

LOCATING ENGINEER

In accordance with a letter from Ames, I met him and Mr. Smith at Hotel Camaguey in Camaguey on the day he named. The three of us took the train to Nuevitas, then walked out to Punto Pastelillo, where the survey was to start. This is a peninsula that juts far out into the bay; is some two or three miles closer to the harbor entrance; and has much deeper water than the City of Nuevitas. It would require but little dredging to get the thirty feet of water the big sugar ships needed at the dock side. Nuevitas had only twelve feet and all ocean going liners had to anchor far out in the bay, and unload their cargo onto barges. This was also the site of the original Puerto Principe, which flourished here till the Pirates drove it inland. We located the starting point, and got a general idea where I would have to run the line around the bay, and got back to the hotel about one P. M. Mr. Smith was getting up in years, and was all in when we got there. He and Ames spent the rest of the day resting, while I got out and hunted up some saddle horses we could rent for the reconnaissance trip we were going to make.

Next morning we headed west, and they pointed out to me places I should go by with my survey. We stopped for the night at a big cattle ranch that had been a sugar mill before the Ten Years War. The man was probably worth fifty or seventy-five thousand dollars, had more than a hundred milk cows, yet opened tin cans to get milk for his coffee. He had several men working for him, yet he, himself, lived but little better than they did. By about one o'clock next day we reached La Gloria, the oldest and biggest American Colony on the Island. We stopped at a big two-story house that had been built for a private residence, but was now being operated as a hotel. We engaged rooms for the night and ordered dinner.

Ames and I were ready for dinner long before it was ready, but it was announced some time before Smith was ready. When he finally showed up, he was freshly shaved, bathed and wearing a boiled shirt and

a clean, freshly ironed linen suit. Then he began to make comparisons. "The man where we stayed last night is probably worth fifty or seventy-five thousand dollars, and they live very much like hogs. This man probably has his last dollar invested in his home, but he knows how to get something out of life and lives like a king. When I saw those clean linens on the beds and on the table, and that modern bathroom, with every thing so nice and neat, I just had to go along. I couldn't eat until I cleaned up."

Ames thought this would probably be as far as I would get with my survey before I would meet Larcada coming from the west. So he said if we could find someone here to go on with them I could return and get started on my survey. I remembered that Perl Jumper, who rodded for me down at Palma Soriano, lived here so hunted him up. He was not working, and was open for any kind of a job he could get. I introduced him to Ames and Ames hired him on the spot to take my place on Larcada's crew. Next morning I turned my horse over to Jumper, and I caught the mailboat to Nuevitas, and the train home. I had noted on our trip that for several miles the ground was very rocky, and there was no grass for horses; but as the line went close to the Bay we could do our transporting by sailboat, and that when we left the Bay we must have a pack train. I had a few horses but not enough, so I bought two more and turned them loose in the pasture at home. I told Birdie I would write her when I needed the pack train, and she could find a Cuban to take it across country to me.

I rounded up a few of my neighbors who wanted to work and took the train back to Nuevitas. There I hired a sailboat and we picked up the camp outfit Ames had shipped me and set up camp on Punto Pastelillo. I had not found another engineer to help me so was Chief of Party, Transitman, Levelman, and Topographer, all by myself. One of the first things I did was to teach one of my neighbor boys, who had come along, to operate the screws on the transit to keep it in focus, so he could stand behind it and give line for cutting ahead, thus relieving me for other duties, such as, scouting ahead for line and running levels. In timber country such as this, it takes so much time to cut line that neither the rear chainman nor level rodman are very busy, so I taught one man to perform

both functions. Where the ground was sufficiently uneven that I had to take topography, I stopped all other work and put the crew to cutting topography lines while I took topography.

