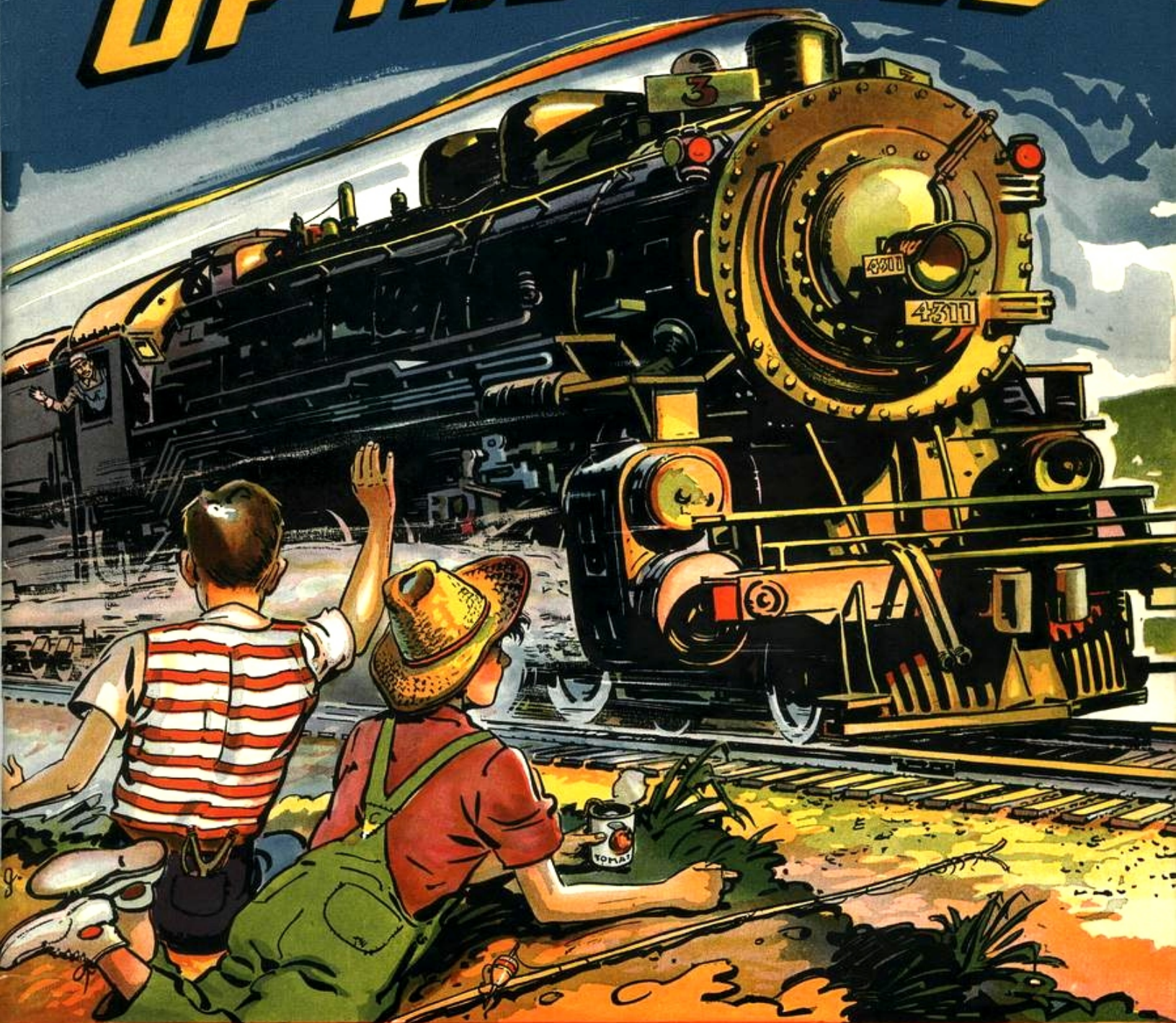


ROADAR OF THE RAILS



THRILLING TALES OF AMERICAN RAILROADING

A book of
Stories and Facts of
American
Railroading

PUBLISHED BY
THE A. C. GILBERT COMPANY
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Old Broadway Limited making her Record Speed Run

Blazing the Rails to a World's Record Broadway Limited Still Holds Mark for Highest Speed

When Bill Brown, a New York boy, climbed aboard the Broadway Limited on a Sunday back in 1905, he had no idea he was to have the biggest thrill of his young life!

Bill's father had promised him a vacation trip to Chicago for his excellent grades in school and for good measure had set the date, June 11, so Bill could make his trip from New York to Chicago on the first westward run of the Broadway Limited, which was then, and still is, the Pennsylvania Railroad's finest and fastest train between the two largest cities in the United States. However, in 1905, this train was called the "Pennsylvania Special."

The chance to make the first 18-hour trip ever run by this famous limited was enough to delight and excite any one, but another and bigger thrill—a real surprise even the train crew didn't know about at the time—was to add to the pleasure of Bill's trip.

As the limited made its swift run across New Jersey, Bill decided to look over the train, for it was the finest of its day. The first car had

space for baggage, a bathroom, a barber shop, and a library and smoking room. The dining car was next, followed by one of the two sleeping cars, which had twelve sections lower and upper berths—and a drawing room. The fourth car, which was the last on the train, had six compartments, an observation parlor and a rear open-air covered platform, large enough for several passengers to sit comfortably. A heavy railing enclosed this platform where Bill spent happy hours, waving to crowds gathered at stations along the way and chatting with fellow passengers.

As the limited sped along, Bill had a delicious dinner in the dining car, and after reading for a while in the library, decided to go to bed in his lower berth. He raised the shade of one of the two windows and got a marvelous moonlight view of the famous Horseshoe Curve, and up ahead he could see the long streak of light from the train's headlight and the glare of the roaring fire in the locomotive as the fireman threw coal into the open firedoor. Soon he was

fast asleep, but he had told the porter to call him early the next morning, for Bill wanted to make the most of the daylight hours and to sit on the rear platform as the train passed through Ohio and Indiana. *And was he ever glad he left that early call!*

He was out of bed in a flash as the porter gently touched him and in a jiffy was dressed, washed up and ready for the first call for breakfast.

Yes-sir, Bill was all excitement, for he felt that plenty was going to happen, as he had learned that while he was asleep the train's locomotive had had a hot journal box on one of the trucks under the tender. The engineman had stopped the train and 15 minutes were lost in unsuccessful efforts to cool the troublesome journal. Soon a locomotive from a freight train on a nearby side track, was attached to the limited and pulled it into Crestline.

At Crestline, a quick change of locomotives and crews was made and Bill had a hunch from the hurried, but complete preparations be-

ing made here that he and his fellow passengers, including Frederick D. Underwood, then president of the Erie Railroad, were going to hit a dizzy pace for a fast run from Crestline to Chicago. Engineman J. W. (Jerry) McCarthy and Fireman H. R. Tougree were in the cab of Locomotive 7002, a coal-burning steam engine of the class E-2 type, which had two pairs of 80-inch driving wheels. No. 7002 had been the fastest runner in the practice trips made by the Pennsylvania before the 18-hour New York-Chicago schedules were arranged, so she was the pride of the Fort Wayne Division.

As conductor John Walsh gave the signal, Engineman McCarthy started his locomotive. The crew had instructions to make up as much of the lost time as possible, but, of course, to handle the train carefully and with safety. Back in 1905 enginemen could "let-'em-roll" almost to the limit on good straight track.

The train had left Crestline 25 minutes late, but Jerry soon had the 7002 running like "greased lightning" and Bill Brown, now sitting in the observation parlor with the brakeman, could tell by the way they were flashing past the telegraph poles that the Broadway Limited was really hitting the iron at a breath taking rate of speed. The brakeman, with his watch in hand,

glanced out the rear windows, then at his timepiece.

Men in the division headquarters had their eyes on the master clock in the train dispatcher's office and their ears trained to the clicking telegraph key, watching the progress of the train, because they wanted it to roll in to Chicago on time! The train dispatcher's wire was kept open and as the train approached each block tower, the telegraph operator would connect with the train dispatcher's line and, by Morse code, would tap out the message, "Here she comes!" Then as the train's rear car completely passed his tower window, he would instantly flash, "Now!" Thus, the timing was as accurate as if it had been done by stop-watch. But back to the Broadway Limited, as it streaked westward over the shining rails:

The train flashed through Bucyrus, Upper Sandusky, Ada and Lima, at blinding speed and as the limited passed AY Tower, the brakeman shouted to Bill: "Jerry's really got old 7002 a-rollin'! I've never ridden faster in my life!"

And truer words were never spoken, for the Broadway Limited was setting a new world's record — a mark which has never been equaled! The three miles between AY Tower and Elida, Ohio, were covered in

the almost unbelievable time of 85 seconds which is at the rate of one mile in 28 $\frac{1}{3}$ seconds, or 127.1 miles an hour!

Did the Limited make it on schedule? Yes-sir-re, in fact she bettered it.

The train arrived in Chicago three minutes ahead of time and Bill Brown, as he stepped on the station platform on June 12, 1905, was a proud boy. And why not? He had seen history made; a world's record which never has been equalled by challenging steam, electric and diesel powered trains in the last forty years of railroading progress.

Record Speed Runs

FIRST MILE-A-MINUTE RUN: Boston to Lawrence, Massachusetts, 1848. Locomotive Antelope, 26 miles in 26 minutes.

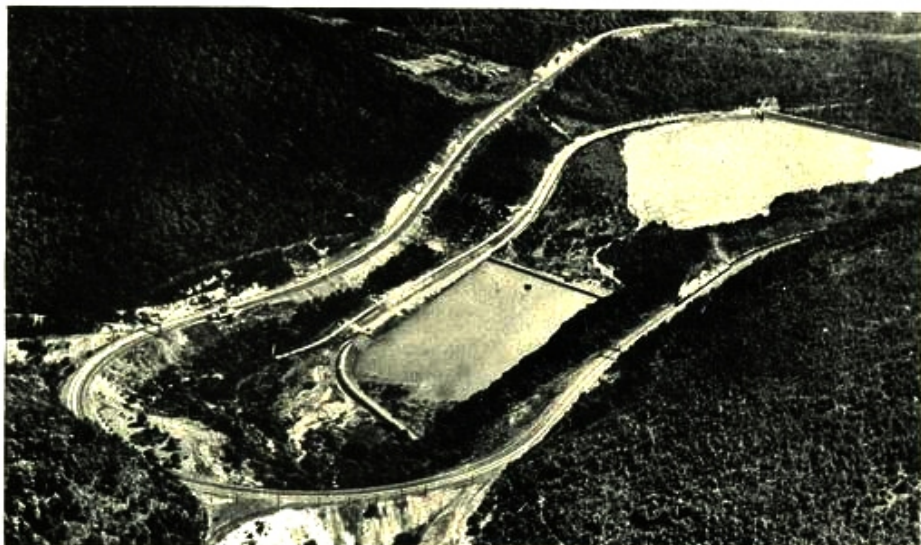
FIRST HUNDRED-MILES-AN-HOUR RUN: Between Syracuse and Buffalo, New York, May 10, 1893. Empire State Express. Measured mile at 112.5 miles an hour.

FASTEST RECORDED RUN IN HISTORY: At Elida, Ohio, June 12, 1905. Broadway Limited (then called Pennsylvania Special). 3 miles in 85 seconds, or at the rate of 127.1 miles an hour.

SECOND FASTEST RECORDED RUN: Hanna to Wanatah, Indiana, Sept. 27, 1903. General Manager Special. 6.2 miles in 3 minutes, 124 miles an hour.

FASTEST SCHEDULED NON-STOP RUN BY STEAM: Fort Wayne to Gary, Indiana. Chicago Arrow, 123 miles in 97 minutes, averaging 76.1 miles an hour.

FASTEST SPECIAL RUN OVER 1,000 MILES: Chicago to Denver, October 23, 1936. Denver Zephyr, 1,017 miles at an average of 83.3 miles an hour.



The Famous Horseshoe Curve in Pennsylvania

Trapped on a Railroad Bridge

A Daring Rescue by a Brave Boy Scout



Doom stared Walter Fichter in the face from two directions that day. It beckoned to him from the yawning chasm far below. It thundered in his ear and blew its hot breath on his cheek.

In recognition of his courage, initiative and resourcefulness, the National Court of Honor of the Boy Scouts of America awarded Walter the gold Honor Medal, the highest Scout Award. For he had performed the noblest of good deeds. He had saved another boy's life at the risk of his own.

But let's start at the beginning. Like most boys, Walter loved to watch trains. It was a real thrill to see a crack limited highball its string of sleek cars over the main iron — or to watch a stubby, ding-donging

switcher shunt cars from track to track like a busy dog rounding up cattle.

On that momentous day back in 1929, when Walter was a second-class Scout and 13 years old, he and three friends were taking a hike along the railroad. Hearing a train in the distance, the four boys quickly stepped off the track and soon became absorbed in watching the operation of the railway signals.

A short distance ahead of them was a railroad bridge over which the approaching train would soon be roaring. Suddenly glancing in that direction, Scout Fichter was horrified to see another group of boys standing in the middle of the bridge, apparently unaware of their danger.

"Train coming — get off the bridge!" Walter shouted to them. Already the train was in sight. Casting a terrified look at it, the boys started to run off the bridge.

But one of the boys was only five years old. His legs were not as long and steady as those of his companions. He tripped over a rail and fell, far out on the bridge. Now it was too late for him to make the dash to safety. Already the rails were beginning to quiver from the pounding of the onrushing wheels.

Small though he was, the little fellow had plenty of pluck. Crawling to the end of the ties, he was able to reach a narrow plank nailed to the ties. Lying flat, and in imminent danger of falling off, he held on for dear life.

Walter Fichter realized the little boy's peril the moment he fell. Quick as a flash he started to the rescue, reaching the bridge just as the train was entering the other end.

At best, running over railroad ties is risky business. One false step and Walter would have been in the path of the train. Actually the engine was only a few feet away when Walter

Continued on Page 17



Can you tell 'em, when you see 'em?

How many Iron Horses do you know at a glance?

Spotting a locomotive and giving its correct classification, even with the wheel arrangement before you, is not the easiest thing to do.

In fact, it would take a thorough railroad man to give the correct answers, and when we ask the question, "Can you tell 'em, when you see 'em?", it becomes sort of a quiz; and you can have lots of fun testing mother and dad and your friends for correct answers.

Remember, these locomotives are built for special work and special jobs, and are used throughout the country; and while you

can probably give the correct classification on locomotives that are operating in your own locality and those you see frequently, it won't be easy on those that are used in distant parts of the country.

All the locomotives illustrated with proper classification and wheel arrangement are recognized as standard, and all are illustrated with the exception of the Mastodon which, incidentally, has a 4-10-0 wheel arrangement, and is similar to the 4-10-2 Southern Pacific.



**AMERICAN
4-4-0**

**ATLANTIC
4-4-2**



**TEN-WHEEL
4-6-0**

**PACIFIC
4-6-2**



**HUDSON
4-6-4**

**TWELVE-WHEEL
4-8-0**





MOUNTAIN
4-8-2

NORTHERN
4-8-4



**SOUTHERN
PACIFIC**
4-10-2

UNION PACIFIC
4-12-2



above left — **COLUMBIA**
2-4-2



above right — **MOGUL**
2-6-0



above — **PRAIRIE**
2-6-2



left — **CONSOLIDATION**
2-8-0

MIKADO
2-8-2





**BERKSHIRE
2-8-4**

**DECAPOD
2-10-0**



left — **SANTA FE
2-10-2**

below — **TEXAS
2-10-4**



below
**4 WHEEL
SWITCHER
0-4-0**



above — **6 WHEEL SWITCHER
0-6-0**

left — **8 WHEEL SWITCHER
0-8-0**

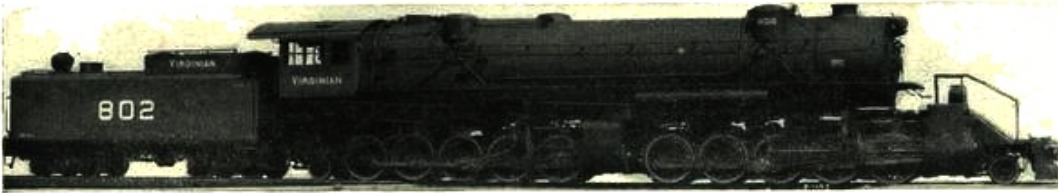


right — **10 WHEEL SWITCHER
0-10-0**

below — **MALLET
4-6-6-4**

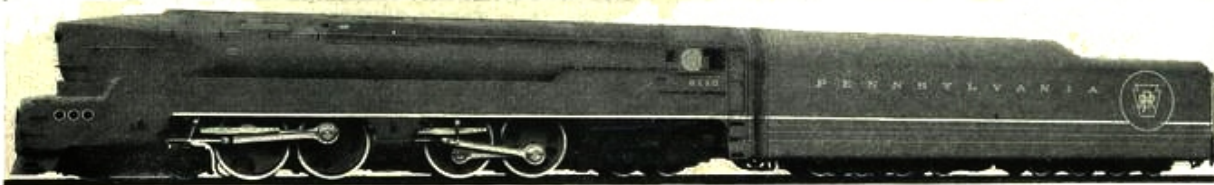


MALLET
2-8-8-2



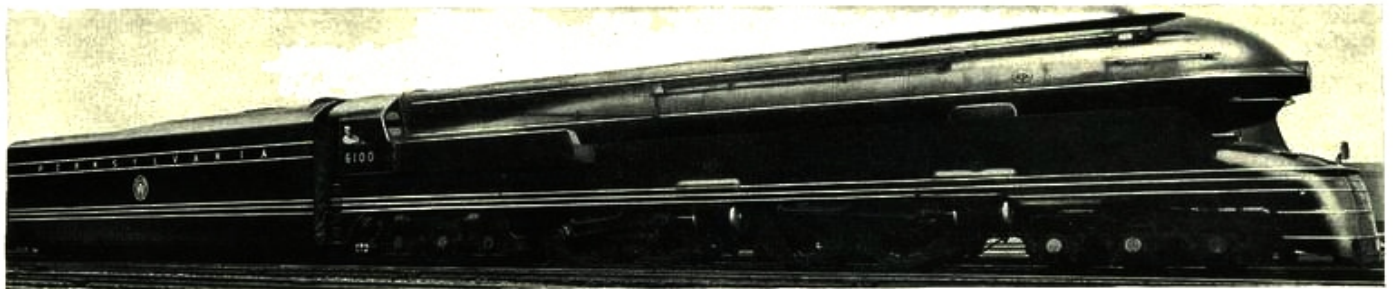
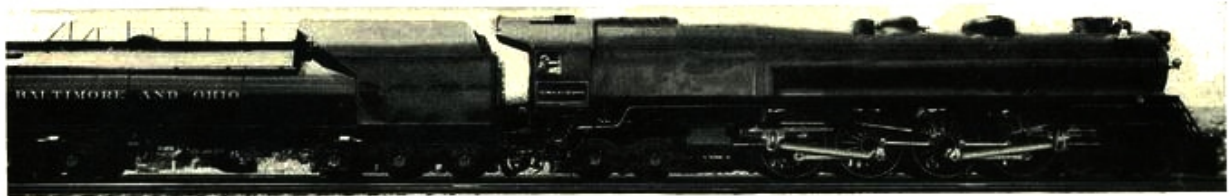
MALLET
2-10-10-2

YELLOWSTONE
2-8-8-4



PENNSYLVANIA
T-1
4-4-4-4

BALTIMORE
AND OHIO
4-4-4-4



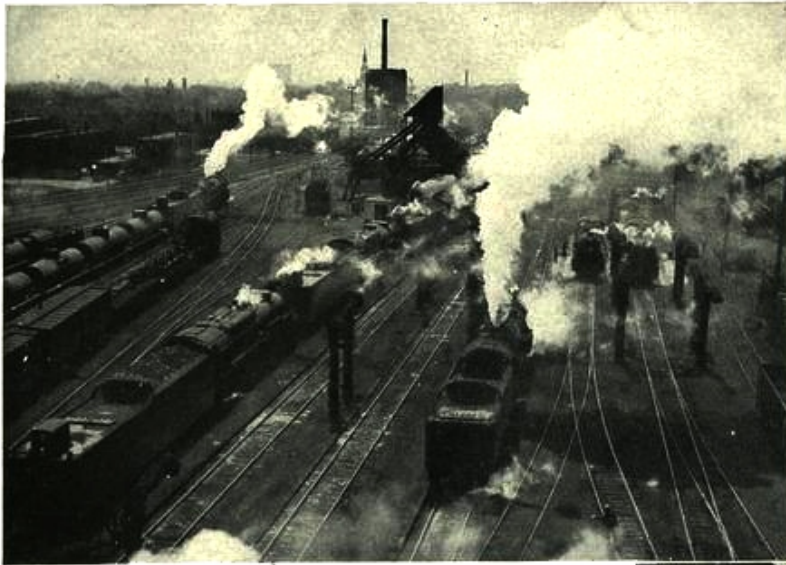
above— **PENNSYLVANIA S-1**
6-4-4-6



left— **DIESEL**

ELECTRIC





Enginehouse Yard Activity

Looking down into yard
from top of Coal Dock



Grooming the Iron Horse

Jim and his Dad help get a Streamlined Locomotive ready for its run

Jim and his Dad had a swell idea! They were great pals and together they had had many rides on trains; they had been in big union stations and they had spent many hours watching trains whizzing by, but all at once they got an idea they'd like to find out just what happens to a passenger train after it arrives in the station and discharges its passengers. In other words, what happens to the locomotive and the coaches, dining cars, and sleeping cars between the time the train is unloaded and when it is ready to leave the city on another run.

