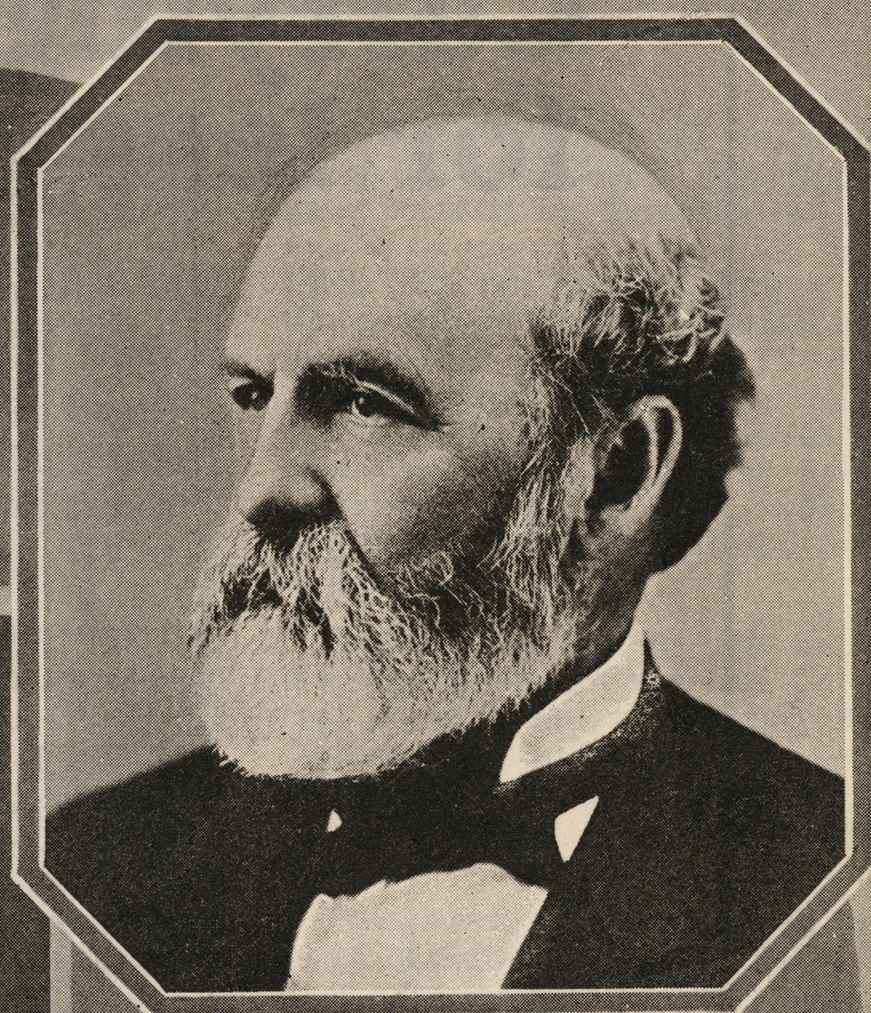
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Southern Pacific Bulletin

