

The Dishpan that nearly Killed a Battleship Crew

Only One of the Vividly Human and Romantic Experiences in the Life of General Carter, Who Helped Push Yellow Fever Off the Earth



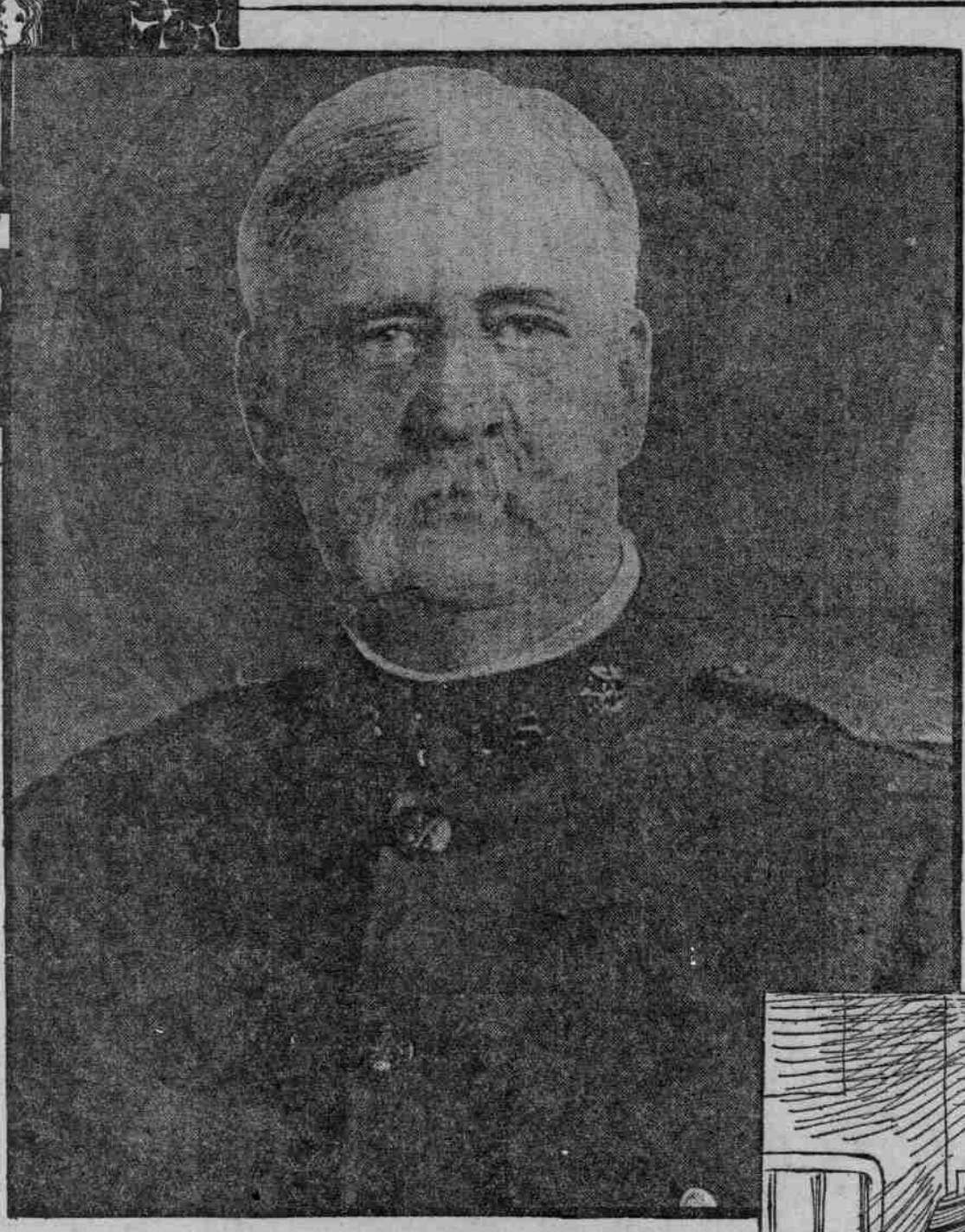
To the horror of the Panamanians, Dr. Carter's daughter would sit on the steps of the contagious disease hospital and wait for him.

BY MAYME OBER PEAK.

IF DIOGENES were looking for the most modest man he would find him, after considerable search, in an old-fashioned frame house in Washington, tucked behind a fashionable apartment on one of the capital's famous avenues. He would find a strong link between the old-fashioned frame house with its rambler rose over the porch, and the fashionable apartment hotel with its canopied porte cochere.