"Well, I know the locomotive goes to the enginehouse," said Jim.

"And I know the cars go to the coach yard," replied his Dad.

"Yes, but what happens to them?" queried Jim.

"Let's find out," answered his Dad.

And so they did. A friend of Jim's father was a railroad superintendent and he arranged for them to make a tour of an enginehouse and a coach yard.

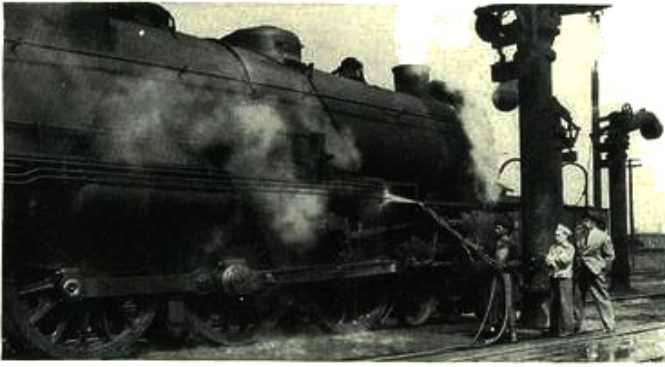
First they went to the enginehouse (maybe you'd call it a roundhouse) and started right out in the enginehouse yard where passenger locomotives are received after they have completed their runs.



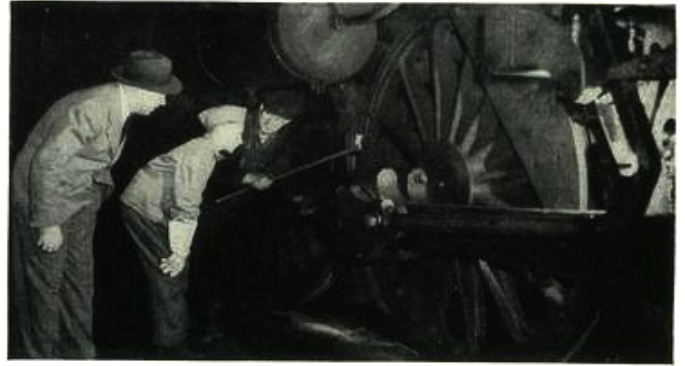
The first job is to fill the locomotive tank with water and Jim really enjoyed helping the man in charge, because he had an opportunity to climb up on the tender and see what a tank looked like. Some locomotive tanks hold 25,000 gallons.



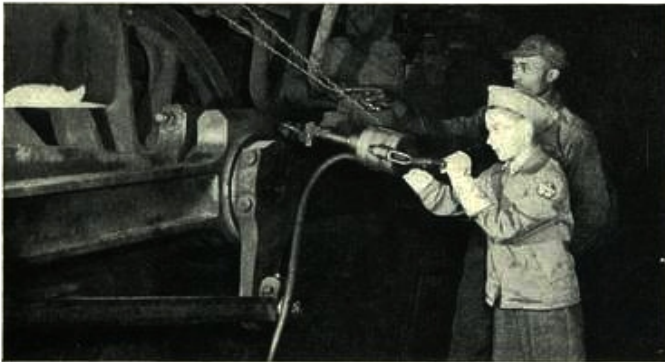
"Knocking the fire." Workmen shove long pokers into the fire in firebox and hot coals keep dropping through locomotive grates and into the water in pit in center of track, making a sizzling sound, and sending off plenty of steam. "Knocking the fire," the foreman explained, is done so that the flues can be cleaned.



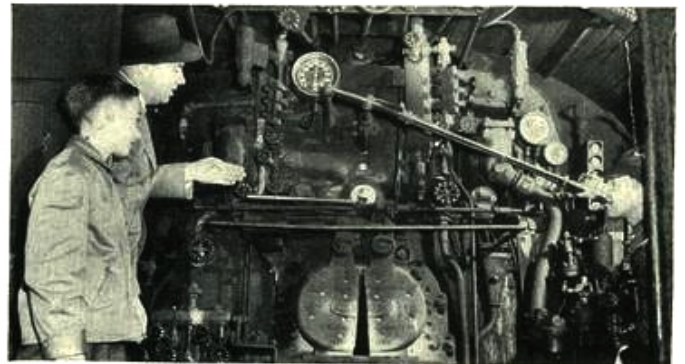
Bathing the Iron Horse. Locomotives are thoroughly washed before inspection. Tall pipes are clamped over smoke stacks when locomotives are going to be standing for a while. Smoke is drawn to a device in the enginehouse, is turned into vapor and disappears into the air.



Now Jim and his Dad can appreciate why it was so important to give the locomotive the shower bath. Here the locomotive has been brought into the enginehouse and the mechanical inspector, with his long blazing torch, is looking over the machinery.



Give 'er the gun, Jim! The main rod on this locomotive is getting a good lubricating with Jim operating the pneumatic grease gun. It usually takes about three hours to get a passenger locomotive ready for the next run.



Jim was happy when he told his pals at school he had been in a locomotive cab. He thought there were a lot of gadgets, gauges, valves and things, but to an experienced engineman, the handling of a big locomotive is not a difficult job.



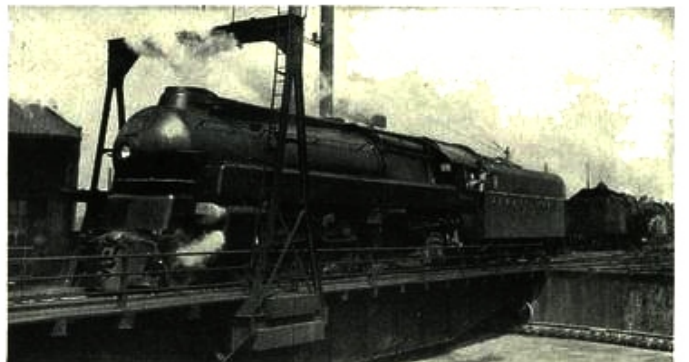
Jim thought he'd find out just how it felt to sit in the engineman's seat. He pulled on his big white gloves, grabbed the throttle with his left hand and yelled: "Boy, oh boy, if those kids at school could see me now!"



Jim then tried out the fireman's seat. It really was the thrill of a lifetime, as he let his imagination go right out on the main line. "Here we go, Dad," he shouted, "tearing along at 80 miles per!"



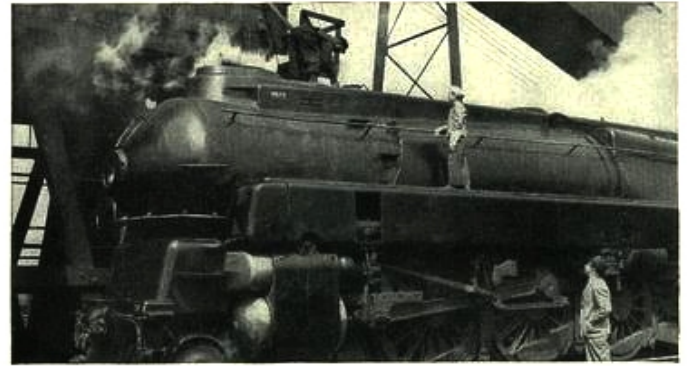
The foreman announced that the locomotive had been thoroughly inspected, all repairs had been made, and it was ready to be moved out on the turntable. As soon as the locomotive was set, the turntable started to move.



"O.K.! We're lined up for the coal dock," yells the hostler, and the long black locomotive glides slowly off the turntable onto a yard track. Jim and his Dad were enjoying the ride.



Jim stood in the cab gangway so he could see the locomotive's tender being filled with coal. Some locomotive tenders hold 60,000 pounds (or 30 tons) of coal—more than twice as much coal as Dad burns in his furnace at home in a year.



Now the hostler moves the locomotive back a little more and the sand box of the locomotive is filled with sand. This is used to keep the driving wheels from slipping. Jim and his Dad were impressed by the safe way every job is done.



"Blowing her off" to get fresh water into the boiler of the locomotive. All the steam escaping really made a lot of noise. The locomotive is now ready for the run.



After all the inspections and servicing, the locomotive finally gets the master touch of the engineman's oil can. Here a veteran of the rails shows Jim the proper way to do the job. Now, Jim and his Dad have an appointment in the coach yard.

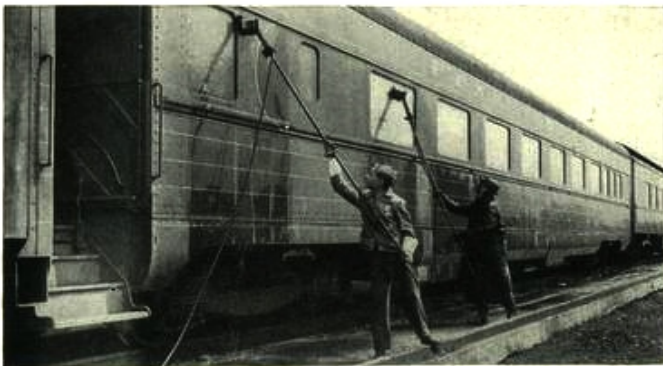
Shine 'em up! Get 'em ready!

If there's a busier place than a Passenger Coach Yard Jim and his dad would like to see it

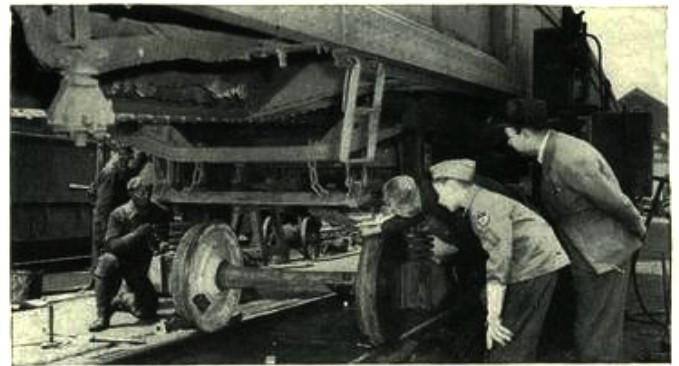
It didn't take Jim and his Dad long to find that a passenger car yard is a busy place. Hundreds of men and women, cleaners, car repairmen, electricians, dining car employes, and others, were getting the cars ready for the

next trip.

Railroad employes do all the work on the cars owned by the railroad, while the Pullman workers service the sleeping cars.



Jim tried his hand at washing the outside of a coach with one of the brushes. As he scrubbed, the water rushing out the end of the hose through the brush, washed the dirt right off the side of the car. Other workers were cleaning inside the coach.



This baggage car needed a new pair of wheels, so one end of the car was jacked up and the job was completed in a short time. Jim and his Dad marveled at the way the employes went about their jobs and how safely they worked.



Jim was very much interested in watching electricians install a new generator under a passenger coach. The generator, which operates while the coach is running, keeps the batteries charged. The batteries, of course, supply the electricity for lighting the car—and also the power to run father's electric razor.



And here Jim holds the flashlight and his Dad watches while an electrician and his girl helper inspect the batteries under a passenger coach, to make sure that they are in perfect condition for the next trip. Air-conditioning, heating equipment and washroom facilities also are checked by other yard employees.



Seeing how a journal box is packed, solved a mystery. Jim couldn't understand how axles of railroad car wheels could be kept lubricated while running. Workmen put sponging in the journal box with a metal poker. Sponging is merely "waste" saturated with oil.



Because dining cars carry so many perishable food items, the big refrigerators must be kept chilled. Here an employe of the passenger car yard has opened a bunker door above the dining car kitchen and is about ready to let a hundred pound piece of ice slide down into the box.



Stocking the dining car is another important job in the passenger car yard. All the food comes from a large well-stocked commissary, situated in the yard. Jim and his father really got an appetite watching all the good things being transferred into the compact and efficient kitchen of the dining car.

It wasn't long before the train which Jim and his Dad had so thoroughly inspected with employes of the passenger car yard, was all ready and started backing down to the Union Station, there to take on hundreds of new passengers and start right out on time.

"Gee, Dad, I'd like to be going some place on that train!" said Jim.

"You said it, pal!" replied his father.



On its way—"The South Wind" of the Pennsylvania R.R. enroute from Chicago to Miami

Freight Cars never get lost

They travel a long way from home, but always get back



Freight Yards at Roanoke, Va.

Courtesy Norfolk and Western Railway

How many times have you and your Pals stood along side a busy railroad track and got a big kick out of counting the number of cars in a passing Freight Train?

And you've not only counted them, but as they roll by, you've noticed the many different names painted in great big letters on the sides of each car. N. Y. Central—B. & O.—Eric—Pennsylvania—N.Y. N.H.&H.—Central Pacific—Boston & Maine—Chicago & Northwestern—Santa Fe — Great Northern — Seaboard — Delaware, Lackawanna & Western—Southern—scores of them—and then you start to wonder how this mix-up of cars from everywhere in the country is going to get straightened out.

But it's not difficult at all, when you realize that every car is controlled by the Car Pool plan and is constantly checked and rerouted. Of all the cars in those long puffing freights, the ones that interest you most are the "off-line" cars, which are cars that do not belong to the railroad whose train you are watching.

You ask yourself: "Gee, how are all these 'off-line' cars going to get home?" So, right here and now,

we're going to get the answer.

The chances are that many of the cars you and your pals are wondering about, are on their way home that very minute, and if you have gotten the idea that the cars are all mixed up, why they're really not mixed up at all! There's a complete record — a continuous record — of every freight car in the United States, whether it is loaded or empty, standing still in a yard or moving in a train. It's a big job, but every railroad has men who do nothing else but keep track of cars, and many of them started working as railroad messenger boys.

One of the best things about the 1,800,000 freight cars on American railroads is that they can be run on any railroad in the country, and are sent to the points where they are needed. All together they make up the car pool. The more than 700 railroads in the United States work together—just like a gigantic team—to make this car pool work smoothly, and a nation-wide organization — called the Association of American Railroads—constantly studies every section of America, to see where cars are needed most. This organization in Washington, D. C., with offices

throughout the country, tells how many cars and what kinds are needed at any place. And, to make sure there always are enough cars, each railroad plans its new freight car building program on what the association studies and finds out, plus what the railroad knows about the needs for cars in its part of the country. So, you can see how thoroughly the job is planned.

Under the car pool method, whenever a freight car is unloaded on a railroad which is not its owner, that railroad doesn't lose any time re-loading and starting the car back to its "home" line, and if it cannot be sent directly to its home line, it must be started in the right direction. In this way, all the 1,800,000 freight cars are at all times moving under a plan that has already been worked out. Each car has a place to which it is to be returned, and all railroad transportation men understand it. The plan is almost as simple as taking a book out of the library. You may take out the book, read it, and others may also read it, but it always gets back to the library and the library has a record of it all the time.

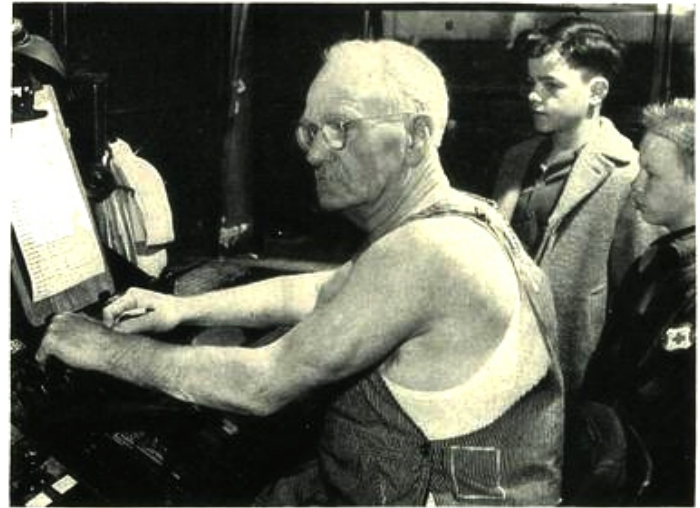
The car pool plan works well in other ways, too. If more cars are

needed in some special part of the United States, then the railroads begin to send cars of the needed kind. The minute these cars are no longer needed, they again automatically start to go back to their "home" stations. You can easily understand how a smoothly operating plan like this works just as well in war as in peace, and once again proves why the railroads are ever ready to take care of any special job.

And here's something else you probably didn't know! A railroad receives \$1 for each of its cars every day it is off the home line; payment being made by the railroad where

right—
This operator switches cars from his control tower (center foreground, lower picture) while two lucky boys look on.

below—
Proviso Classification Yard of Chicago and North Western at Chicago covers larger area than any other yard in world.



the car is at the time. The \$1 a day is paid regardless of whether the car is running, loaded or empty, or being loaded or emptied. Railroad clerks keep track of the cars and the payments to be made.

One of the most interesting jobs is getting the cars in the right trains for the best movement and to accomplish this the railroads have large freight yards, known as classification yards. That train you were watching is brought into the yard and the cars are switched out and transferred to the different tracks, depending on where the cars are to go. To do this, many classification yards have a "hump." The cars are pushed by switching locomotives to the highest part of the hump—an elevated track—where they are uncoupled. They roll down the inclined track—you'd probably call it a "roller-coaster"—toward a large number of long tracks and when they reach the level

of these lower tracks they are switched into the correct track by a man in a tower who controls the switches. Each track receives cars for certain points and when a group of cars is gotten together, enough for a train, a freight locomotive is coupled on the front of the chain of cars and a cabin car (caboose to you) is hooked on the rear, they get the "high-ball," and away the train goes!