AUGUST, 1920



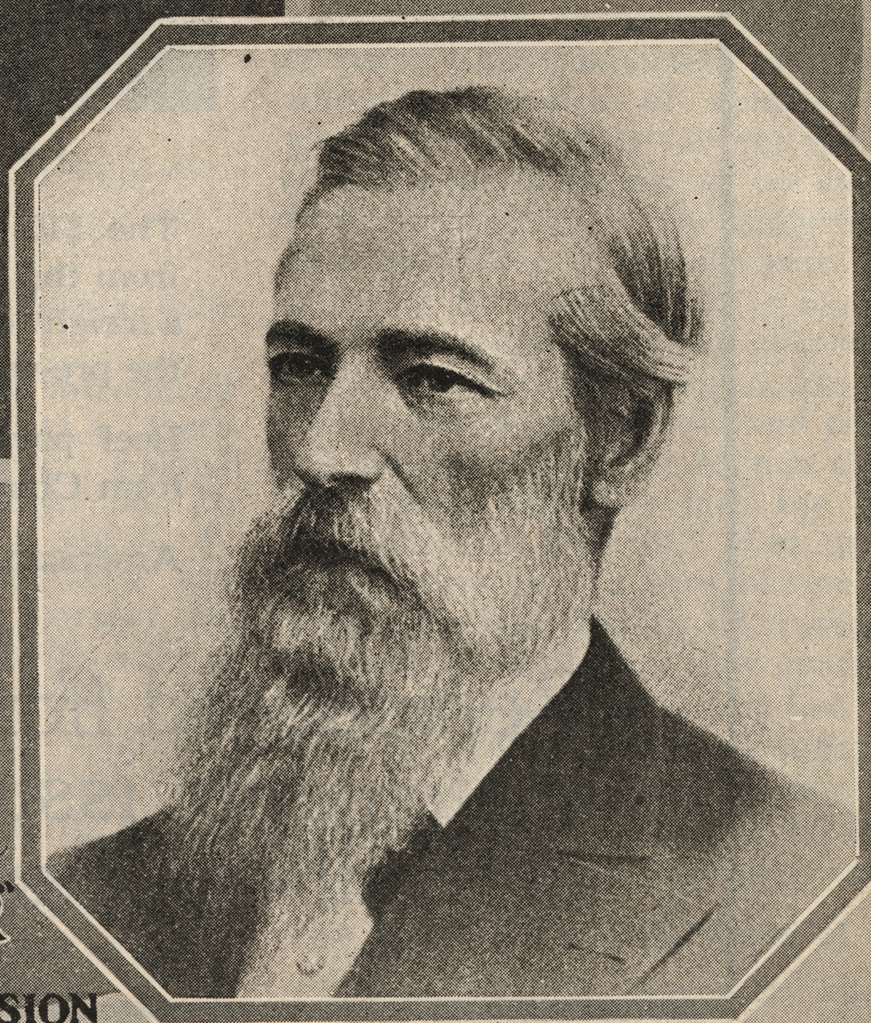
LELAND STANFORD



C.P. HUNTINGTON



CHAS. CROCKER



MARK HOPKINS

THE "BIG FOUR"

SACRAMENTO DIVISION NUMBER

The Bulletin

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The Romance of the Sacramento Division

A remarkable story of the inception and development of the father of all divisions; the Southern Pacific's "Alice in Wonderland" trail

By J. D. BRENNAN, Superintendent of the Sacramento Division

THE Sacramento Division is the nucleus of the Pacific System of the Southern Pacific Railroad and the pioneer division of railroads of the "Golden West."

It embraces in its 675 miles all of the old lines and much of the new lines of railroad that have made California famous from ocean to ocean. It is replete with historical events and romance worthy of volumes of word pictures that only an artist can supply.

The first unit of the Pacific System, twenty-two miles in length, was built in 1855-'56. It started at Sacramento and ended at Folsom and was known as the "Sacramento Valley Railroad." Today that father of California railroads is a busy section of the Placerville branch of the Sacramento Division and serves a rich fruit belt and a fleet of gold dredgers that dig millions of dollars of gold annually and cast up mountains of boulders that are crushed into suitable sizes for the foundation of California's unsurpassed highways, furnishing tonnage for this branch line to the exent of sixty to seventy-five cars daily.

In 1865 this branch was extended to the rich mining town of Latrobe, and in 1888 to "Hangtown" (now Placerville), whence there operated twenty-one stage coaches to the richest of the rich gold and silver mines—Comstock Lode, Virginia City, Silver City and Gold Hill.

Theodore D. Judah, chief engineer of the "Sacramento Valley Railroad," naturally gained much prominence as builder of California's first railroad and his services were eagerly sought by such men as Asa Whitney, who, in 1846, conceived the idea of a transcontinental railroad, and Dr. D. W. Strong of Dutch Flat. In 1859, after making a survey for a line over the Sierra Mountains (at his own expense), Judah was sent to Washington, D. C., to present to the Thirty-sixth Congress a proposition for the government to assist in building the "Pacific Railroad," as the dreamers



J. D. Brennan, Superintendent of the Sacramento Division.

of that day called it. History here records a failure.

In 1860 young Judah was introduced by Dr. Strong of Dutch Flat to these stalwarts of pioneer days: Leland Stanford, Mark Hopkins, E. B. Crocker, Charles Crocker, and C. P. Huntington, who incorporated the Central Pacific Railroad January 28, 1861, capitalized at $8,500,000, with a subscription list of but $148,000.

Again the young civil engineer, Theodore D. Judah, visited the Congress at Washington, and to him is credited the work of convincing Congress that government aid was necessary for the tremendous task of going "over the top" of the majestic Sierra, suspended amid storm clouds and surrounded by plangent cataracts.