In a top suite of the apartment hotel the widow of Surgeon General Gorgas has been living for two years in quiet seclusion writing the biography of her husband and his eminent work, while in the frame house up the hill, Dr. Henry Rose Carter, assistant surgeon general-at-large of the United States public health service and Gorgas, devoted friend and collaborator, is writing the history of yellow fever, which will take him perhaps two years to complete.

To get General Carter—or Dr. Carter, as he prefers to be called—to talk about himself and his distinguished honors is as impossible as to walk through a thick wall. To get him to talk malaria or yellow



Dr. Henry Rose Carter, assistant surgeon-general at large of the United States public health service, and the hero of many campaigns against contagious disease.



low fever is to vault the wall in two jumps.

For an informative sketch of his unique experience in hospital, quarantine and epidemic work—in the United States, Cuba, the canal zone, Russia, South America—the writer was forced to refer to medical journals. Often spoken of by General Gorgas as "one of the great pioneers in malaria and yellow fever work," and now considered with Juan Gutierrez one of the two ranking living authorities on the subject of yellow fever, Dr. Carter is as distinguished as he is modest. He will go down in history with America's great peace heroes.

His work on "The Determination of the Period of Extrinsic Incubation of Yellow Fever" placed him among such immortal physicians as Finlay, Lazear, Reed and Carrel, who demonstrated the mosquito transmission of yellow fever upon Cuba from the disease for the first time in a century, which has resulted in practically driving the scourge from the face of the earth.

During the war this eminent sanitarian was in charge of the control of malaria in the extra-cantonment areas of the camps and in the regions around the big industrial plants engaged in the production of war material. In 1920 he served as sanitary adviser to the Peruvian government, and at present is a member of the yellow fever council of the international health board of the Rockefeller foundation.

Briefly summarizing the most notable of his achievements, I quote from the Southern Medical Journal of June, 1915, which gives them, as follows:

First—The determination of the period of extrinsic incubation of yellow fever.

Second—The institution of a rational relation between the disinfection of vessels and the detention of their personnel, permitting the fixing of minimum periods of detention in quarantine.

Third—The encouragement of uniformity in quarantine practice, resulting in the adoption of a system of federal quarantine regulations.

Fourth—The transfer of the Brunswick, Ga., quarantine station to the federal government, the first state or mu-

nicipal quarantine to be thus surrendered.

Fifth—The control of numerous yellow fever epidemics in the southern states, and especially that of McHenry, Miss., which was the first epidemic of yellow fever to be suppressed in the south in the summer time.

Sixth—The inauguration of the quar-



antine systems of Cuba and the canal zone.

Seventh—The enunciation of principles relating to the bearing of impounding reservoirs on malaria incidence.

For the conspicuous service rendered in the construction of the Panama canal, congress created for Dr. Carter the position of assistant surgeon general-at-large of the United States public health service, thus breaking all precedents in recognizing the work of a member of that service.

Since many people hold that public health is a problem for engineers rather than doctors, Dr. Carter's accomplishment as a scientific worker in sanitation is probably largely due to the fact that he is both an engineer and a doctor. Member of the well-known "Cawtiah" family of Virginia, he was graduated from the University of Virginia in 1873 as an engineer. A few years later he graduated in medicine at the University of Maryland and, in 1879, entered the marine hospital service. In the fall of that year he saw his first case of yellow fever, being ordered to Ship Island quarantine station in the Gulf of Mexico.

To this federal refuge station came all vessels infected or thought to be infected. Many of them were sailing vessels from Rio, Santos, Havana and Colon, which at that time were especially dangerous. Opportunity was afforded him not only to study a disease of far-reaching public health and economic importance, but to prevent its entrance into the country.

Here on this lonely island, cut off from communication with the outside world except by boat call, Dr. Carter, with a young family growing up around him, began the study of yellow fever and laid

the foundation of his great work for its control and prevention.

It was a far cry from Ship Island to Panama, where Dr. Carter was detailed for duty in 1904 and where he organized the quarantine service and later served as director of hospitals and chairman of the board of diagnosis. He remained with the Panama canal commission five years, and was connected with much of the organization and early work on the Isthmus.

Reminiscing on his Panama experiences, the writer caught the general one night in a mellow mood. It was immediately after dinner, his cigar was lighted, and the low card table on which he does his work was temporarily empty and pushed back from its accustomed place in the middle of the room.

