

# **The Young Engineers in Colorado eBook**

## **The Young Engineers in Colorado by H. Irving Hancock**

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# Page 1

## THE CUB ENGINEERS REACH CAMP

"Look, Tom! There is a real westerner!" Harry Hazelton's eyes sparkled, his whole manner was one of intense interest.

"Eh?" queried Tom Reade, turning around from his distant view of a sharp, towering peak of the Rockies.

"There's the real thing in the way of a westerner," Harry Hazelton insisted in a voice in which there was some awe.

"I don't believe he is," retorted Tom skeptically.

"You're going to say, I suppose, that the man is just some freak escaped from the pages of a dime novel?" demanded Harry.

"No; he looks more like a hostler on a leave of absence from a stranded Wild West show," Tom replied slowly.

There was plenty of time for them to inspect the stranger in question. Tom and Harry were seated on a mountain springboard wagon drawn by a pair of thin horses. Their driver, a boy of about eighteen, sat on a tiny make-believe seat almost over the traces. This youthful driver had been minding his own business so assiduously during the past three hours that Harry had voted him a sullen fellow. This however, the driver was not.

"Where did that party ahead come from, driver?" murmured Tom, leaning forward.  
"Boston or Binghamton?"

"You mean the party ahead at the bend of the trail?" asked the driver.

"Yes; he's the only stranger in sight."

"I guess he's a westerner, all right," answered the driver, after a moment or two spent in thought.

"There! You see?" crowed Harry Hazelton triumphantly.

"If that fellow's a westerner, driver," Tom persisted, "have you any idea how many days he has been west?"

"He doesn't belong to this state," the youthful driver answered. "I think he comes from Montana. His name is Bad Pete."

"Pete?" mused Tom Reade aloud. "That's short for Peter, I suppose; not a very interesting or romantic name. What's the hind-leg of his name?"

"Meaning his surnames" drawled the driver.

"Yes; to be sure."

"I don't know that he has any surname, friend," the Colorado boy rejoined.

"Why do they call him 'Bad'?" asked Harry, with a thrill of pleasurable expectation.

As the driver was slow in finding an answer, Tom Reade, after another look at the picturesque stranger, replied quizzically:

"I reckon they call him bad because he's counterfeit."

"There you go again," remonstrated Harry Hazelton. "You'd better be careful, or Bad Pete will hear you."

"I hope he doesn't," smiled Tom. "I don't want to change Bad Pete into Worse Pete."

There was little danger, however, that the picturesque-looking stranger would hear them. The axles and springs of the springboard wagon were making noise enough to keep their voices from reaching the ears of any human being more than a dozen feet away.



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Bad Pete was still about two hundred and fifty feet ahead, nor did he, as yet, give any sign whatever of having noted the vehicle. Instead, he was leaning against a boulder at the turn in the road. In his left hand he held a hand-rolled cigarette from which he took an occasional reflective puff as he looked straight ahead of him as though he were enjoying the scenery. The road—trail—ran close along the edge of a sloping precipice. Fully nine hundred feet below ran a thin line of silver, or so it appeared. In reality it was what was left of the Snake River now, in July, nearly dried out.

Over beyond the gulch, for a mile or more, extended a rather flat, rock-strewn valley. Beyond that were the mountains, two peaks of which, even at this season, were white-capped with snow. On the trail, however, the full heat of summer prevailed.

"This grand, massive scenery makes a human being feel small, doesn't it?" asked Tom.

Harry, however, had his eyes and all his thoughts turned toward the man whom they were nearing.

"This—er—Bad Pete isn't an—er—that is, a road agent, is he?" he asked apprehensively.

"He may be, for all I know," the driver answered. "At present he mostly hangs out around the S.B. & L. outfit."

"Why, that's our outfits—the one we're going to join, I mean," cried Hazelton.

"I hope Pete isn't the cook, then," remarked Tom fastidiously. "He doesn't look as though he takes a very kindly interest in soap."

"Sh-h-h!" begged Harry. "I'll tell you, he'll hear you."

"See here," Tom went on, this time addressing the driver, "you've told us that you don't know just where to find the S.B. & L. field camp. If Mr. Peter Bad hangs out with the camp then he ought to be able to direct us."

"You can ask him, of course," nodded the Colorado boy.

Soon after the horses covered the distance needed to bring them close to the bend. Now the driver hauled in his team, and, blocking the forward wheels with a fragment of rock, began to give his attention to the harness.

Bad Pete had consented to glance their way at last. He turned his head indolently, emitting a mouthful of smoke. As if by instinct his right hand dropped to the butt of a revolver swinging in a holster over his right hip.

"I hope he isn't bad tempered today!" shivered Harry under his breath.

“I beg your pardon, sir,” galled Tom, “but can you tell us-----”

“Who are ye looking at?” demanded Bad Pete, scowling.

“At a polished man of the world, I’m sure,” replied Reade smilingly. “As I was saying, can you tell us just where we can find the S.B. & L.’s field camp of engineers?”

“What d’ye want of the camp?” growled Pete, after taking another whiff from his cigarette.

“Why, our reasons for wanting to find the camp are purely personal,” Tom continued.

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"Now, tenderfoot, don't get fresh with me," warned Pete sullenly.

"I haven't an idea of that sort in the world, sir," Tom assured him. "Do you happen to know the hiding-place of the camp?"

"What do you want of the camp?" insisted Pete.

"Well, sir, since you're so determined to protect the camp from questionable strangers," Tom continued, "I don't know that it will do any harm to inform you that we are two greenhorns—tenderfeet, I believe, is your more elegant word—who have been engaged to join the engineers' crowd and break in at the business."

"Cub engineers, eh, tenderfoot?"

"That's the full size of our pretensions, sir," Tom admitted.

"Rich men's sons, coming out to learn the ways of the Rookies?" questioned Bad Pete, showing his first sign of interest in them.

"Not quite as bad as that," Tom Reade urged. "We're wholly respectable, sir. We have even had to work hard in order to raise money for our railway fare out to Colorado."

Bad Pete's look of interest in them faded.

"Huh!" he remarked. "Then you're no good either why."

"That's true, I'm afraid," sighed Tom. "However, can you tell us the way to the camp?"

From one pocket Bad Pete produced a cigarette paper and from another tobacco. Slowly he rolled and lighted a cigarette, in the meantime seeming hardly aware of the existence of the tenderfeet. At last, however, he turned to the Colorado boy and observed:

"Pardner, I reckon you'd better drive on with these tenderfeet before I drop them over the cliff. They spoil the view. Ye know where Bandy's Gulch is?"

"Sure," nodded the Colorado boy.

"Ye'll find the railroad outfit jest about a mile west o' there, camped close to the main trail."

"I'm sure obliged to you," nodded the Colorado boy, stepping up to his seat and gathering in the reins.

"And so are we, sir," added Tom politely.

"Hold your blizzard in until I ask ye to talk," retorted Bad Pete haughtily. "Drive on with your cheap baggage, pardner."

"Cheap baggage, are we?" mused Tom, when the wagon had left Bad Pete some two hundred feet to the rear. "My, but I feel properly humiliated!"

"How many men has Bad Pete killed?" inquired Harry in an awed voice.

"Don't know as he ever killed any," replied the Colorado boy, "but I'm not looking for trouble with any man that always carries a revolver at his belt and goes around looking for someone to give him an excuse to shoot. The pistol might go off, even by accident."

"Are there many like Mr. Peter Bad in these hills nowadays?" Tom inquired.

"You'll find the foothills back near Denver or Pueblo," replied the Colorado youth coldly "You're up in the mountains now."

"Well, are there many like Peter Bad in these mountains?" Tom amended.

"Not many," admitted their driver. "The old breed is passing. You see, in these days, we have the railroad, public schools, newspapers, the telegraph, electric light, courts and the other things that go with civilization."

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"The old days of romance are going by," sighed Harry Hazelton.

"Do you call murder romantic?" Reade demanded. "Harry, you came west expecting to find the Colorado of the dime novels. Now we've traveled hundreds of miles across this state, and Mr. Bad wore the first revolver that we've seen since we crossed the state line. My private opinion is that Peter would be afraid to handle his pistol recklessly for fear it would go off."

"I wouldn't bank on that," advised the young driver, shaking his head.

"But you don't carry a revolver," retorted Tom Reade.

"Pop would wallop me, if I did," grinned the Colorado boy. "But then, I don't need firearms. I know enough to carry a civil tongue, and to be quiet when I ought to."

"I suppose people who don't possess those virtues are the only people that have excuse for carrying a pistol around with their keys, loose change and toothbrushes," affirmed Reade. "Harry, the longer you stay west the more people you'll find who'll tell you that toting a pistol is a silly, trouble-breeding habit."

They drove along for another hour before a clattering sounded behind them.

"I believe it's Bad Pete coming," declared Harry, as he made out, a quarter of a mile behind them, the form of a man mounted on a small, wiry mustang.

"Yep; it is," nodded the Colorado boy, after a look back.

The trail being wider here Bad Pete whirled by them with a swift drumming of his pony's hoofs. In a few moments more he was out of sight.

"Tom, you may have your doubts about that fellow," Hazelton remarked, "but there's one thing he can do—ride!"

"Humph! Anyone can ride that knows enough to get into a saddle and stick there," observed the Colorado boy dryly.

Readers of the "*Grammar School Boys Series*" and of the "*High School Boys Series*", have already recognized in Tom Reade and Harry Hazelton two famous schoolboy athletes.

Back in old Gridley there had once been a schoolboy crowd of six, known as Dick & Co. Under the leadership of Dick Prescott, these boys had made their start in athletics in the Central Grammar School, winning no small amount of fame as junior schoolboy athletes.

Then in their High School days Dick & Co. had gradually made themselves crack athletes. Baseball and football were their especial sports, and in these they had reached a degree of skill that had made many a college trainer anxious to obtain them.

None of the six, however, had gone to college. Dick Prescott and Greg Holmes had secured appointments as cadets at the United States Military Academy, at West Point. Their adventures are told in the "*West Point Series*." Dave Darrin and Dan Dalzell, feeling the call to the Navy, had entered the United States Naval Academy at Annapolis. Their further doings are all described in the "*Annapolis Series*."

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Tom Reade and Harry Hazelton, however, had found that their aspirations pointed to the great constructive work that is done by the big-minded, resourceful American civil engineer of today. Bridge building, railroad building, the tunneling of mines—in a word, the building of any of the great works of industry possessed a huge fascination for them.

Tom was good-natured and practical, Harry at times full of mischief and at others dreamy, but both longed with all their souls to place themselves some day in the front ranks among civil engineers.

At high school they had given especial study to mathematics. At home they had studied engineering, through correspondence courses and otherwise. During more than the last year of their home life our two boys had worked much in the offices of a local civil engineer, and had spent part of their school vacations afield with him.

Finally, after graduating from school both boys had gone to New York in order to look the world over. By dint of sheer push, three-quarters of which Tom had supplied, the boys had secured their first chance in the New York offices of the S.B. & L. Not much of a chance, to be sure, but it meant forty dollars a month and board in the field, with the added promise that, if they turned out to be “no good,” they would be promptly “bounced.”

“If ‘bounced’ we are,” Tom remarked dryly, “we’ll have to walk home, for our money will just barely take us to Colorado.”

So here they were, having come by rail to a town some distance west of Pueblo. From the last railway station they had been obliged to make thirty miles or more by wagon to the mountain field camp of the S.B. & L.

Since daybreak they had been on the way, eating breakfast and lunch from the paper parcels that they had brought with them.

“How much farther is the camp, now that you know the way.” Reade inquired an hour after Bad Pete had vanished on horseback.

“There it is, right down there,” answered the Colorado youth, pointing with his whip as the raw-boned team hauled the wagon to the top of a rise in the trail.

Of the trail to the left, surrounded by natural walls of rock, was an irregularly shaped field about three or four acres in extent. Here and there wisps of grass grew, but the ground, for the most part, was covered by splinters of rock or of sand ground from the same.

At the farther end of the camp stood a small wooden building, with three tents near try. At a greater distance were several other tents. Three wagons stood at one side of the camp, though horses or mules for the same were not visible. Outside, near the door of

one tent, stood a transit partially concealed by the enveloping rubber cover. Near another tent stood a plane table, used in field platting (drawing). Signs of life about the camp there were none, save for the presence of the newcomers.

"I wonder if there's anyone at home keeping house," mused Tom Reade, as he jumped down from the wagon.



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"There's only one wooden house in this town. That must be where the boss lives," declared Harry.

"Yes; that's where the boss lives," replied the Colorado youth, with a wry smile.

"Let's go over and see whether he has time to talk to us," suggested Reade.

"Just one minute, gentlemen," interposed the driver. "Where do you want your kit boxes placed? Are you going to pay me now?"

"Drop the kit boxes on the ground anywhere," Tom answered. "We're strong enough to carry 'em when we find where they belong."

And—yes: we are going to pay you now. Eighteen dollars, isn't it?"

"Yes," replied the young driver, with the brevity of the mountaineer.

Tom and Harry went into their pockets, each producing nine dollars as his share of the fare. This was handed over to the Colorado youth.

"Bliged to you, gentlemen," nodded the Colorado boy pocketing the money. "Anything more to say to me?"

"Nothing remains to be said, except to thank you, and to wish you good luck on your way back," said Reade.

"I wish you luck here, too, gentlemen. Good day."

With that, the driver mounted his seat, turned the horses about and was off without once looking back.

"Now let's go over to the house and see the boss," murmured Tom.

Together the chums skirted the camp, going up to the wooden building. As the door was open, Tom, with a sense of good manners, approached from the side that he might not appear to be peeping in on the occupants of the building. Gaining the side of the doorway, with Harry just behind him, Reade knocked softly.

"Quit yer kidding, whoever it is, and come in," called a rough voice.

Tom thereupon stepped inside. What he saw filled him with surprise. Around the room were three or four tables. There were many utensils hanging on the walls. There were two stoves, with a man bending over one of them and stirring something in a pot.

“Oh, I beg your pardon,” said Tom. “I thought I’d find Mr. Timothy Thurston, the chief engineer, here.”

“Nope,” replied a stout, red-faced man of forty, in flannel shirt and khaki trousers. “Mr. Thurston never eats between meals, and when he does eat he’s served in his own mess tent. Whatcher want here, pardner?”

“We’re under orders to report to him,” Tom answered politely.

“New men in the chain gang?” asked the cook, swinging around to look at the newcomers.

“Maybe,” Reade assented. “That will depend on the opinion that Mr. Thurston forms of us after he knows us a little while. I believe the man in New York said we were to be assistant engineers.”

“There’s only one assistant engineer here,” announced the cook. “The other engineers are Just plain surveyors or levelers.”

“Well, we won’t quarrel about titles,” Tom smilingly assured the cook. “Will you please tell us where Mr. Thurston is?”

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"He's in his tent over yonder," said the cook, pointing through the open doorway.

"Shall we step over there and announce ourselves?" Tom inquired.

"Why, ye could do it," rejoined the red-faced cook, with a grin. "If Tim Thurston happens to be very busy he might use plain talk and tell you to git out of camp."

"Then do you mind telling us just how we should approach the chief engineer?"

"Whatter yer names?"

"Reade and Hazelton."

"Bob, trot over and tell Thurston there's two fellows here, named Reade and Hazelnut. Ask him what he wants done with 'em."

The cook's helper, who, so far, had not favored the new arrivals with a glance, now turned and looked them over. Then, with a nod, the helper stepped across the ground to the largest tent in camp. In a few moments he came back.

"Mr. Thurston says to stay around and he'll call you jest as soon as he's through with what he's doing," announced Bob, who, dark, thin and anemic, was a decrepit-looking man of fifty years or thereabouts.

"Ye can stand about in the open," added the cook, pointing with his ladle. "There's better air out there."

"Thank you," answered Tom briskly, but politely. Once outside, and strolling slowly along, Reade confided to his chum:

"Harry, you can see what big fellows we two youngsters are going to be in a Rocky Mountain railroad camp. We haven't a blessed thing to do but play marbles until the chief can see us."

"I can spare the time, if the chief can," laughed Harry. "Hello——look who's here!"

Bad Pete, now on foot, had turned into the camp from the farther side. Espying the boys he swaggered over toward them.

"How do you do, sir?" nodded Tom.

"Can't you two tenderfeet mind your own business?" snarled Pete, halting and scowling angrily at them.

"Now, I come to think of it," admitted Tom, "it was meddlesome on my part to ask after your health. I beg your pardon."

"Say, are you two tenderfeet trying to git fresh with me?" demanded Bad Pete, drawing himself up to his full height and gazing at them out of flashing eyes.

Almost unconsciously Tom Reade drew himself up, showing hints of his athletic figure through the folds of his clothing.

"No, Peter," he said quietly. "In the first place, my friend hasn't even opened his mouth. As for myself, when I *do* try to get fresh with you, you won't have to do any guessing. You'll be sure of it."

Bad Pete took a step forward, dropping his right hand, as though unconsciously, to the butt of the revolver in the holster. He fixed his burning gaze savagely on the boy's face as he muttered, in a low, ugly voice:

"Tenderfoot, when I'm around after this you shut your mouth and keep it shut! You needn't take the trouble to call me Peter again, either. My name is Bad Pete, and I am bad. I'm poison! Understand? Poison!"

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"Poison?" repeated Tom dryly, coolly. "No; I don't believe I'd call you that. I think I'd call you a bluff—and let it go at that."

Bad Pete scowled angrily. Again his hand slid to the butt of his revolver, then with a muttered imprecation he turned and stalked away, calling back threateningly over his shoulder:

"Remember, tenderfoot. Keep out of my way."

Behind the boys, halted a man who had just stepped into the camp over the natural stone wall. This man was a sun-browned, smooth-faced, pleasant-featured man of perhaps thirty-two or thirty-three years. Dressed in khaki trousers, with blue flannel shirt, sombrero and well-worn puttee leggings, he might have been mistaken for a soldier. Though his eyes were pleasant to look at, there was an expression of great shrewdness in them. The lines around his mouth bespoke the man's firmness. He was about five-feet-eight in height, slim and had the general bearing of a strong man accustomed to hard work.

"Boys," he began in a low voice, whereat both Tom and Harry faced swiftly about, "you shouldn't rile Bad Pete that way. He's an ugly character, who carries all he knows of law in his holsters, and we're a long way from the sheriff's officers."

"Is he really bad?" asked Tom innocently.

"Really bad?" laughed the man in khaki. "You'll find out if you try to cross him. Are you visiting the camp?"

"Reade! Hazelton!" called a voice brusquely from the big tent.

"That's Mr. Thurston calling us, I guess," said Tom quickly. "We'll have to excuse ourselves and go and report to him."

"Yes, that was Thurston," nodded the slim man. "And I'm Blaisdell, the assistant engineer. I'll go along with you."

Throwing aside the canvas flap, Mr. Blaisdell led the boys inside the big tent. At one end a portion of the tent was curtained off, and this was presumably the chief engineer's bedroom. Near the centre of the tent was a flat table about six by ten feet. Just at present it held many drawings, all arranged in orderly piles. Not far from the big table was a smaller one on which a typewriting machine rested.

The man who sat at the large table, and who wheeled about in a revolving chair as Tom and Harry entered, was perhaps forty-five years of age. His head was covered with a mass of bushy black hair. His face was as swarthy, in its clean-shaven condition, as though the owner had spent all of his life under a hot sun. His clothing like that of all the

rest of the engineers in camp was of khaki, his shirt of blue flannel, with a long, flowing black tie.

“Mr. Thurston,” announced the assistant engineer, “I have just encountered these young gentlemen, who state that they are under orders from the New York offices to report to you for employment.”

Mr. Thurston looked both boys over in silence for a few seconds. His keen eyes appeared to take in everything that could possibly concern them. Then he rose, extending his hand, first to Reade, next to Hazelton.

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"From what technical school do you come?" inquired the engineer as he resumed his chair.

"From none, sir," Tom answered promptly "We didn't have money enough for that sort of training."

Mr. Thurston raised his eyebrows in astonished inquiry.

"Then why," he asked, "did you come here? What made you think that you could break in as engineers?"

## CHAPTER II

### BAD PETE BECOMES WORSE

Timothy Thurston's gaze was curious, and his voice a trifle cold. Yet he did not by any means treat the boys with contempt. He appeared simply to wonder why these young men had traveled so far to take up his time.

"We couldn't afford to take a college course in engineering, sir," Tom Reade continued, reddening slightly. "We have learned all that we possibly could in other ways, however."

"Do you expect me, young men, to detail an experienced engineer to move about with you as instructor until you learn enough to be of use to us?"

"No, indeed, we don't, sir," Tom replied, and perhaps his voice was sharper than usual, though it rang with earnestness. "We believe, sir, that we are very fair engineers. We are willing to be tried out, sir, and to be rated exactly where you find that we belong. If necessary we'll start in as helpers to the chainmen, and we have pride enough to walk back over the trail at any moment when you decide that we're no good. We have traveled all the way from the east, and I trust, sir, that you'll give us a fair chance to show if we know anything."

"It won't take long to find that out," replied Mr. Thurston gravely. "Of course you both understand that we are doing real engineering work and haven't any time to instruct amateurs or be patient with them."

"We don't want instruction, Mr. Thurston," Hazelton broke in. "We want work, and when we get it we'll do it."

"I hope your work will be as good as your assurance," replied the chief engineer, with a slight twinkle in his eyes. "What can you do?"

"We know how to do ordinary surveying, sir," Tom replied quickly. "We can run our courses and supervise the chaining. We know how to bring in field notes that are of some use. We can do our work well within the limits of error allowed by the United States Government. We also consider ourselves competent at leveling. Give us the profile plan and the notes on an excavation, and we can superintend the laborers who have to make an excavation. We have a fair knowledge of ordinary road building. We have the strength of usual materials at our finger's ends, and for beginners I think we may claim that we are very well up in mathematics. We have had some all-around experience. Here is a letter, sir, from Price & Conley, of Gridley, in whose offices we have done quite a bit of work."

Mr. Thurston took the letter courteously, though he did not \ immediately glance at it.



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"Country surveyors, these gentlemen, I suppose?" he asked, looking into Tom's eyes.

"Yes, sir," nodded Reade, "though Mr. Price is also the engineer for our home county. Both Mr. Price and Mr. Conley paid us the compliment of saying that we were well fitted to work in a railway engineering camp."

"Well, we'll try you out, until you either make good or convince us that you can't," agreed the chief engineer, without any show of enthusiasm. "You may show them where they are to live, Mr. Blaisdell, and where they are to mess. In the morning you can put these young men at some job or other."

The words sounded like a dismissal, but Blaisdell lingered a moment.

"Mr. Thurston," he smiled, "our young men ran, first thing, into Bad Pete."

"Yes?" inquired the chief. "Did Pete show these young men his fighting front?"

Blaisdell repeated the dialogue that had taken place between Tom and Bad Pete.

The chief listened to his assistant in silence. Tom flushed slightly under the penetrating glance Mr. Thurston cast upon him during the recital.

When the assistant had finished, the chief merely remarked: "Blaisdell, I wish you could get rid of that fellow, Bad Pete. I don't like to have him hanging about the camp. He's an undesirable character, and I'm afraid that some of our men will have trouble with him. Can't you get rid of him?"

"I'll do it if you say so, Mr. Thurston," Blaisdell answered quietly.

"How?" inquired his chief.

"I'll serve out firearms to five or six of the men, and the next time Pete shows his face we'll cover him and march him miles away from camp."

"That wouldn't do any good," replied Mr. Thurston, with a shake of his head. "Pete would only come back, uglier than before, and he'd certainly shoot up some of our men."

"You asked me, a moment ago, Mr. Thurston, what I could do," Tom broke in. "Give me a little time, and I'll agree to rid the camp of Peter."

"How?" asked the chief abruptly. "Not with any gun-play! Pete would be too quick for you at anything of that sort."

"I don't carry a pistol, and don't wish to do so," Tom retorted. "In my opinion only a coward carries a pistol."

"Then you think Bad Pete is a coward, young man?" returned the chief.

"If driven into a corner I'm pretty sure he'd turn out to be one, sir," Tom went on earnestly. "A coward is a man who's afraid. If a fellow isn't afraid of anything, then why does he have to carry firearms to protect himself?"

"I don't believe that would quite apply to Pete," Mr. Thurston went on. "Pete doesn't carry a revolver because he's afraid of anything. He knows that many other men are afraid of pistols, and so he carries his firearms about in order that he may enjoy himself in playing bully."

"I can drive him out of camp," Tom insisted. "All I'll wait for will be your permission to go ahead."

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"If you can do it without shooting," replied the chief, "try your hand at it. Be careful, however, Reade. There are plenty of good natural lead mines in these mountains."

"Yes—sir?" asked Reade, looking puzzled.

"Much as we'd like to see Pete permanently out of this camp, remember that we don't want you to give the fellow any excuse for turning you into a lead mine."

"If Peter tries anything like that with me," retorted Tom solemnly, "I shall be deeply offended."

"Very good. Take the young men along with you, Blaisdell. I'll hear your report on them tomorrow night."

The assistant engineer took Tom and Harry over to a seven by nine tent.

"You'll bunk in here," he explained, "and store your dunnage here. There are two folding cots in the tent, as you see. Don't shake 'em out until it's time to turn in, and then you'll have more room in your house. Now, come on over and I'll show you the mess tent for the engineers."

This Blaisdell also showed them. There was nothing in the tent but a plain, long table, with folding legs, and a lot of camp chairs of the simplest kind.

"What's that tent, Mr. Blaisdell?" inquired Harry, pointing to the next one, as they came out of the engineers' mess.

"Mess tent for the chainmen and rod men laborers, etc.," replied their guide. "Now, the fellows will be in soon, and supper will be on in half an hour. After you get your dunnage over to your tent amuse yourselves in any way that you care to. I'll introduce you to the crowd at table."

Tom and Harry speedily had their scanty dunnage stored in their own tent. Then they sat down on campstools just outside the door.

"Thurston didn't seem extremely cordial, did he?" asked Hazelton solemnly.

"Well, why should he be cordial?" Tom demanded. "What does he know about us? We're trying to break in here and make a living, but how does he know that we're not a pair of merely cheerful idiots?"

"I've an idea that Mr. Thurston is always rather cool with his staff," pursued Harry.

"Do your work, old fellow, in an exceptionally fine way, and I guess you'll find that he can thaw out. Mr. Thurston is probably just like other men who have to employ folks. When

he finds that a man can really do the work that he's paid to do I imagine that Thurston is well satisfied and not afraid to show it."

"What's that noise?" demanded Harry, trying to peer around the corner of their tent without rising.

"The field gang coming in, I think," answered Tom.

"Let's get up, then, and have a look at our future mates," suggested Harry Hazelton.

"No; I don't believe it would be a good plan," said Tom. "We might be thought fresh if we betrayed too much curiosity before the crowd shows some curiosity about us."

"Reade!" sounded Blaisdell's voice, five minutes later. "Bring your friend over and inspect this choice lot of criminals."

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Tom rose eagerly, followed by Harry. As they left the tent and hurried outside they beheld two rows of men, each before a long bench on which stood agate wash basins. The toilet preceding the evening meal was on.

"Gentlemen," Mr. Blaisdell, as the two chums drew near, "I present two new candidates for fame. One is named Reade, the other Hazelton. Take them to your hearts, but don't, at first, teach them all the wickedness you know. Reade, this is Jack Rutter, the spotted hyena of the camp. If he ever gets in your way just push him over a cliff."

A pleasant-faced young man in khaki hastily dried his face and hands on a towel, then smilingly held out his right hand.

"Glad to know you, Reade," he laughed. Hope you'll like us and decide to stay."

"Hazelton," continued the announcer, "shake hands with Slim Morris, whether he'll let you or not. And here's Matt Rice. We usually call him 'Mister' Rice, for he's extremely talented. He knows how to play the banjo."

The assistant engineer then turned away, while one young man, at the farther end of the long wash bench stood unrepresented.

"Oh, on second thoughts," continued Blaisdell, "I'll introduce you to Joe Grant."

The last young man came forward.

"Joe used to be a good fellow—once," added the assistant engineer. "In these days, however, you want to keep your dunnage boxes locked. Joe's specialty is stealing fancy ties—neckties, I mean."

Joe laughed good-humoredly as he shook hands, adding:

"We'll tell you all about Blaisdell himself, boys, one of these days, but not now. It's too far from pay day, and old Blaze stands in too thickly with the chief."

"If you folks don't come into supper soon," growled the voice of the cook, Jake Wren, from the doorway of the engineer's mess tent, "I'll eat your grub myself."

"He'd do it, too," groaned Slim Morris, a young man who nevertheless weighed more than two hundred pounds. "Blaze, won't you take us inside and put us in our high chairs?"

There was infinite good humor in this small force of field engineers. As was afterwards learned, all of them were graduates either of colleges or of scientific schools but not one of them affected any superiority over the young newcomers.

Just as the party had seated themselves there was a step outside, and Bad Pete stalked in looking decidedly sulky.

“Evening,” he grunted, and helped himself to a seat at the table.

