Threading Great Cascades With Steel

Through the Peaks

While few realize it, the greatest railroad development in the world has been going on at our very doors—the Natron Cut-Off. Frank Fay Eddy, writer, has depicted graphically the story of how men wormed their way through the heart of the Cascades, bringing a new through railroad line into the great Klamath country.

By FRANK FAY EDDY

PART II.

One high minute stands out among the memories of three thrilling days crowded with new experiences and impressions during which the photographer (that is my wife, you understand) and the writer journeyed over the Cut-Off between Eugene and Klamath Falls. It is the feeling of awe and surprise which overcame me when I stepped out late in the evening on the side porch of Seymour's cabin, perched high like an eagle's nest on the upper slopes of the mountains, just as the full moon rose over the peaks behind and flooded the vista of miles upon miles of mountains, here black in shadows, there sheeny with the glamour of the moonlight, cut through with deep dark canyons and dotted with rocky peaks. But through the awesome mighty playgrounds fit for the sport of gods threaded a roadway and here and there gleamed a rail of steel. The feeling of awe departed somewhat, the sense of puny weakness faded to be replaced with a consciousness of a dauntless, daring, questing something in man which ever urges him on to new conquests over his environment. This railroad built with such mighty labor is a symbol of the modern mind. It is built with knowledge inspired with a daring vision. It could never have been built with brawn alone.

Seymour's Graciousness

At Seymour's we were entertained with kindly courtesy by an ideal host. After supper spent the evening listening to the radio, which brought us snatches of music and bits of lectures gathered via the pulsing ether wave from up and down the coast and from cities of the east, and chatted with a very modest man who, through twenty-odd years has been building highways and railroads—a typical construction engineer. Engineers are numerous and follow a great variety of specialized lines of work. But great construction engineers are rare. This I gleaned from conversation with two men from the Southern Pacific offices in San Francisco the next day. Construction engineers are individualists. Each has his own way of getting results. They are chosen because they can get results out on big jobs where dirt is flying, blasts are booming and thousands of men must be managed. They must make instant decisions. There is no time to consult far-away officials. They must have that quality of leadership which infuses assistants, foremen, inspectors and workmen with fighting energy.

Is Born Leader

Seymour, in intervals between tuning in on the radio and answering our questions, spent half his time that evening talking on the telephone over the work done during the day and lining up the work of the next day with the various engineers, foremen and contractors on the job between Oakridge and his own station.

The next morning, accompanied by Mr. Seymour, we started on our tramp over the gap between the two ends of the line, now so short that the sounds of activity mingle at either end. Here we saw some of the difficulties of practical railroad construction. A viaduct across a series of chasms through which Noisy creek wends its turbulent way was under construction. In fact, the cement was being poured into the forms. But the problem of an insecure foundation at one end had to be solved by having great flat slabs of concrete, large enough to cover the bottom of a flat car, which were placed by cranes in position to make a durable foundation. The bridge across Shady Creek could not be laid from the Oakridge side of the line because of the necessary delay in building this viaduct. So the specially designed machine for laying steel bridges had been sent around through Eugene back to Weed and from thence was to come via the rail at the other end of the Cut-Off back to do the work at Shady creek—a journey of 500 miles to reach a point half a mile away from the place where it had been located.

Spot Where Rails Meet

We saw the end of steel where the rails project through the tunnel thirteen and took a good look at the spot where the rails would meet between tunnels thirteen and fourteen. At this point we bid goodbye to Mr. Seymour and wended our way around Wolf Mountain, which is pierced with one of the longest tunnels on the line, 3,148 feet long. We followed a winding road which, like many roads and trails we struck at times, was now falling into disuse. But these roads and trails, built at an expenditure estimated at $200,000, had played an important part in the construction. They needed to be built before the construction work could start. Over them the equipment for grading and tunnelling, the supplies for thousands of men, were carried by horses and trucks. Some of these roads followed the actual line of construction, and have been replaced with the railway. Some of them parallel the rails and, up and down the steeper grades, pack trails run which connected camp with camp. Some of these roads will be taken over by the Forest Service, and thus be maintained, but many of them will be abandoned and just charged off to profit and loss, the loss falling, partially at least, upon the contractors.

Furious Tunnel Building

At two points on the road around Wolf Mountain were to be seen the openings of small tunnels, known as adit tunnels. These were side tunnels driven into a point of intersection with the line of the main tunnel. From this intersection it was possible to work in two directions. Thus with two adit tunnels the drilling was pushed eight ways at once. The original survey projected the line around the precipitous side of Wolf tunnel, but the danger of snow slides and the difficulties of construction involved made it both cheaper and safer to drive a hole through the mountain peak itself. The same considerations applied to Summit tunnel, which we passed through later in the day.

At the other end of the long tunnel through Wolf mountain we came upon a scene of intense activity. A gang of carpenters were working with feverish haste to complete the form and troughs required to pour an eight-foot section of the arch within the entrance of the tunnel. Eight feet at a time is about the limit possible to be done in a day's work of a gang. A great arch had been built, fifty feet long, separated from the sides and top of the tunnel by about four or five feet. This was made of harrow strips of tongue and grooved stuff, resembling the half of a huge silo laid on its side. A steep inclined track ran up at one side of this arch to a kind of a hopper, from which troughs of rough wood ran to the section to be poured. At the bottom of this track was the hoisting engine, just at one side, while immediately at the end was the mixer. A small steel car with capacity to just carry the amount contained in the revolving drum of the mixer was moved up and down the track by the hoist.

