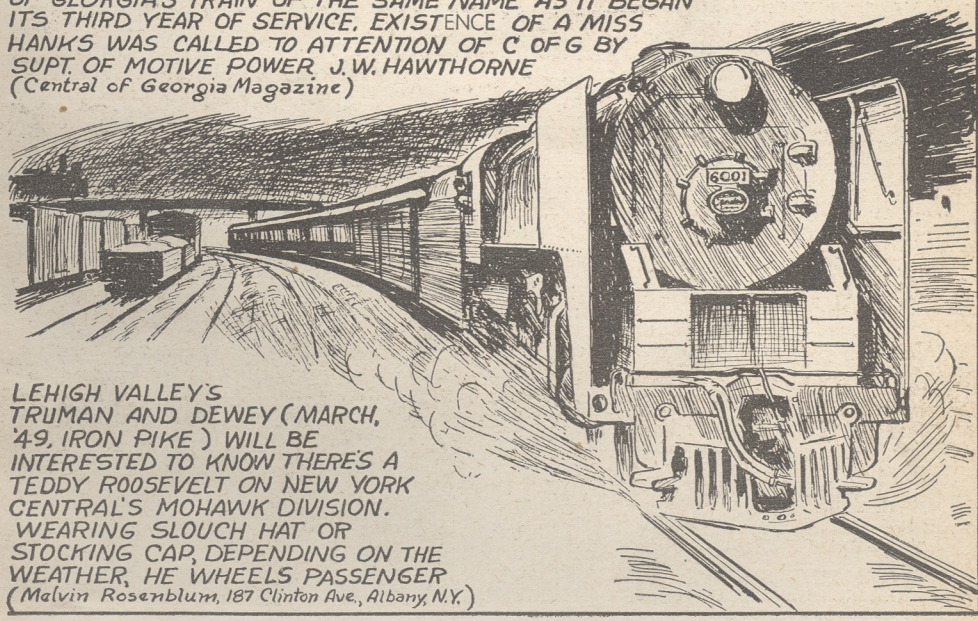
(Pacific Electric Magazine)



GREAT NORTHERN MAIL TRAIN WAS HELD UP 90 MINUTES RECENTLY, WHILE TRACKMEN CUT AWAY PART OF BRIDGE GIRDER TO FREE 7-YEAR-OLD JIMMY ALBRIGHT WHO HAD STUCK HIS HEAD THROUGH IRON WORK AND COULDN'T GET IT OUT. OFF DUTY NP SWITCHMAN J.A. FRANCE SAW BOY'S PLIGHT AND FLAGGED DOWN FLYER (Walter Thayer, Box 1588, Chelan, Wash.)



PRETTY DUKE UNIVERSITY GRADUATE NANCY HANKS RECEIVED AND ACCEPTED INVITATION TO RIDE CENTRAL OF GEORGIA'S TRAIN OF THE SAME NAME AS IT BEGAN ITS THIRD YEAR OF SERVICE. EXISTENCE OF A MISS HANKS WAS CALLED TO ATTENTION OF C OF G BY SUPT. OF MOTIVE POWER J.W. HAWTHORNE (Central of Georgia Magazine)



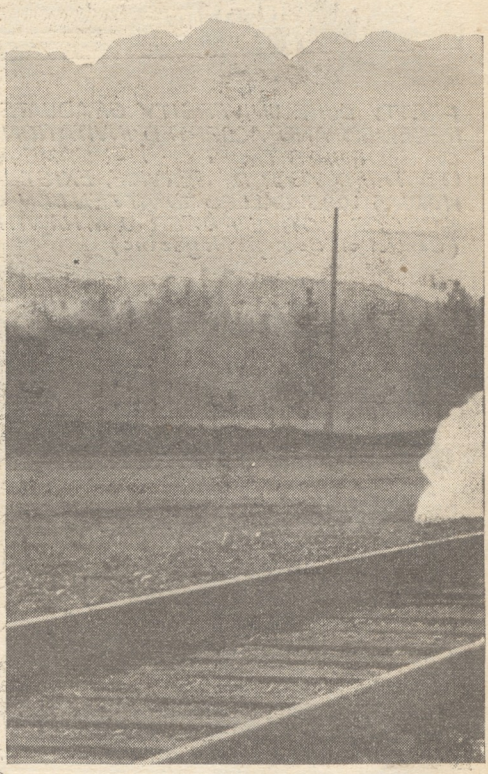
LEHIGH VALLEY'S TRUMAN AND DEWEY (MARCH, '49, IRON PIKE) WILL BE INTERESTED TO KNOW THERE'S A TEDDY ROOSEVELT ON NEW YORK CENTRAL'S MOHAWK DIVISION. WEARING SLOUCH HAT OR STOCKING CAP, DEPENDING ON THE WEATHER, HE WHEELS PASSENGER (Malvin Rosenblum, 187 Clinton Ave., Albany, N.Y.)

Gobs at Farragut Training Center, Ida., muster no enthusiasm for unloading coal. Cinders? That's another story. That black smoke belching from 2207, *right*, means a liberty train under steam

By
LESTER C. HARLOW

OUR NAVY ON WHEELS

MANY YEARS AGO a group of shipwrights discovered that a ship could be hauled out of the water easier if a small railway could be provided whereby a rail car would be placed under the ship and then both ship and car pulled towards shore upon this crudely-constructed railway. From this modest beginning our Navy has used rail transportation to an ever-increasing extent, reaching a peak in July, 1945. Today, more than four years after the Japanese Emperor decided to call it quits, the Navy still operates railroads to a degree undreamed of by the general public; a public that thinks of the U.S. Navy in terms of ships plowing through vast expanses of ocean.



To maintain these round-the-world cruises, our fleet must be backed up by a large organization ashore; to properly operate such an organization ashore, adequate transportation is essential. Any student of economics knows that the most economical means of transportation on

Official U. S. Navy Photos

land is by rail. Our Navy has taken advantage of this fact.

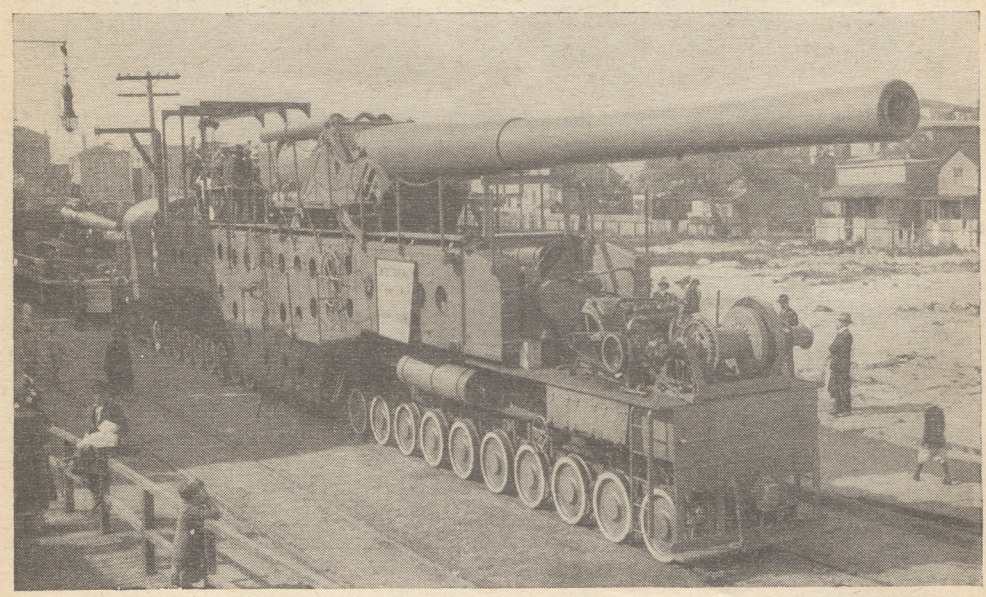
Recent hearings before the Bureau of the Budget called attention to the fact that the Navy—primarily a water-borne organization—operates more railroad facilities than does the land-based Army. The monetary value of rail operations at naval ammunition depots alone would enable the Navy to qualify as a Class I carrier: "one whose gross annual revenue is $1 million or more." There is, for instance, sufficient equipment to make up 410 trains of 19 cars each and to provide them with locomotives and crews.

All naval railroad construction is directed by the Bureau of Yards and Docks. To those unfamiliar with Department terms, the Bureau of Yards and Docks under the direction of the Secretary of the Navy is charged with and responsible for the design, construction, alteration, and inspection of the public works and utilities of all shore establishments of the Navy. This includes railroads and associated equipment. At each naval station the operation of the railroad is under the cognizance of the Public Works Officer or his authorized representative.

Prior to operating a railroad it is necessary to have tracks over which to operate. The naval trackage can be divided into two major classes: off-station and on-station. The isolated location of many stations and shipyards, coupled with a small amount of peacetime traffic, made it necessary for the Navy to construct tracks from the naval station to the nearest common carrier. Railroads contended that the volume of traffic—excluding wartime loads—did not warrant their construction of these tracks.

In some cases this meant laying of only a few hundred feet of rail; in others it meant the construction of as many as 40 miles of mainline. Through some strange coincidence three of the longer lines and the shortest line are concentrated in the vicinity of Washington, D. C. They are the 40-mile line serving the Naval Air Station, Patuxent, Maryland; the 15-mile branch to the Naval Powder Factory at Indian Head, Maryland; the 30-mile connection serving the Naval Proving Grounds, Dahlgren, Virginia; and a short spur to the Naval Air Station, Washington, D. C.

Attracting the crowds of men and boys at an Atlantic City exhibition of 1919 was this U.S. Navy 14-inch rifle, one of many assembled near the famed boardwalk for postwar admiration and scrutiny. Baldwin Locomotive Works built the 40-wheel substructure for moving this oversize shipment over the rails

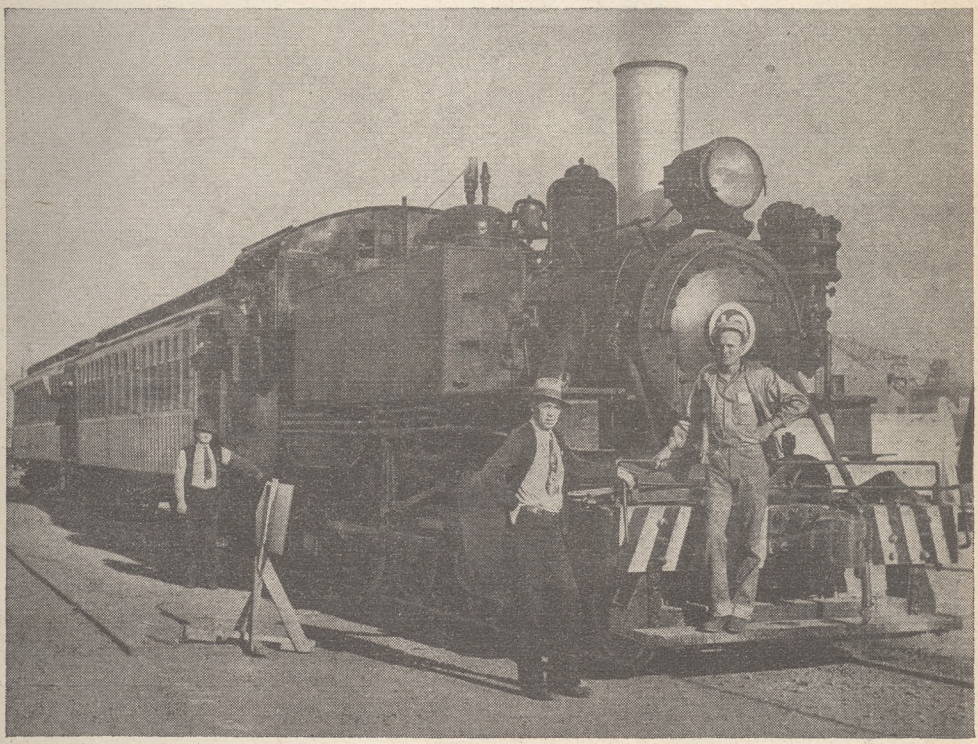


MORE OFTEN than not off-station rails have been laid upon Navy-owned right-of-way. This meant that the Department made its own survey and did its own construction work. But there are at least two important exceptions to this rule: one in Maryland, one in Washington.

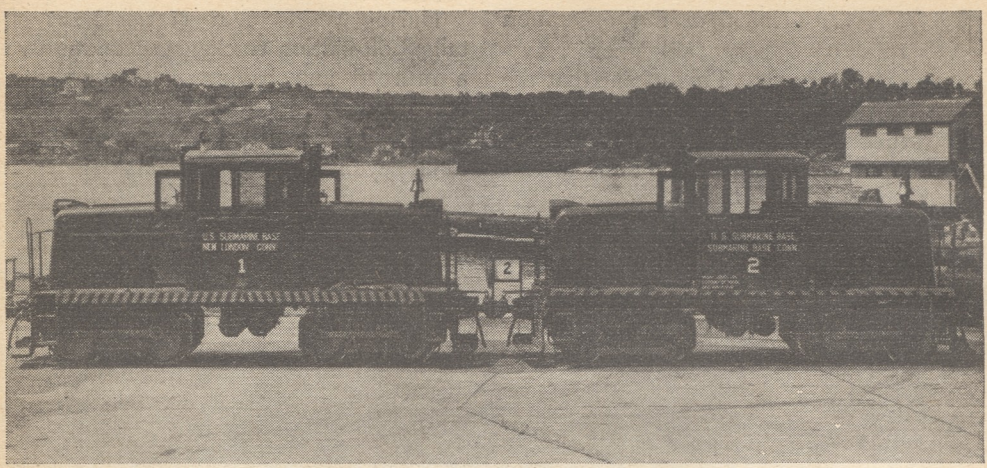
Service to Patuxent Air Station became an easy task when the Navy was able to acquire all of the assets of the Washington, Brandywine & Point Lookout (*The Farmers Railroad,* RAILROAD, March 1939) and to stretch the road from Mechanicsville to Cedar Point. This extension was built over a route surveyed and graded—but never built—in 1868. The second exception was the building of a line from the Northern Pacific railhead at Shelton, Wash. to the Navy's Puget Sound shipyard at Bremerton. The right-of-way followed the original survey made fifty years earlier.

During World War II the Navy obtained off-station trackage by taking over a railroad and having private interests operate it on a cost-plus-fixed-fee basis. This was necessary because of complications beyond the scope of this article. In all cases these construction and operation projects involved providing track from the nearest common carrier to a point just inside a naval station, usually a classification yard.

Generally speaking, tracks outside a station, when more than five miles in length, provide passing tracks at regular intervals, a storage track at the junction with the serving railroad, and water tanks, where required by steam locomotives. In addition they are constructed to provide a minimum number of grade crossings, and where grade crossings are necessary, they are usually provided with automatic warning signals.



Mum on timely shipping news during World War II, our Navy passed along no secret plans for postwar travel when it came to assembling commuter trains to carry war workers to and from the shipyards. Hunter's Point special, shown above in San Francisco yard, was a typical consist. Baldwin engine No. 19, constructed in 1926, was far outranked by Second Avenue Elevated cars dating from 1900



Official U. S. Navy Photo

Fifty-ton Diesels on the shore front of New London, Conn. The recent war purchases put Diesels out front, three to one, on Navy's locomotive roster

As mentioned previously, tracks on the naval station may consist of anything from a short spur to an elaborate railroad network serving a large activity, such as the ammunition depot at Hawthorne, Nev., or the supply depot, Oakland, Calif. But whether the layout is simple or elaborate, the design is the same—functional. Each installation is planned to speed the incoming material to the unloading site and to move other materials off the grounds as quickly as possible. Yet at all times maximum protection and minimum interruptions to other activities must be guaranteed. This requires careful study and planning.

In the case of Oakland's supply depot, it is interesting to note that many rails used in its elaborate network came from the Southern Pacific's 116-mile Promontory Point line, scene of the historic joining of the first transcontinental railroad in 1869. This stretch of track, though famous, was outdated upon completion of the Lucin Cutoff across the Great Salt Lake in 1903. Then in 1942 these rails were taken up and shipped to Oakland where they were quickly put in service once again.

Tracks inside our naval stations follow a general pattern, modified to fit the peculiarities of the particular station. Freight coming into the station is spotted on a receiving track; usually this receiving track is near or a part of the classification yard. At the classification yard incoming cars are placed on tracks according to their ultimate unloading point, determined by waybills, manifests or, in rare cases, by actual inspection of the freight. During the haste of wartime traffic cars often arrived at a naval station without any accompanying papers. In this event they were placed on a storage track until their destination could be determined. From the classification yard the cars are taken over many branchlines to their unloading points. A similar procedure is followed in returning empty cars back to the delivering railroad. Every effort is made to expedite the unloading. The Navy has to pay demurrage, too.

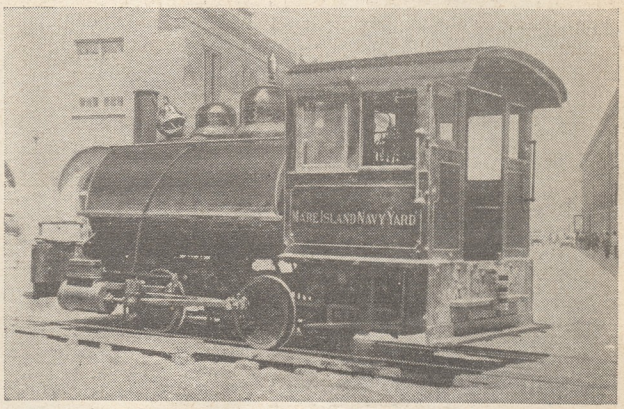
One type of siding not usually found in railroad terminals, but standard for naval stations, is the *barricade siding.* This consists of two large earthen walls on each side of the track. Cars containing explosives are stored there when they can not be unloaded the same day they arrive. In case of explosion, the damage is greatly reduced.

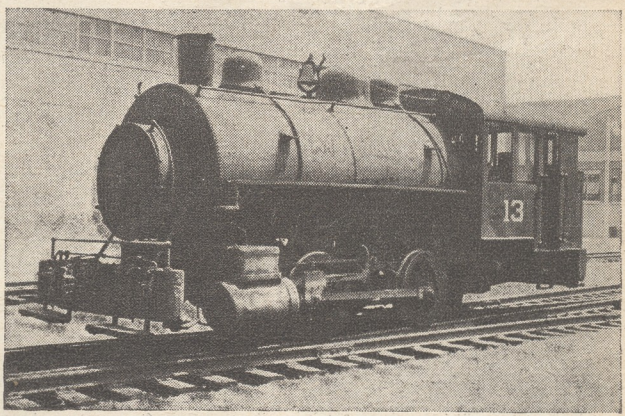
THE EQUIPMENT operated by the Navy consists of the standard car types plus cars built especially for and operated by the Navy. By regulation all railroad

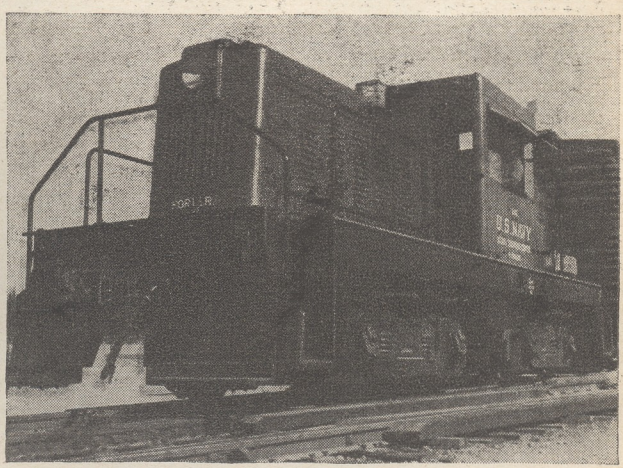
equipment must conform to the Bureau of Yards and Dock standards, most of which are based on Interstate Commerce Commission and Association of American Railroads rules. Bureau of Yards and Docks regulations demand all safety appliances required by the ICC.

Compressed-air brakes are not required on cars used exclusively for local yard or station operations. Cars used frequently for movements over neighboring roads conform to the ICC's airbrake requirements. If the cars are used outside of the station only occasionally, they are provided with piping and hose connections at each end. Couplings are required to be kept in order, though links may be used for short-radius curves and under other special conditions.

The marking and painting of cars is prescribed. Equipment at each station is numbered serially. Locomotives, for instance, are required to have the name of the station painted on them in block letters seven or eight inches high, and the number beneath in 1-inch-high block numerals. There is a standard finish prescribed for the rolling stock, although it may vary in minor details. The locomotives are painted black with yellow or white numerals. Iron parts of cars are painted black, while the wooden part is brown or gray. Some of the cabooses, however, do not follow this requirement. They retain their traditional red.







Navy steamers have proud records, many extending through two wars. The greater number are saddlebacks, though a few carry tenders. *Top photo* is a shot of No. 3 on her arrival at Mare Island Navy Yard in 1912; before retirement she put in 30 years switching Navy loads. *Below:* Counterpart in steam for Brooklyn, 1947

Wartime addition to Farragut's public works department, Porter Diesel 162 shouldered a 24-hour daily shift, working alongside two steamers. Coal alone accounted for 120,000 carloads annually to switch in and around yards

Official U. S. Navy Photo

The upkeep of this equipment at each station is supervised by the Public Works Officer. The rules for equipment inspection are those required by the Interstate Commerce Commission, a copy of which is on file in every Public Works Office. A recent compilation of all Navy-owned railroad equipment in the continental limits of the United States revealed the following:

Cars:

Flat	2675
Gondola	348
Tank	192
Hopper	229
Gun	8
Box	3998
Refrigerator	6
Dump	168
Passenger	54
Well	35
Caboose	4
Total	7717

Locomotives:	
Steam	110
Diesel	303
Total	413

Locomotive Cranes:	
Steam	68
Diesel	427
Total	495

(This list may be changed as items are declared surplus by the War Assets Administration and disposed of.)

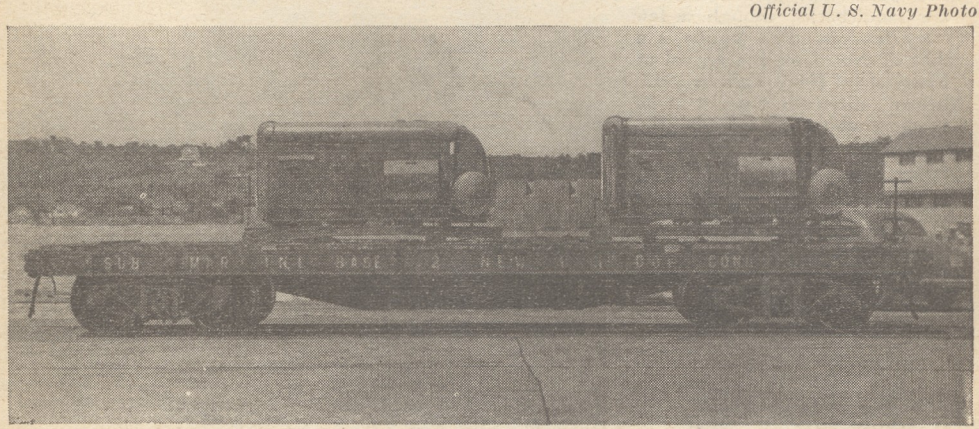
Much of the above equipment—particularly the cars—is boomer equipment, acquired from many different railroads. Some of it was built especially for the Navy, some was acquired when the Navy took over a road. All has since been repainted, but sometimes the name and emblem of former owners are visible beneath the paint. During the height of the war it was occasionally necessary to lease equipment, but this practice is discouraged. There are also instances where equipment was shipped back to the United States from overseas due to a critical shortage. Most Diesels, however, were new when acquired by the Navy.

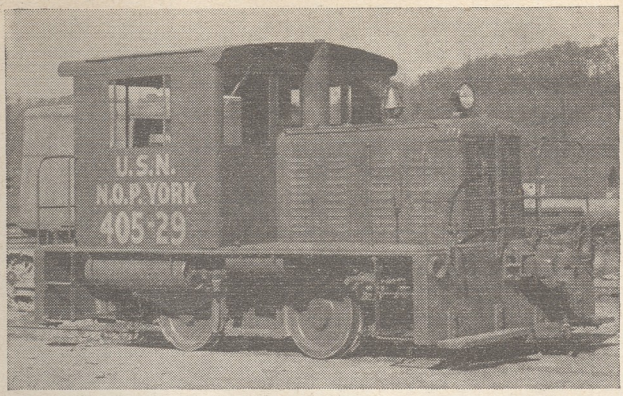
The reason why locomotive cranes are listed in a different classification is that on short movements they are often used for motive power, such as in a plate storage yard. Regulations permit them to move one loaded car or two empties. All such movements require that a safety man precede the movement and perform whatever flagging is necessary.

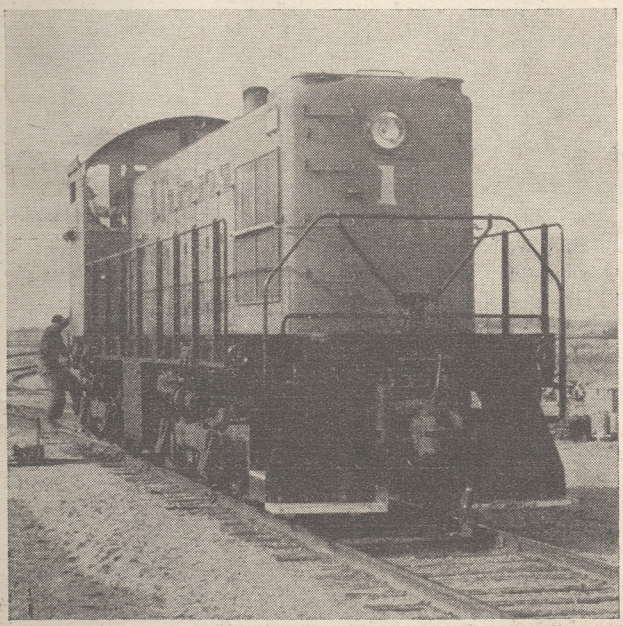
When any of the Navy's rolling stock travels the nation's carriers, mileage (rental) accrues thereon at the rate of one and one-half cents per mile for tankcars and six-tenths of one cent per mile for other cars. This mileage applies to all

Flatcar load of air compressors, equipment for New London's submarine base. Navy boasts cars enough to assemble 410 trains of 19 cars each

Official U. S. Navy Photo







Power in extremes. Smallest Diesel on the Navy lot is 12-tonner, *top*; the biggest, the 120-ton behemoth, *below*, used for road work and heavy switching at McAlester, Okla. ammunition depot. Around ammunition dumps, Navy prefers Diesels for safety reasons

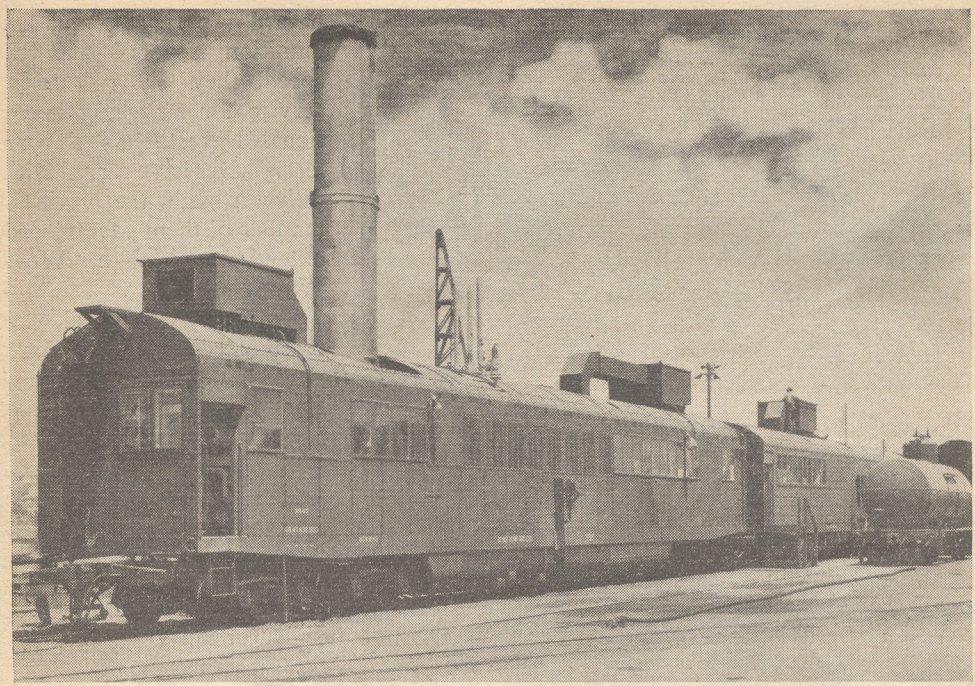
cars, whether they are loaded or empty.

The locomotives range from a small 25-ton steamer to a 125-ton steam behemoth, while the Diesels vary between 12 and 100 tons. Today Diesel locomotives are rapidly replacing steam locomotives at many activities, outnumbering them by almost three to one. The Navy's steamers were generally saddlebacks, though some with engine tenders are in operation. Several factors have favored the Diesels for switching operations, such as the ability to round sharper curves, the reduced fire hazard — particularly at ammunition depots — and the speed they show entering service for switching operations. Nevertheless steam locomotives have served faithfully through the years; a number of them have records extending through World Wars I and II.

To provide a local yard commuter service, the Navy purchased cars second-hand. For instance, five former Second Avenue Elevated (New York) cars were converted to carry passengers over a 3.5-mile line at the San Francisco Naval Shipyard. This was also done at the Naval Annex in Bayonne, N. J. All these cars are now awaiting disposal.

An interesting group of specialized cars are those that tote helium. They are kept solely for this service, transporting helium under pressure to different lighter-than-air stations. Despite the nature of their contents, they actually weigh 2000 pounds more loaded than empty. This is one type in which the net load weight is less than one percent of the total gross weight.

Facing the possibility of having bombs disrupt our vital power plants, the Navy Department built two power trains, each capable of supplying power to any activity for an indefinite period. These trains consisted of a boiler car, turbine car, switch-gear car, transformer car, freight car, gondola and a tank car. On short notice, the trains could be moved over a standard railroad and put into operation soon after they arrived at their destination. Technical details of these trains have appeared in other publications. Fortunately, they were never needed during World War II,



Power train—one of two wartime troubleshooters that never earned Navy service bars—goes through tests at Mare Island, Calif. Based today in Philadelphia and Mare Island, these units have taken on peacetime assignments of supplying current to U. S. and Mexican communities when individual power systems failed temporarily. Trains can pour out the juice for indefinite periods

and since late 1945 they have been used for peacetime purposes.

About a year ago one of these trains helped boost the Pan-American "good-neighbor" policy by supplying power to a smelter in Mexico. The local power plant near Celaya in the Guanajuato region had been destroyed and it would be months before a 10,000-kilowatt steam plant could be erected. The second train was stationed in Arizona for two years until late last fall, supplementing the output of a hydro-electric project which was unable to supply the demand due to a prolonged dry season. Until other emergencies occur they will be kept on call at the Philadelphia Navy Yard and Mare Island (Calif.) Shipyard.

ACTUAL operation of railroads outside of naval station limits follows standard railroad procedures quite closely. This is aided by many of the workers who were formerly on the payrolls of Class 1 carriers and carry on in the same tradition. Trains must have clearance to pass through the gates of the station as well as to operate on the outside tracks. Once beyond station limits they operate by written orders and schedules, and are required to report to the dispatcher from certain designated points along the line.

The Navy Department does not prescribe the operating rules, but it is common practice to use the same operating rules as those of the connecting railroad. For instance, Patuxent's Naval Air Station Railroad uses the Pennsylvania rulebook since it connects with it at Brandywine, Md. This policy prevents confusion in signaling and moving through the junction yard.

Operations on the station are controlled by a central dispatching office. Cars are moved and switched in the usual manner. Should any shop or activity need a car or a switching movement made they need only call the dispatcher at the transporta-

tion office and it is quickly arranged.

At larger stations operations have been speeded up by providing the locomotives with two-way radiotelephone systems. No longer is it necessary for the conductor to call the dispatcher for orders or instructions. This system went into operation at the start of the war. Much of the experience gained by the Navy has since been reflected in the design of radio equipment for the railroad industry.

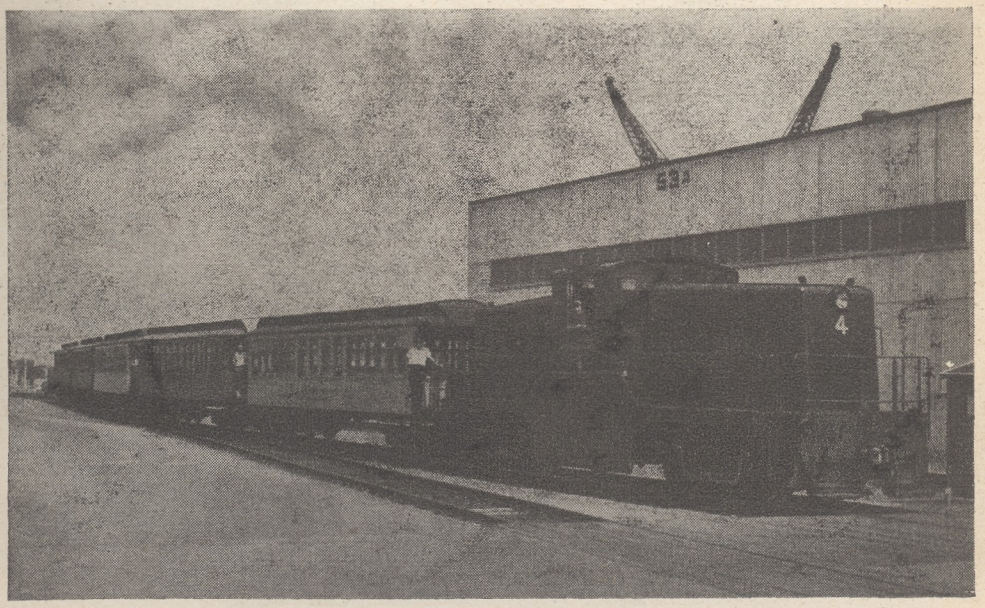
Experience has shown that the Navy must own and operate railroads. No other mode of transportation is as efficient or economical for bulk shipments, such as boilers, gun mounts, sections of ships or turbines, within station limits or between stations. For security reasons alone it is imperative that the Navy continue to operate its own railroads at naval stations.

The Navy has attempted to dispose of its off-station operations. The location of these tracks, however, which in most cases parallel excellent highways, makes their operation unprofitable for regular lines. One company offered to take over a section of a Navy railroad and continue its operation providing the Navy would give it a deed to the right-of-way and $1,500,000 besides! Needless to say, the Navy still operates this railroad.

There is one instance in which the Navy engages in a joint operation with a regular railroad. This is the Shelton-Bremerton (Wash.) branchline of the Northern Pacific. The Navy built the tracks and owns the right-of-way, but the Northern Pacific operates the trains which serve not only the naval establishments in the Bremerton area but also communities along the right-of-way.

There is no prospect of the Navy expanding its railroad operations within the near future. Naval railroads at permanent stations, however, are being kept in full readiness for any emergency. A definite program is underway to improve the existing naval railroads by replacing wartime construction with better, more permanent equipment. Property released by the closing down of certain stations is being shifted to replace wornout equipment. The Navy is in the railroad business to stay.

Between rushes, a commuter train and crew take the sun alongside the supply depot at Bayonne, N. J. The peak for Navy traffic was July, 1945, when a score or more freight and passenger trains moved in and out of naval stations. Yet how many landlubbers realize that rail operations around ammunition depots alone classify the Navy as a Class 1 carrier, since monetary value amounts to $1 million or more annually? This tops U. S. Army's record



Rethreading CASCADE TUNNEL

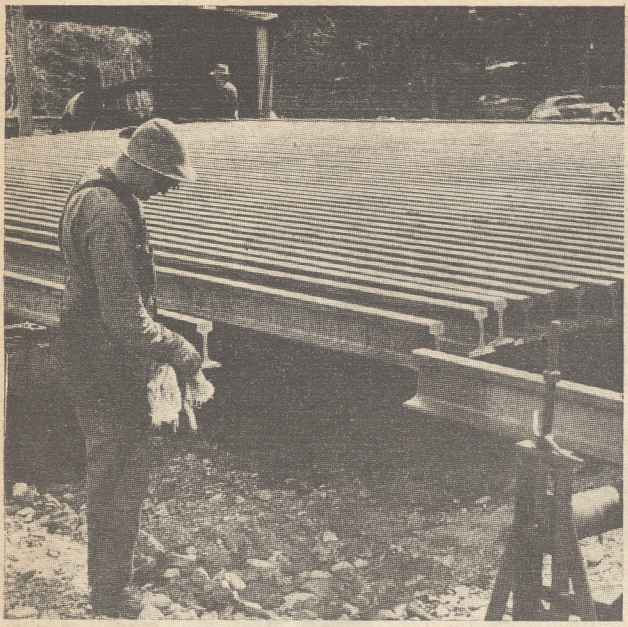
RAPID rail deterioration in tunnels has always presented a problem for maintenance-of-way forces. When steam power is used, trapped gases take their toll, together with the abrasive action of sand used to prevent slippage resulting from condensation on the steel. To a lesser extent the natural dampness of tunnel interiors attacks the metal, even where electrification eliminates gases and steam condensation. At best, maintenance of alignment and firm bonds and splices is difficult and hazardous between portals. Here, then, is an obvious selling point for continuous welded rail.

Following the lead of the Rio Grande, which is well pleased with its tried and proven Moffat Tunnel installation, the Great Northern recently completed the laying of four miles of continuous rail from the west portal of Cascade Tunnel to a point slightly beyond the center of the Western Hemisphere's longest bore. The new steel, weighing 115 pounds to the yard as against 110 pounds for the rail which it replaced, was pushed forward at the rate of 1326 feet per day, using the latest pressure-welding technique to fabricate 1326-foot lengths. These were then hauled into position within the tunnel and hand-welded end to end.

In as much as the temperature within the tunnel is nearly constant, ranging between 60 and 65 degrees, expansion and contraction of the four miles of rail is slight. However, the goose-neck type of spike is used, as in the case of exposed installations, its firm grip preventing any accumulative action.