When we reached the last camp that we could reach by boat, I wrote to Birdie to send me the pack train. To tell the man to go to Nuevitas, then turn west toward Lugareño, and along where the road ran beside the bay, he would see the camp. Time went on and no horses. On Sunday, I wrote her that if for any reason the horses had not left yet, for her man to continue west toward Lugareño, and he would find us camped on a farm named Buena Vista. I couldn't wait longer and would hire an ox-cart to move us. On Monday, I got a letter, written the Friday before: "I presume you will have the horses before you get this letter. Porfirio Gonzalez left with them just after daylight this morning and took his ten-year-old brother, Pedro, along to push behind." The letter didn't help much. All I could get out of it was that I had a pack train; a man and a boy lost somewhere; and not the faintest clue as to what had happened to them.

On Tuesday, I got an ox-cart and moved camp. Wednesday went by and no horses. On Thursday afternoon as we came in from work, I saw the horses in the pasture. Then the question arose: Where had Porfirio been all this time? It was only a day's ride from Galbis to Nuevitas, and it had been just a week since he left Galbis. When I opened the tent door, you could have knocked me over with a feather. There was, not Porfirio, but Birdie. I asked her what this was all about. She said Porfirio left early Friday morning. On Monday night about ten o'clock, he came back, very hungry and very tired and the horses very much jaded. He said that about noon of the first day they met some Rural Guards coming from Nuevitas. The Guards told them that the road to Nuevitas was very muddy; they had just come from there and there were positively no engineers there. (I presume they thought we would be camped in the cross streets of the city.) The Guards also told him that the road to Lugareño was much better than the one to Nuevitas, so he by-passed Nuevitas and went to Lugareño. No one had seen us there. (Naturally, since we lacked several days' work of being there yet.) Instead of turning east toward Nuevitas with a probability of meeting us,

he turned west and rode another half day to Senado. By that time the money Birdie had given him for the trip had run out, so they rode night and day to get back home and get something to eat. (I told her it was sure lucky she had not given him any more money or he would have gone on to Havana.)

Next morning at daylight, she saddled her pony and started out to find someone else to send. The first man she went to was Frank Hultin, a big Swede who lived just across the road. "Who? Me? I don't speak Spanish. I would get lost." (He was so right.) Neighbors were few and far between. She rode all day, and those that had time to go said that since Porfirio couldn't find me they couldn't either. Finally just at dark, she went back to Hultin, and asked him if he would go along and push behind if she took them. He said he would. Then she went over and got an old Swedish woman to come and stay with the woman who was working for her, and help take care of the two children. Long before daylight next morning they were on their way.

By far the shortest way to us was still to take the Nuevitas road to within just a few miles of town, then take a savana trail direct to our camp. It had now been five days since Porfirio started, time for the road to dry up provided it didn't rain any more. Porfirio had so thoroughly scared her about the mud that she took the Camino Real to Sibanaquí, about twenty-five miles west, before she turned north. That got her west of the mud all right, but it also got her several miles west of where we were, and she had to go through some very sparsely settled country on very lightly traveled trails. Scaled on the map they made more than forty miles that first day. On account of crooked Cuban trails, they traveled much farther, and also farther than the whole distance from home to our camp. Luck was certainly with them though. Just at dark they reached the little American Colony of Riverside, and found comfortable lodging for the night. Next day they rode into Lugareño and hired a guide to bring them into camp. That was quite an adventure and made headlines all over Cuba.

Several months later I was eating dinner in a hotel in Camaguey, seated beside a perfect stranger, a Spaniard. Somehow the question of women of various races came up. He denounced the Cuban women for being

lazy and worthless, and praised the Spanish woman as being industrious and good home makers,—then added as a final touch—"For real nerve and daring the American woman has them all beaten. I recently learned that an American woman living down along the railroad took a pack train from her home, across country to her husband who was working near Nuevitas. Neither a Cuban woman nor a Spanish woman would have nerve enough to do a thing like that." I don't know which of us was the more surprised. I, upon learning that the story was so widely spread, or he, when I told him that the story was absolutely true, and that my wife was the woman.

Between preliminary surveys and definite location, I put in eight months on some one hundred and twenty miles from Nuevitas to Mayajigua. The preliminary work I did all alone. In Palm City, which was near the survey, I met Lansing Miller, a young man who had worked for an engineering company in the States. When I began definite location, I hired him to run my level.