Once government aid was obtained, Congress, no different then than now, gave painstaking thoughts to the subject of a standard gauge for the railroad, and, not being willing to accept the judgment of young Judah on that momentous question, called upon Abraham Lincoln to decide the point. Mr. Lincoln reported at great length that the gauge should be five feet. Congress, true to form, adopted a gauge of four feet eight and one-half inches.

Directly the act of 1862 became a law, the hardy pioneers of California lost no time and, on January 8, 1863, Leland Stanford upturned the first shovel of dirt at the foot of "K" street, Sacramento, in the real making of California.

Thus, then, was started that masterpiece of railroad, that "Alice in Wonderland" trail of the iron horse! The Sacramento Division over the mighty Sierra, whose problems try the soul of man; whose anxieties prematurely whiten the hairs of men of iron; whose terrors stilled forever the heart of one superintendent as he emerged from his office car in the snowsheds to view the scene of a holocaust, which probably he could not have explained to an exacting superior officer who had never passed through a fire in the Sierra Nevada snowsheds and possibly did not understand the human element that enters eternally into the life of the "Truckee District." Let us mercifully pass by the case of one other superintendent bereft of reason by the baffling problems that confronted him, in the days when but few trains used the iron pathway of today—the same that the dauntless young Judah surveyed—where today the traffic has increased more than 100 per cent.

The Land of Old; the Land of Gold!

Let us continue our story through the country of Bret Harte and Mark Twain; the country of gold and ro-

mance; the country as glorious as a June day.

As in most vast undertakings, the originator failed to realize his vision, and Theodore D. Judah died in 1863 from Panama fever at the age of 37 years. S. S. Montague was appointed chief engineer; however, the actual location made by Mr. Judah was followed to Colfax, or Lower Illinois-town Gap, Mr. Montague making a change in the original survey in the vicinity of Long Ravine, again following Mr. Judah's alignment from Cape Horn to Alta, the line from Alta to Summit being located by L. M. Clement.

The first forty miles involved expenditures in excess of the original estimate and the builders found themselves well into Bloomer Cut, between Zeta and Auburn, and up against the hardest conglomerate material encountered up to that time (1864). The stockholders became discouraged on account of the slow progress; the Public proclaimed the adventure the "Dutch Flat Swindle," Dutch Flat being at that time a roaring camp of gold miners, and, according to rumor, the temporary eastern terminus of the railroad.