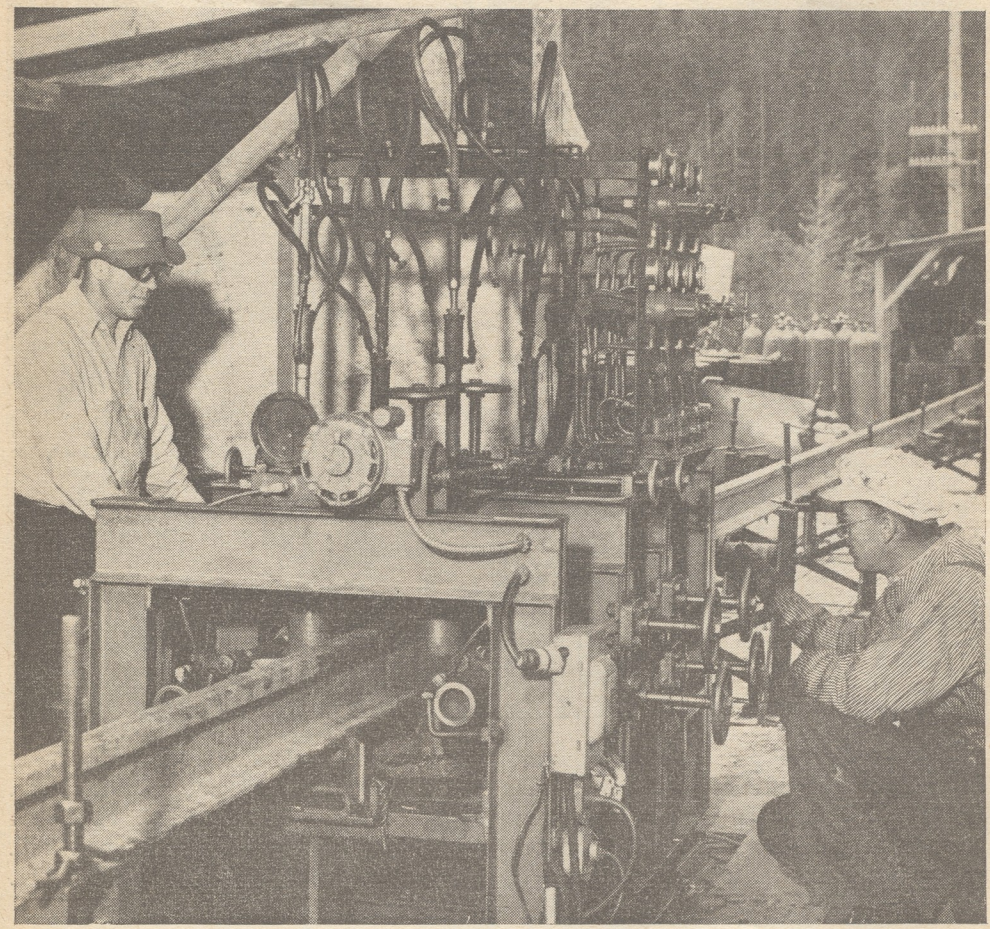
A report made by H. J. Seyton, chief engineer for the Great Northern, and released to *Railroad,* throws an interesting sidelight on track life in the Cascade. Unlike rails, it appears that ties exposed to

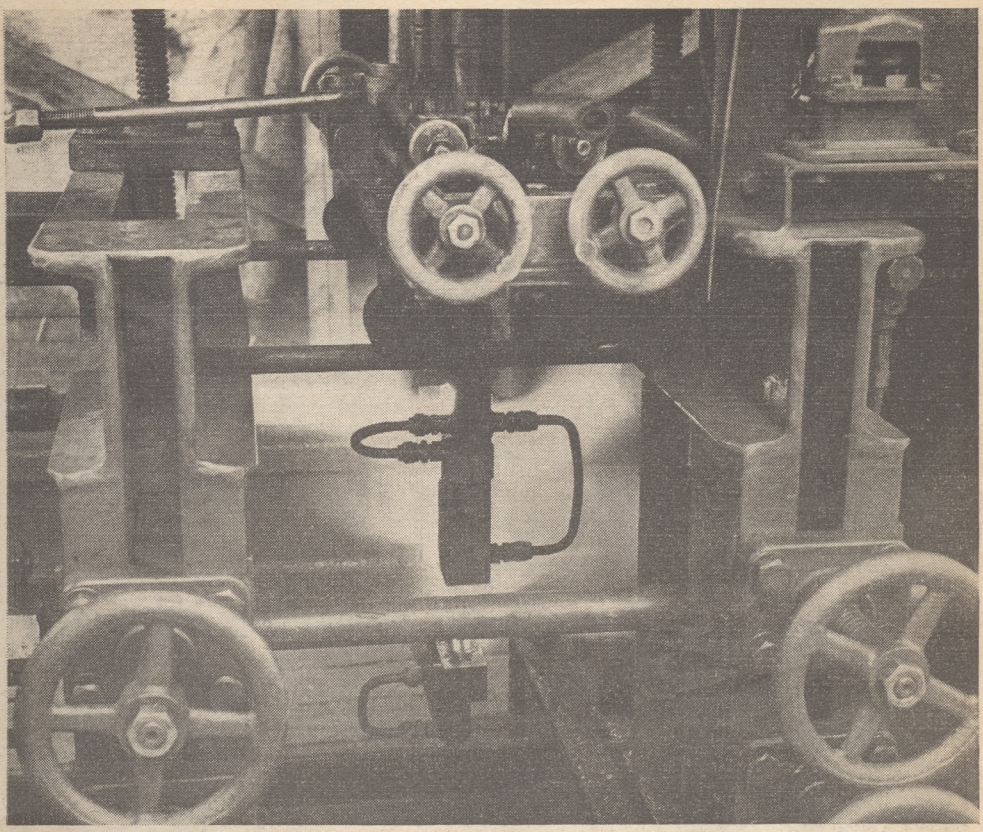
tunnel conditions give abnormal wear. Since 1929 only five of the more than 17,000 placed between portals have been removed, these being located over a soft spot where there was a wet condition and slight pumping of the track that caused some crushing and mechanical wear. Even these, however, would not have been replaced but for the laying of new rail. The life expectancy of such ties is 50 years.



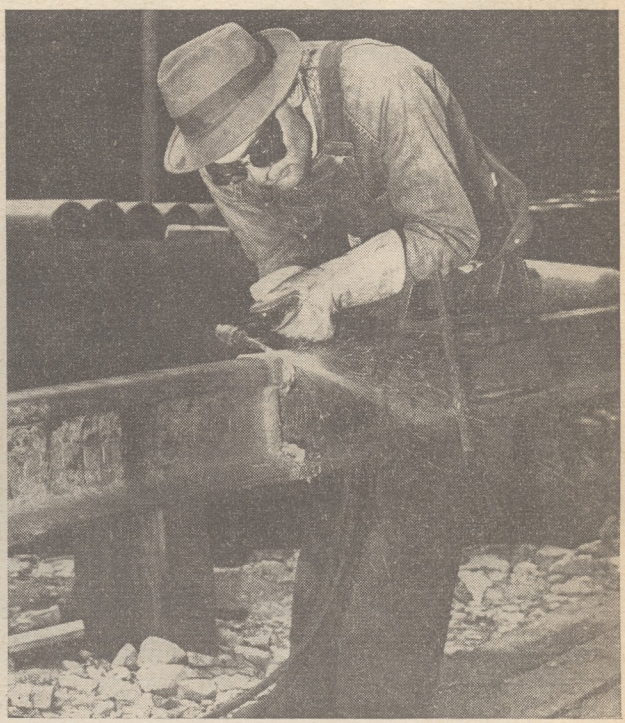
Continuous rail for Cascade Tunnel—1326-foot lengths to replace the 39-foot sections laid down in 1929—cost the Great Northern approximately $189,000 plus two months of intensive welding and polishing on a slope near Scenic, Wash. The figures on material and work expenditure, however, do not tell the whole story. Photographically recorded here are the complex operations preceding the driving of the "last spike" in mid-July in the four miles of continuous rail starting at the bore's east portal

Count off 34 rails at Station 1, *left*, for one completed length of ¼-mile big steel. Having been passed on skids through a saw which squared up and smoothed each end and removed rust and flaws, rails are now ready for welding

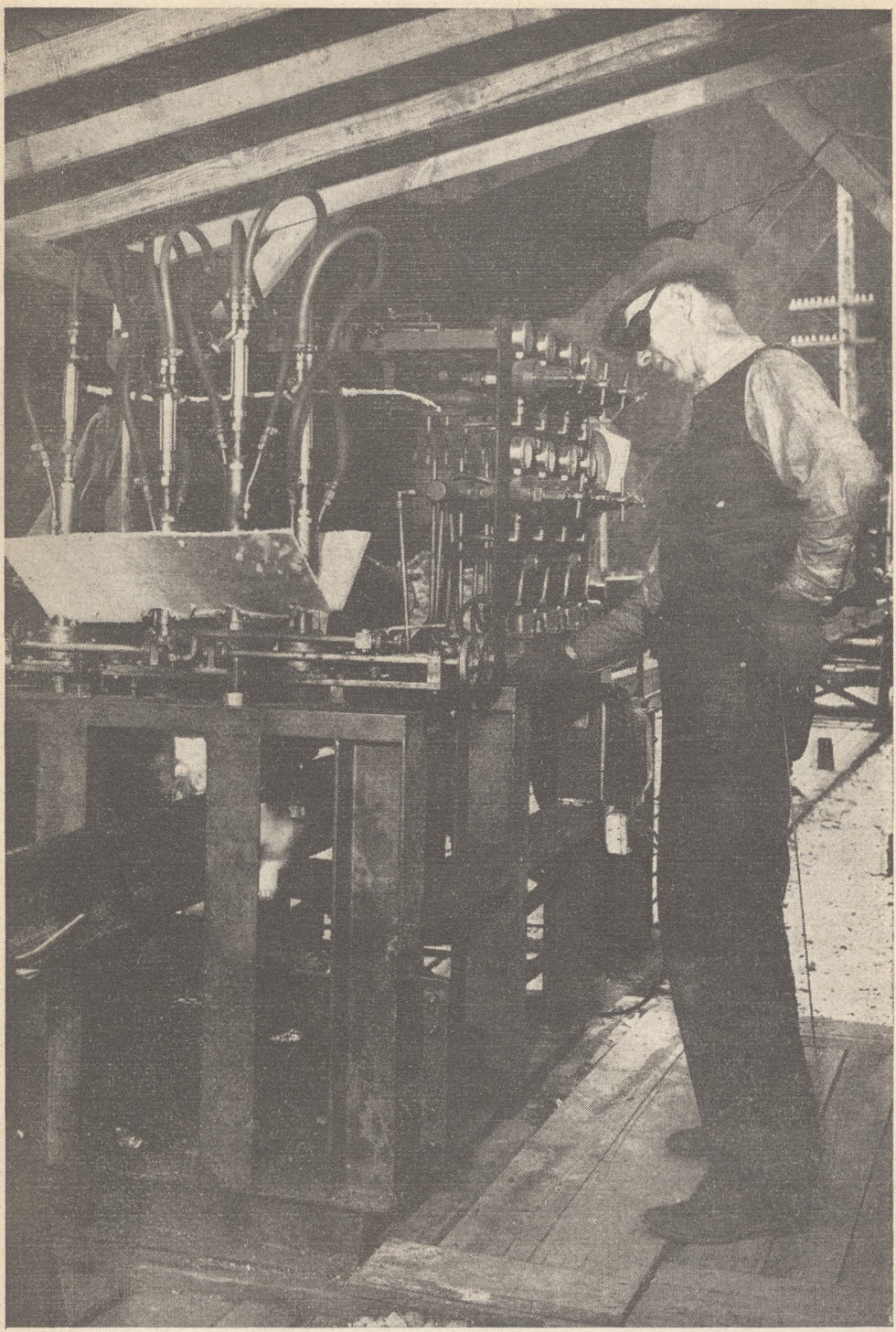




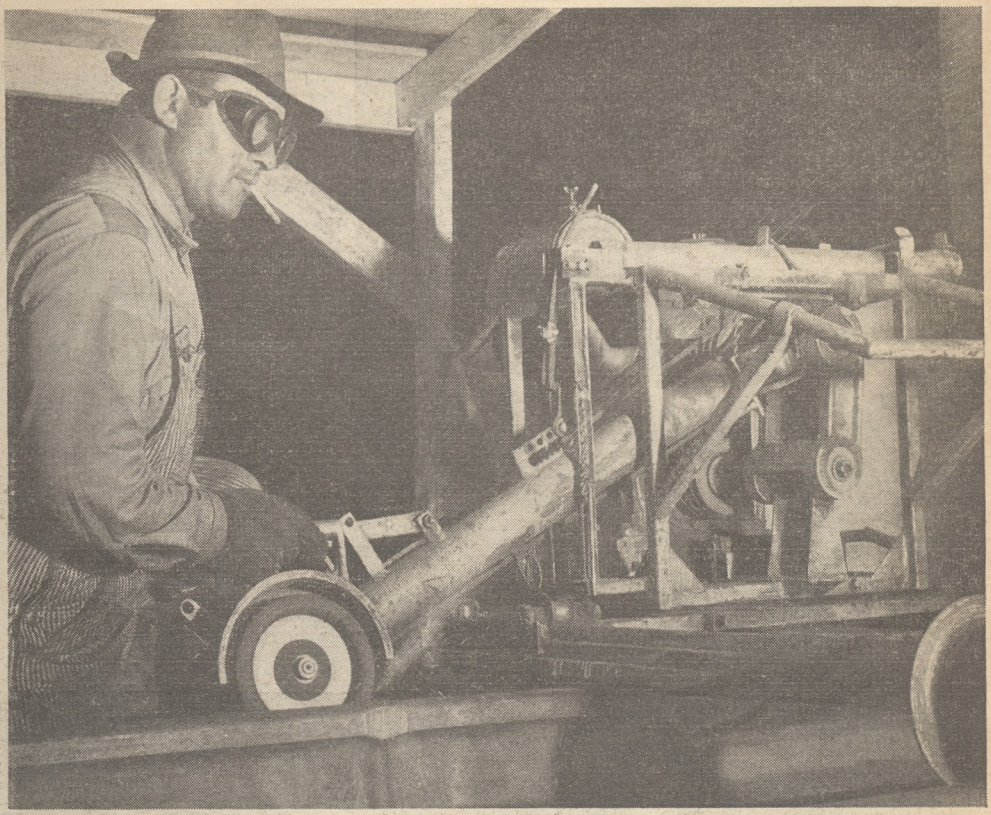
Pressure cooker, railroad style. Oxweld, pressure-welding machine, leased by GN for its Cascade Tunnel job, carries the burden of this welding chore. *At left*, rail ends that have been washed with ethylene dichloride and polished are then trued up in mechanism. Under pressure of 2500-2700 pounds per square inch, the metal is heated to about 2300 degrees F. Some indication of how this is achieved is shown in closeup of welder, *above*. Flaming jets of oxygen-acetylene—125 in all—bear down on joining at inferno temperatures of 6000 degrees



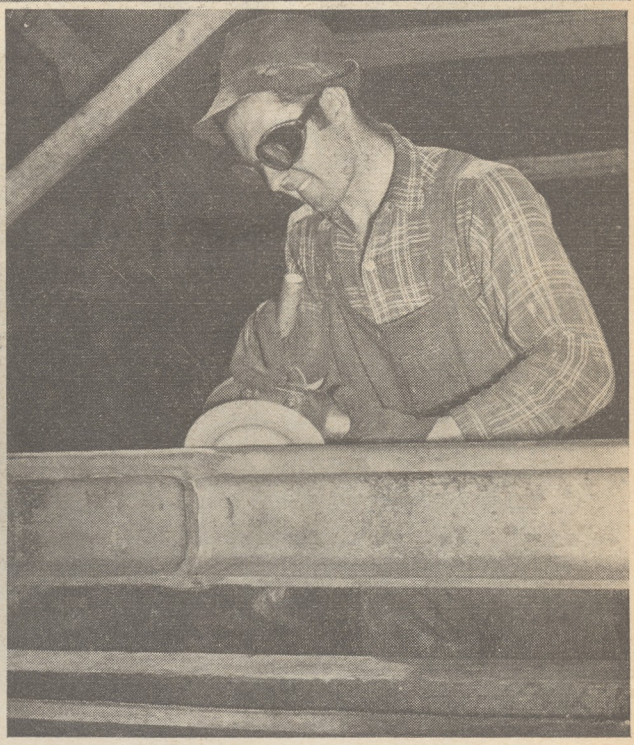
Via rollers the 78-foot bar moves on now to Station 3, *right*, where excess metal is trimmed away from the weld. Acting as prop for worker's left elbow is a guide which will determine the correctness of his cuts on top and sides



Housed in one of the many wooden sheds that comprise the outdoor assembly line, this multi-gaged instrument is called the normalizer. By reheating the welded area to between 1500 and 1550 degrees, it relieves the stress and strain produced within the metal by the extremes of pressure and heat that have tortured the steel in previous operations



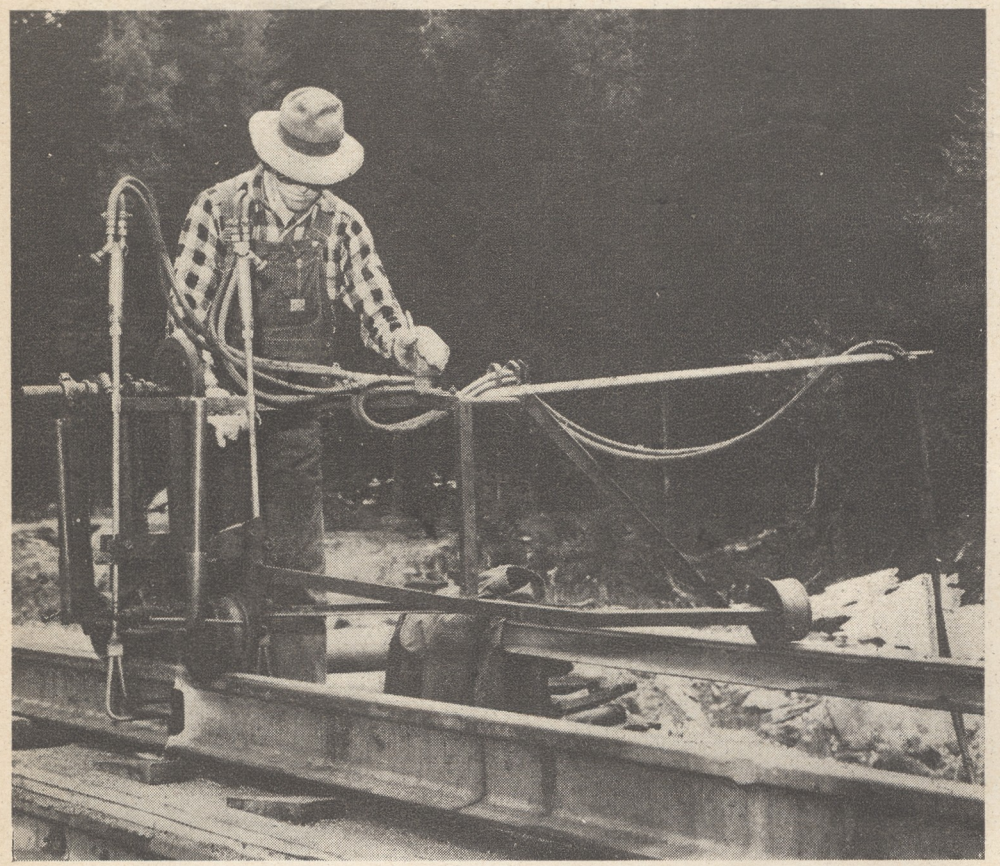
Smooth rails demand precision grinding and polishing. To be certain that the job's well done, GN allocates three separate stations and as many men to the task. ***Above,*** an operator sends sparks flying as he drives the emery wheel of his flex-arm grinder against rough edges on one side of the joining. This coarse abrasive action will be supplemented along the line by use of finer tools to wear down the seam. Station 7, an intermediate stop in process, is the location of power winch which will haul the elongated rail on to a waiting string of cars. Prior to its arrival there, however, the joint will undergo one last rubdown

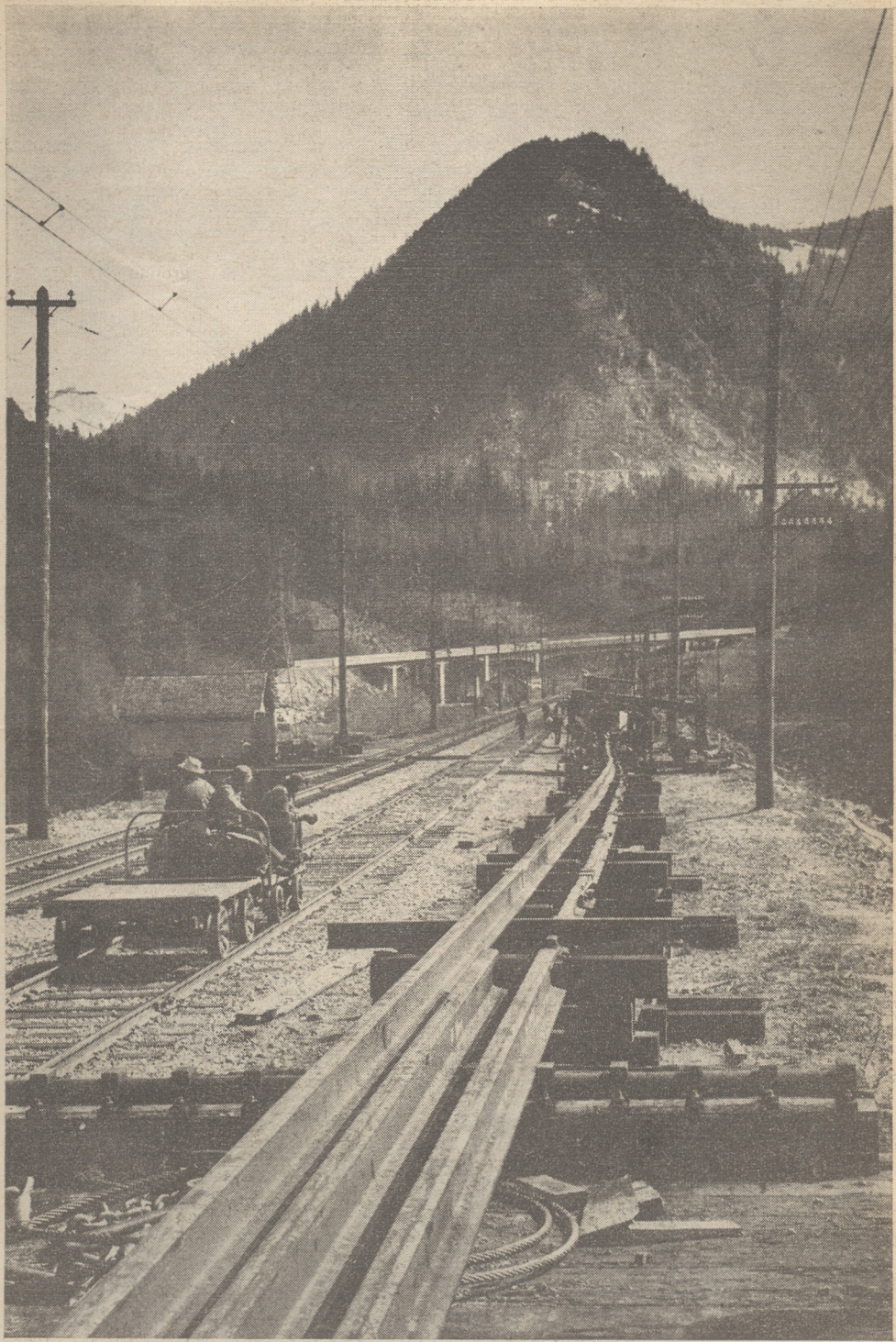


Wanted: concentration and two steady hands. If all goes well, this railroader at Station 8 ***(right)*** will be the last man to scratch the surface of the new weld. When he puts aside his polisher, the rail should be 100 percent smooth

Powder test. Big G crews, supervised by General Roadmaster L. J. Gilmore, have a simple means of attesting the efficiency of their welds. Once the area in question has been dusted with Magna-Flux powder, an electro-magnet *(left)* is brought in contact with these minute iron filings. Pattern taken by the particles reveals any flaws in the weld or presence of unground seams

Below. Approved rail gets a blast of dry cleaner — again blazing gas—to loosen and remove all mill scale. Next the entire surface, with exception of the running surface of the ball and underside of the base, is wire-brushed and coated with a corrosion-resistant preservative. Latter operation is done by hand





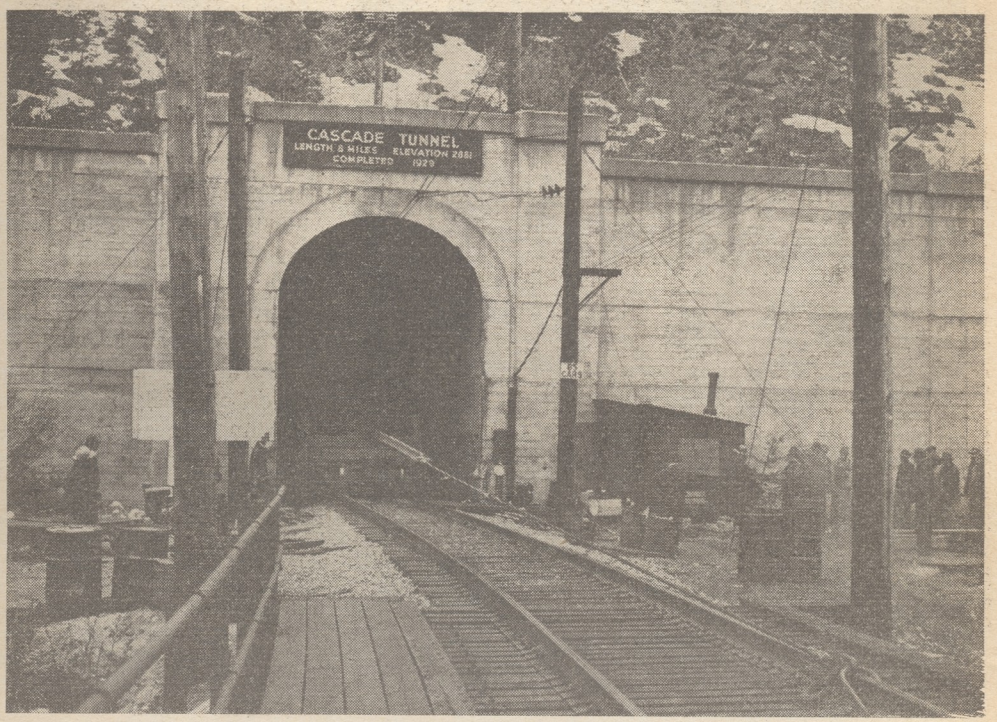
Long approach for easy loading. To transfer rail section from assembly line in the distance to flatcar in foreground, GN engineers laid down a ramp of graded rollers and placed their train on 2.2 percent slope. Steam winch and steel cable provide power

Margin for error is slight, as the 1326-foot steel bar inches its way forward along the cut of 25 roller-equipped cars under the watchful eyes of two railroaders. A shoe fixed to the lead end makes progress over portable rollers easy; the steam winch is still doing the heavy work. As soon as the rail is in place, a second coating of preservative will be sprayed on

Clamping down on a 75-ton load. Before the special train gets under way, a worker tightens the bolts of a clamping device which secures each of the rails at a point midway in its length and prevents lateral motion later on. Three is the maximum load for Cascade Tunnel, though individual rollers for 12 rails have been installed

Caboose in lead, supply train is shoved toward west portal. Note how heavy steel cants to 4-degree curve; load represents three days' work—daily output equals 1326 feet of welded rail. Begun May 16th, project is biggest relocation job of its kind in the Pacific Northwest

Beginning and end of a short run: Scenic to Berne. ***Above,*** Loaded flats pass Scenic, enroute to nearby Cascade Tunnel. ***Below,*** Trackmen at east portal—site of replacement—stand by for the "big stretch"; steel cable attached to shackle in right foreground and clamp on rail end grows taut as flatcar is pulled from under rail which then sags to the ground. Gangs promptly complete laying of new steel and then the whole operation is repeated—again and again. Balance of Cascade "rethreading" is scheduled for 1950

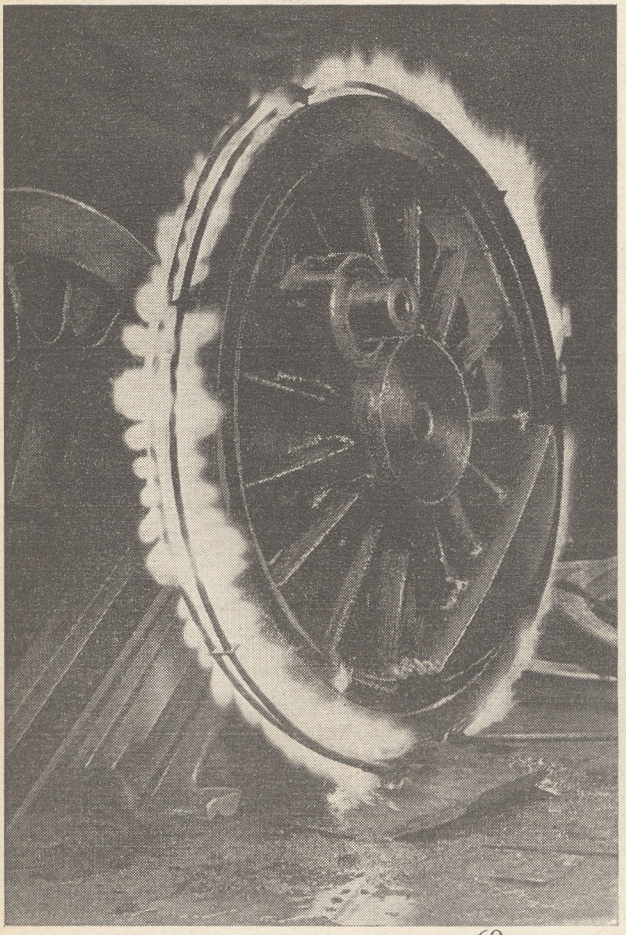


Light of the Lantern

Tire Setting

IT IS INTERESTING to read some of the reports of the Master Mechanic's Association meetings held in the 1880s. In them we find expressed the views and experiences of the foremost railroad mechanical men of that day. They were rugged individualists who, faced with countless problems related to the development of the iron horse, and having few precedents to follow, arrived at novel conclusions and clung to them tenaciously. They differed violently in their theories of wheel-diameter as related to stroke, on methods of drafting, the proper setting of valves, and every other aspect of design and shop procedure.

It is surprising that there should have been but two schools of thought concerning the best method of applying driving tires to wheel centers. The die-hards of an earlier day were all for continuing the old practice of force-mounting tires through the use of hydraulic presses. Those with more advanced notions argued for the heat-expanded tire, which required no pressure during application, but which fitted even more securely when it cooled.



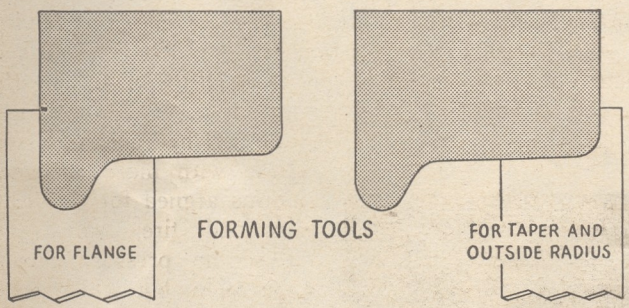
Maybe the oldtimers were right in looking skeptically at tire heating. Great damage can be done if processed steel or iron is subjected to high temperatures and the method of fashioning locomotive tires during this period made them particularly vulnerable. Bear in mind that they were shaped in the same manner as the wagon-wheel tire of that day and this. That is to say a round band was formed by taking a strip of iron or steel, beveling or "scarfing" the ends and bringing them to a white

Ball of fire. Subjected to intense heat produced by burner-studded rings, this 6-foot tire will quickly expand the one-fourteenth of an inch required for removal from the wheel center

R. D. Kimmel

heat. Placed bevel-to-bevel, these ends were then welded by the process of pounding the hot metals together. Steam hammers were not in wide usage so much of this welding had to be done with a hand sledge. Such welds can be made successfully today but this was not always the case. With the weakening effect of further heat application to such a weld, tire expanding had its drawbacks.

Nowadays, of course, all tires are both removed and applied by means of heat.



Rigid standards govern flange and tread contour. Too thin a flange results in "nosing," and a tendency to split switches

There is little fear of damage being done for the great steel rings are made in a single piece without welds. The steel used has a tensile strength running around 125,000 pounds to the square inch and the manufacturing process is a miracle of metallurgic skill.

A single piece of round metal is flattened out until it resembles a large, thick pancake. Heated to a deep red it is next punched through at the center to form a doughnut-like ring or "bloom". This bloom is now ready for rolling in a tire-forming machine. The rolls, operating under high pressure, reduce the cross section of the ring, not in one stage but in many, for the metal must be returned to the furnace a number of times to maintain a high temperature. During the process the grain of the metal becomes closely knit. To prevent warping the tires are piled one atop the other and allowed to cool slowly. In a few days they are ready for the lathe, where they are roughly bored and turned.

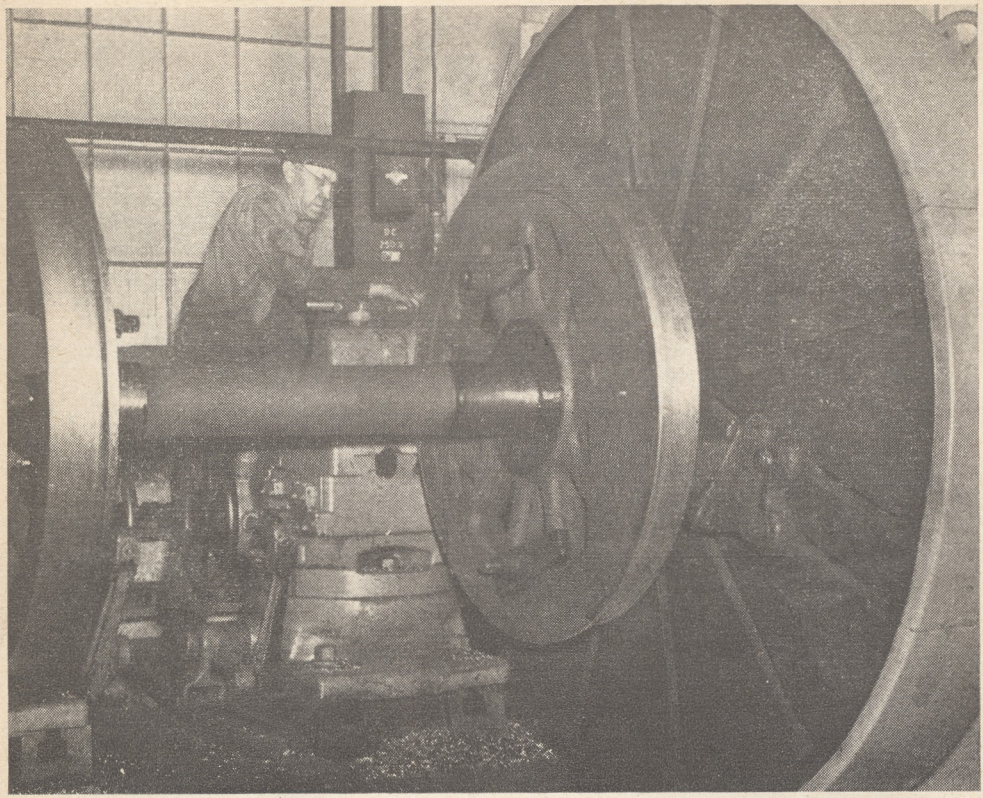
Finishing to exact size is a job for the big shops on locomotive plants. This operation is performed by two perfectly-contoured tools as shown in our drawing. It is a slow operation as any "chattering" would produce a very rough surface.

On the past the boring of the tire was considered a tough job. Tool marks showed plainly but there was little concern over this, provided proper shrinkage was obtained. Today such a condition would not be tolerated for high speeds and heavy braking call for the most perfect bearing of tire to wheel center. By means of modern tungsten carbide tools the cutting speed has been increased and the finish is mirror-like. As a result dislocation of the tire in service, once a source of danger, particularly in mountain territory, is entirely eliminated.

The standard method of applying a tire to a wheel center is to bore it one-eightieth of an inch smaller than wheel diameter for every inch of diameter. When heated to a stage below the red zone it will expand sufficiently to slide into place, after which shrinkage is sufficient to meet all normal service demands.

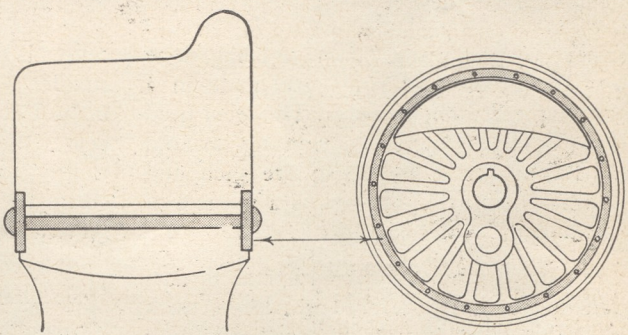
THERE ARE many designs of tire expanders. In some sections of the country gas is used, and a few modern plants have even resorted to electricity. In the average enginehouse, however, cheap kerosene oil has been found most practical.

The kerosene heater is equipped with a large tank holding enough oil to more than handle one tire. Air pressure is applied to force the oil out of the reservior and into a pipe where it is blended with additional air, under pressure. By regulating the two valves a mixture suitable for burning is produced and it is made even more combustible by forcing it



Above: Turning a pair of tires on a lathe takes from 30 to 45 minutes, depending on wheel diameter. Feed range is from 1/10 to 3/10 of an inch per revolution of the face plate

At right: Retaining rings placed on either side of tire and secured by bolts or rivets passing through wheel center, prevent loss of alignment should tires slip



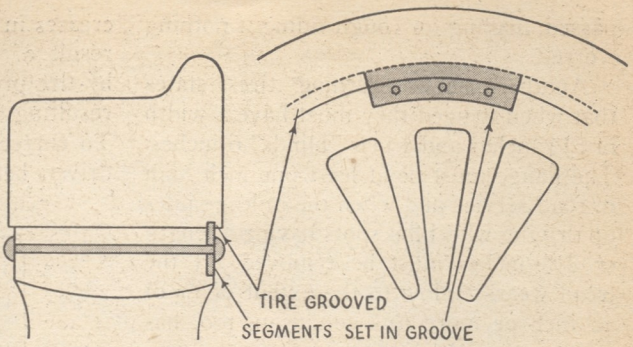
RETAINING RING

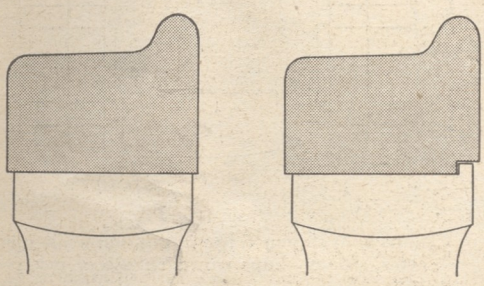
through a heated coil before passing it on to the tire ring. The ring is nothing but a piece of wrought-iron pipe curved to conform with the circumference of the tire. Holes drilled in the tube at close intervals provide burner jets for the escaping gases whose blue flames completely girdle the metal. By means of clamps and a crane the average mechanic has no difficulty in applying, shimming or removing a tire.

In setting it, rigid standards must be met. Our track gage is four feet, eight and one-half inches. Tires in their turn are held to a minimum back-to-back measurement of 53 inches, and a maximum of 53⅜. The variation allows for a safe adjustment on roads where the physical characteristics of the track differ. The front and back drivers of locomotives operating over routes involving sharp curvature, for example, are set to the 53-inch minimum, permitting freer movement and

At Right: **Retaining segments are variation of retaining ring design. They fit into groove cut along inner surface of tire**

Below: **Straight bore depends entirely on tire shrinkage for fit. It is not recommended for highspeed service, or where braking is heavy. Shoulder design prevents tire from moving inward**





preventing flanging, or the wearing away of the vertical surfaces of flanges. These flanges must never be allowed to get below 15/16 of an inch in thickness. Below that point they allow for too much lateral and show a tendency to split switches.