“Reade and Hazelton, you’ve had the pleasure of meeting Pete, I believe?” asked Blaisdell, without the trace of a smile.

“Huh!” growled Pete, not looking up, for the first supply of food was on the table.

“We’ve had the pleasure, twice today, of meeting Mr. Peter,” replied Tom, with equal gravity.

“See here, tenderfoot,” scowled Bad Pete, looking up from his plate, “don’t you call me ‘Peter’ again. Savvy?”

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"We don't know your other name, sir," rejoined Tom, eyeing the bad man with every outward sign of courtesy.

"I'm just plain Pete. Savvy that?"

"Certainly, Plain Pete," Reade nodded.

Pete dropped his soup spoon with a clatter letting his right hand fall to the holster.

"Be quiet, Pete," warned Blaisdell, his eyes shooting a cold glance at the angry man. "Reade is a newcomer, not used to our ways yet. Remember that this is a gentleman's club."

"Then let him get out," warned Pete blackly.

"He belongs here by right, Pete, and you're a guest. Of course we enjoy having you here with us, but, if you don't care to take us as you find us, the fellows in the chainmen's mess will be glad to have you join them."

"That tenderfoot is only a boy," growled Pete. "If he can't hold his tongue when men are around, then I'll teach him how."

"Reade hasn't done anything to offend you," returned Blaisdell, half sternly, half goodhumoredly. "You let him alone, and he'll let you alone. I'm sure of that."

"Blaisdell, if you don't see that I'm treated right in this mess, I'll teach you something, too," flared Bad Pete.

"Threatening the president of the mess is a breach of courtesy on the part of any guest who attempts it," spoke Blaisdell again. "Gentlemen, what is your pleasure?"

"I move," suggested Slim Morris quietly, "that Pete be considered no longer a member or guest of this mess."

"Second the motion," cried Rutter, Rice and Grant together.

"The motion appears to have been carried, without the necessity for putting it," declared Mr. Blaisdell. "Pete, you have heard the pleasure of the mess."

"Huh!" scowled Bad Pete, picking up his soup plate and draining it.

Jake Wren, at this moment, entered with a big platter of roast beef, Bob, the helper, following with dishes of vegetables. Then Bob came in with plates, which he placed before Blaisdell. The latter counted the plates, finding eight.

"We shan't need this plate, Bob," declared Blaisdell evenly, handing it back. Then he began to carve.

"Put that plate back with the rest, Bob, you pop-eyed coyote," ordered Bad Pete.

Bob, looking uneasy, started to do so, but Blaisdell waved him away. At that instant Jake Wren came back into the tent.

"For the present, Jake," went on the assistant engineer, "serve only for seven in this tent. Pete is leaving us."

"Do you mean-----" flared Pete, leaping to his feet and striding toward the engineer.

"I mean," responded Blaisdell, without looking up, "that we hope the chainmen's mess will take you on. But if they don't like you, they don't have to do so."

For ten seconds, while Pete stood glaring at Blaisdell, it looked as though the late guest would draw his revolver. Pete was swallowing hard, his face having turned lead color.



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"Won't you oblige us by going at once, Pete?" inquired Blaisdell coolly.

"Not until I've settled my score here," snarled the fellow. "Not until I've evened up with you, you----"

At the same time Pete reached for his revolver in evident earnest. Both his words and his movement were nipped short.

Morris and Rice were the only men in the engineers' party who carried revolvers. They carried weapons, in the day time, for protection against a very real foe, the Rocky Mountain rattlesnakes, which infested the territory through which the engineers were then working.

Both these engineers reached swiftly for their weapons.

Before they could produce them, however, or ore Pete could finish what he was saying, Tom Reade leaped up from his campstool, closing in behind the bad man.

"Ow-ow! Ouch!" yelled Pete. "Let go, you painted coyote."

"Walk right out of the tent, and I shall rejoice to let you depart," responded Tom steadily.

Standing behind the fellow, he had, with his strong, wiry fingers, gripped Pete hard right over the biceps muscle of each arm. Like many another of his type Pete had developed no great amount of bodily strength. Though he struggled furiously, he was unable to wrench himself free from this youth who had trained hard in football training squads.

"Step outside and cool off, Peter," advised Tom, thrusting the bad man through the doorway. "Have too much pride, man, to force yourself on people who don't want your company."

Reade ran his foe outside a dozen feet, then released him, turning and reentering the tent.

"No, you don't! Put up your pistol," sounded the warning voice of Cook Jake Wren outside. "You take a shot at that young feller, Pete, and I'll never serve you another mouthful as long as I'm in the Rockies!"

Bad Pete gazed fiercely toward the engineers' tent, hesitated a moment, and then walked wrathfully away.

## CHAPTER III

### THE DAY OF REAL WORK DAWNS

The meal was finished in peace after that. It was so hearty a meal that Tom and Harry, who had not yet acquired the keen edge of appetite that comes to hard workers in the Rockies, had finished long before any one else.

"You fellers had better hurry up," commanded Jake Wren finally. "It'll soon be dark, and I'm not going to furnish candles."

As the cook was an autocrat in camp, the engineers meekly called for more pie and coffee, disposed of it and strolled out of the mess tent over to their own little village under canvas.

"Bring over your banjo, Matt," urged Joe. "Nothing like the merry old twang to make the new boys feel at home in our school."

Rice needed no further urging. As darkness came down a volume of song rang out.

"What time do we turn out in the morning?" Tom asked, as Mr. Blaisdell brought over a camp stool and sat near them.

## Page 15

"At five sharp," responded the assistant engineer. "An hour later we hit the long trail in earnest. This isn't an idling camp."

"I'm glad it isn't," Reade nodded.

Then Blaisdell chatted with the boys, drawing out of them what they knew, or thought they knew, of civil engineering, especially as applied to railroad building.

"I hope you lads are going to make good," said Blaisdell earnestly. "We're in something of a fix on this work at best, and we need even more than we have, of the very best hustling engineers that can be found."

"I am beginning to wonder," said Tom, "how, when you have such need of men of long training, your New York office ever came to pick us out."

"Because," replied the assistant candidly, "the New York office doesn't know the difference between an engineer and a railroad tie. Tim Thurston has been making a long yell at the New York offices of the company for engineers. Knowing the little that they do, our New York owners take anyone who says he's an engineer, and unload the stranger on us."

"I hope we prove up to the work," sighed Harry.

"We're going to size up. We've got to, and that's all there is to it," retorted Tom. "We've been thrown in the water here, Harry, and we've got to swim—which means that we're going to do so. Mr. Blaisdell," turning to the assistant, "you needn't worry as to whether we're going to make good. We *shall*!"

"I like your spirit, at any rate, and I've a notion that you're going to win through," remarked the assistant.

"You try out a lot of men here, don't you?" asked Harry.

"A good many," assented Blaisdell.

"From what I heard at table," Hazelton continued, "Mr. Thurston drops a good many of the new men after trying them."

"He doesn't drop any man that he doesn't have to drop," returned Blaisdell. "Tim Thurston wants every competent man that he can get here. Let me see-----"

Blaisdell did some silent counting on his fingers. Then he went on:

"In the last eleven weeks, Thurston has dropped just sixteen new men."

"Whew!" gasped Harry, casting a sidelong glance at his shoes, with visions of a coming walk at least as far back as Denver or Pueblo.

"Mr. Thurston isn't going to drop us," Tom declared. "Mr. Blaisdell, Hazelton and I are here and we're going to hang on if we have to do it with our teeth. We're going to know how to do what's required of us if we have to stay up all night finding out. We've just got to make good, for we haven't any money with which to get home or anywhere else. Besides, if we can't make good here we're not fit to be tried out anywhere else."

"We're in an especially hard fix, you see," the assistant engineer explained. "When we got our charter something less than two years ago we undertook to have every mile of track ballasted and laid on the S.B. & L., and trains running through, by September 30th of this year. There are three hundred and fifty-four miles of road in all. Now, in July, less than three months from the time, this camp is forty-nine miles from the terminus of the road at Loadstone, while the constructing engineers and the track-layers are thirty-eight miles behind us. Do you see the problem?"

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"You can get an extension of time, can't you?" asked Tom.

"We can—*not!* You see, boys, the S.B. & L. is the popular road. That is, it's the one that the people of this state backed in the main. When we got our charter from the legislature there was a lot of opposition from the W.C. & A. railroad. That organization wishes to add to their road, using the very locations that our preliminary engineering force selected for the S.B. & L. The W.C. & A. folks have such a bewildering number of millions at their back that they would have won away from us, had they been an American crowd. The W.C. & A. has only American officers and a few small stockholders in this country. The W.C. & A. is a foreign crowd throughout in reality, and back of them they have about all the money that's loose in London, Paris and Berlin. The W.C. & A. spent a lot of money at the state capital, I guess, for it was common report that some of the members of the legislature had sold out to the foreign crowd. So, though public clamor carried our charter through the legislature by sheer force, the best concession we could get was that our road must be built and in operation over the entire length by September 30th, or the state has the privilege of taking over our road at an appraised value. Do you see what that means?"

"Does it mean that the state would then turn around and sell this road to the W.C. & A. at a good profit?" asked Reade.

"You've hit it," nodded Mr. Blaisdell. "The W.C. & A. would be delighted to take over our road at a price paid to the state that would give Colorado quite a few millions in profits. The legislature would then have a chance to spend those millions on public improvements in the state. I think you will understand why public clamor now seems to have swung about in favor of the W.C. & A."

"Yet it seems to me," put in Harry, "that, even if the S.B. & L. does fail to get the railroad through in time, the stockholders will get their money back when the state takes the road over."

"That, one can never count on," retorted Blaisdell, shaking his head. "The state courts would have charge of the appraising of the value of the road, and one can never tell just what courts will award. Ten chances to one the appraisal wouldn't cover more than fifty per cent. of what the S.B. & L. has expended, and thus our company would be many millions of dollars out of pocket. Besides, if the courts could be depended upon to appraise this uncompleted road at twenty per cent. more than has been expended upon it, our company would still lose, for what the S.B. & L. really expects to do is to bag the big profits that can be made out of the section of the state that this road taps. Take it from me, boys, the officials of this road are crazy with anxiety to get the road through in time, and not lose the many millions that are waiting to be earned by the S.B. & L. getting this road through is all that Tim Thurston dreams of, by night or day. His reputation—and he has a big one in railroad building—is wholly at stake on his

carrying this job through. It'll be a big prize for all of us, professionally, if we can back Thurston's fight to win."

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"I'll back it to win," glowed Tom ardently "Mr. Blaisdell, I am well aware that I'm hardly more than the lens cap on a transit in this outfit, but I'm going to do every ounce of my individual share to see this road through and running on time, and I'll carry as much of any other man's burden as I can load onto my shoulders!"

"Good!" chuckled Blaisdell, holding out his hand. "I see that you're one of us, heart and soul, Reade. What have you to say, Hazelton?"

"I always let Tom do my talking, because he can do it better," smiled Harry. "At the same time, I've known Tom Reade for a good many years, and his performance is always as good as his promise. As for me, Mr. Blaisdell, I've just told you that Tom does my talking, but I back up all that he promises for me."

"Pinkitty-plank-plink!" twanged Matt Rice's banjo, starting into another rollicking air.

"I guess it's taps, boys," called Blaisdell in his low but resonant voice. "Look at the chief's tent; he's putting out his candles now."

A glance at the gradually darkening walls of the chief engineers big tent showed that this was the case.

"We'll all turn in," nodded Blaisdell.

So Tom and Harry hastened to their tent, where they unfolded their camp cots and set them up. There was not much bed-making. The body of the cot was of canvas, and required no mattress. From out of their baggage each took a small pillow and pair of blankets. At this altitude the night was already rather chilly, despite the fact that it was July.

Rapidly undressing in the dark the young engineers crawled in between their blankets.

"Well, at last," murmured Harry, "we're engineers in earnest. That is," he added rather wistfully, "if we last."

"We've got to last," replied Tom in a low voice, hardly above a whisper, "and we're going to. Harry, we've left behind us the playtime of boyhood, and we're beginning real life! But in that playtime we learned how to play real football. From now on we'll apply all of the best and most strenuous rules of football to the big art of making a living and a reputation. Good night, old fellow! Dream of the folks back in Gridley. I'm going to."

"And of the chums at West Point and Annapolis," gaped Hazelton. "God bless them!"

That was not the only short prayer sent up, but within five minutes both youngsters had fallen sound asleep. The man who can sleep as they did, when the head touches the pillow, has many successes still ahead of him!

Nor did they worry about not waking in season in the morning. Slim Morris had promised to see to it that they were awake on time.

Slam! Bump! Tom Reade was positive he had not been asleep more than a minute when that rude interruption came. He awoke to find himself scrambling up from the ground.

Tom had his eyes open in time to see Harry Hazelton hit the ground with force. Then Slim Morris retreated to the doorway of the tent.



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"Are you fellows going to sleep until pay days" Slim demanded jovially.

Tom hustled into his clothes, reached the doorway of the tent and found the sun already well up in the skies.

"The boys are sitting down to breakfast," called Slim over his shoulder. "Want any?"

"Do I want any?" mocked Tom. He had laid out his khaki clothing the night before, and was now in it, save for his khaki jacket, which he caught up on his arm as he raced along toward the wash bench.

Nor had he gone very far with the soap and water when Harry Hazelton was beside him.

"Tom, Tom!" breathed Harry in ecstasy. "Do you blame people for loving the Rocky Mountains? This grand old mountain air is food and drink—almost."

"It may be for you. I want some of the real old camp chuck—plenty of it," retorted Reade, drawing a pocket comb out and running it through his damp locks while he gazed into the foot-square camp mirror hanging from a tree.

"May we come in?" inquired Tom, pausing in the doorway of the engineers' mess tent.

"Not if you're in doubt about it," replied Mr. Blaisdell, who was already eating with great relish. The boys slid into their seats, while Bob rapidly started things their way.

How good it all tasted! Bacon and fried eggs, corn bread and potatoes, coffee and a big dish of that time-honored standby in engineers' camp—baked beans. Then, just as Tom and Harry, despite their appetites, sat back filled, Bob appeared with a plate of flapjacks and a pitcher of molasses.

"Ten minutes of six," observed Mr. Blaisdell, consulting his watch as he finished. "Not much more time, gentlemen."

Tom and Harry followed the assistant engineer out into the open.

"Can you tell us now, Mr. Blaisdell, what we're to do today?" Reade inquired eagerly.

"See those transits?" inquired Blaisdell, pointing to two of the telescoped and compassed instruments used by surveyors in running courses. "One for each of you. Take your choice. You'll go out today under charge of Jack Rutter. Of course it will be a little bit slow to you the first two or three days, but between you, I hope to see you do more than Rutter could do alone. You'll each have two chainmen. Rutter will give you blank form books for your field notes. He'll work back and forth between the two of you, seeing that you each do your work right. Boys, don't make any mistakes today, will you, So much depends, you know, upon the way you start in at a new job."

“We’ll do the best that’s in us,” breathed Tom ardently.

“Engineer Rutter,” called Blaisdell, “your two assistants are ready. Get your two sets of chainmen and make a flying start.”

Animated by the spirit of activity that pervaded the camp, Tom and Harry ran to select their instruments, while Rutter hastened after his chainmen.

Bad Pete had not appeared at either mess this morning. He had small need to, for, in the still watches of the night, he had burglarized the cook’s stores so successfully that not even that argus-eyed individual had noticed the loss.

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Having breakfasted heartily in a deep thicket, Pete now looked down over the camp, his eyes twinkling in an evil way.

"I'll get bounced out of mess on account of two pasty-faced tenderfeet like those boys, will I?" Pete grumbled to himself. "Before this morning is over I reckon I'll have all accounts squared with the tenderfeet!"

## CHAPTER IV

*"Trying out" The Gridley boys*

The chainmen picked up the transits, carrying also the chains and rods. Rutter led the way, Tom and Harry keeping on either side of him, except when the rough mountain trail narrowed. Then they were obliged to walk at his heels.

"We are making this survey first," Rutter explained, "and then the leveling over the same ground follows within a few days. Both the surveying and the leveling have to be done with great care. They must tally accurately, or the work will all go wrong, and the contractors would be thrown out so badly that they'd hardly know where they stood. A serious mistake in surveying or leveling at any point might throw the work down for some days. As you've already heard explained, any delay, now, is going to lose us our charter as sure as guns."

For more than a mile and a half the brisk walk continued. At last Rutter halted, pointing to a stake driven in the ground.

"See the nail head in the top of the stake?" he inquired.

"Yes," Tom nodded.

"You'll find a similar nail head in every stake. The exact point of the plummet of your bog-line must centre on the middle of that nail head. You can't be too exact about that, remember."

Turning to one of the chainmen, Rutter added:

"Jansen, take a rod and hustle along to the next stake."

"Yes, sir," answered the man, and started on a run. Nor did he pause until he had located the stake. Then he signaled back with his right hand. Tom Reade, in the meantime, had quickly set up his transit over the first stake on his part of the course. He did some rough shifting, at first, until the point of the plummet was exactly over the nail head. Then followed some careful adjusting of the instrument on its supports until

two fine spirit levels showed that the compass of the instrument was exactly level.  
“Now, let me see you get your sight,” urged Rutter.

Tom did so, coolly, manipulating his instrument as rapidly as he could with safety, yet not with speed enough to cause himself confusion or worry.

“I’ve got a sight on the rod,” announced Reade, without emotion.

“Are the cross-hairs, as you see them through the telescope, just on the mark?” Rutter demanded.

“Yes, sir.”

“Let me have a look,” ordered Rutter. “A fine, close sight,” he assented, after taking a careful look through the telescope. “Now, take your reading.”

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This showed the course by the compass, and was expressed in degrees, minutes and seconds. The poor reading of a course is one of the frequent faults of new or careless engineers.

"Here is a magnifier for the vernier," continued Rutter, just after Tom had started to make his reading.

"Thank you; I have a pretty good one of my own," Tom answered, diving into one of his pockets and bringing to light a small but powerful reading glass with an aplanatic lens.

"You carry a better magnifier than I do," laughed Rutter. "Hazelton, do You carry a pocket glass?"

"Yes, sir," nodded Harry "I have one just like Reade's."

"Good! I can see that you youngsters believe in good tools."

Tom in the meantime was busy with the vernier of his transit. This is an ingenious device for showing the smaller divisions into which the circles of the compass are divided. Tom quickly jotted down his field note in degrees, minutes and seconds. One chainman now held an end of a hundred-link chain at the nail head on the stake, while a second man started toward the rodman, unfolding the chain as he went.

Tom remained over his transit. The traveling chainman frequently glanced back for directions from Reade whether or not he was off the course of a straight line to the next stake.

Soon the chain-bearer was a little to the left of the line.

Tom held a hand over the telescope of the transit, moving it very slowly to the right. The chain-bearer, glancing slowly back, stepped slowly to the right of the course until Tom's hand fell abruptly. Then the chain-bearer stopped, knowing that he was on the right line. A metal stake, having a loop at the top from which fluttered a marker of red flannel, the man stuck upright in the ground. Tom took a peep, signaling so gently that the man moved the stake just half an inch before Reade's hand again fell.

"That stake is right; go ahead," ordered Tom, but he said it not by word of mouth, but merely with a slight gesture of pushing forward.

"You've been well trained, I'll bet a hat," smiled Butter. "I can tell that by the practiced way that you signal. O'Brien!"

"Yes, sir," answered another chainman, stepping forward.

“Take Thane with you, and carry Mr. Hazelton’s transit to Grizzly Ledge. Mr. Hazelton and I will be there presently.”

Two more chainmen started away.

Now, both of Tom’s chainmen started forward, the rear one moving to the first metal stake that displayed the red marker. Tom still remained at the transit, motioning to the men whenever they got the least out of a true straight line to the rodman. It was not hard work for Reade at this point, but it required his closest attention.

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After some time had passed the chainmen had “chained” the whole distance between Tom’s stake and the rod resting on the next stake. Now the rodman, after making a close measurement, signaled back. Nine downward sweeps of his right arm signified nine chains; next the movements of his arm signaled the forty-four links of a tenth chain. Then seven movements of the left hand across in front of the eyes, and Reade knew that stood for seven-tenths of a link. Hence on the page of his field note book Tom wrote the distance between the stakes as nine chains and forty-four and seven-tenths links.

“That’s good,” nodded Rutter, who had been watching every move closely. The forty-four signaled by the rodman’s left arm, instead of being made up of forty-four downward strokes, had consisted of four such strokes, followed by a pause, and then four more strokes.

“I’ll go along and see you get the course and distance to the third rod,” said Rutter.

This course and distance, too, in time, had been measured and carefully noted by Reade.

“You’ll get along all right, if you pay strict attention and don’t become confused or careless,” nodded Jack Rutter. “Now, I’ll write ‘Reade’ on this starting stake of yours, and I’ll write Hazelton on your friend’s starting stake. After you’ve surveyed to Hazelton’s starting stake let your rodman bring you forward until you overhaul me.”

“Very good, sir,” nodded Tom coolly.

Rutter and Harry moved along the trail, leaving Tom with his own “gang.”

“Nothing very mentally wearing in this job,” reflected Tom, when he found himself left to his own resources. “All a fellow has to do is to keep his head clear, be faithful and exactly honest with his work, and move with all the speed that good, straight work will allow.”

So Reade moved ahead, getting courses and distances to five more stakes. Then, as he reached the sixth, he gazed ahead and smiled. A mountain pond lay right in his straight path to the seventh stake.

“Can that pond be easily forded?” Reade asked the nearer chainman.

“No, sir; it’s about ten feet deep in the centre.”

Tom smiled grimly to himself.

“Rutter didn’t say anything about this to me,” Tom muttered to himself. “He put this upon me, to see how I’d get over an obstacle like an unfordable pond. Well, it’s going to take a lot of time but I’ll show Mr. Jack Rutter!”

Accordingly, Reade allowed his chainmen to proceed measuring until they were fairly close to the pond. Then he went forward to the metal stake that had just been driven. From this stake he laid out a new course to the north and at exact right angles with the proper course, sending his chainmen forward with markers. When he had thus passed the end of the pond Reade took another course at exactly right angles to the northerly course, but now going westerly. This he extended until it passed the pond by a few



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feet. Once more Reade laid out a course, southerly, at exact right angles with the westerly course, the southerly line being exactly four chains in length, as the northerly line had been. Now, the young engineer was able to resume his surveying toward the seventh stake. The extra route that he had followed made three sides of a square. Tom was now in line again, with the pond passed, and the exact distance between the sixth and seventh stakes.

"I guess that was where Rutter was sure he'd have me," chuckled Tom quietly. "He's probably waiting ahead to see me come hot-footing over the trail to ask for orders."

At the tenth stake Tom found "Hazelton" written thereon.

"Men," said the young engineer, "I guess this is where we go forward and look for the crowd. Get up the stuff and we'll trot along."

Nearly an hour of solid tramping over the trail followed before Tom and his party, guided by the rodman, came upon Harry Hazelton. Jack Rutter, chewing a blade of grass, sat under a tree at a little distance from where Harry was watching and signaling to two chainmen who were getting a distance.

"Is your own work all done?" asked Rutter.

"Yes, sir," Tom answered.

"Let me see your field notes."

Reade passed over the book containing them. From an inner pocket Rutter drew out his own field note book. Before another minute had passed Tom had opened his eyes very wide.

"Your field notes are all straight, my boy. If you've made any errors, then I've made the same."

"You've already been over this work that we've been doing?" demanded Tom, feeling somewhat abashed.

"Of course," nodded the older and more experienced engineer. "You don't for a moment suppose we'd trust you with original work until we had tried you out, do you? We have all the field notes for at least three miles more ahead of here. Hazelton!"

"Coming," said Harry, after jotting down his last observations and the distance.

"Let me see your last notes, Hazelton," directed Rutter. "Yes; your work is all right."

“What do you know about this, Harry?” laughingly demanded Reade.

“I’ve suspected for the last two hours that Mr. Rutter was merely trying us out over surveyed courses,” laughed Harry.

“If you don’t know how to do anything other than transit work,” Rutter declared, “the chief can use all your time at that. He’ll be pleased when I tell him that you’re at least as good surveyors as I am. And, Reade, I see from your notes that you knew how to measure across a pond that your chainmen couldn’t ford.”

“Mr. Price taught me that trick, back in Gridley,” Tom responded.

Suddenly Jack Rutter sprang to his feet sniffing vigorously.

“Boys,” he announced, “an adventure is coming our way. Can you guess what it is?”

Tom and Harry gazed at him blankly.

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### CHAPTER V

*Tom doesn't mind "Artillery"*

"I give it up," Reade replied.

"Well, it's dinner time," declared Rutter, displaying the face of his watch.

"Do we have to walk all the way back to camp?" queried Harry, who knew that no provisions had been brought with them.

"No; camp is going to be brought to us," smiled Rutter. "At least, a part of the camp will be brought here. Look up the trail there, at that highest rise. Do you see dust near there?"

"Yes," nodded Tom.

"A burro pack-train, conveying our food and that of the other surveying parties ahead of us," nodded Rutter. "You'll find the cook's helper, Bob, in charge of it."

"Is that the way the meals are brought out every day?" asked Hazelton.

"No; but now we're getting pretty far from camp, and it would waste a lot of our time to go back and forth. So our noon meals will come by burro route. Tomorrow or the day after the camp will be moved forward."

"How long before that train will be here?" Tom wanted to know.

"Probably ten minutes," guessed Rutter.

"Then I'm going to see if I can't find some little stream such as I've passed this morning," Tom went on. "I want to wash before I'm introduced to clean food."

"I'll go along presently," nodded Harry to his chum. "There's something about the spirit level on this transit of mine that I want to inspect."

So Tom Reade trudged off into the brush alone. After a few minutes he returned.

"That burro outfit in sight?" he called, as he neared the trail.

"No," answered Rutter. "But it's close. Once in a while I can hear a burro clicking his hoofs against stones."

Harry appeared two minutes later, just as the foremost burro, with Bob by its head, put in an appearance about fifty yards away.

“All ready for you, Bob,” called Rutter good-humoredly.

“You gentlemen of the engineer corps are always ready,” grunted the cook’s helper.

A quick stop was made, Bob unloading tin plates, bowls and cups.

“Soup!” cried Rutter in high glee. “This is fine living for buck engineers, Bob!”

“There’s even dessert,” returned the cook’s helper gravely, exposing an entire apple pie.

There was also meat, still fairly warm, as well as canned vegetables in addition to potatoes. A pot of hot coffee finished the repast that Bob unloaded at this point.

“Everything but napkins!” chuckled Rutter, as he and the boys quickly “set table” on the ground.

“No; something else is missing,” answered Tom gravely. “Bob forgot the finger-bowls.”

The helper, beginning to feel that he was being “guyed,” took refuge in cold indifference.

“Just stack the things up at this point when you’re through,” directed Bob. “I’ll pick ’em up when I come back on the trail.”

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Rutter, like a good chief, saw to it that his two assistants and the chainmen were started on their meal ere he himself began. In half an hour every morsel of food and the final drop of coffee had disappeared.

"Twenty minutes to loaf," advised Rutter, throwing himself on the ground and closing his eyes. "I'll take a nap. You'd better follow my example."

"Then who'll call us?" asked Tom.

"I will," gaped Rutter.

"Without a clock to ring an alarm?"

"Humph! Any real backwoods engineer can wake up in twenty minutes if he sets his mind on it," retorted Jack.

This was a fact, though it was the first that Tom or Harry had heard of it.

"See the time?" called Rutter, holding out his watch. "Twenty minutes of one. I'll call you at one o'clock—see if I don't."

In that fine air, with all the warmth of the noon hour, there was no difficulty in going to sleep. Truth to tell, Tom and Harry had tramped so far that forenoon that they were decidedly tired. Within sixty seconds both "cubs" were sound asleep.

"One o'clock!" called Rutter, sitting up and consulting his watch. "Fall to, slaves! There is a big batch of work awaiting us. Hazelton, you can go right on where you left off. Survey along carefully until you come upon a stake marked 'Reade.' Then come forward until you find us. Reade, I'll go along with you and show you where to break in."

Preceded by their chainmen, Rutter and Reade trudged along the trail for something like a mile.

"Halt," ordered Jack Rutter. "Reade, write your autograph on that stake and begin."

Tom stepped over to the transit, adjusting it carefully and setting the hanging plummet on dead centre with the nail head in the top of the short stake.

"Never set up a transit again," directed Rutter, "without making sure that your levels are absolutely true, and that your vernier arrangement is in order."

"I don't believe you'll ever catch me at that, Mr. Rutter," Tom answered, busying himself with the finer adjustments of the transit. "Mr. Price pounded that into me every time that he took me out in the field."

“Nevertheless,” went on Rutter, “I have known older engineers than you, Reade, who became careless, and their carelessness cost their employers a lot of wasted time and money. Now, you-----”

At this juncture Jack Rutter suddenly crouched behind a low ledge at the right.

“Get behind here, quickly, Reade!” called Rutter. “Bad Pete is up the hillside, about two hundred yards from you-----”

“I haven’t time to bother with him, now,” Tom broke in composedly.

