

Two men were at the forest fire lookout station on Dessert Mountain, 6400 feet above sea level, on the Flathead National Forest in western Montana. North of them Montana's worst man-caused fire was spread out from Columbia Falls to Nyack, a railroad journey of some 20 miles that many of my listeners have made or will make on their western trips. During the previous two days this monstrous fire of 90,000 acres had roared in from the west, running about ten miles each afternoon while the air temperature, humidity, and wind were most favorable.

One of these men was a Mr. Tunnell, the lookout man on Dessert Mountain. The other we shall call Smith. He was from the Northern Rocky Mountain Forest Experiment Station. The lookout's regular job was to discover new forest fires as soon as they sent up their first tell-tale wisp of smoke. The researcher's job on this particular fire was to map its rate of spread, to measure the atmospheric factors that affected it, and to study fire behavior so that weather forecasts can be better used in the future to help in controlling forest fires. Both of these men were employees of the United States Forest Service. Government men.

When they left the lookout station about 2 p.m. that day these men started north along the quarter mile of open ridge top trail to Belton Point. From this Point they would be able to look down the north face of the mountain to the valley bottom of the Middle Fork of the Flathead River. Down there, 3000 feet below the Point, the south edge of the fire would be stretched out for miles before them, easy to map, while on their point they would be able to measure the prevailing temperature, humidity, and wind, and to observe the effects on the fire.

Incidentally they might be able to see into the curtain of smoke and watch the progress of the fire fighting crews which had been concentrated around Belton and Park Headquarters to try to save that town and the beautiful Headquarters site. ^{of Glacier Natl Park}
Tunnell and Smith knew that for the last 48 hours more than 200 men had been working down there without rest. Yesterday to split the head of the fire as it

roared up the valley; today to keep it from crowning again and sweeping in on them from all sides. Smith had heard the Supervisor and the District Ranger, down at Coram Ranger Station at midnight last night, discussing their plans for today.

But the two men on Dessert Mountain never got to Belton Point on that trip. They had only gone north about 200 yards along the ridge when they stopped. Instead of the slowly rising curtain of light smoke coming from the fire down in the valley, a pronounced column of heavy, black smoke nearly a mile wide was beginning to rise from the north end of the mountain they were on, and it was beginning to whirl in that majestic motion so characteristic of a blow-up. Slow, the motion seemed to be, yet both men knew that it was only the great size of the rising mass that made its whirling movement seem so slow. It was obvious to both men that the fire in the valley had reached the foot of the mountain and was now ripping through the dense timber up the slope to the peak--which was Belton Point, only a half a mile away.

But the towering column of smoke was leaning slightly to the northeast, pushed there by the light southwesterly breeze that was blowing. There was no reason for expecting the fire to come south along the rather open ridge top. The two men stopped to watch the spectacle. The researcher measured the temperature, the humidity, the wind velocity, and took two pictures of the phenomenon. Part of his job.

While they were watching, these men saw the remarkable spectacle of great masses of unburned gases bursting forth on the sides of the whirling column and belching into flame as they reached oxygen. Down on the ground below, where there had been cool, green forest only a few moments before, the terrific heat of the whirling mass was reducing the forest to gas without sufficient oxygen to burn all of it. As these ugly, black masses of hot gas reached the surface of the

towering column, sometimes thousands of feet above the mountain top, they would burst forth as great faces of flame.

Just as Smith finished taking his second picture both men saw that something unexpected was about to happen. East of Dessert Mountain, between it and Pyramid Peak, there is an unnamed canyon some 2000 feet deep and about three miles across, from Dessert to Pyramid. This "Trough" as the fire fighters later came to call it might have stopped or at least delayed the rapid spread of the fire on the north end of Dessert Mountain had it not been for the whirling motion of the rising column of smoke and fire. As it was the clockwise motion of the whirl from north to east, to south, to west, and back to north again, found a ready path up this trough-like canyon.

Aided by the southwest breeze banking around the north end of Dessert, the great column of smoke began to bulge about 5000 feet above the canyon bottom. Southward, and up the canyon it moved, dipping deeper and deeper until it finally reached the ground. Like a huge barrel a mile wide and finally 10,000 feet high, this whirling mass, which seemed like a living, separate thing, started its devastating glide into the canyon.

South, it moved, up the creek bottom, then southwest and up the side of Dessert Mountain toward the lookout cabin, then west, northwest, and at last north again and back toward Belton Point.