Originally, tires were set on wheel centers by what is known as a "straight" fit. That meant that the tire-bore was kept to one diameter, slightly smaller, as already mentioned, than that of the wheel itself. This is still the accepted application where engine speeds are slow and braking conditions not severe. Other services demand different and more costly methods.

On passenger locomotives, where the dislocation of a tire might cause a serious wreck, retaining rings are frequently used to maintain gage, regardless of any loosening action. These rings are placed one on either side of each wheel and held in position either by bolts or rivets along their circumference. Another design in common use is that produced by machining a shoulder on the flange side of the wheel. This prevents the tire from working inward and the flange itself stops any outward motion, by contact with the inner side of the rail-head.

Many roads, too, use a modification of the retainer ring, which consists of segments placed at intervals around the wheel circumference. The usual procedure is to cut a groove around the inner surface of the tire directly under the flange. The segments, usually three in number, are pressed into the groove at 120-degree intervals and then bolted to the wheel center. Should the tire become loose it can only rotate in alignment with the segments and when this does happen it leaves telltale tracks, cleared of the grease with which the exposed portions of the groove are filled. Frequently, such identification is helpful, for a loose tire may not always be discovered during routine hammer tests.

SINCE tire wear is generally used to establish shopping mileage, great care is taken in setting up the wheels when a locomotive is new or undergoing heavy repairs. Apart from this, the Interstate Commerce Commission has exacting safety standards which are rigidly enforced. Wheel diameters on the same axle, for example, must not vary more than 3/32 of an inch nor can any wheel on one side of a locomotive differ from the others by more than that amount. Obviously, any perceptible variation of this sort would cause an engine to arc slightly to right or left, and at the same time would impose a strain on the side rods and pins which would tend to bind after centers were

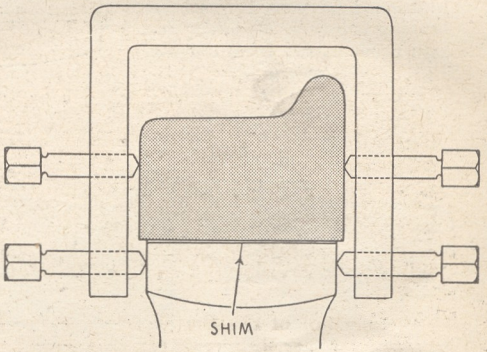
passed, making for rough riding if nothing worse.

Another law concerning tires states that when flanged they must have a width of 5½ inches and when "blind," 6 inches. The flange must be at least one inch high in road service and when the mileage piles up driving wheel flat spots having a length of 2½ inches must be removed. If the tread wears hollow to the extent of 5/16 of an inch or more this condition, too, has to be corrected. As to thickness, new tires are made as heavy as clear play with other parts will allow. Experience has shown that 4 inches is about ideal on the basis of long life and economy. Re-turning to eliminate flat spots or grooving, or to re-establish flanges, naturally means that more revolutions are made per mile. This accelerates wear, tends to break down the metal and causes faster heating when brakes are applied.

In recognition of such conditions the thinnest tire allowed in road service is 1¼ inches in thickness. This is permissible for a 44-inch wheel with an axle load of 30,000 pounds. In the case of a 74-inch wheel with an axle load of 55,000 pounds the minimum is 2 inches.

The tire-turning job in the shop is an important one. After checking for flat spots and tread and flange wear the wheels requiring the most extensive corrective turning are machined first and the remainder must be worked down to the same diameter. The question naturally arises: *Why don't all of the coupled wheels wear equally?* The answers are several. Main drivers may have quarter-slipped or become egg shaped, sanding may have taken a heavier toll of one pair than another, or the metal used may not have been of the same degree of hardness.

The matter of egg-shaped wheels brings up the subject of shims. It is common shop knowledge that a wheel center decreases in size over a period of years as a result of the severe compression caused by tire pressure and by possible abrasion resulting from any slipping of the tire. To correct this, strips of sheet metal are driven between the bearing surfaces. In



Clamps hold shimmed tire in position while metal cools. Many shops frown on use of inserts

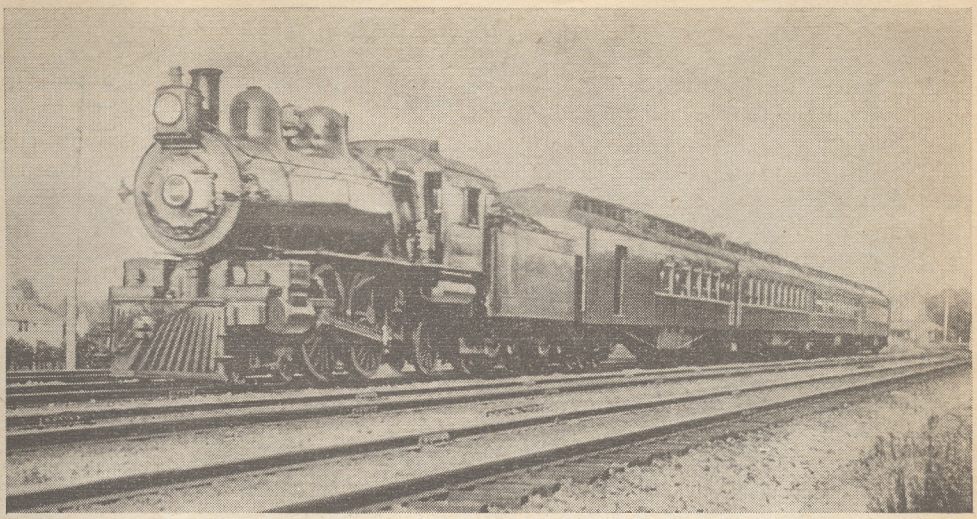
the old days these shims were applied like a deck of cards. Cut about four inches long and the full width of the tire, any number of them might be driven in, one on top of the other, and generally all in a single spot. The result was a lopsided product which advertized itself to the engine crew in no uncertain manner at high speeds.

Now, however, under no condition can more than two shims be applied and one of these must go entirely around the wheel. Care must be taken, too, that not the slightest opening is allowed between them.

We've already said that tires determine the shopping mileage of locomotives. Some, especially those with tandem rods, will develop tread wear and high flanges in less than 40,000 miles. Others, better counterbalanced and with larger wheels frequently go over 100,000 miles before needing tire attention.

NEXT MONTH: **Highballing the T-Bones**

By JOHN A. THOMPSON



Pennsylvania Railroad

Predecessor of the *Broadway*. The *Pennsylvania Special* has just been restored to service after a 2-year withdrawal and its time cut from 20 to 18 hours when this action shot was made by William Rau in 1905

INFORMATION BOOTH

Each month the Lantern Department prints answers to rail question of general interest, submitted by our readers. We do not send replies by mail.

1

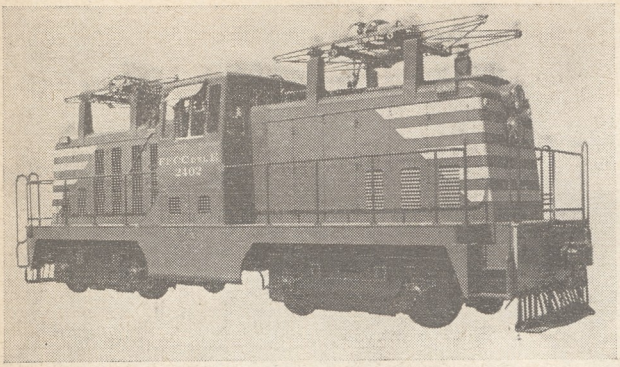
NAME *the engineer, fireman and conductor of the* Pennsylvania Special *when she made her record 127.1 mile an hour spurt over the three miles between AY Tower and Elida, O., on June 12, 1905.*

Engineman J. W. (Jerry) McCarthy pulled the throttle, H. R. Tourgee wielded the scoop, and John Walsh was the skipper on this memorable run. Homer B. Reynolds was division operator of the Fort Wayne Division at that time. *Atlantic* Number 7002, Class E-2 was the locomotive which covered the three miles in 85 seconds, which is at the amazing rate of one mile in 28⅓ seconds. From Fort Wayne to Chicago the train was pulled by the 7203, Engineman W. H. Gates and Fireman J. E. Hoog.

2

WHAT *was the first railroad line built in Ohio?*

This distinction goes to the Erie & Kalamazoo, a 32-mile line from Toledo to Adrian, Mich, which was put in operation in 1836. At first a crude horse-drawn coach holding 24 passengers operated over its primitive iron strap rails, but in 1837 the road was equipped with a tiny wood-burning locomotive, the *Adrian No. 1,* capable of traveling 10 miles an hour and reliable enough to carry the mails. That same year the company went broke in the financial panic, and until 1846 was owned by the State of Michigan, which chartered the line and contributed heavily to its construction. The Erie & Kalamazoo was sold to a group of Massachusetts and New York men who had made their money in the China trade. For $1,750,000 they purchased over 150 miles of railroad, including the Detroit & St. Joseph, and proceeded to form the nucleus of the Michigan Central. These two railroads, which merged to form the MC, had cost the Wolverine State nearly $3,500,000.



Courtesy General Electric

300-volt DC switcher recently built for the Chilean State Railway by G.E. Weight is 77 tons; gage, 66 inches

The Erie & Kalamazoo was not the first railroad to be chartered in the Buckeye State. In 1832, when there were only 229 miles of rail lines in the entire United States, the Ohio general assembly granted a special charter to construct for 156 miles, the Mad River & Lake Erie Railroad, 'a line of iron rails' from Dayton to Sandusky. Before the task was completed, in 1844, the Erie & Kalamazoo had seen eight years of service. Begun September 7, 1835, the Mad River & Lake Erie extended 30 miles south from Sandusky in 1840. Its first locomotive, Thomas Rogers' *Sandusky*, determined the standard gage of Ohio's railroads. When it arrived from Paterson, N. J., no tracks had as yet been laid, and the track was built to suit the engine. The legislature then passed a law making its gage standard for the state. In 1846, the MR&LE's Sandusky-to-Bellevue line was joined with the little Miami Railroad, completing the first through line from Cincinnati to Sandusky, 211 miles. The same year, Cleveland, Columbus, and Cincinnati were connected by 263 miles of railroad, and a line was completed from Cleveland to Pittsburgh.

3

WHEN *a New York Central boxcar is transferred at 3 p.m. from the Boston & Maine to the New Haven, which road pays the per diem rate?*

The B&M is responsible until midnight. After 12:01 a.m. the New Haven is responsible. When the end of the month rolls around costs are worked out on an equalization basis. The *per diem* is paid to the New York Central System.

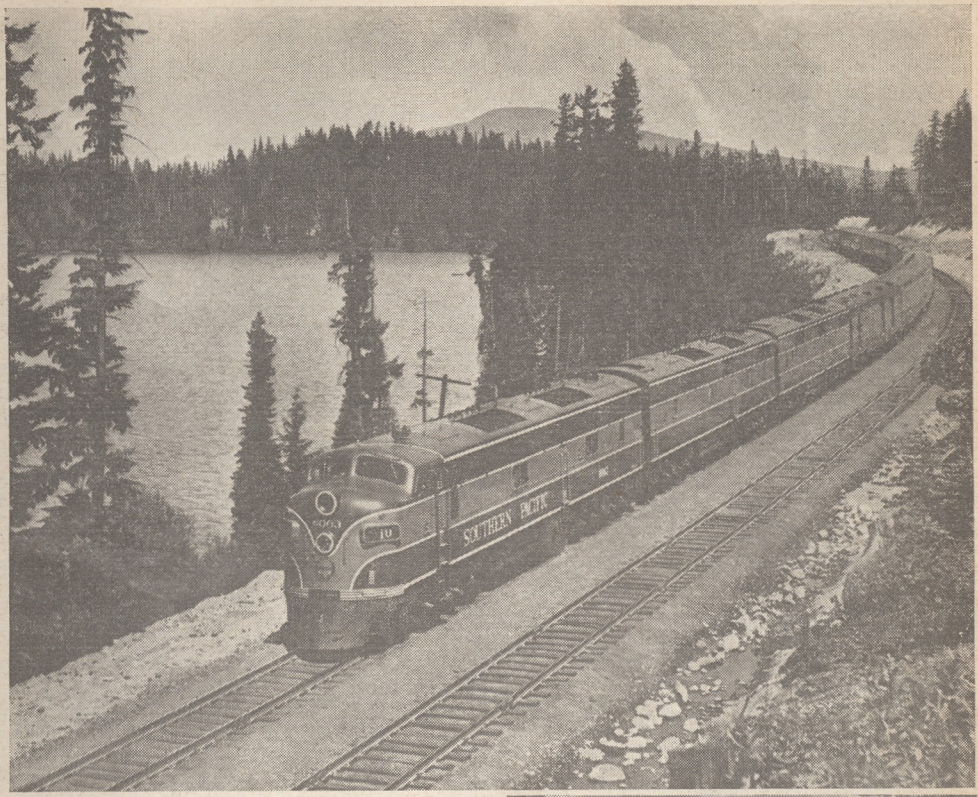
4

GIVE *details on the Burlington's recent use of a new synthetic fuel processed from coal, in a conventional Diesel-electric passenger locomotive.*

The Q made history in its centennial year by being the first American railroad to power an engine with a liquid fuel oil composed of coal and lignite. On May 8th a special Burlington train, pulled by A and B units Number 9935, covered the 94-mile run between St. Louis and Louisiana, Mo., carrying more than 500 government officials, industrial executives and invited guests to the dedication of the United States Bureau of Mines' two new coal to oil demonstration plants. The Louisiana factories are the first of their kind in this country and will employ eight different processes to convert coal and lignite into high-quality fuel oils. The plants will also be a proving ground for American coals, equipment and processing methods. The big two-unit Diesel locomotive was fueled-up from a tank car at the Rankin Avenue Yard in St. Louis. First railroad to operate a locomotive burning synthetic fuel, the Burlington Route pioneered in introducing the Diesel-powered train 15 years ago.

5

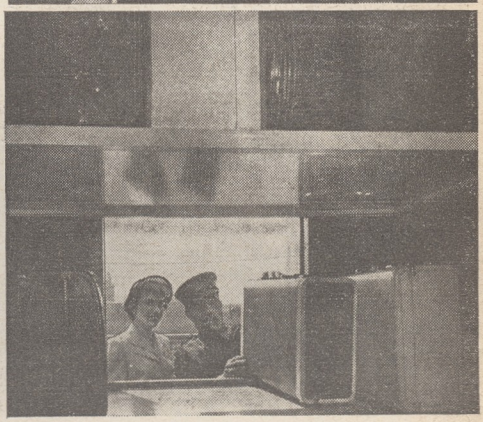
WHAT'S *the story behind the C&O's conversion of two old open-section Pullman cars, and where will this revamped passenger equipment be used?*

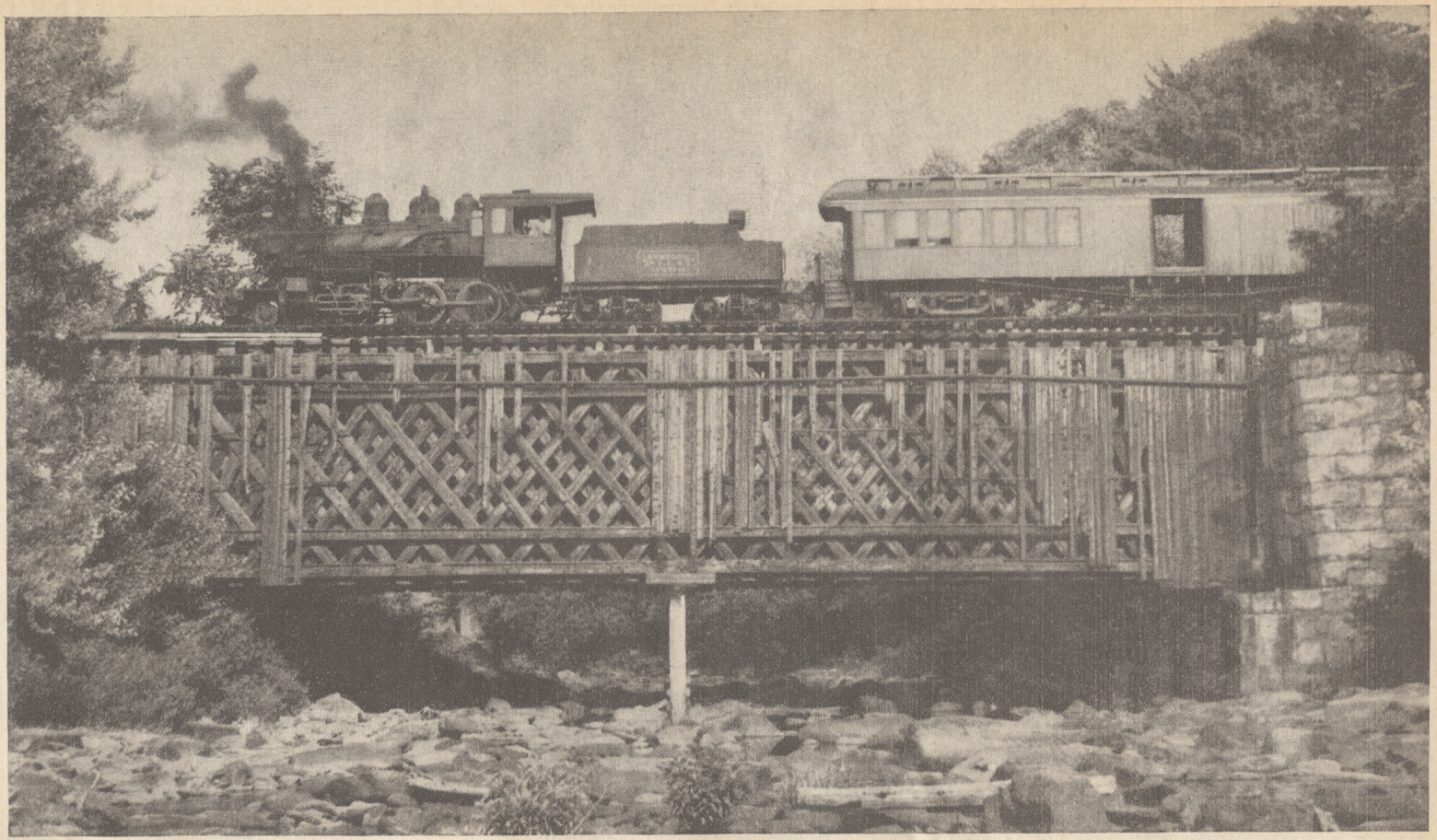


Shasta Daylight

Southern Pacific's new orange-and-red bid for daytime patronage between San Francisco and Portland (718 miles) frames unsurpassed scenic panorama with oversize skyview windows. Highlights of 15½-hour run are Sacramento River canyon, Mt. Shasta and Oregon's Willamette valley. Externally reached luggage elevator, ***bottom right***, is one of many features designed to eliminate travel complications on 5-million-dollar streamliner

Courtesy Southern Pacific





Philip R. Hastings

Moth-eaten. Don't blame Boston & Maine for the unfortunate condition of its covered bridge at Suncook, N. H. For the ancient structure, along with trackage to Bow, has been leased these many years to the Suncook Valley Railroad. That's the "Blueberry Line's" No. 3, Engine 1, chuffing cautiously from shore to shore while the quavering bell lifts its voice to heaven

Altering of these cars was a part of the C&O's new passenger car retrenchment program. The equipment was placed in service during the first week of August on the run between New York City and Ashland, Ky., which serves both Hot Springs, Va. and White Sulphur Springs, W. Va. Low-cost conversion from section to room space on the old *London Tower* and *Octagon Tower* was achieved by Dwight Austin & Associates, of Kent, O., and they have been redesignated *Old White* and *Cascades* in honor of the championship golf courses at the Greenbrier, White Sulphur Springs, and the Homestead, at Hot Springs. Each car contains eight roomettes, three double bedrooms and two drawing rooms. Each room is equipped with a sound-proof ceiling, individually controlled air-conditioning and new-type Austin beds. Developed by the Austin organization in conjunction with a famous medical clinic, the beds comprise a foam rubber mattress with a spring built of longitudinal strips of flexible aluminum secured by canvas and bedded on rubber crossmembers.

6

WHAT *percentage of the nation's freight cars has been replaced since World War II?*

About 50 percent of the total ownership of railroad freight cars has been replaced since the War's end, either with new or rebuilt equipment. In a little less than 3½ years the rail lines have added 250,000 new freight cars. In addition, the number of cars receiving repairs, with a considerable proportion being upgraded, has approximated 33,000 cars monthly for many months. Cars awaiting repairs furnish an equipment reservoir upon which to draw should increased traffic volume demand it. Most of these cars are of modern design and when rebuilt will protect commodity loading as well as a new car. The fact that freight claims filed in 1948 dropped nearly one million from the number filed the previous year is conclusive evidence that the retirement of many thousands of old freight cars contributed greatly to this fine showing. Three thousand new passenger cars have been built, and 1700 more are on order.

7

WHAT *is the highest point reached by rail in Arkansas?*

The Kansas City Southern tops Rich Mountain at an altitude of 1622 feet, in one of the most beautiful sections of the state.

8

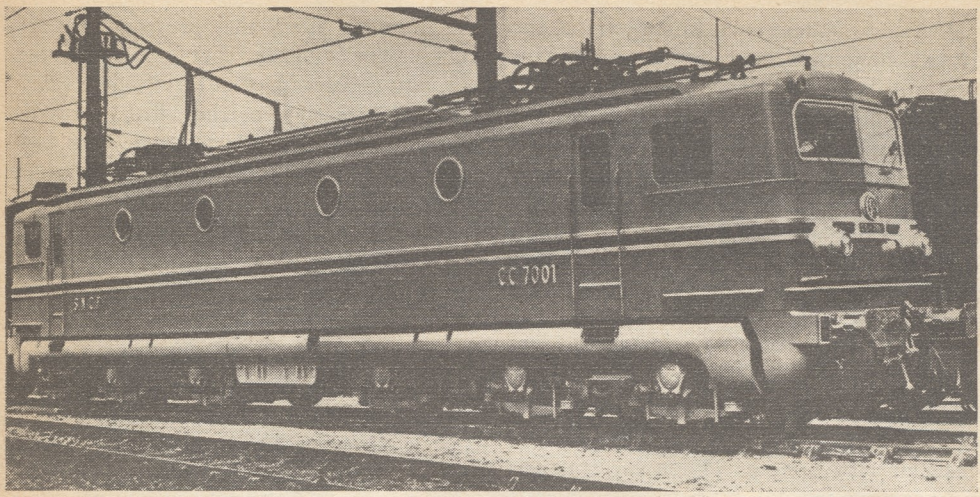
SUPPLY *figures concerning commuter traffic at Grand Central Terminal and Penn Station.*

Grand Central's commuter load has increased 50 percent in the last eight years. The Central carried 26,840,000 commuters last year, as against 17,409,000 in 1940, while the New Haven's suburban riders rose from 8,452,000 to 12,641,000 in the same period. During rush hours trains are leaving with headways of less than two minutes. Seventeen trains pull out of GCT every day in the first 20 minutes after 5 p.m. Congestion is also a problem at Penn Station, where the number of commuters using the Long Island Rail Road has risen more than 6 million in the last four years.

9

DESCRIBE *England's new mechanically-driven mainline Diesel locomotive.*

Late last June the British Railway Executive announced that the Derby Locomotive Works was constructing a Diesel engine in which power from the motors would be transmitted mechanically to the drivers instead of being electrically trans-



Courtesy French National Railroads

Pantograph and portholes. In test runs between Paris-Blois this French thunderbolt has reached a speed in excess of 112 miles per hour. Its 6 powered axles turn up 4000 horsepower

mitted as in the majority of other existing main line Diesels. The locomotive will be operated by four engines, each capable of developing 500 hp. It will have two driving cabs, so that it can be driven from either end, and a 4-8-4 wheel arrangement. In comparison with similar Diesels the new locomotive will be lighter in weight and power losses in transmission will be less. The unit is expected to be ready for trials in the early part of next year. It has been numbered 10,100 and will have a top speed of 84 mph. Due to a relatively light load on the axles, the engine will be able to run over most main line routes and will be readily adapted for a wide range of duties from heavy freight to highspeed passenger service. The locomotive is being built to the design of Mr. H. G. Ivatt, Chief Mechanical Engineer, London Midland Region, in collaboration with the Fell Developments Ltd. and Ricardo & Company. Lieutenant-Colonel L. F. R. Fell has patented the transmission system and other related features.

10

LIST *the number of locomotives and pieces of rolling stock owned by the Louisville & Nashville.*

The Old Reliable has 932 locomotives, of which 859 are steam engines and 73 Diesel-electrics. The Diesels are used entirely in yard and in fast passenger service, with the exception of five 1500-hp. units, recently delivered, which are used for pusher service on the Eastern Kentucky Division, just outside of Jackson, Ky. The L&N owns 609 passenger cars, 62,569 freight and 2646 units of work equipment.

11

TWENTY *years have passed since inauguration of air-rail transcontinental passenger service. Let's have a brief sketch of this milestone in coast-to-coast travel.*

On July 7, 1929, Transcontinental Air Transport began, in cooperation with the Santa Fe and Pennsylvania Railroads, a scheduled coast-to-coast passenger service in the then amazing time of 48 hours. The Ford tri-motor planes of those days could not make this journey on a scheduled basis completely on their own. The service introduced that Sunday afternoon carried its passengers over the Pennsy to Port Columbus, O., and then transferred them to plane for a flight in daylight to Waynoka, Okla. There they entrained once

more to journey overnight to Clovis, N. M., by Atchison, Topeka & Santa Fe, then continued on the final stage of the coast-to-coast trek by plane to Los Angeles. In two decades the scheduled time between the Atlantic and Pacific oceans has been more than quartered. Westbound it is 11 hours, and on the eastbound flights that enjoy prevailing tailwinds it is now nine hours and 55 minutes.

12

WHICH *large railroad leads in percentage of freight hauled by Diesels?*

According to figures released last May, the Gulf, Mobile & Ohio is the leader among carriers with operating revenues of over 50 million. The Alton Route hauls 94.95 percent of its ton miles by Diesel power. Next highest among the Class I railroads was the Boston & Maine, with 85.31 percent, while the New York, New Haven & Hartford was third with 65.22 percent.

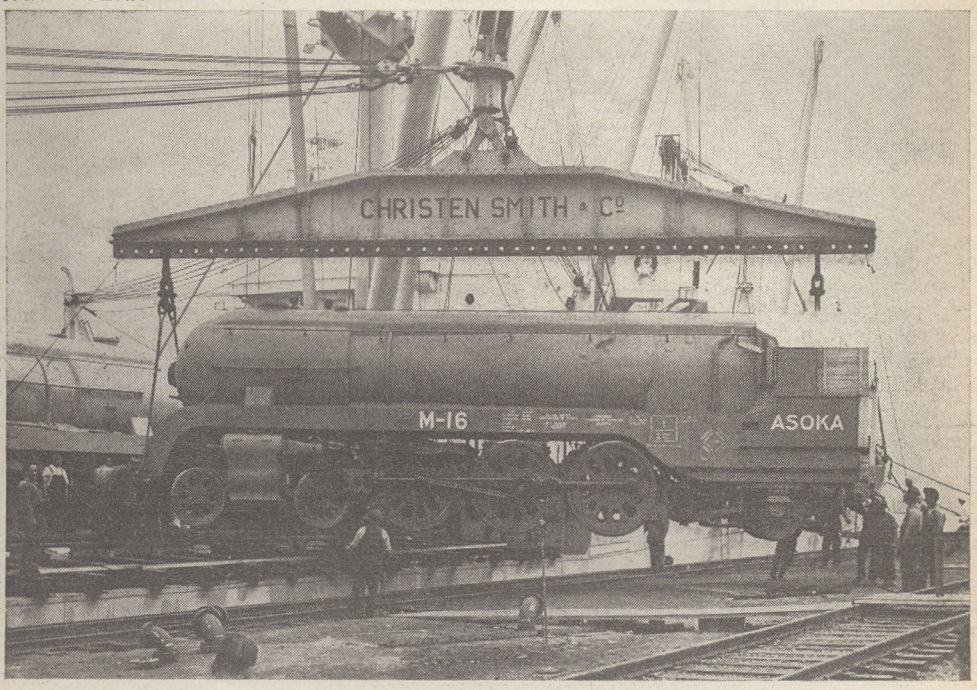
13

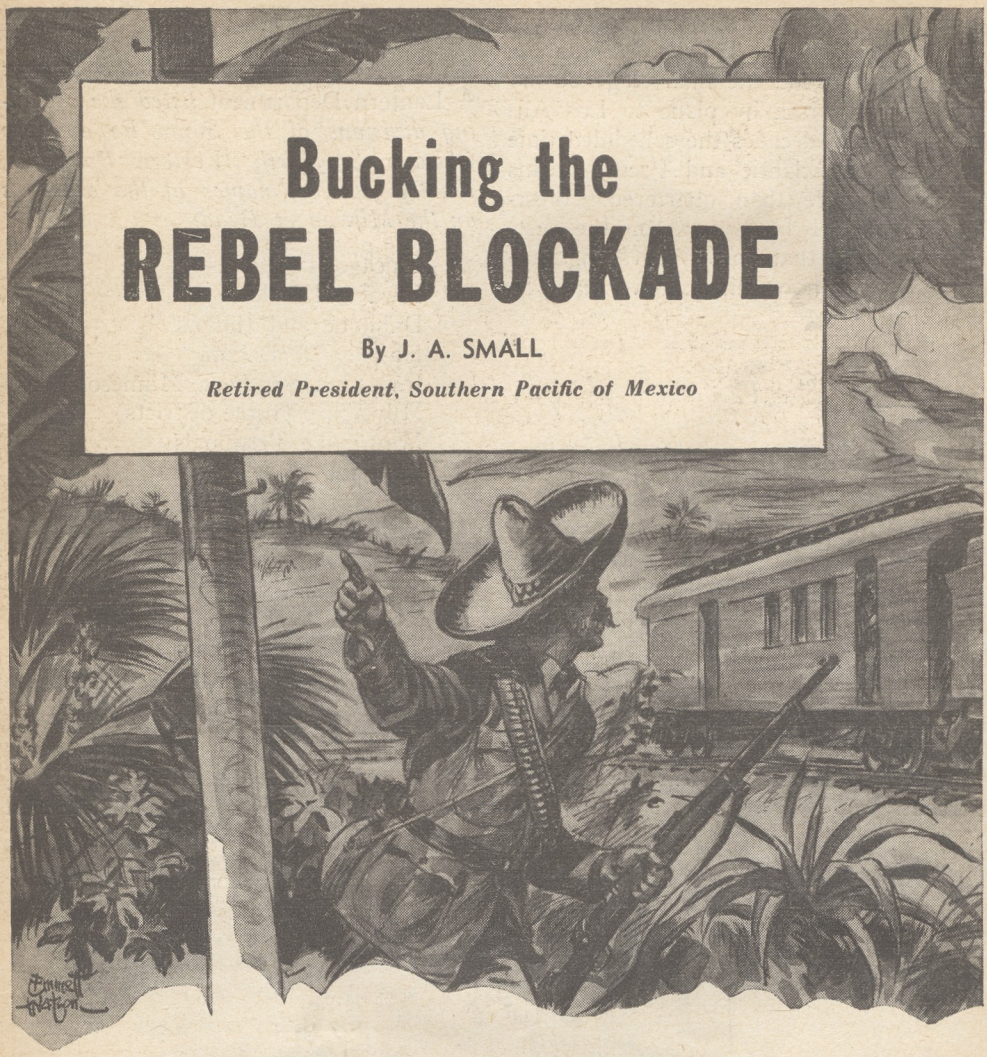
ITEM *Number Seven of the August* Lantern Department *listed the operating divisions of the Santa Fe and the Chicago & North Western Railroads. Kindly give the names of the divisions on the Milwaukee Road.*

Chicago Terminals
Iowa and Dakota
Dubuque and Illinois
Hastings & Dakota
Iowa and Southern Minnesota
Milwaukee (three districts)
Milwaukee Terminals
Superior
La Crosse and River
Madison
Terre Haute
Trans-Missouri
Rocky Mountain
Twin City Terminals
Coast
Iowa
Idaho

200 locomotives are being delivered to Indian State Railways by Montreal and Canadian Locomotive Works

J. Norman Lowe





Bucking the REBEL BLOCKADE

By J. A. SMALL

Retired President, Southern Pacific of Mexico

DURING 1899 to 1900 the construction of the Southern Pacific Coast Lines in California, from Burbank via Chatsworth to Montalvo and from Elwood to Santa Margarita, was being rushed to completion. There were then no mechanical tools nor equipment and all the grading was done by slip, Fresno and wheel scrapers, with dump wagons and pick and shovel labor.

In the winter of 1899 the construction had fallen behind schedule and C. P. Huntington, then president, decided to make an inspection trip accompanied by the directors, other officials and a number of prominent citizens, running a special train from Los Angeles. Our instructions on handling this train were frequent, detailed, and exacting, or as the Mexican says *"muy duro."* The track had been completed to about one mile north of Elwood Station, with an additional incompleted mile, the rails being laid, but only the joint and center tie spiked, to permit our moving the rail and ties forward by manpowered push cars.

My instructions were to be sure to stop the train at Elwood Station, but someone on board had different ideas and the special found itself stopped on that last

We advanced slowly, the lookout searching the right-of-way for a warning message

inch of unspiked track. Everyone of the party was happily oblivious of this fact, all except William Hood, chief engineer who, as soon as he hit the ground, realized the position with a bang. Returning to Elwood on a hand car, with four workmen furnishing the power, his temper became shorter with each turn of the wheels and by the time he got to me, both the wheels and Hood were plenty hot. In no vague terms he told me what he thought of me as a railroader, and promised that unless I got that special train back over the unspiked track without the president and the directors discovering the facts, I could consider myself fired!

I laid my delicate position before Dudley, the conductor. Dudley was my friend. He thought for a minute as he spat a fine fluid arch in the general direction of the special train and said, "Well, son, we might get the the gang out and spike the track, but that would take several hours and the big shots would surely catch on to what had happened. The other way would be to run her back as we ran her out, with care and prayer."

"All right, Dud," I answered. "You furnish the care and I'll furnish the prayer." And together Dudley and I got that train back to Elwood Station without a derailment.

Now, 49 years later, this is the first

time to my knowledge that the story has been told.

Even in my youth, Mexico appeared in my life with its sibylline promise. In 1846 my father, as captain of a vessel en route from Denmark to San Francisco, had visited the Mexican ports and he often told tales of the sights he had seen there. To reach San Francisco, my mother had crossed the Isthmus of Tehuantepec by the famous La Sere route in 1856, going to the village of Suchill on the river boat *Allegheny Belle,* thence through the jungle to the West Coast in a chair strapped to the backs of Indians. Hearing of these experiences resulted in my believing, until I was 10, that the bread-fruit trees spoken of were tall trees with little loaves of bread sprouting from their branches.

I have talked with every president of Mexico since 1910, including General Porfirio Diaz and many of them were my friends long before they became president. Among the latter were General Alvaro Obregon; General Plutarco Elias Calles; Attorney Adolfo de la Huerta; General Abelardo Rodriquez; General Lazero Cardenas. I also knew Francisco I. Madero; General Victoriano Huerta; Attorney Emelio Portes Gil; General Avila Comacho, and Attorney Miquel Aleman. All of these gentlemen and their ministers have always received me with the utmost kindness and consideration.

As it was my job to keep the trains running if possible, I have also been compelled into contact with the forces opposing the government, such as General Francisco Villa, General Orozco, General Angeles, General Maytorena, and others. I have even carried a "passport" from the Yaqui general, Pluma Blanca, permitting me to come and go through his territory without molestation. This passport consisted of a picture of the general, with a few words written on the back in the Yaqui language. When I asked the general what he had written, he just crinkled his eyes and said, "It says ho-kay." It must have been "ho-kay" because I was the only man other than Indians who could wander at will through his territory.

IN 1926 one of our passenger trains was captured by the Indians. I was assigned to carry the messages between the government officers and the Indian chief, taking another foreigner with me. It took us five days of negotiations to get our train and it 500 hungry human beings to safety, but we finally achieved the impossible, and the Indians withdrew.

The war lasted many months and a number of our men, mostly linemen, were killed. On one occasion I was on top of a pole, repairing the telephone line, when I noticed three Indians in the brush with rifles. They were watching me, but as they made no move I finished repairing the line and left. When I arrived at the next station I found that the line had been cut again. That night I received a note from the chief which read: "Do not climb poles to fix lines again. If we did not recognize you it might be dangerous."

Another time, while traveling by motorcar through Indian country, we were stopped by two Yaquis armed with rifles. They boarded the car and ordered us to proceed. A few miles farther I saw one of them signal to someone and we were told to stop. The Indians disappeared into the brush, but returned a few moments later with more than 100 armed companions. They then told us to proceed, which we did with all haste.

Several months afterward I met one of the two Indians and asked him what it had been all about. He said they had been ordered to kill the occupants of the first motorcar that went through their territory, expecting our roadmaster to be aboard. Although they never caught up with the roadmaster, they did annihilate all the members of one of our track gangs. They also wrecked a train, killing and injuring many passengers and crew men. The engine crew on this train escaped by taking to the brush.

Among the passengers on the train that was held by the Indians in 1926, was a prominent general on his way to Mexico City with many thousands of United States dollars on his person. When the shooting started he came to me with the

money and asked me to keep it for him. "You have a better chance of coming out of this," he said, "and if you do and I don't, send it to Mexico City." He gave me the address, and added, "If everything is all right, I'll get it later."

Things were pretty hot about then, so I gave the money to my Chinese cook, telling him to take care of it for the general.

As I said before, we were five days getting the train out and in the rush of negotiations, and trying to get water and food for the passengers and crews and keep the Indians off our necks in the meantime, I forgot all about the money. I went back to headquarters and the general went on to Mexico City. I was somewhat unnerved when, a month later, I got a telegram marked "urgent" from the general and consisting of just three words, "Where's my money?"

Grabbing my hat—I ran for the car park. I bust in, yelling at the top of my lungs for Lim, the cook. A tired voice answered me from my room as Lim opened the door a crack.

"Lim," I panted, "where is the general's money?"

He pointed to my bed. Lifting up the mattress I saw the bills neatly arranged in piles underneath.

"I stay um here five day Yaqui country and twenty-eight day on night car park. I think you never come and I get dam' sick general's money," said Lim tersely.

I was busily stuffing the money in a bag.

"What would you have done if they had tried to take it away from you, Lim?"

He grinned. "I shoot um, boss. I shoot um once," and he showed me his old rifle with one lone cartridge in it.

I was on the first train from Tepic to Ruiz after the 1911 revolution started. We were ambushed by revolutionary forces but none was injured. Many times during the following years, we were captured by one or the other side, but both sides seemed to realize that we were only trying to do our job and we were released.

In 1912 two companions and I were captured by the rebels as we were trying to run an engine through territory they had recently taken over. We were ordered to go with them to a hideout in the mountains, as they were expecting an attack by Federal forces and did not want us available for Federal train movements. We were kept six days, eating and sleeping with the rebels in a grove of trees. The sixth day we were aware of a restlessness in the camp and naturally wondered where we came into the picture, but that night the rebels went to sleep around the campfire as usual.