It's really wonderful, this system of moving cars from one railroad to another and it can be done only because all railroads in North America have the same track gauge, meaning the width between the two rails, which is 4-feet, 8½-inches. Just stop and think how slowly a carload of coal would move if it had to be reloaded into another car every time it reached a different railroad. Sounds kind of silly, doesn't it? But that is just what would happen if a change

to standard gauge hadn't been made some 80 years ago. And here in the United States we are far more fortunate than folks in many other parts of the world, where steady movement of traffic is blocked by the many gauges of track, different kinds of brakes, different kinds of car trucks, and couplings, and different designs and measurements of cars and locomotives.

If you'd talk to an Australian boy, you'd learn that in his country there are five different track gauges. This slows the movement of cars and makes impossible anything like the pooling of cars we have in North America.

You've learned in geography classes how at one time different parts of our own country were practically shut off from one another. That was due largely to the fact that there was no through movement of

(Continued on page 17)

Old 67 Roars to the Rescue

Bill Kelley was too young to enlist—but so brave they made him a “General”



Young Bill Kelley

It was hot and dry under the Arizona sun on this summer morning in 1880 when Bill Kelley lifted the latch timidly and pushed open the creaking, weathered depot door. Buck Carr, veteran telegrapher for the Great Western Transcontinental Railroad, adjusted his octagonal spectacles.

“Whatcha doin’ here?” he asked. “Yuh ride over or walk?”

Bill Kelley bit his lip and drew himself taller. “I came on the paint to see Colonel Kilgore.”

“How’d you know he was here?” Carr asked. As the operator turned toward Kilgore the Colonel stepped forward.

“Where else would I be?” he said with just a trace of a smile. “With the responsibility of seeing that this railroad is guarded!” He extended a wide bronzed hand to Bill. “To what do I owe this honor?”

Bill swallowed hard and tried to keep his heart out of his throat.

“I . . . I come over from Bonebrake, Sir. I guessed you might be short of men . . . and I want to join up.”

Colonel Kilgore raised his hand and brushed his chin. “Hmm,” he mused. “How old are you?”

“Eleven, Sir.” Bill answered, “but I’m very big for my age. And I can ride; the paint and me know how to dodge around Injuns real good!”

Rusty Morgan, Superintendent of the Rattlesnake Division of Great Western grinned and asked, “Your

pa know you’re here?”

“I’m gonna tell him.”

“Well, I need good men,” the Colonel said seriously. “See me in, say, ten years.”

Spike Murphy, the big engine man, had entered while Bill and the Colonel were talking. He guffawed. “Don’t waste your time in the army, kid. Get on the railroad and I’ll show you how to drive Old 67. Fastest engine there is.”

Bill wanted to run but he wouldn’t let himself. Instead, he turned abruptly, strode to the door and went outside to the pony tied to the rail near the depot.

“Make dust, Pinto,” he said.

From the Stonetown depot to Bonebrake was a distance of ten miles westward and Bill rode slowly in a moody silence, allowing the horse to set his own pace. Late in the morning he reached Swollen River, a rushing torrent in springtime, but now a sickly stream trickling over the rocks. Here he dismounted to let the animal drink before the climb straight up the canyon trail



Bill ducked and lay close down on the horse's back

on the other side of the stream. Bill looked upward at the narrow trestle that bridged the canyon. From where he stood it looked like a plank across the walls of the gorge rather than a great wooden bridge that carried trains safely over a two-hundred-foot drop.

After a while he said: "Come on, Pinto. We ain't got all day. It's noon already."

At the top of the canyon trail he let the horse loose again to graze on the scrub grass while he gathered some dry sticks. From his saddle pack he took a small leather case of matches and lit the sticks. Then he took some string beef out of the saddle pack and laid it on a stone to await the embers.

"They got no sense, Pinto," he said aloud. "I'd make a darn good sojer."

Some sort of sixth sense told him to stamp out the fire. Cautiously he crawled on his stomach to the rim of the canyon.

"Jimminy Crickets!" He exclaimed. "Apaches!" He watched Chief Geronimo leading a column in single file along the river's edge, winding like a huge snake as far as his eye could reach. Their steady, dogged movement portended nothing but their hatred of the white man.

"Come on, Pinto," Bill whispered. "Give everything you got!"

At the edge of the mesa that overlooked the small group of cabins, he slid to the ground and led the paint to a cavern, where he looped a noose about the horse's neck and tied the other end to a jagged rock. Then the boy slipped quietly down the side of the mesa to Bonebrake, his home settlement.

Bill stood looking at his father's face. Pete Kelley seemed worried, mighty worried. For an hour the Redskins had circled the settlement, their maddening war cries broken only by the cracking of rifle fire. Gradually the circle was narrowing.

"We're sunk, Bill," the father said, "unless I can get through to Kilgore for help. They're too many and our ammunition is giving out." Pete Kelley looked steadily at his son. "I got to get through!"

A hopeful gleam shone in Bill's eyes. "Pop, let me. I got Pinto tied in the cavern . . ."

Pete Kelley shook his head. "I wouldn't even ask my men to." Then he dropped to the ground.

"Jud! Jud Hawks!" Bill yelled.

The man behind the wagon ceased firing and turned.

"Pop's been shot!"

Jud Hawks came over. "Yuh hurt bad, Pete?"

"Shoulder," muttered Kelley, "and my side. I'll be all right. You go for help. Bill can help me inside."

"I guess I'll drag you in," Hawks said. "Bill's already out among the rocks, headin' fer the mesa."

At the cavern Bill bridled the pony, but did not take time to fix the saddle. He led the horse out and made a running jump, striding bareback. Just then a scream of death rose over the edge of the mesa and Bill knew the Apaches had seen him. He slapped the paint's flank with his bare hand.

A shot ricocheted off a rock and whizzed past his head as he struck the trail toward the edge of the canyon. Bill ducked and lay close down on the horse's back, kept on the twisting trail, managed to keep a curve ahead of the screaming braves, just enough to spoil their aim.

The paint lathered at the mouth as they reached the Stonetown depot. Buck Carr saw him coming and leveled his carbine at the Apaches.

"CRACK! CRACK!"

The Redskins turned their horses about and rode off.

"The Apaches are attacking Bonebrake!" Bill cried. "We got to



Behind them was a crash as the trestle dropped

get help quick!"

Old 67 stood snorting, spurting steam from her boilers and smoke from her diamond-shaped stack. Rusty Morgan ran from the depot and stepped into the cab of the engine.

"Buck, you take care of Bill!" he shouted.

"But . . ." Bill gasped.

"Yuh're stayin' here, young 'un. Yuh've got yourself in enough trouble." Buck Carr placed a protective hand on Bill's shoulder.

67 chugged mightily. Bill looked about him. Rusty was in the cab; Kilgore had entered the coach that carried the men from the Stonetown Barracks. The train gathered speed.

"Look, Buck, is that an Injun?" Bill exclaimed.

Buck Carr turned to look and just then the rear car had come up to them. Bill sprang for the iron rail, pulled himself up the ladder to the roof of the car, opened the trap and dropped down among cases of explosives. For the last car carried ammunition for Bonebrake.

Ahead in the cab Spike Murphy opened the throttle full.

"We've got to make it, Spike!" Rusty said hoarsely.

"I'll make it if we have one rail left to ride on," Spike vowed. "We're makin' time. Just around the bend we cross the trestle. Then it's straight goin'."

The brakes screeched as Murphy slowed at the curve. Rusty gripped Murphy's shoulder.

"Spike! I smell smoke!"

"Great Jasper! The Redskins have fired the trestle!"

"Can we make it, Spike?" Rusty's voice showed great desperation.

"We've got to make it, Rusty. We've got to. Hold your hat and pray for that ammunition in the last car!"

67 matched smoke and fire with the burning bridge. Fire spurting from her stack while fire crackled beneath her wheels and flaming ties fell away like meteors. Every vibration of the engine made the whole framework tremble. But 67 roared on.

"We'll make it!" Rusty shouted.

Then a shuddering and a scraping of metal brought terror to their hearts. Behind them was a crash as the trestle dropped, a roaring inferno, into the canyon. The last car bumped on the roadbed, derailed, but clear of the bridge.

Colonel Kilgore jumped to the ground, ordered out his troops. Redskins began firing at them from behind the cover of the rocks along the road.

"Try to uncouple the car, Rusty! We'll keep 'em busy!"

Inside the ammunition car Bill guessed what was happening. He had heard the crackling of the fire, had felt the shuddering jolt as the car had left the tracks. He could hear the shots and war cries outside. A bullet splintered through the wall of the box car. He heard the grating of metal outside.

"They're uncoupling!" he cried aloud.

Bill was scared but he wouldn't admit it. Calmly he took the packet of matches from his pocket. He had not had time to replace them in the saddle pack when he first had seen the Apaches.

"If the Injuns capture this ammunition," he thought, "they'll wipe Bonebrake clean off the landscape."

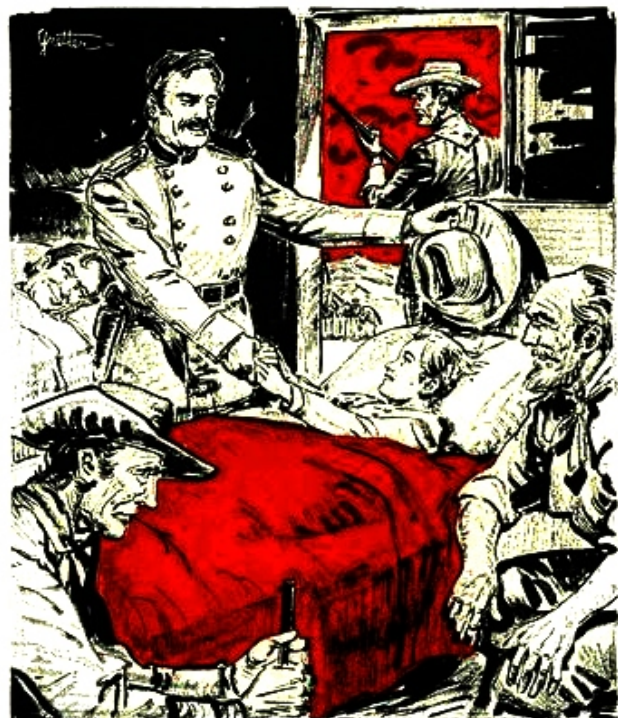
He broke open an ammunition case, piled the wood on the floor. He struck a match and lit the kindling, stood watching the flame lick up the dry wood. Cautiously he pushed open the side door and slid to the ground.

67 was pulling away slowly. Soldiers still were on the ground covering her get away, keeping the Indians back of the rocks. Bill rushed forward, yelling, "Wait for me!"

But the men did not hear him. The remaining soldiers climbed aboard as the train pulled out. The Apaches rushed out from the rocks, ran for the ammunition car. Suddenly they saw Bill and began to rain bullets in his direction. He tried to gather speed, but a bullet struck his leg. He felt the flesh burn, the bone crack. He fell face forward. All at once the earth beneath him rocked, his ears were split with the roar of exploding gunpowder. His last conscious thought was: "They won't use the ammunition on Bonebrake! They won't use it against Pop!" He didn't see the train stop and begin backing toward him.

Kilgore was the first to reach Bill. He picked the boy up in his arms. "He must have been in the ammunition car."

Rusty Morgan ran up. "Gosh!



*(Continued
on page 17)*

You're an Honorary General in my Company

FREIGHT CARS

railroad cars. One large Eastern railroad was built with a track gauge 6 feet wide, while the gauge on one of the Western roads was only 3 feet. In the south a 5-foot gauge was used.

Then things began to happen and railroad transportation greatly improved. The northern part of the United States was the first to use the English or Stephenson gauge, and the earlier railroads using it included the Baltimore and Ohio, the Mohawk and Hudson (forerunner of the New York Central and the Pennsylvania Railroad).

Canada started the Grand Trunk with a gauge of 5 feet 6 inches, and the Intercolonial went to the Stephenson gauge. President Abraham Lincoln was very much interested in railroads and he fixed 5 feet as the gauge of the Pacific Railroad to connect the oceans, but Congress opposed him and decided the Stephenson gauge was better and wrote it into the Act. In 1871, there still were 19 American gauges, but by 1887, nearly every important road had its rails 4 feet, 8½ inches apart.

Another thing, early cars and locomotives were of many different kinds, but that also is now long a thing of the past. Today, in 48 states of the United States, and in Canada and Mexico as well, not only is there the same track gauge, but also the same standards for car trucks, the same standards for brakes, the same standards for couplings—to hook the locomotives and cars together—and the same standards for building cars. You boys know that freight cars of one road will run along with those of any others, on the tracks of any road. Likewise, the passenger cars of any road are free to go anywhere on our continent.

Now all this didn't come about by chance. Many years ago the men, who, as boys, had seen how the railroads of earlier days were handicapped, began to plan wisely for the future, for they realized how important a nation-wide railway system would be in the development of our country and in keeping it secure.

END

TRAPPED ON A R. R. BRIDGE

dashed in front of it to reach the side of the bridge where the little boy was clinging.

Keeping his body as flat as possible, Walter wormed his way along the ends of the ties to the little boy. He arrived not an instant too soon. One of the child's legs was dangling in mid-air. Frightened and exhausted by the ordeal, his small fingers were beginning to relax their grip on the plank. At that moment Walter slipped a strong supporting arm around him.

Ten cars passed by the two boys as they fought to hold fast to the quivering plank. Below them was a terrifying drop. Only a few inches from their bodies whirled the wheels of the cars — so close that the grease-reeking journal boxes seemed to graze their faces. Finally the last car passed and the boys made their way back to safety.

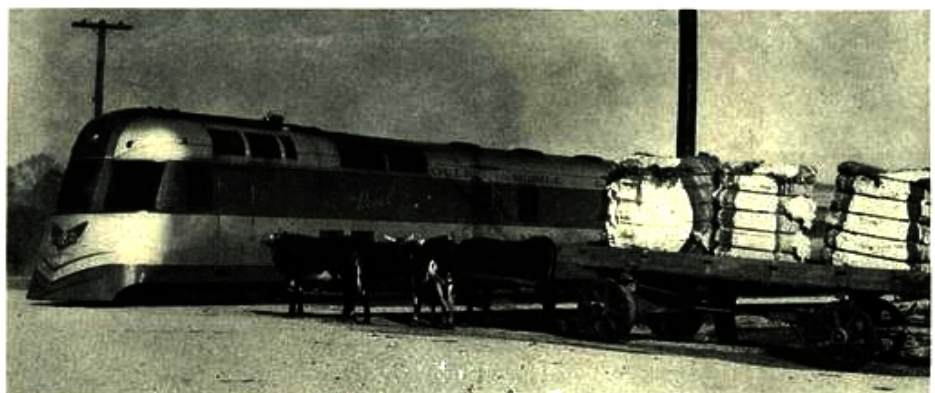
How does a boy feel after making an heroic rescue? Walter Fichter was as modest as he was brave. "We were pretty badly scared," he said.

END

The Old and New

Time has brought about an interesting comparison in travel and transportation.

Picture below shows "The Rebel" of the Gulf, Mobile and Ohio, zipping past an ox team somewhere in the sunny south. Ox teams with their loads of baled cotton are still in use, but it's slow traveling.



OLD 67 ROARS TO RESCUE

Then Bill set fire to it! What a kid!"

Kilgore was carrying Bill toward the train. Over his shoulder he said: "The explosions scared off the Redskins. They've left!"

Bill found himself in a bed placed right next to his father's. Colonel Kilgore, Rusty Morgan and Spike Murphy were there.

"The Injuns gone?" Bill asked weakly.

The Colonel nodded. "The Indians got word that we were coming and left off attacking Bonebrake to attack the train. They thought setting fire to the bridge would stop us and it nearly did. Your setting fire to the ammunition put them in a panic!"

The boy smiled. "Pop's all right?"

"Right here. Fell asleep soon as he heard you were safe." The Colonel paused as if searching for words, then gripped Bill by the hand. "There's a law," he said with a catch in his voice, "that keeps you from joining up, but you're a soldier if there ever was one. What the law says has no bearing on what you are, but I'm honored, Bill, to have you a member of my company. Law or no law, you're an honorary soldier, an honorary general in my company. And by heaven every man in my company has to salute you. Myself included."

Colonel Kilgore stood at attention and brought up his right hand in a salute. Bill solemnly replied in kind. But the eleven years poked through the surface.

"Gee, thanks, Colonel!" he whispered, and began to grin.

END

Gee! What do you know?

A Quiz on Railroads and Famous Railroad Men

See following pages for illustrated answers

Of course you've heard of Casey Jones, the hero of the famous railroad song. But do you know whether Casey Jones was a real engineer or a fictitious character? What is your guess?

Perhaps at some time you have traveled on a sleeping car. But do you know when the first sleeping car was used—and was it a Pullman?

The next question should be easy. Which of the following figures is correct for the percentage of the world's railroad mileage in the United States: 10%—30%—60%—90%?

You often hear railroad men speak of rails as being "100 pound," "125 pound," etc. Do you know what that means — and what is the heaviest rail in use?

Here are four tough ones. If you know the answers, you really know your railroading. 1—What is the longest stretch of straight track in the United States? (See if you can come within 20 miles of the correct answer.) 2—Which two Presidents of

the United States were former railroad men? 3—What State leads in railroad mileage? 4—What American city is the world's greatest railroad center?

Every boy has heard of Buffalo Bill. Perhaps your Dad or grandfather saw him in person. But do you know that he got his nickname while working for a railroad? And can you figure out why?

You naturally think of a railroad as operating on land. But do you know that American railroads also have their own "Navy"? Want to make a guess on how many ships and barges are in this "Navy"?

Here is the last question, and it is about electric railroads. See if you can pick the correct date when the first electric train service was started: 1875—1885—1895—1905.

It was a hard quiz, boys, so don't feel badly if you missed quite a few of them. See the following pages for the answers — and tonight try Dad on the quiz.

**TRAINS CROSSING THE WESTERN PLAINS
IN PIONEER DAYS OFTEN WERE DELAYED BY
THUNDERING HERDS OF BUFFALOES**



GEE !! WHAT DO YOU KNOW!!