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Just as another emphasis on the smallness of this world—forty-three years later, while I was living in Fort Pierce, Florida, a friend who was living in the Jensen Beach trailer camp, told me that the woman who lived in the trailer next to theirs had lived in Cuba. I asked where and my friend didn't know. Then I expressed a desire to meet the lady. The next time they came up they brought her along, and introduced her as Mrs. Cunningham. I asked her where she had lived in Cuba and she said in Palm City.

"I knew most of the Americans in Palm City, but I don't recall any Cunninghams."

"Oh, no. My name wasn't Cunningham then. It was Rice."

"I knew the Rices all right. They had three sons and a daughter, but their daughter married Lansing Miller. He ran level for me."

"Oh, I know now who you are. You surveyed the railroad through there, and had supper one night at Lansing Millers. My husband and I were there. I was Mrs. Raymond Rice."

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I knew that where railroads are built, the price

of land goes up; so as I worked I kept my eyes and ears open for land for sale. There was plenty of it, but most of it didn't suit me. Finally I found 1064 acres of virgin forest near the railroad and the Maximo River passed through it. I found a man to show it to me, but the owner lived in Camaguey. I got his name and address, sent them to my brother-in-law, Dr. Anderson, and told him to go see the gentleman. He bought it for the two of us for eight thousand dollars, Spanish Gold, one thousand cash and a thousand a year. With the exchange, it figured seven dollars per acre.

As stated before, I took this survey at a specified price per kilometer. I had to work very hard to run the whole show alone, but it paid off. My net earnings, after paying everything, was just about \$250 per month, which was big money in those days. I was sorry when it was finished.

Again I was out of a job. I learned that they were just starting to build a sugar mill over on Manati' Bay, about thirty miles from home over jungle trails. I went over; and, to my great surprise, J. M. Manzanilla, who had been Ames' office engineer when I first went to work for him, was chief engineer. He said they were just getting started and couldn't use me yet, but just as soon as they got going they would have work for me. I went back home and did what my hands found to do till I got a letter from him to report for work. Manzanilla was all right, but he had to take orders from the general manager who was a titled Spaniard. I don't remember his name, but no one ever used it anyhow. They either called him Don Eduardo, or used his title, El Marque's. He had some business ability, but no regards whatsoever for the welfare of his men. I was given the title of field engineer and sent out to the millsite, known as the Batey, to locate the railroad; survey the Colonias; and lay out the cane fields and roads. The millsite was the only high spot for miles around; had just been cleared out of the jungle; and there wasn't a thing on the whole place worthy the name of a building. There was a long, low, open, palm-leaf shed, known as a baracon, where some two or three hundred men hung their hammocks and a shorter, similar shed with two boards of table-height running down the center, and another board at chair-height on each side—

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the whole outlay serving as a dining room. Beside the dining room, was another palm-leaf shack that served as a kitchen. I had to hang my hammock with the common herd, and eat at the common trough. No privacy whatsoever. As an Engineer, I had figuring to do and plans to make but no possible place to do either. I called Manzanilla's attention to the situation. In a few days he got the Marque's to send me a small tent, enough lumber to put a floor in it, and to make me a table and a bench to sit on, a kerosene lamp, and an army cot. He let me do my own carpentering.

My railroad location was very unusual. The whole country was so flat I didn't bother to even locate contours. Instead I got a map of the Company's land and laid out my railroad so as to best equalize the cane haul. When I got all the field work done that could be done till more land was cleared, I wanted to start cross-sectioning the railroad and put some men to grading. Manzanilla said no! We were not going to grade the railroad. That there was a big, rotten, granite mountain down near the Bay. We would lay the track on the natural ground, then put a steam shovel to work on the mountain and haul the material out onto the track for ballast. I had been in Cuba nine years by this time; most of the time in the woods, and had learned to judge land by the "hog wallows" in it and the timber that grew on it. When I couldn't grade the railroad I said, "A lot of this land is awfully wet. How about staking out some drainage ditches and getting some men to digging them before it starts raining?"