We were awakened at four o'clock of a drizzling morning by a shout from beyond the trees where we had the camp. I jumped up as a horesman approached, expecting to see the whole camp on its feet. To my surprise, the only answer came from the dripping, wraith-like figures of my two companions. The entire rebel army had sneaked out on us during the night. Our rescuer had been within a kilometer of us for several days, but had not been able to think up a plan for rescuing us. We arrived at the Federal camp intact, except for Gargantuan headaches due to the fact that the rebels had had no water and for six days we had quenched our thirst with *tequila*. That we had been very thirsty the evening before the rebel withdrawal may account for the fact that we did not hear them.

During the tough days from 1909 to 1928 we often had to cope with 200 burned bridges in 24 hours. We constructed shooflies and depressions, often of three percent grades and 10 degree curves, to keep the trains running. The enginemen would take a run at it on our orders, and in most cases they got over. If not, we picked them up and tried again.

ANOTHER of our difficulties was caused by the "rocks," or mines, placed on the track to blow up trains being used by the opposition. All passenger trains had pilot engines running ahead to find the mines and these were frequently blown from the tracks with but slight injury to the crews. One of these engines

had the bad luck to hit mines twice in the same day, both times derailing. The engineer wired me, "Hit rock again. Engine derailed and turned around, but in the clear. Coming back on motorcar. Have another engine ready on my arrival. Extra gangs and soldiers making repairs." He arrived, ate a couple of *tacos*, filled his canteen with water and climbed back on the engine. These men were absolutely without fear, and worked long, gruelling hours without food, sleep or complaint.

The Indians were also expert at train wrecking and caused us many a headache. In later years, after a heart to heart talk with him, one of their chiefs and I became fast friends. Thereafter, when his tribe made the necessary preparations to wreck one of our trains, the chief would place a note on a forked stick beside the track with the cryptic message, "Not safe." But he never thought to tell us the location of the damaged track. We spent many a weary day and night hunting over several hundred kilometers of track with the pilot engine, trying to find that unsafe track.

In 1915 General Francisco "Pancho" Villa came into the border town where I, then superintendent, had my headquarters. He sent word that he wanted to see a high railroad officer and since my superior at that time had vociferous views as to the advisability of a visit to the general, I decided to go myself. At three that morning, in a T-model Ford, I made the trip into the mountains to the rebel camp. I told the sentinel that I represented the railroad, and in a few minutes Villa appeared. In no equivocal terms he told me what he thought of the railroad and those who worked for it and threatened to destroy all our men and machines.

I could see that the general was working up a first-class rage. When I decided that it had gone far enough, I began to slap my pockets in a vain search for a smoke. Finally the general stopped for breath and I quietly asked him for a cigarette. He fished in his pockets, handed me one and, watching me all the time, struck a match for me on the seat of his pants. I blew a plume of smoke, the churning of my stomach belying the apparent casualness of my manner.

"You are not afraid of me, are you?" the general said suddenly.

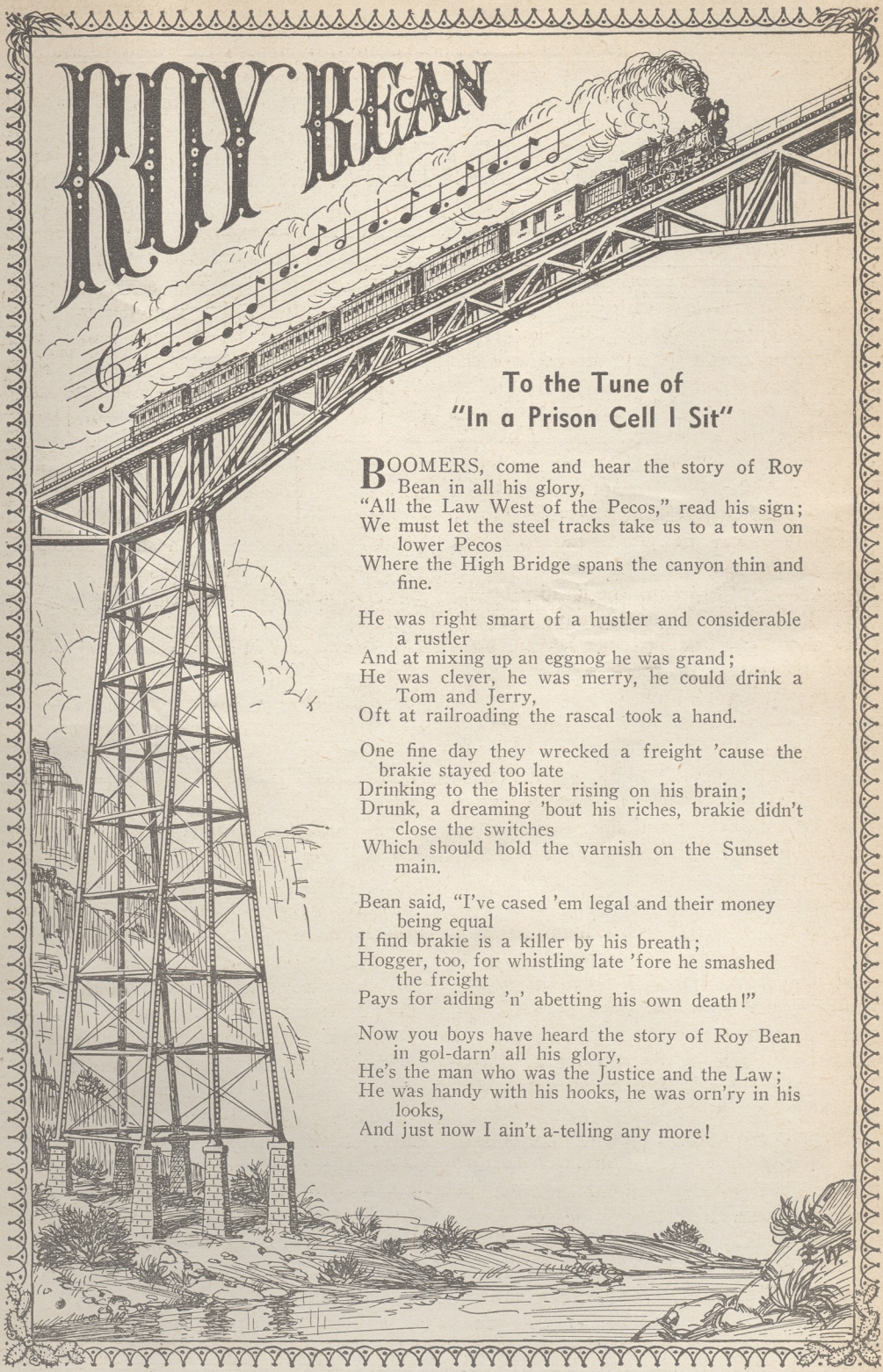
"No," I replied. "Why should I be? I have heard that you are a brave man and a just one. I think you're pitching ball for the wrong team, but you should know your business better than I."

The general took out a cigarette for himself and lit it. The rage had gone out of him and his voice was quiet as we discussed his aims and objectives at length. When it came my turn I tried to make him understand that we were only trying to do our job under difficult circumstances. The interview ended with Villa's promising that we would not be disturbed.

Only twice was there any breach of this promise. The first was a shot fired at a motorcar in which I was riding. We found out later that the shot was fired by a renegade whom I had dismissed from our service and who had joined the rebels. Villa punished him.

Some time later one of our engineers and his men were working on track repairs and were captured by a group of rebel soldiers. As soon as I heard of their capture, I went to the rebel headquarters and reminded the officer there of Villa's promise. By the time his messenger arrived at the scene of the capture, our engineer and his men had finished digging the graves for their own burial. But the messenger made the rebels halt. Finally they marched the prisoners to the general's camp. He immediately ordered them released. Two days later they were back, finishing the repairs on the track.

For the past 20 years, since the revolution ended, life in Mexico has been quiet and peaceful. The old days of danger and excitement are gone, and the present is dedicated to progress. But in those days when the country was clearing away the dead brushwood of centuries to make way for the progress of today, I made some of the finest friends I shall ever know. I had the opportunity to study men in their hours of stress and I found many of them truly great.



To the Tune of "In a Prison Cell I Sit"

BOOMERS, come and hear the story of Roy Bean in all his glory,
"All the Law West of the Pecos," read his sign;
We must let the steel tracks take us to a town on lower Pecos
Where the High Bridge spans the canyon thin and fine.

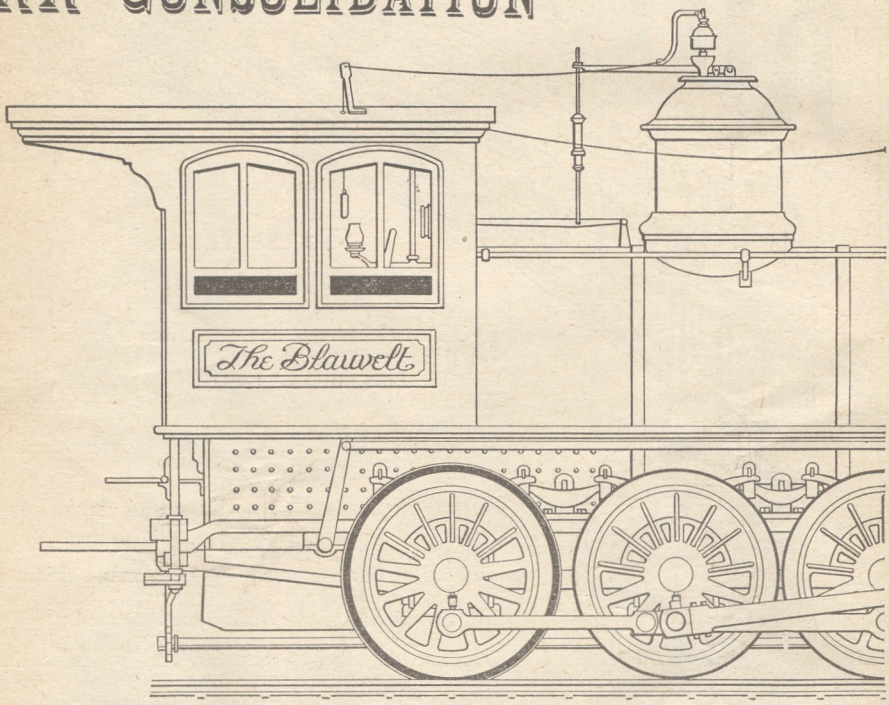
He was right smart of a hustler and considerable a rustler
And at mixing up an eggnog he was grand;
He was clever, he was merry, he could drink a Tom and Jerry,
Oft at railroading the rascal took a hand.

One fine day they wrecked a freight 'cause the brakie stayed too late
Drinking to the blister rising on his brain;
Drunk, a dreaming 'bout his riches, brakie didn't close the switches
Which should hold the varnish on the Sunset main.

Bean said, "I've cased 'em legal and their money being equal
I find brakie is a killer by his breath;
Hogger, too, for whistling late 'fore he smashed the freight
Pays for aiding 'n' abetting his own death!"

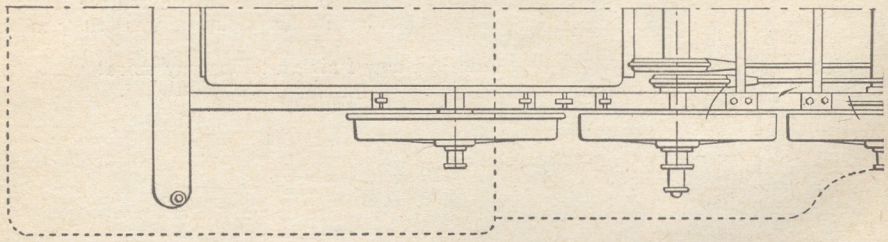
Now you boys have heard the story of Roy Bean in gol-darn' all his glory,
He's the man who was the Justice and the Law;
He was handy with his hooks, he was orn'ry in his looks,
And just now I ain't a-telling any more!

PRR CONSOLIDATION

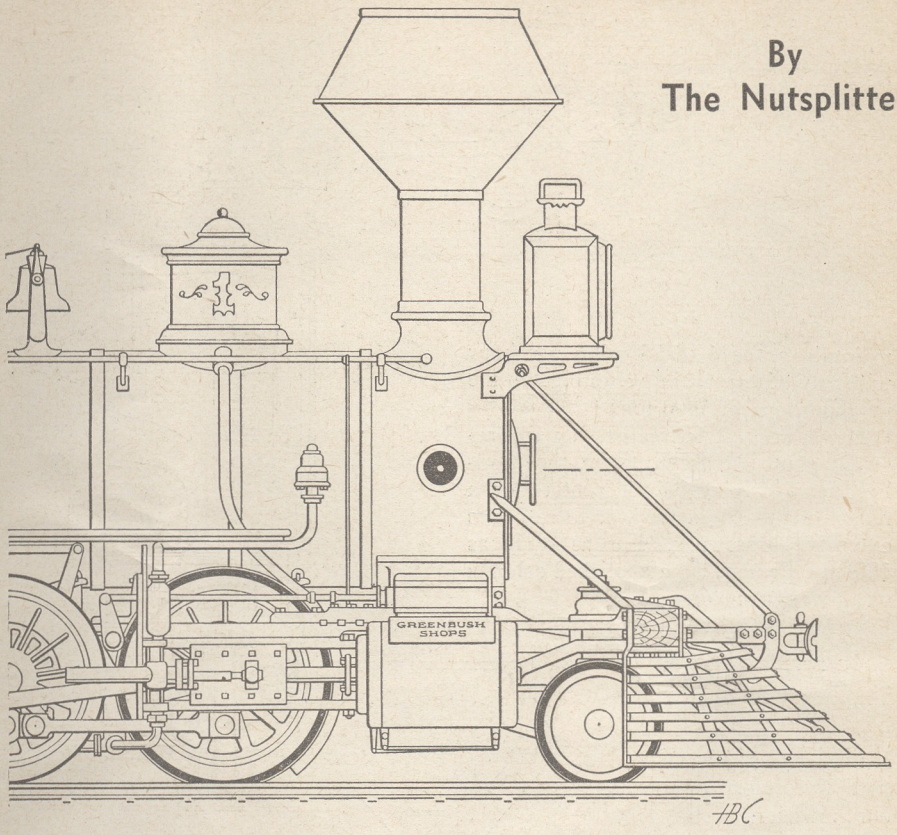


AMONG the first railroads in America to adopt steel rails (1867) the Pennsylvania made immediate use of its sturdy new roadway by upping the weight of rolling stock and motive power.

Ten years later the flower and fruit of PRR's efforts to produce a standard, heavy-duty freight locomotive was the Consolidation type pictured in these plans. Designed at Altoona under the supervision of Theodore N. Ely, and built by the Baldwin Locomotive Works, the 91,640 pound 2-8-0 was exhibited at the Paris Exposition, where its novel firebox stirred up considerable com-



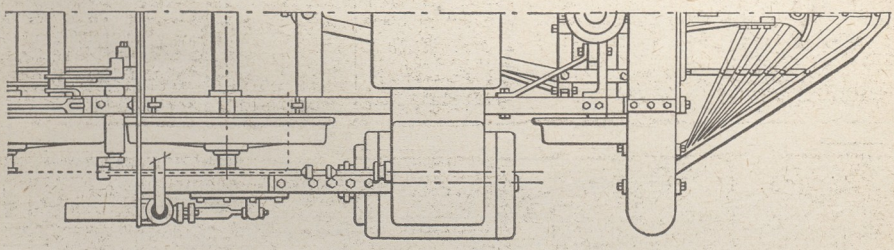
By The Nutsplitter

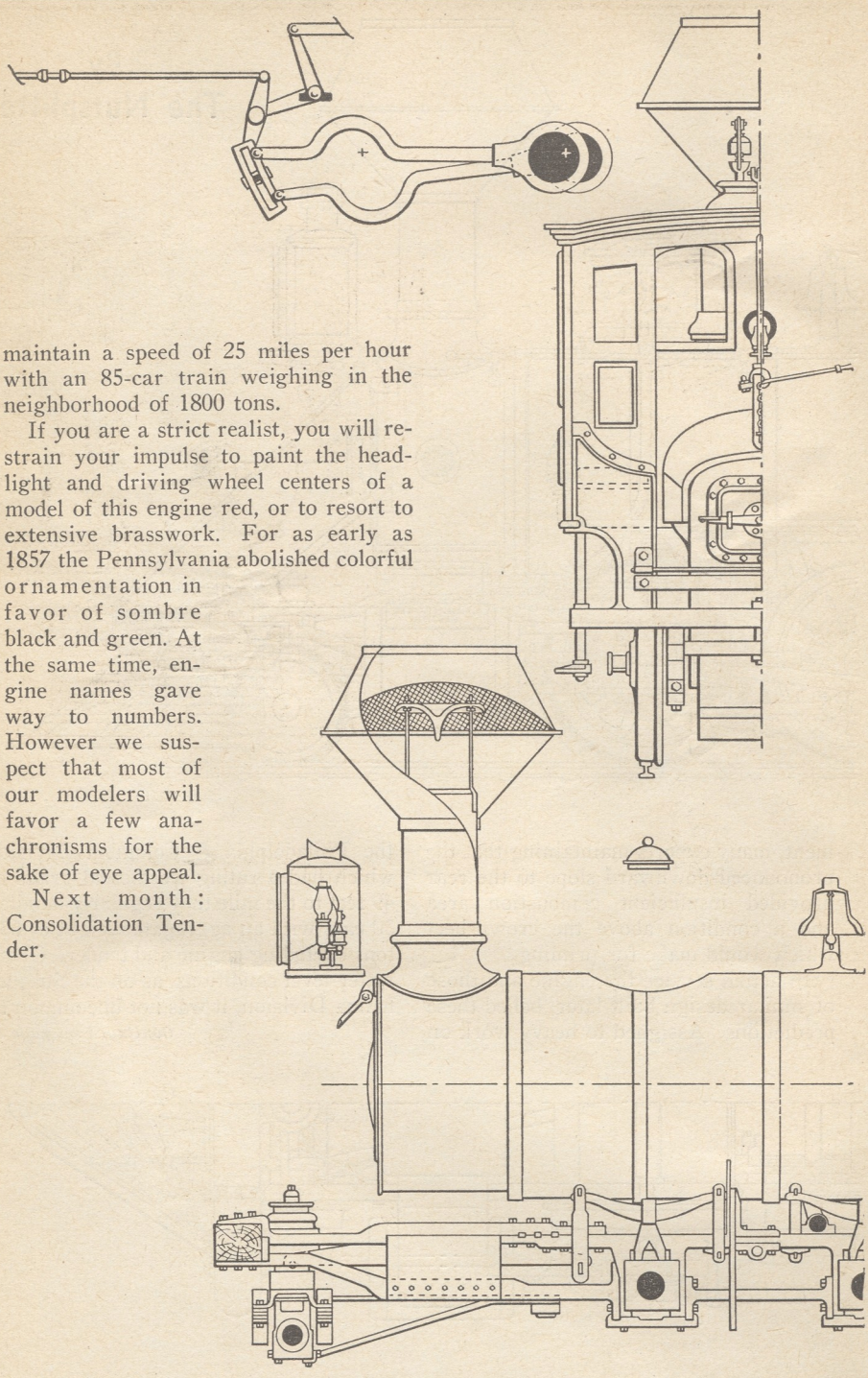


ment, many experts maintaining that the pronounced downward slope to the rear provided insufficient combustion area and a condition above the crownsheet which would make for priming.

In actual service the engine and those of similar design built later, belied these predictions. Assigned to heavy work on the Philadelphia & Columbia Division which had a ruling westbound grade of 49 feet to the mile they regularly handled 30 cars with an aggregate weight of 630 tons excluding engine and tender. Given water-level conditions, as on the Susquehanna Division, it was not uncommon to

Continued on page 80

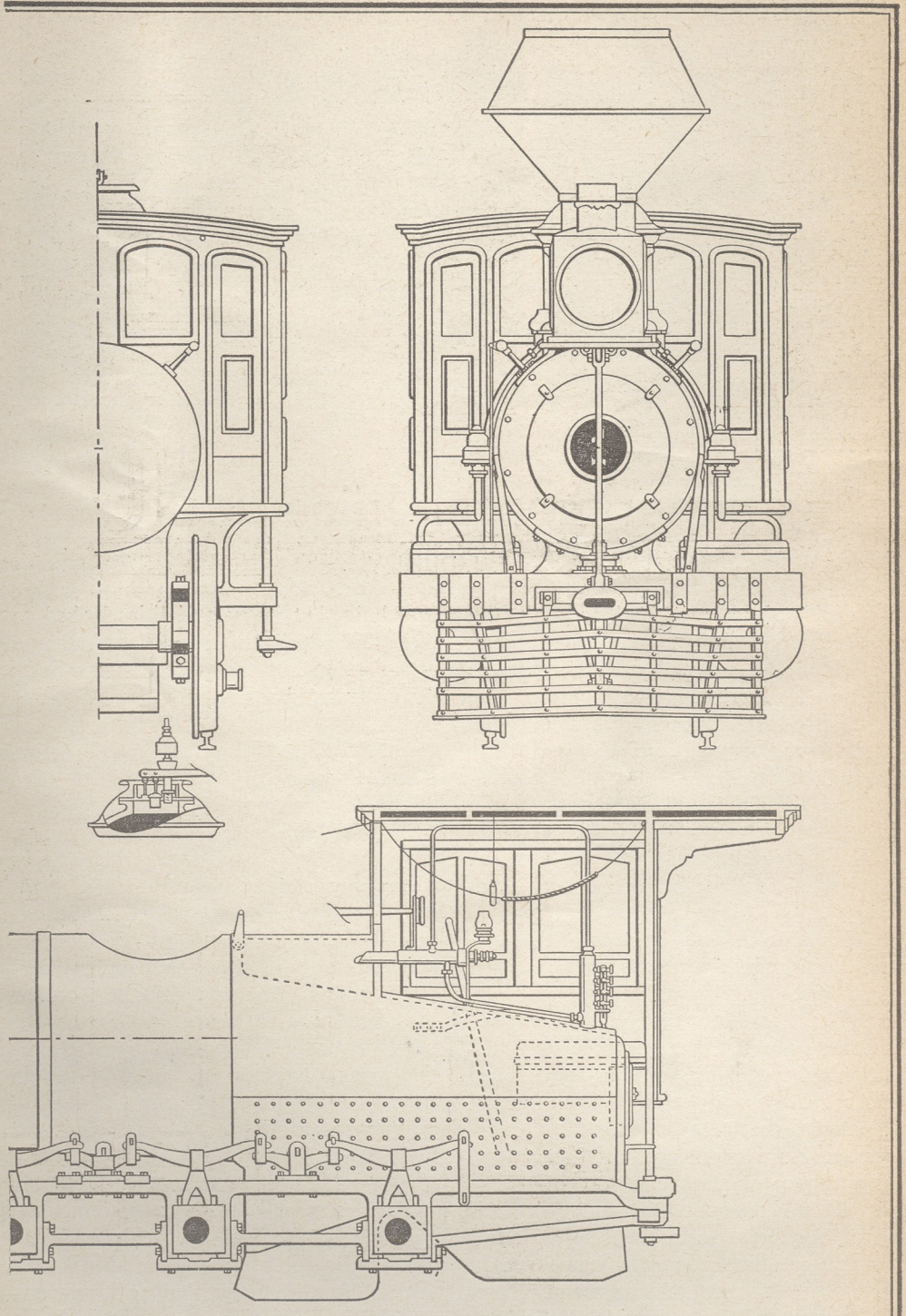


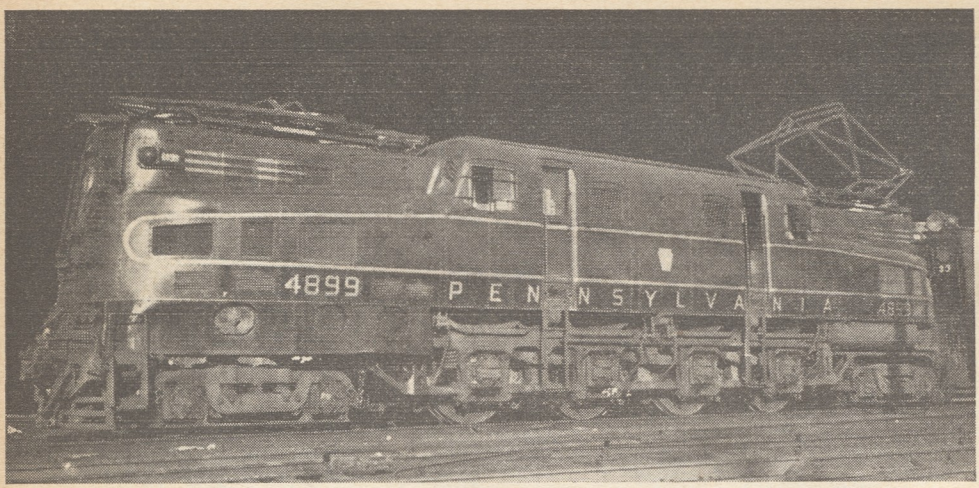


maintain a speed of 25 miles per hour with an 85-car train weighing in the neighborhood of 1800 tons.

If you are a strict realist, you will restrain your impulse to paint the headlight and driving wheel centers of a model of this engine red, or to resort to extensive brasswork. For as early as 1857 the Pennsylvania abolished colorful ornamentation in favor of sombre black and green. At the same time, engine names gave way to numbers. However we suspect that most of our modelers will favor a few anachronisms for the sake of eye appeal.

Next month: Consolidation Tender.





Electric Lines:

Experimental Juice Jack

By E. J. QUINBY

MOST of us are familiar with the history-making episode at Richmond, Va., in 1886, when Frank J. Sprague succeeded in putting into operation the first large-scale city trolley system. The date, 1895, always reminds us of the B&O Baltimore Tunnel mainline electrification. Again in 1898, Sprague made important history with his invention of the multiple-unit control system, first used on the Chicago West Side Elevated Railway.

After that year, the growth of the electric railway industry was so rapid that important, later accomplishments and dates have not impressed historians sufficiently; at least, the deserved emphasis has not been given them in the printed record. Even the electric railway fan has fallen into the habit of accepting all subsequent electric railway accomplishments in a rather off-hand manner.

Take for example the night in 1936 when the big Westinghouse alternating current freight locomotive was given its first big load test on the Pennsylvania Railroad. Only one such locomotive was ever built, but its potentialities looked so good on paper that the Westinghouse organization had enough confidence in its design to build a sample and submit it to the Pennsy for trial. The historic Jack was a 4130 KVA locomotive, of the 4-D-4 wheel arrangement (4-8-4), with 4 driving axles.

At midnight, coupled to 146 empties, the engine stood in the freight yard at Cove, New Jersey, near the New York end of the Pennsy electrification. In addition to the PRR electrical engineers and engine crew, six Westinghouse engineers were in her cab, waiting to start the test run to Harrisburg, Pa., over the newly electrified "low line." These electric locomotive and equipment designers included Carl Brockman, L. J. Hibbard, E. W. Eunson, Charles Kerr, M. F. Jones and W. H. Hutchison.

The signals ahead were clear. The big moment was at hand—yet these men sat in silence. At length Carl Brockman, Westinghouse design engineer, broke the silence by asking the Pennsy locomotive engineer, "What are we waiting for?"

"We're waiting for a pusher, of course," replied the engineman. "We can't possibly start this train without some help, you know."

Carl Brockman and the other Westinghouse engineers held a brief consultation. "We don't need any help," Brockman told the locomotive engineer; "if you're ready, let's get started."

But the locomotive engineer was reluctant to undertake any such unheard-of experiment, and insisted that he wasn't going to be responsible for burning up the electric locomotive.

"She is still the property of Westinghouse," said Brockman, "and if you don't want to take the responsibility, let me handle her until we get rolling."

"All right, you take her," said the hogger. "It's okay by me if you want to burn up the equipment yourself." Whereupon Carl Brockman took over the controls. With his watch in front of him, he released the air.

"Better back up and take your slack," suggested the hogger. "You haven't got a chance to get going otherwise."

"Let's try her first without taking slack," said Brockman. He moved the controller lever to the first notch. Almost imperceptibly, the train began to move.

The hogger and his assistant watched the performance with breathless apprehension, expecting momentarily either the explosive report of the circuit breaker, with its blinding flash—or worse, the failure of the breaker to protect the equipment, and enveloping flames from the burning electrical gear which packed the cab. But neither happened. Instead, the stealthy creep progressed to a slow crawl, and the growl of the motors began to rise in pitch.

Would she make it? Would that first reactance step stand the overload long enough for the speed to increase sufficiently to permit advancing the controller to the next step?

Carl Brockman kept one eye on the line ahead, and one eye on his watch. One minute passed . . . two minutes. The third minute dragged by like all eternity. He wanted to advance the controller to the next step—but he wanted to avoid doing it prematurely and risk spinning the drivers. Up to this point, she had kept her feet without any sand. The speed was gradually increasing, but three minutes had elapsed since the start.

Brockman knew that the reactance could not be expected to survive a maximum of four minutes under normal load—and this was no normal load. It was definitely an overload.

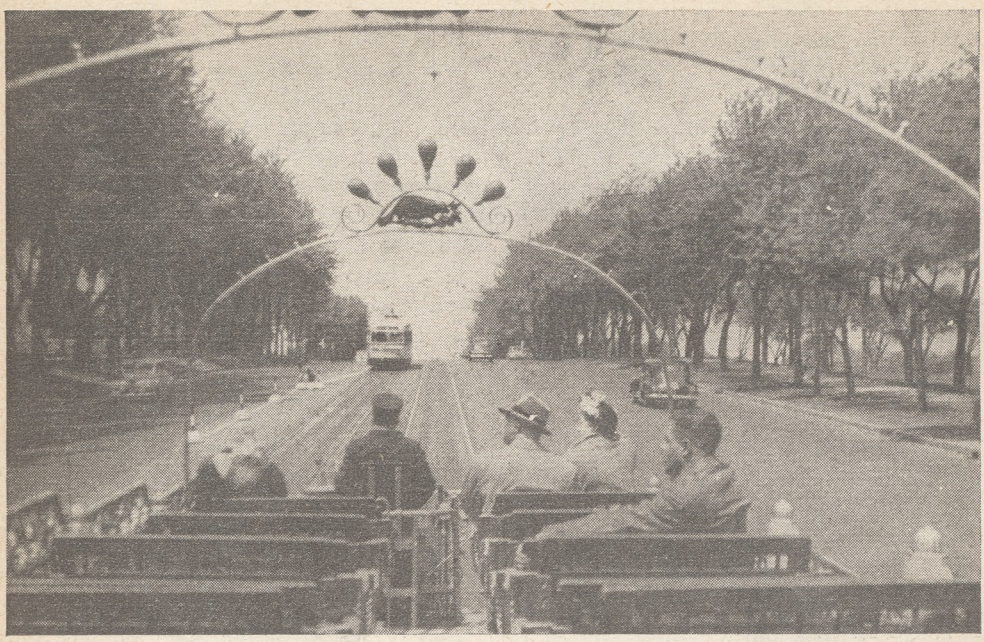
He advanced the controller to the next step, and she took it without spinning her drivers. He breathed a happy sigh of relief.

The hogger and his assistant continued to stare at the meters with mixed anxiety and skepticism for, unlike Brockman, they didn't realize that the critical moment had already passed. Silently, the Westinghouse engineers exchanged smiles of happy triumph.

Soon Brockman advanced the controller another notch, and another—until he had the train rolling along with the lever in the full-speed position. Then he turned the controller over to the Pennsy hogger. "She'll be all right now," he assured the engineman.

And all right she was, clear through to Harrisburg with those 146 empties. Of course the Pennsy would not normally operate a train of any such length, but the tractive force necessary to haul this train was equivalent to that required to handle the guaranteed number of loads.

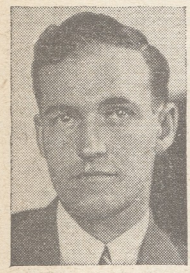
Although only one of the 4-D-4 engines was ever built, it so thoroughly convinced the Pennsylvania Railroad management of its advantages that the GG-1 type, which was evolved from its design, became their standard and grew into the present vast "Horseface" fleet. With 4850 KVA available on a continuous rating, the GG-1 is not only more powerful but is also faster than the Jack which sired the famous line.



George Monahan

Room for rubbernecks. For years summer visitors to Quebec and Montreal have toured the city in open, high-tiered trolleys. *Above*, Montreal Tramways contrast its old and new cars, Park Ave. PCC-liner in distance

Carbarn Comments



Steve Maguire

SOUTH SHORE LINE has again made news with the introduction of ultra-modern devices on its 90-mile interurban route between Chicago, Ill., and South Bend, Ind. This time it's the nation's first railroad to have a system-wide radio hookup to guide its operations.

George K. Bradley, 1505 Michigan Ave., La Porte, Ind., tells us that since June the South Shore has been installing its radio communication system on all trains, including passenger units. Heretofore experiments with radio communication have been confined to long freight trains and inter-yard service. But now, even the passenger cars can boast instant communication with every other motive unit on the system.

According to South Shore officials, this VHF (very high frequency) all-weather, static-free radio system will not displace the usual method of dispatching trains, but will be used in connection with it.

* * *

FIFTY new PCC cars for the Twin Cities Lines at Minneapolis-St. Paul, were delivered by the St. Louis Car Co. during the past summer, bringing the number of PCC cars on the TCL up to nearly 100 units.

At Toronto, also, new cars are arriving. These are multiple-unit PCC cars, 100 of which were ordered to replace some of the old trailer trains still used on the busy routes of the Toronto Transportation Commission.

According to the *Newsletter* regularly issued by the Upper Canada Railway Society, Box 122, Terminal A, Toronto, Ont., it looks as though the North Yonge Railways' line to Richmond Hill will never resume operations by rail. The six-month *trial* period for buses, originally initiated as the result of an alleged power shortage, is long since gone and the cars which

had been stored indoors are now out on a track where they await scrapping. According to the UCRS, the facts seem to indicate that the power shortage a year ago was just an excuse for eliminating the cars. The buses on the North Yonge line are crowded and smelly, yet nothing has been heard in the way of a demand for restoration of the railway service.

* * *

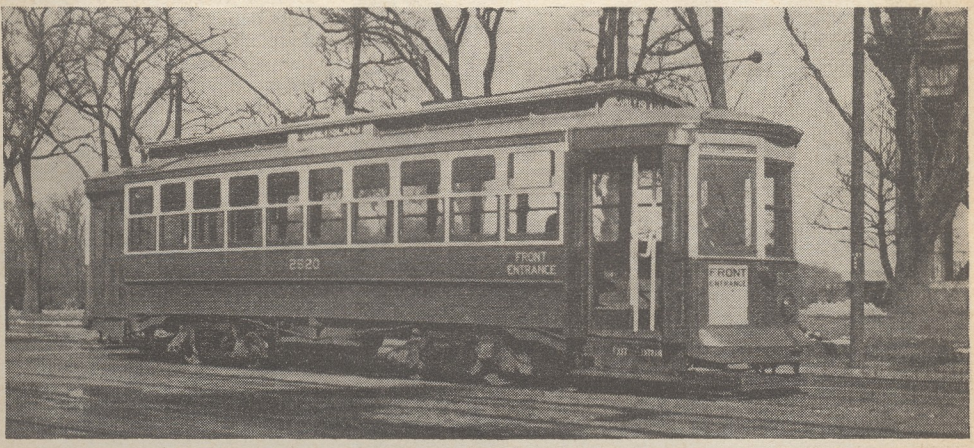
TWO correspondents write to tell us that we are overdue in giving news of the Brooklyn, N. Y., streetcar lines now operated by the City of New York as part of the New York City Transport System. Allan H. Berner, 28 Lancaster Ave., Baldwin, N. Y., says that while Brooklyn is still the section with the most streetcars in the entire State of New York, they are disappearing very fast even there. A couple of months ago when the Metropolitan Ave. line went bus, the local fans saw the end of the last trolley-railroad grade crossing with gates and such accoutrements. There is another such crossing on Myrtle Ave., but it is not used in regular service.

Frank Crowther, 307 Cumberland, Brooklyn 5, N. Y., commenting on the Brooklyn cars, tells us that at one time the city had as many as 24 separate companies. These were consolidated into the Brooklyn Rapid Transit about 1900. Crowther has spent much time studying the history of the old trolley lines of Brooklyn.

RESPONDING to statements of O. Goessl regarding the New Orleans P. S. railway lines, Elliott M. Kahn, 309 Royal, New Orleans 16, La., writes that not all of New Orleans' remaining track is on neutral ground, for all routes run for about a mile downtown in the streets, including along the famed four-track line on Canal Street. However, only two blocks of the four-tracked route are in use regularly now, and these are at the river end of the street.

The outer end of the West End line is on private right-of-way, Kahn tells us, running for some distance along a canal. However, he expects that the cars will eventually give way to buses mainly because of a provision in the 1922 franchise with the city, requiring the NOPS to maintain its own right-of-way and to share the cost of repaving any streets that it traverses.

This latter clause, in our own opinion, is grossly unfair to any company operating cars. It would be fairer to require companies that switch to buses to share the cost of street repairs made necessary by the regular use of heavy buses. Cars running on rails cannot do any such damage to streets as we have seen in the case of many bus lines. It's strange how no one thinks of this item, when change to buses



Coney Island crowds left this one behind long ago, giving Brooklyn-Queens Tr. no alternative but to unload No. 2520 on Manhattan's NYCTS, temporarily that is. Yes, then buses took over

from rail service is considered. Yet we have here in our office piles of newspaper clippings proving the damage buses do; unfortunately, it is done after the cars are gone. Then the city finds itself saddled with bus lines, for which it has generously agreed to provide pavement at no cost to the bus outfits.

A slightly different attitude toward the future of NOPS is taken by Leo E. Chandler, 605 4th St., SW, Birmingham, Ala., who finds no present indications of future abandonment of New Orleans' railway lines. "I do not believe that any amount of subterfuge or sophism can break through the logic of retaining service on the Tulane-St. Charles and Cemeteries lines, and to some extent on the Clairborne route," writes Chandler. "If there is an ideal line for the operation of streetcars, then certainly, these are good examples.

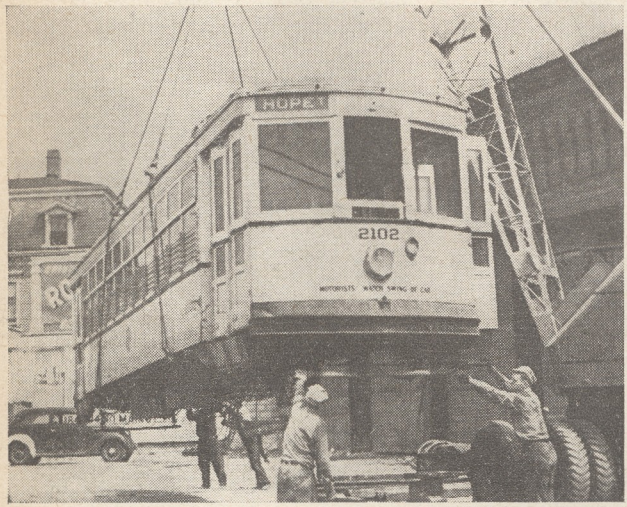
"Moreover, those who have been to New Orleans have seen the endless lanes of magnificent oaks and palms intermingled with beds of azaleas and camelias, all of which have been there for years and are almost as great an attraction as the famed French Quarter. These beautiful trees and shrubs are located between the streetcar tracks and on the roadway for long distances along most of the rail lines. To remove them would be the equivalent of removing the French Quarter.

