

## On the Way Up

The example of John's experience, however, determined Ralph Budd's career. After graduation he found a regular berth through his brother with the Chicago Great Western Railway.

"The division engineer at Des Moines," Budd recalls, "was H. B. Merriam. He was a fine engineer — I believe a graduate of M.I.T. I met him through my brother and got a job as a draftsman in his office about the end of the year 1899. I worked in that office as draftsman until about April, 1900, and then when they were putting men out on the road for summer field work I talked to Merriam and told him that I thought I was not a very good draftsman, but that I might be a good field man because I had done more field work than I had drafting. The upshot of it was that he let me go out on one of the parties that he was organizing to ballast track and relay rail between Des Moines and Oelwein. My job was staking out the work which consisted of taking out wooden trestles and replacing them with fills and culverts, staking out gravel pits so as to measure the amount of gravel that was taken out for ballast, running the curves so that the track would be put on the proper alignment before being surfaced, and then setting the grade stakes. It was an all-around job as assistant engineer."

Like all railroad work, this meant traveling. Budd and the others who lived in Des Moines would go out Sunday night, stay at the small ho-

tels along the way during the week, and return home Saturday. The pay, even for those days, was hardly magnificent: Ralph Budd started at \$45 a month, plus expenses limited to \$30, just about enough to cover the cost while out on the line.

In no time the young engineer proved his worth. By the end of the season he was getting \$75 a month plus expenses. One reason was his patient determination to learn. It was at just about that time that A. N. Talbot brought out in pamphlet form a book on the railroad spiral with a method of fitting it to existing curves that was of immense practical value. Realizing this, Budd got hold of the book when it first came out and carried it around with him until it wore out. From this experience a friendship developed with Talbot which grew stronger with the years. Budd insists that Talbot was one of the railroads' great benefactors through his lifelong work on railroad track at the University of Illinois.

Budd's skill in applying Talbot's technique contributed to his steady advancement during the three years he spent with the Chicago Great Western. His work commanded attention and in 1902 he was offered and accepted a position with the Rock Island which was then building its line between St. Louis and Kansas City. In 1903 he became the first division engineer of that line.

His performance on the Rock Island established

his reputation in the eyes of those who were eventually to give him his greatest opportunities. Yet Budd cannot recall any particularly notable accomplishments on his part. Characteristically enough, he simply says it was his good fortune to meet, on the Rock Island, a series of exceptionally fine men. Among them John F. Stevens, then vice-president, and one of the greatest engineers of the day, will be remembered for his earlier discovery of Marias Pass for the Great Northern. With the keen perception of an engineer, Stevens liked what he saw of Budd's work. Consequently, when Stevens became chief engineer of the Panama Canal and needed a man to take charge of the engineering for the railroad that crossed the Isthmus, he sent for the young man who had served him so well on the Rock Island. The decision of Congress in 1906 to build a canal with locks, rather than at sea level, meant that most of the excavation would be done with steam shovels and that the material taken out would be hauled away by train. At that sort of work Budd was an expert.

The original railroad across the Isthmus was completed in 1855 to accommodate the hordes seeking a short cut to California. But the track that had once served the pioneers so well was not the type to carry the huge burden thrust upon it with the building of the Canal. Hence Budd's first job was to strengthen the old road, then

double track it and build spurs as needed to carry away the material excavated from the big Culebra and other cuts. It was exciting work.

In April, 1907, Stevens returned to the United States and was succeeded by General (then Major) George W. Goethals. Budd stayed on, and at the end of that year Goethals commissioned him to locate and build an entirely new railroad around the side of Gatun Lake to replace the old line that would be submerged as the lake filled.

Driving a new line through the tangled jungles was tedious business on account of the rapid growth and the heat, yet it had to be done quickly so as not to delay work on the Gatun locks and dam. Suffice it to say that the line was built well in advance of the deadline at a minimum elevation of 95 feet above the sea or 10 feet above the future Gatun Lake.

Budd liked Panama. Perhaps his best insurance against loneliness was the fact that his growing family was there with him. In December, 1900, just turned 21, he had married Georgia Marshall. Their older son, Robert, was born in the fall of 1903, next came a daughter, Margaret, and in the fall of 1907 a younger son, John. The Budds had a house in Panama, and although there was an annual vacation in the States, the family was on the Isthmus most of the time.

In August, 1909, with the new railroad well under way, Ralph Budd took his wife and chil-

dren to Maine for a summer vacation. He was planning to return to Panama, but while away he received an invitation from Stevens, then in the Pacific Northwest, to undertake reconnaissance work on the Oregon Trunk, a line James J. Hill was projecting southward from the Columbia River to Bend, Oregon, and beyond as an extension of the Great Northern and Northern Pacific railways. Recognizing the potential of the region, and anxious to work again for his old chief, Budd sent his resignation to Panama and headed west.

At the time, the Oregon Trunk was under construction from Wishram, a station on the Spokane, Portland & Seattle on the north bank of the Columbia, southward for 150 miles along the Deschutes River to Bend. The immediate question was whether to extend the California-bound line directly south from Bend, or to start it at some point on a projected western extension of the Burlington that would traverse an almost straight line from Orin Junction, Wyoming, across Idaho, on to Burns, Oregon, and finally into Portland through Bend. The Burlington, incidentally, had been purchased in 1901 by the Great Northern and Northern Pacific, and with them constituted the so-called "Hill Lines."

During the seven months following August, 1909, Budd covered the vast reaches of central and southeastern Oregon in and on virtually every sort of conveyance. His first assignment was to

strike directly southward from Bend to the Feather River. This he did, carrying his survey through Chemult, Klamath Falls, on to Bieber, California, and thence to Keddie on the present main line of the Western Pacific, then under construction. It is significant that the existing line between Bend and Keddie was eventually built exactly on the line Budd recommended.

But the 350 miles between Bend and Keddie was but a part of Budd's assignment. He next turned to the western end of the projected Burlington extension, and made an even longer reconnaissance eastward from Bend through Burns and along the Malheur Canyon to the eastern boundary of the state. Finally Budd reconnoitered another 350-mile line southward from Burns to a point on the Feather River via Susanville with the thought that if the east-west line were built this might be a desirable entry into California. Early in 1910 Budd became chief engineer of the Oregon Trunk, and a little later in the same year, chief engineer of the Spokane, Portland & Seattle as well.

Not long after, Budd first met James J. Hill. The experience made a vivid impression on the younger man. Hill, at the time, was already well past seventy, yet both his mind and body were as alert and resilient as a coiled spring. During the two days he spent inspecting the road, his one good gimlet-like eye seemed to look through as

well as at each and every detail. His questions were endless. But there was nothing high and mighty about Hill; he could listen as well as ask, and he paid as close attention to a track layer who knew his job as he did to the top boss. He had the gift of making everyone feel part of a team.

One point Hill made abundantly clear during his trip; the importance of getting as good a line as humanly possible. "This is not a railroad that is being built up into the plateau of central Oregon to stop there," he insisted. "It's the Oregon Trunk." As usual Hill's imagination refused to be satisfied with the completion of minor short-run projects. His business was building empires. It is safe to say that the ideas and ways of doing things revealed by Hill on that trip were by no means lost on Ralph Budd.

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