Manzanilla was a fine fellow and a good engineer in his field, but this definitely was not his field. When he finished college, he got a job as a draftsman in the sewer department of the city of Havana, and worked there till about the time he went to work for Ames. His answer to my drainage question was, "We will just wait till it rains and fills up the 'hog wallows' so we can see how the water wants to run, then we will put men out with hoes and let them ditch one 'hog wallow' into another and drain the water off."

"Then what do you want me to do? I have worked myself out of a job."

"Just hang around the Batey a few days and

and something will show up."

It did very soon. A messenger came over and told me the Marque's wanted to talk to me on the phone. He told me to come down to the office. He introduced me to a Mr. Orbel who had come down from the States as Superintendent of Construction to erect the buildings and install the machinery. He would have to have an assistant; and, unfortunately, he did not speak Spanish. Manzanilla and I were the only ones on the whole job that could speak both languages, and Manzanilla already had a job so I was automatically elected. He was here and now making me Assistant Superintendent of Construction and official interpreter for Mr. Orbel, and transferring me to his department.

Up to this time, there was no running water on the Batey, neither for construction purposes nor for domestic consumption. All water had to be hauled either by ox-cart or pack-train, or caught off the palm-leaf roofs. My first job was to install a pump by a fresh water lagoon about two miles away, and lay a three-inch pipe to the Batey. Next I cleaned off the millsite; laid out the buildings and staked the excavations. We had just started our excavations when it started to rain as I hadn't seen it rain in all the years I had been in Cuba—or any place else for that matter. A day or two later the Marque's had me called to the phone. "Castroverde complains that his young cane is drowning. Could you take time off from your construction and stake him out some ditches?" You can't make construction excavations in semi-lowland in weather like that, so I had plenty of time and gladly staked them. Very soon after I finished staking them, Castroverde came to my tent all hot and bothered. "Your ditches are preposterous. It will cost three thousand dollars to dig them."

"I don't doubt it."

"Well, can't you stake out some smaller ditches? Some that won't cost so much to dig?"

"You want your land drained, don't you? Your land is very low and flat. I can stake out smaller ditches, but they would not drain your land, and you would just be wasting your money to dig them. Those are the ditches required to drain your land."

He went away but he wasn't happy. About as soon as he had time to get to the office, I had a telephone

call from the Marqués. "What's the matter with Castroverde's ditches?"

"There isn't a thing in the world the matter with them except that they are not dug."

"Well, he says it will cost him three thousand dollars to dig them."

"It probably will." Then he put up approximately the same argument Castroverde had and got the same answer.

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Some three or four years later, quite by accident, I met Castroverde in Camaguey. He seemed in a jolly mood, so we sat down for a little chat. "By the way, Castroverde, did you ever dig those ditches I staked out for you?"

"I sure did and it cost me three thousand dollars."

"Were they too big?"

"No, they ran full in rainy weather."

"Were they big enough?"

"They were just right. I lost a lot of cane before they were dug and had to replant. Since then my cane has made a phenomenal growth, about the best on the whole plantation. I cut three very big crops and have just now sold the Colonia for one hundred thousand dollars."

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I think it was the next day after finishing staking Castroverde's ditches that I got a phone call from Manzanilla. A shipload of railroad rails had just arrived out where we were going to build our docks, and a shipload of structural steel for the mill building was expected in a few days. We had to get busy and build our railroad so that we could haul the steel up to the Batey. Could I ride over the railroad right-of-way with him and help him plan the work? I told him I could if he would bring me a horse. As I remember it, it was eighteen kilometers from the Batey to the dock site, and practically all of it was one solid sheet of water, belly-deep to the horses in the deepest places. On the return trip Manzanilla said, "How are we going to get rid of this water so we can build the railroad?"

"It's a cinch we can't ditch it off now, so we will just have to wait till the dry season and it will run off."

"We can't wait. The structural steel and the mill machinery are coming and we must get them up to the mill site."