“Duck fast, boy! Pete has an ugly grin on his face, and he’s reaching for his pistol. He’s got it out—he’s going to shoot!” whispered Rutter, drawing his head down where it would be safe from flying bullets.

The chainmen, lounging nearby, had wasted no time in getting safely to cover.

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"Going to shoot, is he?" murmured Tom, without glancing away from the instrument. "Does Peter really know how to shoot,"

"You'll find out! Jump—like a flash, boy!"

Tom went calmly on tinkering with the mechanism of his instrument.

Bang! sounded up the trail. Tom's fingers didn't falter as he adjusted a small, brass screw.

Bang! came the second shot. Tom betrayed no more annoyance than before. Bad Pete was aiming to drive bullets into the ground close to the young engineer's feet, making him skip about. The sixth shot Pete was saving for clipping Reade's hat from his head.

The shots continued to ring out. Tom, though he appeared to be absorbed in his instrument, counted. When he had counted the sixth shot Reade dropped suddenly, picked up a stone that lay at his feet, and whirled about.

Tom Reade hadn't devoted years to ball-playing without knowing how to throw straight. The stone left his hand, arching upward, and flew straight toward Bad Pete, who had advanced steadily as he fired.

Whiff! Though Pete tried, too late, to dodge the stone, it landed against his sombrero, carrying that away without injuring the owner.

"Kindly clear out!" called Tom coolly. "You and your noise annoy me when I'm trying to do a big afternoon's work."

Snatching up his sombrero, Bad Pete vanished into a clump of brush.

Jack Rutter leaped up from his haven of safety, advancing swiftly to his cub assistant.

"Reade," he exclaimed, with ungrudging admiration, "you're the coolest young fellow I ever met, without exception. But you're foolhardy, boy. Bad Pete is a real shot. One of these days, when you're just as cool, he'll fill you full of lead!"

"If he does?" retorted Tom, again bending over his transit, "and if I notice it, I'll throw a bigger stone at him than I did that time, and it'll land on him a few inches lower down."

"But, boy, don't you understand that the days of David and Goliath are gone by," remonstrated Rutter. "It's true you're turned the laugh on Pete, but that fellow won't forgive you. He may open on you again within two minutes."

"I don't believe he will," replied Tom, with his quiet smile. "At the same time, I'll be prepared for him."

Bending to the ground, and rummaging about a bit, Reade selected three stones that would throw well. These he dropped into one of his pockets.

“Now, let the bad man trot himself on, if he has to,” added the cub engineer, waving a signal to the rodman, who had just halted at the next stake.

“Well, of all the cool ones!” grunted Rutter, under his breath. “But, then, Reade’s a tenderfoot. He doesn’t understand just how dangerous a fellow like Pete can be.”

The chainman started away to measure the distance. From up the hillside came sounds of smothered but very bad language.



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"There's our friend Peter again," Tom chuckled to Rutter.

"Yes, and the ruffian may open on you again at any moment," warned Jack, keeping an anxious glance turned in the direction whence came the disturbing voice of Bad Pete.

"Oh, I don't think he will," drawled Tom, making a hand signal to the leading chainman to step a little more to the left. "I hope not, anyway, for the noise of revolver shots takes my thoughts away from my work."

Jack Rutter said no more after that, though through the rest of the afternoon he kept an alert lookout for signs of Pete. There were none, however. Rather earlier than usual, on account of the distance back to camp, Rutter knocked off work for the entire party and the start on the return to camp was made.

Harry Hazelton was considerably excited when he heard the news of the firing on his chum. Reade, however, appeared to be but little interested in the subject.

Pete was not in camp that evening.

Rutter went at once to the tent of the chief, to tell him how well the "cubs" had done during the day. Nor did Jack forget to relate the encounter with Bad Pete.

Just as the underlings of the staff were seating themselves around the table in their mess, Mr. Thurston thrust his head in at the doorway.

"Reade," called the chief engineer, "I have heard about your trouble with Pete today."

"There wasn't any real trouble, sir," Tom answered.

"Fortunately for you, Reade, Pete didn't intend to hit you. If he had meant to do so, he'd have done it. I've seen him shoot all the spots out of a ten of clubs. Don't provoke the fellow, Reade, or he'll shoot you full of fancy holes. Of course it showed both grit and coolness on your part in keeping steadily on with your work all the time the fellow was firing at you. Still, it was unwise to expose yourself needlessly to danger."

"I didn't consider Bad Pete particularly dangerous," Tom rejoined.

"A lawless man with a loaded revolver is hardly a safe person to trifle with," retorted Mr. Thurston dryly.

"I see that I shall have to make a confession," smiled Tom. "It was this way, sir. When Hazelton and I were on our way west Harry insisted that we were coming into a dangerous country and that we'd need firearms. So Harry bought two forty-five six-shooters and several boxes of cartridges, too. I was provoked when I heard about it, for

we hadn't any too much money, and Harry had bought the revolvers out of our joint treasury."

"I felt sure we'd need the pistols," interrupted Hazelton. "Today's affair shows that I was right. Tom, you'll have to carry one of the revolvers after this."

"I'm no gun-packer," retorted Tom scornfully. "Young men have no business carting firearms about unless they're hunting or going to war. Any fellow who carries a pistol as he would a lead pencil is either a coward or a lunatic."

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"I'm glad to hear you say that, Reade," nodded Mr. Thurston approvingly. "Two of my staff carry pistols, but they do so under my orders. In the first place they're grown men, not boys. In the second place, they're working over a stretch of ground where rattlesnakes are thick. Your coolness today served you better than a pistol would have done. If you had had a revolver, and had drawn it, Pete would have drilled you through the head."

"Drilled me through the head—with what?" asked Tom, smiling.

"With a bullet, of course, young man," retorted Mr. Thurston.

"I don't believe he would have gone as far as that," laughed Tom. "You see, sir, it was like this: When I found Harry so set on carrying a pistol, I went down deep in my own pocket and bought two boxes of blank cartridges to fit the forty-fives. I thought if Harry were going to do some shooting, it would be the part of friendship to fix him so that he could do it in safety to himself and others."

Harry's face turned decidedly red. He was beginning to feel foolish.

"Now, this morning," Tom continued, "when I got the khaki out of my dunnage, I ran across the blanks. I don't know what made me do it, but I dropped the box of blanks into one of my pockets. This noon, when I went off to find a stream where I could wash up, I almost stepped on our friend Peter, asleep under a bush. For greater comfort he had taken off his belt and holster. Somehow, I didn't like the idea of his being there. As softly as I could I crept close. I emptied his revolver and fitted in blanks from my own box. Then I took about twenty cartridges out of Peter's belt and replaced them with blanks."

"Do you mean to tell me," broke in Rutter, "that Bad Pete, when he turned his revolver loose on you, was shooting nothing but blanks?"

"That was all he had to shoot," Tom returned coolly. "And blanks were all he had in his belt to reload with. Don't you remember when we heard him making a noise up the hillside, and talking in dots and dashes!"

"I do," nodded Rutter, looking half dazed.

"That," grinned Reade, "was when he started in to reload? and discovered that he had nothing on hand but temperance cartridges. Here-----" Tom began to unload one of his pockets upon the wooden table before the astonished eyes of the others. There was a mixture of his own blank cartridges with the real ammunition that he had stealthily abstracted from Bad Pete's revolver and belt.

Such a whoop of glee ascended that the head chainman came running from the other nearby mess tent to see what was up.

“Just a little joke among our youngsters, my man,” explained Mr. Thurston. “The young gentlemen are going to keep the joke to themselves for the present, though.”

So the mystified and disappointed chainman returned to his own crowd.

“Let me see, Reade,” continued Mr. Thurston, turning once more to Tom, “what is your salary?”

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"I was taken on, sir, at forty dollars a month, as a starter," Tom replied.

"A young man with your size of head is worth more than that to the company. We'll call it fifty a month, Reade, and keep our eyes on you for signs of further improvement," said the chief engineer, as he turned to go back to his own waiting dinner.

## CHAPTER VI

### THE BITE FROM THE BUSH

From the time that they parted in the morning, until they started to go back to camp in the afternoon, Tom and Harry did not meet the next day. Each, with his chainmen, was served from Bob's burro train at noon.

"Did you see Bad Pete today?" was Harry's greeting, as they Started back over the trail.

"No."

"Did you hear from him or of him in any way?" pressed Hazelton.

"Not a sign of any sort from Peter," Tom went on. "I've a theory as to what's keeping him away. He's on a journey."

"Journey?"

"Yes; between you and me, I believe that Peter has gone in search of someone who can sell him, or give him, a few forty-five cartridges."

"He'd better apply to you, then, Tom," grinned Harry.

"Why, I couldn't sell him any," Tom replied.

"What did you do with those you had last night?"

"You remember the unfordable pond that came in one of my courses yesterday?"

"Yes."

"To-day I threw all of Peter's .45's into the middle of the pond. They must have sunk a foot into the mud by this time."

"Seriously, Tom, don't you believe that you'd better take one of the revolvers that I bought and wear it on a belt?"

"Not I," retorted Reade. "Harry, I wish you could get that sort of foolishness out of your head. A revolver is of no possible use to a man who hasn't any killing to do. I'm trying to learn to be a civil engineer, not a man-killer."

"Then I believe that Bad Pete will 'get' you one of these days," sighed Hazelton.

"Wait until he does," smiled Tom. "Then you can have the fun of coming around and saying 'I told you so.'"

Their chainmen were ahead of the "cub" engineers on the trail. Tom and Harry were talking earnestly when they heard a pony's hoofs behind them. Hazelton turned with a start.

"Oh, it's Rutter mounted," Hazelton said, with a sigh of relief. "I was afraid it was Bad Pete."

"Take my word for it, Harry. Peter is a good deal of a coward. He won't dare to show up until he has some real cartridges. The temperance kind do not give a man like Peter any real sense of security in the world."

Rutter rode along on his sure-footed mountain pony at a rapid jog. When he came close, Tom and Harry stepped aside into the brush to let him go by on the narrow trail.

"Don't get off into the brush that way," yelled Rutter from the distance.

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"We're trying to give you room," Tom called.

"I don't need the room yet. I won't run over you, anyway. Stand out of the brush, I tell you."

Tom good-humoredly obeyed, Harry moving, too, though starting an instant later.

Prompt as he was, however, Tom Reade was a fraction of a second too late.

Behind them there was a half-whirring, half-clicking sound.

Then Reade felt a stinging sensation in his left leg three or four inches from the heel.

"Look out!" yelled Rutter, more excitedly than before. "Get away from there!"

Tom ran some distance down the trail. Then he halted, laughing.

"I wonder what's on Rut's mind," he smiled, as Hazelton joined him.

Jack Rutter came at a gallop, reining up hard as he reached where Tom had stood.

Again that whirring, clicking sound. Rutter's pony reared.

"Still, you brute!" commanded Rutter sternly. Then, without waiting to see whether his mount would stand alone, Rutter leaped from saddle, going forward with his quirt—a rawhide riding whip—uplifted.

Into the brush from which Tom had stepped Rutter went cautiously, though he did not lose much time about it.

Swish! swish! swish! sounded the quirt, as Rutter laid it on the ground ahead of him. Then he stepped out. The pony had drawn back thirty or forty feet and now stood trembling, nostrils distended.

"Is that the way you take your exercise?" Reade demanded.

Rutter, however, came running along the trail, his face white as though from worry.

"Reade," he demanded, "Did that thing strike you?"

"What thing," asked Tom in wonderment.

"The rattler that I killed!"

"Rattler?" gasped both cub engineers.

“Yes. From the distance I thought I saw it strike out at you. There’s a nest of the reptiles at some point near that brush. That’s why I warned you to get away from there. Never stand in brush, in the Rockies, unless you’ve looked before stepping. Were you struck?”

“I believe something did sting me,” Reade admitted, remembering that smarting sensation in his left leg.

“Which leg was it? demanded Rutter, halting beside the cub.

“Left—a little above the ankle,” replied Tom.

“Take off your legging. I must have a look. Hazelton, call to one of your chainmen and send him back to make sure of my pony.”

Harry hastened to obey, then came back breathless. Rutter, in the meantime, had turned up enough of Tom’s left trousers’ leg to bare a spot on the flesh that was red. There were fang marks in the centre of this reddened surface.

“You got it, boy,” spoke Rutter huskily. “Now we’ll have to go to work like lightning to save you.”

“How are you going to do it?” asked Tom coolly, though he felt decidedly queer over the startling news.



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"Hazelton," demanded Rutter, turning upon the other cub engineer, "have you nerve enough to put your lips to that wound, and draw, draw draw as hard as you can, and keep on until you've drawn all the poison out?"

"I have," nodded Harry, sinking to his knees beside his chum. "I'll draw all the poison out if I have to swallow enough to kill me."

"You won't poison yourself, Hazelton," replied Rutter quickly, as one of the chainmen came near with the recaptured pony. "Snake venom isn't deadly in the stomach—only when it gets into the blood direct. There's no danger unless you've a cut or a deep scratch in your mouth. Spit the stuff out as you draw."

Having given these directions, Jack Rutter turned, with the help of one of the chainmen to fasten a blanket behind the saddle to make a sort of extra saddle. The blanket had been lying rolled at the back of the saddle.

Harry, in the meantime, without flinching, performed his task well. Had he but known it, Rutter's explanation of the lack of danger was true; but in that moment, with his chum's life at stake, Harry didn't care a fig whether the explanation were true or not. All he thought of was saving Tom.

"I reckon that part of the job has been done well," nodded Rutter, turning back from the horse. "Now, Reade, I want you to mount behind me and hold on tightly, for we're going to do some hard, swift riding. The sooner we get you to camp the surer you will be of coming out of this scrape all right."

"I've never had much experience in horsemanship, and I may put a sorry figure at it," laughed Reade, as, with Harry's help he got up behind Rutter.

"Horsemanship doesn't count—speed does," replied Rutter tersely. "Hold on tightly, and we'll make as good time as possible. I'm going to start now."

Away they went, at a hard gallop, Tom doing his best to hold on, but feeling like a jumping-jack.

"It won't take us more than twenty minutes," promised Jack Rutter.

## CHAPTER VII

### WHAT A SQUAW KNEW

All the way to camp Rutter kept the pony at a hard gallop.

"Thurston! Mr. Thurston!" he shouted. "Be quick, please!"

Even as the young man called, Mr. Thurston ran out of his tent.

"You know something about rattlesnake bites, I believe?" Rutter went on hurriedly, as Tom Reade slipped to the ground. "The boy has been bitten by one and we'll have to work quickly."

"Don't bring any liquor, though," objected Reade, leaning up against a tree. "If liquor is your cure for snakebites I prefer to take my chances with the bite."

"Get the shoe off and roll up the trousers," directed the chief engineer, without loss of words. "Fortunately, I believe we have someone here who knows more about treating the bites than I do. Squaw!"

An Indian woman who had been sitting on the grass before the chief's tent, a medley pack of Indian baskets arranged before her, glanced up.

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"Snake! You know what to do," went on Mr. Thurston hurriedly. "You know what to do —eh? Pay you well."

At the last three magic words the aged squaw rose and hobbled quickly forward.

"Take boy him tent," directed the Indian woman.

"I can walk," remarked Tom.

"No; they take you. Heap better," commanded the woman.

Instantly Mr. Thurston and Rutter took hold of Tom, raising him into their arms. Through the flap of his tent they bore him, depositing him on his cot. The Indian woman followed them inside.

"Now you go out," she ordered, with a sweep of her hand. "Send him cookman. Hot water—heap boil."

Thus ordered, Jake Wren came on the run with a kettle of boiling water. The Indian squaw received it with a grunt, ordering that bowls and cups be also brought. When Wren came the second time he lingered curiously.

"You go out; no see what do," said the squaw.

So Jake departed, the squaw tying the flap of the tent after he had gone. Then, from the bosom of her dress she drew out a few small packages of herbs. The contents of these she distributed in different bowels and cups.

"I'd like to see what the old witch is doing, and how she's doing it," declared Rutter in a whisper.

"She'll stop short if she catches you looking in on her," replied the chief, with a smile. "For some reason these Indians are very jealous of their secrets in treating snakebites. They're wizards, though, these same red-skinned savages."

"You believe, then, that she can pull Reade through?" asked Rutter eagerly.

"If she knows her business, and if there's any such thing as saving the boy she'll do it," declared Mr. Thurston, as they reached the door of the chief's tent. "Will you come inside, Rutter! You look badly broken up."

"I am, and I shall be, just as long as Reade is in any danger," Rutter admitted. "Reade is a mighty fine boy and I'm fond of him. Besides, more than a little of our success in getting the road through on time depends on the boy."

"Is Reade really so valuable, then?"

"He goes over the course, Mr. Thurston, as rapidly as any man in our corps, and his work is very accurately done. Moreover, he never kicks. If you told him to work half the night, on top of a day's work, he'd do it."

"Then Reade, if he recovers, must be watched and rewarded for anything he does for us," murmured Mr. Thurston.

"Don't say, 'if he recovers,' chief," begged Jack. "I hate to think of his not pulling through from this snakebite."

"What became of the reptile that did the trick?" asked Mr. Thurston.

"That crawler will never bite anything else," muttered Rutter. "I got the thing with my riding quirt."

Not very long after Harry Hazelton reached camp, well in advance of the chainmen, for Harry, good school athlete that he was, had jog-trotted every step of the way in.

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"Where's Tom?" Hazelton demanded.

"Here," called a voice from Reade's tent.

Hazelton turned in that direction, but Mr. Thurston looked out from the large tent, calling:

"Don't go there now, Hazelton. You wouldn't be admitted. Come here."

Despite his long run, Harry's face displayed pallor as he came breathlessly into Mr. Thurston's field abode. In a few words, however, the lad was acquainted with the situation as far as it had developed.

In the meantime what was the squaw doing with Tom? It must be admitted that Reade hadn't any too clear an idea. The gaunt old red woman poured hot water, small quantities at a time, into the bowls and cups in which she had distributed the herbs. Then she stirred vigorously, in the meantime muttering monotonously in her own language.

"She isn't relying on the herbs alone," muttered Tom curiously to himself. "She's working up some kind of incantation. I wonder what effect she expects an Indian song to have on snake poison?"

Presently the squaw turned, bringing one of the cupfuls to the wounded boy.

"Sit up," she ordered. "Drink!"

Tom nearly dropped it, it was so hot.

"Drink!" repeated the squaw.

"But it's so hot it'll burn my gullet out," remonstrated Reade.

"You know more I do?" demanded the squaw stolidly. "Drink!"

Tom took a sip, and shuddered from the intense heat of the stuff.

"Humph! White man him heap papoose!" muttered the squaw, scornfully. "You want live, drink!"

Tom took a longer swallow of the hot stuff. Whew, but it was bitter!

"The bronze lady is trying to turn me inside out!" gasped the boy to himself.

"Drink—all down!" commanded the squaw with scarcely less scorn than before in her voice.

This time Tom took a hard grip on himself and swallowed all the liquid. For a moment, he thought the nauseating stuff would kill him.

"Now, eat grass," ordered the squaw.

"Meaning eat these herbs," demanded Tom, glancing up.

"Yes. Heap quick."

"To make a fellow eat these herbs after drinking the brew from them is what I call rubbing it in," grimaced Reade.

"Now, this," continued the squaw, calmly handing a second cup to Tom.

"It's all right for *you* to be calm," thought Tom, as he took the cup from her. "All you have to do is to stand by and watch me. You don't have to drink any of these fearful messes."

However, Tom brought all his will power into play, swallowing a second brew, compared with which the first had been delicious.

"Eat this grass, too"? inquired Tom, gazing at the squaw.

"Yes."

Tom obeyed.

"I shall be very, very careful not to meet any more snakes," he shuddered, after getting the second dose down.

Now the squaw busied herself with spreading soaked herbs on a piece of cloth that she had torn from one of Tom's white shirts' to which she had helped herself from his dunnage box.

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"What's a dollar shirt, anyway, when an interesting young man's life is at stake" mused Reade. "Ow—ow—ooch!"

"You baby—papoose?" inquired the squaw calmly. She had slapped on Tom's leg, over the bite, a poultice that, to his excited mind, was four hundred degrees hotter than boiling water.

"Oh, no," grimaced Tom. "That's fine and soothing. But it's growing cool. Haven't you something hotter?"

Just five seconds later Reade regretted his rashness, for, snatching off the first poultice, the squaw slapped on a second that seemed, in some way, ten times more powerful—and twenty times hotter.

"It's queer what an awful amount of heat a squaw can get out of a kettle of hot water, thought the suffering boy. I'll wager some of the heat is due to the herbs themselves. O-o-o-o-ow! Ouch!"

For now the third poultice, most powerful of all, was in place, and Mrs. Squaw was binding it on as though she intended it never to come off.

Two minutes after that Tom Reade commenced to retch violently. With a memory of the messes that he had swallowed he didn't wonder. The squaw now stepped outside, calling for coffee. This was brought. Tom was obliged to drink several cupfuls, after which he began to feel decidedly more comfortable.

"Now, take nap," advised the squaw, and quitted the tent.

"The bronze lady seems to know what she's doing," thought Tom. "I guess I'll take the whole of her course of treatment." Thereupon he turned his face to the wall. Within sixty seconds he slept.

"How's Reade?" demanded Harry, rising eagerly as the squaw stepped inside the chief's tent.

"He sleep," muttered the squaw.

"He—he— isn't dead!" choked Harry, turning deathly pale.

"You think I make death medicine?" demanded the squaw scornfully. "You think me heap fool?"

"The young man will be all right, squaw?" asked Mr. Thurston.

"Humph! Maybe," grunted the red woman. "Yes, I think so. You know bimeby."



"That's the Indian contempt for death," explained the chief engineer, turning to Harry. "I imagine that Reade is doing all right, or she wouldn't have left him."

However, Hazelton was not satisfied with that. He slipped out, crossed camp and stealthily peeped inside of the tent. Then Hazelton slipped back to Mr. Thurston to report.

"If Tom doesn't swallow some of those big snores of his, and choke to death, I think he'll get well," said Harry, with a laugh that testified to the great relief that had come to his feelings. With that all hands had to be content for the time being.

## CHAPTER VIII

*'Gene black, trouble-Maker*

In the morning Tom Reade declared that he was all right. The old Indian squaw had pronounced him safe, and had gone on her way.



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"You'll stay in camp today, Reade," announced Mr. Thurston, dropping into the mess tent.

"With all the work there is ahead of us, sir?" cried Reade aghast.

"That's why you'll stay," nodded Mr Thurston. "Your life has been saved, but after the shock you had yesterday you're not as strong as you may feel. One day of good rest in camp will fit you for what's ahead of us in the days to come. The strain of tramping miles and working like a steam engine all day is not to be thought of for you today. Tomorrow you'll go out with the rest."

Tom sighed. True, he did not feel up to the mark, and was eating a very light breakfast. Still he chafed at the thought of inaction for a whole day.

"The chief wouldn't order you to stay in," remarked Blaisdell, after Mr. Thurston had gone, "unless he knew that to be the best thing for you."

So, after the engineers, their chainmen and rodmen had left camp Tom wandered about disconsolately. He tried to talk to the cook, but Jake and his helper were both rushed in getting the meal that was to be taken out over the trail by burro train.

"Lonely, Reade?" called the chief from his tent.

"Yes, sir," Tom nodded. "I wish I had something to do."

"Perhaps I can find work for you in here. Come in."

Tom entered eagerly. Mr. Thurston was seated at the large table, a mass of maps and field notes before him.

"How are you on drawing, Reade?" queried his chief.

"Poor, sir."

"Never had any training in that line?"

"I can draw the lines of a map, sir, and get it pretty straight, as far as the mathematics of map-drawing goes," Tom answered. "But another man has to go over my work and put in the fine touches of the artist. You know what I mean, sir; the fancy fixings of a map."

"Yes, I know," nodded Mr. Thurston. "I can sympathize with you, too, Reade, for, though I always longed to do artistic platting (map-work) I was always like yourself, and could do only the mathematical part of it. You can help me at that, however, if you are careful enough. Take a seat at that drawing table; and I'll see what you can do."

First, Reade stepped to a box that held map paper. Taking out a sheet, he placed it on the surface of the drawing table, then stuck in thumb-tacks at each of the four corners.

"All ready, sir," he announced.

Mr. Thurston stepped over with an engineer's field note book.

"See if these notes are all clear," directed the chief engineer.

"Yes, sir; I know what the notes call for," Tom answered confidently.

"Then I'll show you just what's wanted Reade," continued the chief.

After some minutes of explanation Tom picked up the T-square, placing the top at the side of the drawing surface. Then against the limb of the "T" Tom laid the base of a right-angled triangle. Along this edge he drew his perpendicular north-and-south line in the upper left-hand corner. He crossed this with a shorter line at right angles, establishing his east-and-west line. Mr. Thurston, standing at the cub engineer's back, looked on closely.

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Tom now settled on his beginning point, and made the dot with his pencil. From that point he worked rapidly, making all his measurements and dotting his points. Then he began to draw in. The chief engineer went back to his table.

After Tom had worked an hour the chief interrupted him.

"Now, Reade, get up and let me sit down there for a little while. I want to go over your work."

For some minutes Mr. Thurston checked off the lad's work.

"You really know what you are doing, Reade," he said at last. "Your line measurements are right, and your angles tally faultlessly, I'm glad I kept you back today. You can help me here even more than in the field. Tomorrow, however, I shall have to keep Rice back. He's our ornamental draughtsman, and puts in the fine, flowery work on our maps. Here's some of his work."

Tom gazed intently at the sheet that Mr. Thurston spread for his inspection.

"Rice does it well," remarked Reade thoughtfully. "You've one other man in the corps who can do the pretty draughting about as well."

"Who is he?"

"Hazelton. Harry doesn't do the mathematical part as easily as I do, but he has a fine talent for fancy drawing, sir."

"Then I'll try Hazelton tonight," decided Mr. Thurston aloud. "You may go on with your drawing now, Reade. Hello; someone is coming into camp."

Mr. Thurston stepped over to the doorway in time to see a young man riding up on a pony.

"Where's the chief engineer?" called the newcomer.

"You're looking at him," replied Mr. Thurston.

The young man, who appeared to be about twenty-eight years of age, rode his horse to a near-by tree, then dismounted gracefully and tied his mount.

The young man was well-built, dark-haired and smooth-faced, with snapping black eyes. There was an easy, half-swaggering grace about him suggesting one who had seen much of free life in the open air. For one attired for riding in saddle over mountain trails the stranger was not a little of a dandy in appearance. His khaki trousers and leggings, despite his probably long ride, were spotless. His dark-blue flannel shirt

showed no speck of dust; his black, flowing tie was perfection; his light-hued sombrero looked as though it had just left the store.

"If you are Mr. Thurston, I have the honor to present a letter," was the stranger's greeting as he entered the large tent.

Mr. Thurston glanced at the envelope, reading: "Mr. Eugene Black."

"Be seated, Mr. Black," requested the chief, then opened the letter.

"Oh, you're a new engineer, sent out from the offices in New York," continued the chief.

"Yes," smiled the newcomer.

"An experienced engineer, the vice-president of the company informs me."

"Six years of experience," smiled the newcomer, showing his white, handsome teeth.

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Tom glanced up just in time to see that smile. "Somehow, I don't quite like the looks of Mr. Black," Reade decided.

"What is your especial line of work, Mr. Black?" Thurston continued.

"Anything in usual field work, sir."

"This letter states that you expect one hundred and twenty-five dollars a month."

"Then the letter is correct, sir."

"All right, Mr. Black; we'll put you at work and let you prove that you're worth it," smiled Mr. Thurston pleasantly.

"How soon shall I go to work, sir?" asked Black.

"I expect my assistant, Mr. Blaisdell, here in about an hour. I'll send you out with him when he returns to field."

"Then, if you're through with me at present, sir, I'll step outside and be within call."

Tom and his chief were again alone. Reade kept steadily on with his work, and no word was spoken for half an hour. Then there came a commotion in camp, for four drovers came in with two dozen horses that had been ordered for the use of the engineering party.

"Step outside, Reade, and see the horses, if you care to do so," suggested Mr. Thurston, reaching for his sombrero.

"Thank you, sir; but the horses will keep, and I'm greatly interested in finishing my drawing so that I can take up more work."

"That young cub, Reade, is no idler," thought the chief, as he stepped into the open.

Tom kept steadily at work.

Ten minutes later, Thurston still being absent, Eugene Black strolled into the tent. He glanced at Tom's drawing with some contempt, then inquired:

"Drawing, boy?"

"Why, not?" laughed Tom. "I'm only one of the stable boys, and, as you can see, I'm currying a horse."

"Stop that sort of nonsense with me, right at the start," flashed Black angrily, striding closer. "I don't allow boys to be fresh with me."

"Where's the boy?" drawled Tom, turning slightly, for a better view \ of the stranger's face.

"You're one," snapped Black.

"What are you?" Tom asked curiously.

"I'm an engineer."

"If that is anything to be chesty about, then I'm an engineer also," Reade replied, rising.