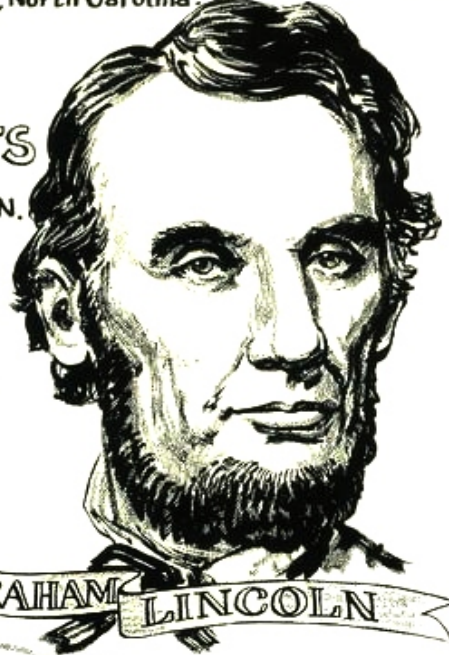


JAMES BUCHANAN

TWO PRESIDENTS

OF THE UNITED STATES WERE FORMER RAILROAD MEN. JAMES BUCHANAN WAS FIRST PRESIDENT OF THE HARRISBURG, PORTSMOUTH, MOUNT JOY and LANCASTER RAILROAD

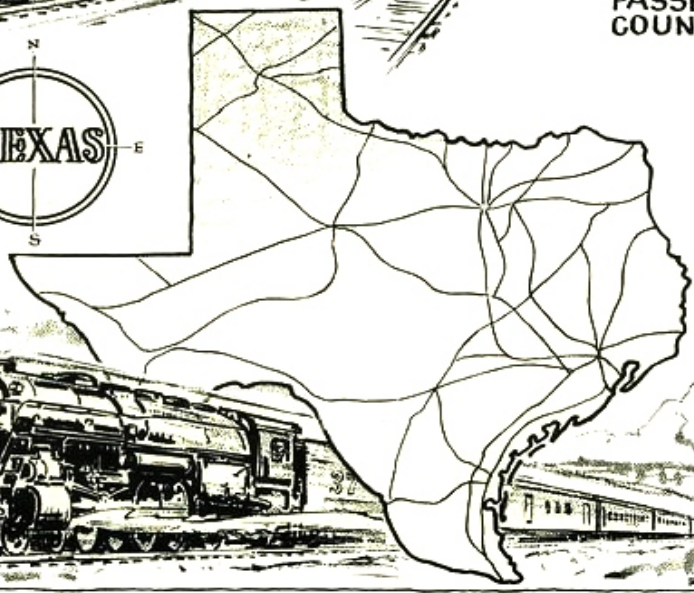
ABRAHAM LINCOLN WAS AN ATTORNEY FOR THE ILLINOIS CENTRAL AND ROCK ISLAND RAILROAD



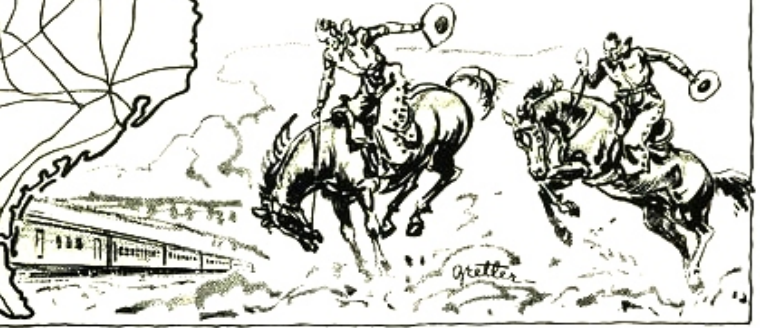
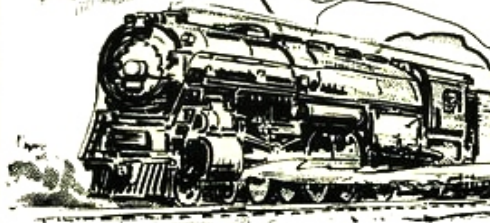
ABRAHAM LINCOLN



THE UNITED STATES HAS THE LARGEST NUMBER OF HIGH-SPEED PASSENGER TRAINS OF ANY COUNTRY IN THE WORLD.



TEXAS LEADS ALL STATES IN RAILROADING MILEAGE WITH 16,356. ILLINOIS WITH 11,949 MILES IS SECOND, and PENNSYLVANIA WITH 10,328 IS THIRD



GEE !! WHAT DO YOU KNOW!!



"CASEY JONES"

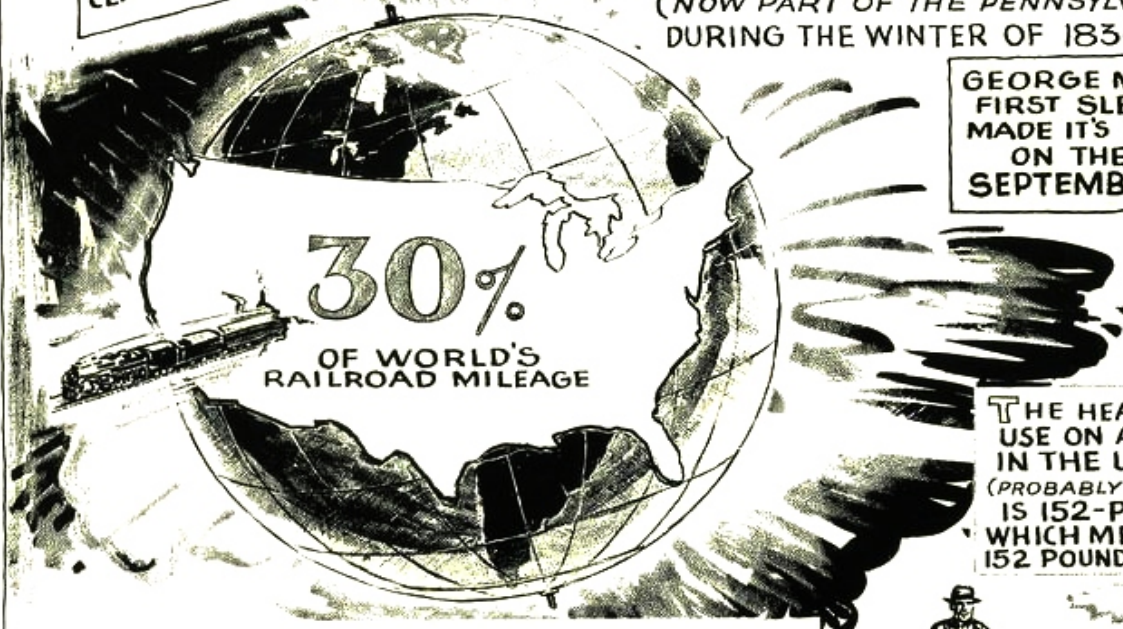
HERO OF THE RAILROAD FOLKSONG

WAS JOHN LUTHER JONES
A POPULAR LOCOMOTIVE
ENGINEER ON THE MISSISSIPPI
DIVISION OF THE ILLINOIS
CENTRAL RAILROAD IN THE 1890's



"THE FIRST SLEEPING CAR IN THE WORLD"
RAN ON THE CUMBERLAND VALLEY RAILROAD
(NOW PART OF THE PENNSYLVANIA)
DURING THE WINTER OF 1836-37

GEORGE M. PULLMAN'S
FIRST SLEEPING CAR
MADE ITS INITIAL TRIP
ON THE NIGHT OF
SEPTEMBER 1, 1859



30%
OF WORLD'S
RAILROAD MILEAGE

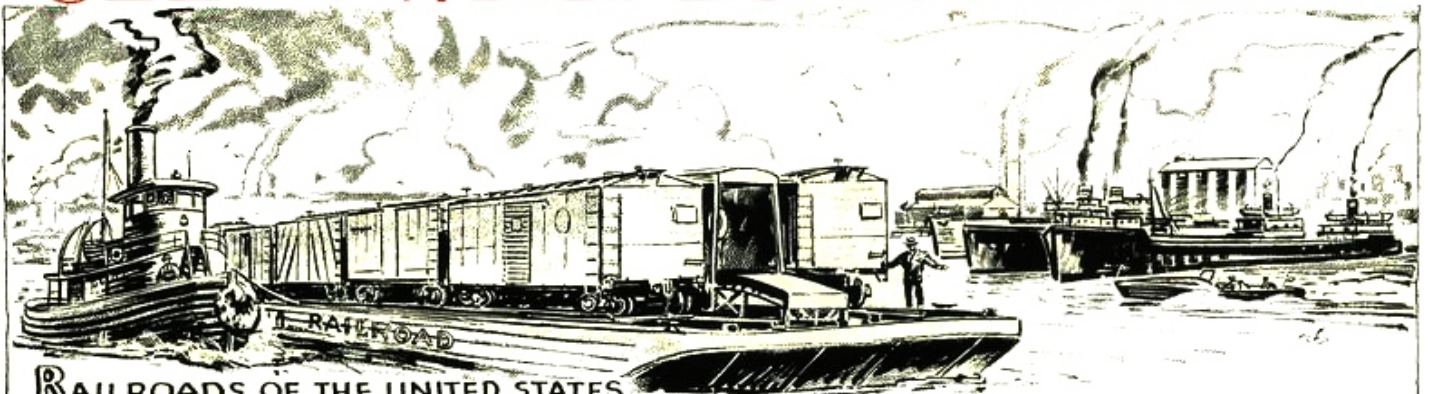
THE HEAVIEST RAIL IN
USE ON ANY RAILROAD
IN THE UNITED STATES
(PROBABLY IN THE WORLD)
IS 152-POUND RAIL,
WHICH MEANS IT WEIGHS
152 POUNDS TO THE YARD

THE WORLD'S TOTAL RAILROAD MILEAGE
IS NEARLY 790,000 OF WHICH
APPROXIMATELY 234,000 MILES,
OR ABOUT 30 PER CENT. ARE IN
THE UNITED STATES.



Gretter

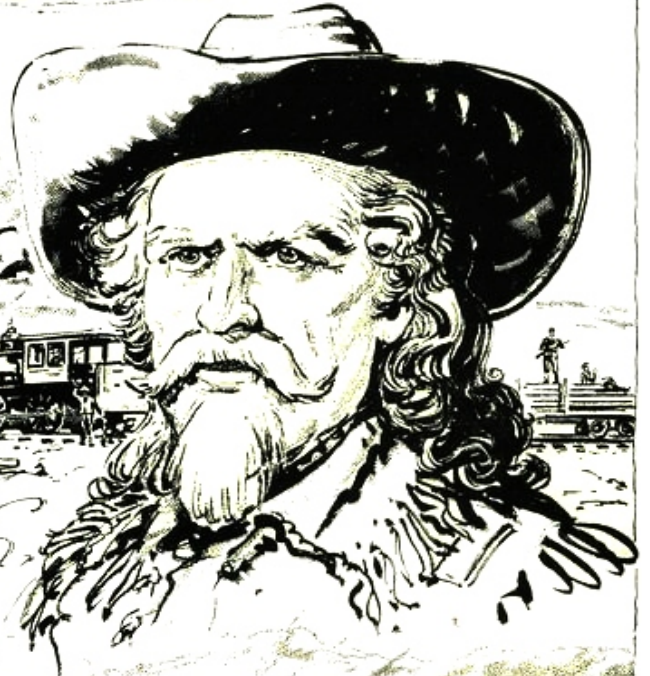
GEE !! WHAT DO YOU KNOW!!



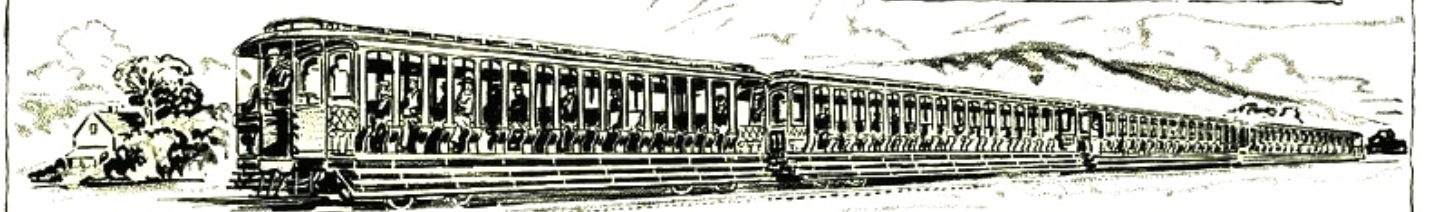
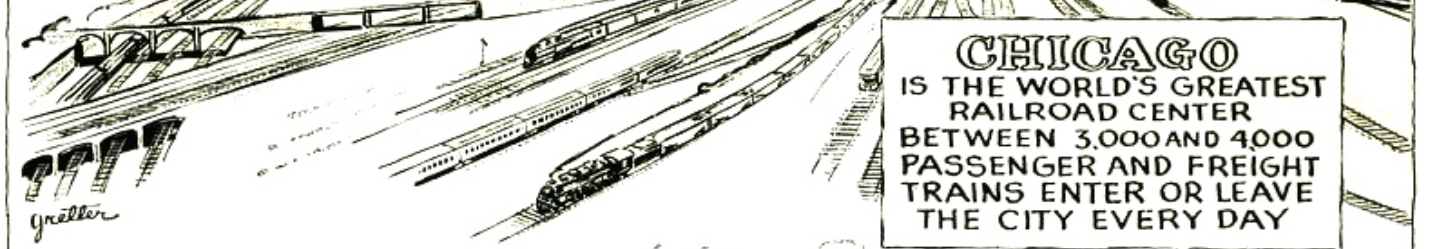
RAILROADS OF THE UNITED STATES HAVE A NAVY OF MORE THAN 1900 TUGBOATS, STEAMBOATS, CAR FLOATS, BARGES, FERRIES AND OTHER PIECES OF FLOATING EQUIPMENT

WILLIAM F. CODY
FAMOUS WESTERN SCOUT
AND INDIAN FIGHTER, GOT
HIS NICKNAME OF
"BUFFALO BILL"

BECAUSE HE SUPPLIED BUFFALO MEAT
TO THE WORKMEN BUILDING THE
UNION PACIFIC RAILROAD



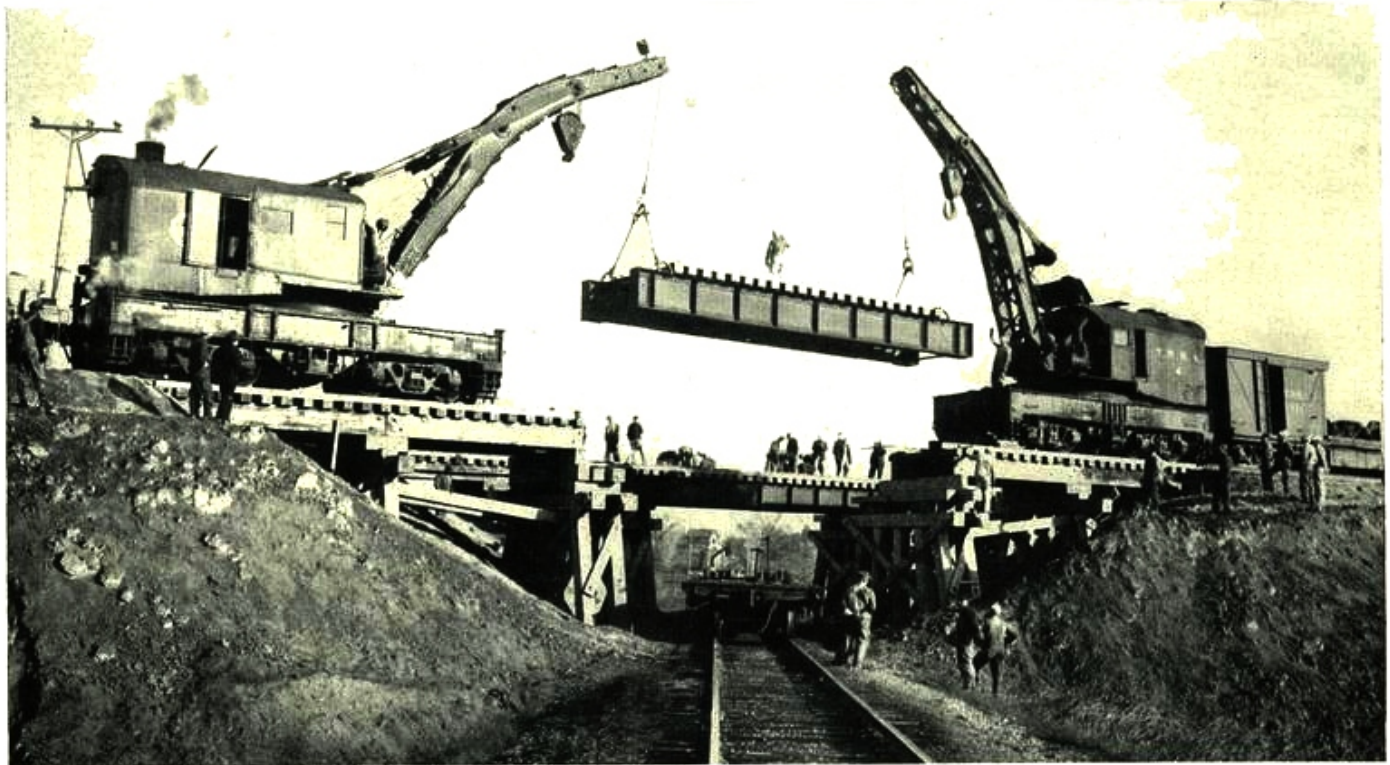
CHICAGO
IS THE WORLD'S GREATEST
RAILROAD CENTER
BETWEEN 3,000 AND 4,000
PASSENGER AND FREIGHT
TRAINS ENTER OR LEAVE
THE CITY EVERY DAY



THE FIRST ELECTRIC TRAIN SERVICE IN AMERICA BEGAN ON THE 7-MILE NANTASKET BRANCH OF THE NEW YORK, NEW HAVEN, AND HARTFORD RAILROAD ON JUNE 30, 1895

Call out "The Hook"

Bob learns that the Big Derrick can do a lot of things besides lifting a derailed car back on the track



Here are a couple of "Big Hooks" lifting into place a set of heavy bridge girders complete with ties and rails. The long, crane-like shafts extending out to support the steel cables, are called "booms." A man on each derrick is controlling the movement of the heavy load by a number of levers inside the covered part of the machine.

"Yes, sir! If we only used 'the big hook' for wrecks, we wouldn't need it very often, because wrecks are few and far between."

Thus spoke "Old Joe" Riley, a veteran of many years on the railroad, who was showing his grandson, Bob, around the enginehouse yard. "The big hook," of course, was the powerful derrick, always kept under steam, ready for any emergency. Bob, like most persons, had always thought that the derrick was used only for wrecks, but his grandfather pointed out that it has many uses.

"Why, we don't even call it a wreck derrick," continued Mr. Riley. "We either just say 'derrick,' 'the hook,' or 'big hook.' Whenever we have any extremely heavy jobs to do, such as removing steel girders on bridges, or setting new ones in

place, we just call on the 'hook' crew and the job's done in a jiffy!

"Setting new turntables in place, lifting heavy steel beams, unloading machinery and other heavy shipments, or transferring or adjusting heavy shipments, are a few of the jobs that powerful ol' derrick will do well!"

Bob was particularly interested in the derrick, because he had a small one among his American Flyer electric train equipment and always kept it on a sidetrack on his big track layout in his attic at home, just like the big derrick his grandfather was showing him.

"And do you know something?" queried Bob, rather excitedly. "The man at the department store who sold it to my dad and me, told us that out in Hollywood the movie producers use miniature toy trains

for wrecks and when the pictures are shown they actually look like real wrecks."

But before his grandfather could answer, a nearby whistle let out a deafening screech—a long shrill one—followed by two more.

"That's the wreck signal!" shouted Mr. Riley. "I wonder what's up? We'll just sit right here, Bob, and you can see how a derrick crew gets ready for a trip."

Bob naturally was excited, but his grandfather, who had been around the railroad for more than 40 years, was very calm and explained to his grandson just what takes place when the derrick is needed out on the railroad.

On this occasion, a carload of coal had been derailed in such a position that the freight train crew couldn't get it back on the rails with wood

blocks and other equipment at hand, so the conductor went to a nearby telephone along the railroad track and explained the trouble to the train dispatcher. He, in turn, notified the powerman in the train master's office. The powerman called the crew dispatcher, who ordered the train and locomotive crews for this run.