"Even an article in *Concrete Magazine* about two years ago, commenting on express ways in New Orleans, stated that by the use of such freeways, New Orleans would be able to retain its French Quarter and its effective streetcar system."

* * *

THREE Birmingham, Ala., rail lines, originally scheduled for trolley coaches, will now remain in *status quo* Leo Chandler tells us. In addition, the suburban lines to Bessemer are now scheduled for PCC cars. The PCCs operate on the Ensley and West Lake routes, but have been temporarily replaced on East Lake lines pending a viaduct construction.

One Birney route still remains on the Birmingham Electric, the Woodward shuttle car which connects with the North Bessemer car line and runs for the distance of a few blocks to the Woodward Iron Works. Although this route was intended for buses, new overhead is up and track maintenance goes on. Possibly it may remain a trolley line; bus service would be inconvenient as compared with the short, direct connection by rail.



"Hope" gone. In May 1948 United Electric Railways of Providence, R.I., decided to scrap all streetcar lines in favor of trackless trolleys and buses. Shortly afterward old electrics got shipping tags reading "South America," five cars received a lifetime parole when sent to Branford Electric's museum, but the greater number were fuel for a gigantic pre-holiday blaze on July 3, 1949. Car 2102, *left*, was last to go. Its roller ironically turned to "Hope," it was raised off its trucks onto a trailer for transfer to a Warwick junk yard on July 12th

Benjamin R. Moon, 101 California Ave., Providence, R. I.

* * *

THE remaining electric equipment of the freight-operated York Utilities Co. line at Sanford, Me., is now the property of the Seashore Electric Rail-

way, a railfan road at Kennebunkport, Me., writes O. R. Cummings, 3 Main Street, Amesbury, Mass.

The York Utilities line, last electric road in Maine, gave up passenger service a year ago, following which its Birney Cars 80 and 82 and double-trucked passenger Car 88 were obtained by the Seashore group. Following this, the YU freight line was purchased by new owners and became the Sanford & Eastern Ry. on April 19th. The new owners Dieselized the freight line on July 7th last.

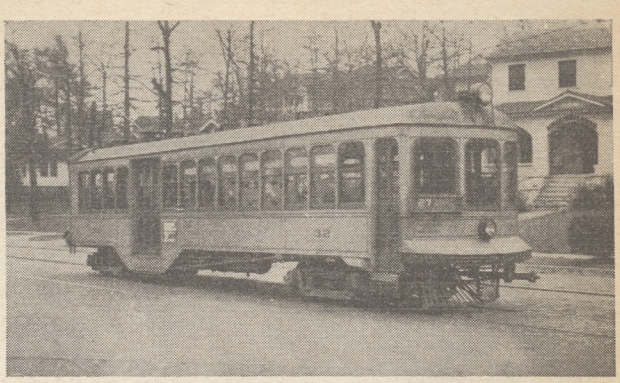
Through the generosity of four members of the New England Elec. Ry Historical Society, and S. M. Pinsley, general manager of the Sanford & Eastern, the four pieces of motive power, together with poles, span wire, brackets, etc., were given to the Seashore fan road.

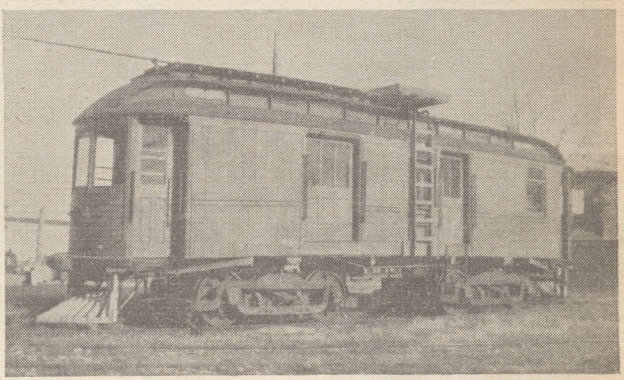
The four Sanford cars received were 108, a line car, formerly mail car of the Portsmouth, Dover & York Ry. Car A, a nose plow formerly owned by the Greenfield & Montague Transp. Area; and two old motors, 100 and 102, built in 1906 for the Atlantic Shore Ry., predecessor line at Sanford.

Further information regarding the activities of the Sanford Electric can be obtained, along with annual reports, from Cummings at the address above.

* * *

GONE from the field of trolleys are the passenger lines of the Cornwall (Ont.), Street Railway, which, during June and July this past year, gave up its small system operated entirely by cars obtained second-hand from other roads, reports C. P. DeRochie, 229A First St., W., Cornwall, Ont. The freight service will remain operated by the juice motors, but the passenger cars are being scrapped.





Birmingham's surface riders were traveling in 2-man cars like No. 32, *top*, until the very end of World War II. *Below*, Relic of York Utilities Co., Sanford, Me. Linecar 108, which once carted YU mail, is now owned by Kennebunkport fans

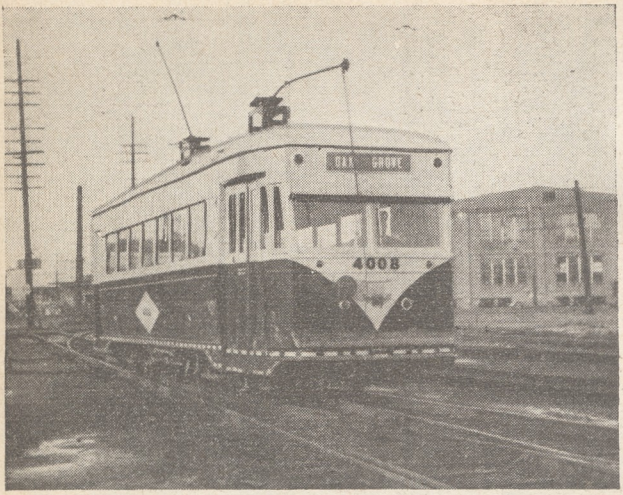
DeRochie issued a 12-page article of the Cornwall lines about two years ago, but we do not know whether any copies are still available to the public at this late date.

The little 3-mile Nelson Street Railway, which gave up to buses on June 19th, according to George Hackett, 1203 W. 9th, Spokane, Wash., lasted just six months short of a half-century, having started service at Nelson, B. C., December 21, 1899.

* * *

AN INTERESTING piece of literature recently appeared on our desk, bearing the title, *The Australian Tramway Album*. In its 50 pages we found the story of all of Australia's streetcar lines, with illustrations of most cars operated on the many trolley lines of that Continent.

While Australian streetcars are in many



John Schmitt, 120 NW Trinity Pl., Portland, Ore.

Yakima Valley electric purchased for Portland service, Car 4008 appears on PTC right-of-way in April '48. *Below:* Front face of IT's *City of Decatur*

respects similar to those in the U. S., quite a number having been built here, it was most interesting to see photos of cars that once ran on U. S. lines and evidently were purchased second-hand, many years ago, from lines in America. At Perth, for example, we can find two cars numbered 62 and 63, but better known to local citizens as *Washington* and *New York*. Inspection of the photos of these cars reveals that the *Washington* car is one of the center-door cars, others of which ran until recently in the District of Columbia. The *New York* car, believe it or not, is one of the *hobbleskirt* type that were operated on the New York Railways lines between 1914 and 1919. Both of these cars were purchased in 1914 and are still in service.

Incidentally, there is still one horsecar line in South Australia. Situated at Victor Harbour, it is served by two double-decked cars pulled by two horses. Gage on this line is 5 feet, 3 inches.

Any readers interested in the *Tramway Album* should contact Traction Publications, 29 Seymour Grove, Brighton Beach, Victoria, Australia, sending one dollar for a copy. Traction Publications also issues the monthly juicefan paper *Tram Tracks*, the Australian counterpart of your *Electric Lines Department*. Recent issues give information on the many tram expensions in progress in the cities of Melbourne and Brisbane.

FROM San Francisco comes a report of a change in policy (ho-hum!) concerning purchases of new cars. Now it's rumored that the Public Utilities Commission is looking for money to purchase PCC cars for operation on the tunnel lines. Also it will retain rail operations on the Geary lines despite street widening.

Bill Gorton, Jr., Box 1515, Stanford, Calif., who sends us this news, asks that we print it with the "usual reservations." Well, if our readers don't know it by now, let us repeat, that any and all reports of decisions regarding the San Francisco streetcars, are subject to change without notice.

Paul H. Stringham, R.I. Newstand, Peoria, Ill.

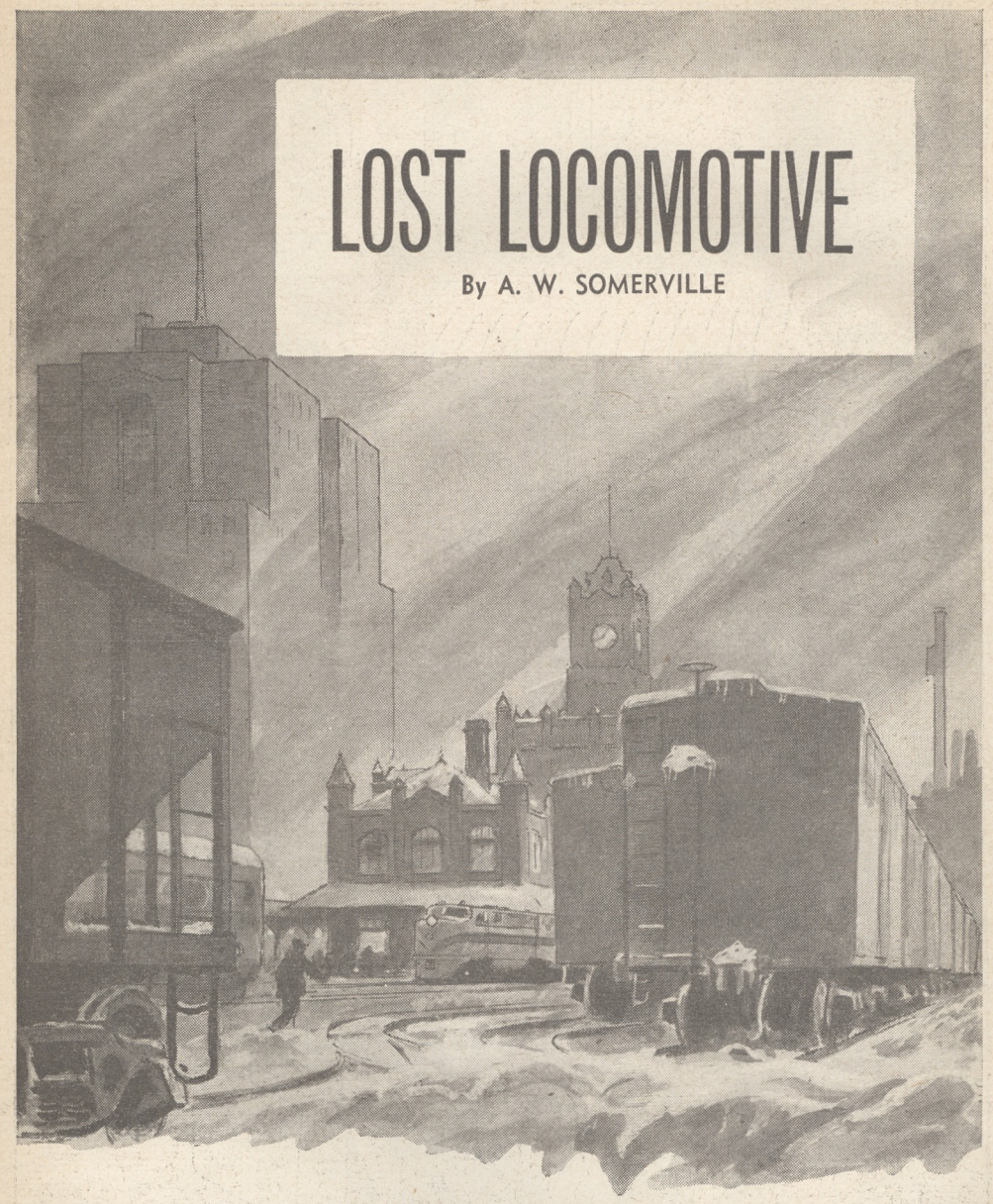
Not in the Wheel Report

By JOSEPH EASLEY

"I ain't tellin' you what makes 'em run, mister . . . we got secrets, too, you know"

LOST LOCOMOTIVE

By A. W. SOMERVILLE



THE TEMPERATURE in the city was that of some arctic region, and Mr. T. P. Patchbolt, general master mechanic of the railroad, was over an hour late reaching the terminal office building. He had quite a time pushing his way through snow and similar wintry handicaps. The tall tower of the building was sheathed in ice and streamers of snow and sleet were pale banners waving from turrets and cornices far above the pavements. Mr. Patchbolt had irrationally hoped to find things cozy and warm inside the building. Instead, he was greeted by a great deal of very chill air. Cursing the coal shortage, Mr. Patchbolt numbly chartered an elevator and discovered that it grew colder the higher he went. When he arrived on the 20th floor he was as brittle as a slab of bacon from quick freezing.

He disembarked, his numb brain speculating on the coal famine, absolute zero, and the railroad's predicament in the present emergency. He knew there was no place to get coal except from Consolidated Atlas Corporation; and getting a lump of coal from Atlas would be like taking a bar of gold from Fort Knox. Mr. Patchbolt wished the railroad would settle its differences with the Atlas Corporation; life was getting too involved. One of the reasons why the railroad was so short of coal was that the terminal was being Dieselized and the railroad had reduced its stock piles of coal. Of course the railroad had to buy Diesels from Atlas; at least, that was the theory. At the moment, the railroad was not buying; or rather Atlas was not selling. In a numb and mentally raddled condition Mr. Patchbolt

plowed into his unheated office, which was also very dimly illuminated.

Plowed is the correct word. He collided with a large box in the middle of the floor, sprawled over the box to make a billiard against an ice-cold radiator, and came to what could be called his senses with a rapidly closing eye which would soon make his round face look like a two-toned egg. Ben, the chief clerk, heard the crash, and rushed in to hoist Mr. Patchbolt into his swivel chair. It was some time before Mr. Patchbolt was convinced that he had not been attacked and savagely mauled—perhaps by a band of Eskimos hurling glaciers at him. And even when all his senses returned Mr. Patchbolt was not entirely sure whether he was hurt or frozen.

"Both," said Ben, shivering agreeably.

"What was it?" inquired Mr. Patchbolt. He glimpsed the offending box dimly. "What is it?" he demanded.

It was a display, an anatomical display, of the fuel feed mechanism for the new Atlas Diesels, said Ben. It was for use in instructing the skilled help in how to service and maintain the new motive power. If, as, and when it was placed in service.

"You should have turned on the lights and seen where you was going," said Ben.

Mr. Patchbolt found the strength to wobble out of his chair and look at the fuel feed. One look was enough. He tottered back to his swivel chair.

"Ben," he said, as calmly as possible, "have that—that—well—have it taken down to the terminal roundhouse. Today."

"Ye'sir," said Ben. "There is a letter there on your desk, sir. From Atlas. They phoned me, too, asked me to be sure you read it. It is about one of our yard engines spoiling their air conditioning."

"Since when have they started giving orders around here?" said Mr. Patchbolt angrily. "Maybe you had better read it out loud to me. I am not seeing so good right now."

Ben read him the letter. Consolidated Atlas was grieved that Engine 201, on such and such a date, had entered Plant One and that smoke from this engine had caused dislocations not only in the air-conditioning equipment but in the very air itself. Which was contrary to rules, regulations, instructions, and standard practise, and Plant One had been authorized to handle matters so as to insure the performance would not be repeated. Atlas wrote for Mr. Patchbolt's information and guidance.

"Nuts," said Mr. Patchbolt briefly.

"Okay," said Ben. "What about the new Diesels from Atlas? They also phoned about that, said could you sign for three switchers they are ready to deliver this morning?"

Mr. Patchbolt glared from one eye.

"Hah!" he said. "I could not accept a thumb tack from that Atlas mob till upstairs makes peace with them."

"I thought you were instructed to accept them," said Ben.

"I was," said Mr. Patchbolt. "But something came up about steam heat."

"Steam heat?" said Ben. "What is steam heat?"

"There is certainly none in that radiator there," said Mr. Patchbolt bitterly, feeling his swelling face. "You see, the Diesel switchers, they do not have the capacity to steam heat passenger cars. Especially in weather like this. And then there is a joker in the contract about immediate delivery costing fifteen percent more. There is an awful row about it. Awful. I had no idea our president could use such language." Mr. Patchbolt brooded and looked at the anatomical, skeletonized display of Diesel fuel feed. "Get that thing out of my office if you have to call the wrecker," he said.

Ben went out, shivering.

MR. PATCHBOLT'S head ached, he could see out of one eye only, he was chilled to the marrow, and it was at this auspicious moment that Mr. Terrence Hogan, the local yardmaster, phoned and notified him he had just lost a locomotive.

"Bah," said Mr. Patchbolt, completely discounting the information.

"It's gone," Mr. Hogan declared. "I tell you, the old 201 is gone. Vanished. The old yard goat. All this morning, it's been vanished."

"Varnished?" said Mr. Patchbolt.

Mr. Hogan insisted it was vanished and not varnished.

"It couldn't vanish no place," said Mr. Patchbolt "Even if you had it, what would you do with it? You've got no coal."

"I didn't call up to have a argument," Mr. Hogan said with dignity. "I said you had lost a locomotive. The 201."

"Oh, *I've* lost a locomotive," said Mr. Patchbolt. "Very well, Mr. Hogan, just unwrap yourself from that stove and go find it. And while you're looking around for it, see if you can find some coal."

He hung up and called to Ben.

"Ben," he said, "that fellow Hogan has lost one of his crews in a snowdrift, I guess, or maybe the yard office blew away. He is up to some shenanigans, maybe because he wants those new Diesel switchers. He has lost the yard goat, he says. The 201."

"Well," said Ben, "if he hasn't got no coal, what would he do with it if he hadn't lost it?"

"That is precisely what I asked him," said Mr. Patchbolt, almost happily. "He better not get cute with me. Should he call back I am out. And see if you can find me a blanket."

Cautiously using his one good eye, Mr. Patchbolt proceeded with the daily grind, reading engineers' reports, roundhouse reports, shop reports, a pamphlet on the expansion of steam, an illustrated booklet on lubricants, and an exhaustive treatise on nuts and bolts. Among all these papers he found a file of letters and memoranda regarding some 75 loaded coal cars—full of railroad coal, Mr. Patchbolt balefully noted—that had been tenderly unloaded

by Consolidated Atlas into their own coal bins. Consolidated Atlas had instantly paid for the coal, the railroad had accepted the money, and now the railroad wanted the coal back. Consolidated Atlas preferred to keep the coal. Mr. Patchbolt brooded over this until Ben came in with a blanket borrowed from the Pullman Company. Ben also brought word that Mr. Patchbolt was wanted upstairs by the president of the railroad. The master mechanic wrapped his blanket about him in resignation and went upstairs, where he learned that he actually had lost a locomotive.

"It is beyond human comprehension,' said the president grimly, staring at Mr. Patchbolt. It was an indisputable fact that Mr. Patchbolt's face was both purple and red, that it was lop-sided, and that he had only one eye open. Nor was Mr. Patchbolt the type who could wrap himself in a Pullman blanket and appear either fashionable or majestic. "Beyond human comprehension," repeated the president. "Oh, yes, vanished. Gone. Evaporated. It can't happen here, eh? Mr. Patchbolt, what has become of the 201? Explain to me, where is the 201?"

Mr. Patchbolt had no idea. Mr. Patchbolt was told to consider the seriousness of such a thing. So he thought how serious it was to lose a locomotive in broad daylight, or even at eventide, especially since they were so short on motive power. It was ridiculous to lose a locomotive under any circumstances, even the yard goat. While he was obediently considering, a large amount of railroad brass arrived and clustered around the mahogany table; most of these officials noted Mr. Patchbolt's appearance with polite astonishment. There was a discussion about the vanished engine, and the unprecedented weather, and why should the president's office be the coldest spot in the entire building, and did Consolidated Atlas think they owned the world including locomotives and coal. After a short while Mr. Hogan appeared.

Mr. Terrence Hogan had never been in the president's office before. He was not a general officer. However, the virile Mr. Hogan seemed unimpressed by the assembled brass, the mahogany table, the swamp-like carpet, and the famous painting of Lucas Buchanan Birdstall, past president of the railroad system, who had so insinewed, thewed, and bolstered the company that it had withstood the shocks of progress and the ravages of Congress down to the present hour What seemed to dent Mr. Hogan's consciousness was Mr. Patchbolt's appearance, swathed in a blanket, with an eye swollen shut and his face both purple and red.

"You look like a fat squaw off the reservation," said Mr Hogan tactfully, staring. He stared again, and said in loud and vulgar astonishment, "Dear Reilly, Mr. Patchbolt, who hung that shanty on you?"

Mr. Patchbolt said just as loudly, "It is none of your damn' business, Mr. Hogan."

The president tactfully broke the ensuing silence. "The matter before us, gentlemen, is the 201. Now, Mr. Hogan, when did . . . er . . . when did you . . . vanish? Er. Tell us briefly."

Mr. Hogan said there was little to tell. The engine had disappeared from the south end of the ready track, between four or five that morning. When he, Hogan, came on duty the matter was reported to him by the crew assigned to the yard goat. Subsequent investigation and search was to no avail.

"What do you think of this, Mr. Patchbolt?" said the president. "After all, we've got to keep track of our engines. They're valuable."

Mr. Patchbolt said he had no thoughts of any consequence.

"I called Mr. Patchbolt the minute I realized the serious nature of what'd happened," said Mr. Hogan virtuously.

Mr. Patchbolt unwrapped a yard or so of blanket. He gazed bleakly at Mr. Hogan out of one good eye.

"What steps have you taken to locate Engine 201, Mr. Patchbolt?" said the president.

"I ain't been outta this office building," said Mr. Patchbolt indignantly. "That

engine is assigned to Mr. Hogan and he should be able to take his own steps."

"It is outta my hands," said Mr. Hogan proudly. "The engine belongs to the mechanical department."

"Gentlemen," said the president firmly, "this has gone far enough. First we will find the locomotive, then we'll decide who owns it. Mr. Patchbolt, you and Mr. Hogan will handle this matter. Discreetly. Quietly. Do not make the company ridiculous by calling in the police. The company has just appropriated millions for publicity. Millions. We are selling the public our efficiency, our competency, we are selling a liquid operating dollar instead of the old solid one, and there must be no lost locomotives in the public mind. This company will never admit having lost a locomotive. That will be all, gentlemen. Mr. Patchbolt, report to me direct as to who of our employes could have lost a locomotive and where is the locomotive."

THAT evening Mr. Patchbolt broke his fast by dining with a blonde friend. Over steak and fried potatoes and four chocolate eclairs she expressed sympathy for his closed eye and swollen face, although, she said, he really should look where he was going, and was it really a radiator that hit him? When she learned he could not take her to a movie because of a business engagement with Yardmaster Hogan, she said she hoped he would be careful of his other eye, especially in such terrible weather, and it was no wonder he had lost a locomotive, having no more sense than to wander around on such a night, although she did not believe everything she heard, especially when people started talking about losing a locomotive. And being discreet about finding it.

Mr. Patchbolt met Mr. Hogan by appointment that night, in the wilds of the flat yard, in utter blackness and cold and bitter wind, and Mr. Patchbolt thought several times during the next few hours that he would have been much happier had he gone to a movie with the blonde. Mr. Patchbolt and Mr. Hogan looked behind snowdrifts, and buildings, and at the miles of walls and fences enclosing Consolidated Atlas, and this discreet investigation resulted in nothing whatever, except that both men nearly caught pneumonia.

The next morning, having staved off starvation with four fried eggs and a pound of bacon, Mr. Patchbolt checked in at the 20th floor. He told Ben he had business with the company auditors and went on upstairs.

"Jack," he said to the auditor, "I want the record on the 201. The book. There is something about that yard goat but I can't remember just what."

"We are not giving out any books today," said Jack.

"I deal direct with the president, Jack," said Mr. Patchbolt.

"Maybe you do," said Jack. "We got this direct from him, to keep the books locked up. When do you think they'll turn the heat back on?"

After some delay, including a call to the president, who was not in his unheated cloister at such an early hour, Mr. Patchbolt won the round. He returned to his own department laden with enough papers and documents to fill a stove, which was an idea he entertained as he wrapped himself in the Pullman Company's blanket. Mr. Patchbolt got out his own files on the 201, which were bulky, as they covered all the 201's history since the time Congress passed the Locomotive Inspection Law. He placed the joint collection, including the original bill of sale from the old Atlas Works in 1904, on top of his desk, and observed that it was as tall as a haystack. He called Ben.

"Ben," he said, "I am in conference. I will speak only with the president. If you-know-who calls, well, if she calls, tell her I will meet her at the steakhouse at seven—unless I get tied up. You explain to her how busy I am. And at noon bring me some hamburgers and coffee."

Mr. Patchbolt steadied himself in his swivel chair and with his one good eye started reading the life of a locomotive. There was a picture of the lowly yard

goat as originally built by Atlas, showing her original number, and Mr Patchbolt was startled. The yard goat was originally numbered 19, and named the *Lucas Buchanon Birdstall* There was a picture of Lucas Buchanan Birdstall on the square, oil-burning headlight There were enlargements of pictures showing the bell and the whistle, and on each was engraved in flowing script: *The Lucas Buchanan Birdstall. The Voice of Progress and the Scream of the Eagle. Built by Atlas, 1904 From Riverland to Clover June 10th 1904, 116.4 miles per hour. World's Speed Record."*

Mr. Patchbolt. having made this discovery about the yard goat, and with only one eye at that, meditated a bit on destiny and progress and so forth, and then re-immersed himself in the past. He recalled the engine now, it was part of him, it was like a suit of clothes that he had worn long ago that had clothed him well, that he had worn with pride and ease. It was more than that; it was part of his life, of his background, of long, strife-filled years of railroading, and he knew that he could not actually lose such a locomotive, any more than he could have lost the entire railroad system.

In 1916 the engine had been written off the books, the trust plates removed, and the engine placed in storage. There followed, for the next period, half a ton of letters, affidavits, testimonials, and Congressional mentions, all discussing the question, what museum deserved the prestige of housing the speedball of 1904? But with war looming up the company had decided to put the engine back in service. The tall wheels were removed and the rebuilt engine became the plug, the local plug, on Clover Branch. In 1930 the engine was again written off the books and scheduled for retirement, and Mr Patchbolt recalled this clearly, for he had been the shop superintendent who had converted the plug into the yard goat; he could even recall details of the conversion such as changing frames and cylinders and rods. Of the original job built by Atlas in 1904 bright with brass and high on the wheels, that had rocketed so swiftly and so recklessly down the mainline to Clover, there was not one shred remaining, not one bolt nor rivet, not one fixture nor valve, other than the whistle and the bell. Now, in this new day of steamlining and radio dispatching, the engine was up again for retirement, provided the auditors could be prevailed upon to erase $1.15 charges, which, so far as Mr Patchbolt could determine after diligent study, was for a new whistle cord applied in the fall of 1930 and for which an authority for expenditure was missing from the record.

Mr Patchbolt's one eye was a touch misty when Ben came in with hamburgers and coffee. Mr Patchbolt ate his hamburgers and drank his coffee and thought of an engine worth, at the most, $1.15. The railroad certainly wouldn't go bankrupt from such a loss—not financially

"Ben," said Mr Patchbolt, putting on his hat and overcoat, "if she calls, you know who, tell her I have been called out of town If the president calls, tell him I have some very high-grade clues and that I am being very discreet about them. Very discreet"

HE WENT down to the yard and waddled across to the ready track. There, in the bitter cold and wind, he looked over at the industrialized side of the flat yard Directly before him rose the beautifully balanced, unbelievably enormous shapes of Consolidated Atlas. Its beauty was magnified several thousand diameters by its environment, for Mr. Hogan's flat yard was hardly the pride of architectural sculptors and muralists. Mr Patchbolt shivered, staring at the sheer walls of the mammoth buildings, and came to the chilling conclusion that the great industry could have swallowed the 201 without so much as a bump Mr. Hogan came shambling up, wrapped in sweaters and coats, and greeted him politely.

"It is colder than it was last night, said Mr. Hogan.

"It could be," said Mr. Patchbolt. "Not

that I am sure about anything, even the weather. We gotta be discreet."

"You do not need to worry about me bein' discreet," said Mr. Hogan.

"I have been thinking about the yard goat," said Mr. Patchbolt. "It seems that a couple of days ago, according to a letter I got from Atlas, Engine 201 was inside their plant and had smoked up the place. They was very sore about it."

Mr. Hogan looked toward Atlas and said nothing.

"And," said Mr. Patchbolt conversationally, "it seems that a couple days before that happened, why, Atlas got hold of seventy-five cars of our coal. I guess they switched it in with one of them Diesels they're supposed to be selling us. Anyways, they got the coal."

Mr. Hogan cleared his throat discreetly. "They are a very rough bunch, Mr. Patchbolt," he said. "Also, they are the biggest shippers around here. We move as many as two or three hundred cars a day in and out of that Number One Plant. I remember one day we took three hundred and ten loaded cars from that plant."

"That is an awful lot of business, even for this railroad," said Mr. Patchbolt.

"You see that door?" said Mr. Hogan, pointing.

Mr. Patchbolt looked. Three tracks led up to the great door, and the door was closed.

"All the tracks behind that door are under the roof," said Mr. Hogan. "They are supposed to do all their own switching under the roof, but once in a while we have to go in there. There is always an argument when we do their work. I would never have let the yard goat go in there the time you know about. I didn't know about it till after it had happened."

"And the seventy-five cars of coal," said Mr. Patchbolt conversationally. "I suppose the yard goat did that."

Mr. Hogan was deeply moved. He seemed to tremble, as though from some strong emotion.

"Look," he said finally, "the word was to move no more coal to our stock piles. We were changing over to Diesels. Those

seventy-five cars were set out. One day they was gone. The next I knew of it, I heard Atlas had bought it from us."

"Discreetly, I guess," said Mr. Patchbolt.

"I guess so," said Mr. Hogan. "Let me ask a discreet question. Why do we refuse to take delivery on those Atlas Diesels, when we are all lined up for the change?"

"They raised the price," said Mr. Patchbolt.

Mr. Hogan pondered this.

"Just a technicality or so," said Mr. Patchbolt. "It will all get ironed out in the next day or so, I hope."

"I hope I don't get ironed out with it," said Mr. Hogan. "I have got thirty thousand barrels of Diesel fuel and no Diesels. And no coal."

"Just be discreet," said Mr. Patchbolt. "Just be discreet and don't hold out any clues on me. The president wants that yard goat back."

"Well," said Mr. Hogan affably, "you can rely on me. I have done everything possible. I even walked around last night with you, and it took me the rest of the night to get thawed out. I have no idea what could have become of that engine."

"Meet me at the ready track tonight at eight," said Mr. Patchbolt.

"Now look," said Mr. Hogan, "I am not going through what I went through last night. Not again. Not for ten yard goats."

"You be there at eight," said Mr. Patchbolt. "It is very peculiar that seventy-five cars of coal could get away from you. We will maybe look for some coal cars as well as yard goats."

"This is the way I get rewarded for being loyal and discreet," said Mr. Hogan irritably. "The next time something gets lost around here it will stay lost."

Mr. Patchbolt returned to the 20th floor of his building and after perhaps an hour of huddling in a blanket felt equal to continuing the quest. He telephoned the president.

"We have not found it yet, sir," he said. "However, I am on the trail. We will find it, you can depend on the mechanical department."

"Possibly, possibly," said the president peevishly.

"Mr. Hogan and I are going to close in on it tonight," said Mr. Patchbolt, obscuring the fact that Mr. Hogan's enthusiasm for detective work was on the wane. "I thought I would ask you, sir, would you let me have a college graduate out of your office to go with us?"

"What do you want with a college graduate?" said the president. "If there is one in this office, I might give him to the mechanical department permanently."

"It should be somebody educated what's got warm clothes," said Mr. Patchbolt. "It will be very cold out tonight. Somebody that's discreet like me an' Mr. Hogan."

"I will endeavor to think of somebody who can qualify," said the president. "You had better come up here and give me a report on this."

SHORTLY after eight on that raw, windy and bitter night Mr. Hogan met Mr. Patchbolt and his companion, and since it was as black as the bottom of an oil well at the south end of the ready track, Mr. Hogan did well to make out the two shapeless forms.

"This is one hell of an idea, Mr. Patchbolt," declared Mr. Hogan vehemently, waving the brake club he carried.

Mr. Patchbolt requested discretion. They were going to the Atlas plant, he said, where they would discreetly look around for the yard goat.

"I was afraid of this," said Mr. Hogan. He strained his eyes in the blackness and said: "What're you carrying, a shotgun?"

"This is a pipe wrench," said Mr. Patchbolt. He carried it on his shoulder and it was some five feet long.

"I hope you know what you're doing," said Mr. Hogan. "That Atlas bunch, they are not afraid of pipe wrenches or atom bombs. And who is this with us, Mr. Patchbolt?"

"This gentleman is with the company," said Mr. Patchbolt.

Steam drifted defiantly from the yard goat's safety pop

"A gentleman," said Mr. Hogan incredulously.

They walked over the tracks, through ice and snow, toward the Atlas plant, and finally came to the great door.

"Where is your key, Mr. Hogan?" said Mr. Patchbolt.

"How do you know I have a key?" replied Mr. Hogan.

"I have talked with your superintendent," said Mr. Patchbolt. "He says this door takes a key and you have it. He says you open a box and push a button."

"That is quite right," said Mr. Hogan. "You push a button and the door rolls up like a carpet."

"Start it rolling," said Mr. Patchbolt.

"I have been thinking," said Mr.

Hogan, dubiously and discreetly. "Why don't we go around in front and tell the gateman we want in? This Atlas mob, they can get awful rough, and that place is like Mammoth Cave. Let's not be hasty," said Mr. Hogan, getting a good grip on his brake club.

"Get the door open," said Mr. Patchbolt angrily. His eye ached and his feet were freezing.

"I am gonna do this because you are a general officer of the company and because the president said I was to work with you," said Mr. Hogan hoarsely, fumbling for his key. "Look, Mister," he said to Mr. Patchbolt's companion, who was just a blur in the gloom, "you are a witness this is not my idea. This is Mr. Patchbolt's idea. Pipe wrench and all that. I don't have no idea."

The blur waved what was probably an arm.

"Let's go," said Mr. Patchbolt aggressively.

Mr. Hogan went to the side of the building and with his switch key opened a metal box. He pressed a button. Instantly flood lights went on and the door rose noiselessly. The three men walked in, and Mr. Hogan pressed another button, and the door dropped like a cleaver on a bone.

"If it was left open it'd ruin their air conditioning," said Mr. Hogan.

It was warm inside. The interior was vast, with the tracks below the floor level. Although the building was well lighted they saw no one for perhaps a quarter mile, when the tracks branched. Mr. Hogan knew the location of the coal bins and boiler room and after walking a long distance they found their objective.

The *Lucas Buchanan Birdstall* was in the boiler room, ensconced before more coal than it could consume in ten years. Towering over the little engine were enormous boilers faced with tile and chromium, hung with thermometers and clocks and slowly turning charts and pressure gages.

Beneath these incredibly huge cliffs of modern steam the yard goat was an undeveloped amoeba, an ugly duckling under the wings of a great transport plane. But there was steam drifting defiantly from the yard goat's safety pop and cylinder cocks, the ash pan was bright with glowing embers, and the blower was snarling defiance at such things as automatic weather and boilers as vast as three-story buildings. This despite the fact that the rugged men of Atlas had capped the stack with piping so the smoke would not contaminate the pure air of their establishment.

It was here that Mr. Hogan first identified his gentleman companion.

"I had no idea it was you, sir," he said respectfully.

The president was looking at the little engine.

"Properly speaking, it isn't," said the president. "A distant cousin of mine, you could say. Also related to the Atlas Corporation, though you'd find that hard to believe."

Mr. Hogan could not make much out of this. Coming out of the cold and raw wind into the warmth had perhaps affected his hearing, he decided. Mr. Patchbolt said:

"I can get the whistle off with this wrench in five minutes after we blow it down. I can get the bell off right now. We will find the boss of this boiler room and tell him who is calling."

"You have the right idea, Mr. Patchbolt," said the president calmly.

"Mr. Hogan can find him," said Mr. Patchbolt. "Mr. Hogan lost seventy-five cars of coal to him lately. Great friend of his."

The president smiled genially and said Mr. Hogan was their man, and so Mr. Hogan took off and returned shortly with a Mr. McGuire, who proved to be the boiler room foreman. The president asked could he use a telephone, and Mr. McGuire took them to his office, where the president dialed a number.

"I thought this was your night to play poker, you old pirate," he said into the phone.

"Oh, this is Buck . . . I'm in your boiler room down at your plant, taking a

look at a switch engine of ours we let you borrow to keep your office warm . . . well, yes, there is a slight adjustment I wish you'd handle . . . ah, nothing much, just a bell and a whistle and a check for one dollar and fifteen cents . . . come on, I'll wait right here for you."

By the time the head of Atlas got to his boiler room Mr. Patchbolt had the bell and whistle in a gunny sack. It was very good of Consolidated Atlas to convey Mr. Hogan and Mr. Patchbolt to their respective homes in a limousine. The president and head of Atlas were last noted leaning against the yard goat and settling the details for the delivery of some 50 Diesel locomotives very amiably. Strangely enough they had little difficulty ironing out the problems that had bedeviled them for several days.

The next morning Mr. Patchbolt and Mr. Hogan reported direct to the president. Thanks to discretion, the president said, the incident of the lost locomotive was concluded. The whistle and bell would look very good on a table directly under the famous painting of Lucas Buchanan Birdstall.

"It has been a pleasure to accommodate our good friends the Atlas firm, to supplement their supply of steam heat," said the president, wrapping his blanket about him. "I have arranged to borrow a few cars of coal from them. Mr. Patchbolt, some time this morning go over to Atlas and accept delivery on three Diesel switchers for this company, and put one in service immediately, assigning it to Mr. Hogan. And be so good, Mr. Patchbolt, as to pick up a check from their treasurer, for $1.15, made out to our company, and bring me the check. I wish to present it to our auditors myself."

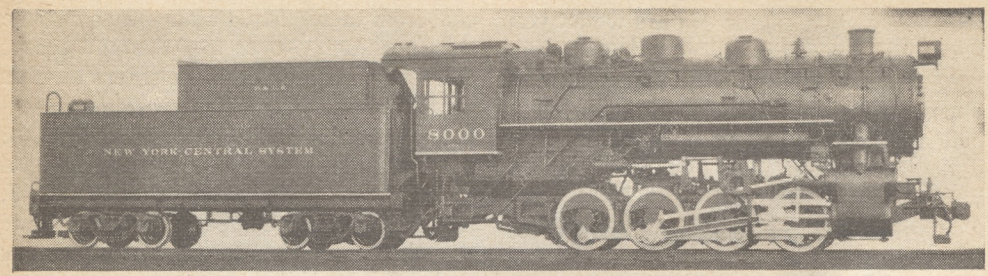
"Yes, sir," said Mr. Patchbolt.

"And," said the president, "find out how many cars of coal Atlas can let us have, and you, Mr. Hogan, deliver that coal immediately to the boiler rooms of this building."