"Sit down, boy!" commanded Black angrily.

The trace of frown on Reade's face disappeared. He smiled good-humoredly as he observed.

"Black, I'm a bit uncertain about you."

"*Mister* Black, boy!" warned the other, his dark eyes snapping. "Why are you uncertain about me?"

"I'm wondering," purred Tom gently, "whether you are just *trying* to be offensive, or whether you don't know any better than to talk and act the way you do?"

"You young puppy, I'll teach you something right now," cried Black, stepping closer and raising a clenched fist.

"Look out," begged Tom. "You'll upset my drawing table."

Eugene Black closed in, striking out. Reade who felt that the situation didn't call for any fighting, retreated, still smiling.

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Whether by accident or design, Black, as he made a half turn to start after the cub engineer anew, brushed a corner of the unstable drawing table hard enough to tip it over. A bottle of drawing ink fell, too, splashing ugly black blotches over Tom's carefully drawn outlines of a map.

"Now, you've done it!" exclaimed Tom.

"I haven't quite finished," snapped the stranger, rushing after Reade.

"I'm going to box your ears soundly, boy!"

"Are you, indeed?" demanded Tom, halting. He was still smiling, but there was a stern look in his eyes. Tom no longer retreated, but stood awaiting Black's assault.

Black's fist shot out straight, but Reade didn't stop the blow. Instead, he ducked low. When he came up his arms enveloped Black's legs in one of the swift football tackles that Tom had learned with the Gridley High School football team.

"You annoy me," drawled Tom, and hurled the fellow ten feet away. Black landed on his back with an angry roar, followed by cursing.

"Profanity is always objectionable to a gentleman," declared Tom dryly, running over ere the newcomer could regain his feet. Once more Reade bent and rose. As he did so, Eugene Black shot through the tent doorway, landing on the ground a dozen feet beyond.

Tom stood in the doorway, smiling. Black leaped to his feet.

"You puppy!" gasped Black, sending his right hand back to his hip pocket. Tom didn't wait to see what he would bring out, but darted forward. This time he seized the stranger in a dead tackle, dropping him over on his back without throwing him.

"Now, roll over," ordered Reade grimly. "I'm curious to see what you have in your pocket. Ah! So—this is it! You're another Peter Bad, are you?"

Tom held in one hand a silver-plated revolver with ivory handle that he had snatched out of Black's pocket.

"I wonder why it is," mocked Tom, grinning, "that nine out of every ten dude tenderfeet from the east come west with one of these things."

Black charged the cub, intent on recapturing his pistol, but Reade shot out a foot, tripping him. Then Tom ran nimbly over to the cook tent. Here he halted, breaking the weapon at the breech and allowing the cartridges to drop into his hand. He transferred them to his pocket, then wheeled and picked up Jake's kitchen hatchet.



With a few swift strokes from the head of the hatchet Tom put that firearm on the retired list for good.

“Give me my pistol, boy!” choked Black, running up.

“Certainly,” rejoined Reade, wheeling and politely offering the ruined firearm. “I don’t want it. I’ve no use for such things”

Black took his weapon, gasped, then, seizing it by the barrel, leaped at Tom, intent on battering his head.

“Here, what’s the trouble?” cried Mr. Thurston, appearing around the corner of the cook house and promptly seizing Black by the collar of his flannel shirt.



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"Nothing much, sir," laughed Tom. "Mr. Black has just been showing me how bad men behave out in this part of the country."

"This boy is a troublesome cub, Mr. Thurston," declared Black hotly. "Do you see what he has done to my revolvers"

"How did Reade come to have it?" inquired Mr. Thurston.

"He snatched it away from me."

"Reade, is this true?" demanded the chief engineer, turning to the youth.

"Yes, sir; as far as the story goes."

"Tell me the whole truth of this affair," ordered Mr. Thurston sternly.

Tom started to do so, modestly, but Black broke in angrily at points in the narrative.

"The principal thing that I have against Mr. Black," Tom said, "is that he spoiled all my drawing work of this morning."

"Yes; but how did I come to do it?" insisted the newcomer. "You pushed me against your drawing table."

Tom started with astonishment.

"My friend," he remarked, "Baron Munchausen never had anything on you!"

"Careful, Reade! Don't pass the lie," ordered the chief engineer sternly. "I shall look fully into this matter, but at present I'm inclined to believe that you're more at fault than is Black. Return to the tent and start your drawing over again."

There was a smile again on Tom's face as he turned back to make his spoiled work good.

Mr. Thurston went back to his inspection of the ponies. Later, the chief engineer was able to pick up some details of the trouble from Jake Wren, who had seen Black reach for his revolver.

"Understand two things, Mr. Black," said the chief briskly. "In the first place, it is not expected that the engineers of this corps will find any real cause for fighting. Second, I will tolerate no pistol nonsense here."

Then he went back to Tom Reade and spoke to him more quietly.



“Reade, if Black doesn’t turn out to be a valuable man here he won’t last long. If he is a good man, then you will find it necessary, perhaps, to use a little tact in dealing with him. Did you notice what snapping black eyes the man has? Men with such black eyes are usually impulsive. Remember that.”

“I never thought of that before, sir,” Tom admitted dryly. “I really didn’t know that people with black eyes are impulsive. This I do know, however, people who are too impulsive generally get black eyes!”

## CHAPTER IX

### “DOCTORED” FIELD NOTES?

There was no more trouble—immediately. When the other engineers heard of the row—which news they obtained through Jake, not from Reade—they soon made it plain to ‘Gene Black that Tom Reade was a favorite in the corps. Black was therefore treated with a coldness that he strove hard to overcome.

In the matter of being a capable civil engineer ‘Gene Black speedily proved himself efficient. Assistant Chief Engineer Blaisdell soon reported at headquarters that the new member of the corps was an exceedingly valuable man. Black was therefore placed at the head of a leveling squad that obtained the field notes from which were to be estimated the cost of making excavations in several cuts that must be made ere the coming tracks could be laid.

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In the days that passed Tom and Harry saw little of the field work. They were kept at the chief's tent. Hence Reade had but little to do with 'Gene Black, which may have been fortunate, as Tom still retained his first instinctive dislike for the black-eyed fellow.

\* \* \* \* \*

"Reade and Hazelton, you two young men are going to forge ahead rapidly, and you are sure to earn good salaries, if you don't make the too common mistake of young engineers first starting out," Mr. Thurston told the cubs one forenoon.

"And what is that mistake, sir, if you please?" Tom queried.

"Don't make the mistake of getting too large an idea of the value of your services," replied the chief. "Just work hard all the time and be wholly unassuming.

"I think we can follow that advice, sir," Tom replied, with a smile.

"If you can, you'll get along rapidly. I have already written to our officers in New York, thanking them for having sent you two young men."

"Here's the map I have just finished, sir," said Harry, rising from his drawing table on which were arranged the various draughtsman's inks and washes—the latter being thin solutions of water colors with which some parts of the maps were colored.

"Very handsomely done, Hazelton. Reade, what are you doing?"

"I'm at work on Black's field notes of the leveling," Tom answered.

"I am very much pleased with Black's work," replied Mr. Thurston. "His notes show that we are going to get out of the excavating in the cuts at about one third of the trouble and expense that I had looked for."

"Black's field notes certainly do look good, sir, for they show that you can get the work through on this division in much less time than you had supposed."

As he turned around to speak, Tom sat where he could easily see the colored field map that Harry had just turned in to the chief.

"Hold on, there, Harry," Tom objected.

"You've lined in a pretty high hill on Section Nineteen. You'll have to cut that down a bit."

"The surveyor's field notes call for that hill," Hazelton retorted.

“But, as it happens,” objected Tom, “I’m just working out the profile drawing of Section Nineteen from Black’s notes. See here-----” Tom rested a pencil point on a portion of the hill depicted on Hazelton’s map. “You’ve drawn that pretty steep. Now, as you’ll see by Black’s notes, the upgrade at that point is only a three per cent. grade.”

“Humph! It’s all of an eight per cent. grade,” grunted Hazelton. “See, here are the surveyor’s field notes.”

“Three per cent. grade,” insisted Tom, holding forward Black’s leveling notes.

“There’s a difference there, then, that must be reconciled,” broke in Mr. Thurston, rising, a look of annoyance on his face. “We can’t have any such disagreement as that between the field map and the profile sheet. Let us find out, at once, where the trouble lies.”

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Yet the more the three pondered over the matter the greater became the puzzle. The notes of the surveyor, Matt Rice, and of the leveler, 'Gene Black, were at utter variance.

"We must get hold of these men as soon as they come in tonight," exclaimed Mr. Thurston, much disturbed. "We must find out just which one is at fault."

"Rice is a very reliable man, sir," spoke up Tom.

"Yes; but Blaisdell reports that Black thoroughly understands his work, too," grumbled the chief. "We must settle this tonight."

"May I make a suggestion, sir?" asked Tom.

"Certainly. Go ahead."

"There is no use, sir, in my going ahead with this profile drawing, if there's a chance that the sights turned in by Black are wrong. Until we know, my time at this drawing board may all be wasted. Trotter, one of the rodmen, is in camp today. I might take him, and a level along, and go over the foresights and backsights myself. All of the stakes will be in place. In two hours I ought to have a very good set of leveling notes. Then I can bring them back and compare them with Black's sights."

"Can you run a level well?" inquired Mr. Thurston.

"Of course I can, sir. It's simple enough work, and I've done a good bit of it in the east."

"Go along, then, and see if you can throw any light on this," sighed the disturbed chief.

"Reade really ought to have two rodmen," broke in Harry eagerly. "May I go along, sir, to serve as the other rodman?"

"Run along," assented Mr. Thurston. "Remember, boys, I can't go any further until this tangle is settled. Come back as speedily as you can."

Tom and Harry snatched up their sombreros, hurrying forth. Trotter was found readily, and was ordered to saddle three ponies. Tom busied himself in picking out the best leveling instrument in camp, while Hazelton secured the rods and a chain. Then the party set forth in Indian file, Tom riding in advance.

A trot of half an hour brought them to Section Nineteen. Here Tom speedily adjusted his instrument, taking up his post over the first stake at the bottom of the hill.

Leveling is not difficult work, though it calls for some judgment and a good deal of care. For instance, when Tom set his telescope exactly level and took a reading of the rod at the second stake, which Harry held, he read the height as eight feet and four inches.

Then he trudged forward, carrying his instrument, while Trotter held his rod exactly perpendicular over the first stake. From the second stake Tom sighted back through his telescope, reading two feet three inches. The difference between these two readings was six feet and one inch, showing that, for the distance between first and second stakes the rise in the hillside was six feet one inch. Thereupon Reade turned and sighted, from stake number two to stake number three, noting in his book the reading he secured from the rod at number three. Once at number three he turned his telescope backward, taking a reading from Trotter's rod at number two. Ten stakes were thus covered, and not only were the foresights and backsights read and recorded, but the distance between each pair of stakes was measured with the chain and the distances entered on the record.

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At stake number ten Tom halted.

"Harry," he directed, "you take Black's leveling notes and hold them while I read my own notes. Stop me every time that you note a difference between the two records."

After that Harry steadily stopped his chum at every reading. By the time that they had finished the comparisons Hazelton's face looked blank from sheer astonishment.

"Why, every single one of Blacks foresights and backsights is wrong!" gasped Harry. "And yet Mr. Blaisdell reported that 'Gene Black is such a fine engineer."

Tom turned to make sure that Trotter was resting out of hearing before he replied:

"Harry, Black isn't such a fool as to bring in an absolutely wrong record of sights, and yet do it innocently. If he didn't do it unintentionally, then he must have tangled the record purposely."

"But why should he do it purposely?" Harry insisted. "He would know that, sooner or later, his blunders or lies would be discovered, and that he would be discharged. Now, Black really wants to hold his job with this outfit."

"Does he?" asked Tom bluntly.

"Why, what do you mean?"

"I don't know," Reade confessed. "I never heard of any such bungle as this before by an engineer. Why, Harry, this hillside averages an eight and a third grade, yet Black's field notes show it to be only a three per cent. grade. Hang it, the fellow must have played the trick purposely!"

"Yet why?" pressed Hazelton.

"I'll admit that I can't understand. Unless, well---unless----"

"Say it!"

"Unless Black joined this outfit with the express purpose of queering all the work of the entire corps as he could easily do. Harry, do you think that Black could possibly be serving with this outfit as the paid tool of the rival road, the W.C. & A.? Can he be the enemy's spy within our lines—sent to prevent our finishing the road on time?"

## CHAPTER X

### THINGS BEGIN TO GO DOWN HILL

"I suppose I'm thick," Harry murmured. "How would Black, by turning in some wrong backsights and foresights, expect to delay the building of the road, even if he wanted to do it?"

"How?" repeated Tom Reade, showing an amount of heat and excitement that he rarely displayed. "Why, Harry, this same old Section Nineteen is one of the hard spots on the road. A lot of excavating has to be done before the tracks can be laid here. It's not a mere matter of scooping up dirt and removing it, either. A large amount of solid rock has to be blasted out here before the roadbed can be laid."

"I know it," Harry nodded.

"Well, then, at the present moment our chief, Mr. Thurston, is preparing the estimates for the work that must be done. On his estimates will be based the strength of the laboring gangs that must come forward to do the work."



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"Yes."

"Then, suppose that Mr. Thurston has been misled into making a certain estimate as to the number of thousand cubic yards of stuff that must be taken out of the outs that are to be made. After he gets his laborers here, and at work, he finds that he has at least three times as much rock and dirt to get out-----"

"I see," cried Hazelton. "Before the chief could get men and wagons, and make all necessary changes in the work, the time would have slipped by so far that the finishing of the road would be blocked."

"And the S.B. & L. would lose its charter," finished Tom grimly.

"It's mighty lucky that we came out here today, then," exclaimed Hazelton, now fully alive to the danger that menaced their employers. "Come, we must hustle back to camp and show Mr. Thurston how he has been imposed on. There can't be a doubt that 'Gene Black has been deliberately crooked."

"Go slowly," advised Tom. "Don't be in a rush to call any other man a crook. Mr. Thurston can hear our report. Then he can look into it himself and form his own opinion. That's as far as we have any right to go in the matter."

"Thurston is at fault in not having come out here himself," Harry continued. "The chief engineer in charge of a job should know every foot of the way."

"Thurston, from the nature of his own work, is obliged to leave much of the detail to his assistant, Mr. Blaisdell," Tom explained.

"Then why doesn't Blaisdell look out that no such treacherous work is done by any member of the engineer corps?" flared Harry.

"Gene Black is plainly a very competent man," Reade argued. "The work has had to be rushed of late, and, on so simple a matter as leveling, I don't suppose Blaisdell has thought it at all necessary to dig into Black's field notes."

"I hope Black is fired out of this outfit, neck and crop!" finished Hazelton.

"That's something with which we have nothing to do," Reade retorted. "Harry, we'll confine ourselves to doing our work well and reporting our results. Mr. Thurston is intelligent enough to form all his own conclusions when he has our report. Come, it's high time for us to be putting the ponies to real speed on the trail back."

Not long afterwards the young engineers rode into the engineer camp. Harry dismounted, seating himself on the ground, while Tom hurried toward the chief's big tent.

It was Blaisdell who sat in the chief's chair when Tom entered.

"Oh, hello, Reade," was the assistant's pleasant greeting.

"Where's the chief?"

"Gone back to the track builders. You know, they're within fourteen miles of us now."

"When will Mr. Thurston be back?"

"I don't know," Blaisdell answered. "In the meantime, Reade, you know, I'm acting chief here."

"I beg your pardon," Tom murmured hastily.

"The chief told me, just before leaving, that you thought some of Black's sights on Section Nineteen are wrong," Blaisdell pursued.

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"They're all wrong," Reade rejoined quietly.

"All?" echoed Blaisdell, opening his eyes very wide.

"Yes, sir; everyone of them."

"Come, come, Reade!" remonstrated the acting chief. "Don't try to amuse yourself with me. All of the sights can't be wrong."

"But they are, sir. Hazelton and I have been over them most carefully in the field. Here are *our* notes, sir. Look them over and you'll find that Section Nineteen calls for three or four times as much excavating as Black's notes show."

"This is strange!" mused Blaisdell, after comparing the two sets of notes. "I can't credit it. Reade, you and Hazelton are very young—mere cubs, in fact. Are you sure that you know all you owlet to know about leveling?"

"Mr. Blaisdell, I'll answer you by saying, sir, that though Hazelton and I are nothing but cubs, we have the success of this railroad building game at heart. We're deeply in earnest. We'll work ourselves to our very bones in order to see this road get through in time. I don't ask you, sir, to take our word about these sights, but we both beg you, sir, to go out with a gang of men and go over some of the work yourself. Keep on surveying, sir, until you're satisfied that Black is wrong and that Hazelton and I are right. You know what it would mean, sir, if we're right and you don't find it out in time. Then you simply couldn't get the cut through Section Nineteen in time and the S.B. & L. would lose its charter."

"By Jove, you're right," muttered Blaisdell uneasily, as he slowly stood up. "Reade, I'm going to take men and go out, carrying your notes and Black's. Let me warn you, however, that if I find that Black is right and you're wrong, then it will give you two cubs such a black eye that the chief will run you out of camp."

"If we had made any such gigantic blunder as that," returned Tom firmly, "then we'd deserve to be run out. We wouldn't have the nerve to put in another night in camp."

"Hey, you, don't unsaddle those ponies. Hold yourselves ready to go out," called Blaisdell from the doorway of the tent.

"Will you give us our orders on drawing before you go, sir?" asked Reade.

"No," smiled Blaisdell. "If you've made a blunder out on Nineteen, then you're not to be trusted with drawing. Wait until I return. Take it easy until then."

"Very good."



“And—Reade!”

“Yes, sir.”

“Neither you nor Hazelton are to let a word cross your lips regarding the disagreement over Section Nineteen.”

“You’ll never have any trouble, sir, over our talking when we ought not to do it,” promised Reade.

Two minutes later the assistant engineer rode out with a pair of rodmen whom he picked up on the way to Nineteen.

“What happened?” asked Harry, coming into the big tent.

Tom told him all that had taken place, adding the caution that nothing was to be said about the matter for the present.

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"Whew! I wish Mr. Blaisdell had let me go along," murmured Hazelton. "I'd like to have seen his face when he finds out!"

Hearing footsteps approaching outside, Reade signaled for silence. Then the flap of the tent was pulled back and Bad Pete glanced in.

"Howdy, pardners?" was the greeting from the bad man, that caused Tom Reade almost to fall from his campstool.

"How are you, Peter?" returned Tom. "This is, indeed, a pleasure."

"Where's the boss?" continued Bad Pete.

"If you mean Mr. Thurston, he's away."

"Where's Blaisdell, then?"

"He hit the trail, just a few minutes ago," Tom responded.

"Then I suppose you have no objections if I sit in here a while?"

"Peter," replied Tom solemnly, "you'll be conferring a great honor on us."

The bad man's present mood was so amiable that Harry did not deem it desertion to go outside. Bad Pete had his cartridge belt restocked with sure-enough cartridges, and his revolver swung as jauntily in its holster as ever. Pete seemed to have no idea, however, of trying to terrify anyone with his hardware.

"You've been away?" suggested Tom, by way of making conversation, after an awkward silence had endured for nearly two minutes.

"Yep," admitted the bad one. "Pardner, it seems like home to get back. Do you know, Reade, I've taken a big liking to you?"

"Peter," protested Tom, "if you don't look out you'll make me the vainest cub on earth."

"I mean it," asserted Pete. "Pardner, I've a notion me and you are likely to become big friends."

"I never dared to hope for so much," breathed Tom, keeping back a laugh.

"Cause," continued Bad Pete, "I reckon you're one of the kind that never goes back on a real pardner."

"I should hope not," Tom assured him.

“Have a cigar?” urged Pete, doffing his sombrero and taking out a big, black weed that he tendered the cub.

“What’s the matter with it?” asked Tom curiously.

For just a second Bad Pete’s eyes flashed. Then he choked back all signs of anger as he drawled:

“The only matter with this cigar, pardner, is that it’s a gen-u-wine Havana cigar.”

“I couldn’t tell it from a genuine Baltimore,” asserted Tom. “But I suppose that is because I never smoked.”

“You never smoked? Pardner, you’ve got a lot to learn,” replied Bad Pete, as he put the cigar back in his hat and replaced the latter on his head. “And, while we’re talking about such matters, pardner, you might just hand me a twenty for a few days.”

“Twenty dollars?” returned Tom. “Peter, until payday gets around I won’t have twenty cents.”

Bad Pete gazed at the cub keenly.

“Fact!” Tom assured him.

“Huh!” grunted Pete, rising. “I’ve been wasting my time on a pauper!”

Saying which, he stalked out.

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Tom discreetly repressed his desire to laugh. Hazelton glided into the tent, grinning.

"Tom, be careful not to string Bad Pete so hard, or, one of these days, you'll get him so mad that he won't be able to resist drilling you through with lead."

"Let's go over to the cook tent and either beg or steal something to eat," proposed Reade.

It was two hours later when a rodman rode hurriedly into camp.

"Hey, you cubs," he called, "come and help me get Mr. Blaisdell's bed ready for him. He's coming back sick."

"Sick?" demanded Reade, thunderstruck. "Why, he looked healthy enough when he went out of camp a little while ago."

"He's sick enough, now," retorted the rodman.

"What ails Mr. Blaisdell?" asked Harry.

"It's mountain fever, I reckon," rejoined the rodman. "Blaisdell must have been off color for days, and didn't really know it."

All three worked rapidly getting everything in readiness for the coming of the assistant engineer. Then Mr. Blaisdell was brought in, on a stretcher rigged between two ponies. The acting chief's face was violently flushed, his eyes seemed bright as diamonds.

"Reade," said the acting chief thickly, as they lifted him from the litter to his cot, "if I'm not better by morning you'll have to get word to the chief."

"Yes, sir," assented Reade, placing a hand on Blaisdell's forehead. It felt hot and feverish. "May I ask, sir, if you verified any of the sights on Nineteen?"

"I—I took some of 'em," replied the acting chief hesitatingly. "Reade, I'm not sure that I remember aright, but I think—I think—you and Hazelton were correct about that. I—wish I could—remember."

Bill Blaisdell closed his eyes, and his voice trailed off into murmurs that none around him could understand. Even Reade, with his very slight experience in such matters, realized that the acting chief was a very sick man.

"You cubs better clear out of here now," suggested one of the rodmen. "I know better how to take care of men with mountain fever."



"I hope you do know more about nursing than I do, Carter," replied Tom very quietly. "In the future, however, don't forget that, though I may be a cub, I am an engineer, and you are a rodman. When you speak to me address me as Mr. Reade. Come, men, all out of here but the nurse."

Once in the open Tom turned to Harry with eyes ablaze.

"Harry, could anything be tougher? The chief away, the acting chief down with fever and on the verge of delirium—and a crooked engineer in our crowd who's doing his best to sell out the S.B. & L.—bag, baggage and charter!"

## CHAPTER XI

### THE CHIEF TOTTERS FROM COMMAND

It was not like Tom Reade to waste time in wondering what to do.

"Harry," he continued, once more turning upon his chum, "I want you to get a pony saddled as fast as you can. You know that the telegraph wire is being brought along as fast as it can be done. This morning I heard Rutter say that it was hardly five miles back of us on the trail. Get into saddle, wire the chief at the construction camp, and bring back his orders as fast as you can ride."



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Hazelton replied only with a nod, then broke into a sprint for the spot where the saddle animals were tethered. Two minutes later Harry, though not a crack horseman, left camp at a gallop.

In Blaisdell's tent matters dragged along. Ice was needed, but none was to be had. Cloths were wrung out in spring water and applied to the sick man's head. Within half an hour Tom received word that the acting chief was "out of his head."

Later on Hazelton galloped back into camp bearing this despatch:

"Reade, Engineer Corps. Take charge of camp until Rutter returns. Then turn over charge to him. Rush for the nearest physician; engage him to remain at camp and look after Blaisdell. I return tonight. (Signed) Thurston, Chief Engineer."

"Men," called Tom striding over to the little party of rodmen, "tell me where the nearest physician is to be found."

"Doe Jitney, at Bear's Cave," replied one of the men.

"How far is that?"

"Fourteen miles, by the trail."

"Get on to a pony, then, and go after Dr. Gitney. Bring him here and tell him we'll want him here for the present. Tell the doctor to bring all the medicines he'll need, and both of you ride fast."

"I'm not going on your orders," retorted the man sullenly.

"Yes, you are," Tom informed him promptly. "I'm in charge, for the present, and acting under Mr. Thurston's orders. If you don't go, you won't eat any more in this camp, or draw any more pay here. It's work or jump for you—and discharge if you lose or waste any time on the way. Mr. Blaisdell's life is at stake. Rustle!"

The man so ordered scowled, but he rose, went over and saddled a pony and rode out of camp.

"That part is attended to," sighed Tom. "Hang it, I wish we could get hold of some ice. I don't know much, but I do know that ice is needed in high fevers. I wonder if anyone here knows where ice can be had? By Jove, there's Peter! He knows more about this country than anyone else around here."

It was now within an hour of the time when the engineer parties might be expected back into camp. Reade, however, was not of the sort to lose an hour needlessly.

Tom had just caught sight of Bad Pete as the latter stepped through a little gully an eighth of a mile below the trail and vanished into some green brush.

"I'll run after him," Tom decided. "Pete wants a little money, and this will be a chance for him to earn it—if he can find some man to drive a load of ice to camp."

Being a trained runner, Tom did not consume much time in nearing the spot where he had last seen Bad Pete. The lad put two fingers up to his mouth, intending to whistle, when he heard a twig snap behind him. Tom turned quickly, then, warned by some instinct, stepped noiselessly behind high brush. The newcomer was 'Gene Black.

"Pete!" called Black softly.

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"Oy!" answered a voice some distance away.

"That you, Pete?" called the engineer.

"Yep."

"Then close in here. I have doings for you."

Tom Reade should have stepped out into sight. He was neither spy nor eavesdropper. For once, something within urged him to keep out of sight and silent.

"Where be you, pardner?" called Pete's voice, nearer at hand now.

"Right here, Pete," called Black.

"What do you want, pardner?" demanded the bad man, coming through the brush.

"Lend me a couple of hundred dollars, Pete," laughed 'Gene Black.

"Did you call me here for any such fool talk as that?" scowled Pete.

"No," Black admitted. "Pete, I don't believe you have two hundred dollars. But you'd like to have. Now, wouldn't you!"

"Two hundred silver bricks," retorted Bad Pete, his eyes gleaming, "is the price of shooting up a whole town. Pardner, just get me an extra box of cartridges and lead me to that town! But have you got the money?"

"Yes," laughed Black, holding up a roll of greenbacks. "This and more, too!"

Bad Pete surveyed the money hungrily.

"Some men who know me," he muttered thickly, "would be afraid to show me a whole bankful of money when there was no one else looking."

"I'm not afraid of you, Pete," replied Black quietly. "You might shoot me, if you felt you could get away with it. Do you notice that my left hand is in my pocket! I'm a left-handed shooter, you see."

Pete glanced covertly at that bulging left trousers' pocket of the engineer.

"You won't have to do anything like that to get the money, Pete. Save your cartridges for other people. There, I've let go of my gun. Come close and listen to what I have to say—but only in your ear."

There followed some moments of whisperings Try as he would, Reade could not make out a word of what was being said until at last Bad Pete muttered audibly, in a low, hoarse voice:

“You’re not doing that on your own account, Black?”

“No, Pete; I’m not.”

“Then you must really be working for the road that wants to steal the charter away—the W.C. & A.?”

“Perhaps so, Pete. You don’t need to know that. All you have to know is what I want done. I’m a business man, Pete, and money is the soul of business. Here!”

Black peeled some banknotes from his roll.

“Ten twenties, Pete. That makes the two hundred I was talking to you about. Understand, man, that isn’t your pay. That’s simply your expense money, for you to spend while you’re hanging about. Stick to me, do things just as I want them done, and your pay will run several times as high as your expense money.”

“Do you know how long I’ve been looking for this sort o’ thing, pardner?” Pete inquired huskily.

“No; of course not,” rejoined ‘Gene Black rather impatiently.

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"All my life," returned Bad Pete solemnly. "Pardner, I'll sell myself to you for the money you've been talking about."

"Come along, then. We're too near the camp. I want to talk with you where we're not so likely to be interfered with by people who have too much curiosity."

"If that means me," quoth Tom Reade inwardly, "the shoe fits to a nicety."

Tom followed the pair for a little way, with a stealth that was born in him for the present need. Then the plotters stepped into a rocky, open gully, where the cub engineer could not have followed without being seen.

"Oh, dear! I never wanted to follow anyone as much in my life!" groaned Reade in his disappointment.

There was nothing to do but to go back. Then, too, with a guilty start, Tom remembered the great need of ice for poor, fever-tossed, big-hearted Bill Blaisdell, who had been so kind to the two cubs from the hour of their arrival in the field camp.

Just as he stepped into the camp area Tom espied Jack Rutter, who also saw him and came quickly forward.