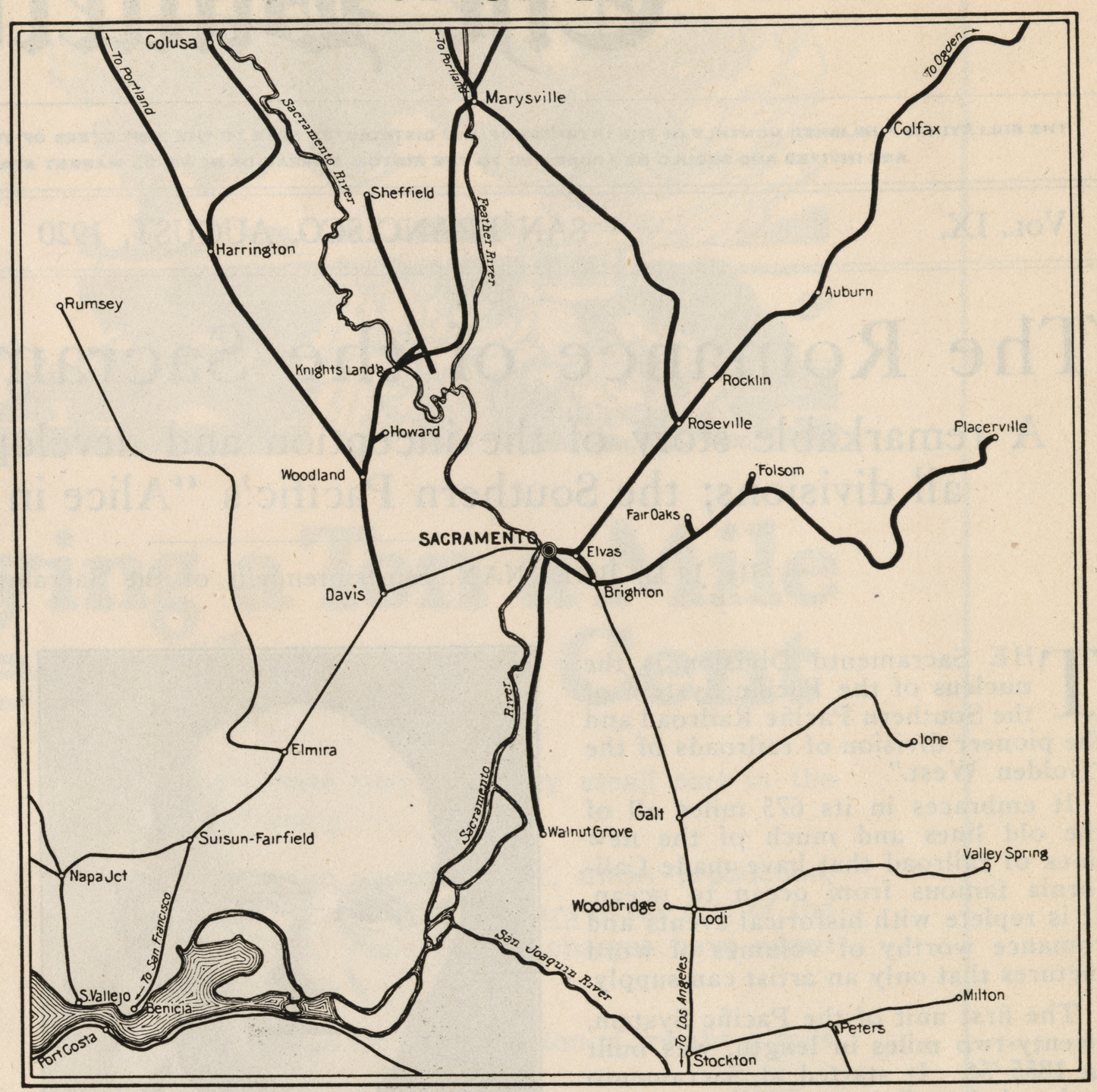
Gunpowder and Chinamen were the only weapons of combat the road builders had with which to fight the earth and stone through which they had to pass, laid in their path centuries ago by the Creator. Dynamite was yet to be discovered, but, when obtained, proved to be the "Open Sesame." Finally Dutch Flat was reached and the road continued eastward.

At Cape Horn, Chinamen were let down the steep bluffs in baskets to the grade line, where they worked against the solid rock and shale, dangling on ropes from a hundred feet above, with a gap of 1200 feet below into the American River Canyon.

As the work extended easterly from Cape Horn it became, in a construction way, heavier with every mile until, in 1867, they reached the summit of the Sierras and looked with joy over Donner Lake, where the Donner party perished in their ill-fated attempt to cross the Sierras in 1846. The work ahead, while heavy in portions, did not present the difficulties they had passed.

From a report of the chief engineer in 1867, after surmounting the construction difficulties, he faced the snow problem of the Truckee Pass, where more snow falls than in any place in the United States south of Yukon Pass. We find Mr. Montague concerned with protecting the line by snowsheds. This was the commencement of the "Longest House in the World," which today constitutes a single and double track snowshed 156,259 feet in length, twenty-nine and six-tenth miles, topping the Sierra between Blue Canyon and Truckee, and often called "The House Without End." The board measure approximates 100,000,000 board feet and is of exceptionally heavy construction to withstand the great snowfall, recorded during one season as sixty-five and one-quarter feet.

"THE HUB OF THE WHEEL"



The above map shows how the Sacramento Division acts as a receiving and distributing center for traffic radiating in four directions.

The Hub of the Wheel.

The Sacramento Division is the hub of the wheel of the Pacific System, at the base of the northern district. It is fed from the west and bay region by the Western Division and over it is transported east, west, north and south all tonnage routed by way of the Shasta, Salt Lake and Stockton Divisions.

The division has a total mileage of 675 miles, the Valley lines stretch from Sacramento northerly paralleling the Sacramento River, tapping the centers of the east and west side of the great fertile valley as far as Tehama, with branch lines reaching from these main lines into the important foothill districts adjacent thereto. These Valley lines include 421 miles of track and feed one of the richest districts in the State of California, adjacent to the Sacramento River and its outlying watershed between the Coast Range on the west and the Sierras on the east.