Since the derailment happened in the day time, the crew dispatcher didn't have to telephone the wreckmaster and the other nine or ten men of his crew, because they heard the whistle as they worked in the nearby car repair shop and hurried to the derrick. The crew dispatcher had notified the enginehouse foreman to arrange for the three shrill blasts of the whistle. The enginehouse foreman also ordered out a locomotive. His orders are to select either a passenger or freight locomotive, but one which already is under steam and ready to go.

The train, in addition to the derrick, has a derrick idler car, over which hangs the boom, or long iron neck, of the derrick. Also on the idler car are extra car trucks, lifting beams and large steel hooks. A cable car carries extra steel cables for the derrick and other cables for the various types of work the crew is called

upon to do. The tool car contains a complete machine shop and has all the tools used by the crew. The riding and sleeping car has seats, beds (bunks), a locker room and wash-room facilities, and the commissary (dining) car has a large refrigerator, stoves and complete restaurant facilities, and about 25 men can be served at once. Out on a job, all crew members, and other employees who may be working with the derrick eat in the commissary car. But let's see what happened when the derrick crew reported:

The derrick engineer looked over the 'big hook', already under steam; checked the water in the boiler and the water in the supply tank and made certain there was a good supply of coal for fuel for the derrick.

At the same time, other members of the crew checked and packed the journal boxes on all the cars and the cook started preparing a meal. A clerk makes certain all members of the crew are on the job. He also made a record of the time the locomotive coupled onto the train and the time the air brakes tests were completed.

"Now the train crew has its orders and it's ready to go," Mr. Riley told Bob. "It will go as far as the first block station or tower, to get further

orders before it can advance any further on the main track."

So off it went, the six-car train with the big hook appearing like some smoking iron monster.

What happens when the big hook arrives depends on how difficult it might be to lift the derailed car back on the track, but every man knows his job.

Some members of the crew get the derrick ready for work. It is securely anchored by large wooden blocks which are placed underneath to make the base more rigid, so that it will be ready for hoisting heavy loads. Other workmen remove from the train the necessary cables and hooks to be used in the rerailing work.

When the job is done, the operations are just reversed: the blocks are removed from under the big hook, the other equipment replaced on the train and it starts for home. If the car was damaged when it was derailed, the derrick train brings it along to the nearest car repair yard or shop.

"Yes, sir! The 'big hook' is quite an important piece of machinery," said Mr. Riley, and grandson Bob agreed, for he never had realized that it is used for so many different purposes on the railroad.

END

More than 700 All-Americans on this team!

Rah, Rah, Rah, for the A.A.R.!

America has more than 700 separate railroads, large and small. Yet, a shipper can load a freight car anywhere in the United States and have it delivered at any other railroad station on the continent. A passenger can get on a train and travel for hundreds of miles, sometimes over the lines of several railroads, without changing trains.

This is possible largely because the railroads are organized as a team. Heading up railroad organization today is the Association of American Railroads, with headquarters in Washington, D. C., and offices in many other cities throughout the country.

The Association of American Railroads is made up of a number of departments, with divisions and sections, which handle matters concerning the whole field of railroading. Its biggest job has to do with the many arrangements required in moving cars from railroad to railroad, and the sending of fleets of cars where they are needed, especially during emergencies.

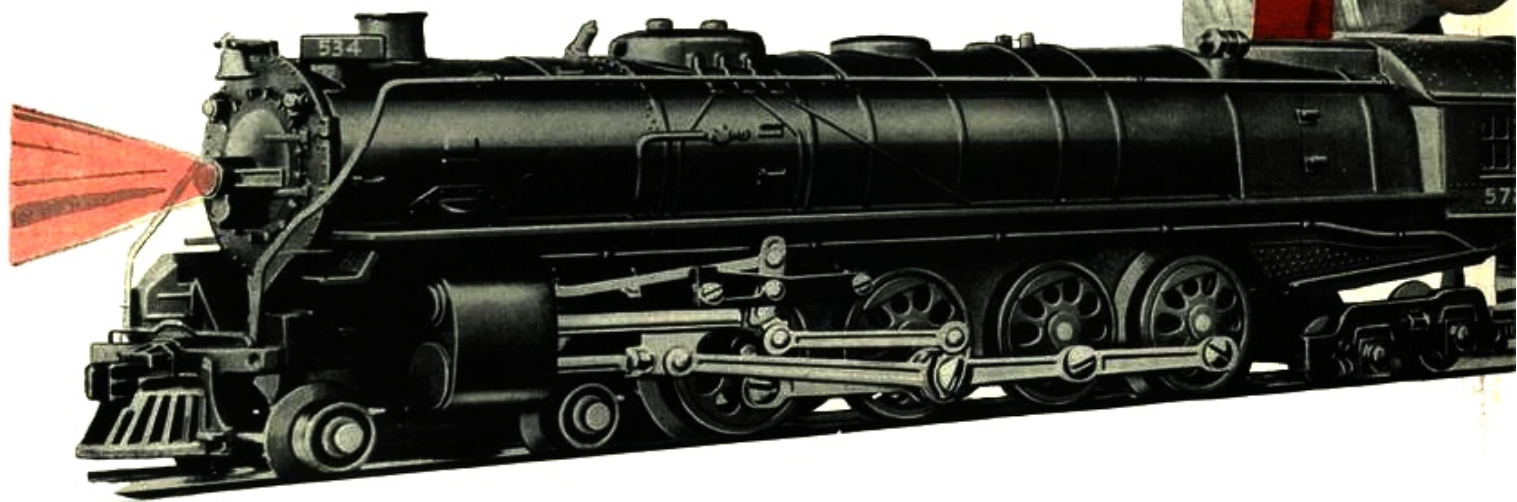


TODAY
PUT YOUR
MONEY IN
WAR STAMPS

Because Uncle Sam needs the metal for war, American Flyer Trains cannot be built now. So why not do this? Tell Dad to give you War Stamps this Christmas. Put them in a special envelope and mark it "FOR MY AMERICAN FLYER TRAIN."

Tomorrow

- ★ LISTEN TO THAT "CHOO-CHOO"
- ★ See what a steady surge of power that worm drive locomotive gives
- ★ *Only American Flyer brings you these super-realistic, super-thrilling features*



THE new American Flyer Trains (to be ready after the war) are the greatest marvels of precision and realism ever known in electric railroading.

They not only look just like real but they also *sound* just like real. The marvelous American Flyer built-in "choo-choo" accurately reproduces the tempestuous rumbles of a giant locomotive under full steam. So distinct are its choo-choos that they can be heard at distances of over 100 feet. Most exciting of all, they change tone and tempo with every change in train speed. Deep-throated, impatient choo-choos when your train is standing still . . . eager, faster choo-choos as it picks up speed . . . roaring, racing choo-choos when you open the throttle wide.

PRECISION CONTROL AT 1 TO 120
SCALE MILES PER HOUR

The scientifically designed worm drive with which every American Flyer locomotive is equipped enables you to operate your train like a true engineer. It banishes jerky "jack rabbit" pull. You can nose your train out of the station and maintain slow speeds without danger of stalling. You get a steady surge of power at high speeds, and 120 scale miles per hour are easily possible. At all speeds worm drive is amazingly quiet.

THE A. C. GILBERT COMPANY, NEW HAVEN, CONN.

OWN AN AMERICAN FLYER HOTSHOT

and all this spectacular action equipment



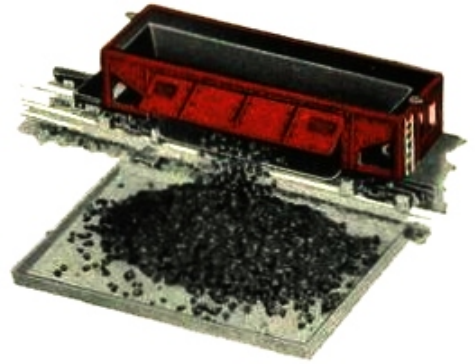
FLASHING SEMAPHORE

Arm shifts automatically. Shows red light to stop train—green light to go. Permits realistic two train operation on single track.



ARMY UNLOADING CAR

Press remote control button and automatically car platform swivels, tilts and shoots the armored car down the incline.



COAL DUMP CAR

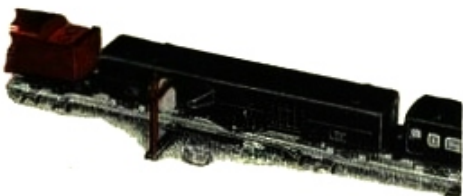
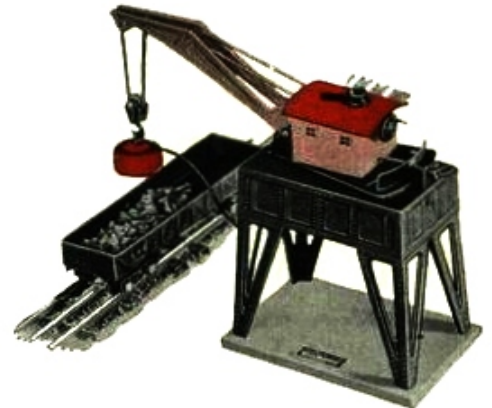
Side of car opens and automatically dumps load of coal into bin the moment you press a remote control button.

CHOO-CHOO
CHOO-CHOO



ELECTROMATIC CRANE

Grabs up load of steel by electro magnetic power—swings it over car and unloads in car. All movements directed by remote control.



MAIL PICK-UP CAR

Press a remote control button and —while train is in motion— car automatically grabs one sack of mail and tosses out a second sack.



REALISTIC WATER TANK

Water spout raises and lowers when you press remote control button. Built to scale and realistic in appearance. Aviation beacon on top.

REALISTIC TRACK GANG SET

Flagman automatically moves forward and men stop work when train approaches. When train has passed, flagman moves back and men resume work.



Round and Round it went!

John Stevens' Locomotive of 1825, first to run on a track Thrilled boys of Hoboken

As a boy, George Brown was a lucky fellow, for—believe it or not—he rode on the first locomotive built and operated on rails in America!

No, George didn't build this locomotive, but a neighbor, Colonel John Stevens, did. George and his parents lived near the home of Colonel Stevens at Castle Point, Hoboken, N. J., in the 1820's.

Colonel Stevens was popular with the boys in the vicinity, because he was always tinkering on some new gadget which used steam as power, and, as long as the youngsters didn't interfere with him in his experiments, they were welcome in his workshop. Quite often, too, the Colonel had jobs where the boys could help him and this was how George Brown happened to get a ride on the first locomotive, which was built by Mr. Stevens in 1825.

Colonel Stevens is known as the "Father of American Railroads," and perhaps did more than any other man to get the railroads started. He believed in the future of steam as power for transportation and was determined to put it to work to prove to himself and to the world that he was right. He built and ran a steamboat nine years before Robert Fulton built the "Clermont" and George Brown and his pals were always around when the boat started a run. Colonel Stevens also patented a multitubular boiler in 1803.

He also is famed for having obtained the first charter under which any railroad project ever was undertaken—the earliest of the lines now comprising the Pennsylvania Railroad system—having been chartered by Mr. Stevens in 1823.

George was naturally familiar with the Colonel's activities, and, like the boys of today, he was eager to learn more about transportation and how the peoples of the world had traveled and how they had



JOHN STEVENS
Father of American Railroads

transported goods through the years up to the 1820's. Although there were no railroads, his uncle had traveled rather extensively by ship and stagecoach, so George used to sit by the hour and listen to his uncle tell how he had traveled to far-off places—at least far-off for those times.

He explained that the world had grown through its thousands of years of existence because people had always found a way to get from one place to another, and not only had they steadily developed new and better means of transporting themselves, but also have invented and improved ways of carrying the necessities of life. Man's earliest journeys were on foot. He used his legs to walk or run, carrying burdens in his hands or arms, or on his head, shoulders, or back.

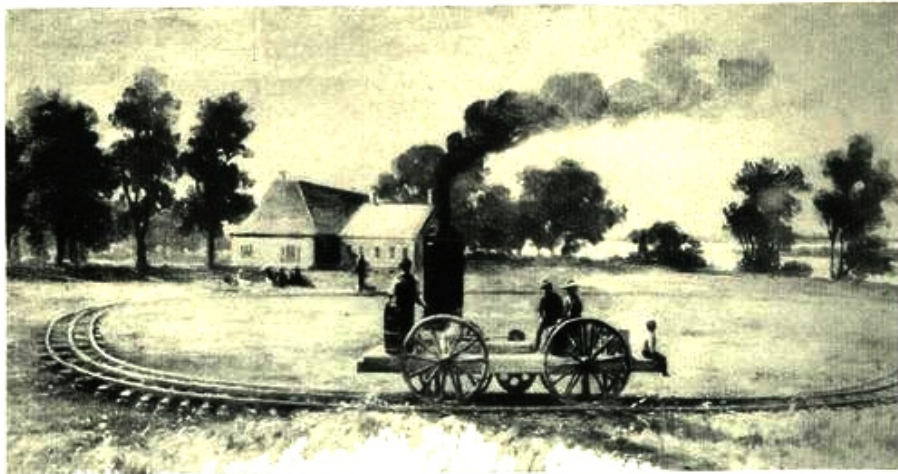
George and his uncle agreed that the development of improved modes of travel and transport through the ages is most interesting. Man tamed the camel and horse and put them to work as carriers. The horse and the ox were trained to pull sledges or sleds, packs and drags, and dogs, elephants and mules have been used for many centuries in the movement of people and goods.

With the invention of the wheel—and apparently no one knows who did invent it—there was a speeding up of travel and transport. Ox-carts and chariots came into use and shortly after the birth of Christ, the Romans transported goods by wagons on the great highways for which they became famous. Civilization spread as modes of travel and transport were quickened and villages and towns sprang up in distant places. The first coach—owned by a European emperor—came into use late in the 15th century, and George was familiar with the stage coaches with fast horses which were covering distances up to 200 miles in 20 hours, just at the time Colonel Stevens and others were planning the first railroads.

Going back a little, probably the first improved method of transport in America was the travois, built by the Indians. It consisted of two poles, one fastened on each side of a horse, or dog, as shafts, to which crossed sticks were attached behind the animal to provide a platform for the goods to be carried. The rear ends of the shafts rested on the ground and were dragged by the horse, or dog.

George could hardly believe his uncle when he told him that there was no record of any vehicle using wheels in America prior to the landing of Christopher Columbus in 1492, for stage coaches had been passing his home ever since he could remember; just as it is difficult for us to think of the time when there were no railroads.

The colonists built and operated the first stage coach lines in America for carrying travelers and the Dutch farmers of Pennsylvania constructed around 1725 a large heavily-built wagon—known as the Conestoga wagon—which was used for carrying freight. These vehicles usually were



"Round and Round it went" at Castle Point, Hoboken, N. J.

pulled by six strong horses, and often several of the wagons were joined together to form a train for long overland journeys.

There was quite a span between the Conestoga wagon train and the steam train, for no practical use of steam as motive power for any type of transportation was made until 27 or 28 years after the signing of the Declaration of Independence—July 4, 1776. For many centuries men had known the power of steam, but did very little to harness it and make it work. In 1804, Oliver Evans, a pioneer steam engine builder, of Philadelphia, constructed a strange looking conveyance he called "Orukter Amphibolos," which was propelled through water and over land by steam power. Then in 1825, Colonel John Stevens turned out America's first steam locomotive to run on rails. It operated on a circular track on his Hoboken estate, and as it went round and round, the boys of the neighborhood really had a holiday.

And while George and his pals were being thrilled by this successful experiment in New Jersey, English boys were having a similar experience, for on their side of the Atlantic, Richard Trevithick and George Stephenson, locomotive builders, were busy. A trial trip of a train, consisting of a locomotive and one coach, on the Stockton & Darlington Railway was made on Sept. 26, 1825. Soon a number of railroads were started in the United States,

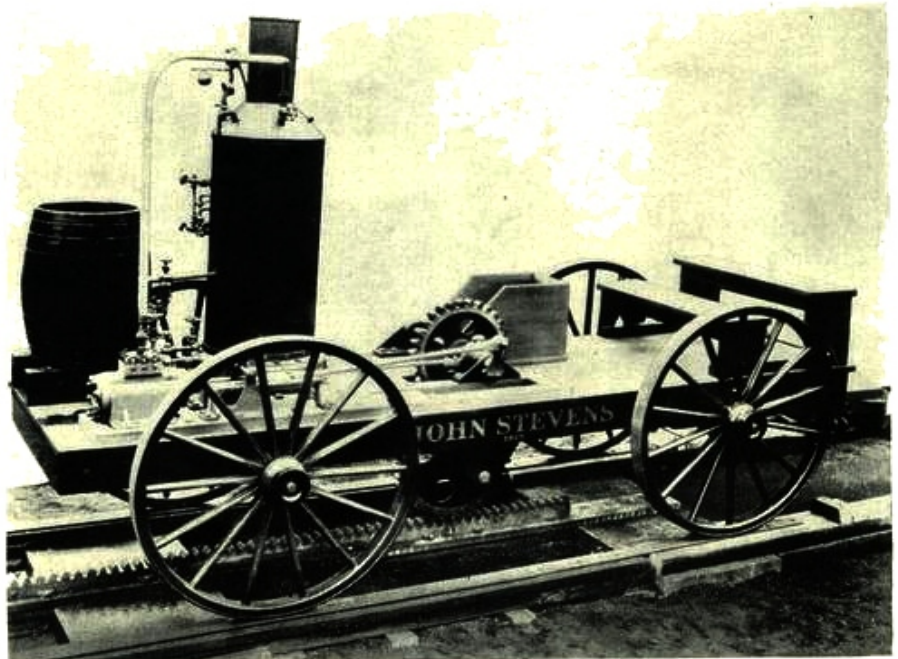
chiefly in the Atlantic seaboard territory. The "Stourbridge Lion," which had been built in England and brought to America on a sailing vessel, was the first locomotive to run on the Delaware and Hudson, having made a trial run on August 8, 1829. When the "Stourbridge Lion," chugging, puffing and making strange sounds, emerged from a clump of trees like a great smoke-belching iron monster, frightened wild animals and birds scattered in all directions.

Ground was broken for the Baltimore & Ohio on July 4, 1828, and was opened for traffic for 14 miles in

1830. At first, horses pulled the cars. The Philadelphia & Columbia line in Pennsylvania and the Camden & Amboy in New Jersey (both now included in the Pennsylvania Railroad) were started in 1829 and 1830. The line between Charleston and Hamburg in South Carolina (now part of the Southern Railway), and the Mohawk & Hudson, pioneer company of the present New York Central, also were under construction in 1830.

Among the early locomotives to run on these lines in 1830 and 1831 were the "Best Friend of Charleston" of the Charleston & Hamburg, "John Bull" of the Camden & Amboy, and the "DeWitt Clinton" of the Mohawk & Hudson.

Little did George Brown realize as he was chugged around Colonel Stevens' estate on the odd-looking first locomotive in 1825, that railroads were soon going to be all-important in the field of transportation. Through the years great advances have been made, and are still to be made, in steam locomotive development. Electric locomotives were introduced in 1895, and diesel-electric locomotives first came into use in 1934. Great is the future for all types of locomotives in the years ahead!