"I've been looking everywhere for you, Reade," said Rutter, in a tone that was close to carrying reproach with it.

"I've been absent on real business, Rutter," Tom answered, with a flush, nevertheless. "Mr. Blaisdell must have ice a lot of it."

"Great Scott! Where shall we find it in these mountains in midsummer?" Rutter demanded.

"We've got to have it, haven't we?" Tom urged. "It will be the first thing that the doctor will call for."

"Then he should bring it with him," returned Rutter.

"Would you want the doctor to be hampered with a ton or so of ice!" asked Reade.

"Would we need that much?" Rutter seemed hopelessly ignorant in such matters.

"I imagine we'd want a lot of it," Tom answered. "By the way, Mr. Rutter-----"

"Well?" Jack inquired.

Tom was on the point of giving a hint of what he had heard in the gully during the meeting between Black and Bad Pete. Then, on second thought, the cub engineer decided to hold that news for the ear of Mr. Thurston alone.

"What were you going to say?" pressed Rutter.

"Probably Hazelton has told you," Tom continued, "that you're in charge here until Mr. Thurston arrives."

"Yes; and I'm mighty glad that the chief will be here before daylight tomorrow," returned Jack. "I may be a fair sort of engineer, but I'm not cut out for a chief engineer."

Later, one of the rodmen was sent to guide Harry to the nearest small town, twenty-eight miles away, for ice. If they succeeded in obtaining it they might be back by dark of the following day.

Supper in camp was a gloomy meal. No one felt light-hearted.

"Mr. Rutter," asked Tom, approaching the temporary chief, soon after the evening meal, "what do you want Hazelton and myself to do this evening?"

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"Don't ask me," returned Jack, with a shrug of his shoulders. "What have you been doing? Drawing?"

"Yes."

"Why don't you go on with it?"

"We're at a point where we need orders, for we've had to lay down one part of the work while waiting for further instructions."

"I can't help you any, then," replied Rutter. "Sorry, but before I could give any orders I'd need a few myself."

At eleven o'clock that night Dr. Gitney arrived, with saddle-bags full of medicines and other necessities. He saw Blaisdell, and pronounced the assistant engineer a very sick man.

Shortly after midnight Mr. Thurston rode into camp. He tottered from saddle and reeled until Tom, on the lookout for him, ran forward and supported the chief engineer to his tent.

Then Dr. Gitney was sent for and came.

"Your chief has mountain fever, too," said the medical attendant to Tom, after stepping outside the tent.

"How long will it take them to get well?" asked Wade anxiously.

"Weeks! Hard to say," replied the physician vaguely.

"Weeks!" groaned Tom Reade. "And the camp now in charge of Jack Rutter, who's a fine workman but no leader! Doc Gitney doesn't know it, but he has sentenced the S.B. & L. railroad to death!"

It was a trying situation. The cub engineer felt it keenly, for he had set his heart on seeing the S.B. & L. win out over its rival.

Then, too, all in a flash, the memory of 'Gene Black's treachery to his employers came back to the mind of Tom Reade.

## CHAPTER XII

### FROM CUB TO ACTING CHIEF

Tom didn't sleep that night. He sat by, silently, in the big tent, nursing the patient as Dr. Gitney directed.

In the morning, at five, Matt Rice came. Tom gladly surrendered the post to him and took a scant hour of deep slumber on the bare ground outside.

"Wake up, Reade," ordered Rutter, at last shaking the cub and hauling him to his feet. "This is no place to sleep. Go to your tent and stretch out full length on your cot."

"On my cot?" demanded Tom, rubbing his eyes fiercely. "You can't spare me from the day's work?"

"I don't believe there will be any day's work," Rutter answered.

"You're in charge, man! You must put us to work," Tom insisted.

"I don't know just what ought to be done," complained Rutter. "I shall have to wait for orders."

"Orders?" repeated Tom, in almost breathless scorn. "From whom can you get orders?"

"Howe is Thurston's assistant at the lower camp," Rutter rejoined. "He'll have to come over here and take real charge. I'm going to send a messenger to the telegraph station and wire Mr. Howe to come here at once."

"See here, Rutter," blazed Tom insistently, "Mr Howe is in charge of the construction forces. He's laying the bed and the tracks. He can't be spared from the construction work for even a day, or the road will fail to get through, no matter what we do here. Man, you've simply got to be up and doing! Make some mistakes, if you have to, but don't lie down and kill the S.B. & L. with inaction."



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"Cub," laughed Rutter good-humoredly, "you speak as if this were a big personal matter with you."

"Oh, isn't it, thought" retorted Tom Reade with spirit. "My whole heart is centered on seeing the S.B. & L. win out within the time granted by its charter. Rutter, if you don't take hold with a rush and make a live, galloping start with your new responsibilities, I'm afraid I'll go wild and assault you violently!"

"Ha, ha, ha!" Jack laughed loudly.

"Here, stop that cackling," ordered Reade in the same low voice that he had been using. "Let's get away from the chief's tent. We'll disturb him with our noise."

Dr. Gitney, entering the big tent five minutes later, found Mr. Thurston very much awake, for he had heard the low-voiced conversation outside the tent. Mr. Thurston was not quite as ill as was Blaisdell, and had not as yet reached the stage of delirium.

"Doctor, I want you to summon the engineer corps here," begged the patient.

"When you're better," replied the doctor, with a hand on the sick man's pulse.

"Doc, you'd better let me have my way," insisted Mr. Thurston in a weak voice. "If you don't, you'll make me five times more ill than I am at present."

Watching the fever glow in the man's face deepen, and feeling the pulse go up several beats per minute, Dr. Gitney replied:

"There, there, Thurston. Be good, and I'll let you have three minutes with your engineers."

"That's all I ask," murmured the sick man eagerly.

Dr. Gitney went outside and rounded them up. All were present except 'Gene Black, who, according to Matt Rice, had taken a little walk outside of camp.

"I hope you'll soon be better, sir," began Rutter, as the engineers gathered at the cot of their stricken chief.

"Don't say anything unnecessary, and don't waste my time," begged Mr. Thurston. "Rutter, do you feel equal to running this field corps until either Blaisdell or I can take charge again?"

"No, I don't chief," replied Jack. "I've sent a wire to Howe, urging him to come here and take charge."

“Howe can’t come,” replied the chief. “If he does, the construction work will go to pieces. This corps will have to be led by someone now present.”

Morris and Rice gazed eagerly at their chief. Butter showed his relief at being allowed to hack out from full control.

As for Timothy Thurston, he let his gaze wander from face to face.

“Reade!” he almost whispered.

“Yes, sir!” answered Tom, stepping gently forward. “What can I do for you, sir?”

“Reade,” came in another whisper, “can you—have you the courage to take the post of acting chief?”

Several gasps of astonishment broke on the air, but the greatest gasp of all came from Reade himself.

“I think you need a little sleep now, sir,” urged Tom.

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"I'm not out of my head," smiled Timothy Thurston wanly. "Doc Gitney will tell you that. Come—for I'm growing very tired. Can you swing this outfit and push the S.B. & L. through within charter time?"

"I—I—hardly know what to say," stammered Tom, who felt dizzy from the sudden rush of blood to his head.

"Have you the courage to try?"

"Yes, sir—I *have*!" came, without further hesitation from Tom Reade. "I believe I'll succeed, at that, for I'll stake health, and even life, on winning out!"

"That's what I like to hear," breathed Mr. Thurston, an added flush coming to his own face.

"Gentlemen, it's time to leave," warned Dr. Gitney, watching his patient.

"One moment more, Doc," insisted the chief engineer feebly. "Gentlemen, you've heard what has just been said. Will everyone of you pledge himself on his honor to drop all feeling that might interfere? Will you all stand loyally by Reade, take his orders and help boost him and all the rest of us through to victory in this big game?"

"I will!" spoke Jack Rutter earnestly and with a deep sigh of relief.

The others added their promises.

"Reade, you will take full charge here," continued Timothy Thurston. "Notify Mr. Howe, too, at once. You and he will not need to conflict with each other in any way. Also notify the president of the road, at the New York offices. Wire him at once. Now—thank you all, gentlemen. I believe I shall have to stop and go to sleep."

"Get out, all of you," came firmly from bearded, middle-aged Dr. Gitney. "You fellows now have your acting chief to look to, and you don't need to bother a sick man any more."

When Tom Reade stepped outside, on the heels of the others, he certainly didn't feel as though treading on air. Instead, he wondered if he were going to reel and totter, so dizzy did he feel over the sudden realization of the responsibilities he had taken upon himself.

"Give us our orders, chief," begged Matt Rice, with a grin, when Tom joined the others over by the mess tent.

"Wait a few moments," urged Reade. "I don't really know whether I am chief or a joke."



"Great Scott! After lecturing me the way you did, you are not going to get cold feet, are you?" gasped Jack Rutter.

"You'll know what I mean before long," Tom murmured. "I signaled to Dr. Gitney to follow me as soon as he could."

"How does it seem to know that you have only to beckon and that men must follow?" laughed Joe Grant. It is doubtful whether Tom, gazing at the chief's big tent, even heard.

Presently Dr. Gitney stepped outside and came toward them.

"Doctor," began Tom, "will you give me your word of honor that Mr. Thurston is in his right mind?"

"He certainly impresses me as being so," the physician replied.

"You fully believe that he knew just what he was doing?" Tom insisted.

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"I do, Reade. But why should you care? You have the reins in your own hands now."

"I wish to keep the reins there," Tom returned quickly. "Still I don't want to hold the power for an instant if there is reason to believe that Mr. Thurston didn't know what he was doing."

"If that is all you required of me, Reade, rest easy and go ahead with the big trust that has been placed in your hands," replied Dr. Gitney.

"Then help me to get a few things out of the chief's tent that we shall need," replied Tom.

"Tell me what the things are," rejoined the physician, "and I'll pass them out. I don't want one of you in there, or Thurston will soon be as delirious as Blaisdell is, poor fellow."

By stealth, drawing tables and instruments, several boxes of maps, books and papers and other necessary articles were taken from Mr. Thurston tent without awaking the sick man.

These were removed to a tent that was not occupied at the moment.

"Supper's ready, folks," announced Bob, the cook's helper, stepping softly through camp.

Tom joined the other engineers, taking a few hasty mouthfuls. Hardly had the party gathered in the mess tent when 'Gene Black, bright and cheery, stepped in swiftly, nodding here and there.

"Well, Rutter, I take it you are running the camp from now on?" asked Black.

"Guess just once more," replied Jack.

"Who is, then?"

"Mr. Reade."

Black gulped, then grinned.

"The cub? That's good!"

Black leaned back on his stool, laughing loudly.

"But who *is* going to boss the camp?" insisted Black, after he had had his laugh.

"Mr. Reade!" flung back the other engineers in one voice.

"What have you to say to this, cub?" asked 'Gene Black, turning to Tom.

"Mr. Thurston placed me in charge because no one else would assume the responsibility," smiled Tom good-humoredly.

"Then you're going to stay boss for the present?"

"Unless Mr. Thurston changes his mind."

"Oh, what a fool I was to be away this afternoon!" groaned Black to himself. "I could have gotten this chance away from a cub like Reade. Oh, but my real task would have been easy if I had been here on deck, and had got Thurston to turn matters over to me. Reade will be easy! He's only a cub—a booby. Even if he proved shrewd—well, I have at my disposal several ways of getting rid of him!"

Then, aloud, Black went on:

"Reade, I'm a candidate for the post of acting assistant chief engineer."

"That goes to Rutter, if he'll take it," replied Tom, with a smile.

"Oh, I'll take it," nodded Jack Rutter. "I can follow orders, when I have someone else to give them."

Tom was intentionally pleasant with 'Gene Black. He intended to remain pleasant—until he was quite ready to act.

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Immediately after supper Tom ordered one of the chainmen to saddle a pony and be ready to take a message back to the telegraph service that was rapidly overtaking them.

"I want you to be sure to get a receipt for the message from the operator," Tom explained. "Direct the operator to get the message through to New York at once."

"What's the use?" demanded the chainman. "It's night in New York, the same as it is here. If the message goes through at any time tonight it will do."

"I didn't ask you that," Tom replied quietly. "I told you to instruct the operator, from me, to send the message at once. Then, if there is any delay on the way, the message will still be in New York in the morning when the company's offices open."

Then Tom Reade went to the new headquarters' tent, seated himself at the desk and picked up a pen.

"Whew!" he muttered suddenly. "This message is going to be harder to write than I thought! When the president of the S.B. & L. gets my telegram, informing him that a cub is in command here, he'll blow up! If he recovers he'll wire me that he's sending a grown man for the job!"

## CHAPTER XIII

### BLACK TURNS OTHER COLORS

Through the night Tom Reade managed to get some sound sleep.

Had he been less exhausted physically the excitement caused by his sudden and dizzying promotion might have interfered with his rest. As it was, he slept like a log, though, by his own orders, he was called twice in the night to be informed as to the condition of the two sick men.

In the morning a male nurse for whom Dr. Gitney had arranged arrived in camp. Thereafter the physician had a little opportunity for rest.

Mr. Thurston reached the delirium stage in his illness that forenoon.

"Reade, I don't feel like going out this morning," announced 'Gene Black, approaching the young head of the camp after early breakfast.

"What's the matter?" Tom asked pleasantly.

"I have rather a bad headache," complained Black.

"That's a woman's complaint," smiled Tom.

"Just the same, I'm not fit for duty," retorted Black rather testily. "I hope I'm not going to come down with the fever, but I can't be sure."

"You'd better stay in camp, then," nodded Reade. "Don't go out into the field again until you feel like work."

"Humph! He takes it easily enough," grunted Black to himself as the young chief strode away to confer with Butter. "I wonder if the cub suspects the game I'm playing here? Oh, pshaw! Of course he doesn't suspect. Why should he? The truth is that Cub Reade doesn't realize how much every man is needed in the field. Reade doesn't understand the big need for hustle here. Well, that all helps to make my task the easier."

Within five minutes Rutter and the other engineers had their full instructions. As they started away Tom called after them:



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"Gentlemen, if there is any possible way of putting fifty per cent. more work into each day, now, I know I can rely upon you all to do it. The S.B. & L. must run its first train over the completed road within charter time."

Now, Tom had opportunity to wonder what had happened to Harry Hazelton, who should have been back in camp the preceding evening. "He must have had to go farther for ice than we imagined," was the only conclusion Reade could form. "At any rate, Harry won't come back until he has it. He won't bring back merely an excuse when his commission was for a ton of ice."

Tom wandered into the new headquarters' tent, heaved a big sigh as the weight of his new responsibilities struck him with full force, and began a systematic examination of all the piles of papers and maps now under his charge.

By nine o'clock Harry Hazelton and his guide returned, followed by a four-mule transport wagon.

Tom, hearing the approach, came out and beckoned. Harry rode up, dismounting.

"Well, I got the ice, you see," announced Hazelton.

"Did you have to go very far for it?"

"No; but you and I forgot to allow for the time that mules would need for rest on such a steep, uphill climb. Where is the ice to go?"

"Send the man over to Jake Wren. Jake knows more about such things than you or I will know within the next ten years."

Harry carried the order to the driver, then hurried back.

"How are our sick men?" he asked.

"Both alive, but delirious. Doc Gitney has a man nurse to help him now."

"Did Mr. Rutter leave any orders for me?" pressed Harry.

"No; Rutter is in charge of the actual field work only."

"Who gives the main orders?"

"I do—unless New York changes the plan."

Tom hastily narrated what had taken place in Mr. Thurston's tent the day before. Harry listened, his eyes growing larger as he heard.

“Tom! I’m mighty glad!” he cried delightedly. “You’re going to do the trick, too! You’re going to put the S.B. & L. through within the time allowed by the charter!”

“I’m going to do it or wear myself out,” replied Reade, with a glint of determination in his eyes. “But, Harry, the road isn’t going to go through on mere wind. We’ve got to work—not talk! Come into the new headquarters’ tent. Throw the front of your shirt open, take a few deep breaths, tie down the safety valve and get ready to make the steam fly. I’m going over the maps and documents, the field notes, the reports and what not. I want you to help me untangle them and set all matters straight.”

For two hours the cub engineers worked as they had never toiled before. Then a horseman drew up before their tent.

“Telegram for Reade, acting chief engineer,” called the man from saddle. “The czar over at the cook house told me I’d find my man here.”

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"I'm Reade," admitted Tom, stepping outside and receiving the envelope. "Do you belong with the telegraph construction crowd?"

"Yes, sir," replied the young horseman.

"How long before you expect to have the line up with the camp?"

"By tomorrow night, unless you move the camp forward again."

"That's good news," nodded Reade. "Wait until I see whether there is to be an answer to this message."

Tom stepped inside, breaking the flap of the envelope. From head to foot he trembled as his eyes took in the following message:

"Reade, Acting Chief Engineer.

"Relying upon Thurston's judgment, and from your satisfactory wire, conclude that Thurston chose right man for post. Assume all responsibilities. Advise New York offices daily as to condition of work, also condition Thurston and Blaisdell. Spare no expense in their care. Shall join you within five days."

(Signed) "Newnham, President S.B. & L. R.R."

Having read the telegram, Tom turned to pick up a sheet of paper. After jotting down the address of President Newnham, he added:

"Shall hustle job through rapidly if there is any way of doing it. Shall engage extra engineers in this state. Hope to be able to show you, on arrival, things moving at speed."

(Signed) Reade, "Acting Chief Engineer."

Then Tom shoved both despatches under his chum's eyes. Naturally Hazelton read the one from New York first.

"Whew! The president seems to trust you," murmured Harry.

"No; he doesn't," Tom retorted. "He doesn't know anything about me. His wire shows that he knows and trusts Mr. Thurston, the man who picked me out for this job."

Then Tom wrote a second despatch, addressed to the State University. It ran as follows:

“Have heard that your university has party from engineering school in field this summer. Can you place me in immediate wire communication with professor in charge of party? Have practical work to offer students.”

This also Tom showed briefly to his chum. Then, picking up the two telegrams, Tom stepped outside, turning them over to the rider. “Ask your operator to rush both of these, the one to New York going first.”

As the pony’s hoofs clicked against the gravel, Reade stepped inside the tent.

“What are you going to do with the State University students?” asked Harry curiously.

“Put ’em at work on the smaller jobs here,” Tom answered. “At least, as many of them as the professor will vouch for.”

Three hours later Tom received an answer to his local despatch. It was from Professor Coles, sixty miles away, in camp with a party of thirty engineering students. The professor asked for further particulars. Tom wired back:

“Can use your entire lot of students in practical railroad work, if they want experience and can do work. Will you bring them here with all speed and let us try them out? For yourself, we offer suitable pay for a man of your attainments. Students engaged will be paid all they are worth.”

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“Gracious, but you’re going in at wholesale! What will President Newnham say to you for engaging men at such a wholesale rate!”

“By the time he reaches here,” replied Tom in a tone that meant business, “either he will see results that will force him to approve—or else he’ll give me my walking papers.”

“Now, what shall we do?” inquired Hazelton.

“Nothing. It’s nearly time for the field force to be back in camp.”

“We’d better work every minute of the time,” urged Harry.

“We’re going to take things more easily after this,” Tom yawned.

“Is that what you mean by hustling?”

“In a way, yes,” Tom nodded. “See here, Harry, in the field we tried to do the work of a man and a half each, didn’t we? And here at the drawing tables, too.”

“Of course.”

“Now there is need of hustling, and, if we work too hard, we simply won’t have time to plan for others, or even to know what they’re doing. There are a lot of students coming, Harry. Most of them will be good men, for they’re young, full of enthusiasm, and just crazy to show what they can do. Some of them will doubtless be good draughtsmen. You’ll take these men and see to it that the drawing is pushed forward. But you won’t work too hard yourself. You’ll see to it that the force under you is working, and in that way you’ll be three times as useful as if you merely ground and dug hard by yourself. I shall go light on real work, just in order that I may have my eyes and brains where they will do the most good every minute of the time.”

Someone was approaching. Tom threw open the flap of the tent, thus discovering that the man was Black.

“Howdy, Reade,” was the greeting of the idle engineer. “I’m glad to say that my headache is better. I’m not going to have the fever, after all. Tomorrow I’ll be out on the leveling job.”

Tom shook his head.

“I want you to rest up tomorrow, Black.”

“I won’t do it,” retorted the other flatly. “Tomorrow I go out and continue running my levels.”



"Then I may as well tell you," Tom continued, "what I would have preferred to break to you more easily later on."

"What do you mean?" questioned the other sharply, an uneasy look creeping into his face.

"You're not going to do any more work for us, Black," replied the young chief coolly.

"Not do any more work, What do you mean, Reade? Am I discharged from this corps?"

"Not yet, Black, for I haven't the money at hand to pay you to date. So you may stay here until the paymaster comes. Then, when you have your full amount of pay, you can leave us."

"What does this mean?" demanded 'Gene Black angrily, as he stepped closer, his eyes blazing.

Some young men would have shrunk back before Black's menacing manner. Tom had never yet met the man who could make him really afraid.

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"I've already told you the whole story, Black."

"Why am I discharged?"

"I am not obliged to give you my reasons."

"You'll find you'll have to do so!" stormed 'Gene Black.

"Well, then," Tom answered, "you get through here because you kicked one of the tripod legs of your leveling instrument the other day, and left a mark on the wood."

"Don't you try to be funny with me, you young hound!" hissed Black, stepping so close that Tom gently pushed him back. "You young idiot! Do you think you can fire me—and get away with it?"

"We won't talk about it any more," Tom answered. "Your time will be all your own until the paymaster arrives. After you've received your money you will leave camp."

"Are any of the others going?"

"No."

"Then you're discharging me for personal reasons!" snarled 'Gene Black. "However, you can't do it! I'll wire the president of the road, at New York."

"He won't receive your wire," Tom assured the irate one. "President Newnham is on his way here. Probably he'll arrive here before the paymaster does. You may take your case to President Newnham in person if you wish."

"That's what I'll do, then!" breathed 'Gene Black fiercely. "And I'll take your place in charge here, cub! If I don't, *you* shall never finish the S.B. & L!"

## CHAPTER XIV

### BAD PETE MIXES IN SOME

Forty-Eight hours later Professor Coles arrived in camp with thirty healthy, joyous young students of engineering.

It didn't take Tom half an hour to discover that he had some excellent material here. As for the professor himself, that gentleman was a civil engineer of the widest experience.

"I shall need you to advise me, professor," Tom explained. "While I had the nerve to take command here, I'm only a boy, after all, and you'll be surprised when you find out how much there is that I don't know."

"It's very evident, Mr. Reade," smiled the professor, "that you know the art of management, and that's the important part in any line of great work."

The student party had brought their own tents and field equipment with them. Their arrival had been a total surprise in camp, as none of the other engineers, save Harry, had known what was in the wind.

"If these boys don't make mistakes by wholesale," declared Jack Butter, "we'll just boost the work along after this. I wonder why Mr. Thurston never hit upon the idea of adding such a force?"

"It's very likely he has been thinking of it all along," Tom rejoined. "The main point, however, is that we seem to have a bully field force."

Four of the students had been selected to serve as map-making force under Harry Hazelton. The rest were going out into the field, some of them as engineers in embryo, the rest as chainmen and rodmen.



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Though the field outfit now presented a lively appearance, all was kept as quiet as possible in and near the camp, for neither Mr. Thurston nor Mr. Blaisdell knew what was going on about them. Both were still delirious, and very ill.

"Now I see why you could afford to 'fire' me and let the work slack up for a while," sneered Black, meeting Reade after dark.

"Do you?" asked Tom.

"These boys will spoil the whole business. You don't seem to have any idea of the numbers of fool mistakes that boys can make."

"They're good fellows, anyway, and honest," Tom rejoined.

"Give some of 'em leveling work out on Section Nineteen," suggested 'Gene, apparently seized with a sudden thought. "Then compare their field notes with mine, and see how far out they are."

"I happen to know all about your leveling notes on Nineteen," Reade retorted rather significantly.

"What do you mean?" flared Black.

"Just before Mr. Thurston was taken ill, as it happened, Hazelton and I took a leveling instrument out on Nineteen one day and ran your sights over after you."

"So that's why you 'fired'-----" began Black, his thoughts moving swiftly. Then, realizing that he was about to say too much, he went on: "What did you find wrong with my sights on Nineteen?"

"I didn't say that anything was wrong with your work," Reade rejoined. "What I was about to say was that, if I put any of the students at leveling on Nineteen, by way of test, I shall have my own notes with which to compare theirs."

"Humph!" muttered the fellow. Then shaking with anger, he walked away from the young chief.

"Now, Black knows that much against himself," smiled Reade inwardly. "He doesn't yet know, however, that I heard him talking with Bad Pete."

Though he was pretending to take things easily, Tom's head was all but whirling with the many problems that presented themselves to him. To get away from it all for a while

Tom strolled a short distance out of camp, seating himself on the ground under a big tree not far from the trail.

Five minutes later the young chief heard halting footsteps that struck his ear as being rather stealthy. Someone, from camp, was heading that way. Stealth in the other's movements made Reade draw himself back into the shadow.

'Gene Black halted not far from the tree. Turning back toward the camp, the fellow shook his fist violently in that direction.

"He's certainly thinking of me," grimaced Reade.

"You young cub, you may laugh for a day or two more!" muttered Black, with another shake of his fist.

"If that's meant for me, I'm much obliged, I'm sure," thought Reade. "Laughing is always a great pleasure for me."

"It's your turn now," continued Black, in the same low, passionate tone, "but I'll soon have you blocked—or else under the sod!"

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"Oho!" reflected the young acting chief engineer, not without a slight shudder. "Is assassination in the plans of the people behind 'Gene Black's treachery? Or is putting me under the sod merely an addition that Black has made for his own pleasure?"

The plotter, still unaware of the eavesdropper, had now turned and was walking down the trail. He was now so far from camp that he did not need to be soft-footed.

Out of the shadow, after a brief pause, stole Tom Reade.

"If Black is going to meet anyone tonight I'd better be near to the place of meeting. I might hear something that would teach me just what to do to checkmate the plotters against us."

For fully half a mile the chase continued. Two or three times Reade stepped against some slight obstacle in the darkness, making a sound which, he feared, would travel to the ears of Black. But the latter kept on his way.

Finally 'Gene Black halted where three trees grew in the form of a triangle and threw a dense shadow. In the same instant the young chief engineer dropped out of sight behind a boulder close to the path.

Black's low, thrilling whistle sounded. A night bird's call answered. Soon afterwards, another form appeared, and Tom, peering anxiously, was sure that he recognized the man whom he expected to see—Bad Pete.

What Tom heard came disjointedly—a few words here and there, but enough to set him thinking "at the rate of a mile a minute," as he told himself.

Up the trail came the pair, after some minutes. Tom crouched flat behind his boulder.

"Great! I hope they'll halt within a few feet and go on talking about the things that I want to hear—*must* hear!" quivered Reade.

It was provoking! Black and Bad Pete passed so close, yet the only sound from either of them, while within earshot, was a chuckle from Pete.

"That's right! Laugh," gritted disappointed Tom. "Laughing is in your line! You're planning, somehow, to put the big laugh over the whole line of the S.B. & L. railroad. If I could only hear a little more I might be able to turn the laugh on you!"

The pair went on out of sight. Tom waited where he was for more than half an hour.

"Now, the coast is surely clear," thought Reade at last. He rose and started campward.

“The soft-foot, the rubber shoe won’t work now,” Tom decided. “If I were to go along as if trying not to run into anyone, and that pair got first sight of me, it would make them suspicious. I haven’t been eavesdropping—oh, no! I’m merely out taking a night stroll to ease my nerves.”

Therefore the cub chief puckered his lips, emitting a cheery whistling as he trudged along up the trail.

As it happened the pair whom Tom sought had not yet parted. From behind a boulder a man stepped out in his path. From the other side of the boulder another man moved in behind him.

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"Out for the air, Reade?" asked the sneering voice of 'Gene Black.

"Hello, Black—is that you?"

"Now, Black," broke in the voice of Bad Pete, "you wanted this cub, and he's all yours! What are you going to do with him?"

## CHAPTER XV

### BLACK'S PLOT OPENS WITH A BANG

"Some mistake here, gentlemen," interjected Tom Reade coolly. "Unless I'm very badly informed I don't belong to either of you. If anyone owns me, then I belong to the S.B. & L."

"I told you I'd make you settle with me for throwing me out of the camp," remarked Black disagreeably.

"You're not out yet—more's the pity," Tom retorted. "You will be, however, as soon as the paymaster arrives."

"You're wrong," jeered 'Gene. "You're out—from this minute!"

"What do you mean?" Tom inquired, looking Black steadily in the eye.

Yet the young chief engineer had a creepy realization of just what the pair *did* mean. Black must have confederates somewhere in the mountains near. It was evidently the rascal's intention to seize Tom and carry him away where he would be held a prisoner until he had lost all hope of regaining his position at the head of the railroad's field force.

"You say that I'll be thrown out of camp very soon," sneered Black. "The fact is, you are not going back to camp."

"What's going to stop me?" Reade inquired, with no sign of fear.