"All right. There is just one other possibility. This jungle is full of poles. You can cut poles and crib it."

Evidently Manzanilla reported my diagnosis to the Marqués, and he didn't approve it. Next morning, I got a phone call from him, to take my crew and go out along the railroad and stake out ditches wherever required and make them big enough to drain off all the water. Then to stay out there and "animate" (boss) the men while they dug the ditches so they would stay on the job. I knew it was a futile undertaking; but when I work for a man, I at least try to obey orders. A few miles out, there was a camp for the men clearing land. When the camp was built, this was all dry ground. Now it was just one big sheet of water going through baracon, kitchen and dining room. We took our hammocks with us; hung them up in the baracon; and proceeded to stake out our ditches. For that much water it takes big ditches, and you just can't dig them with picks and shovels where the water is more than knee-deep before you start. It took more than a day to stake all of our ditches, so we spent one night in camp. After working all day in water, much of the time thigh-deep, we had to hang our hammocks over water to sleep, and the mosquitoes were something terrible! The only place I ever saw them worse was in the Salado River bottom when I was surveying the hacienda comunera of Maguino five years before. But those were nice healthy mosquitoes—at least none of us got sick—but here they were carrying men out with malaria every day. After we finished staking our ditches, and there was no one even trying to dig them who needed to be "animated", we gathered up our hammocks and went back to the Batey. I promptly got the Marqués on the phone and told him what I had done and why. He wasn't very happy. Seemed to think I hadn't done my best. Next morning, however, he took my suggestion, and sent a foreman out and pulled all the men off the clearing and put them to cutting poles and building cribs. What's more, they built the railroad.

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I had occasion to go back over there some five

or six months later and the railroad was in operation and the mill was being built. That was the only railroad I ever saw where the section crew worked with axes and machetes, and there wasn't a pick nor a shovel on the whole railroad. They hadn't yet got around to ballasting the track. Whenever the track sank, they jacked it up and put a pole under it. I can't say the road was operating efficiently, but it was operating, and hauling in the mill machinery.

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The office was located on a shallow part of Manati Bay with a low savana on the landward side of it, known as Sabana la Mar. Translated into English it means "Savana the Sea" — A very low savana that became a fresh water sea when we had rains like we were having now, and a salt water sea when a strong northeast wind happened to coincide with a spring tide. Supplies came into the office by sailboat from both Nuevitas and Puerto Padre. In normal times they were then hauled about three miles to the Batey either by ox-cart or pack-train. In this long wet spell transportation became quite a bottleneck and food was very scarce. It was reported at the Batey that there were both pack horses and oxen beside the road that had mired down and died there.

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In reading over my diary of that time, I find one item that was written in all seriousness, but today it sounds quite amusing. Nov. 21, 1912. "Our mud blockade is getting fierce. I had water for breakfast, soup and sugar for dinner, and a stomach ache all afternoon, so for supper I had soup and gold. (Eggs at ten cents each.)" The normal price of eggs at that time was twenty or twenty-five cents a dozen.

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It seems that luck has ridden with me most of my life, and when things got unbearably bad I got some kind of a break. (Again from my diary.) Just five days after the above entry, on Nov. 26, my break came in the form of a letter from Ames. He said that Jose^o Miguel Tarafa, a politician and nephew of Jose^o Miguel Gomez, who was President of Cuba at that time, had out-manuevered the Cuba Central Railroad, and had got a government concession

to build The North Coast Railroad. He, Ames, had been to see Tarafa and told him that he had made the survey for the Cuba Central Railroad, so was thoroughly familiar with the country and could locate a road for him much cheaper than anyone else, and to prove it he named him a price no one else could meet. He had signed a contract, and had Larcada with a full crew on the west end, and had a full crew except Chief of Party ready to put on the east end. Since I knew the country better than anyone else, he wanted me for Chief of Party. He would pay me \$150.00 a month and expenses. Since he had to have horses for his engineers, rather than buy, he would give me \$15.00 a month each for four of my horses, making a total of \$210.00 a month. The horses were running in the pasture eating their heads off, and I was only getting \$135.00 and paying my own board. I went into action fast. I walked over to the telephone; called the Marqués; and handed in my resignation by phone. I didn't even go to the office for my pay. I told the Marqués where to mail my check; got some horses and headed for home. That whole country was flat. We slushed through water most of the way, and reached home at ten-thirty that night.