Waiting for the elevator Mr. Patchbolt wondered whether he should mark the 201 as retired from service, or whether he should show it as sold to Atlas for $1.15. It certainly wouldn't do to designate it as lost.

"That eye of yours don't look no better," Mr. Hogan observed, as the elevator took them aboard. "Can you see anything?"

"Not much," Mr. Patchbolt admitted. "I can't see that new Diesel you're getting making 116 miles an hour. Though," he added, almost amiably, "I can see a switch crew of yours trying it. Anyways, there'll be coal enough to get this building warm before long."

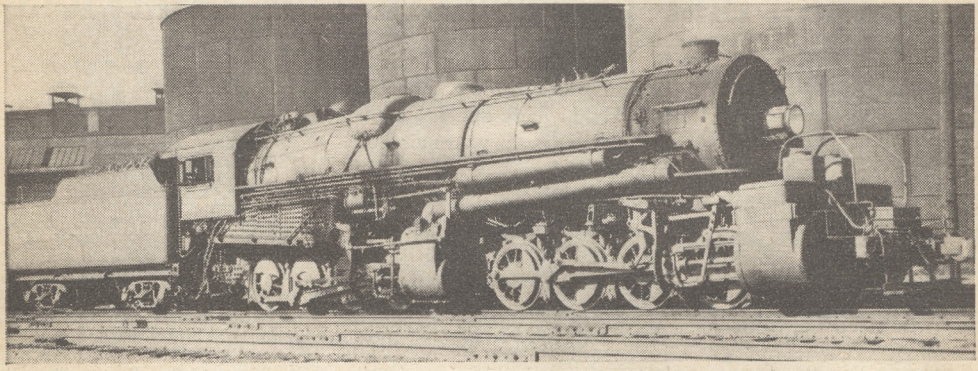


Possibly the last large order for steam switchers came from P&LE in 1944. Engines resemble earlier 8000 Class pictured above

Locomotives of the Pittsburgh & Lake Erie

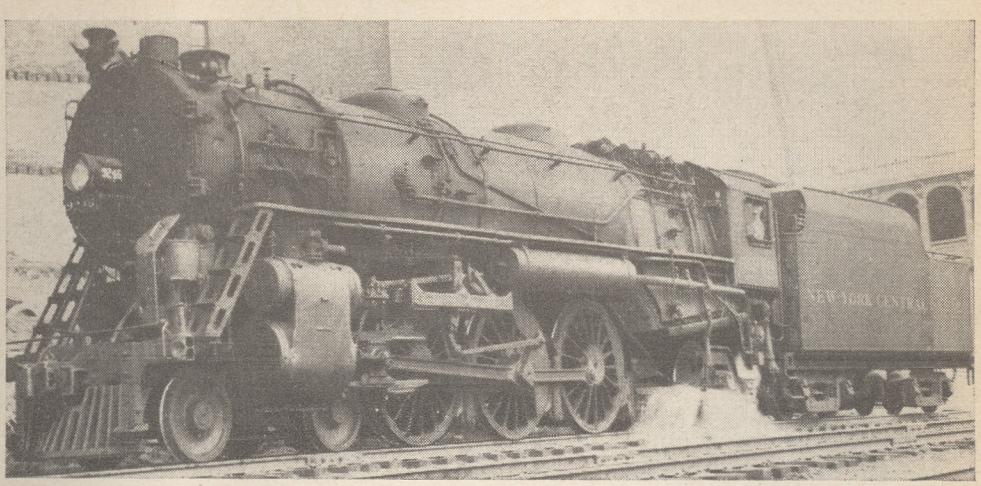
Steam Locomotives

Class	Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder and Date
			0-6-0 (Switcher) Type				
B-104	9047, 9051, 9052, 9056, 9060, 9061, 9066, 9067, 9069, 9070, 9131, 9135–9137, 9140, 9141, 9151, 9154, 9159	20 x 26	51	200	153,000	34,670	Alco and P&LE, 1909-'13
			0-8-0 (Switcher) Type				
U-1A	7290, 7292–7296, 7299	25 x 30	58	200	239,500	54,960	Alco, 1913
U-1B	7281, 7288, 7289	25 x 30	58	200	239,500	54,960	Alco, 1913
U-3J	9000–9024	25 x 28	52	190	230,400	54,350	Lima, 1929
U-3K	8000–8049	25 x 28	52	190	232,500	54,350	Lima, 1937
U-3L	8050–8074	25 x 28	52	190	234,000	54,350	Alco, 1944
			0-8-8-0 (Mallet Switcher) Type				
NU-1B	9090	26 x 40 x 28	52	200	468,000	87,020	Alco, 1916
			2-8-0 (Consolidation) Type				
G-102D	9326, 9368, 9370, 9372	22½ x 30	52	200	200,500	49,650	Alco, 1902, '03, '05, '07
G-104	9393–9397	22½ x 30	52	200	200,500	49,650	P&LE, 1913
			2-8-2 (Mikado) Type				
H-9A	9581, 9583–9587, 9589	27 x 32	63	190	331,000	59,800	Alco, 1918
H-9B	9507	27 x 32	63	190	331,000	59,800	Alco, 1919
H-9C	9591–9593	27 x 32	63	190	331,000	59,800	Alco, 1919
H-9D	9510–9518	27 x 32	63	190	331,000	59,800	Baldwin, 1919
H-10A	191–200	28 x 30	63	200	342,500	63,470	Alco, 1923
H-10B	201–211	28 x 30	63	200	342,500	63,470	Alco, 1923



Ivan W. Saunders

You have to look far for a ***Mallet*** on the New York Central System and its subsidiaries. The 9090 works the yard at McKees Rocks, Pa.



C. W. Jernstrom, 114 Fremont St., Fremont, Ind.

Backing into Cleveland Terminal Pacific 9246 settles the dust with a jet of water from her injector overflow pipe

Class	Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder and Date
			2-8-4 (Berkshire) Type				
A-2A	9400–9406	26 x 32	63	230	426,000	67,130	Alco, 1948
			4-6-2 (Pacific) Type				
K-4A	9225–9229	23½ x 26	72	200	290,100	44,400*	Alco, 1917
K-4B	9230	23½ x 26	72	200	290,100	44,400*	Alco, 1918
K-4B	9231	23½ x 26	72	200	290,100	33,900	Alco, 1918
K-4B	9232–9234	23½ x 26	72	200	290,100	44,400*	Alco, 1918
K-6A	9245	26 x 28	75	200	298,000	52,620*	Alco, 1925
K-6A	9246	26 x 28	75	200	298,000	42,900	Alco, 1925
K-6A	9247–9249	26 x 28	75	200	298,000	52,620*	Alco, 1925
K-6B	9250–9252	26 x 28	75	200	301,000	52,620*	Alco, 1926
K-6B	9253	26 x 28	75	200	301,000	42,900	Alco, 1926
K-6B	9254	26 x 28	75	200	301,000	52,620*	Alco, 1926

Diesel Locomotives

Class	Numbers	Drivers	Horsepower	Engine Weight	Tractive Effort	Builder and Date
			B + B (Switcher) Type			
DES-11E	8537–8539	40	1000	232,500	58,125	Alco, 1948
DES-13B	8705–8714	40	1000	247,200	61,800	EMD, 1947
DES-13E	8740–8749	40	1000	247,200	61,800	EMD, 1949
DES-14A	8900, 8901	40	1000	240,500	60,125	Fairbanks-Morse, 1946
DES-14B	8902, 8903	40	1000	246,300	61,575	Fairbanks-Morse, 1948
			A (Passenger) Type			
DPA-2C	4204–4207	40	2000	311,700	51,425	Alco, 1949

Lake Erie & Eastern

Steam Locomotives

Class	Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder and Date
			0-6-0 (Switcher) Type				
B-104	9186, 9187, 9191	20 x 26	51	200	153,000	34,670	P&LE and Alco, 1909, '12

**Corrected June 1, 1949*

**Tractive effort with booster*

PROMOTING THE ORIENT

By W. R. DRAPER

OUR westbound special slowly climbed the stiff grades of the newly completed Kansas City, Mexico & Orient between the city of Chihuahua in north-central Mexico and the village of Minaca at the base of the Sierra Madre mountains. Here railroad construction had stopped because the company was up against a 15-million-dollar outlay in crossing the Continental Divide, and our company did not have the money. Arthur E. Stilwell, founder, president and promoter of the Orient was in charge of the special, and it was loaded with rich business men from Detroit London and Mexico—enough millionaires in the party to finish the railroad from Kansas City to the Pacific Coast

But they had to be shown and Stilwell was showing them, with great gusto and the wisdom of 20 years' experience in promotion work. He had on exhibit

here a solid train of the best sleeping cars that George M. Pullman could furnish and a private car in which there was a $10,000 pipe organ and a pulpit. Promoter Stilwell had been known to mount the pulpit in pious moments, even to sit down at the pipe organ and play his own musical compositions, which soothed and charmed the tired business men—or so they said.

The purpose of our trip was to show off the undeveloped resources of the virgin territory of Chihuahua, now being tapped for the first time by a rail line and—most important of all—to sell enough shares in the railroad to give the company treasury at least some portion of that 15 million dollars right now.

Every 50 or so miles Stilwell had the train halted while he conducted the "prospects" on short inspection tours. All of western Chihuahua was experiencing a mild boom in September, 1906, because of the Orient's activities and there were many new lead and silver mines and farm colonies adjacent to the right-of-way.

I accompanied this special train as one of the five or six salesmen and publicity men employed to assist in signing the prospects on the dotted line. Stilwell was the sole planner and director of every move we made. I had been on his pay-

The prospects were conducted on short inspection tours, to view Chihuahua's mild "boom"

roll for about eight months, but this was the first time I had ever come in direct contact with him as my employer. I had known him fairly well when I was a Kansas City newspaper reporter.

Stilwell was already successful in railroad and financial circles. He had promoted the very profitable Kansas City Southern without the aid of Wall Street. He had organized and was president of the Guardian Trust Company. He had raised the money for a dozen or so timber, rice and farming companies, all of which prospered under his direction. He had raised and spent millions, yet he was not a rich man himself.

Starting out in the East as an insurance salesman, Stilwell had come to Kansas City in the 1890s, and had immediately begun to talk railroading. A tall, imperious, well-dressed man, he commanded attention and respect in any company. When I first saw him he wore mutton-chop whiskers, carried a cane and affected the mannerisms of an English duke. But when one of Kansas City's leading bankers scoffed at his whiskers and cane, Stilwell discarded them. He still remained dignified, austere and rather hard to know. I often wondered just what it was in him that gained men's confidence when he seemed to rear back so hard on his self-importance. However he did it, he got their money for his enterprises. I once heard him say that 50 million dollars of promotional money had passed through his hands. Mighty little of it had remained in his possession He was never called dishonest and he held the confidence of his investors even when things were breaking badly.

Arthur E. Stilwell

THIS day, like all other days on a Stilwell private train where the future of the Orient was at stake, had been difficult for me. The country through which we rode was majestic to look upon, but I could not bring myself to enthuse about its future development. The native population consisted of Mexican peons, Chinese and Portugese farmers and miners. There were no white men at all. I saw a few Indians, unusual for their height. I was told they were runners, not workers, and lived by carrying mail and light freight across the mountains Hills and deep arroyos, covered by mesquite or nothing at all, dominated the landscape. The few valleys would produce good crops of potatoes but that was all. As to the richness and longevity of the new mines, that was a problem that not even the geologists and mine managers themselves knew much about.

The way I looked at it, western Chihuahua was a liability and not an asset to the Orient. It had cost plenty to build west from Chihuahua to Minaca and when we got there we ran up against a stone wall, a mountain or series of mountains, some of them 8000 to 9000 feet high and about 50 miles across. Of course, as Stilwell had instructed us to say, west of the mountains lay the rich El Feurte Valley and the port of Topolabampo on the Pacific Ocean. If we ever got through these mountains the Orient would have the shortest route from the Middle West to the Pacific Coast.

During the day, Stilwell had several meetings in the private car, talking confidently about what the Mexican government had done and was going to do for the Orient. To the prospects he introduced General Luis Terrazas, friend of President Diaz and the richest man in northern Mexico. Terrazas was a pompous little man, the master of six or eight million acres which Diaz had whittled off the public domain and deeded to him. Terrazas assured our prospects that the Mexican government was proud of Lord Stilwell (he called him by various titles) and

Photos from the Author

Construction started east from Topolabampo, east and west from Chihuahua; bogged down between Chihuahua and Minaca at the base of the Sierra Madres for lack of $15 million. But it took Pancho Villa to break the line. Above the Border, it's now Santa Fe; *below*, Ferrocarril Kansas City Mexico Y Orienta, S. A., with headquarters at Chihuahua

Bandits make trouble for an Orient construction train

would see that the Sierra Madre range was penetrated by the Orient track, regardless of cost. The governor of Chihuahua and the son-in-law of Terrazas, Enrique C. Creel, backed up the general.

Nevertheless, I still felt blue about the Orient's possibilities. Stilwell's ever-watchful eyes took note of my lack of enthusiasm that evening as we filed out of the diner. "Draper," he said, "see me in the business car in half an hour." I knew I was in for a trimming of some kind. However, he was silent on my failures of the day; instead, he gave me an assignment that now seems very funny.

An hour later, when the prospects had all settled in their Pullmans, Stilwell ordered the train crew to cut off the diner and business car. With me and another salesman aboard, both of us husky men, he had the short train driven about ten miles west. Here a large gang of Mexican railroad contractors who had pushed the work of laying track and throwing up right-of-way in a thoroughly energetic manner were waiting to attend a good-will banquet in the diner and a little musical show on the pipe organ.

But there was one contractor in the nearby camp that Stilwell didn't like. He'd been fomenting trouble among the peon track workers. His name was Pancho Villa and it was my assignment to "exterminate" Villa and prevent him attending the dinner. I was not sure whether Stilwell wanted me to murder, kidnap or just hog-tie the little roughneck who afterwards became the terror of Mexico. I was on my own.

The railroad camp was lighted by many brushfires and although 40 or 50 Mexican bosses were milling around, I had no trouble finding Pancho Villa. He smelled all over the place with hair oil. "Not so tough," I thought, and proceeded to deliver Stilwell's message requesting him to fade out of the camp. He eyed me up and down. "I've got to see that gringo boss," he stated.

"Listen, Pancho," I said, "I've got something that talks louder than Stilwell," and I pulled out a roll of Mexican currency big enough to choke a bulldog.

The little fellow's eyes glistened. "Is all that for me?" he asked.

"It is, if you vamoose pronto," I replied. "Get out and stay out and the money will be turned over to you tomorrow."

He was cagey, and I had a little trouble convincing him that I really would give him the money the next morning provided he did not appear at the Stilwell dinner that night. Finally, he agreed to take a chance on my promise and stalked off to his tent. The next day I gave him five hundred dollars. The other Mexican foremen had received cash bonuses of only $250 apiece.

Later, I was told by one of Stilwell's secretaries that Governor Creel and General Terrazas were behind Stilwell's snubbing of Villa. It was a costly snub, because it made an everlasting enemy of the little man who, when he was in power, quickly tore up 60 miles of the Orient tracks, seized the company's best paying silver mines, and so hastened it into receivership.

ONE of the guests on our special that day was a shrewd correspondent for one of the large Detroit papers. I supposed that he had come along to cover the outing of the Detroit millionaires, and the idea that he might be interested in writing about Mexico's interior troubles just didn't enter my mind. Consequently, I talked a lot about the possibility of a Mexican revolution and tuned this fellow in on some of General Terrazas's *sub-rosa* remarks about Mexico's political future. One such remark went like this: "Diaz is going to turn this country back to the Mexican people in the next few years, and then I'll be getting out." When the reporter made much of this statement in his paper, Diaz's political enemies demanded that he make good on the promise of his right-hand man, Terrazas.

Diaz had then been in the saddle for about 30 years and no doubt he saw the handwriting Villa and other revolutionaries were chalking up on the wall. The real uprising did not get under way until 1910, but what happened that September day at Minaca correctly forecast the future not only of the Diaz regime but of the Orient Railroad, too. Both of them went down before the vengeance of a little construction foreman who wasn't invited to the big dinner.

Stilwell blundered with Pancho Villa, but he knew how to handle President Porfirio Diaz. He had begun to make the right connections as early as 1900, soon after he lost control of the Kansas City Southern. It was in February of that year that he first met with Dr. Woods of the Kansas City National Bank of Commerce and other local capitalists to explain his scheme to build a 1600-mile-long railroad from Kansas City to the Pacific Ocean. The route, which Stilwell laid out on paper in his hotel room, would bring the West Coast and Central and South America about 400 miles nearer Kansas City.

Business men were hungry for southern and foreign trade. They quickly subscribed for $500,000 worth of stock in the new Kansas City, Mexico & Orient Company. The road would cost 50 million, Stilwell said, and 500,000 was only expense money, but it was gratefully received. He actually raised 23 million before the project met final failure.

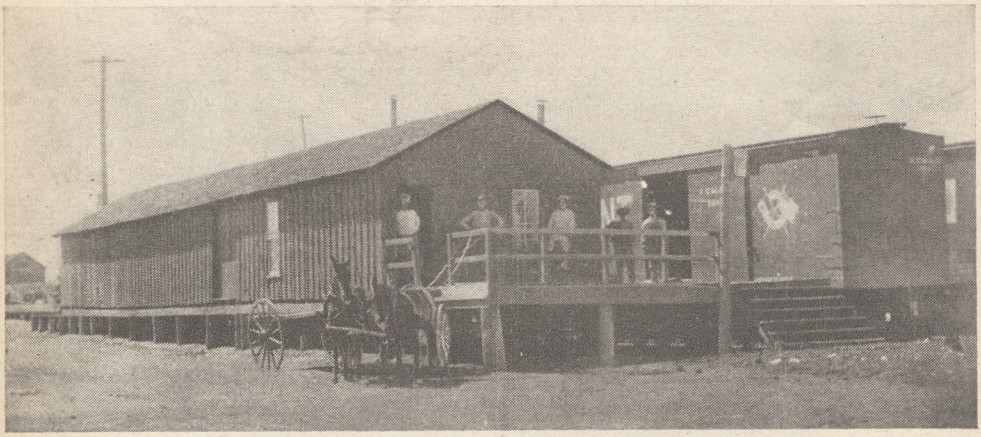
At this time, Stilwell was actually broke. Not one of all the companies he'd promoted now paid him any income. The "Kansas City crowd," as they were termed in Orient circles, not only gave Stilwell his new start with cash, but added their

personal influence, which reached across the Mexican border and touched Don Luis Terrazas, the big cattle man. Terrazas owned 17 big ranches south of the Rio Grande and some four million head of cattle, for which the new railroad would provide a shorter haul to market. The Terrazas clan practically controlled the cattle and mining industry of Chihuahua. Diaz had distributed 20 percent of Mexico's landed area to men like Terrazas; in other words, 4 percent of Mexico's population owned 96 percent of its resources.

On the eve of his departure for a first business visit to old Mexico, Stilwell gave me an interview for the *Kansas City Journal*. "It is my purpose," he said, "to run another line into Kansas City, one that will be even more important than the Kansas City Southern." The Southern was then hauling thousands of carloads of farm produce and livestock into the city.

across the states of Chihuahua and Sinaloa, and to construct a first-class harbor at the port of Topolabampo on the Pacific Ocean. During his 30-year reign, Diaz had increased railroad mileage from 700 to 25,000 kilometers; and now, according to the usual policy of making a gravy train of every such project, the Orient was to receive a subsidy of $50,000 a mile, to be paid as the tracks were laid. I am told that about one-half of this was actually paid. The railroad was also to receive about two million acres of land when completed and in operation between the Rio Grande and the Pacific.

Work was to be started in three places: west from Chihuahua, east from Chihuahua and east from Topolabampo. A deep harbor was also to be built at Topolabampo. The cost of building over the Sierra Madre mountains was going to be terrific, but nobody worried and it was freely



First Orient depot in Sweetwater, Tex., was located in center of street. Built in 1904, it was abandoned around 1909 for a new building. Santa Fe erected a third station in 1928

This was on February 28, 1900. Some days later I read a dispatch in the *Journal* from Chihuahua, Mexico, saying that Stilwell had arrived there and was being entertained by Governor Creel. Not many days later, the *Journal* carried a story that Creel had agreed to accept the vice-presidency of the Orient Railroad. "This means," a Kansas City banker said, "that the Mexican government will back the Stilwell project." Shortly thereafter, a charter was granted the Orient to build

predicted that the Mexican government would pay all the bills. Unfortunately, there was no Mexican government by the time Stilwell got around to the Sierra Madre Division.

Soon after the charter was granted, Stilwell placed Johnny Case, a Kansas City friend of mine, in charge of the Mexican work. Case had his headquarters at Chihuahua first, later at Topolabampo. He built the line out from the Pacific port to the rich El Feurte Valley. This 76-mile

Engineer and fireman at ease; construction engine at rest. The youngsters look as "North of the Border" as the U. S. flag sported on the tender

stretch carried the El Feurte Valley's winter vegetable crop to market in Kansas City via the Orient, the Southern Pacific and the Rock Island. This was quite a publicity stunt and created new interest in the shares of the Kansas City, Mexico & Orient. Soon the road began to look good—on paper—and Stilwell had no difficulty in attracting many capable railroad men to his organization. E. L. Dickinson resigned as general manager of the Union Pacific to take a similar position with Stilwell's Orient. John F. Wallace, a former general manager of the Illinois Central, together with 18 other railroad presidents and general managers, made up the Orient board of directors.

DURING 1905, Stilwell hired Fred Hornbeck away from the Kansas City Southern, where he had earned a reputation as a townsite and colonization manager. It was soon after this, just prior to a big advertising campaign that I was recommended for a job as press agent on the Orient.

Those first years with the Orient were lots of fun, especially the personally conducted stock-selling trips into old Mexico and west Texas. All of Stilwell's "prospects" were rich men, accustomed to high-class social entertainment, and Hornbeck saw to it that they were not let down. I ran my legs off to carry out his plans. Sometimes I needed a few brains, but the biggest part of the job was palaver. The Mexicans swallowed the soft soap by the gallon, and they could feed it right back to you, too.

Sitting down at the big table in Chapultepec Castle's dining room in Mexico City with President Diaz, eating from solid gold dishes, drinking the royal liquors and smoking heavy, black Mexican cigars—this convinced many a rich man who visited Arthur Stilwell's Orient in the '90s. The presence of Diaz and his clique established the belief that Stilwell could get whatever he wanted in a land of such untold riches. The wealthy visitors shelled out their money. Looking back, I think how easily it was accomplished:

a little display and we collected the money we needed.

After the Villa revolution blocked further progress of the Orient in Mexico, Stilwell turned to the United States and began to conduct investor excursions into west Texas. Near Fort Stockton in Pecos County, Stilwell bought Comanche Springs, with a flow of 30 million gallons of water every 24 hours, and capable of irrigating 6500 acres. He then sold this project at a profit to the railroad company, and bought 250,000 acres of semi-arid grazing land north of the Pecos River in Upton and Reagan counties. Later, much of this land turned out to be underlaid with oil, but Stilwell had already passed title, at another profit to the company, to a group of rich Englishmen who made millions on the deal.

Stilwell had a way of doing things to hold the interest of his prospects. I remember one autumn when he brought one of his parties into west Texas, he requested me to meet the train at Pecos City on the Texas & Pacific, and added that I was to purchase all the fresh home-grown fruit possible and bring it to the depot.

There were extensive pear orchards at Barstow and Toyah. I bought about 75 bushels of the large, luscious, highly colored pears, had them packed nicely in new baskets, and was waiting with them at the T&P depot when the Stilwell special rolled in. "I didn't mean you to buy out the orchard," Stilwell complained when he saw the baskets being loaded into the baggage car. But after he sampled one of the luscious pears, he patted me on the shoulder. "It's all right," he said. "You used good judgment. These pears will show we not only grow quality but quantity in the Pecos Valley."

I don't know how much stock in the Orient these pears helped Stilwell sell, but I do know that it was not more than six months before he wired me to come to the New York office to discuss plans for planting 1000 acres of pear trees along the railroad near Fort Stockton. I spent weeks getting up a prospectus and conferring with a horticulturist, not knowing that a receivership for the railroad company was just around the corner.

Stilwell acted on his hunches. He believed that oil existed under the Pecos County land he'd bought, so hired a geologist and sent me around with this man to survey our holdings for sub-strata wealth. There was certainly not much wealth on top of the semi-arid, almost barren ground. However, the geologist reported that there were possibilities for oil in certain areas of Pecos and Upton County. Stilwell leased the oil rights and formed a company, but did no development work. As far as he was concerned, the whole thing was simply a promotion stunt.

In later years, oil was found under the Upton County holdings. I bet on the wrong horse, having purchased land in Pecos County, but Hornbeck, who'd bought in Upton County, was lucky. The flat country between Big Lake and McCamey turned out to be the richest oil field in west Texas. It was a county devoid of surface indications. But largely because this land made poor grazing and could be bought for $2.50 an acre or less, Hornbeck and his friends took on quite a slice of it. Along the Pecos River, where I bought land, the grass and mesquite grew in rich soil, but I saw nothing but dry holes during the subsequent oil boom.

The Orient never shared in the Upton County oil money, but did receive a big part of the profits from the sale of this land to syndicates and individuals. First and last, our land department must have sold 10 million dollars' worth of property.

I was not familiar with the inside workings of the Orient corporation nor with the numerous subsidiary companies Stilwell organized to bolster his promotion work. But I know the vaults of the United States & Mexican Trust Company, fiscal agents for the railroad, were well filled with corporation seals and charters pertaining to irrigation, townsite, land and other concerns, all of which paid some financial tribute to the railroad.

Stilwell's method of raising investment capital was simple and entirely original. He simply said to the first investors, "You

buy into this company and you get two shares for the price of one. Later, when the company is making money, one share of your stock is sold for you and you ride free on the other one." It was an attractive scheme, and it worked. The Union Land Company, organized with English money, was a straightout promotion company. The original buyers of shares in the Union Land Company were given a chance to buy land in the company blocks (a solid track of land, all under control of one concern), and later, when the company sold its land, the individual was carried along at the same price. Due to the subsequent oil strike, some of the Union Company's holdings sold for 500 times the original cost. Hornbeck became a rich man, but I do not believe Stilwell profited from the oil strike; he was out of the company by the time it came in.

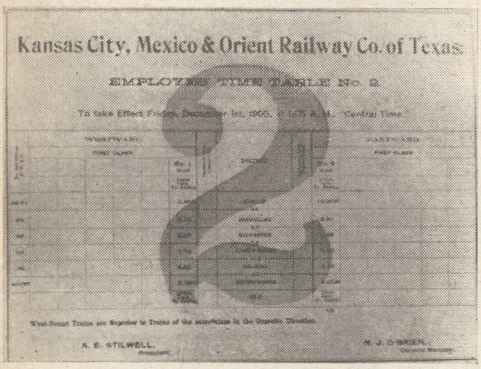
The Orient ran through hundreds of miles of virgin territory and the company established its own town sites and took over old towns completely. This was one of their most profitable operations. Between San Angelo and the Pecos River, the company sold more than $350,000 worth of town lots in new sites to those who came to speculate and to make their homes and establish businesses. I was directly responsible for the publicity and the sale of lots at Fort Stockton, where we piled up a profit of several hundred thousand dollars for the company. The old town of Fort Stockton, located around Comanche Springs, was controlled by a local clique, who succeeded in holding the business district. Stilwell sent his champion glad-hander, Frank Grimes, to smooth out the wrinkles but Fort Stockton never became an Orient town. It grew and prospered, but not because we pushed it.

ON ONE of the excursions Stilwell conducted into the Pecos Valley, I showed a quiet mild-mannered man named Anderson around the valley. A few months later Anderson showed up at Beuna Vista with a letter from our New York office: "Take care of this man and get him a manager for his irrigated land tract." Through Stilwell Anderson had bought 640 acres and now he wanted to get it cleared and planted with alfalfa. I found a suitable manager at Barstow and Anderson thanked me. "If you ever come to Detroit, look me up." I did go to Detroit, on business, the next summer and I did look in on Anderson. It was not until then that I learned he was one of the attorneys who helped Henry Ford organize the Ford Company.

One time Stilwell sent me to old Mexico to devise some way of selling "denouncements" or filings on government land to be used for mining purposes. The mining laws of Mexico were liberal and almost anybody could take up a claim, work it and if minerals were found, obtain a good title. After a talk with the government of Chihuahua and the American consul there, I was ready to start a big advertising campaign to sell mineral rights to the average mining prospector. I knew, as

did everyone in the land promotion business at the time, that thousands of speculators had an itch to get a foothold in old Mexico. But when my scheme came to the attention of the U. S. Treasury Department, which exercised restrictive "rights" on Americans going into Mexico to invest money, I met with stern disapproval. "Stop it, please," I was told. "We already have enough grievances with Mexico, and this would create thousands more."

During the Pecos County land boom, Stilwell requested me to think up a scheme to help traffic. I offered a complete tour of the Pecos Valley for seventy-five dollars and a free deed to a business lot in any one of three or four new towns we owned. The lots, of course, had cost us practically nothing. Hundreds of prospects made the trip. This scheme couldn't be worked today for legal reasons; and even in 1906-7 there were many restrictions that kept a railroad company from going into side lines. I worked my scheme through a dummy corporation, the United States & Mexico Trust Company, from which I


Kansas City, Mexico & Orient Railway Co. of Texas

EMPLOYES' TIME TABLE No. 2

A. E. STILWELL, President. H. J. O'BRIEN, General Manager.

First timecard, used three or four months, was to McCaulley, Tex. The second, *above*, was issued on December 1, 1905, with terminus at Sweetwater

drew my wages and expense money, but naturally all my work was really for the railroad.

Without any assets of its own, United States & Mexican Trust put up a flashy front. It had one of the finest offiices in Kansas City, at 10th and Baltimore. Its staff workers were expected to wear good clothes and dine at the best restaurants, and they were paid accordingly. Hornbeck warned me never to appear at the office wearing my field uniform of tan shirt and breeches, high-topped shoes and wide-brimmed hat. "Stilwell would be shocked to see you come in looking like a field hand," Hornbeck would say. Since Stilwell was seldom in Kansas City, I suspected it was the fastidious Hornbeck who wished to preserve the tone of the offices.

The land department's sale of ranches in Mexico formed an important source of income for the railroad company. The road could not sell any of its own two million acres until the line was finished, but we could sell land for others and make some fat commissions. One of the ranches we had to sell was 95,000 acres located about 40 miles north of Torreon on the Mexican Central Railroad. The ranch sported 25 sets of buildings, 35 shallow wells for irrigation and 100 miles of wire fence. The price was 35 cents an acre, cheap enough.

The two Nebraska ranchmen who came into our Kansas City office carrying a certified check to pay for the ranch had never traveled much, they said, but they knew stock raising. They had been attracted to this piece of property by a descriptive letter from Hornbeck. "That property is as good as sold if it tallies with this letter," said one of the men to me as we boarded the Rock Island for El Paso.

"It's got to tally," I replied, "or the man who wrote that letter will get fired. We guarantee all of our written descriptions of land." This was a fact and at Stilwell's orders we always underestimated a property before showing it.

The two ranchmen and I dropped off the Mexican Central at Personal one fall afternoon, expecting the ranch owner to meet us. There was not a soul in sight, but we could see the property from the little depot, as it lay all around us. Level land and high waving grass, adobe headquarters, wells and windmills, hundreds of sleek black cattle—it looked good and the two American ranchers said so.

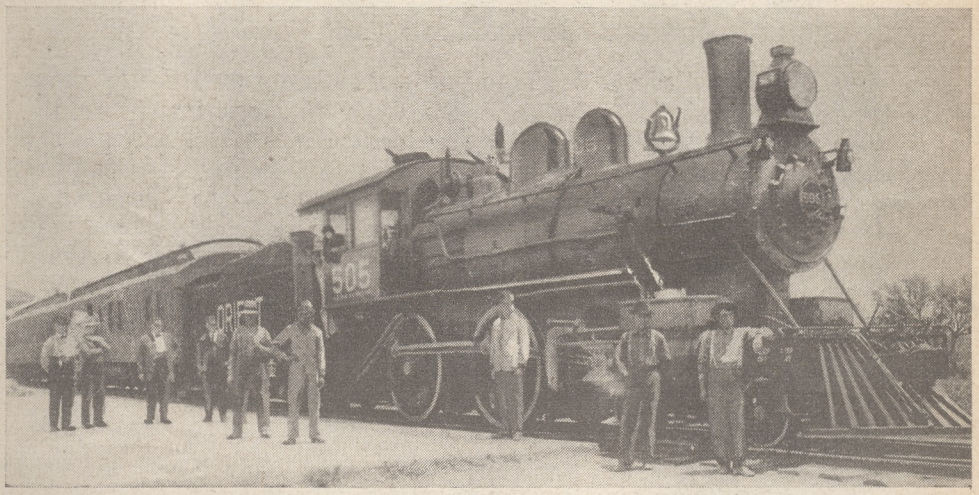
But where was Antonio Miquel, the owner? I talked with the station agent.

Oh, yes, said the agent, Senor Antonio, he expected us all right, but he had to go to Torreon to see a bull fight, right quick. Next morning, the ranch foreman showed us around. We talked with the Mexican cowboys as best we could and they invited us to stay at the ranch headquarters. It was a couple of days before Antonio Miquel came home, seemingly not sorry to have kept us waiting.

Oh, yes, he would take 35 cents an acre, U. S. money, for his place. That was about all it was worth, he remarked. He would move to Torreon and go into politics. Then he smiled. "Me, a common peon cattle raiser. Maybe I get to be a big politician. Villa, he say so." There was that man Pancho Villa again. I told the landowner that he would have to go to El Paso with us where we'd put up the price of the land against his deed. We must have time to run down the title and see whether he could deliver a good and merchantable deed or not.

Antonio bucked, just as the railroad's lawyer at El Paso had warned me he would. No deal, I said, that was not closed in the United States where we would have some protection against the possibility that Senor Miquel could not deliver a good title. Well, at the end of a long argument the deal blew up because Antonio either would or could not give us a sufficient guarantee that he owned the land. The company lost a $5000 commission and the two cattlemen from Nebraska were plenty disappointed.

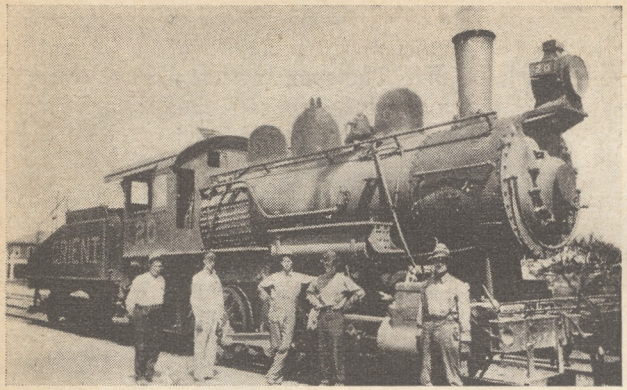
I MADE another trip for the land department into Mexico, this time to the town of El Oro, in the State of Coauhula. Three men wanted to see a 285,000-acre ranch which could be had for $35,000 United States gold. It took us five days of overland travel to get there, and when we did the landowner was away. We waited five more days and he never came so we rode off to the town of Chihuahua where our company had a land office.



Number 505 heading a passenger train southbound for Alpine, Tex. Engine foreman, *at far left*, is Tom Chambers, tropical boomer who landed on the K-CM&O in 1914

There, I hunted up a rich Mexican for whom we had made several trades. Yes, he had 100,000 acres on the Rio Concho River, stocked with 3000 head of cattle and several horses, which he would sell for $26,000, United States gold. (The Mexicans always wanted U. S. gold, but we usually settled with them by handing them a certified check on a Kansas City bank.) "It's a genuine steal," said the prospects with me. "We are ready to close the deal without even seeing the property."

"Hold on, boys," I replied. "It does sound fine, but there may be a screw loose



At San Angelo. Foreman Chambers, Engineer Rogers, the fireman and Switchmen Laws and F. F. Von Blon

somewhere, even if this man is willing to close the deal at El Paso."

That evening we attended a dance at the American Club, and one of my prospective customers met a sweet Mexican girl who saved our pocketbooks. She remarked that the owner of the ranch we were about to buy was in bad with the Diaz regime and would soon have his title annulled by the government. From the records the title would have appeared all right and our attorneys would no doubt have passed it had the Mexican come to El Paso to close the trade, as he was willing to do. But before we could have recorded the deed in Mexico City and Chihauahua, it would have been invalidated by a Mexican court decree.

Shortly after this the Mexican government decreed that all sub-surface rights under Mexican soil belonged to the government. This made land sales impossible, and I never made another trip into old Mexico to try to sell Mexican land.

I remember the afternoon news that the company was in receivership arrived in Kansas City. Hornbeck was away on vacation, enjoying the fat commission check he had recently earned, and I was in charge of the bureau. Mr. Holmes, the watchdog of our finances, immediately clamped down on further advertising and promotion costs. I knew the end was in sight for my job, but I kept trying to wind up the loose ends and close the outstanding land trades, as well as sell my own holdings of several thousand acres, which I felt would be frozen for years to come.

From an operating standpoint, the road was in a bad way, with loose connections all along the route. Unfinished gaps in Kansas, Oklahoma, Texas and old Mexico made it impossible for the company to accept through shipments for any distance. It would have taken a miracle to pull us out of the red—the miracle of the end of the Mexican revolution and the restoration of our concessions and juicy handouts from the Diaz regime. But the fact was that Diaz had already fled and Villa was tearing up the country, running out the land barons, such as Don Luis Terrazas who hurried to cover in El Paso with his large family. The four million cattle Terrazas had once owned were driven, a few thousand at a time, across the Rio Grande and sold for a small percentage of their actual worth. The cattle herders collected the money and Terrazas got very little of it.

Stilwell remained at the New York office, issuing cheerful orders to us in the field, but we knew that the final curtain was coming down on the railroad's activities. The end came for us when L. F Loree, of the Delaware & Hudson, a famous eastern railroad man, became the receiver for the Orient. At first I thought he would surely pull the company out of trouble by going into Wall Street for money; but if he tried he did not succeed, and the road limped along, trying to close a few gaps and make a few more connections with other lines. S. B. Hovey and M. L. Mertz, the Texas receivers, raised enough money from the west Texas ranchmen to finish the Orient from San Angelo to Alpine, thus connecting with the Southern Pacific and Santa Fe and opening the vast cattle range country to steel rails.

Loree then withdrew as receiver and William T. Kemper, a Kansas City banker was appointed to succeed him. Kemper

was president of the Bank of Commerce, one of the same group that had furnished the first half million dollars to the Orient back in 1900. Kemper had a good record of business accomplishment behind him and succeeded in getting the old investors to take a hand in the company's rehabilitation. Along in 1920 when prospecting for oil between San Angelo and Fort Stockton was going ahead at a dizzy pace and the Mexican government was becoming a little more stable, there were hints that the company could expect a revival of the Mexican concessions and subsidies. But the first drilling for oil was a failure. There was also a big drouth over west Texas and cattle were dying by the thousands.

One day at Wichita, Kansas, Kemper surprised the public by asking permission of the federal court to sell the road at auction. He said it was no longer possible to pay operating expenses or borrow money, and he suggested the equipment be sold and the tracks torn up.