"You're not going back to camp!" Black insisted.

"Someone has been giving you the wrong tip," smiled Tom.

He started forward, brushing past Black. It was mainly a pretense, for Reade had no notion but that he would be stopped.

With a savage cry Black seized him by the shoulders.

Tom made a quick turn, shaking the fellow off. While he was thus occupied Bad Pete slipped about, and now confronted Reade. The muzzle of a revolver was pressed against the young engineer's belt.

"Hoist your hands!" ordered Pete warningly.

Tom obeyed, though he hoisted his hands only as far as his mouth. Forming a megaphone, he gave vent to a loud yell of:

"Roo-rup! roo-rup! roo-rup!"

It was one of the old High School yells of the good old Gridley days—one of the yells sometimes used as a signal of distress by famous old Dick & Co., of which Tom Reade had been a shining member.

On the still air of the mountain night that yell traveled far and clearly. It was a call of penetrating power, traveling farther than its sound would suggest.

"You do that again, you young coyote, and I'll begin to pump!" growled Bad Pete savagely.

"I won't need to do it again," Tom returned. "Wait a few minutes, and you'll see."

"Shall I drop him, Black?" inquired Pete.

'Gene Black was about to answer in the affirmative, when a sound up the trail caught his attention.

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"There's someone coming," snarled Black, using his keen powers of hearing.

"Wait and I'll introduce you," mocked Tom Reade.

"We won't wait. Neither will you," retorted Black. "You'll come with us. About face and walk fast!"

"I'm not going your way tonight," replied Reade calmly.

"If he doesn't obey every order like a flash, Pete, then you pull the trigger and wind this cub up."

"All right," nodded Pete. "Cub, you heard what Black said?"

"Yes," replied Tom, looking at Pete with smiling eyes.

"Then come along," ordered Black, seizing Tom by one arm.

"I won't!" Tom declared flatly.

"You know what refusal means. Pete is steady on the trigger."

"Is he?" asked Reade coolly.

Watching like a cat through his sleepy-looking eyes, Reade suddenly shot his right hand across his abdomen in such fashion as to knock away the muzzle of the revolver. Bad Pete felt himself seized in a football tackle that had been the terror of more than one opposing High School football player.

Crash! Pete struck the ground, Reade on top of him.

'Gene Black darted to the aid of his companion, but shrank back as he caught the glint of the revolver that Tom had twisted out of the hand of the bad man.

"Duck, Black!" warned Tom, in a quiet tone that nevertheless had a deadly note in it.

"Where are you?" called the voice of Harry Hazelton, not two hundred yards up the trail now.

"Here!" called Tom.

"Wow-ow-ow! Whoop!" yelled a chorus of college boys.

It all took place in a very few seconds. Black, hesitating whether or not to close with Reade, decided on flight. He turned and fled.

Whizz-zz-zz! The sound was made by the captured revolver as Tom, leaping to his feet, threw it as far from him as he could. It sailed through space, next disappearing over the edge of a steep precipice.

"What's your hurry, Peter?" drawled Reade, as, jerking Bad Pete to his feet, he planted a kick that sent the bad man down the trail a dozen feet.

Tom started after Pete, intent on another kick. Bad Pete sped down the trail blindly. Like most of his gun-play kind, he had little courage when deprived of his implement of murder.

"What's up, Tom?" demanded Harry Hazelton, leaping to the spot.

"What's the row, chief?" asked one of the university boys eagerly. "Anyone you want us to catch? Whoop! Lead the way to the running track while we show you our best time!"

"There's nothing to be done, I think," laughed Tom. "Do you all know Black by sight?"

"Yes," came the answer from a score of throats.

"Well," Tom continued, "if any of you ever catch sight of him in the camp again you are hereby authorized to run him out by the use of any kind of tactics that won't result fatally."



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On the way up the trail Tom told the rescue party something about the late affair.

However, Reade referred to it only as a personal quarrel, refraining from making any mention of the treachery of Black and of the plots of which that treacherous engineer was a part.

"If you've many friends like that one, chief, you had better strap a gun on to your belt."

"I don't like revolver carrying," Tom replied bluntly. "It always makes a coward of a fellow."

Two mornings later the telegraph wire, one end of which now rested in a tent in camp, brought word that President Newnham was at the construction camp, and would be along in the course of the day.

Tom, Harry and the draughtsmen were the only engineers in camp at the hour when the message arrived.

"Big doings coming our way!" announced Tom, after he had broken the news to the others.

"Is Mr. Newnham likely to make much of a shake-up?" asked Watson, one of the college-boy draughtsmen.

"I've never met him," Tom answered, "and I don't know. We're going along at grand old speed, and Mr. Newnham had better let things run just as they're going now, if he wants to see the S.B. & L. open for traffic within charter time."

"He may give all of us university boys the swift run," laughed another of the draughtsmen.

"I don't believe it," Tom replied. "The added help that you fellows have given us has enabled us to double our rush forward. I've a notion that President Newnham is a man of great common sense."

"How are the sick men this morning," inquired Harry. "Is either one of them fit to talk with the president?"

"Doc Gitney says he won't allow any caller within a thousand feet of his patients," Tom smiled. "And Doc seems to be a man of his word."

Both Mr. Thurston and Mr. Blaisdell were now weakly conscious, in a half-dazed sort of way. Their cases were progressing favorably on the whole, though it would be weeks ere either would be fit to take charge of affairs.

The camp had been moved forward, so as to leave the sick men about a fifth of a mile away from the scenes of camp activity. This insured quiet for them until they were able to endure noise once more.

"You'll be amazingly busy until the president gets here, I take it," remarked Bushrod, another college boy, without glancing up from his drawing table.

"Yes," drawled Tom, with a smile. "When you get time to breathe look out of the door and see what I'm doing."

Tom walked over to his favorite seat, a reclining camp chair that he had placed under a broad shade tree. Seating himself, the cub chief opened a novel that he had borrowed from one of the college boys.

"It looks lazy," yawned Tom, "but what can I do? I've hustled the corps, but I'm up with them to the last minute of work they've done. There is nothing more I can do until they bring me more work. I might ride out and see how the fellows are coming along in the field, but I was out there yesterday, and I know all they're doing, and everyone of their problems. Besides, if I rode afield, I'd miss Mr. Newnham."

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So he opened the book and read for an hour. Then he glanced up as a stranger on horseback rode into camp.

"Tell me where I can find Mr. Reade," said the new arrival.

"You're looking at him," Tom replied.

"No, son; I want your father," explained the horseman.

"If you go on horseback it will take you months to reach him," Tom explained. "My father lives 'way back east."

"But I want the chief engineer of this outfit," insisted the stranger.

"Then you're at the end of your journey."

"Don't tell me, young man, that you're the chief engineer," protested the horseman.

"No," Tom admitted modestly. "I'm only the acting chief. Hold on. If you think I'm not responsible for that statement you might ask any of the fellows over in the headquarters tent."

At that moment Harry Hazelton thrust his head out through the doorway.

"Young man," hailed the stranger, "I want to find the chief."

"Reach out your hand, and you can touch him on the shoulder," answered Hazelton, and turned back.

"I know I don't look entirely trustworthy," grinned Tom, "but I've been telling you the truth."

"Then, perhaps," continued the stranger, looking keenly at the cub engineer, "you'll know why I'm here. I'm Dave Fulsbee."

"You're mighty welcome, then," cried Tom, reaching out his hand. "I've been wondering where you were."

"I came as soon as I could get the wagon-load of equipment together," grinned Fulsbee.

"Where is the wagon?"

"Coming along up the trail. It will be here in about twenty minutes."

"I'll be glad to see your equipment, and to set you at work as soon as we're ready," Reade went on. "Harry, show Mr. Fulsbee the tent we've set aside for himself and his helper."

"Who is that party?" questioned Watson, as Hazelton started off with the newcomer in tow.

"Oh, just a new expert that we're taking on," Tom drawled.

Ten minutes later all other thoughts were driven from Reade's mind. A mountain wagon was sighted coming up the trail, drawn by a pair of grays. The stout gentleman, on the rear seat, dressed in the latest fashion, even to his highly polished shoes, must surely be all the way from Broadway.

"Mr. Newnham?" queried Tom, advancing to the wagon as it halted.

"Yes; is Mr. Reade here?"

"You're speaking to him, sir," smiled the cub engineer.

Mr. Newnham took a quick look, readjusted his spectacles, and looked once more. Tom bore the scrutiny calmly.

"I expected to find a very young man here, Mr. Reade, but you're considerably younger than I had expected. Yet Howe, in charge of the construction corps, tells me that you've been hustling matters at this field survey end. How are you, Reade?"

Mr. Newnham descended from the wagon, at once holding out his hand.

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"I'm very comfortable, thank you, sir," Tom smiled.

"You're dreadfully busy, I'm sure," continued the president of the S.B. & L. "In fact, Reade, I feel almost guilty in coming here and taking up your time when you've such a drive on. Don't let me detain you. I can go right on into the field and talk with you there."

"It won't be necessary, sir," Tom answered, with another smile. "I'm not doing anything in particular."

"Nothing in particular? Why, I thought----"

"I don't do any tearing around myself," laughed Reade. "Since you were kind enough to make me acting chief engineer here I've kept the other fellows driving pretty hard, and I have every bit of work done right up to the minute. Yet, as for myself, I have little to do, most of the day, except to sit in a camp easy chair, or else I ride a bit over the ground and see just where the fellows are working."

"You take it mighty easily," murmured President Newnham.

"A chief may, if he has the sense to know how to work his subordinates," Tom continued. "I don't believe, sir, that you'll find any fault with the way matters have gone forward."

"Let me see the latest reports," urged Mr. Newnham.

"Certainly, sir, if you'll come into the head-quarters tent."

Leading the way into the tent where Harry Hazelton and his draughting force were at work, Tom announced:

"Gentlemen, Mr. Newnham, president of the S.B. & L., wishes to look over the reports and the maps with me. You may lay off until called back to work."

As the others filed out of the tent, Tom made Harry a sign to remain. Then the three went over the details of what the field survey party was doing.

"From all I can see," remarked President Newnham, "you have done wonderfully well, Reade. I can certainly find no fault with Tim Thurston for recommending that you be placed in charge. Thurston will certainly be jealous when he gets on his feet again. You have driven the work ahead in faster time than Thurston himself was able to do."

"It's very likely, sir," replied Tom Reade, "that I have had an easier part of the country to work through than Mr. Thurston had. Then, again, the taking on of the engineer student party from the State University has enabled us to get ahead with much greater speed."

"I wonder why Thurston never thought to take on the students," murmured Mr. Newnham.

Bang! sounded an explosion, a mile or two to the westward.

"I didn't know that you were doing any blasting, Reade," observed the president of the S.B. & L.

"Neither did I, sir," Tom replied, rising and listening.

Bang! bang! bang! sounded a series of sharp reports.

Tom ran out into the open Mr. Newnham following at a slower gait.

Bang! bang! bang!

"Hi, there, Riley!" roared Tom promptly. "Saddle two horses as quickly as you can. Harry, make ready to follow with me as soon as the horses are ready."

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"Is anything wrong?" inquired the president. He was answered by more explosions in the distance.

"I'm afraid so," Tom muttered, showing his first trace of uneasiness. "However, I don't want to say, Mr. Newnham, until I've investigated."

Before the horses were ready Tom descried, half a mile away, on a clear bit of trail, a horseman riding in at a furious gallop.

"There comes a messenger, Mr. Newnham," Tom went on. "We'll soon know just what the trouble is."

"Trouble?" echoed Mr. Newnham, in astonishment. "Then you believe that is the word, do you?"

"I'm afraid, Mr. Newnham, that you've reached here just in time to see some very real trouble," was Reade's quick answer. "But wait just two minutes, sir, and we'll have exact information. Guessing won't do any good."

Once or twice, through the trees, they caught sight of the on-rushing rider. Then Jack Rutter, a big splotch of red on the left sleeve of his shirt, rode hard into camp.

"Reade," he shouted, "we're ambushed! Hidden scoundrels have been firing on us."

"You've ordered all the men in?" called Tom, as Rutter reined up beside him.

"Every man of them," returned Jack. "Poor Reynolds, of the student party, is rather seriously hit, I'm afraid. Some of the fellows are bringing him in."

"You're hit yourself," Tom remarked.

"What? That little scratch?" demanded Rutter scornfully. "Don't count me as a wounded man, Reade. There are some firearms in this camp. I want to get the men armed, as far as the weapons will go, and then I want to go back and smoke out the miserable rascals!"

"It won't be wise, Jack," Tom continued coolly. "You'll find that there are too many of the enemy. Besides, you won't have to fatigue yourselves by going back over the trail. The scoundrels will be here, before long. They doubtless intend to wipe out the camp."

"Assassins coming to wipe out the camp?" almost exploded President Newnham. "Reade, this is most extraordinary!"

"It is—very," Tom assented dryly.

“But who can the villains be?”

“A picked-up gang of gun-fighters, sent here to blow this camp off the face of the earth, since that is the only way that the backers of the rival road can find to set us back,” Tom rejoined. “If they drive us away from here, they’ll attack the construction force next!”

## **CHAPTER XVI**

### **SHUT OFF FROM THE WORLD**

Five horsemen belonging to the field party rode in furiously, Matt Rice at their head.

“It’s a shame,” yelled Rice, as he threw himself from his horse. “I’d have stayed behind—so would the others—if we had had rifles with us. The scoundrels kept up a fire at a quarter of a mile range. Then we passed the men who are carrying Reynolds—they’re almost here now—but it wouldn’t have done any good for us to stand by them. We’d have made the other party only a bigger mark. Where are the revolvers, Reader? We’ve got to make a stand here. We can’t run away and leave our camp to fall into their hands.”



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"We're not going to run away," said Reade grimly. "But I'll tell you what a half dozen of you can do. Hustle for shovels and dig a deep hole here. This gentleman is Mr. Newnham, president of the company that employs us. If the camp is attacked we can't afford to have the president of the road killed."

"Mr. Newnham would do far better to ride down the trail as fast as he can go, and try to join the construction camp," offered Rutter.

The president of the S.B. & L. had been silent during the last few exciting moments. But now he opened his mouth long enough to reply very quickly:

"Mr. Newnham hasn't any thoughts of flight. I am not a fighting man, and never saw a shot fired in anger in my life, but I'm going to stand my ground in my own camp."

"Dig the hole, anyway," ordered Tom. "We'll want a safe place to put young Reynolds. We can't afford to leave him exposed to fire."

"Where are the revolvers?" Rice insisted, as others started to get shovels and dig in a hurry.

"Oh, never mind the revolvers," replied Tom. "We won't use 'em, anyway. We can't, for they wouldn't carry far enough to put any of the enemy in danger."

"Mr. Reade," remarked Mr. Newnham, in a quiet undertone, "does it occur to you that you are making no preparations to defend the camp! That, in fact, you seem wholly indolent in the matter?"

"Oh, no; I'm not indolent, sir," smiled Tom. "You'll find me energetic enough, sir, I imagine, when the need for swift work comes."

"Of course you couldn't foresee the coming of any such outrage as this," Mr. Newnham continued.

"Oh, I rather guessed that this sort of thing was coming," Tom confessed.

"You guessed it—and yet the camp has been left undefended? You haven't taken any steps to protect the company's rights and property at this point?" gasped Mr. Newnham.

"You will find, sir, that I am not wholly unprepared," Reade remarked dryly, while the corners of his mouth drew down grimly.

Tom was apparently the only one in camp, after the excitement started, who had noted that Dave Fulsbee, at the first shots, had leaped to his horse and vanished down the trail to the eastward.

At this moment a party of a dozen, headed by Professor Coles, came in on foot, bearing young Reynolds with them.

“Harry, mount one of the saddled horses and rush down yonder for Doc Gitney,” Tom ordered. “Give him your horse to come back on. He must see to young Reynolds promptly.”

Some of the field party came in on horseback, followed soon by still others on foot. Many of the field engineering party, in their haste, had left their instruments, rods and chains behind.

Tom, after diving into and out of the headquarters tent, held up a pair of powerful binocular field glasses. With these he took sweeping views of the near-by hills to the westward.

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"The scoundrels haven't gotten in at close quarters yet, sir," Reade reported to President Newnham. "At least, I can't make out a sign of them on the high ground that commands this camp."

"This whole business of an armed attack on us is most incomprehensible to me," remarked Mr. Newnham. "I know, of course, that the W.C. & A. haven't left a stone unturned to defeat our efforts in getting our road running within the limits set in the charter. However, the W.C. & A. people are crazy to send armed assassins against us in the field in this fashion. No matter, now, whether we finish the road on time, this rascally work by the opposition will defeat their hopes of getting the charter away from us."

"It might prevent them from doing so, sir," Tom rejoined quietly, "if you were able to prove that the scoundrels who fired on our engineering parties this morning were really employed by the W.C. & A. railroad crowd."

"Prove it?" snorted the man from Broadway. "Who else would have any interest in blocking us?"

"Would that statement go in court, or before a legislature?" Tom pressed.

"No, it wouldn't," President Newnham admitted thoughtfully. "I see the point, Reade. After the scoundrels have done their worst against us, they can disperse, vanishing among the hills, and the W.C. & A. people will simply deny that they were behind the attack, and will call upon us to prove it."

"Not only that, sir," continued the cub chief engineer, "but I doubt if any of the officials of the W.C. & A. have any real knowledge that such a move is contemplated. This trick proceeds from the fertile mind of some clever, well-paid scoundrel who is employed in the opposition railroad's gloom department. It is a cleverly thought-out scheme to make us lose three or four days of work, which will be enough to prevent us from finishing the road on time. So, the enemy think that we must lose the charter, sir."

"That trick will never work," declared Mr. Newnham angrily. "Reade, there are courts, and laws. If the State of Colorado doesn't protect us in our work, then we can't be held to am count for not finishing within a given time."

"That's as the legislature may decide, I imagine, sir," hazarded the young engineer. "There are powerful political forces working to turn this road's charter over to the W.C. & A. crowd. Your company's property, Mr. Newnham, is entitled to protection from the state, of course. The state, however, will be able to reply that the authorities were not notified, and could not send protection to us."

“But we have a telegraph running from here out into the world!” cried the man from Broadway way, wheeling like a flash. “Reade, we’re both idiots not to have remembered, at the first shots, to send an urgent message to Denver. Where’s your operating tent?”

“Over there. I’ll take you there, sir,” offered Tom, after pointing. “Still it won’t do any good, Mr. Newnham, to think of telegraphing.”

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"Not do us any good?" echoed the other, aghast. "What nonsense are you talking, Reade? If we are hindered the feet of our having wired to the governor of the state will be our first proof of having appealed to the state for protection. Can't you see that, Reade?"

The pair now turned in at the operator's tent.

"Operator," said Reade, to the young man seated before the keys on a table, "this gentleman man is President Newnham, of the S.B. & L. Send any messages that he dictates."

"Get Denver on the wire," commanded Mr. Newnham. "Hustle!"

Click-click-click! rattled the sounder.

"It won't do a particle of good," Tom uttered calmly. "'Gene Black, the engineer discharged from this camp, is serving the enemy. Black has brains enough to see that our wire was cut before he started a thing moving."

Click-click-click! spoke the sounder again.

"I can't get a thing," explained the operator. "I can't even get a response from the construction camp. Mr. Reade must be right—our wire has been cut and we're shut off from the outside world."

## CHAPTER XVII

### THE REAL ATTACK BEGINS

Hearing the moving wheels of a wagon on the trail, Tom looked outside, then seized Mr. Newnham's arm rather roughly.

"Come along, sir, and come quickly, if you want to see something that will beat a carload of telegrams," urged the cub engineer.

Having gotten the president of the road outside, Tom let go of his arm and raced on before that astonished man from Broadway.

"Here, you fellows," called Tom, almost gayly, as he ran to where engineers and chainmen men were standing in little groups, talking gloomily over the forenoon's work. "Get in line, here—a whole crowd of you!"

Dave Fulsbee was now riding briskly toward the centre of the camp, ahead of the wagon for which he had gone down the trail. Laughing quietly, Tom hustled group after group of young men into one long line.

"Hold up your right hands!" called out the young cub engineer.

Wondering, his subordinates obeyed. Fulsbee reined up, dismounting before the line.

"They're all ready for you, friend," called Tom gayly.

"Listen, boys!" commanded Dave Fulsbee, as he faced the line on foot. "You do each and all of you, singly and severally, hereby swear that you will serve truly and well as special deputy sheriffs, and obey all lawful orders, so help you God?"

Almost in complete silence the hands fell as their owners nodded. Both the engineers and rodmen felt a trifle dazed. Why was this solitary deputy sheriff before them, and with what did he expect them to fight! Were they to stand and throw rocks at an enemy armed with rifles?

But just then the wagon was driven in front of them.

"Hustle the cases out, boys! Get 'em open!" commanded Dave, though he spoke without excitement. "Forty rifles and ten thousand cartridges, all borrowed from the National Guard of the State. Get busy! If the coyotes down to the westward try to get busy around here we will talk back to them!"

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"Whoop!" yelled the college boys. They pushed and crowded about the wooden cases that were now unloaded.

"See here," boomed in the deep voice of Professor Coles, "I wasn't sworn in, and I now insist that I, too, be sworn."

"Mr. Newnham, tell the professor that fighting is a boy's business, and that there isn't any call for him to risk himself," appealed Tom. "There are plenty of youngsters here to do the fighting and to take the chances."

"Surely, there appear to be enough men," chuckled President Newnham, who, since he realized that rifles and ammunition were at hand, appeared to be wonderfully relieved. "Professor, don't think of running yourself into any danger. Look on, with me."

"Rifles are all given out, now, anyway," called Dave Fulsbee coolly. "Now, youngsters, I'm going to show you where to station yourselves. Mr. Reade, have you seen anything through the glasses that looks interesting?"

"By Jove," Tom admitted, flushing guiltily, "I quite forgot to keep the lenses turned on the hills to the west."

He now made good for his omission, while Fulsbee led his young men away, stationing them in hiding places along the westward edge of the camp. Each man with a rifle was ordered not to rise from the ground, or to show himself in any way, and not to fire unless orders were given. Then Dave hurried back to the wagon. Something else was lifted out, all canvas covered, and rushed forward to a point just behind a dense clump of bushes.

"Reade, I want to apologize to you," cried the man from Broadway, moving quickly over to where Tom stood surveying the hills beyond through his glass. "I thought, for a few minutes, that you had suspected some such rascally work afoot, and that you had failed to take proper precautions."

"If I had failed, sir," murmured Tom, without removing the glass from before his eyes, "you would have arrived just in time, sir, to turn out of the camp a man who wasn't fit to be in charge. Yet it was only accident, sir, that led me to suspect what might be in the air."

Thereupon Tom hastily recounted to the president of the company the story of how he had accidentally overheard fragments of talk between 'Gene Black and Bad Pete.

"That gave me a hint of how the wind was blowing," Tom continued, "though I couldn't make out enough of their talk, on either occasion, to learn just what was happening. I telegraphed to the nearest town that had a sheriff in it, and that put me in touch with

Fulsbee. Then Dave, over the wire, offered to bring arms here and to help us to defend our camp."

"Mr. Reade," exclaimed President Newnham hoarsely, "you are a wonderful young man! While seeming to be idle yourself, you have rushed the work through in splendid shape." Even when our enemies plot in the dark, and plan incredible outrages against us, you fully inform yourself of their plans. When the cowards strike you are ready to meet them, force for force. You may be only a cub engineer, but you have an amazing genius for the work in which chance has placed you out here."



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"You may be guilty, Mr. Newnham, of giving me far more credit than I deserve," laughed Tom gently. "In the matter of finding out the enemy's designs, I didn't, and I don't know fully yet what the other side intends to do to us. What I did learn was by accident."

"Very few other young men would have been equal to making the greatest and best use of what accident revealed," insisted Mr. Newnham warmly.

Harry Hazelton came now, from the hole in the ground, to report that Dr. Gitney had done all he could for the comfort of poor young Reynolds.

"Gitney says that Reynolds ought to come along all right, as far as the mere wound itself is concerned," Hazelton added. "What will have to be looked out for is suppuration. If pus forms in and around the wound it may carry Reynolds off, for there are no hospital conveniences to be had in this wild neck of the woods."

"Is the doctor staying with Reynolds?" Tom asked, still using the glasses on the hilly country that lay ahead.

"No; he has gone back to Mr. Thurston and Mr. Blaisdell," Hazelton answered. "Doc says he'll have to be with them to quiet them in case the firing gets close. He says both men will become excited and try to jump out of bed and come over here. Doc says he's going to strap 'em both down."

"Dr. Gitney may be badly needed here, if a fight opens," Tom mused aloud.

"He says, if we need him, to send for him."

"Come through a hot fire?" Tom gasped.

"Surely! Doc Gitney is a Colorado man, born and bred. He doesn't mind a lead shower when it comes in the line of duty," laughed Harry. "Now, if you're through using me as a messenger, I'm going to find a rifle."

"You won't succeed," Tom retorted. "Every rifle in camp already has an amateur soldier behind it."

"Just my luck!" growled Harry.

"You're a good, husky lad," Tom continued. "If you want to be of real use, just lie down hug the earth, take good care not to be hit, and-----"

"Fine and manly!" interjected Hazelton with contempt.

"Now, don't try to be a hero," urged Tom teasingly. "There are altogether too many green, utterly inexperienced heroes here at present. Be useful, Harry, old chum, and let those who are good for nothing else be heroes."

"Following your own advice?" asked Hazelton. "Is that why you haven't a rifle yourself?"

"Why do I need a rifle?" demanded Reade. "I'm a non-combatant."

"You-----"

"Box the chatter, Harry, and ship it east," Tom interposed, showing signs of interest. Then, in a louder voice, Tom called:

"Dave Fulsbee!"

"Here," answered the deputy sheriff from his hiding place in the brush.

"Do you see that bald knob of rock ahead, to your left; about a quarter of a mile away?"

"I do."

"I make out figures crawling to the cover of the line of brush just to the right of the bald knob," Tom continued. "There are eight of them, I think."

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"I see figures moving there," Dave answered. Then, in a low voice, the deputy instructed the engineers on each side of him.

"I see half a dozen more figures—heads, rather—showing just at the summit line of the rock itself," went on Reade.

"Yes; I make 'em," answered Fulsbee, after a long, keen look.

Again more instructions were given to the engineers.

"Say, I've *got* to have a rifle," insisted Harry nervously. "You know, I always have been 'cracked, on target shooting. This is the best practical chance that I'll ever have."

"You'll have to wait your turn, Harry," Tom urged soothingly.

"My turn?"

"Yes; wait until one of our fellows is badly hit. Then you can take up his rifle and move into his place on the line. When you're hit, then I can have the rifle."

Hazelton made a face, though he said nothing.

Meanwhile Fulsbee's assistant, the man who had driven the wagon into camp, stood silent, motionless, behind the canvas-covered object in the bushes just behind the engineer's fighting line.

"Now, if one of you galoots dares to fire before he gets the word," sounded Dave Fulsbee's warning voice in the ominous calm that followed, "I'll snatch the offender out of the line and give him a good, sound spanking. The only man for me is the man who has the nerve to wait when he's being shot at."

Crack! Far up on the bald knob a single shot sounded, and a bullet struck the ground about six feet from where Tom Reade stood with the binocular at his eyes.

Then there came a volley from the right of the rock, followed by one from the rock itself.

"Easy, boys," cautioned Fulsbee, as the bullets tore up the ground back of the firing line. "I'll give you the word when the time comes."

Another volley sounded. Bullets tore up the ground near President Newnham, and one leaden pellet carried off that gentleman's soft hat.

"Please lie down, Mr. Newnham," begged Tom, turning around. Now that the fight had opened the cub chief saw less use for the binocular. "We can't have you hit, sir. You're the head of the company, please remember."



"I don't like this place, but I'm only one human life here," the man from Broadway replied quietly, gravely. "If other men so readily risk their lives for the property of my associates and myself, then I'm going to expose myself at least as much as these young men ahead of us do."

"Just one shot apiece," sounded Dave Fulsbee's steady voice. "Fire where you've been told."

It was an irregular volley that ripped out from the defenders of the camp. Half of the marksmen fired to the right of the rook, the others at its crest.

Right on top of this came another volley, fired from some new point of attack. It filled the air at this end of the camp with bullets.

"Livin' rattlers!", cried Dave Fulsbee, leaping to his feet. "That's the real attack. Reade, locate that main body and turn us loose on 'em. If you don't, the fellows in the real ambush will soon make a sieve of this camp. There must be a regiment of 'em!"

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## CHAPTER XVIII

### WHEN THE CAMP GREW WARM

President Newnham had prudently decided to lie down flat on the ground.

Nor was it any reflection on his courage that he did so. He was taking no part in the fight, and the leaden tornado that swept the camp from some unknown point was almost instantly repeated.

At the same time the marksmen on and at the right of the bald knob continued to fire. The camp defenders were in a criss-cross of fire that might have shaken the nerves of an old and tried soldier.

Tom watched the ground as bullets struck, trying to decide their original course from the directions in which the dust flew. Then he swung around to the right.