These lines traverse many counties—Sacramento, Yolo, Colusa, Sutter, Yuba, Butte, Glenn and Tehama—which are famed for their productiveness as regards lumber, grain, rice, and alfalfa, with their citrus fruit belts and their olive groves; their great bean districts throughout the reclaimed districts adjacent to the rivers, and their fruits, particularly the peach, pear, prune and grape belt in the central counties; likewise their abundant production of walnuts and almonds.

The main line from Sacramento to Sparks, 156 miles in length, along the original Central Pacific, 115 miles of which is double track, traverses Placer and Nevada Counties on the California slope of the Sierras into Washoe County in Nevada. This line, running northeast between the Yuba and American Rivers, feeds the scenic Sierra foothill district between Blue Canon and Sacramento, a fruit belt producing the greatest quantity and variety of fruits anywhere in California.

The main fruit shipping points of this district are Loomis, Penryn, Newcastle, Auburn, Bowman, Colfax. It is over this portion of the division that all transcontinental east and west tonnage is moved through the central gateway of the West.

Yet another seventy-five miles of tracks surrounds the city of Sacramento and leads easterly to Placerville, tapping similar fruit districts in the same foothill zone, the rock quarries of Folsom and Fair Oaks and the

timber areas and mineral wealth of El Dorado and Amador counties.

The fruit production of the Valley counties and the fruit belt adjacent to Sacramento has made the Capital City the largest fruit distributing center of the world.

It was near Coloma, a short distance above Placerville, that gold was first discovered in California by Marshall, causing the famous gold rush of 1849. Gold and other minerals are still produced in large quantities in this district, and only this month a vein of gold of fabulous wealth was struck by a former railroad man. Where gold has been worked out, orchards are today producing greater wealth.

The Operating Problems.

The physical and climatic conditions of the division create operating problems in variety. Lumber trains originating in Stirling City, at an elevation of 3520 feet above sea level, drop down the thirty miles to Chico on a three and one-half per cent grade and around curves exceeding fifteen degrees, requiring skill and exactness and perfect adherence to rules. It is on this line where the continuous braking resistance causes the slivers from heated brake shoes to fire the trestles and ties. A gravity car patrolman follows each train with a fire extinguisher and water barrels, extinguishing many fires set by the trains descending the grade.