I was told to look up a man named Phelps, who had charge of the speeders belonging to the contractors in charge of much of the cement work, W. A. Bechtel & Co., of San Francisco. He was pointed out to me, a slender young man in muddy clothing splotched with cement. Then I had to catch him on the fly and explain to him in one ear while he listened to half a dozen questions from workmen with the other, that we were seeking transportation on over the line. He was remarkably courteous for a man interrupted at a critical moment, and regretted that nothing was available just at that time, but asked us to stick around awhile and something would be arranged. So the photographer took a picture or two and stretched out on a pile of lumber for a nap, while I watched the pouring and even ventured, under the guidance of the busy Mr. Phelps, up on top of the arch, where eight or ten men were handling the troughs. I learned that pouring cement on this kind of a job is a nerve-racking business. About two feet at a time can be run on one side, then the troughs must be moved to pour two feet on the other side. The most critical point is just when the mixture is rounding over the top, when there is danger of the arch buckling. Then timbers are wedged between the boards and the top of the tunnel at the danger spots. It is some job, this business of pouring cement arches fifty feet long. Mr. Phelps is welcome to his job as foreman, as far as I am concerned. Once started the pouring cannot be stopped until the whole section is completed and that day's work, with the best of luck, would not end. I was told, before 9 or 10 o'clock at night, and it would be finished in the glare of big acetylene lights.

It was here I met Resident Engineer Duffers, who had headquarters a couple of miles up the track. He belongs to the organization of Superintending Engineer Beattie, who directs the work from Planton. Mr. Seymour and Mr. Berkeley are resident engineers belonging to the organization of Major McKennett at Oakridge. Under the direction of these resident engineers at each headquarters is an organization of their own assistant engineers, inspectors and foremen, mostly young men recently from universities.

Just as we were put on board a diminutive speeder shortly before noon to be moved on to some indefinite place farther on the line, a kind of high-wheeled speeder with one end enclosed overtook us and "Steve" jumped from the run-

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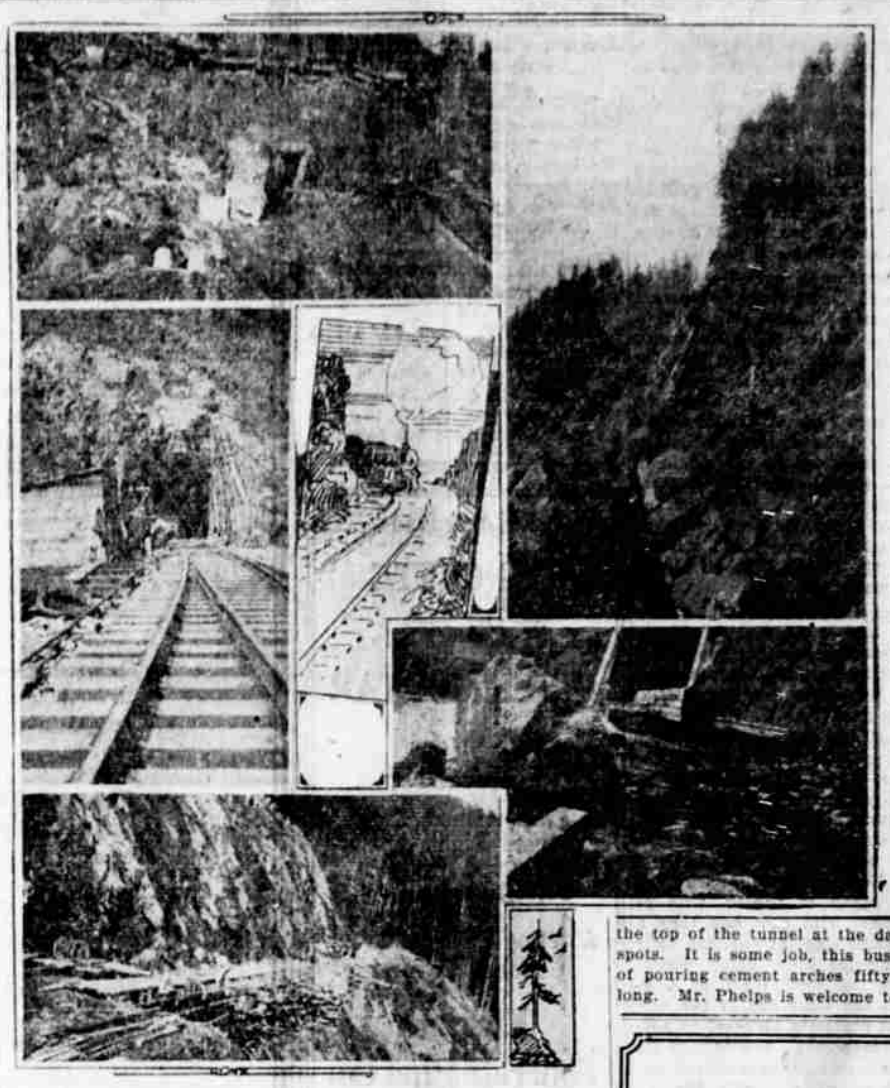
WHERE ENDS OF RAIL WILL MEET ON NATRON CUT-OFF



At the upper left is shown the viaduct under construction over Noisy creek, on the new Natron cut-off line of the Southern Pacific Railway company. At the center left, the work gang is shown cementing the entrance of the south end of Summit tunnel. At the upper right is shown the place where steel will meet steel when the last spike on the new line is driven. The present end of rails at Shady creek tunnel is shown at the lower right, while the lower left shows the pouring of concrete into the forms of the viaduct across Noisy creek gulch.