With modern smokeless powder there was no light, bluish haze to mark the firing line of the new assailants. Tom Reade had to search and explore with his binocular glass until he could make out moving heads, waving arms.

"I've found 'em, Fulsbee!" young Reade cried suddenly, above the noise of rifles within a few yards of where they stood, as the engineers made the most of their chances to fire. "Turn the same way that I'm looking. See that blasted pine over there to your right, about six hundred there to the gully southeast of the tree. Got the line? Well, along there there's a line of men hidden. Through the glass I can sometimes make out the flash of their rifles. Take the glass yourself, and see."

Dave Fulsbee snatched the binoculars, making a rapid survey.

"Reade," he admitted, "you have surely located that crowd."

"Now, go after them with your patent hay rake," quivered Tom, feeling the full excitement of the thing in this tantalizing cross fire. Then the cub added, with a sheepish grin:

"I hope you'll scare 'em, instead of hitting 'em, Dave."

Fulsbee stepped over to his assistant. Between them they swung the machine gun around, the assistant wrenching off the canvas cover. Fulsbee rapidly sighted the piece for six hundred yards. The assistant stood by to feed belts of cartridges, while Dave took his post at the firing mechanism.

Cr-r-r-r-rack! sounded the machine gun, spitting forth a pelting storm of lead. As the piece continued to disgorge bullets at the rate of six hundred a minute, Dave, a grim

smile on his lips, swung the muzzle of the piece so as to spread the fire along the entire line of the main ambush.

“Take the glass,” Tom roared in Harry’s ear, above the din. “See how Fulsbee is throwing up dust and bits of rock all along that rattled line.”

Hazelton watched, his face showing an appreciative grin.

“It has the scoundrels scared and going!” Hazelton yelled back.

Fully fifteen hundred cartridges did the machine gun deliver up and down that line.

Then, suddenly, Dave Fulsbee swung the gun around, delivering a hailstorm of bullets against the bald knob rock and the bushes to the right of it.

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"There's the answer!" gleefully uttered Hazelton, who had just handed the glass back to his chum.

The "answer" was a fluttering bit of white cloth tied to a rifle and hoisted over the bushes at the right of the bald knob.

"Who do you suppose is holding the white cloth?" chuckled Tom.

"I can't guess," Harry confessed.

"Our old and dangerous friend Peter," Tom laughed.

"Bad Pete!"

"No; Scared Pete."

There was a sudden twinkle in Hazelton's eyes as he espied Dave Fulsbee's rifle lying on the ground beside the machine gun.

In another instant Harry had that rifle and was back at Tom's side.

Harry threw open the magazine, making sure that there were cartridges in the weapon. Then he dropped to one knee, taking careful sight in the direction of the white flag.

"You idiot—what are you doing?" blazed Tom.

The fire from the camp had died out. That from the assailants beyond had ceased at least thirty seconds earlier.

One sharp report broke the hush that followed.

"Who's doing that work? Stop it!" ordered Fulsbee, turning wrathfully.

"I'm through," grinned Harry meekly.

"What do you mean by shooting at a flag of truce?" demanded the deputy sheriff angrily.

"I didn't," Harry argued, laying the rifle down on the ground. "I sent one in with my compliments, to see whether the fellow with the white rag would get the trembles. I guess he did, for the white rag has gone out of sight."

"They may start the firing again," uttered Dave Fulsbee. "They'll feel that you don't respect their flag of truce."

"I didn't feel a heap of respect for the fellow that held up the white flag," Hazelton admitted, with another grin. "It was Bad Pete, and I wanted to see what his nerve was like when someone else was doing the shooting and he was the target."

"Peter simply flopped and dropped his gun, Tom declared.

"Say," muttered Harry, his face showing real concern, "I hope I didn't hit him."

"Did you aim at him?" demanded Tom.

"I did not."

"Then there *is* some chance that Peter was hit," Tom confessed. "Harry, when you're shooting at a friend, and in a purely hospitable way, always aim straight for him. Then the poor fellow will have a good chance to get off with a whole skin!"

"Cut out that line of talk," ordered Hazelton, his face growing red. "Back in the old home days, Tom, you've seen me do some great shooting."

"With the putty-blower—yes," Tom admitted, with a chuckle. "Say, wasn't Old Dut Jones, of the Central Grammar, rough on boys who used putty-blowers in the schoolroom?"

"If Pete was hit, it wasn't my shot that did it," muttered Harry, growing redder still. "I aimed for the centre of that white rag. If we ever come across the rag we'll find my bullet hole through it. That was what I hit."



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Deputy Dave's assistant was now cleaning out the soot-choked barrels of the machine gun, that the piece might be fit for use again as soon as the barrels had cooled.

"I reckon," declared Dave, "that our friends have done their worst. It's my private wager that they're now doing a foot race for the back trails."

"Is any one of our fellows hit?" called Tom, striding over to the late firing line. "Anyone hit? If so, we must take care of him at once."

Tom went the length of the line, only to discover that none of the camp's defenders had been injured, despite the shower of bullets that had been poured in during the brief but brisk engagement. Three of the engineers displayed clothing that had been pierced by bullets.

"Dave," called Tom, "how soon will it be safe to send over to the late strongholds and find out whether any of Naughty Peter's friends have any hurts that demand Doc Gitney's attention?"

"Huh! If any of the varmints are hit, I reckon they can wait," muttered Fulsbee.

"Not near this camp!" retorted Reade with spirit. "If any human being around here has been hurt he must have prompt care. How soon will it be safe to start?"

"I don't know how soon it will be safe," Dave retorted. "I want to take about a half dozen of the young fellows, on horseback, and ride over just to see if we can draw any fire. That will show whether the rascals have quit their ambushes."

"If they haven't," mocked Tom, "they'll also show your little party some new gasps in the way of excitement."

Nevertheless Reade did not object when Fulsbee called for volunteers. If any new firing was to be encountered it was better to risk a small force rather than a large one.

Harry Hazelton was one of the six volunteers who rode out with Deputy Dave. Though they searched the country for miles they did not encounter any of the late raiders. Neither did they find any dead or wounded men.

The abandoned transits and other instruments and implements were found and brought back to camp.

While this party was absent Tom took Mr. Newnham back to headquarters tent, where he explained, in detail, all that had been accomplished and all that was now being done.

Late in the afternoon Dave Fulsbee and his little force returned. Tom listened attentively to the report made by the sheriff's officer.

"They've cheated you out of one day's work, anyway," muttered the man from Broadway, rather fretfully.

"We can afford to lose the time," Tom answered almost carelessly. "Our field work is well ahead. It's the construction work that is bothering me most. I hope soon to have news as to whether the construction outfit has been attacked."

"The wires are all up again, sir," reported the operator, pausing at the doorway of the tent. "The men you sent back have mended all the breaks. I've just heard from the construction camp that none of the unknown scoundrels have been heard from there."

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"They found you so well prepared here," suggested President Newnham, "that the rascals have an idea that the construction camp is also well guarded. I imagine we've heard the last of the opposition."

"Then you're going to be fooled, sir," Tom answered, very decisively. "For my part, I believe that the tactics of the gloom department of the W.C. & A. have just been commenced. Fighting men of a sort are to be had cheap in these mountains, and the W.C. & A. railroad is playing a game that it's worth millions to win. They're resolved that we shan't win. And I, Mr. Newnham, am determined that we shall win!"

## CHAPTER XIX

### SHERIFF GREASE DROPS DAVE

Tom's prediction came swiftly true in a score of ways.

The gloom department of the W.C. & A. immediately busied itself with the public.

The "gloom department" is a comparatively new institution in some kinds of high finance circles. Its mission is to throw gloom over the undertakings of a rival concern. At the same time, through such matter as it can manage to have printed in some sorts of newspapers the gloom department seeks to turn the public against its business rivals.

That same day news was flashed all over the country that a party of railway engineers, led by a mad deputy sheriff had wantonly fired on a party of travelers who had had the misfortune to get upon the building railway's right of way.

In many parts of Colorado a genuine indignation was aroused against the S.B. & L. President Newnham sought to correct the wrong impression, but even his carefully thought out statements were misconstrued.

The W.C. & A., though owned mainly abroad, had some clever American politicians of the worst sort in its service. Many of these men were influential to some extent in Colorado.

The sheriff of the county was approached and inflamed by some of these politicians, with the result that the sheriff hastened to the field camp, where he publicly dismissed Dave Fulsbee from his force of deputies. The sheriff solemnly closed his fiery speech by demanding Dave's official badge.

"That's funny, but don't mind, Dave," laughed Tom, as he witnessed the handing over of the badge. "You won't be out of work."

“Won’t be out of work, eh?” demanded Sheriff Grease hotly. “Just let him wait and see. There isn’t a man in the county who wants Dave Fulsbee about now.”

“Then what a disappointed crowd they’re going to be,” remarked Tom pleasantly, “for Mr. Newnham is going to make Dave chief of detectives for the company, at a salary of something like six thousand a year.

“He is, oh?” gulped down Sheriff Grease. “I’ll bet he won’t. I’ll protest against that, right from the start.”

“Dave will be our chief of detectives, if you protest all night and some more in the morning,” returned Tom Reade. “And Dave, I reckon, is going to need a force of at least forty men under him. Dave will be rather important in the county, won’t he, sheriff, if he has forty men under him who feel a good deal like voting the way that Dave believes? A forty-man boss is quite a little figure in politics, isn’t he, sheriff?”

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Grease turned nearly purple in the face, choking and sputtering in his wrath.

"Come along, Dave, and see if that job as chief detective is open today," urged Tom, drawing one arm through Fulsbee's. "If you're interested in knowing the news, sheriff, you might wait."

"I'll-----" ground out Grease, gritting his teeth and clenching one fist. Tom waited patiently for the county officer to finish. Then, as he didn't go further, Reade rejoined, half mockingly:

"Exactly, sheriff. That's just what I thought you'd do."

Then Tom dragged Dave down to the headquarters tent, where they found the president of the road.

"Mr. Newnham," began Tom gravely, "the sheriff has just come to camp and has discharged Fulsbee from his force of deputies, just because Fulsbee acted as a real law officer and stopped the raid on the road. I have told Mr. Fulsbee, before Sheriff Grease, that you are going to make him chief of detectives for the road at a salary of about six thousand a year."

Mr. Newnham displayed his astonishment very openly, though he did not speak at first.

"That's all right," replied President Newnham. "Mr. Fulsbee, do you accept the offer of six thousand as chief detective for the road,"

"Does a man accept an invitation to eat when he's hungry?" replied Dave rather huskily.

"Then it's settled," put in Tom, anxious to clinch the matter, for he had a very shrewd idea that he would need Dave badly ere long. "Now, Mr. Newnham, until we get everything running smoothly, Mr. Fulsbee ought to have a force of about forty men. They will cost seventy-five dollars a month, per man, with an allowance for horses, forage, etc. Hadn't Mr. Fulsbee better get his force together as soon as possible? For I am certain, sir, that the next move by the opposition will be to tear up and blow up our tracks at some unguarded points. At the same time, sir, I feel certain that we can get far more protection from Chief of Detectives Fulsbee's men than from a man like Sheriff Grease."

"Reade?" returned President Newnham, "it is plain to be seen that you lose no time in making your plans or in arranging to put them into execution. I imagine you're right, for you've been right in everything so far. So arrange with Mr. Fulsbee for whatever you think may be needed."

“Thank you, sir,” murmured Tom. Then he signaled Fulsbee to get out of the tent, and followed that new official.

“Never hang around, Dave, after you’ve got what you want,” chuckled Tom. “Hello, Mr. Sheriff! This is just a line to tell you that Fulsbee has a steady job with the company, and that he’ll need the services of at least forty men, all of whom must be voters in this county. The pay will be seventy-five a month and keep, with extra allowance for horses.”

Sheriff Grease didn’t look much more pleasant than he felt.

“Are you homeward bound—when you go?” continued Reade.

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The sheriff nodded.

"Then you might spread the word that men are needed, and tell the best men to apply to Dave Fulsbee, at this camp," suggested Tom. "Be strong on the point that all applicants have to be voters in this county."

"I will," nodded the sheriff, choking down his wrath by a great effort. "Dave won't have any trouble in getting good men when I spread the word. You're a mighty good fellow, Dave. I always said it," added the sheriff. "I'm sorry I had to be rough with you, but---but-----"

"Of course we understand here that orders from a political boss have to be obeyed," Tom added good-naturedly. "We won't over-blame you, Mr. Grease."

The sheriff rode away, Tom's smiling eyes following him.

"That touch about your having forty voters at your beck and call must have stuck in the honorable sheriff's crop, Dave," chuckled the cub chief engineer.

"I reckon it does," drawled Dave. "A man like Grease can't understand that a man of my kind wouldn't ask any fellow working for him what ticket he voted for on election day. You certainly hit the sheriff hard, Mr. Reade. In the first place, six thousand a year is a lot more money than the sheriff gets himself. Forty voters are fully as many as he can control, for which reason Grease, in his mind's eye, sees me winning his office away from him any day that I want to do so."

Ere three days had passed Sheriff Grease had lost fully half of his own force, and some of his controlled voters as well, for many of his deputies flocked to serve under Dave Fulsbee. The rest of the needed detectives also came in, and Dave was soon busy posting his men to patrol the S.B. & L. and protect the workers against any more raids by armed men.

After a fortnight student Reynolds recovered sufficiently to be sent to Denver, there to complete his work of recovering from his wound. President Newnham also saw to it that Reynolds was well repaid for his services.

The camp moved on. Soon Lineville was sighted from the advanced camp of the engineers. As Lineville was to be the western terminus of the new railroad the work of the field party was very nearly finished.

President Newnham, who was all anxiety to see the first train run over the road, remained with the field engineers.

"I couldn't sleep at night, if I were anywhere else than here," explained the president, "though I feel assured now that the W.C. & A. will make no more efforts, in the way of violence; to prevent us from finishing the building of the road."

"Then you're more trustful than I am," smiled Tom Reade. "What's worrying me most of all is that I can't quite fathom in what way the W.C. & A's gloom department will plan to stop us. That they have some plan—and a rascally one—I'm as certain, sir, as I am that I'm now speaking with you."

"Has Fulsbee any suspicions?" inquired Mr. Newnham.



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"Loads of 'em," declared Tom promptly.

"What does he think the W.C. & A. will try to do?"

"Dave's suspicions, Mr. Newnham, aren't any more definite than mine. He feels certain, however, that we're going to have a hard fight before we get the road through."

"Then I hope the opposition won't be able to prevent us from finishing," murmured Mr. Newnham.

"Oh, the enemy won't be able to hinder us," replied Tom confidently. "You have a Fulsbee and a Reade on the job, sir. Don't worry. I'm not doing any real worrying, and I promise you that I'm not going to be beaten."

"It will be a genuine wonder if Reade is beaten," reflected Mr. Newnham, watching the cub's athletic figure as Tom walked through the centre of the camp. "I never knew a man of any age who was more resourceful or sure to win than this same cub, Tom Reade, whose very name was unknown to me a few weeks ago. Yet I shiver! I can't help it. Men just as resourceful as Tom Reade are sometimes beaten to a finish!"

## CHAPTER XX

### MR. NEWNHAM DROPS A BOMB

The field work was done. Yet the field engineers were not dismissed. Instead, they were sent back along the line. The construction gang was still twelve miles out of Lineville, and the time allowed by the charter was growing short.

At Denver certain politicians seemed to have very definite information that the S.B. & L. R.R., was not going to finish the building of the road and the operating of the first through train within charter time.

Where these politicians had obtained their news they did not take the trouble to state.

However, they seemed positive that, under the terms of the charter, the state would take over as much of the railroad as was finished, pay an appraisal price for it, and then turn the road over to the W.C. & A. promoters to finish and use as part of their own railway system.

These same politicians, by the way, were a handful of keen, unscrupulous men who derived their whole income from politics, and who had always been identified with movements that the better people of the state usually opposed.

Mr. Thurston and his assistant, Blaisdell, were now able to be up and to move about a little, but were not yet able to travel forward to the point that the construction force had now reached. Neither Thurston nor Blaisdell was in fit shape to work, and would not be for some weeks to come.

Mr. Newnham, who had learned in these weeks to ride a horse, came along in saddle as Tom and Harry stood watching the field camp that was now being rapidly taken down by the few men left behind.

"Idling, as usual, Reade?" smiled the president of the road.

"This time I seem to have a real excuse, sir," chuckled Tom. "My work is finished. There isn't a blessed thing that I could do, if I wanted to. By tomorrow I suppose you will be paying me off and letting me go."

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"Let you go—before the road is running?" demanded Mr. Newnham, in astonishment. "Reade, have you noted any signs of my mind failing lately?"

"I haven't, sir."

"Then why should you imagine that I am going to let my chief engineer go before the road is in operations?"

"But I was acting chief, sir, only of the field work."

"Reade," continued Mr. Newnham, "I have something to tell you. Thurston has left our employ. So has Blaisdell. They are not dissatisfied in any way, but neither man is yet fit to work. Besides, both are tired of the mountains, and want to go east together as soon as possible and take up some other line of engineering work. So—well, Reade, if you want it, you are now chief engineer of the S.B. & L. in earnest."

"Don't trifle with me, sir!" begged Tom incredulously. "I'm too far from home."

"No one has ever accused me of being a humorist," replied Mr. Newnham dryly. "Now tell me, Reade, whether you want the post I have offered you?"

"Want it?" echoed Tom. "Of course I do. Yet doesn't it seem too 'fresh' in a cub like myself to take such a post?"

"You've won it," replied the president. "It's also true that you're only a cub engineer in years, and there are many greater engineers than yourself in the country. You have executive ability, however, Reade. You are able to start a thing, and then put it through on time—or before. The executive is the type of man who is most needed in this or any other country."

"Is an executive a lazy fellow who can make others work!" asked Reade.

"No; an executive is a man who can choose other men, and can wisely direct them to big achievements. An executive is a director of fine team play. That describes you, Reade. However—you haven't yet accepted the position as chief engineer of the S.B. & L."

"I'll end your suspense then, sir," smiled the cub. "I *do* accept, and with a big capital 'A'."

"As to your salary," continued Mr. Newnham, "nothing has been said about that, and nothing need be said until we see whether the road is operating in season to save its charter. If we save our charter and the road, your salary will be in line with the size of the achievement."

“If we should lose the charter, sir,” Tom retorted, his face clouding, “I don’t believe I’d take any interest in the salary question. Money is a fine thing, but the game—the battle—is twenty times more interesting. However, I’m going to predict, Mr. Newnham, that the road WILL operate on time.”

“I believe you’re going to make good, Reade, no matter what a small coterie of politicians at Denver may think. I never met a man who had success stamped more plainly on his face than you have. By the way, I shall ask you to keep Mr. Howe as an assistant. You still have the appointment of one other assistant, in place of Mr. Blaisdell.”

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"I know the fellow I'd like to appoint," cried Tom eagerly.

"If you're sure about him, then go ahead and appoint him," responded the president of the S.B. & L. railway.

"Hazelton!" proclaimed Tom. "Good, old dependable Harry Hazelton!"

"Hazelton would be a wise choice," nodded Mr. Newnham.

"Harry!" called Reade, as his chum appeared in the distance. "Come here hustle!"

Mr. Newnham turned away as Hazelton came forward. Tom quickly told his chum the news.

"I? Assistant chief engineer?" gasped Harry, turning red. "Whew, but that's great! However, I'm not afraid of falling down, Tom, with you to steer me. What's the pay of the new job!"

"Not decided," rejoined Tom. "Wait until we get the road through and the charter is safe."

"Never mind the wages. The job's the thing, after all!" cried Harry, his face aglow. "Whew! I'll send a letter home tonight with the news."

"Make it a small post card, then, concealed under a postage stamp," counseled Reade dryly. "We've work ahead of us—not writing."

"What's the first thing you're going to do?" inquired Hazelton.

"The first thing will be to get on the job."

"You're going back to the construction force?"

"I am."

"When?"

"Well, we start within five minutes."

"Whew!"

His face still aglow with happiness, Harry Hazelton bounded off to his tent. Tom called to one of the men to saddle two horses, and then followed.

"You're going back to the construction camp?" inquired Mr. Newnham, looking in at the doorway.

"As fast as horses can take us, sir," Tom replied, as he whipped out a clean flannel shirt and drew it over his head.

"I'm going with you," replied Mr. Newnham.

"You'll ride fast, if you go with us, sir," called Tom.

"I can stand it, if you can, Reade. Your enthusiasm and speed are 'catching,'" replied the president, with a laugh, as he started off to give orders about his horse.

"If the president is going with us, then we'll have to take two of Dave Fulsbee's men with us," mused Tom aloud to his chum. "It would never do to have our president captured just before we're ready to open the road to traffic."

The orders were accordingly given. Tom then appointed one of the chainmen to command the camp until the construction gang came up.

Just seven minutes after he had given the first order, Tom Reade was in saddle. Hazelton was seated on another horse some thirty seconds afterward. The two railroad detectives rode forward, halting near by, and all waited for Mr. Newnham.

Nor did the president of the S.B. & L. delay them long. During his weeks in camp in the Rockies the man from Broadway had learned something of the meaning of the word "hustle."

As the party started Tom ordered one of the detectives to ride two hundred yards in advance of the party, the other the same distance to the rear.

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"Set a good pace, and keep it," called Tom along the trail. Shortly after dark the party reached the construction camp, which now numbered about five hundred men.

Assistant Chief Engineer Howe appeared more than a little astonished when he learned that Tom Reade was the actual chief engineer of the road. However, the man who had been in charge so far of the construction work made no fuss about being supplanted.

"Show me what part of the work you want me to handle," offered Howe, "and you'll find me right with you, Mr. Reade."

"Thank you," responded Tom, holding out his hand. "I'm glad you feel no jealousy or resentment. There's just one thing in life for all of us, now, and that is to win the fight."

Howe produced the plans and reports, and the three—for Hazelton was of their number—sat up until long after midnight laying out plans for pushing the work faster and harder.

At four in the morning, while it was still dark, Tom was up again. He sat at the desk, going over the work once more until half past five o'clock. Then he called Harry and Howe, and the trio of chiefs had a hurried breakfast together.

At six in the morning Mr. Newnham appeared, just in time to find Tom and Harry getting into saddle.

"Not going to stay behind and sit in an easy chair this morning, Reade?" called the president.

"Not this, or any other morning, sir," Tom replied.

"You amaze me!"

"This construction work requires more personal attention, sir. I may have twenty minutes to dream, in the afternoon, but my mornings are mortgaged each day, from four o'clock on."

An hour later Mr. Howe joined Reade and Hazelton in the field. Tom had already prodded three or four foremen, showing them how their gangs were losing time.

"If we get the road through on time, and save the charter," Tom called, on leaving each working party, "every laborer and foreman is to have an extra week's pay for his loyalty to us."

In every instance that statement brought forth a cheer.

"Did Mr. Newnham tell you that you could promise that?" inquired Harry.

"No," said Tom shortly.

"Then aren't you going a bit far, perhaps!"

"I don't care," retorted Tom. "Victory is the winning of millions; defeat is the loss of millions. Do you imagine Mr. Newnham will care about a little thing such as I've promised the men? Harry, our president is a badly worried man, though he doesn't allow himself to show it. Once the road is finished, operating and safe, he won't care what money he has to spend in rewards. He-----"

Tom did not finish his words. Instead he dug his heels into his pony, bringing his left hand down hard on that animal's flank.

"Yi, yi, yi! Git!" called Tom, bending low over his mount's neck. He drove straight ahead. Hazelton looked astonished for a space of five seconds, then started in pursuit of his chum and chief.



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It was not long ere Tom reined in, holding up a hand as a signal to Harry to do the same thing.

"Here, hold my horse, and stay right here," ordered the young chief.

"Tom, what on earth-----"

Tom Reade was already a hundred yards away, running in amid the brush. At last he halted, studying the ground earnestly. Then Reade disappeared.

"One thing I know, anyway," muttered the puzzled Hazelton, "Tom is not crazy, and he doesn't dash off like that unless he has something real on his mind." The minutes passed. At last Tom came back, walking energetically. He took his horse's bridle and leaded into saddle.

"Harry, ride back, hard, and send me two or three of the railroad detectives, unless you happen to meet some of them this side of the camp. I want the men on the rush. Don't fail to tell 'em that."

"Any—er—explanations" queried Hazelton.

"For you—yes—but don't take the time to pass the explanation on to the men. Just hustle 'em here. When I started my horse forward it was because I caught sight of 'Gene Black's head over the bush tops. I found a few of his footprints, then lost the trail. Send Dave Fulsbee along, too, if you have the luck to see him. I want 'Gene Black hunted down before he does some big mischief. Now—ride!"

Harry Hazelton went back over the trail at a gallop.

Not until he reached camp did he come upon Fulsbee's men. These he hustled out to find Tom.

Two hours later Reade came back over the trail, at a slow jog. The young chief engineer looked more worried than Hazelton had ever seen his chum look before.

## CHAPTER XXI

### THE TRAP AT THE FINISH

A number of days passed, days full of worry for the young chief engineer. Yet, outwardly, Tom Reade was as good-humored and cheery as ever.

He was sure that his eyes had played him no trick, and that he really had seen 'Gene Black in the brush.

The presence of that scoundrel persuaded Tom that someone working in the interests of the W.C. & A. Railroad Company was still employing Black in an attempt to block the successful completion of the S.B. & L.

Moreover, the news that Dave Fulsbee received from Denver showed that two of the officials of the W.C. & A. were in that city, apparently ready to proceed to get possession of the rival road.

Politicians asserted that it was a "cinch" that the new road would fall short of the charter requirement in the matter of time.

"All this confidence on the part of the enemy is pretty fair proof that the scoundrels are up to something," Tom told Mr. Newnham.

"Or else they're trying to break down our nerve so that we'll fail through sheer collapse," replied the president of the S.B. & L., rubbing his hands nervously. "Reade, why should there be such scoundrels in the world?"

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"The president is all but completely gone to pieces," Reade confided to his chum. "Say, but I'm glad Mr. Newnham himself isn't the one who has to get the road through in time. If it rested with him I'm afraid he'd fizzle. But we'll pull it through, Harry, old chum——we'll pull it through."

"If this thing had to last a month more I'm afraid good old Tom would go to pieces himself," thought Harry, as he watched his friend stride away. "Tom never gets to his cot now before eleven at night, and four thirty in the morning always finds him astir again. I wonder if he thinks he's fooling me by looking so blamed cheerful and talking so confidently. Whew! I'd be afraid for poor old Tom's brain if anything should happen to trip us up."

Harry himself was anxious, but he was not downright nervous. He did not feel things as keenly as did his chum; neither was Hazelton directly responsible for the success of the big undertaking.

Mile after mile the construction work stretched. Trains were running now for work purposes, nearly as far as the line extended.

The telegraph wires ran into the temporary station building at Lineville, and the several operators along the line were busy carrying orders through the length of the wire service.

Back at Stormburg, where the railroad line began, three trains lay on side tracks. These were passenger trains that were to run the entire length of the road as soon as it was opened.

Back at Stormburg, also, the new general superintendent slept at his office that he might receive messages from President Newnham the more quickly.

At Bakerstown a division superintendent was stationed, he, too, sleeping at his office.

Once more Tom Reade had brought his work within sight of Lineville. In fact, the track extended all but the last mile of the line. Ties were down nearly all of the way to the terminal station.

This was the state of affairs at two o'clock in the afternoon. Before midnight the last rail must be laid, and the first through train from Stormburg must run in. If, at the stroke of midnight, the first train had failed to go through, then the charter of the S.B. & L. would be forfeited and subject to seizure and sale by the state.

Up from Denver some of the worst politicians had come. They were quartered at the new little hotel in Lineville. Dave Fulsbee had detailed three of his men covertly to watch these same politicians.

Tom, inwardly consumed with fever, outwardly as cheery as human being might be, stood watching the laying of the rails over that last stretch. The men who could be prevented from dropping in their tracks must work until the last rail had been spiked into place. Away up in Lineville Harry Hazelton was personally superintending the laying of the last ties.

The honk of an automobile horn caused Tom Reade to glance up. Approaching him was President Newnham, himself driving the runabout that he had had forwarded.

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"Reade!" called the president of the S.B. & L., stopping his car, and Tom went over to him.

"The suspense is over, at last, Reade," exclaimed Mr. Newnham, smiling broadly.

"Look! the road is all but completed. Hundreds of men are toiling. The first train left Stormburg this morning. By seven tonight you'll have the last rails in place. Between eight and nine this evening the first through train will have rolled into Lineville and we shall have won the fight that has brought me many gray hairs. At last the worry is over!"

"Of course, sir," nodded Tom.

"Reade, don't you really believe that the stress is over—that we shall triumph tonight?"

"Of course we shall, sir," Tom responded. "I have predicted, all along, that we'd have the road through in time, haven't I?"

"And the credit is nearly all yours, Reade," admitted Mr. Newnham gleefully. "Nearly all yours, lad!"

Honk! honk! Unable to remain long at one spot, Mr. Newnham started his car again.