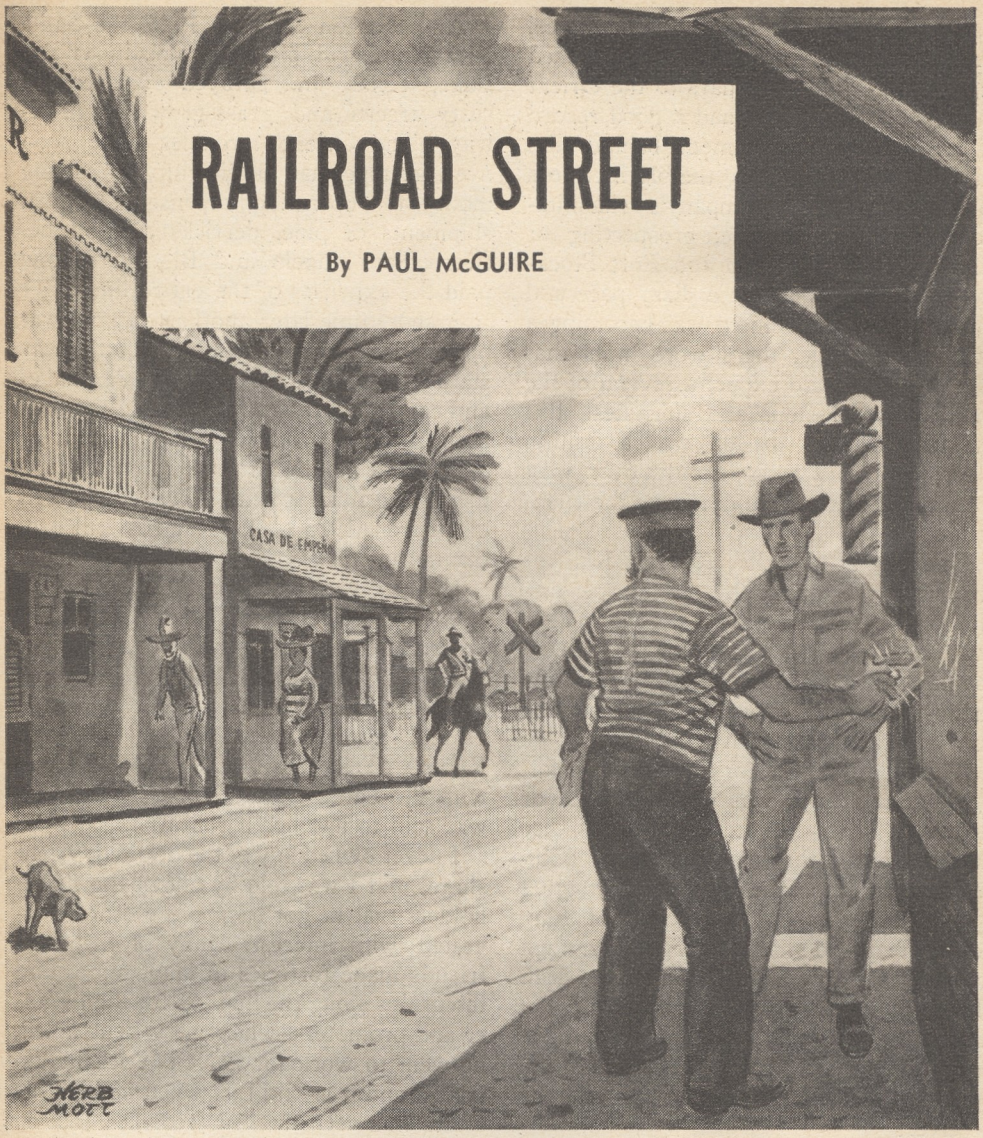
The road was sold for three million dollars—more than it was worth as junk or as it was, in small pieces. A Kansas City attorney bid in the road, putting up $50,000 as a forfeit, and it was generally stated that English capital was back of him. Some even said that Porferio Diaz, then in exile in Paris, had a hand in the deal. But nothing came of the auction sale, the forfeit was returned, and the road made ready for the scrap heap. That was in the spring of 1923, and Kemper was still the receiver.

And then on May 28, 1923, the Santa Rita Number 1 oil well came in at Big Lake, Texas, and sprayed oil over the rusty tracks and grass-grown right-of-way. The Orient's troubles were soon over. Kemper had no difficulty borrowing money for operating expenses. In fact, shipments of pipe, derricks and oil between San Angelo and Big Lake soon paid the expenses of the entire line.

A short time later another oil pool was opened at McCamey and this little way station, around which I'd hunted snakes and coyotes many a time, became the liveliest income producer of all, pouring $750,000 a month into the freight department. Big Lake spouted 75 million barrels of oil from 1923 to 1939 and is still producing.

Kemper was with the Orient as manager and receiver from 1918 to 1928, when he arranged a sale of the company to the Santa Fe. On July 1, 1928, W. B. Storey succeeded Kemper as president of the Orient. Shortly thereafter the Orient in Kansas, Texas and Oklahoma merged with the Santa Fe and the Mexican end was sold to another corporation.

I never owned any of the original Orient shares, but I was told by one of the shareholders that he got back every cent he invested, with interest. Many of Stilwell's friends made fortunes in land, mines and townships along the line. As for the founder and promoter—when the Orient failed, he went to work for a New York industrialist and it is said that when he died his estate was very small indeed.



RAILROAD STREET

By PAUL McGUIRE

REMEMBER that first railroad watch that you bought? Was it a Hampden like mine, large as a turnip, genuine silverine case with seven ruby jewels and needing twelve dollars' worth of repairs? Our local watch inspector was a little bit shaky most of the time so I took my new timepiece to the first big jewelry store on Railroad Street in Wichita. A very nice old man told me that it was a truly fine watch; he would make it like new for only seven dollars.

That meant that the watch had cost me only twelve dollars altogether and I was proud of my first bargain. I could have sold it to one of the hundreds of harvest hands loafing under the viaduct near the Union Station, but I was afraid that I might not find another one so important looking. The jeweler hung my beauty on his rack along with dozens of others, but he didn't offer to give me a claim check

like the local jeweler always did. I thought that unusual so I asked him for some kind of identification.

"You don't need a claim check from me," he beamed. "I'd know you anytime and your watch is easily identified. We don't get many railroad watches like that and you can get it next Saturday," he continued, smiling reassuringly.

The next Saturday I was right there with my seven dollars. Everyone in the store had a big laugh when I couldn't produce anything to claim my watch. "No one does business that way," said the scowling old man. I was then in the market for another second-hand watch.

In fact I've been in the market ever since that fateful day, and I've shopped on Railroad Street in almost every city in the nation during the past 30 years I've bought and sold dozens of railroad watches and every other kind of merchandise that is always available in the junk shops and clip joints that clutter both sides of Railroad Street from Union Station up to the center of the business district. In Detroit I learned that a written promise wasn't worth any more than a verbal one. I had shopped the full length of Railroad Street and went into a swell-looking place to buy a very reasonably priced pair of field glasses that I saw in the window.

"Just want to show you something special," whispered the owner and he took me to the back of the store. "I have a stone here in the safe that was left a long time ago to be mounted in a very special mounting. If it fits your finger you can have it for just the cost of the mounting," and he slipped a ring sizer on my finger.

Then the manager opened the safe and found the ring. Sure enough, it was an exact fit. "Fully guaranteed and returnable for full refund at any time for any reason," he explained as he filled in and signed a printed form.

Hesitatingly I paid him the $13.50 and figured that I would return the ring later in the day if I didn't like it. It had an odd mounting, probably Egyptian as he had said. When I got outside in good light I realized that it was more than odd: it was positively queer. I decided the thing to do was to ask another jeweler about the value of it, so I went in another substantial place for a professional opinion.

"It's a valuable stone," said the jeweler, "worth at least twenty dollars." As I beamed, he pointed to a small sign behind his desk. "Gimme two dollars," he added. "We charge ten percent for valuations."

By that time I figured that I'd been squeezed twice so I returned the ring to the store where I had bought it. "You look like a man twenty-one years old." My former friend flattered me by adding four years to my age. "At least you can raise a mustache and sign a contract. I don't have to give you anything back," he stated bluntly.

Very soon I learned that I was dealing with the wrong kind of people. Regardless of how large a business they had or what kind of trade they catered to they kept a line of special merchandise for callow youths and greedy speculators. If they hadn't what you wanted, they insisted on sending you to their other store right around the corner for it. "Brother Watsyername. I'm a member of Mumbo Jumbo Lodge Number 41 at Pamba Namba" is your cue to grab your billfold and run.

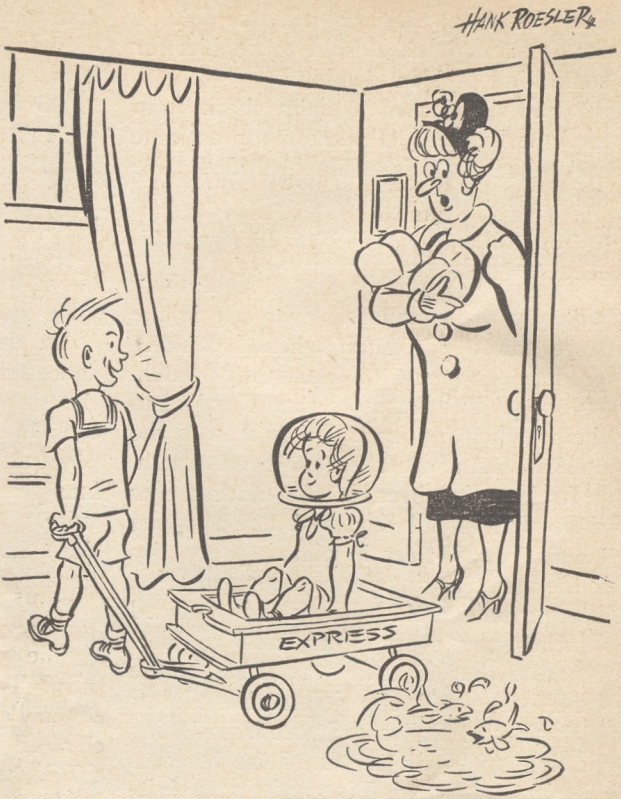
In St. Louis, right in front of the old Union Station, a big sign in a barber shop proclaimed, "Shave 15c." I thought that was about right for scraping my downy face and was glad to have a big city barber trim my wisp of a mustache. He trimmed it to almost nothing and me, too, when he demanded a dollar for his trouble.

Railroad Street in St. Joe, Mo., was the only one I ever saw that varied even a little bit from the usual pattern. There were nine saloons side by side in front of the station. In San Antonio there were about half that many pawnshops close together, and once when I had to pawn my watch the first one offered a loan of seven dollars. Each consecutive one cut the bid down a dollar and a half and when I returned to the first place the owner of-

fered three seventy-five. I took it.

One thing that was always cheap on Railroad Street, however, was food. Until the recent war you could buy a foot-long frankfurter in a bun covered with chili and a tall glass of orangeade for a dime in almost any city. In Tulsa you could eat family style with six kinds of meat for a quarter. In Memphis soup was three cents and stew eight cents.

I stepped off an early morning train into Key West's Railroad Cafe and ordered a big breakfast. After I had eaten some of everything in the house I noticed that the prices were terribly high. When I went to pay the cashier, she said, "You're a brakeman so it's just half price.



"Look, ma . . . *Train of Tomorrow!*"

ON THE Havana equivalent of Railroad Street I asked a policeman for some information. "Let's go over to that saloon," he said. "I'll drink a bottle of beer with you and I'll tell you anything you want to know." He drank a lot of beer and I asked him a lot of questions. The entire conversation was in Spanish, so he insisted that I was Mexican. He was certain of it, he said, because of the accent and fluency of my Spanish. I could not convince him otherwise.

He was very dark-complexioned, spoke very good Spanish and insisted that he was Pennsylvania Dutch. I had a hard time paying any attention to this claim for when we finally got around to speaking English he spoke without a trace of any Dutch accent. The cop explained he had married a Cuban during the war of '98 and had remained there.

It was on that street that I encountered my most convincing con game, and I believe I've met them all. The mate of a Dutch ship who had his passport and ship's papers in good order asked me where he could find a pawnshop. He said he had tramped the entire city without finding one. I hadn't seen any either. I don't believe there actually were any in Havana at that time or else they were in a zoned district that I hadn't visited.

This sailor spoke very broken English. Eventually he made it clear that he had to get to Batabano that day to catch a boat for another port to rejoin his ship and that he was broke. He needed two or three dollars—I've forgotten exactly how much—for train fare, a dollar or so for boat fare, and the price of three cans of sardines and a loaf of bread.

For this meager return the Dutchman offered me a small diamond that he had concealed in the hem of a handkerchief. He tore out the hem to get the diamond and showed me that it would scratch a plate-glass window. I saw that there were

several scratches on the window and I wondered how many handkerchiefs he had destroyed in getting out the diamond.

But when a mounted policeman came along the fellow took off in a hurry. The cop asked me if I had bought a piece of quartz. I told him that I, too, was selling them. He grinned good-humoredly. It was big business in that locality, he remarked.

A couple of years ago I bought an expensive-looking typewriter on Railroad Street in Chicago, just around the corner from Dearborn Station. When I got off the train in our nearest large city, I traded it to a dealer for a late model machine which he agreed to clean and have ready for me the next weekend. In due time the missus drove the 50 miles to do some shopping and get my new typewriter.

When she returned, she brought with her the old model and I had to take it back and pick up the new one. A few weeks later a dealer in my home town purchased the old one just to sell it to me. It is things like that that keep me from getting rich. I should have made more than a hundred dollars.

Probably the best buy I ever made was on Railroad Street in Portland, Ore. I bought a large gold fish bowl for two bits in a second-hand store that had more than twenty dollars' worth of polished agate gems in it. The dealer told me they were worth more than the bowl.

If there is a Railroad Street in Boston, I'd never be able to find it again or the bargain I overlooked. An operator there offered to sell me a piece of Plymoutn Rock mounted in a nice ring for a very few dollars. In my more gullible days I would have quickly bought it. Later I found out that a contractor who moved the rock that the Pilgrims first stepped upon had illegally chipped pieces off the base of it before he reset the monument. These are now valuable collectors' items.

On Los Angeles' Railroad Street I bought a pictorial history of England's railroads. It was such a rare volume that I mailed it to a prominent railroad official for his perusal and edification. He thought it was a set of cutouts for the kiddies. What I think is unprintable.

I still have two volumes of English sermons printed in 1786 that cost exactly ten cents each. I do not loan them to anyone or even let preachers look at them. They were purchased in one of the country's many "Old Book Shops" that changed hands a few weeks later. I sold a similiar volume to the new proprietor for nineteen dollars.

This transaction—a profitable one, certainly—actually cost me money. Imbued with enthusiasm for easy gain, I increased my hunt for bargains on Railroad Street. I'm still at it, whenever I find time to browse in hock shops. Like in railroading during the old days, the bigger the odds against you the more tantalizing is the game. Before you know it, it's in your blood.

FIDDLETOWN & COPPEROPOLIS RY.

No. 15 **Conveyor Belt Competition Rears its Ugly Head on the Two-way Stretch Between Dragbottom and Dumpit**

by Carl Fallberg

On the Spot

CATERPILLARS recently stalled an eastbound Canadian National train of 16 cars, No. 196, for 2 hours and 20 minutes about 13 miles west of Smithers, B.C. Slippery rails necessitated the calling of a helper engine from Smithers to move the train over the caterpillar-infested area. To make matters worse, other armies of long woolly fellows were massed on the rails at points approximately 19 and 59 miles west of Smithers.

This form of track obstacle is rare. F. E. Chipman of Somerville, Mass., writes: "In the summer of 1893, when I was riding a Rock Island train through Missouri, the engine ran into swarms of grasshoppers. Pilot and deck were covered with the insects, alive, dying or dead. For some distance the track was a mess of reddish-brown slime. Shovels and brooms were put to work, the track was sanded, and after some slipping we were on our way again."

Some years ago the United Press carried this news item: "Two freight trains were halted for several hours near Friedberg, Austria, when an army of caterpillars, which bared fields and orchards, moved on railway tracks to devour the ties The caterpillars, crushed by the wheels of the cars, made the tracks so slippery that the trains could not proceed. Scores of workmen were called to clean the rails."

A similar case was reported from Uganda, Africa. Many other insects have interfered with railway operation. Once, when the British royal train was taking the late Queen Victoria to Balmoral, Scotland, the engineer found that a distant signal was not visible. Stopping the train and walking up the line, he saw that bees had swarmed around the light, obscuring it.

More recently, thousands of bees invaded a Hoquiam, Wash., freight yard, routing a section gang and switching crews. For half an hour work in that yard was at a standstill, until an engine crew drove the insects off with jets of live steam.

A bee invasion also occurred on the Norfolk & Western at Bluefield, W. Va. A swarm of honey producers, separated from their queen, wandered aimlessly about until they spied a hole in HQ, the interlocking tower and telegraph office. Into that hole swirled the lost battalion H. C. Calloway, the second-trick operator, remembered that Edgar Steele, a freight clerk, had been raised on a farm and was familiar with bees. He phoned for Steele. The clerk expelled the bees with his bare hands. There's nothing like knowing how to do a thing.

In at least two instances red ants stopped trains by crawling into the mechanism of automatic block signals, one at Unadilla, Ga., on the Southern; the other on the Louisville & Nashville, K&A Division.

Concrete crossties are widely used in the tropics to protect railroads from white ants. These pests ate away the staggering number of 75,000 wooden crossties on India's Karachi line!

* * *

MAVERICK, a logging community in the White Mts. of East-Central Arizona, has just become the terminus of a new standard-gage railroad, reports Carl T. Steeb, 9 N. 30th St., Billings, Mont. The last spike (made of Arizona copper) completing the 67-mile McNary-Maverick RR. was driven by Chief Tipah of the Apache Indians, in whose territory the town is located. Assisting him were Arizona's Governor Garvey and officials of Southwest Lumber Mills, Inc., builders of the town and railroad

Chief Tipah, who claims to be 112 years old, is also known as "A-100" from the Government census number given him

Illinois Central

Big business for rails and buggies at Princeton, Ky. in 1902. IC Foreman K. L. Martin's photo shows crossover of Fulton-Louisville line and rails to Hopkinsville, Ky.

years ago during the Apache tribal census. He and 139 other persons took the first ride in a special train over the new road from McNary to Maverick. The line connects at McNary with the Apache Ry., which in turn meets the Santa Fe at Holbrook, Ariz.

* * *

MURPHY BRANCH by Herbert C. Monroe (June '49) is an "excellent human-interest story," according to A. H. Lathrop, traffic manager, American Enka Corp., Enka, N. C. Commenting on the photo on page 38 of Southern Ry. train No. 16 headed down the mountain, he writes, "This train has now been Dieselized on the Asheville Division to match the operation north of Salisbury."

Referring to captions of pictures on pages 44 and 53, which mention 2-10-2 (Sante Fe) locomotives on the Murphy Branch, he adds: "Due to weight and curve restrictions the operation on the western part of this branch is limited to *Consolidations* (2-8-0). Light *Mikados* of the 4500 class sometimes run from Asheville as far west as Addie. As Monroe's article so well portrays, this is really rugged country through which to operate a railroad."

THE MILWAUKEE has joined the growing list of roads which now make a practice of explaining to passengers the reasons for train delays and their probable duration. "People are reasonable about such things when they know the facts," says a new Milwaukee leaflet entitled *We Haven't Any Secrets.*

* * *

WITH the death of retired Atlantic Coast Line engineer Luther Harkey, his daughter, Mrs. Helen H. Burtchaell, has just taken over his duties as editor and publisher of *The Railroad Evangelist,* a monthly magazine, at Sanford, Fla. Luther was one of five brothers who worked for the ACL out of Sanford. Another of the five, J. W. Harkey, Rte. 2, Matthews, N. C., tells us:

"We were raised on a North Carolina farm. One day Dad promised us that if we'd work hard all week he'd take us over to a railroad which had just been built so we could see a train for the first time. This sounded exciting and we worked hard. Come Saturday, we all drove to the railroad in a mule cart. Unhitching our two mules, we tied them to nearby trees. While we were waiting for the train, we

decided that we had left the wagon too near the track, so we started to move it back a bit. Just then the train roared behind us. Scared by its whistle, we let go of the cart and ran away. Result: the cart was smashed to pieces, but nobody was hurt."

* * *

RESUMPTION of the old Cassville & Exeter in Missouri under a new name is likely in the near future, reports Harry Epstein, Box 241, Joplin, Mo. This line was abandoned a few months ago, but nearly enough stock is said to have been sold to assure operation of the proposed new Cassville-Exeter Railroad Company.

However, scheduled operation of another new road, the Arkansas & Ozarks, between Harrison, Ark., and Seligman, Mo., has been postponed indefinitely. S. A. Joffe, who was to have been operations officer, attributes the delay to a pending application for a Reserve Finance Corp. loan. The money is needed to buy the old Missouri & Arkansas line between Kensett, Ark., and Neosho, Mo.

The ICC has authorized the Helena & Northwestern Ry. Co. to buy and operate a 4-mile section of the M&A's 335-mile route, between Helena and Cotton Plant, Ark. Although the ICC last year agreed to let the M&A abandon its entire line, the effective date is being held up until plans can be perfected to get several sections of the route in operation again.

SHOP WORK for A. K. Watters, 522 E. Lee Ave., Sapulpa, Okla., in the early 1900s was a long series of gambles with death. He hired out to the Santa Fe at Cloburne, Tex., in 1901 and retired from the Frisco nearly 34 years later at Oklahoma City, Okla. On his very first job he nearly became involved in a runaway. Shortly afterward he was working on a jacked-up caboose when the loose push-rod of the conductor's valve shot out like an iron arrow, barely missing a man's head. It probably would have killed the man if it had hit him.

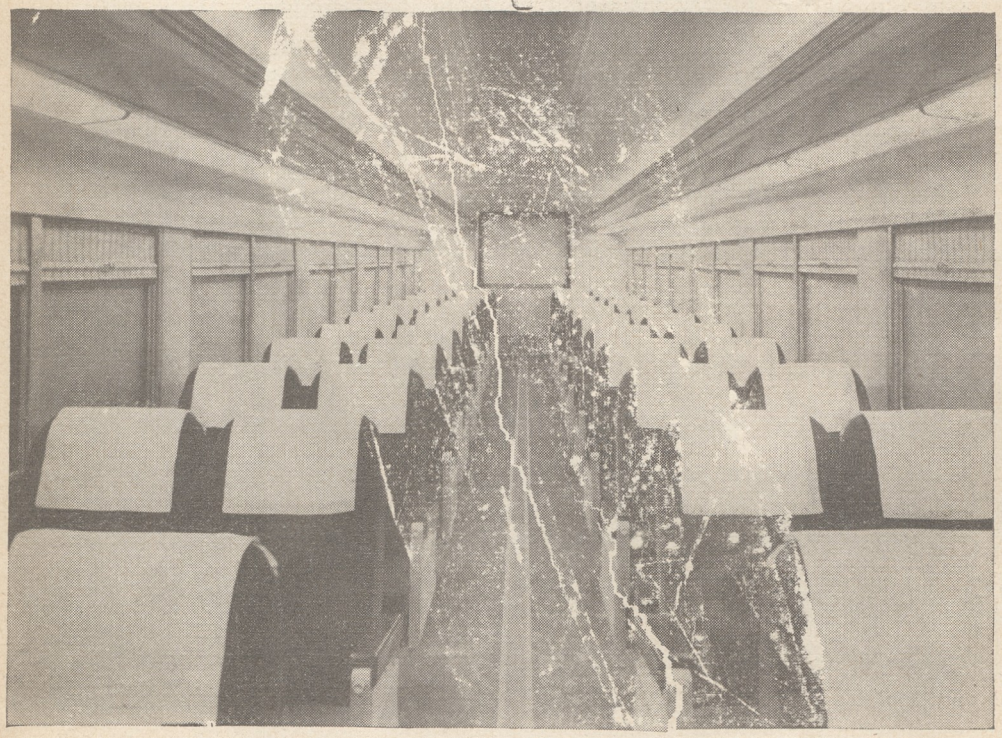
"In 1902," Watters writes us, "I was underneath a refrigerator car cleaning the airbrake when the switch engine telescoped a coal car into that reefer. I crawled out on hands and knees under three or four strings of cars on tracks unprotected by flags or lead switches, and was knocked down by moving cars.

"A few months later I was under a Texas & Pacific boxcar loaded with crossties. One truck had been removed from beneath the car, which was resting on four 24-inch screw jacks. The car fell. I tumbled backward over a truss rod and was in the clear before the car hit the ground. And in the same year I was knocked unconscious by the bursting of an auxiliary reservoir with 90 pounds of air pressure within a foot of my head.

"The following June I jumped off a moving passenger train, spraining an ankle, which gave me trouble for years. In 1904 at Zanesville, O., on the B&O

D. Sargent Bell, Philadelphia, Pa.; below, American Car & Foundry

Blueprint for the Beebe special. Should rail-ramblers Beebe and Clegg ever find quarters in the *Gold Coast* a bit cramped, the antiquated, highly ornate parlor car—rich in carvings and figured velvets—might profitably be kept in mind. *Below,* Pennsy's style reversal to sevenday plain interiors reflects modern trend



a switch engine rammed some lumber that had been carelessly left too close to the rip track. The moving lumber chased me for 30 yards. Then in 1909 I was underneath a coal car on the Frisco rip track at Sherman, Tex. The car fell, pulling three buttons off my jumper and skinning my back. One accident after another happened until finally I retired at age 65."

* * *

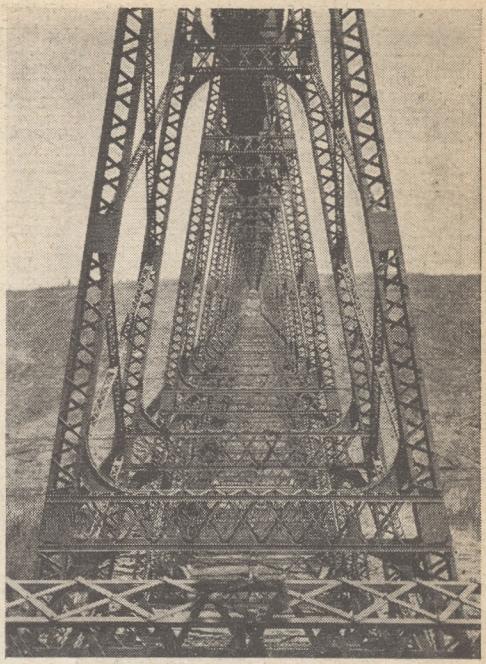
TRUE to the first word in its name, the New York Central is noted for its innovations, the latest being a simplified new "train-time guide" that makes schedule-reading easier. The two-color guide, with 16 tables and almost no footnotes, was designed to replace the Central's lengthier system timetable for the average traveler between leading cities.

* * *

HEADLIGHTS on all Texas & Pacific locomotives, including the oscillating type on Diesels, are now burning both day and night. The reason? To provide additional warning for motorists at grade crossings, to warn motor-car operators on the rails, and to warn section and extra-gang personnel working along the track.

* * *

NO MORE handouts for Boots! The canine mascot of the Espee yards at Tucson, Ariz., has been put on a diet by a veterinarian because she is overweight and has stomach trouble, reports Tal Morehead, retired SP yardman, 809 Lassen St., Vallejo, Calif. It was Tal who made a bed for Boots out of a rivet box and some old clothes when she first showed up at the Park Avenue yards eight years ago, as described in *Railroad*, Sept. '43. Her present ailment is due to the fact that, in addition to tidbits from lunch pails of SP men, the dog had developed a habit of paying regular visits to the nearby Railroad Cafe. There the proprietor would give her a sack of food, which she invariably carried back to the railyard to eat. Now she is restricted to meat and dog biscuits.



Erie Railroad

Kinzua Viaduct carries the Erie's Bradford Division tracks over the Kinzua Valley. Built in 1882, rebuilt in 1900, this bridge masterpiece held the world's record for height and length many years

Tal's wife, Sue, is, like himself, a retired railroader. Her last rail job was SP telegraph operator at Bolam, Calif. Both have had true tales published in this magazine.

* * *

BILL WALLACE wrote in his life story, *Booming Around*, that the Frisco sent him to Shawnee, Okla., which puzzles Harry Epstein, Joplin, Mo., inasmuch as the Frisco did not enter Shawnee.

* * *

LOOKING back over the years, Edward H. De Groot, Jr., Colorado Bldg., Washington D.C., recalls the time in 1902 when he became superintendent of the old St. Elmo and St. Louis Division of the Chicago & Eastern Illinois.

"I succeeded M. W. Wells," he writes. "When I went to St. Elmo, Ill., Wells told me that a few days previous the freight crew of No. 52 complained that

H. Reid, 2808 Vimy Ridge, Norfolk, Va.

Apparently driver deep in clover, Nelson & Albemarle tanker No. 10 chuffs through open fields toward Schuyler with an extra freight. Nine-mile shortline operates two passenger trains daily from each terminal; at Esmont it connects with C&O branch

a negligent farmer had again allowed his telephone wire to sag so that it became a menace to men atop boxcars. Said Wells: 'I remarked that it would grieve me sorely to think that a crew of mine would be guilty of wiring a two-by-four plank to a brake staff before leaving Tuscola northbound.'

"Then he added: 'But my consideration for that poor farmer was wasted. When I passed the place on No. 102 next day, the wire had not only been torn down but the poles had been dragged down, too.' "

De Groot remembers the time he ran a freight conductor's place on a run.

"But in those boomer days," De Groot explains, "we were often short of men, and instructions were in effect to call the superintendent rather than allow cabooses to be held for want of conductors. One day General Superintendent Jackson was going over the road in Condr. W. B. Henderson's caboose. This caboose was standing near the water tank. Mr. Jackson sat in the cupola with a cap pulled down to shade his eyes. A brakeman walking up from his train south of the crossing to get lunch at a restaurant recognized the general super but pretended not to. 'Who you brakin' for?' he asked. 'Bill Henderson,' replied Mr. Jackson. The brakeman growled: 'Well, you'd better get out and decorate or them brass collars'll ketch you.' "

De Groot tells about Condr. John Cochran coming south with a train of empty coal cars one night. The train broke in two, the rear end stopping on Shelby viaduct. The head end disappeared around the curve. Cochran was clambering over

the cars on the bridge to reach the other side, when, to his consternation, he saw that head end backing briskly toward him in the gray dawn.

"What did you do then?" De Groot asked him.

"Why, I just squatted down in a corner of the car and said, 'Here goes nothing!' "

Several cars were knocked off the bridge by the collision, but happily the one in which the helpless conductor was trapped remained on the rails.

De Groot recalls a tragic wreck. Condr. Joe Duncan was coming north on a local one night with Engr. "Tad" Owens and Fireman Davenport. The engine was derailed in a cut between Kinmundy and St. Peter, turning end for end. A low-side P&R gondola lodged on its side in front of the engine, squarely across the track, and a number of cars piled up against it. The tender was torn loose from the engine, and Owens and Davenport, flung to the track ahead, were badly injured. The head brakeman and the swing man, sitting on top were buried under the wreckage and killed.

* * *

BOOKS a-plenty have been written about the building of the first transcontinental railroad in the 1860s but until now none has been written by an engineer from the engineering and construction viewpoint. *The First Transcontinental Railroad,* by the late John D. Galloway, consulting engineer, published in August by Simmons-Boardman, tells this story from extensive original research. Readers of *Cholly Clocker's Coolies,* by Arthur B. Armes, in the May '49 *Railroad Magazine,* have had their appetites whetted for just such a book as Galloway's, which includes authentic photographs, maps and a bibliography.

* * *

MISSOURI PACIFIC's history will be related in a book by Dr. John Bakeless, to be published during the MoP centennial year, 1951. Bakeless, journalist and lecturer, has already written half a dozen books, his latest being *Lewis and Clark.*

* * *

MILITARY agencies have accepted the bid of American railroads to carry all military passenger travel at fares 10 percent under regular commercial fares for the year ending June 30, 1950. This is announced by E. B. Padrick of Chicago, chairman of the railroads' Interterritorial Military Committee. Similar agreements for discount on military travel have been in effect since 1914. Under this agreement, the roads during World War II handled 97 percent of all military travel in the United States, and since the war more than 90 percent.

* * *

BUREAUCRACY. If the jurisdiction of railroad management over the physical operation of the roads is replaced

Burlington System

Sightseeing trip on Burlington & Missouri River in Nebraska, near Hot Springs, S. D., in 1891

with rules and regulations evolved from bureaucracy, both incentive and the sense of responsibility will be destroyed. This is the gist of a warning delivered to a Senate subcommittee at Washington recently by William White, president of the Delaware, Lackawanna & Western. Said he: "It requires but little additional regulation to strangle the life out of an industry that is already as highly regulated as is the railroad industry."

* * *

FIFTIETH anniversary of Casey Jones's death, April 30, 1950, warrants the issuance of a commemorative postage stamp, according to D. D. Crocker, 1013½ E. Chester St., Jackson, Tenn. Besides being president of the Andrew Jackson Stamp Club, Crocker is an employe of the Gulf, Mobile & Ohio, on which road (then M&O) Casey began railroading about 1880. Crocker resides in the town where Casey is buried and where the famous engineer's widow and son Charles are still living.

On taking up this matter with the Postmaster General, Washington 25, D. C., he received the reply: "As applications are reviewed at the beginning of the year in which the anniversary occurs, your suggestion will be placed on file for appropriate consideration when the stamp program for 1950 is being arranged."

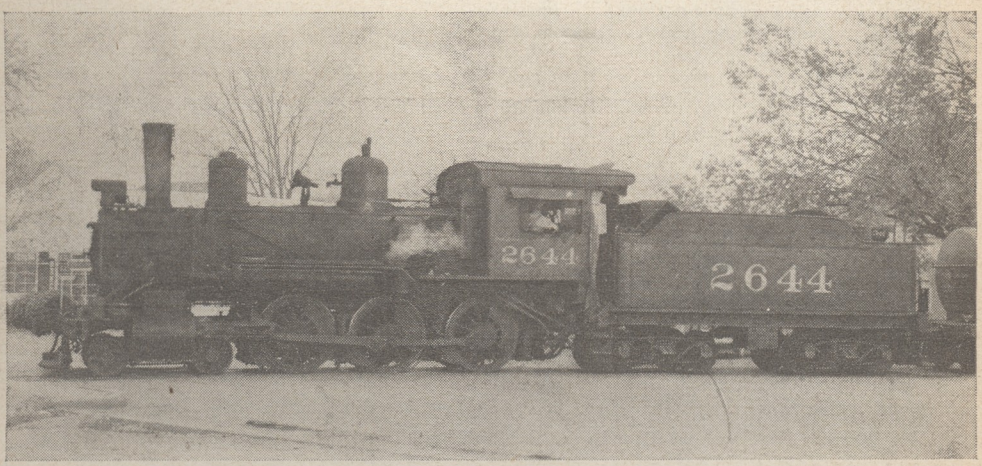
Crocker urges that every railroad and railfan, whether he is a philatelist or not, should join in writing to the Postmaster General supporting the move to honor Casey as a symbol of American railroading.

* * *

ORIGINAL whistle from the 999 is back in service, not on the New York Central engine which reputedly set a new speed record in '93 of 112½ miles an hour but in the Tribune Tower boiler room, Chicago, where it is mounted and available for use at any time. The Central gave this relic to the *Chicago Tribune* in recognition of that newspaper's part in bringing about the Chicago Railroad Fair of 1948 and '49.

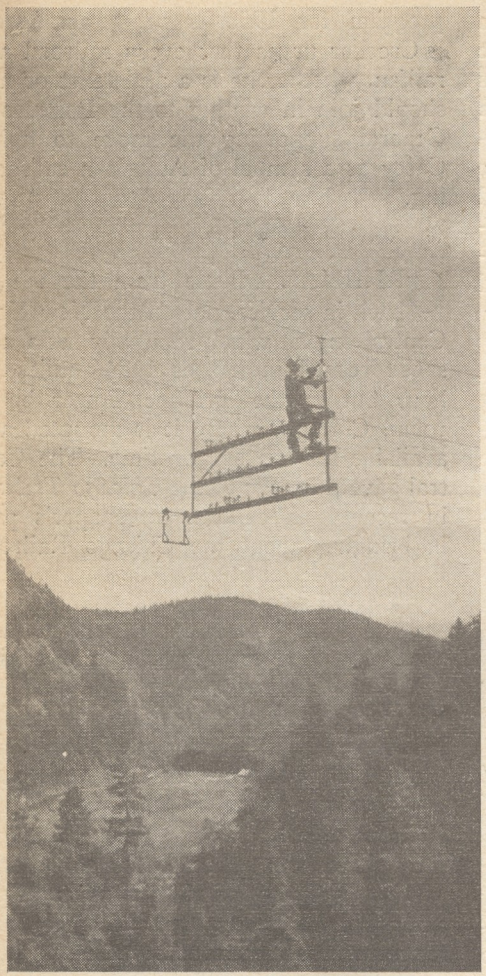
* * *

ODD names of freight puzzle station agents, according to Linwood W. Moody, editor of *Waycar,* Belfast & Moosehead Lake, in Maine. (Moody has written many features for *Railroad Magazine,* his most popular was *Sunset on the Narrow Gage,* Aug. '41.) Looking through the *Consolidated Freight Classification* book, he found such items as algarrobilla, brombenzylcyanide, hypo mud, lupulin and trinitrotoluol. Names for such



J. F. Black

Formerly MoP, then Cassville & Exeter-owned, the 2644 may see service again when the latter line resumes operations under a new name



Mrs. Nicholas Morant

The steel giant has copper nerves. CPR linesman adjusts a "steady," slung midway between wide-spaced poles

shipments would mow down the experts on a radio quiz program.

* * *

CHALLENGING the accuracy of a press release that was sent to us for publication in connection with the Chicago Railroad Fair, Robert R. Brown, 201 Lakeshore Rd., Pointe Claire 33, Que., Canada, debunks "the romantic but mythical tale about the so-called Bridal Coach from Nova Scotia." This coach is now owned by the Baltimore & Ohio. (Aug. '49, *On the Spot*)

Brown denies it is "dean of all railroad passenger equipment on this side of the Atlantic." He writes: "Its exact age is not known, but it could not have been built earlier than the fall of 1839. There were many passenger cars in North America before that, some of which survive wholly or in part.

"Nor was it 'Canada's first railroad car.' How about the four passenger cars of the Champlain & St. Lawrence RR., built in the spring of 1836? Nor was this car 'built in London and shipped to the New World in 1838.' It was a rather crude makeshift, built at Albion Mines (now Stellarton), N. S., by carpenters employed by the mining company. It was not in existence when the railway was opened Sept. 19, 1839. While it might have been built in late autumn of 1839, it was more likely built between 1840 and 1850, and not for 'Albion Coal & Iron Co.'—there never was such a company The car was built by General Mining Ass'n. In 1872 it became the property of Halifax Coal Co., and in '86 was acquired by Acadia Coal Co."

Brown labels as pure fiction the statement, "The ship that carried this coach brought a new Governor General of Canada, who married the day the vessel docked." He explains: "Nova Scotia was not then part of Canada and there was no such person as a Governor General of Canada. The Governor of Canada would not have traveled in a collier; he would have had no occasion to land at a coal pier in the wilderness; and no Governor of Canada ever married the day he landed—there or anywhere else!