All this the two Government men saw as they sprinted south along the open ridge-top trail, toward the lookout house. Bounding into the cabin both men hastily stuffed into their pack sacks their few belongings that they had instinctively stopped to save. As Smith gathered up his large envelope of fire records, Tunnell the lookout dropped his packsack and leaped to the telephone on the wall.

"Get out there and run", the researcher yelled. But the lookout turned the hand crank for two long rings and three short ones before he answered. Then,

panting from the exertion of the recent 200 yard dash, he gasped, "Joe Streeter. The smokechaser. Down there at the head of Hungry Horse". And the lookout pointed toward the low pass separating the drainage of Hungry Horse Creek from the trough up which the fire was coming.

Smith was new to the Forest. He did not know who Streeter was or where he was, but he understood what the lookout meant. Down there in the dense spruce timber at the head of the trough, located for quick travel into either one of two drainages, there would be a smokechaser station, with a man there waiting for a report from some lookout or the Ranger at Coram telling him the location of a new fire. His job was to chase such smokes, and to put them out before they became large. Probably some husky local boy who had visions of being a Forest Ranger some day, and who was glad to get into the organization at the bottom, chasing smokes, carrying that heavy back pack miles and miles over trails, then more miles through the brush and timber, up steep mountain sides and down, and finally to the fire which he would fight alone with shovel and axe until either the fire was out or until reinforcements arrived. Or perhaps that smokechaser was some forestry student likewise beginning at the bottom of the organization ladder, gaining practical experience during his vacation from college. Unless that man had seen the blow-up on the north end of Dessert Mountain as it started to sweep up the trough, he would have to hurry to escape.

Smith stepped to the cabin door to look at the fire just as Tunnell the lookout started to ring Streeter's call again. Reaching quickly back for his packsack Smith wheeled on Tunnell as if to call him again. But Tunnell was peering out the cabin window even as he turned the crank on the telephone. He too could see that death dealing whirl starting to bulge again over the trough; starting another tremendous revolution which might bring it right to the cabin door--or even beyond.

Smith's skin tingled from head to toe with the thrill of admiration as he watched that other Government man grind out those two long rings and three short ones. They had seemed long before. This time each strike of the bell clapper on each of the two bells seemed to be a distinct clang, separated from the next by an eternity. Time? Why time was composed of so many individual parts that there was opportunity for everything.

Smith stepped to the cabin door. Down in the canyon the big whirl was pushing south, up the trough, ^{at the rate of about a mile a minute} On, and on it roared, a quarter mile, a half mile, three fourths, and it was directly beneath the cabin. A mile! And it began to turn, clockwise, from south to southwest, up the slope as if it would easily engulf the cabin.

Smith turned to the lookout man who stood at the phone listening for an answer to his ring. "Come on Tunnell. We've got to go". The lookout man threw one glance out the window, then dropping the telephone receiver with a clatter he grabbed his packsack, started for the door, ^{suddenly turned,} then leaped back, and yelled into the mouthpiece, "Run, Streeter, run".

With Hell itself coming at him that Government man was trying once more to warn Joe. Perhaps Joe had picked up his receiver while he, Tunnell, was picking up his backsack. Then he bounded out the door.

Smith, outside, was standing by the door doubly spellbound. First by Tunnell's action, and second by the fire. For in that short instant used by the lookout to grab his packsack, yell one last warning into the transmitter, and jump out thru the door, the mile wide whirl had turned again, from southwest to west, then northwest and under the cabin, and at last north, and directly over the spot where the men had so recently stood as they took their pictures and measured the wind.

Just as Tunnell came out the door the finale of the fire occurred. Drawn by the great suction of rising heat in these two, mile-wide, whirls the light south-westerly wind suddenly jumped to a velocity that bounced Smith up against the

lookout cabin and stopped Tunnell in his tracks. As this cool and therefore heavier air tore across the ridgetop it dove down the eastern slope like a crystal clear wedge lifting the great barrel shaped mass of smoke. And as the oxygen in this fresh air reached the trees and brush that had been superheated by the great whirls the whole side of the mountain, some 1300 acres in area, burst into flame.

Then both men ran.

Later they found that Streeter had, that morning, been called from his smokechaser station at the head of the trough to take charge of a fire fighting crew on the big fire, but Tunnell had not been told of this change.

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Looking north toward Belton Point, which is here

Whirling



The lookout
Mr. Tunnell

Town of Belton is
down here



The Trough-like canyon
east of Desert Mtn.
All of the foreground
slope shown here was burned

Beginning to
bulge into the
"Trough"

Pyramid Peak