Reade felt a depression that he could not shake off.

"It's just the reaction following the long train," Tom tried to tell himself. "Whew! Until within the last two or three days I haven't half realized how much the strain was taking out of me! I'll wager I'll sleep, tonight, after I once have the satisfaction of seeing the first train roll in!"

By six o'clock Tom felt as though he could hardly stand up. He wondered if his teeth were really chattering, or whether he merely imagined it.

To take up his time Tom tried a brisk canter, away from the railroad. At seven o'clock he rode into Lineville.

"Tom, Tom!", bawled Harry, from the centre of a group of workmen. "We've been looking for you! Come here quickly!"

Tom urged his pony forward to the station from which Hazelton had called him.

"Watch this—just watch it!" begged Harry.

Clank! clank! clank! Tom Reade, gazing in fascination, saw the last spike of the last rail being driven into place.

"Two sidetracks and switches already up!" called Harry.

Tom threw his bridle to one of the workmen, then sprang from his horse. Out of the station came Mr. Newnham, waving a telegram.

“Our first train, with passengers, has just left the station at Brand’s Ranch junction, a hundred and ten miles away,” shouted the president of the road. “The train should be here long before ten o’clock.”

From the crowd a cheer greeted the announcement.

“There’s nothing left but to wait to win,” continued Mr. Newnham.

Five hundred voices in the crowd cheered the announcement. A group of five Denver politicians smiled sardonically.

Tom pushed his way gently through the crowd, glancing inside the station. There was no one there, save an operator. Closing the door behind him, Tom crossed to a seat and sank wearily upon it.

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Here he sat for some minutes, to be discovered by the telegraph operator when the latter came out to light the lamps in the waiting room.

"Mr. Reade is all in, I guess," thought the operator. "I don't wonder. I hope he goes to sleep where he sits."

Ten minutes later the receiver of one of the up the terminal station. The operator broke in, sending back his response. Then a telegram came, which he penned on paper.

"Mr. Reade," called the operator, "this is for you."

Tom sat up, brushing his eyes, and read:

"If you can spare time wish you would ride down track to point about two miles west of Miller's where brook crosses under roadbed. Have something to show you that will interest you. Nothing serious, but will fill you with wonder. My men all along line report all safe and going well. Come at once." (signed) "Dave Fulsbee."

Tom's first instinct was to start and tremble. He felt sure that Fulsbee had bad news and was trying to conceal the fact until he could see the young chief engineer in person.

"But that's really not Dave's way," Reade told himself in the next breath. "Fulsbee talks straight out from the shoulder. What has he to show me, I wonder! Gracious, how tired I am! If Fulsbee knew just how I feel at this moment he wouldn't send for me. But of course he doesn't know."

Stepping outside, Tom looked about, espying his pony standing where it had been tied to one of the porch pillars of the station.

"I'll get Harry to ride with me," Reade thought, but he found his chum engaged in testing a stretch of rails near the station, a dozen of the college students with him.

"Pshaw! I'm strong enough to ride five miles alone," muttered Tom. "Thank goodness my horse hasn't been used up. Never mind, Tom Reade. To-morrow you can ride as far as you like on the railroad, with never a penny of fare to pay, either!"

Unnoticed, the young chief engineer untied his horse in the dark, mounted and rode away.

How dark and long the way seemed. Truth to tell, Tom Reade was very close to the collapse that seemed bound to follow the reaction once his big task was safely over. Only his strength of will sustained him. He gripped the pony's sides with his knees.

"I wouldn't want anyone to see me riding in this fashion!" muttered the lad. "I must look worse than a tenderfoot. Why, I'll be really glad if Dave Fulsbee can ride back with me."

I had no idea he was so near. I believed him to be at least fifty or sixty miles down the line."

Tom was nearing the place appointed when a sudden whistle rang out from the brush beside the track.

Then half a dozen men leaped out into view in the darkness, two of them seizing the bridle of his horse.

"Good evening, Reade!" called the mocking voice of 'Gene Black. "Down this way to see your first train go through? Stay with us, and we'll show you how it doesn't get through—not tonight!"



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### CHAPTER XXII

"CAN YOUR ROAD SAVE ITS CHARTER NOW?"

"Oh, I guess the train will go through, all right," replied Tom Reade, with much more confidence expressed in his tone than he really felt.

"Stay with us and see it go through," mocked 'Gene Black.

"If it's just the same to you I'd rather ride on," Tom proposed.

"But it isn't all the same to us," Black chuckled.

"Then I guess I prefer to ride on, anyway."

"You won't, though," snapped Black. "You'll get off that horse and do as we tell you."

"Eh?" demanded the young chief engineer. He appeared astonished, though he was not.

"You came down the line to meet your railroad detective, Fulsbee," Black continued sneeringly. "You'd better give it up."

"You seem to think you know a good deal about my business," Tom continued.

"I know all about the telegram," 'Gene retorted. "I sent it—or ordered it sent."

Tom started in earnest this time.

"Did you ever hear of ways of cutting out a telegraph wire and then attaching one of the cut ends to a box relay?" queried the scoundrel.

"I—I believe I have heard of some such thing," Reade hesitated. "Was that the trick you played on me?"

"Yes," nodded Gene Black. "We cut the wire just below here. We've got a box relay on the wire going both ways. Your operators can't use the wire much tonight. Your company can't use it from Lineville at all."

Tom's face showed his dismay. 'Gene Black laughed in intense enjoyment.

"So you cut the wire, oh, and attached box relays?"

"Surely," Black nodded.

"I'm glad you confess it," replied Tom slowly. "Cutting telegraph wires, or attaching box relays without proper authority is a felony. The punishment is a term in state's prison."

"Bosh!" sneered Black. "With all the political pull our crowd has behind it do you suppose we fear a little thing like that?"

"I'll talk the crime over with Dave Fulsbee," Tom continued.

"A lot of good Fulsbee will do you," jeered 'Gene. "We have him attended to as well as we have you."

"That's a lie," Reade declared coolly.

"Do you want us to show him to you?"

"Yes," nodded Tom. "You'd have to show me Dave Fulsbee before I'd believe you."

"Yank the cub off that horse!" ordered 'Gene Black harshly.

Three or four men seized Reade, dragging him out of the saddle and throwing him to earth. Tom did not resist, for he saw other men standing about with revolvers in their hands. He did not believe that this desperate crew of worthless characters would hesitate long about drilling holes through him.

"Take the horse, you, and ride it away," directed Black, turning to one of the men, who promptly mounted and rode off into the darkness. "Tie that cub's hands behind him," was Black's next order. "Now, bring him along."

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'Gene Black led the way back from the track and into the woods for a few rods. Then the party wheeled, going eastward in a line parallel with the track.

Tom did not speak during the journey. It was not his nature to use words where they would be worse than wasted.

After proceeding a quarter of a mile or so, Black parted the bushes of a dense thicket and led the way inside. At the centre the brush had been cleaned out, clearing a circular space about twenty feet in diameter and dimly lighted by a lantern placed in the centre of the inclosure.

"A snug little place, Reade," chuckled the scoundrel, turning about as Reade was piloted into the retreat. "How do you like it?"

"I like the place a whole lot better than the company," Tom answered promptly.

"What's the matter with the company?" jeered Black.

"A hangman would feel more at home in a crowd like this."

"See here, cub! Don't you try to get funny," warned Black, his eyes snapping dangerously. "If you attempt any of your impudence here you'll soon find out who's master."

"Master?" scoffed Tom, his own eyes flashing. "Black, do you draw any comfort from feeling that you're boss of such an outfit? Though I daresay that the outfit is better than its boss. However, you asked my opinion, and you got it. I'll give you a little more of my opinion, Black, and it won't cost you a cent."

He looked steadily into his enemy's eyes as he continued:

"Black, a good, clean dog wouldn't willingly stand by this crowd!"

Thump! 'Gene Black's clenched fist landed in Reade's face, knocking him down.

"Thank you," murmured Reade, as he sat up.

"Much obliged, are you?" jeered Black.

"Yes," admitted Tom. "As far as it goes. That was a coward's act—to have a fellow's hands tied before daring to hit him."

Black's face now turned livid with passion.

“Lift the fool to his feet, if he wants to stand,” ordered Black savagely. “He’s trying to make me waste my time talking to him. Operator, call up Brewster’s and ask if he held the train as ordered by wire.”

“Oho!” thought Tom. “So that’s your trick? You have the wire in your control, and you’re sending supposed train orders holding the train at a station so that it can’t get through. You’re a worse scoundrel than I thought!”

Off at the edge of the brush, on the inner side, a telegraph instrument had been set up on a barrel. From the instrument a wire ran toward the track.

In another moment the sounder of the sender was clicking busily. There was a pause, then the answer came back: Click-click-click-clickety-click!

The operator, a seedy-looking fellow over whose whole appearance was written the word “worthless,” swung a lantern so that the light fell on a pad of paper before him. Pencil in hand, he took off the message as it came.

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"Come over here and read it, sir?" inquired the operator.

Black crossed, bending over the sheet. Despite himself the scoundrel started. Then he moved so that the light should not fall across his face. Plainly Black was greatly disappointed. He swallowed hard, then strolled back to the main group, of which Tom was one.

"That's the way to do business," announced 'Gene Black, with a chuckle. "We sent fake train orders from the top of that barrel, and your own railroad operator handed the orders to the conductor of your through train. Therefore the train is switched off on to the side track at Brewster's, and the engineer, under the false orders, is allowing his steam to cool. Now, do you believe you will get your train through tonight?"

"Oh, yes!" yawned Tom coolly. "For you are lying. The message that came back over the wire from our operator at Brewster's read in these words: 'Showed your order to train conductor. He refused order, saying that it was not signed properly. Train has proceeded.'"

It was an incautious speech for Tom Reade Black fairly glared into his eyes.

"So you can pick up telegraph messages by the sounds" 'Gene demanded.

"Most anyone can who has ever worked over a telegraph key," Tom admitted.

Now that the secret was out, Black plainly showed his anger over the fact that the conductor had refused train orders at Brewster's. "You S.B. & L. fellows have put up some trick to beat us off!" he declared, looking accusingly into Tom's face.

"What of it?" Reade inquired. "It's our railroad, isn't it? Can't we do what we please with our own road?"

"It won't be your road after tonight!" Black insisted, grinding his teeth in his rage. "Fortunately, we have other ways of stopping that train from getting through. You'll soon know it, too."

Black called to the tramp operator.

"My man, call up the box relay fellow below here."

The sounder clicked busily for some moments. "I have the other box relay man," declared the operator.

"Then send this, very carefully," Black continued hoarsely: "X-x-x—a-a-a—b-b-b."

The operator repeated it. Black nodded. Once more the instrument clicked.

"The other box relay man signals that he has it," nodded Black's present operator.

"Listen! Everyone of you! Not a sound in this outfit," commanded 'Gene Black.

For fully three minutes the intense silence continued. Then Black turned again to the operator, saying:

"Ask the other box relay man if anything has happened near him?"

A minute later Black's operator reported:

"He says: 'Yes; happened successfully.'"

"Good!" laughed Black, a look of fierce Joy lighting up his eyes. "Now, Reade, I guess you'll admit yourself beaten. An electric spark has touched off a charge of giant powder under the roadbed. The rails have been blown skyward and a big hole torn out of the roadbed itself. Even if you had a wrecking crew at the spot at this moment the road couldn't be prepared for traffic inside of twenty-four hours. NOW, will your through train reach Lineville tonight? Can your road save its charter *now*?"

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Tom Reade's face turned deathly white.

'Gene Black stood before him, gazing tauntingly into the eyes of the Young Chief engineer.

### CHAPTER XXIII

#### BLACK'S TRUMP CARD

"You scoundrel—you unhung imitation of Satan himself!" gasped Reade, great beads of perspiration standing out on his face.

"Oho! We're fools, are we?" sneered Black "We're people whom you can beat with your cheap little tricks about a different signature for each station on the line, are we? For that was why the conductor refused the false order at Brewster's. He has a code of signatures for train orders—a different signature to be used for messages at each station?"

Black's keen mind had solved the reason for the conductor's refusal to hold his train on a siding. The conductor *had* been supplied with a code list of signatures—a different one for each station along the line.

"Now, you know," mocked Black, enjoying every line of anxiety written on Tom Reade's face, "that we have you knocked silly. You know, now, that your train can't get through by tonight—probably not even by tomorrow night. You realize at last—eh?—that you've lost your train and your charter—your railroad?"

"I wasn't thinking of the train, or of the road," Tom groaned. "What I'm thinking of is the train, traveling at high speed, running into that blown-out place. The train will be ditched and the crew killed. A hundred and fifty passengers with them—many of them state officials. Oh, Black, I wouldn't dare stand in your shoes now! The whole state—the entire country—will unite in running you down. You can never hope to escape the penalty of your crime!"

"What are you talking about?" sneered Black. "Do you think I'm fool enough to ditch the train? No, sir! Don't believe it. I'm not running my neck into a noose of that kind. A cluster of red lights has been spread along the track before the blow-out. The engineer will see the signals and pull his train up—he has to, by law! No one on the train will be hurt, but the train simply can't get through!"

"Oh, if the train is safe, I don't care so much," replied Reade, the color slowly returning to his face. "As for getting through tonight, the S.B. & L. has a corps of engineers and a full staff in other departments. Black, you'll lose after all your trouble."

“Humph!” muttered Black unbelievably. “Your train will have to get through in less than three hours, Reade!”

“It’ll do it, somehow,” smiled Tom.

“Yes; your engineers will bring it through, somehow,” taunted Black. “We have the chief of that corps with us right now.”

“That’s all right,” retorted Tom. “You’re welcome to me, if I can be of any real comfort to you. But you forget that you haven’t my assistant. Harry Hazelton is at large, among his own friends. Harry will see the train through tonight. Never worry.”



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Click-click-click-click! sounded the machine on the barrel.

"It's the division superintendent at Lineville, calling up Brewster's," announced the operator.

"Answer for Brewster, then," directed Black. "Let us see what the division super wants, anyway."

More clicking followed, after which the operator explained:

"Division super asks Brewster if through train has passed there."

"Answer, 'Yes; twelve minutes ago,'" directed Black.

The instrument clicked furiously for a few moments.

"The division super keeps sending, 'Sign, sign, sign!'" explained the operator at the barrel. "So I've kept on signing 'Br,' 'Br,' over and over again. That's the proper signature for Brewster's."

Again the machine clicked noisily.

"Still insisting on the signature," grinned the operator uneasily.

"Do you know the name of the operator at Brewster's?" demanded 'Gene Black.

"Yes," nodded the man at the barrel. "The operator at Brewster's is a chap named Havens."

"Then send the signature, 'Havens, operator, Brewster's," ordered Black.

Still the machine clicked insistently.

"Super still yells for my signature," explained the man at the barrel desk. "He demands to know whether I'm really the operator at Brewster's, or whether I've broken in on the wire at some other point."

"Don't answer the division super any further, then," snorted Black disgustedly.

Tom, with his ability to read messages, was enjoying the whole situation until Black, with a sudden flash of his eyes, turned upon the cub chief engineer.

"Reade," he hissed, "you must know the proper signature for tonight for the operator at Brewster's to use."

"Nothing doing," grunted Tom.

“Give us that signature the right one for Brewster’s.”

“Nothing doing,” Tom repeated.

“Put a pistol muzzle to his ear and see his memory brighten,” snarled the scoundrel.

One of the hard-looking men behind Tom obeyed. Reade, it must be confessed, shivered slightly when he felt the cold touch of steel behind his ear.

“Give us the proper signature!” insisted ‘Gene.

“Nothing doing,” Tom insisted.

“Give us the right signature, or take the consequences!”

“I can’t give it to you,” Tom replied steadily. “I don’t know the signature.”

“You lie!”

“Thank you.”

Tom had gotten his drawl back.

“Do you want to have the trigger of that pistol pulled?” cried ‘Gene Black hoarsely.

“I certainly don’t,” Tom confessed. “Neither do I doubt that you fellows are scoundrels enough to do such a trick. However, I can’t help you, even though I have to lose my life for my ignorance. I honestly don’t know the right signature for Brewster’s tonight. That information doesn’t belong to the engineering department, anyway.”

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"Shall I pull the trigger, Black?" asked the man who held the weapon to Reade's head.

"Yes; if he doesn't soon come to his senses," snarled Black.

"I've already told you," persisted Tom, "that I couldn't give you the proper signature, even if I wanted to—which I don't."

"You may be glad to talk before we're through with you tonight," threatened Black. "The time for trifling is past. Either give us that signature or else prepare to take the consequences. For the last time, are you going to answer my question?"

"I've told you the truth," Reade insisted. "If you won't believe me, then there is nothing more to be said."

"You lie, if you insist that you don't know the signatures for tonight!" cried Black savagely.

"All right, then," sighed Tom. "I can't tell you what I don't know."

From off in the distance came the shrill too-oo-oot! of a locomotive. Tom Reade heard, and, despite his fears for his safety, an exclamation of joy escaped him.

"Oh, you needn't build any false hopes," sneered Black. "That whistle doesn't come from the through train. It's one of the locomotives that the S.B. & L. had delivered over the D.V. & S., which makes a junction with your road at Lineville. A locomotive or a train at the Lineville end won't help your crowd any. That isn't the through train required by the charter. The S.B. & L. loses the game, just the same."

"Oh, I don't know," Tom argued. "The S.B. & L. road was finished within charter time. No railroad can get a train through if the opposition sends out men to dynamite the tracks."

"Humph!" jeered Black maliciously. "That dynamited roadbed won't save your crowd. The opposition can make it plain enough that your crowd dynamited its own roadbed through a well-founded fear that the tracks clear through weren't strong enough to stand the passing of a train. Don't be afraid, Reader the enemies of your road will know how to explain the dynamiting this side of Brewster's."

"That's a question for tomorrow, Black," rejoined Tom Reade. "No man can ever tell, today, what tomorrow will bring forth."

Too-oo-oot! sounded a locomotive whistle again. One of the men in the thicket threw himself to the ground, pressing his ear to the earth.

"There's a train, or a locomotive, at least, coming this way from Lineville, boss," reported the fellow.

"A train?" gasped Black. Then his face cleared. "Oh, well, even if it's a fully equipped wrecking train, it can't get the road mended in time to bring the through train in before midnight, as the charter demands."

Now the train from Lineville came closer, and the whirr of its approach was audible along the steel rails. The engine's bell was clanging steadily, too, after the manner of the engines of "specials."

'Gene Black crowded to the outer edge of the thicket, peering through intently. The bright headlight of an approaching locomotive soon penetrated this part of the forest. Then the train rolled swiftly by.

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"Humph!" muttered Black. "Only an engine, a baggage car and one day coach. That kind of train can't carry much in the way of relief."

As the train passed out of sight the engine sent back a screeching whistle.

"The engineer is laughing at you, Black," jeered Tom.

"Let him," sneered the other. "I have the good fortune to know where the laugh belongs."

Toot! toot! too-oot-oot! Something else was coming down the track from Lineville. Then it passed the beholders in the thicket—a full train of engine and seven cars.

"Good old Harry Hazelton!" glowed Tom Reade. "I'll wager that was Harry's thought—a pilot ahead, and then the real train!"

"Small good it will do," laughed 'Gene Black disagreeably.

Then, a new thought striking him, he added:

"Bill Hoskins, you and some of the men get the dynamite under the track opposite here. You know how to do it! Hustle!"

"You bet I know how," growled Bill eagerly, as he stepped forward, picking out the fellows he wanted as his helpers. "I'll have the blast against the roadbed here ready in five minutes, Black."

"Now, you'll have three trains stalled along the line tonight, Cub Reade," laughed Black sneeringly. "Getting any train as far as this won't count for a copper's worth! Your road has to get a through train all the way into Lineville before midnight. We'll blow out the roadbed here, and then where are you?"

## CHAPTER XXIV

## CONCLUSION

At these words even the brief hope that had been in Tom Reade's mind, died out.

With the roadbed gone at this point also, he did not see the slightest chance for the S.B. & L. to save its charter or its property rights.

"Here's the racketty stuff," went on Hoskins, indicating the boxes. "That small box has the fuses. Get the stuff along, and I'll lay the magneto wire."

“Not quite so hastily!” sternly broke in a new voice.

Tom Reade fairly yelled for joy, for the new speaker, as he knew at the first sound, was Dave Fulsbee.

The amazed and dismayed scoundrels huddled closer together for a moment in the middle of the thicket.

“Spread, men! Don’t let one of ’em get out alive!” sounded Dave Fulsbee’s voice.

The scurrying steps of Fulsbee’s men could be heard apparently surrounding the thicket.

With an exclamation of rage, Black made a dash for freedom.

“Stand where you are, Black, if you want to live!” warned Dave. “No use to make a kick you rascals! We’ve got you covered, and the first man who makes a move will eat his breakfast in another world. Now, listen to me. One at a time you fellows step up to me, drop your weapons on the ground, where I can see you do it, and then come out here, one at a time. No tricks—for, remember, you are covered by my men out here. We don’t want to shoot the whole lot of you up unless we have to, but we won’t stand for any fooling. Reade, you come through first. Any man who offers to hinder Mr. Reade will be sorry he took the trouble—that’s all!”

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His heart bounding with joy, Tom stepped through the thicket, going straight toward the sound of Fulsbee's voice.

"I've got a knife in my left hand," announced Fulsbee, as Tom neared him in the dark. "Turn around so that I can cut the cords at your wrists."

In a moment this was done.

"You might stay here and help me," whispered Dave. Tom nodded.

"Now, Black, you can be the first," called Dave in a brisk, business-like tone. "Step up here and drop your weapons on the ground."

Wincing under a bitter sense of defeat, 'Gene Black stepped forward. He was not really a coward, but he valued his life, little as it was actually worth. So he dropped a revolver to the ground.

"What I have to say to you, Black, applies to the others," Dave continued from outside the thicket. "If any man among you doesn't drop all his weapons, we'll make it lively for him when we get him out here."

A look of malignant hate crossed his face, then 'Gene Black dropped also a knife to the ground.

"Come on out, Black," directed Dave Fulsbee. "Mr. Reade, will you oblige me by running your hands over the fellow's clothing to see if he, has any more weapons."

Tom promptly complied. A hasty search revealed no other weapons.

"Now, step right along over there, Black, where you'll find two of my men," nodded Dave Fulsbee.

Again Black obeyed. He saw, dimly, two men some yards further away in the darkness and joined them.

Click-click! Then the scoundrel cried out in the bitterness of his rage, for the two railway detectives had handcuffed him.

"You, with the black hair, next," summoned Fulsbee, his vision aided by the lantern in the centre of the thicket. "You come here, but first stop and drop your weapons on the pile—all the trouble-makers you happen to have."

Thus they came, one at a time, the operator being the last of all. The crowd of prisoners under guard of the two railway detectives grew steadily, and each was handcuffed as he reached the detectives after having been searched by Tom Reade.



“Good job,” nodded Dave coolly, as he am approached the captives. “Now, we have you all under lock and key. My, but you’re a pretty-looking outfit!”

“Come on, men. March ’em up the track. Then we’ll come back, or send someone else after the dynamite and other stuff. That’ll be handy as evidence.”

Guarded by Fulsbee and his two detectives, the prisoners marched along a few rods.

“Mr. Reade,” called Dave, pointing, “you’ll find your horse tied to that tree yonder. I reckon you’ll be glad to get in saddle again.”

Indeed, Tom was glad. He ran over, untying the animal, which uttered a whinny of recognition. In saddle, Tom joined the marching party.

“You don’t seem to think us a very hard crowd to guard,” remarked ’Gene Black curiously. “Why don’t you call off the men you posted around the thickets”



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"I didn't post any," Fulsbee answered simply. "I sent these two men of mine running around the thicket. Then they had to come together and attend to handcuffing you fellows."

"And were you the only man who had the drop on us?" gasped 'Gene Black.

"I was," Dave Fulsbee responded. "If you fellows hadn't had such bad nerves, you could have escaped. But it's an old story. When men go bad their nerves go bad with them."

As for Black's followers, now that they knew the nature of the trick that had fooled them, several of them hung back.

"You fellows needn't think you can balk now," observed Fulsbee grimly. "You're all of you handcuffed, and there are enough of us to handle you. I promise you that, if anyone of you tries to run away, I won't run after him until I've first tried dropping him with a shot."

So the party proceeded, and in time reached Lineville. There was great excitement in that little junction town when the citizens first heard of the dastardly work that the prisoners had attempted.

Dave marched his captives into the waiting room of the station. All outsiders were ushered forth politely. Mr. Newnham was hurriedly summoned, and to him Tom Reade disclosed what he had learned of the work of enemies along the line. Naturally the president of the S.B. & L. was greatly excited.

"We knew something was wrong, from the nature of the telegraph messages that came in," cried Mr. Newnham. "It was your friend, Hazelton, who first suggested the idea of sending a full train down the line, with a short pilot train ahead."

"Good, great old Harry!" murmured Tom admiringly.

Both Fulsbee and the president of the road tried to question 'Gene Black. That treacherous fellow, however, steadfastly refused to talk. Two or three of his gang were willing enough to talk, but they knew little, as Black had carried all his plans and schemes in his own head.

"No matter!" muttered Dave Fulsbee. "My two men and I were close to that thicket for some time before we broke in on the affair. We heard enough to supply all the evidence that the courts will want against these worthies."

As the futile questioning was drawing to a close, 'Gene Black suddenly roused himself to say sneeringly:

“Gentlemen, look at your station clock. It’s fifteen minutes before midnight. A quarter of an hour left! Where’s your through train? If it reaches here fifteen minutes from now it will be too late.”

“Send a message down the line quickly,” gasped Mr. Newnham, turning pale. Then he wheeled savagely upon the prisoner, exclaiming: “I forgot, Black. You rascals cut the wires. We could have mended them at the nearer point, but the wires were cut, too, at the scene of the blow-out. Oh, but you have been a thorn in our sides!”

From the crowd that still lingered outside came a cheer. Tom Reade sprang to the nearest door, throwing it open.

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"Listen!" he shouted.

The sound that had started the crowd to cheering was repeated again.

*Too-oo-oo-oot!*

"It's the train!" cried Reade joyously. "It can't be more than two or three miles below here, either. It will get through on time!"

With nine minutes to spare, the train rolled into the station at Lineville. It was not the same train that had left Stormburg, for that train had been halted, safely, just before reaching the scene of the disastrous blow-out. At that point the passengers had alighted and had been conducted on foot to the other side of the gap caused by the explosion. Here Hazelton's Lineville special stood ready to convey them into Lineville. So the road had been legally opened, since the passengers from Stormburg—among whom was the lieutenant governor of the state had been brought all the way through over the line. Within the meaning of the law a through train had been operated over the new line, and within charter time.

The S.B. & L. had won! It had saved its charter. On the morrow, in Wall Street, the value of the road's stock jumped by some millions of dollars.

Let us not forget the pilot train. That returned to Lineville in the rear of the passenger train. Though the pilot train had a conductor, Harry Hazelton was in real charge.

"Look whom we have here, Tom!" called Harry from the open side door of the baggage car, as Reade raced up to greet his successful chum.

A man, bandaged, injured and groaning, lay on the floor of the baggage car.

"Why, it's Naughty Peter, himself!" cried Tom. "Peter, I'm sorry to find you in this shape. I am afraid you have been misbehaving."

"We found him not far from the track, near the blow-out," Hazelton explained. "Whether he attended to that bit of bad work all alone, or whether his companions believed him dead and fled for their own safety, I can't learn. Bad Pete won't say a word. He was unconscious when we first discovered him. Now he knows what's going on around him, but he's too badly hurt to do more than hold his tongue."

It was only when Bad Pete recovered his health—in jail—and found himself facing a long term in prison, that he was ready to open his mouth. He could tell nothing, however, beyond confessing that he and three other men, including an operator, had attended to the blow-out. Pete had no knowledge of the real parties behind the plot. He knew only that he had acted under 'Gene Blanks orders. So Bad Pete was shown no

mercy, but sent behind the bars for a term of twenty-five years. Owing to Black's stubborn silence the outrages were never traced back to any official of the W.C. & A.

'Gene Black was sentenced to prison for thirty years. The other rascals, who had worked under his direction, all received long terms.

The student engineers, wholly happy and well paid, returned to their college.

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The S.B. & L. is still under the same management, and is one of the prosperous independent railroads of the United States. Dave Fulsbee continues as the head of its detective system.

Tom Reade and Harry Hazelton had made good in their first professional undertaking. They were paid in proportion to their services, and given the opportunity to retain their positions at the head of the railway's engineering corps.

For some time they kept their positions, filling them always with honor. Yet, in the end, the desire to do other great things in their chosen profession led them into other fields of venture. Their greatest adventures, their severest trials and deepest problems, as well as their gravest perils were still ahead of them in their path of duty.

The Young Engineers were bound to go on and up, yet their way was sure to be a stormy one.

We shall meet these fine young Americans again in the next volume of this series, which is published under the title, "The Young Engineers in Arizona; Or, Laying Tracks on the Man-killer Quicksand." It is a rousing narrative of real people and real happenings.