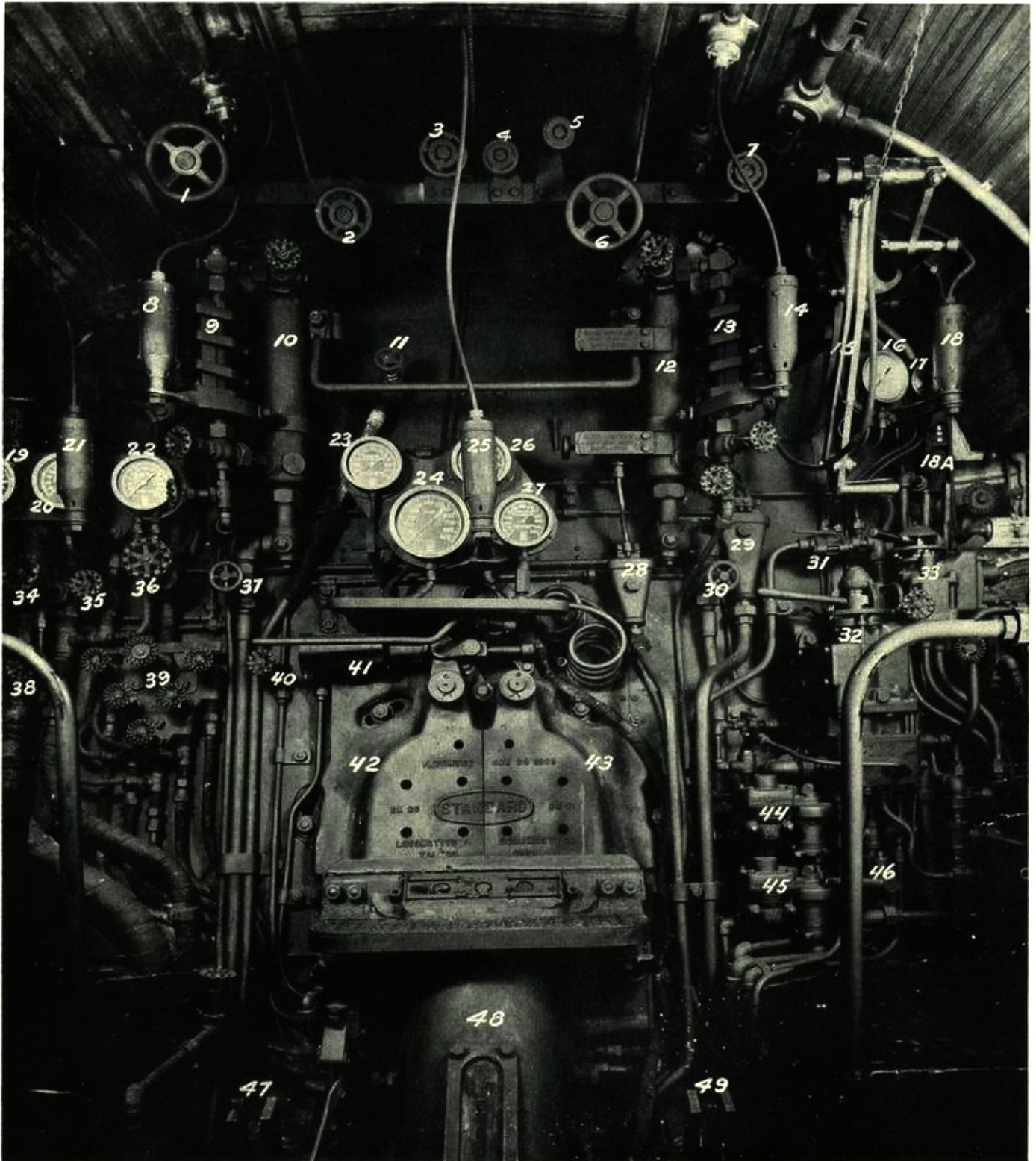


First Locomotive in America to be driven by steam, upon a track

At the Controls in a Locomotive Cab

What Engine Crews see as they
whiz over the shining rails

See chart for listing on opposite page



NAME OF ITEM	PURPOSE OF ITEM
1. Injector steam valve	Admits steam from boiler to steam pipe to injector.
2. Steam heat valve	Admits steam from boiler to steam heat line.
3. Stoker steam valve	Admits steam from boiler to all stoker steam lines.
4. Lubricator heat valve	Admits steam from boiler to steam line to lubricator.
5. Electric generator steam valve	Admits steam from boiler to steam line to generator.
6. Turbo-injector steam valve	Admits steam from boiler to steam line to turbo-injector.
7. Cylinder cock steam valve	Admits steam from boiler to steam line to cylinder cocks.
8. Left water glass lamp	Illuminates left water glass.
9. Left water glass	Shows fireman the height of water in boiler.
10. Left water column	Provides mounting for water glass.
11. Surface valve	Used to blow off surface water in boiler.
12. Right water column and gauge cocks	Provides mounting for water glass and means for engineman to determine height of water in boiler.
13. Right water glass	Shows engineman the height of water in boiler.
14. Right water glass lamp	Illuminates right water glass.
15. Throttle lever	Used to control supply of steam to locomotive cylinders.
16. Main air gauge	Shows main reservoir pressure and train line pressure.
17. Independent brake air gauge	Shows locomotive brake cylinder and brake pipe pressure.
18. Gauge lamp	Illuminates air gauges.
18-A. Cab Signal indicator	Reproduces the wayside signals before the eyes of the engineman.
19. Stoker engine gauge	Shows steam pressure to stoker engine.
20. Fine coal gauge	Shows steam pressure to fine coal stoker jet.
21. Gauge lamp	Illuminates stoker steam gauges.
22. Duplex stoker gauge	Shows steam pressure to stoker jets.
23. Turbo-injector delivery temperature gauge	Shows temperature of water being delivered by turbo-injector.
24. Main steam gauge	Shows steam pressure in boiler.
25. Gauge lamp	Illuminates gauges 23, 24, 26 and 27.
26. Turbo-injector regulator pressure gauge	Shows steam pressure to turbo-injector regulator.
27. Turbo-injector delivery pressure	Shows pressure of water leaving turbo-injector.
28. Drip from mountain cock	Used to determine level of water on steep grades.
29. Drip from gauge cocks	Carries away the discharge when gauge cocks are used.
30. Water column drain valve	Used to blow down water column to keep column clean.
31. Drifting control valve	Used to hold poppet valves off seats when drifting.
32. Engineman's automatic brake valve	Used to operate automatic air brakes.
33. Independent brake valve	Used to operate locomotive brakes independent of train brakes.
34. Main stoker valve	Used to control steam to stoker.
35. Service stoker valve	Used to control steam to stoker engine.
36. Main steam valve to stoker jets	Used to control steam to all stoker jets.
37. Water column drain valve	Used to blow down water column to keep column clean.
38. Injector heater valve	Used for controlling steam to injector heater.
39. Stoker jet control valves	Admits supply of air to fire door operating cylinder.
40. Fire door cylinder valve	Operates mechanism for opening and closing fire door.
41. Fire door operating cylinder	Provides opening to firebox for hand firing or looking at fire.
42. Half fire door	Same as 42.
43. Half fire door	Same as 42.
44. Feed valve	Maintains predetermined train line pressure.
45. Reducing valve	Reduces main reservoir pressure to air signal line.
46. Double heading cock	Used to cut out the brake valves when locomotive is second in a double header.
47. Grate shaker posts	Handle is applied to posts to shake grates.
48. Stoker elevator	Elevates coal from tender to firing table.
49. Grate shaker posts	Same as 47.



What the Engineman sees



What the Fireman sees



In the cab of a streamlined Electric Passenger locomotive—Note reproduction of wayside signal on panel board in cab.



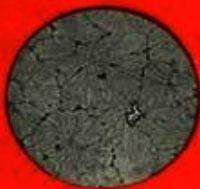
How an approaching freight appears to the fireman of an opposing Santa Fe diesel.

Most Powerful of the Rock Island's Freight Locomotives

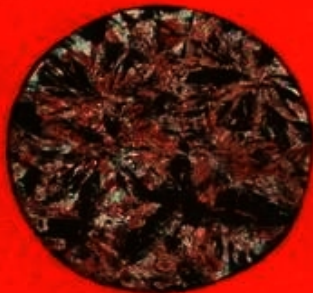
Known as the 5000-class, these locomotives are equipped with roller bearings and are able to pull mile-long trains at high speeds



REVEAL NATURE'S
SECRET COLORS—
TREMENDOUSLY ENLARGED



SUGAR CRYSTALS UNDER
ORDINARY MICROSCOPE



COLORS REVEALED BY
GILBERT MICROSCOPE

They're Super

THESE GILBERT POLARIZING MICROSCOPES!

You open the door to a new wonderland of Nature's hidden colors with a Gilbert Polarizing Microscope. Not only do objects appear 150 times larger, but they blaze forth in startling colors that are invisible to the naked eye or with ordinary microscopes.

Sugar crystals look like an array of brilliant jewels. Layers of Cellophane take on weird and fantastic hues. Plants, fibres, minerals all reveal strange, vivid colors under these uncanny lenses. Each specimen brings new thrills.

THE A. C. GILBERT COMPANY,
NEW HAVEN, CONN.



COME ON IN, BOYS — THE FUN IS FINE

Thrills by the dozen await you at the Gilbert Hall of Science

HAVE you ever seen an electric train layout so true to life that you feel you are up in an airplane looking down on a real railroad system? It is only one of many spectacular sights you will find at the famous Gilbert Hall of Science.

So step up close and watch this exciting railroad drama. Before you is a fascinating maze of tracks, switches, semaphores, stations and other realistic equipment.

A sleek passenger train is speeding over the rails—and you hear its deep-throated “choo-choos” echo and re-echo. Now a big freight locomotive pulls out of a siding. As if by magic, a switch opens and it is on the main line, mingling its thunderous, realistic “choo-choos” with those of the passenger train.

The two trains are now on the same track. Each turn of the wheels brings the rear train nearer and nearer. Will there be a collision?

No! Suddenly a semaphore flashes red! Automatically the rear train comes to a stop. When the first train is well out of danger, the semaphore flashes green and the second train automatically moves forward again.



*Make this your first stop when in New York.
It's on Fifth Avenue at 25th Street.*

Blood-tingling action like this makes a visit to the Gilbert Hall of Science an occasion you will never forget. Let's hurry and see more things.

Over here is a Jacob's Ladder—two tall metal poles between which brilliant electric flashes dart. Nearby is a jumping ring—a heavy metal ring mounted on a device that resembles a croquet

wicket. Every few seconds it takes a flying leap to the other side, leaving you wondering what makes it do it.

At various places are peep-box windows. Underneath is a little button and a sign “Push me.” You push—and perhaps wheels whir or curious substances change color. Each button brings a new, spectacular surprise.

“Choo-choo . . . choo-choo.” American Flyer Trains not only look just like real but they also sound like real trains.

Double-deck Coaches . . Triple-deck Sleepers

What next in those Wind-Splitting Dreamliners of the Future?



Double-deckers due after the War — Three now in use by Long Island Railroad

You fellows who have made up your minds to be engineers have a swell idea! Stick to it, carry it through, and you'll help design those super-duper wind-splitting streamliners of the future that will streak over the shining rails faster than ever before!

And here it might be well to explain that we are speaking of those engineers who design railroad equipment, including locomotives, cars, tracks and bridges, rather than the enginemen of the locomotive cab who usually are called engineers. These motive power and maintenance engineers will show us how we will ride, how fast and how comfortable we will ride, and how freight traffic will be transported, so that's where you young engineers-to-be fit into the railroads of the future.

As you read on you may think that with all the wonderful advances, Engineers of today have given us and with further advances on the planning boards, that the job is pretty well covered—that it's nearly perfect—but such is not the case. No sir, there's plenty to be done and you boys of today,—“engineers of tomorrow” will have a part in the future wonders of railroads.



More seats for patrons—Unique two-tier seating arrangement—for greater comfort and convenience.

But what about the train of the future. What will it look like?—how will it be propelled?—how fast will it go? These and scores of other questions for the present will have to remain unanswered, for future wonders are now unknown, but they'll come just as sure as other miracles that have startled the world in progressing years.

The dreamers tell of trains propelled by rocket—trains that will whiz over single rails at airplane

speeds — trains with retracting wheels and gliding through space. This all seems unbelievable — impractical—and probably is, but who can deny the possibilities of science and engineering. Think of the telephone, telegraph, wireless, airplane, dirigible, submarine, electric light, radio, television, X-Ray, automobile. Some of these inventions were ridiculed at the start. People said they wouldn't work and the inventors and engineers were crazy; but now they're an important part of our every day life.

Science and engineering has made wonderful progress through passing years and railroads have kept pace with successive events — but greater things are coming and you boys of today — “Engineers of tomorrow” will have a part in it.

Yes, sir, Engineers do miraculous things! Did you ever stop to realize that a passenger on a railroad train can travel the entire width of New York City and never see it? Tunnels with entrances in New Jersey, extend eastward under the Hudson River, below the surface of Manhattan Island, under the East River and on to Long Island.

Those engineers are always looking ahead. Why, believe it or not,

they've designed and built double-deck coaches for nearly 100 passengers each and triple-deck sleepers with 45 beds. And the way they're going to arrange the bedroom cars of the future to accommodate more passengers will give you the idea that they must have been designed by a magician, instead of engineers. Yes, sree, they're going to be tricky! One bed will slide under another when not being used and there will be new gadgets a-plenty. There'll be even more difference between these new-fangled gliding dream cars of the future and the so-called standard open-section sleeping cars, than there was between the stage coach and the first sleeping car on the old Cumberland Valley.

Already being built is a radically different locomotive with direct-drive steam turbine giving it power, and the freight cars of the future will weigh a lot less, but will carry greater loads. Radio and telephone, permitting conversations between the speeding passenger and freight trains and dispatchers and operators, will guide their movement. It

will be just as simple for the crews to get the train dispatcher at Big-town terminal as it is now for us to tune in "Hi-Ho, Goldie, and His Rootin-Tootin Buckeroos!"

Faster, f-a-s-t-e-r, FASTER, they'll go! Those sleek streamlined trains of the future, and some won't end their runs in the center of the continent, as all of them now do. They'll go clear through, from the Atlantic Ocean to the Pacific — and faster than ever before! You'll ride in comfort, even greater than today, and you'll enjoy your railroad trip as never before.

So, you engineers-to-be! Get on your thinking-caps! What would you like to see in the trains of the future?

upper right—
The finest in coach equipment of only a few short years ago—Note the overhead gas lamps.



left—
Streamline design is the trend of today and tomorrow.

below—
Comfort and Luxury in Cars of tomorrow—Every convenience at disposal of the traveler.



Join the Honor Roll of Boys who have Won Fame and Awards with

GILBERT CHEMISTRY SETS

MORE boys have won fame and big awards with Gilbert Chemistry sets than any other kind made. This record means something!

It means that Gilbert Chemistry sets are scientifically better—and far more than “toy” sets. The range of chemicals and equipment is based on real laboratory technique. You can perform spectacular experiments in organic, inorganic, and electro chemistry.

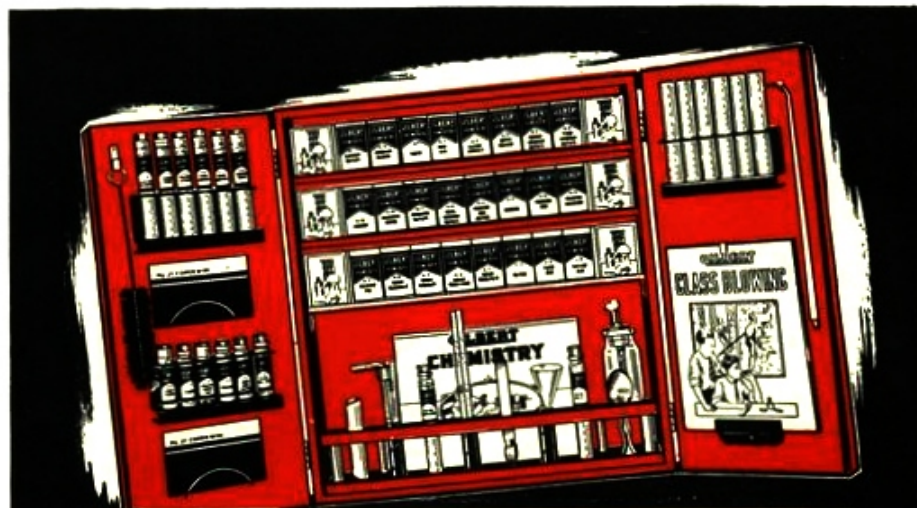
With a Gilbert Chemistry set you can make strange chemicals change color—transform a liquid into gas—then into a solid—and back to a liquid again. You can startle Dad by making a fireplace flame burn red. You can amaze Mother by bleaching flowers or changing her baking soda into washing soda. You can make your friends gasp with wonder by writing messages in fire ink—making a chemical weather flag—produce your own sparklers and soda water and perform dozens of other dazzling mystifying tricks.

\$200.00 ANNUAL AWARDS

To the boy doing what, in my opinion, is the most important research in chemistry in 1945, I will award \$100.00 in cash. To the ten boys doing the next most important research, I will award \$10.00 each. Applicants must not be over 17 years old and must send me full description of their experiments by May 1, 1945.

A.C. Gilbert

FOUNDER OF THE GILBERT HALL OF SCIENCE



NO. 6 DOUBLE FEATURE, DOUBLE FUN LABORATORY

Big two-door wooden cabinet with five feet of shelf room and test-tube racks. Crammed with generous supply of many chemicals. Two big manuals. Puts over 400 spectacular experiments at your finger tips.

FAMOUS BOY CHEMISTS ★ Here are just a few of the many boys who have won honors and big awards with Gilbert Chemistry sets. The door is wide open for you to do the same.



★ Burton Feinerman and Hans Mark put their heads together on research in the fascinating field of casein plastics. Their achievement in modern chemistry won them a \$100.00 check.



★ Synthetic rubber was the timely problem tackled by Vincent Rasicci, Jr. His splendid work in chemical research brought him national recognition and the nice sum of \$100.00 in cash.



★ When Stanley Stewart developed his “Green Fairy Fire” experiment in his Gilbert Chemistry Laboratory, he not only dazzled his friends but also won a \$100.00 award.