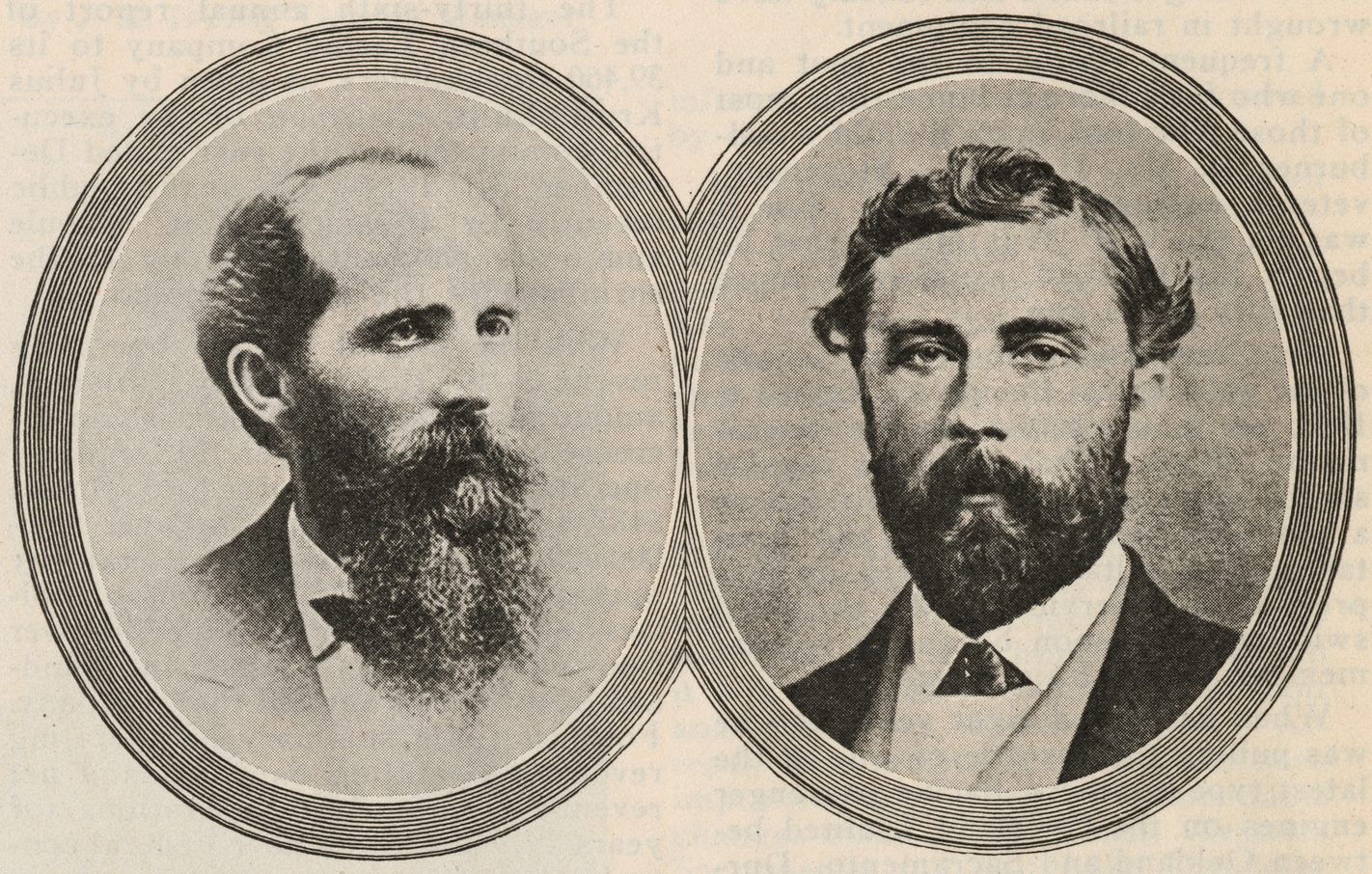
On the Placerville line, the operated maximum grade is 2.2 per cent for thirty miles of the distance, over which are transported lumber, ores, livestock, fruits and hundreds of thousands tons of rock.

From the Sacramento Southern Line comes the asparagus, celery, deciduous fruits, vegetables, vegetable seed and the many products of the delta region. This is where we compete with river transportation and offer a service which results in our enjoying the bulk of the business moving to transcontinental points.

From the east side and west side Valley lines we receive the Oregon products, particularly lumber, and the enormous tonnage originating throughout Superior California. These lines, with their long tangents and easy gradient, have made possible our solution of an economical operating problem through the medium of the ninety-nine-car freight train, with a maximum tonnage of 10,000 Ms. with one locomotive, for 107 miles, between Gerber and Roseville. The exactness required to start and stop and economically operate a ninety-nine-car train is a source of much pride to the division.

With a monthly output of 90,000 cars, Roseville, the largest freight terminal on the division, is the real haven for box cars and other kinds of cars typical of railroads. It is the home of the freight Mallet, a mechanical device combining in one unit the power formerly furnished by many engines. One of these monsters, with its 437,000 pounds, outweighs by 50 per cent the entire equipment of eight engines with which the Central Pacific Railway started operations. Roseville is the junction for the north, south, east and west and it is from this point we handle with Mallet engines the transcontinental tonnage over the old, historic line, topping the scenic Sierras at Summit and dropping down to the Nevada plateau at Sparks.

VISION AND REALIZATION



The photo at the right is of Theodore D. Judah, the engineer who visioned the first railroad over the Sierra, and who died before seeing his dream come true. At the left is S. S. Montague, who carried to successful conclusion Mr. Judah's plans.

This line takes us over double track, with block signals, from Sacramento to Rocklin, at the base of the foothills of the Sierras. Thence the eastward and westward lines diverge, the eastward twenty-eight miles, Rocklin to Colfax, through eighteen single and double track tunnels, constructed by William Hood, chief engineer during 1907 and 1912. The westward track still follows the old Central Pacific alignment, the two lines occupying the same roadbed again at Colfax. The tracks, in their entanglements through the foothill country, create both right and left hand operation, where the eastward track, with its one and one-half per cent compensated grade crosses over and under the original line.