"We were just three old codgers," he said, resting his cane against the fireplace and lifting his glance to the finely chiseled features of "the chief"—General Gorgas, framed on the wall, "when we went down to Panama to clean up yellow fever. Gorgas, then colonel, came to me when he was appointed chief sanitary officer of the canal and asked me to go along. He said that Surgeon LaPrince, who had done the mosquito work with us in Havana, had promised to go if I would, and that as it would probably be the last work we old codgers would do, he thought we ought to go.

"I agreed with him, and we set forth on the adventure in high spirit. Rear-Admiral John Ross, of the navy, who had had experience with yellow fever on the ships, joined us. We reached Panama in extremely hot weather, in June. It rained four times a day. When it stopped raining, and the sun would come out, it was like opening the door of a furnace.

"We were assigned quarters in an old French building in Ancon. Gorgas, LaPrince and I shared the same room, the same bureau. Gorgas had the top drawer, I had the middle, LaPrince the bottom. If any guests came, they put their things on the floor. We hung our top clothes on the wall, covering them with a gorgeous flowered curtain purchased from a Chinaman in Panama.

"The private bath was my trunk, turned upside down, with bowl and pitcher on top. The washstand proper had to be used for a desk. We slept on cots and had pillows that you blow up. Everybody had to turn in at the same time at night. There were no lamps then and, as I was the only one who had thought to bring candles, they had to be made to go a long way. For each of the four sleeping rooms, occupied by 15 other officers and employes, the nightly allotment was a fourth of a candle. No man dared to go to bed without first killing all the mosquitoes in his net period.

"Galleries ran all around the building, upstairs and down. We bought all the wire netting we could find in Panama and screened off a small portion of the upper gallery, dubbing it 'the cage.' Here we sat after dinner, talking shop and enjoying the soft, cool breezes and the lovely view. We looked over the royal palms and flat plains of the sabanas,

but Davis demurred, stating that he didn't know what authority he had to give. We told him we didn't either, but that he had offered to help us in any way he could and this was asking him to do that very thing. He demurred again, saying he feared we'd get him into trouble. It wasn't exactly like buying a pig in a poke, but selling one. We told him that he could only give us what authority he had under the law and that if we went without it, it would not be his lookout, but ours. He agreed and signed the decree. But Davis didn't believe in the theory of mosquito transmission of yellow fever. And while he didn't do anything to hinder us, he didn't do anything to help. Combined with the natural disadvantages, we had much opposition at first on our own side to meet.

"With great difficulty, we succeeded in translating into English as much of the sanitary code of the Colombian laws as was necessary for our purpose. The laws were in folios, in pamphlet form, running back 15 years. We found, as I expected, that they were extremely good laws—far more efficient than we have in the states, because the Spanish haven't any idea of what we call 'personal liberty.' The only trouble was that the laws had been enacted, printed and then filed away and forgotten.

"After getting the necessary legal authority, the next difficulty was to get the necessary sanitary supplies. We had personally seen to it that the tons of sulphur, acids, alcohol and sulphur pots purchased were carried to the New York wharf of the Panama Steamship company and put on the same ship with us only to find it tied up on arrival in red tape that took us months to unwind. LaPrince billed his consignment to the Isthmian commission; I billed mine to myself at La Boca. He got his by the requisition route in the spring. I got mine by cart as I could personally haul it away.

"In the beginning we paid too much

Stegomyia that had bitten him were breeding death for the whole ship in a dishpan!

"It was difficult for the natives to get used to our treatment of yellow fever. Though immune themselves, having had yellow fever when they were children, they remembered the toll it had exacted from the French and were terrified at 'the risks' the Americans took. When Mrs. Gorgas and my family joined us, six months after arriving on the isthmus, we shared quarters on the second floor of an old French building formerly used as a hospital for the officers of the French Canal company. Under us was the officers' mess, where we all ate together, and under that was the chapel where we had the yellow fever funerals.

"Diagonally across the road was the yellow fever hospital, the doors and windows always open. While the windows had no glass and the doors only shutters, they were both thickly screened. There were double screen doors at the entrance, with a smudge fire burning between, and an orderly constantly on duty to keep them going and to brush off the clothes of the doctors and nurses as they went in and out. Also the yellow fever patients were in mosquito proof cages, so that it was really impossible for Stegomyia to get in and become infected by them. But, to the horror of the Panamanians, my daughter would sit on the steps of the hospital and wait for me whenever she felt inclined. 'You must wish her to become an angel,' they protested.