Famous Trains of America

**Crack Flyers that speed over the
Country's Vast Network of Rails**

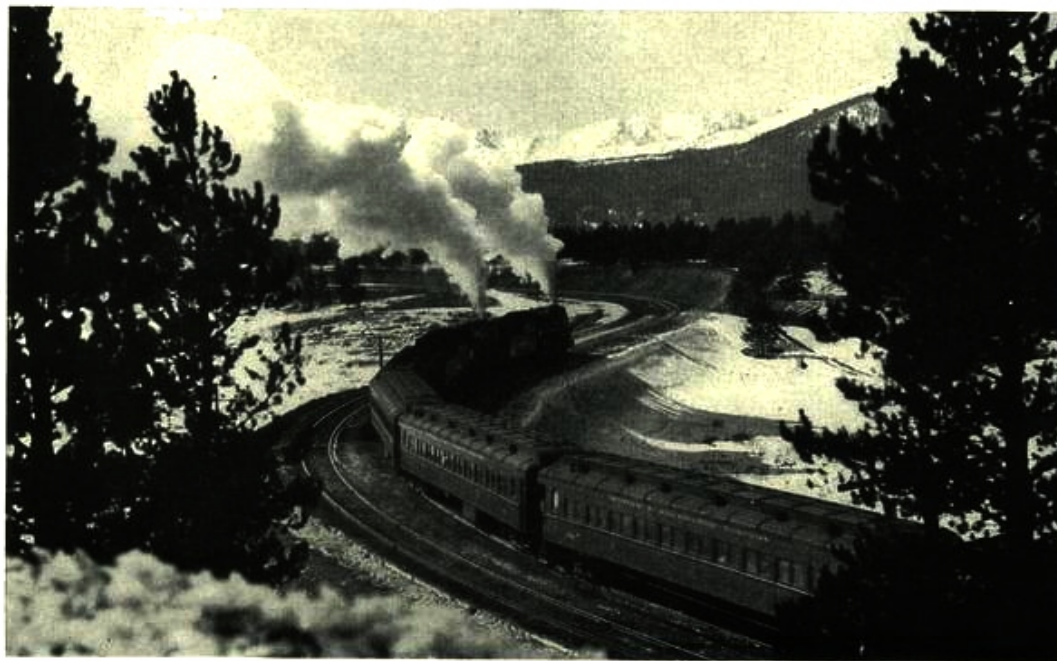


"EMPIRE STATE EXPRESS." Courtesy New York Central System

Right —
"THE FAST
FLYING VIRGINIAN"
Courtesy
Chesapeake and Ohio



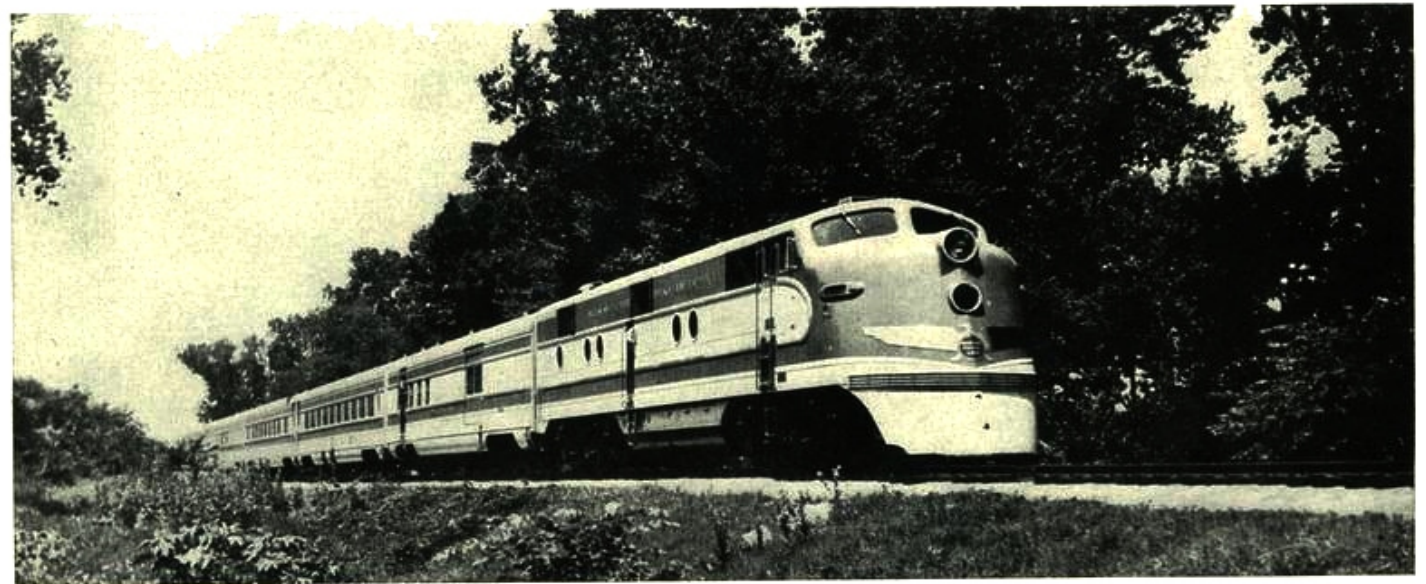
Above —
"THE CRUSADER"
Courtesy
Reading Co.



Left —
"SCENIC LIMITED"
Courtesy
Denver and Rio Grande
Western



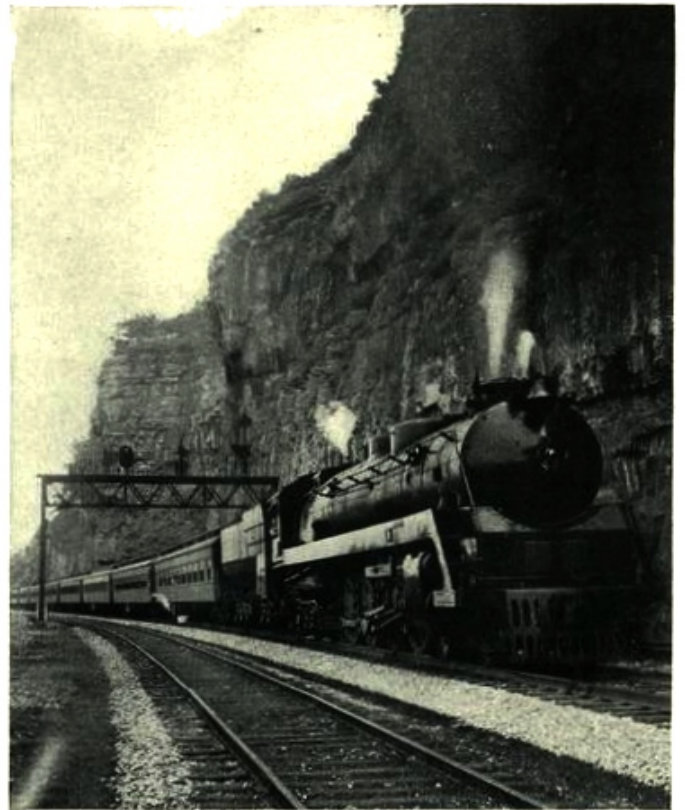
Left —
An E-4 Type
Locomotive
leaving Chicago
*Courtesy Chicago and
North Western*



Center —
"MISSOURI RIVER EAGLE"
*Courtesy
Missouri Pacific Lines*



Bottom —
"THE BLUE BIRD"
*Courtesy
Wabash Railroad*



Top Left — "THE SOUTH WIND" Flashing thru Chicago Yards. Courtesy Pennsylvania Railroad

Top Right — "DIXIE FLYER." Courtesy Nashville, Chattanooga and St. Louis Railway

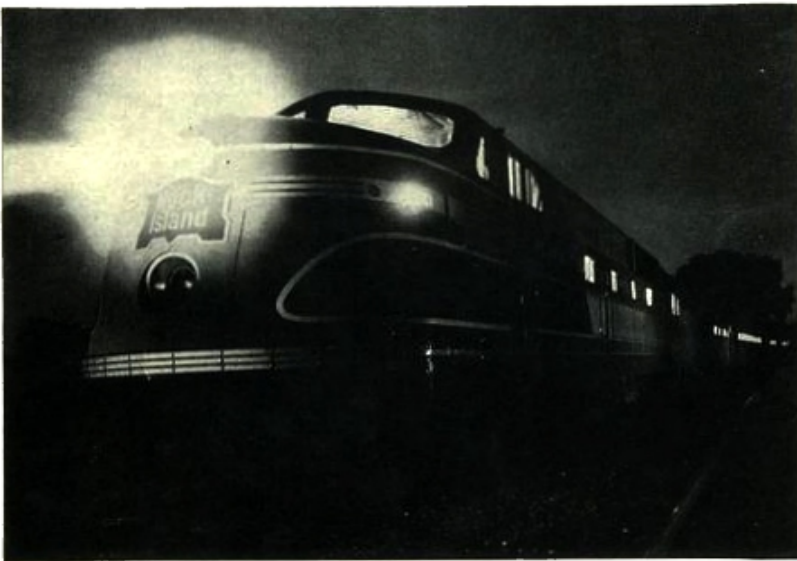
Bottom — "GOLDEN GATE" doing 60-per, near Fresno, Calif. Courtesy Santa Fe R. R.





Top — "YANKEE CLIPPER"

*Courtesy New York, New Haven
and Hartford Railroad*

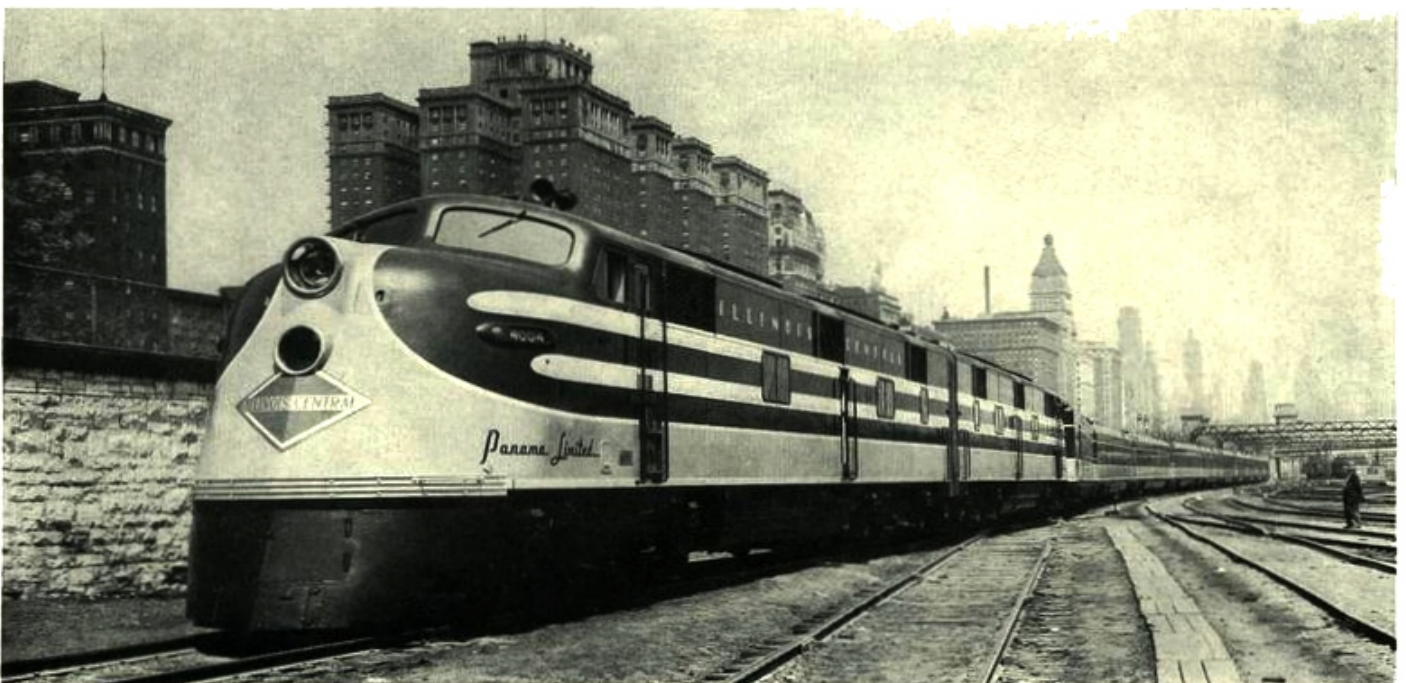


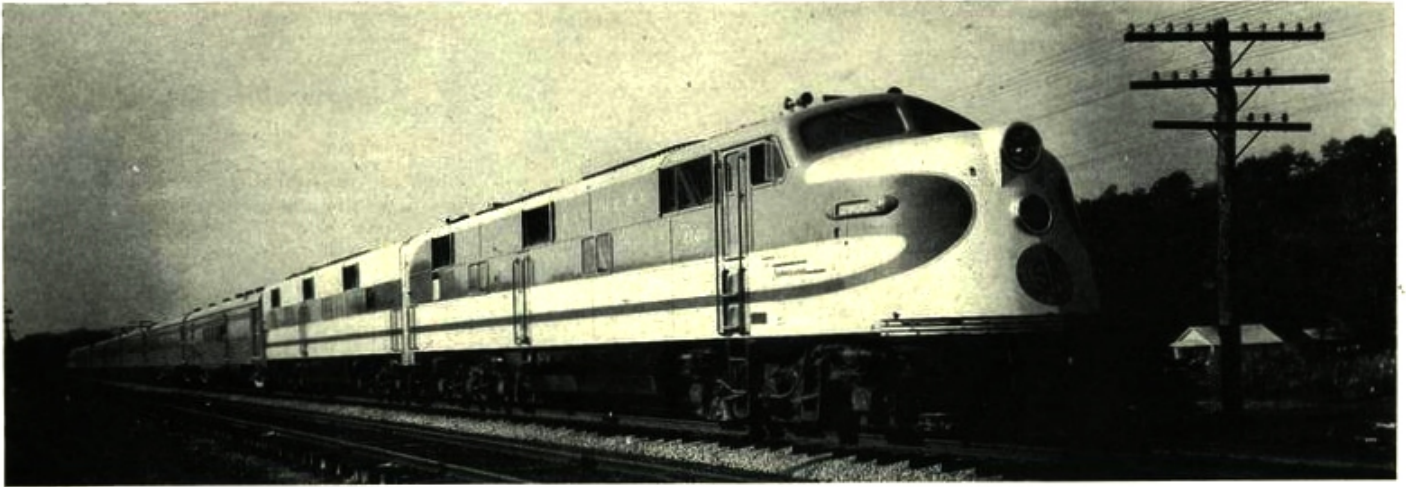
Left — "THE ROCKET" speeds on its way from
Minneapolis to Kansas City.

Courtesy Rock Island Lines

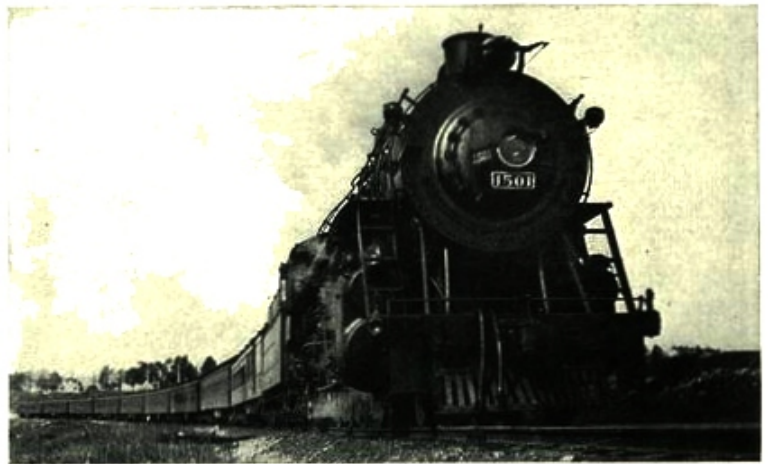
Bottom — "PANAMA LIMITED" leaving Chicago,
enroute to New Orleans.

Courtesy Illinois Central System





Top — "THE TENNESSEAN"
Enroute from Washington to Memphis.
Courtesy Southern Railway



Middle — "THE METEOR" of the Frisco
"on the go" between St. Louis and
Oklahoma City.

Bottom — "DIXIE FLAGLER"
Courtesy Chicago and Eastern Illinois R. R.





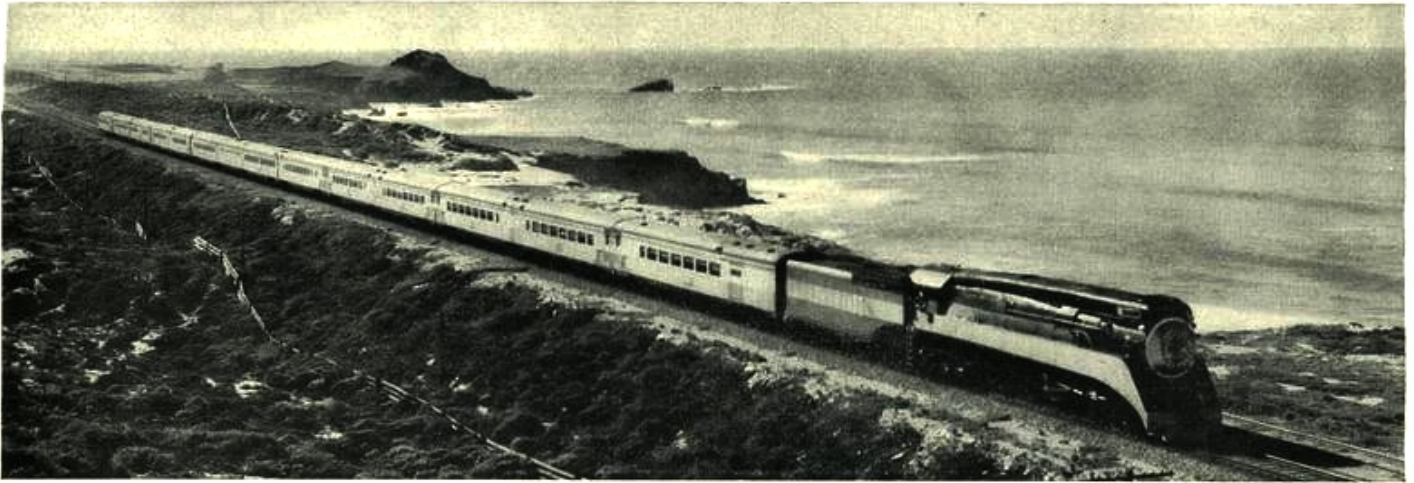
Top —
"LACKAWANNA LIMITED"
*Courtesy
Delaware, Lackawanna
and Western R. R.*



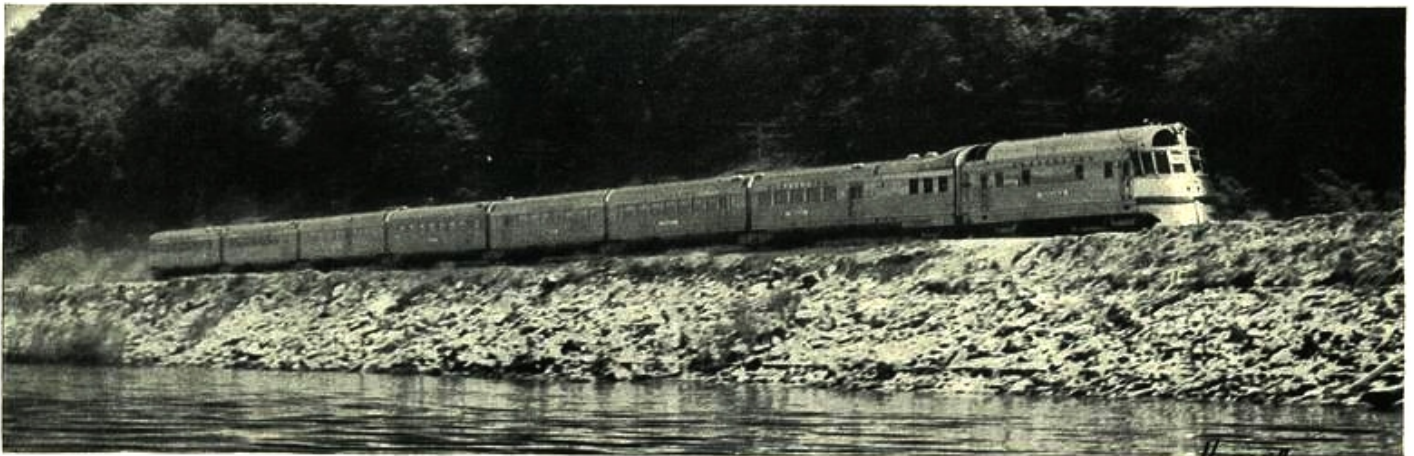
Middle —
"CITY OF SAN FRANCISCO"
Crossing Great Salt Lake.
*Courtesy Southern Pacific,
Union Pacific and
Chicago and Northwestern*