The increase of traffic, carrying with it a continuous increase in the size of cars and in the weight and power of the locomotives, has had to be met by a like progress in the standard of track and structures, until today this section of the original transcontinental railway is a leader of American railways. To maintain this standard there has been developed a corps of workmen trained in careful and accurate maintenance of track. Water must be collected in the mountain ravines and stored in ever increasing quantities that there may be no delay to the never ending flow of traffic. Climatic changes require particular care in keeping to the highest efficiency the staff system and signals which make for safety of operation.

We have dwelt upon everyday operation; however, every day is different. Our shed renewals require the reconstruction of over a mile a year; all track work must be done during the summer, making an interesting problem in railway maintenance.

It is likewise so with train operation, for the moment the snow commences to fly the flangers, the rotaries and snow-fighting equipment are a daily and nightly occurrence on that portion of the line outside the sheds, involving many miles of double and single track, and no sooner is the winter over than fire trains are put in operation at four intermittent points throughout the shed territory to protect the investment in this great structure.

Red Mountain, the signal peak, located 7860 feet above sea level, is situated with relation to the shed territory, that the day or night observer may immediately locate and give the

(Continued on page 22.)

switches and signal apparatus, thereby avoiding delay to passenger train.

John E. McNally, Section Foreman—For discovering brakebeam down under car and signaling train crew to stop and make necessary repairs without resultant derailment and delay to traffic.

William P. Davis, Fireman, Lodi—For vigilance displayed in discovering brakebeam dragging and taking necessary action to stop train and avoid hazard of accident.

Frederick E. Cox, Telegrapher—For prompt action taken when discovering erroneously routed car.

COAST DIVISION

Frank E. Webber, John R. Wilson, John R. Winters, Towermen, San Francisco—For exceptional intelligence and initiative in connection with handling of runaway locomotive.

Wm. R. Wilder, Conductor; Joseph H. Laird and Earl L. Murdock, Brakemen; Wm. H. Rucker, Engineer, and Wm. S. Purcell Fireman—For very valuable assistance in clearing main line after derailment.

Wm. L. Wilson, Flagman, Gilroy—For noticing brake beam and rod down on passing freight train and signaling conductor in caboose.

G. Martin, Signal Maintainer, San Miguel—For exceptional service in clearing dispatching telephone wires at time of wire trouble.

SAN JOAQUIN DIVISION.

Edwin H. G. Bock, Conductor—For displaying close attention to duty and exercising extraordinary vigilance, discovered broken rail and reporting same to the proper official so it could be changed.

A. E. Gallion, Operator—For discovering broken rail in main line, reporting same so it could be repaired promptly and taking immediate action to protect traffic from serious delay by assisting to flag through block.

F. Zuber, Engineer, and E. McDonald, Fireman—For repairs to oil feed line on engine and assisting in clearing track after encountering a slide in Tunnel 7, Train No. 49, minimizing delay to this important passenger train.

J. A. Lafferty, Conductor; W. O. Gernreich, Engineer; A. P. Hughes, Fireman; A. O. Eager, W. B. Cooke and J. E. Chrystal, Brakemen, Bay Point—For assistance rendered in combating fire which menaced several oil conducting pipe lines carried on wooden trestles. Had the fire been allowed to spread to the pipe lines and caused a breakage, no doubt a serious loss would have resulted, and such work is highly commendable.

I. C. Mather, Train Checker, West Oakland—For vigilance in detecting car under load which was billed as an empty. The discovery of this error no doubt saved excessive back haul and delay in the shipment and is much appreciated.

J. T. Arey, Yardmaster; W. V. Hennessy, Engineer; T. J. Cole, Engine Foreman; J. F. Campbell and V. Van Gooden, Yardmen; H. A. Shaw, Fireman; L. N. March, carpenter—For assistance rendered in extinguishing fire which threatened destruction of overhead bridge. It is very gratifying to know employees take such a live interest in protection of company property.

GOLDEN RULE APPLIES TO RAILROADS.

E. McFadden, agent at Davenport, Cal., has sent The Bulletin an attractive booklet entitled "Through the Meshes," the house organ of the W. S. Tyler Company, Cleveland, Ohio, in which an interesting article on the railroad situation concludes with the following paragraph:

"We can't expect the railroads to do well by the country unless they can do well by themselves. Men do not part with their money unless they are reasonably sure of getting it back, and with a profit. The only transaction worth while is one that is mutually profitable. This is the golden rule of modern business, and anyone who tries to take profit out of the hide of the other fellow is riding to ruin."