"When an official died with yellow fever, there was a general panic. If an Italian laborer died, no notice was taken of it, though there was as much danger from one as the other. Those who were case-hardened or educated up to the mosquito theory of course could joke about it. I remember when the Isthmian canal commission came to Panama—or rather six of them, the seventh member being in Paris at the time—one of the commissioners noticed six metallic coffins that had been unloaded from the ship and laid out on the dock.

"Why the six metallic coffins? he asked of an official.

"Well, you know Mr. Parsons didn't come," was the quick reply.

"The commissioner slept on board that night, and every other night while in Panama."

"Just what are the symptoms of yellow fever?" I queried, curious to know.

"Similar to the first stages of acute alcoholism—red, flushed face, swollen lips, vomiting, headache. As the temperature rises, the pulse falls away from it. If the pulse rises and crosses the temperature, as you will see by this chart, then it is le noeud fatal—the fatal knot, as the French say."

"What is the treatment?"

"It rests upon a tripod—absolute rest in bed; complete starvation for a reasonable time, and as much water as patient can be made to take without vomiting."

"Are there any ill effects?"

"None whatever. Yellow fever has no sequence. The poison passes rapidly through the system, either killing you in five or seven days or leaving entirely. There is little suffering connected with it. The victim lies in a coma or stupor, and is very, very weak."

"Did you ever have it?"

"Yes, in the summer of 1897, following our campaign in the fever infected districts of Louisiana and Mississippi. I knew I had it and spent the first day winding up official matters. For days after I entered the hospital at New Orleans I was so weak that only when the thirst became more than I could bear would I expend enough strength to lift my thumb, to which a bell was tied, to call the nurse. I figured it out that while water was a word of two syllable, it required less effort to say 'drink' and this was the one mental effort I made and the one word I uttered.

"During the Panama campaign, I jolly well sympathized with one of the patients who had black water fever. He insisted upon going home before he was well enough. 'Don't you know you are a mighty weak man?' the colonel reminded him. 'That's just it,' he replied; 'let me go home and get a little strength, and then I'll come back and you can doctor me all you want.'"

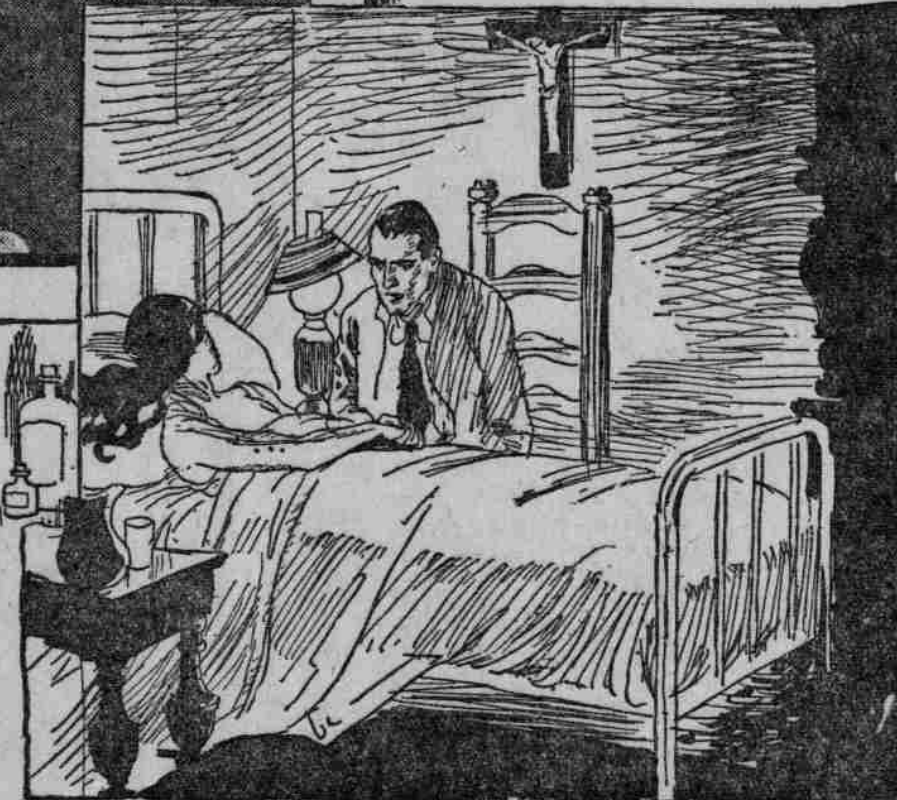
"Did any of the nurses or doctors contract yellow fever—in Panama?"