Bottom —
"THE OLYMPIAN"
in the Bitter Root Mountains.
*Courtesy
The Milwaukee Road*



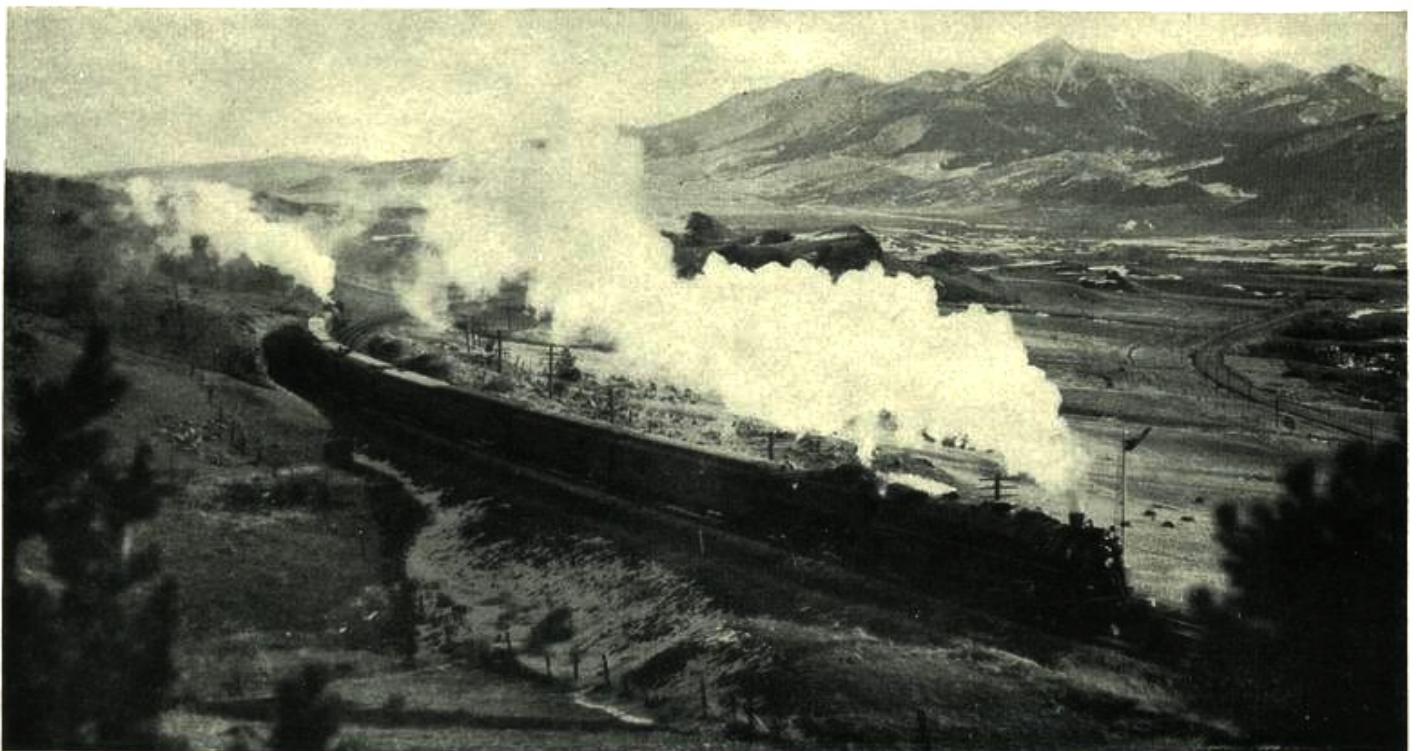


Top — THE "DAYLIGHT" follows Pacific Ocean Shoreline for 113 miles. Courtesy Southern Pacific Railroad



Above — "TWIN CITIES ZEPHYR" tears along Upper Mississippi River. Courtesy Burlington Route

*Below — "NORTH COAST LIMITED" climbing into the Rockies. (Note pusher locomotive behind.)
Courtesy Northern Pacific Railway*



Right —
"SUNSHINE SPECIAL"
Courtesy Missouri Pacific Lines



Center —
"THE ROYAL BLUE"
crossing the historic viaduct at
Relay, Md., which was built in 1835.
Courtesy Baltimore & Ohio Railroad



Bottom —
"CITY OF LOS ANGELES"
Courtesy Union Pacific and
Chicago and Northwestern

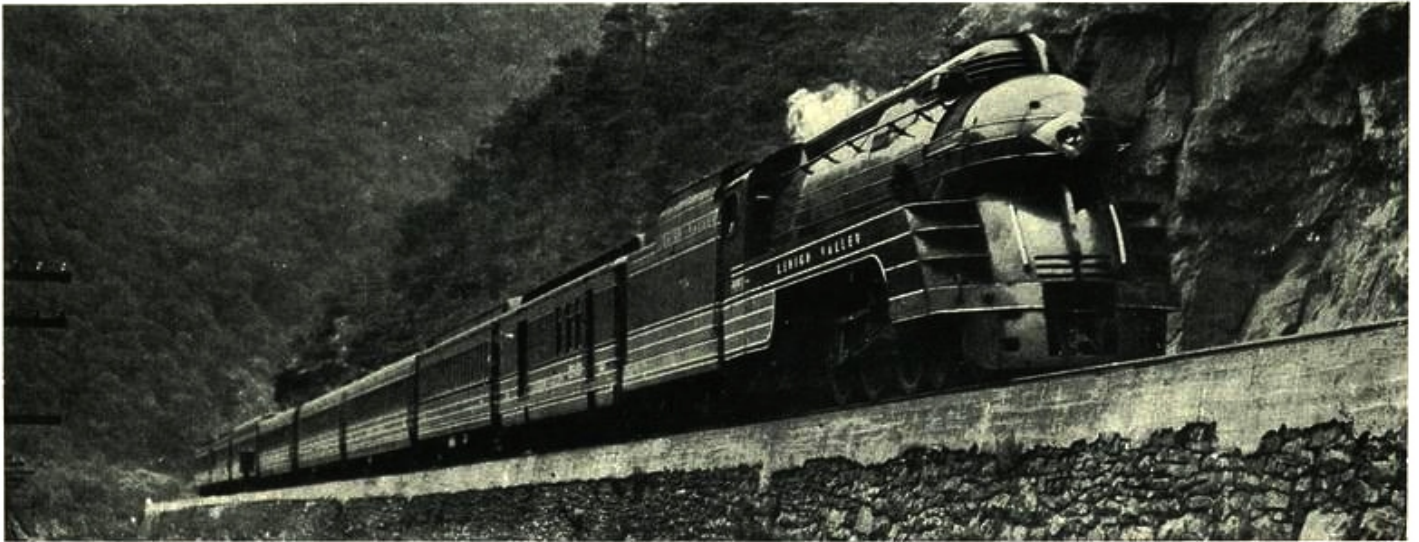




*Top — "MERCHANTS LIMITED"
Courtesy New York, New Haven
and Hartford Railroad*

*Center —
"THE BLACK DIAMOND"
Courtesy Lehigh Valley Railroad*

*Bottom — "ERIE'S—No. 1"
coming down the mountain
near Otisville, N. Y.
Courtesy Erie Railroad*



America's Power Fleet of Locomotives

Giants of the High Iron
that Haul the Country's Freight



NEW YORK CENTRAL OIL TRAIN
Courtesy New York Central System



Top — Santa Fe's new 5400 H.P. freight diesel-electric locomotive, pulling the grades of Cajon Pass, California. Courtesy Santa Fe Railway

Center — Crossing the 233 foot high trestle over Red River at Sloan, Ky. Courtesy Louisville and Nashville Railroad

Bottom — One of the Wabash Railroad's powerful and efficient class 0-1 heavy duty freight locomotives leaving St. Louis and heading east. Courtesy Wabash Railroad



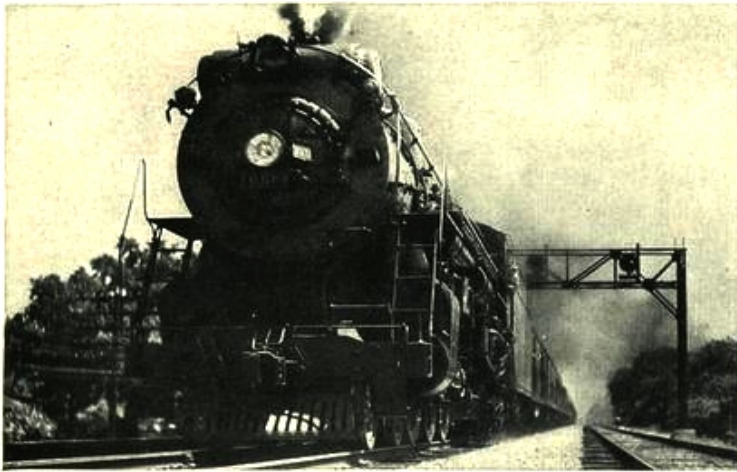


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Top — Burlington Route's "AK-SAR-BEN" enroute between Chicago and Omaha.

Courtesy Burlington Route



Center — Highballing it over the L and N's Cincinnati Division out of Covington, Ky.

Courtesy Louisville and Nashville R. R.

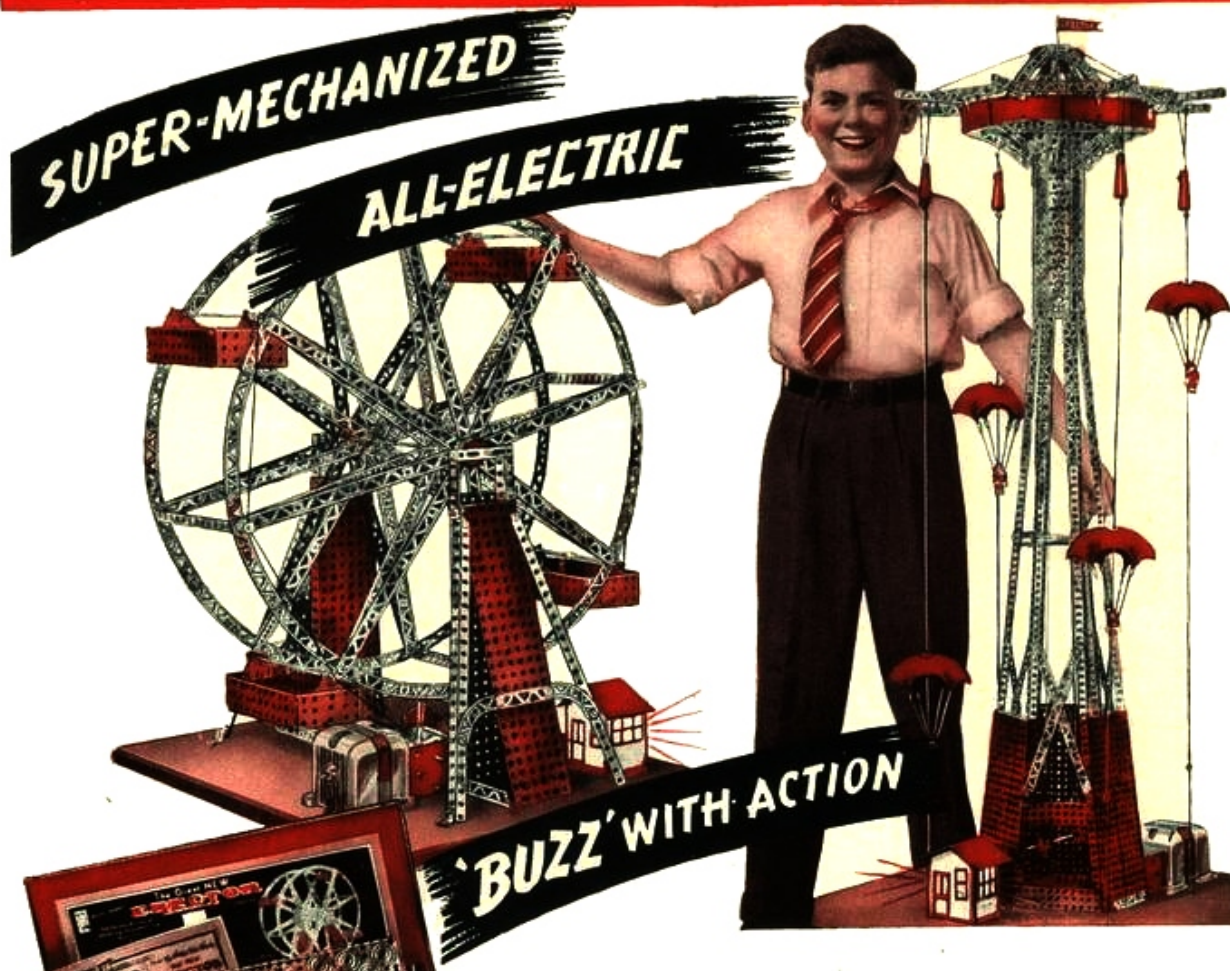


Bottom — "RED BALL" freight of the Missouri, Pacific Lines.

Courtesy Missouri, Pacific Lines



HELLO BOYS! Only **ERECTOR** builds these Colossal Engineering Marvels



Even though Dad can't give you an Erector this Christmas, it's fun to think of all the spectacular models you can build with this famous construction set.

Take a look at that towering Erector army training parachute jump. Piece by piece—with your own hands—you fit the long gleaming girders together. Then you attach the rigging for the four parachutes and install the powerful Electric reversing engine. Now for the thrill of your life! Call for action by blowing the Erector whistle . . . throw your engine into gear . . . and your parachutes are hoisted up and up until they strike the release mechanism. Then, like a flash, they plummet down—unfold—and lazily float to the ground.

Now get a load of that mighty Ferris wheel. It whistles—twinkles with light—operates in either direction at slow or high speed.

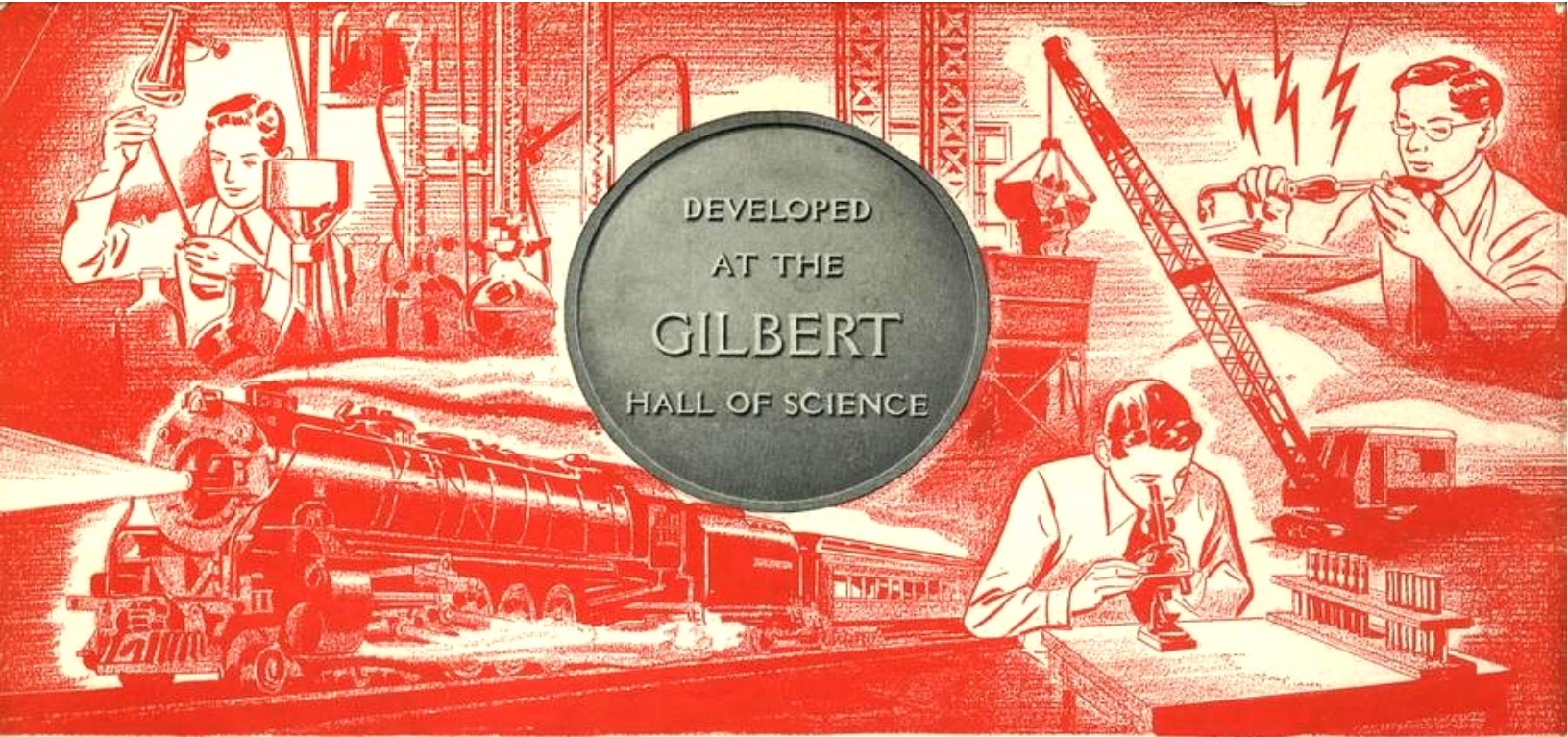
You can build hundreds of spectacular mechanical marvels with one Erector set. And the Erector electric engine makes them buzz with action. Save your War Stamps for Erector—and you're saving for the world's greatest construction outfit.

THE A. C. GILBERT COMPANY, ERECTOR SQUARE, NEW HAVEN, CONN.

BEST WAY TO GET A LATEST MODEL ERECTOR

Because our fighting men need the metal, Erector Sets are not being made this year. So here's my tip: Save all the War Stamps you can. Then—after Victory—you can be one of the first boys to own a new Erector with all the latest improvements.

A.C. Gilbert



DEVELOPED
AT THE
GILBERT
HALL OF SCIENCE

*when you see these words on a scientific
toy you know it is the finest made*

BACK of every toy produced by the enormous factories of The A. C. Gilbert Company is the Research Department of The Gilbert Hall of Science.

Here, under the personal direction of A. C. Gilbert, the inventor of Erector, is a staff of skilled technicians who devote their full time and ingenuity to creating new and ever-better scientific toys.

These resourceful inventors have added one exciting feature after another to Erector. Electric lights—the reversing Erector electric engine—the Erector whistle—the famous parachute jump. They have developed the most advanced chemistry sets—the first Polarizing Microscope sets for boys, and a host of other scientific marvels.

The brilliant research done at the Gilbert Hall of

Science has made American Flyer Trains and equipment the most modern and realistic the world has ever known. Especially notable are such exclusive features as the "Choo-choo"—worm drive locomotives—electromatic crane—mail pick-up car—and double-action remote control switches.

Watch for exciting new announcements

While metal toys cannot be manufactured at the present time, Gilbert Hall of Science technicians have already perfected new wonders to bring you super thrills and super fun after the war.

So—if you want the best—always look for the words on the box "DEVELOPED AT THE GILBERT HALL OF SCIENCE."



Mr. A. C. Gilbert discusses the latest spectacular improvements in American Flyer Trains with one of his hundreds of boy friends.



The famous American Flyer worm drive locomotive—the Gilbert Hall of Science invention that banished jerky "jack rabbit" pull and made possible smooth precision control at all speeds.