(Continued from page 5)

THE STORY OF THE PIONEER S. P. DIVISION.

alarm of fires. This precaution is in addition to the complete fire alarm system, lookouts and patrolmen within and on top of the sheds. The operating difficulties of moving trains over a single track staff territory is apparent, and, as a shed fire burns at the rate of 100 feet a minute, time saving is therefore the essence of efficiency.

What Stevenson Said.

When blizzards and slides affect the line all efforts are concentrated on the task of keeping the line open for traffic. Summer and winter, night and day the work goes on—the freight is moved and the passenger speeds upon his way, little realizing the army of men who have made possible the comfort and safety of his journey, but we trust he will say as Robert Louis Stevenson said:

"We changed cars from the Union Pacific to the Central Pacific line of railroad. The change was doubly welcome; for, first, we had better cars on the new line. The cars on the Central Pacific were nearly twice as high and so proportionately airier; they were freshly varnished, which gave us all a sense of cleanliness, as though we had bathed."

Tonnage trains of 5000 Ms leave Roseville with Mallet engine ahead and a helper engine cut in twelve or fourteen cars ahead of the caboose and make the first lap to the snow line of the Sierras to Colfax, thence operating along the double track alignment of the original Central Pacific from Colfax to Blue Canon. This section of second track was completed in 1914. In this construction operation was simplified through building Tunnels Nos. 33 and 34, which eliminated the hazards encountered at old Cape Horn, one of the historic construction features of the early builders. Trainmen on their first trip through these tunnels dubbed the change "The Panama Canal."

"Longest House in the World."

Blue Canon, at the eastward end of the double track, finds our train at an elevation of 4693 feet, encircling with its forty-five car length this station well known to every traveler on our line. Here our train heads into what the enginemen term "The Longest House in the World"—the snowsheds. From Blue Canon to Summit (elevation 7017 feet) twenty-six miles of single track on a maximum grade of 2.2 per cent. The helper is cut out at Summit and train descends the 2 per cent grade into Truckee and thence on double track to Sparks.

This mountain district, over which a monthly tonnage of 150 million gross ton miles is handled, is as unique from an operating standpoint as is the history connected with the route. Iron rail of the early days gave way to light steel, which in turn gave way to the heavy rail, ties and rock ballast to withstand the ever increasing weights of power and equipment which also necessitated an increasing dimension of tunnels.

Train dispatching on the Sierra Nevada Mountains is done by telephone; the dispatcher is in direct communication with each staff office. Our staff system is the safest, surest and quickest means of dispatching trains that has yet been devised.

The growth of the Sacramento Division is reflected by the following comparisons: When the Central Pacific started operation of transcontinental trains it had a total equipment of eight locomotives, eight passenger coaches, four combined mail and baggage cars, thirty box cars and thirty platform cars, all of small dimension. This would provide equipment for only one passenger train and one freight train of today. Combined it could be hauled over the Sierras with one Mallet engine. An army of 4,500 employes is required to serve the 260,000 people residing on the main line and branches of the Sacramento Division.

Old records show the payroll in 1867 was approximately $6750 per month, while the division payroll today for one month is $675,000, which would total in a year an amount equal to the entire sum for which the Central Pacific Railway was originally capitalized.

And yet we are growing!

HERE'S A NEW WAY TO CATCH YOUR TRAIN.

An automobile and an airplane were pressed into emergency service by Dining Car Conductor W. Shields on Train 49 from Los Angeles to San Francisco recently when he found himself left at Fresno. Shields was securing change in the ticket office when his train pulled out.

A chase of two miles in an automobile proved futile. Just as the conductor was about to give up he saw an airplane preparing to ascend from a nearby field. He hurried over and explained his predicament to the pilot and a woman passenger.

"Hop in," they said, "we'll get you there!"

The airplane raced over the train. Shields waved frantically.

The engineer peered out of the cab window and responded but he did not recognize the conductor, nor did he slow down. The race ended at Chowchilla, where the train stopped and Shields boarded the diner in time to attend the breakfast service.

The life of stamp pads is indefinite if properly cared for. They should be scraped periodically with a penknife or any other instrument for the purpose of removing dust and dirt and then re-inked, using only enough ink to make clear impression with stamp. Old stamp pads should be turned in in exchange when obtaining new.