"Finally, no 'coach took the bridal couple to their new home, 25 miles away.' The railway was 6 miles long! And in those days, 25 miles from Dunbar Point, in any direction, would have put them in a dense primeval forest, far from any habitation—not a likely spot for a governor to have his home.

"If there is any basis for the legend, it is possible that a governor of Nova Scotia came up from Halifax, the provincial capital, where the governor's home was and is located, to visit the town of Pictou. Naturally, he would inspect the

Albion Mines and travel on the mine railway. Perhaps he was newly married and had his bride with him. However, no such event is mentioned in the *History of Pictou County*. If it had happened, it would have been too interesting and too important for the county historian to overlook."

* * *

TOOTING your horn is justifiable sometimes. For example, the New York Central has every reason to be proud of the fact that it now has 720 new streamlined passenger cars of all types in daily service on scores of trains serving 10 states and eastern Canada. Delivery of these cars, ordered in 1944 and '45, has just been completed by Budd, Pullman-Standard and ACF.

* * *

HOTEL space in New York City and four New England cities may be reserved by New Haven Railroad patrons at the time and place where they buy train tickets. A reserved hotel room awaits the traveler upon his arrival and is held for one hour after the regularly advertised arrival of his train.

* * *

HOW do pensioned railroaders spend their time? Ray F. Higgins, Bangor & Aroostook veteran, collects BAR pictures and information and occasionally uses his annual pass to travel over the road in getting photos. He lives at 419½ Katahdin Ave., Millinocket, Me. Ray went to work for the BAR in 1918 and

Chesapeake & Ohio

Conductor Al Reed celebrated his 60th anniversary with the C&O at the age of 81. Reed first went railroading in 1883 and joined the C&O six years later

was an engineer when retired by poor health in '33. He'd like to hear from readers interested in this road.

* * *

DOOMED by doctors to die of heart disease in two years unless she could be operated on, 8-year-old Barbara Leonard of White Castle, La., was in a bad way. The only surgeon who could perform such an operation, so far as White Castle doctors knew, lived in Boston, Mass., a long way from Barbara's home. Her folks could not afford that trip. But railroad men are big-hearted. When Texas

& Pacific officials heard of the case, they arranged a special charity rate, in connection with five other roads, so that Barbara, her mother and her grandmother could go to Boston. A local movie house donated the proceeds from two nights' shows to this worthy cause. Other townspeople followed suit. Latest word from the hospital is that Barbara has a better-than-even chance for full recovery.

* * *

CONTRADICTING W. V. Athanas, *Last Mile for Casey Jones* (July '49) is this statement from F. O. Bowlin, 406 S. Broadway, Wichita, Kan.: "A Model T was in high forward, braked in the rear position and was never known to set in any position intermediate of those two points."

* * *

LOYAL to family tradition, 12-year-old Fred Shoup of Palo Alto, Calif., travels by rail. Fred is a grandson of the late Paul Shoup, Southern Pacific president. The other day he won a big spelling contest sponsored by a newspaper chain, which entitled him to an airplane trip from San Francisco to Washington, D. C., to compete in the national finals. But Fred vetoed the plane trip, traveling on the *Overland* instead. "I prefer trains," he said.

* * *

SCRAPPING of 74 steam locomotives at one clip is reported by Walter C. Merritt, 2105 Washington Ave., Altoona, Pa. The Pennsy has just sold these old engines and their tenders to Southwest Steel Corp., Glassport, Pa., which is cutting them up into about 18,000 tons of steel scrap. Diesel power replaces them. Merritt comments: "They were still good engines. I wonder why they were not sold for use in some other country?"

* * *

CUT-RATE rail excursions have just about been non-existent since the beginning of World War II. Before that date, you recall, they were very popular. A postwar experiment in connection with the Chicago Railroad Fair, which has just closed, was made by the Chicago & Eastern Illinois. Residents of 22 Illinois and Indiana cities and towns, each of which community had a special day named in its honor at the Fair, benefited by the C&EI experiment. In each community on the day named, roundtrip tickets to Chicago were sold at the cost of a single fare plus 25 cents and tax, with special low rates for children.

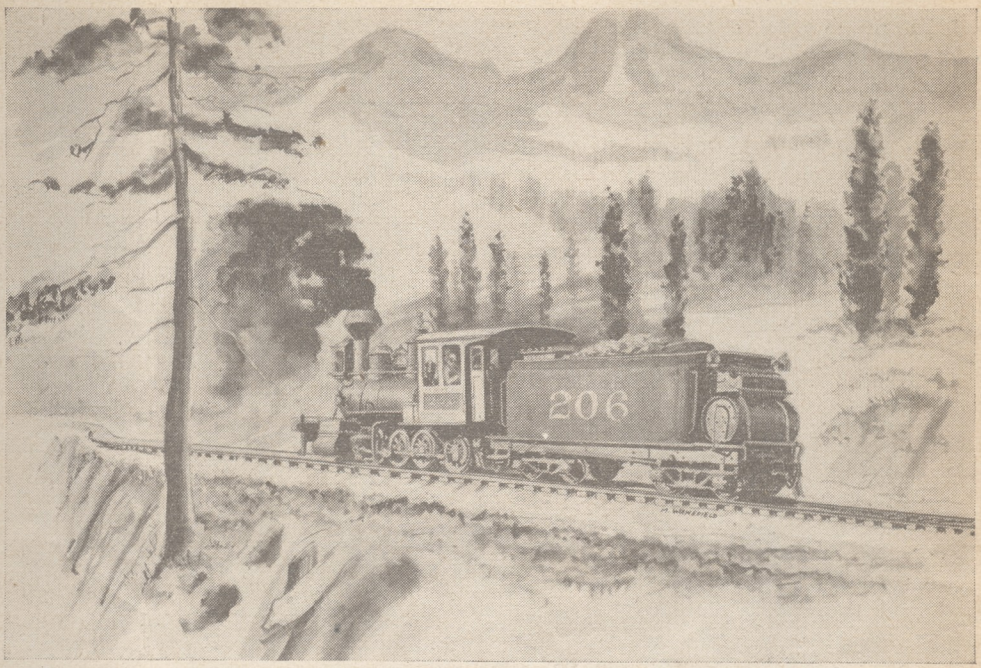
It is to be hoped this example will lead to a more widespread scheduling of rail excursions.

* * *

FOUND: An active railfan organization in the South. This rare specimen is the Peninsular Railfans Club, with 58 members, the president of which is George W Pettengill, Jr., 4245 Burlington Ave., St. Petersburg, Fla. Operating with a new group

Roger E. Luse

The Seaboard's *Silver Meteor* coaches provide typical rail atmosphere for the meetings of the St. Petersburg, Fla., Peninsula Railfan Club



in Tampa, Fla., the PRC sponsors Seaboard and Atlantic Coast Line fantrips. It meets temporarily in a coach of the Seaboard's *Silver Meteor,* which stays overnight in St. Petersburg on one end of its run. With a sound projector and movie screen at opposite ends of the car and with air-conditioning equipment available, the club enjoys a very desirable meeting place.

* * *

DEADHEADING to Deadwood, S. D., sums up a trip taken more than 45 years ago by B. A. Thomas, 10908 Dalorose Ave., Inglewood, Calif., and recalled by Max Coan's *Black Hills High Line* in our July '49 issue.

"The evening I arrived at Edgemont, S. D.," Thomas writes, "my pass had retired, but I planned to go to Deadwood on my 'stinger' card. (Brotherhood of Railroad Trainmen card, with initial B.) The station agent told us the Deadwood passenger train was tied up behind a burned bridge; he didn't know when it would arrive. But the delay at least gave me time to wet my whistle and grab a bite to eat.

(Continued on page 136)

DENVER & RIO GRANDE

AMBITIOUSLY conceived by General W. J. Palmer in 1870 as a trunkline connecting Denver with Mexico, and undoubtedly one of the world's most extensive narrow-gage roads, the 3-foot Denver & Rio Grande once owned more than 13,000 miles of trackage and hundreds of tiny engines. From the 12½-ton *Montezuma*—One-Spot of the line—these grew in size until in 1923 Baldwin built a series of 187,100-pounders which appeared on the roster as the 480s. Representative of the middle period in motive-power design, however, is the *Hillerton.* Artist Wakefield has pictured this against a typical Colorado background of tall timber and steep slopes.

Number 206 was outshopped by the Great Works in 1881. Specifications included: cylinders, 15x20 inches; drivers, 36 inches; boiler pressure, 160 pounds; engine weight, 60,000; tractive effort, 16,540 pounds. After 55 years on the road, she was scrapped in 1936.

(Continued from page 135)

"I must have looked like ready money in my tailored suit and overcoat, stiff hat, and patent-leather buttoned shoes. for, after a couple of drinks, the guy who ran the joint got me in on a 3-handed poker game. The other men won all I had. They were undoubtedly amazed to find it was only 12 smackers

"After the game, I slept on the wait ing-room floor until a loud voice hollered. 'All a-a-board!' I presented by traveling card to the scrawny old passenger conductor. He glanced at it and mumbled 'I don't know nothin' about that stuff. If you ride this train you'll hafta buy a ticket.'

"Someone had told me that a freight train ran up the branch twice a week and this was one of the days it ran. So, with the buttoned patent leathers, the stiff hat, and two suitcases, I waded through the snow to the yards and mounted the rear platform of a 4-wheeled caboose.

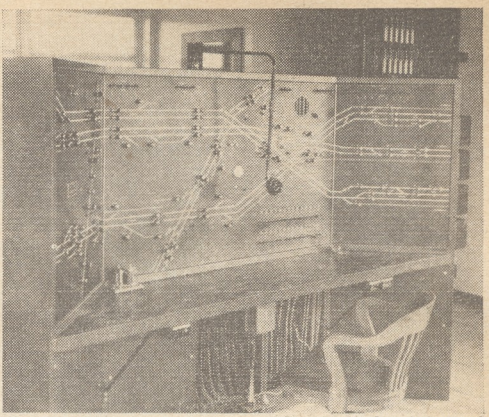
"The skipper looked at my stinger card, saying: "I belong to the conductors Don't know anything about the trainmen.' But he didn't put me off. All I had to show for that poker game was a pocket full of cigars. These I put on his desk, but the gift didn't raise a thank you. At a station halfway up the hump a lady brought the crew a basket of hot lunch and a big pot of hot coffee. This they consumed soon after leaving town. When they had enough, they threw out the rest, not even asking if I wanted any.

"Such treatment of a fellow rail dumbfounded me. At the hill top the conductor said, 'We turn here on a wye and go back to Edgemont. If you're going to Deadwood I guess you'll walk.' That was bad. Deadwood was miles away, with snow neck-deep to a giraffe. Dusk fell, bringing colder weather, but the only building in sight was a little telephone booth.

"As I began gathering firewood I heard the welcome sound of an engine chugging uphill with a combination coach. I boarded the coach. Halfway down the hill, the uniformed gent asked for my fare. When I showed him my card I thought he'd reach the bell cord and stop the train. He didn't, but we argued the rest of the way to Deadwood.

"Next day, I hit the trainmaster for a job, but as soon as he spied my BRT button he lost interest. My Deadwood trip was not a total loss. While there I visited Mt Moriah Cemetery and the grave of an old acquaintance who had died a short time before, Calamity Jane."

* * *



Richard J Cook

Operator at the new interlocking plant at Fostoria (Nickel Plate) station never has to leave his chair to line up the routes. Board is of the latest push button type

FIRST Diesel-electric locomotive to be used on Britain's London-Glasgow run recently went into service on *The Royal Scot,* reports Arthur J. Richards, 21 Briarfield Rd., Tyseley, Birmingham, England. This famous train dates back to about 1870, when it ran between London and Carlisle as the *Euston-Scotch Express* of the London & North Western Ry. and between Carlisle and Glasgow over the Caledonia Ry. of Scotland. When the L&NW was merged in the London, Midland & Scottish in 1927 the train was given its present name

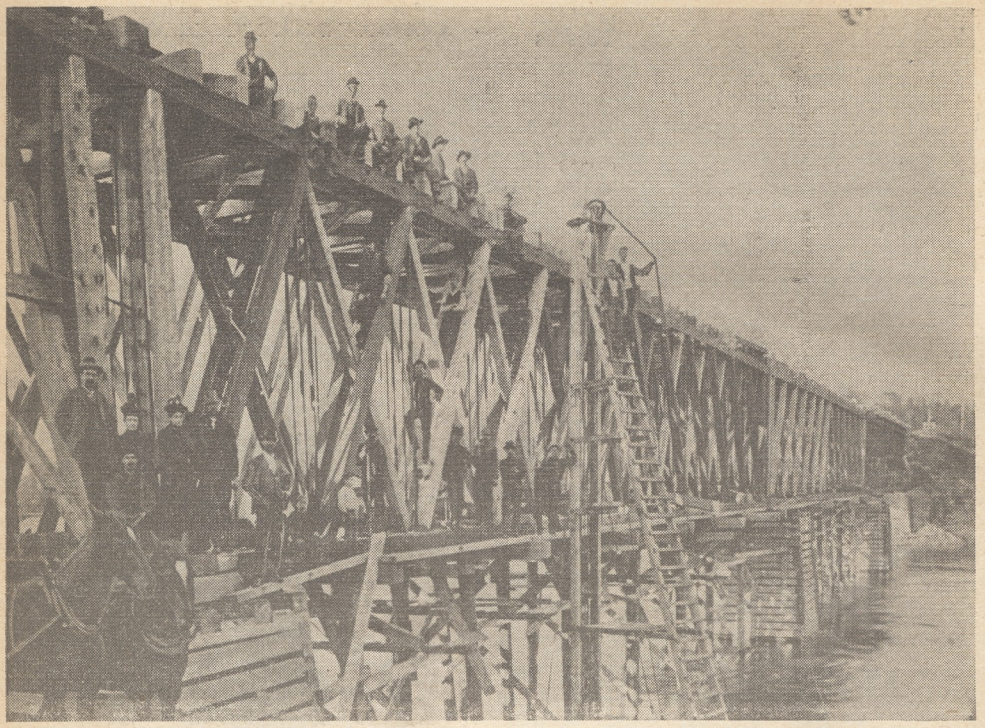
Another reader, Walter Oliver, writes from *Craiglea,* 64 Newshaw Lane, Hadfield, Manchester, England: "I was pleased to see a short article on British rails in the April '49 *Railroad Magazine.* However, I must correct the statement on page 70 that the ex-LMS Coronation class *Pacific* holds the British speed rec-

ord at 114 miles per hour. This is not so. The British record for a steam locomotive was achieved by the London & North Eastern streamlined *Pacific Mallard* on July 3, 1938, and was 126 mph. with an average of 120 mph. for three miles."

* * *

BURLINGTON ROUTE (March '49) interested Milton E. Carberry, Jesus Carranza Ver., Mexico, who writes: "I viewed the pictures illustrating that photo story with much pleasure, my memory shifting back to 1889 and 1890 when I was railroading all over that part of Colorado with a couple of other Irishmen by the name of Callahan. They were brothers, sons of a section foreman. One day we saw a shiny new B&M switcher in the yard with a McConnel-type stack and the back-up headlight mounted on top of the cab. That seemed to us to be the proper place for the back-up headlight and we immediately placed a headlight on top of the cab of one of our cast iron engines and changed the name of our back yard railroad from 'Santy Fe' to 'B&M.'"

He continues: "The article, *Flying Spikes* (June, '49), is quite interesting in all respects even though it contains some boners. There was no *gold* spike used at the meeting of the East and West rails on the Northern Pacific Railroad. When the NP was started at Duluth the first spike driven into a tie to hold the rails was purposely withdrawn and preserved to be used as the 'last spike' at the finish. The historic event took place Sept. 8, 1883. Northern Pacific trains, however, had been passing in both directions through Gold Creek for several days previous to Sept. 8th. This was safely and easily accomplished by running the trains through the passing track! If the gentleman holding the spike in the picture on page 99 did not have a silk hat we might take him to be General Superintendent Buckley's chief clerk. But no! Would a real railroader hold a spike while some one else pounded it with a maul. Not likely!"



Canadian Pacific

Building the CPR bridge at Sherbrook, on the Halifax-Montreal line. Long wooden trestles were popular in the '90s, possibly the most famous being the eccentric "pole" bridge across Big Pig River, Ont.

REVIEWS. One of the nicest little booklets we've seen is the N&W's *Our Railroad*, a 38-page brochure designed to foster the constant practice of courtesy and safety among the road's employes. There's a cartoon on every other page, and the alternates are crammed with the kind of interesting facts that makes quiz kids of us all. Incidentally, this booklet is not available to the general public; so unless you've cultivated the friendship of an N&W man your chances of seeing it are slim.

A book you can acquire is *Pennsylvania Songs and Legends*, just published by the University of Pennsylvania Press. What makes it of special interest here is the long and thoroughly interesting chapter, *Railroaders*, by Freeman H. Hubbard. As we all know, Hubbard has never allowed the thoroughness of his research to push the human quality out of his writing. We can recommend this chapter on rail myth and history in the Keystone State as unreservedly as do the publishers, who chose to use extracts from it in their publicity releases for this publication.

* * *

DISCOVERY of a plainly-marked New York Central RR. tablecloth was made in Jerusalem's "Vienna Cafe" by Carter L. Davidson, an Associated Press correspondent, recently. Dining with his wife, Davidson observed the cloth and asked the proprietor how it happened to be there. The proprietor professed to know nothing about it and gladly surrendered it to the journalist. Davidson packed the NYC property in his trunk, which he shipped to his home at Manitowoc, Wis. But before he arrived home, he was given another reporting assignment abroad, and will not be back for three years. When he does return, he will open the trunk and restore the long-missing cloth to its owner.

INFORMATION WANTED. An illustrated book on railroading in Mexico, Central America and Cuba is being compiled by a Southern Pacific fireman, L. T. Haug, 2001 San Fernando Rd., Los Angeles 41, Calif. He seeks anecdotes, data, oldtime pictures. Wants to contact boomers who railroaded in that area many years ago.

* * *

ANSWER to the problem on pages 10 and 12 is that Engineer Hill was right. Order Number 142 gave Extra 4122 East a meet with all sections of Number 77 at G. "When a train is named in a train order by its schedule number alone, all sections are included . . ."

Therefore, Extra 4122 East could use Order Number 142 to proceed to G and meet Third 77 and any following sections.

The fact that the meet with the First and Second sections were superseded did not affect the meet at G with Third 77 and following sections.

* * *

LAST STOP is the Reader's Choice Coupon (page 144), which guides your editorial crew in selecting material for future issues of *Railroad Magazine*.

Some readers use the coupon. Others prefer not to clip the magazine; they send home-made coupons, postcards or letters. Regardless of how votes are written, all count the same. Results of balloting on the September issue show as follows:

1. Romance of Locomotive Bells, *Hubbard*
2. Heads for St. Paul, *Pugsley*
3. Popover Stopover, *Quinby*
4. On the Spot
5. Head-End Collision, *Savage*
6. Rules and the Redhead, *Hull*
7. Light of the Lantern
8. Fourth Cook, *Lathrop*
9. Locomotives of the Long Island
10. Live Steamers in the Parlor, *Lucas*

Most popular photos: pages 84, 56, 31, 132.

Railroad Camera Club

ITEMS sent to the *Switch List* and *Model Trading Post* are published free, in good faith, but without guarantee. Write plainly and keep 'em short. Print name and complete address.

Because of time needed to edit, print and distribute this magazine, all material should reach the Editor eight weeks before publication date. Redball handling is given to items we get the first week of each month, if accompanied by latest Reader's Choice Coupon (clipped from page 145 or home-made).

Due to scarcity of space, we prefer that no reader be listed here oftener than once in three months.

Use these abbreviations: *pix,* photos; *cond.,* condition; *ea.,* each; *elec.,* electric; *env.,* envelope; *eqpmt.,* equipment; *esp.,* especially; *info.,* information; *n.g.,* narrow-gage; *negs.,* negative; *p.c.,* postcard; *pref.,* preferably; *tr.,* train.

And these photo sizes: Size 116—2¾x4½ inches; Size 127—1⅝x2½; Size 117—2¼x2¼; Size 130—2⅞x2⅞; Size 118 or 124—3¼x4¼; Size 122 or p.c.—3x5½; Size 616 same as 116, on thin spool; Size 620—2¼x3¼ inches.

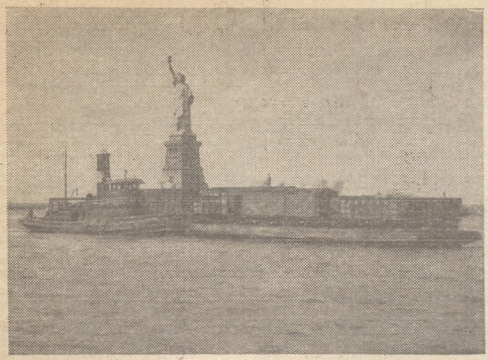
The term *tts,* refers to public timetables, unless preceded by *emp.,* when it means *employes'* (operating) timetables.

(R) indicates desire to buy, swap or sell back issues of RAILROAD or its predecessors, *Railroad Man's* or *Railroad Stories.* *(Specify condition of each copy.)*

(*) indicates juicefan appeal.

RAILROAD CAMERA CLUB is open to all who collect railroad or streetcar pictures or other railroadiana such as timetables, passes, train orders, trolly transfers, magazines, books, etc. There are no fees, no dues.

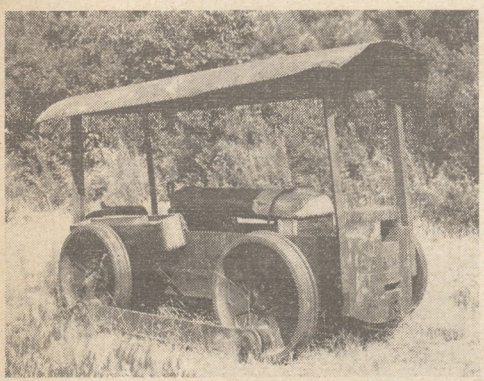
Membership card and pin are given free to anyone sending us the latest Reader's Choice Coupon and a self-addressed stamped envelope. If you don't want to clip page 144 make your own coupon. Address *Railroad Magazine,* 205 E. 42nd Street, New York City 17. Tell us what you want or what you offer; otherwise your name will not be printed here.



I Sentiel

There's no place the railroad—or the railfan's camera—misses. ***Above,*** a car float abreast of the Statue of Liberty; and ***below,*** down in Alabama, old Adamson railcar rests from labors on the now abandoned Oak Grove & Georgetown

C. W. Witbeck



Switch List

M. E. ALEXANDER, 321 W Palestine Ave., Palestine, Tex., has tts., emp. tts., passes, switch keys, loco builders plates to trade for passes.

K. D. ANDERSON, 2022 E. Lee St., Tucson, Ariz., will trade SP Tucson Div. compl. trip tr. ords., clearances, messages, etc., or mail free to collectors encl postage.

RICHARD J. ANDERSON, 4607 N. Marmora Ave., Chicago 30, Ill., will sell 100 size 116 pix steam, Diesel, $2.50 No list.

D. L. ARMOUR, you did not give your address.

JAMES AVERY, 112 S. Elizabeth, Wichita 12, Kan., sells MoP, Santa Fe emp. tts., 12, $1.; Santa Fe, MoP mags., 10, $1.

ALLEN R. BAIRD, 259 No. 10th St., Colton, Calif. will sell loco rosters. No list.

W. A. BEARDSLEY, Jr., Box 934, Vero Beach, Fla., will sell Feb. '16 *Travelers Ry. Guide*, Eastern. 346 pgs. with all schedules for that period.

R. C. BENT, 4825 N. E. Wistaria Dr., Portland 13, Ore., has *Off Guides* Mar., May '43; July-Sept., Dec. '45; Apr. '46; Sept., Dec. '48; $1. ea. p.p. or $6.50 for all. Will trade for Vols 1 and 2 *Trains*.

LEE BILLBE, 1127 W. Covina Blvd., Baldwin Park, Calif., wants pix Southern Pac., Santa Fe.

(R) CLARENCE T. CARLSON, Rt. 2, Box 169 Monticello, Minn., will sell or trade *Railroad Magazine* Dec. '36; Jan., Feb., Sept., Aug., Oct., Dec. '37; Jan '38, 35c ea. p.p. or will trade for *Railroad Magazine* Oct. '35; Apr. '37; May '42; Nov. '43; Sept. '44; Feb. '46; Nov. '48. Also has several GN, Milw. emp. time cards, 25c ea. p. p.

RONALD CHEGWIDDEN, 52 Washington Ave., Chatham, N. J., sells DL&W tr. ords. 19, 31, Bulletins, safety dope sheets, clearances, trade ords.

ROBT. F. CLIFFORD 803 Maple Ave., Box 656, Sandpoint, Idaho, has new Wollensak, Velostigmat enlarging lens, F:6.3, 6½ in. focus; new Kodak Vigilant Jr. 620 camera, leather Eastman carrying case; Jane's *All The World's Aircraft* '41.

(R) AUSTIN CORCORAN, Allan State School, Warwick, Queensland, Australia, wants to corres. with railfans anywhere, esp. Australian readers of *Railroad Magazine.*

(R*) DAVE CRAWFORD, 35 Colfax Rd., Havertown, Pa., wants *Railroad Magazine, Model Railroader, CERA* Bulletins, other model RR. publications; will swap issues *Nat'l. Geographic* '45 to '48. Will also swap, buy or sell pix elec. lines. List for stamp.

(*) GORDON B. CRONHEIM, 230 Park Place, Brooklyn 17, N. Y., wants to buy collections street car, bus trsfs.

STAN DEDAHOYDE, Box 443, Scottsbluff, Nebr., will buy tts., emp. tts., pix, other r. material.

ALVIN B. EDMUNDS 54 Linwood Ave., Chelmsford, Mass., will sell B&M tts., emp. tts., 1865-65; also unclaimed baggage lists.

JACK A. FARLEY, 1907 5th Ave., San Rafael, Calif., will sell to best offer compl. set *Trains* mags. Nov. '40-June '46, perf. cond., p.p.; also various other copies *Trains.*

(R) J. HARRY FELDEN, Jr., 3545 Richmond St., Philadelphia 34, Pa., will sell *Railroad Magazine* '48, '49; 88 *Model Railroaders* '39 to '49, excell. cond. $25. p.p. or C.O.D.; *Trains* Vol. 1 to 9, 6 copies missing, $45. plus postage; Bound Vol. 13, 14 *Model Railroader,* $5.25 per vol.; *Trains* Vols. 4, $10., 5, $9.50.

MELVIN FRANKEL, 1655 Union St., Brooklyn 13, N. Y., has *Model Railroader* Mar. '38; Feb., May, June, Sept. '39; May, Aug. '40; Dec. '41; Feb., July, Sept., Dec. '42; Oct. '43; Mar., Aug. '45.

(R) D. A. FRASER, 118 Moss Ave., Highland Park 3, Mich., wants May., Aug. '40 *Railroad Magazines.* Premium.

R. D. FULLERTON, 34 South Quentin, Dayton 3, O., will sell 35 mm. color slides B&O *Wm. Mason, Thacher Perkins* locos; 45c ea. or trade for other color slides. Pocket calendars, PRR playing cards, B&LM match covers to exch.

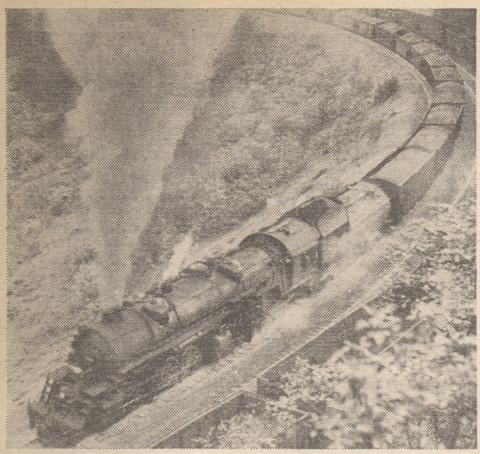
(*) CHARLES GANSHAW, 2606 S. Karlov Ave., Chicago 23, Ill., will sell CTA street car trsfs., bulletins, maps showing street car, bus, 'L', subway lines; also CTA subway, bus, 'L', Chicago Motor Coach trsfs.

JAMES L. GAYNER, 327 Magnolia Ave., Piedmont 10, Calif., has negs. SP, ATSF, GN, NP many other trunk lines; many short lines North Central area, others; 50c up; sent on approval.

(R*) PAUL M. GRIMES, 99 Grandview Ave., Mt. Vernon, N. Y., will sell unclipped *Railroad Magazines* Sept. '38 to Nov. '42 compl., others dating to '33; over 2,000 emp. tts., long, short lines U. S.; steam, elec., many abdn.; also tts.

H. L. Kelso

Santa Fe's Extra 149 East entering CTC territory on the Tehachapi Subdivision at Bena, Calif.



H. W. Pontin

At the summit of Cranberry Grade eastbound loads and westbound empties exchange wheel-talk on B&O's Salt Lick Curve

(R) WALLACE HEIN, 2242 Argyle St., Chicago 25, Ill., will sell 30 *Railroad Magazines* '43 to '49; 31 *Model Railroaders* '41 to '48. Will buy CNSM, CAE emp. TTs., frt. pix. waybills, wheel reports. List for 3c stamp.

L. K. HILL, 51 Gore St., Waltham 54, Mass., will swap pix pass. cars, Diesel 'B' units. Interested in prior-'42 'A' units.

(*) NORMAN HOLMES, 112 Sunnyslope Ave., San Jose 12, Calif., will sell pix Western steam, juice RRs, SP, WP, ATSF, Muny, Key, SN, VGT, etc., size 620, 6c ea.; size 616, 7c ea. List for stamp.

WILLIAM HORN, 217 Northview Rd., Dayton 9, O., will sell 14 issues *Ry. Purchases and Stores*, Nov. '47-Nov. '48, $1.75 plus postage; 12 issues *Ry. Progress*, July '48-June '49, $1.50 plus postage: *Off Guide*, Jan. '48, $1.50 p. p.

T. M. HOWARD, 313 W. 33rd St., N. Y., N. Y., will sell Hamilton RR watch, good cond. to highest bidder.

MICHAEL KOCH, 1115 Bryant Ave., New York 59, N. Y., will buy R&LHS bulletins, books about railroads, locos.

JULES KRZENSKI, 96 Prospect St., Southampton, N. Y., wants emp. tts. Atlantic & Delmarva Divs. PRR; will trade LIRR negs., odd railroadiana or pay cash. Write for details.

(*) JOHN LAWSON, 4107 Verdugo View Dr., Los Angeles 65, Calif., has size 616 neg. western steam, elec. lines for sale, esp. SP, AT&SF, PE, LATL, many latest LATL PCC cars.

(R) C. R. MacLEAN, 381 Grosvenor Ave., Westmount, Montreal 6, Quebec, Canada has 75 *Railroad Magazines* '39 to date, postage stamps, 500 booklets, etc. to trade for good size 116, 616, 620 camera or good action, still negs. size 616 or p. c. any rd., tramway co. Starting railfan club for American, Canadian fans 13 to 16 yrs. of age. Write for details.

WALTER G. McGAUGHEY, Box 282, Pine River, Minn., F. J. Prior's *Opera. of Trains and Station Work*, '19, 740 pgs info., pix. Will trade for *Off. Guide* '49 issue, good cond.

FRED McLEOD, 1068 Fifth St., Oakmont, Pa., will sell travel folder PRR *Horseshoe Curve*, 25c. No stamps.

ROY W. MILLER, 1018 E. McClure, Peoria, Ill., will sell over 100 tts., '35-'37, 25c ea.; Rock Island emp. tts. '38-'41; Rock Island & Chicago Div. or will trade for other emp. tts.; also Aug., Mar. '43 *Off. Guides*. Wants offer for recent *Loco Ency.* Write for list.

W. P. MILLER, 1447 Church St., Rahway, N. J., wants Apr., July, Oct. '24 *Baldwin Loco* mags. State price.

(*) JAMES S. MYERS, 5005 N. Sydenham St., Philadelphia 41, Pa., wants to trade picture p. c.'s of rail, trolley subjects.

HARLAN R. ODELL, Box 2073, Huntington, W. Va., will trade C&O, N&W pix, p. c. size, for Canadian RR, Colo. RR pix. Wants to corres. with Alaska railfans.

Reader's Choice Coupon

Stories, features and departments I like best in the November issue are:

1. .....
2. .....
3. .....
4. .....
5. .....
6. .....

Best photo is on page

Name.....

Occupation.....

Address.....

Is stamped envelope enclosed for Camera Club pin and membership card?.....
Railroad Magazine, 205 E. 42nd St., New York City 17.

W. R. OSBORNE, 125 S. Cook Ave., Trenton 9, N. J., wants pix, p. c. or larger, B&O Motive Power, early, modern types. Buy or trade.

LARRY PALMER, Wallingford, Pa., will buy *Model Railroader* any '39 issue or bound vol.; p. c. size or larger pix PRR, RDG locos, any size pix World War I Aircraft.

KEITH PRATT, no address given, wants to hear from D. E. Shaw, Springfield, Mass.; E. Milo Turner, Gil Fournier, Me.

(*) F. E. REIFSCHNEIDER, Box 774, Orlando, Fla., offers *Interurbans of Empire State*, 52 pgs., 6 pix, 2 maps for 60c p.p.

C. H. RICE, 2439 N. Francisco Ave., Chicago 47, Ill., has color slides to trade. Write for terms.

(*) JOHN F. SCOTT, 205 W. Euclid Ave., Stockton 27, Calif., wants good size 120, 116 negs.; size 116 and larger pix Amador Central, Baltimore & Annapolis, Bamberger RR., Calif. West. & N., others. Will buy or trade.

R. M. SHEA, 5318 Chesley Ave., Los Angeles 43, Calif., wants *Trains* Nov., Dec. '40; Feb., Apr.-Aug., Nov. '41; Feb.-Apr., July, Sept. '42; Feb. '43. Write.

D. H. TAYLOR, 21 High St., Harpenden, Herts, England, will supply pix, info. British Rys. Will take special pix on request.

FRANK VOLLHARDT, L&R Camp MC 53, Warren, O., wants Oct. '46 *Model Railroader;* Aug. '48 *Model Craftsman.*

(*) ROLAND A. WICKE, Iron Ridge, Wis., will trade for good RR pix, negs. size 116, 127, ½ 116, 117 C&NW, Milw., Soo Line, misc. others. Interested in pass. tr. action pix, elec., steam or Diesel; will trade for AF ⅜ in. S gage eqpmt.

(*) PAUL WILLER, Westwood R. R. 3, Ft. Wayne 8, Ind., wants ISC, IR pix. Wants to hear from elec. railfans in his vicinity.

(*) DAVID WOTHERS, 344 Massasoit St., Lester, Pa., will trade negs., pix pass., frt. Diesels, trolley trsfs.

Model Trading Post

BILL BLAKEMAN, Greenhurst Farms, Bethel, Vt., must sell S gage eqpmt., AF, Hudson, cars, accessories, trk. Details for stamp.

CLYDE BUXTON, R. R. 2, Loveland, O., wants locos, cars, switches, trk., any age or cond.; pay cash or trade other eqpmt.

Railroad Camera Club

ROBT. F. CLIFFORD, 803 Maple Ave., Box 656, Sandpoint, Ida., will trade for Lionel 700 EW, 3-rail Hudson, tender, must be new or like new, no alterations, no new paint, bad scratches or mars. Has list railroad, model, aviation, science mags. for stamped env.; will trade for old toy trs. or sell.

JAMES W. DAWSON, 10107 Somerset St., Cleveland 8, O., will sell 5 AF 1621 coaches, $3. ea.; AF *Hiawatha*, home-made tender $12.50; AF *Hiawatha* Lionel 6wh motor, $8.25; compl. circle AF trk. $3.; first $35. takes all.

STAN DEDAHOYDE, Box 443, Scottsbluff, Nebr., will trade O gage eqpmt. for S gage. Write for list.

E. B. FARGEORGE you did not give your address.

ARTHUR HOPKINS, 3708 Hanover St., Dallas, Tex., will buy Bassett-Lowke ¼ in. scale, live steam *Mogul*, any cond.

LOUIS KATZIANER, 66 Jubilee St., New Britain, Conn., will sell Lionel 726LTS with smoke, whistle, $29.; or trade for Lionel O-6-O switches 227 or 228, perf cond.

BURTON LOGAN 705 E 16th Winfield, Kan., will sell large collection old toy trs., Carlisle & Finch, Voltamp, Bing, Marklin, Ives, Lionel, others, all collectors' items. List for stamp.

LARRY PALMER, Wallingford, Pa will trade 2 brand new HO locos. Rdg 2-8-0 Class I-10s; PRR 0-4-0 Class A-5s for copy Jane's *All The World's Aircraft* '18; locos are 12-volt; 2-8-0 has sprung drivers.

RALPH SEGALMAN, 1409 Nebraska, Sioux City, Ia., will buy set pass., baggage cars, S gage, Lionel or AF. Interested in other S gage toy eqpmt. trk., etc. Please state prices.

EARL THOMPSON, Jr., Middletown Rd., Hamilton, O., has GMC Diesel switcher, striped and detailed, $20.; 3 short scale pass. cars, detailed and lettered, newest 6-wheel Lionel knuckle-coupler trucks, $25.

(*) JOHN WEIGHTMAN Box 696, Sacramento Calif., has '29 Dorfan elec. tr., catalog price $2.50.

ART WEINMAN, 416 Central Ave., Rochester 5, N. Y., will sell live steam scale model *Mikado* loco with tender, flat car, 7½ in. gage, 150 ft. trk. or trade for 15 in. gage amusement park loco and tender.

FLAGSTOPS

FALL FANTRIPS. Buffalo Chapter of NRHS announces an outing for *October 9th*, from Buffalo via Erie's B&SW line to Dayton N. Y., original main to Salamanca thence thru Bradford and over Kinzua Bridge to Mt. Jewett and Freeman, Pa., over much freight-only track. For fare and schedule write John M Prophet Buffalo Chapter NRHS. 55 Meadow Rd., Buffalo 16

East Broad Top excursion, with special narrow-gage, open-platform coaches leaving Mt. Union, Pa., is planned for *October 9th*. Good connections made with Pennsy mainline trains. Fare in advance, $2.50 or $3 on train; children half-price. For tickets and information contact Dr. T. R. Pilkington, 5 Rose Hill Rd., Moylan, Pa.

Sierra Railroad Weekend is scheduled for *October 23rd* by Pacific Coast Chapter, R&LHS, 836 Alma Ave., Oakland, Calif. For all details write Stanley Merritt, Sec'y.

Pacific Railroad Society is sponsoring an excursion over the Southern Pacific, San Diego & Arizona Eastern, Tia Juana & Tecate and the Santa Fe to Carriso Gorge, via Salton Sea on *October 16th*. Train leaves Los Angeles Union Station at 7 a. m., returns there at 11:30 p. m. Numerous photo stops enroute; diner, photo car, air-conditioned reclining chair cars and open-end observation car in consist. Fare, approximately $15. Send inquiries and applications to Cook Reeves, P. O. Box 5279, Metropolitan Station, Los Angeles 55.

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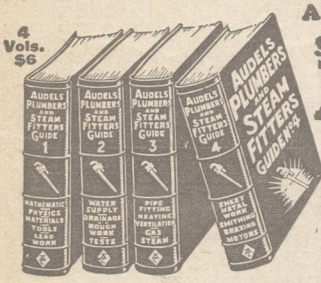

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