Next day I headed for Nuevitas as fast as train schedules would let me. In Nuevitas I found Ames personally in charge till I could get there. My transitman was a Mr. Stockley, a young mining engineer, who had been working for a mining company down in Mexico until a revolution drove him out—a very able man. My topographer's name was Yznaga. He was a Cuban, a graduate of Tulane University. He couldn't speak much English when he entered the University; and, naturally, had plenty of trouble to do all his studying in English. His course called for one foreign language. In order to have at least one easy subject, he chose Spanish. He could talk Spanish better than any teacher in the school, and was so sure of himself he put in his time on his more difficult studies, and didn't study Spanish. Consequently, he flunked his Spanish, his native tongue, and had to take it over. My levelman was a very tall young Cuban named Luaces. He was very hard of hearing, but his work was satisfactory. I don't remember why, but he didn't stay long. I sent to Palm City and got Lansing Miller who had run level for me on the

former location. With two full crews, and both Chiefs of Party thoroughly familiar with the country, we had to do very little preliminary work. We did in two months what it took us eight months to do in the first place. Again I was out of a job, but not for long. The Cuba Central Railroad Co. did not give up easily. I got a letter from Ames to meet their engineer, H. F. Wilson, Jr., and take him over the line we ran for them, from Nuevitas to Moron— which I did. Not very long after the trip was completed, I got a letter from Wilson offering me the position of his assistant in sounding Nuevitas Bay for dredging and docks. There was nothing spectacular about that job. Three men in a boat reading a sounding line, and two men on shore reading angles. We built a camp on Punto Pastelillo, and camped right on the job. Because of high winds in the afternoons, we were usually out on the bay just as early as we could see and stayed till the wind drove us off, sometime in the afternoon. The job lasted just four months. We had already received our notices that the company had no more work for us when we finished here, when I got a letter offering me a job on the Zapata Swamp Survey. I accepted it!

Chapter 17

THE ZAPATA SWAMP

(CIENEGA DE ZAPATA)

Looking at a map of Cuba, you will note that quite a sizable amount of land on the south coast extending from Batabano^o just south of Havana, on the west, to Cienfuegos in Santa Clara Province, on the east, is marked as swampy. The map makers were not kidding. South of Matanzas Province, but actually in Santa Clara Province, is a peninsula extending down into the Caribbean Sea, more or less in the shape of a shoe. Zapata is the Spanish for shoe— hence the name.

Fronting on the Caribbean Sea, from the toe of the shoe to Cienfuegos Bay is a coral limestone ridge. It is not very high, probably not over 20 or 25 feet anywhere, but is high enough to cut off all surface drainage into the Caribbean Sea and turn it west into the Gulf of Batabano^o. The swamp contains well over half a million acres and varies in elevation from just above sea level near the mouth of the Hateguanico River, in the west, to about eight feet near the east end, some seventy or eighty miles to the east, giving an approximate fall of one foot in ten miles which is insufficient fall to drain anything. To the north of the swamp are two or three million acres of red land underlaid with limestone. There are a few small streams in this area emptying into the swamp but by far the larger part of Cuba's heavy rainfall seeps into the ground and finds underground channels. What goes down must come up! All this water comes up out in the swamp in bubbling springs, varying in size from six inches in diameter up to twenty or twenty-five feet. In half a million acres there is room for a lot of kinds of swamp, and so there is here.

On the north side, "costanera" in Spanish, the native jungle at one time came down to and extended out into the swamp in places. When we surveyed it in 1913, there was still some forest and some good timber, but most of it was cleared and in cultivation right down to the water's edge, or in pasture clear