"Only one—a nurse. She didn't get it from the patients, but went downtown—strictly against orders for non-immunes—and contracted it there. She had an unusually bad case. I had been away for a few days and when I got back was hustled in a cab to the nurses' quarters at Anconites. I found her tossing from one side of the bed to the other; neither morphia nor cocaine quieted her. Finally, I said to her: 'Now, child, you've got a fine constitution and you ought to get well. But if you don't lie still in that bed, you're going to die.'"

"She insisted that she couldn't keep still but suggested that if Major (calling the name of one of the younger doctors on duty) would hold her hand, she would try. I gave Major a call, and stationed him at his post. She quieted down immediately, and the major sat by her all night. The girl got well, and it wasn't many years after that when I got cards to their wedding."

"So there's romance—even in yellow fever," I laughed.

A year from the time the sanitary department got to work, Panama was free from yellow fever. The last case occurred in Colon, in December, 1905. The following January the isthmus was given a clean bill of health, and the construction of the Panama canal was made possible. Without the spirit of "the chief" and the comradely work of "the three old codgers" for the prevention of the baffling scourge of the tropics, this greatest engineering feat of the ages might never have been completed.



One of the nurses contracted yellow fever.

across the harbor with its twinkling lights, into the city of Panama. Behind us, rising almost perpendicularly, we could see the green wall of Ancon, so densely wooded that it was a favorite haunt of the "tigers," who could be heard crying far into the night and who made frequent descents upon our storehouses.

"For the Americans, the food and the lack of ice were the greatest hardships. The first thing we had to do before starting to work was to find out what sanitary laws or regulations there were to work under. General Davis, governor of the isthmus, informed us that President Roosevelt did not want any work done on the canal until the sanitary men had their say, but that the commission had adjourned without making any legislation to go by.

"When we asked what laws had already been enacted, he said: 'Nothing but the old Colombian laws, and you can imagine what they are.'

"I suspected that they were pretty good laws, but that where they had failed was in execution. We went to see President Amador. He spoke almost no English and we spoke little Spanish, but fortunately no two of us had the same vocabulary, so among us we managed to piece out enough conversation to make ourselves understood. We had to have the help and authority of the Panama president in order to proceed, as only the canal zone was under the United States, the cities being exempted.

"We asked if he would sign a decree—first to prevent the introduction of yellow fever and bubonic plague, and, second, for control and elimination if found in the cities. He said he would sign it if we would write out the decree 'in terms.' Because it was very annoying to sign a decree Monday, explain it Tuesday, write an amendment to it on Wednesday and have to repeal it on Thursday or Friday.

"That night we wrote out two decrees, one for President Amador, in which we asked for Gorgas' appointment as chief sanitary officer, with authority to take such measures as were necessary to prevent the introduction of communicable diseases, for the control and elimination of such if found in the cities. In the other decree, for Governor Davis, we took pains to state that he would give to Gorgas all such authority as he possessed for this purpose in the canal zone.

"Amador signed his decree in due time,

attention to isolating the patient. Having proved the responsibility of the Stegomyia fasciata for the carriage of yellow fever, we knew that there is no danger from close contact with the patient—even from sleeping in the same bed with him. The only danger is from the mosquitoes that have bitten him.

"Another thing we have proved is that mosquitoes do not breed in swamps, mud puddles or street gutters unless they are lined with something and have no mud sides. We have formulated that they do not breed in any collection of water the sides of which at the water's edge are of mud. They do breed in collections of water in artificial containers and in similar things such as cisterns, tin pans, water put out for the chickens to drink, saucers under the legs of tables to keep the ants off, and so on.

"In Panama, the Stegomyia bred in just these things. There was no water supply. Everybody stored water in their houses in artificial containers. They saved rain water or bought from the aguadoras—carriers who obtained water from the wells and peddled it on the backs of mules through the streets.

"A dishpan came very near causing the death of the personnel of a battleship. I was called out of bed one night by an orderly from the Boston, then in harbor, stating that the captain wanted me to come out in the morning to see some sick men aboard. Questioning him, the symptoms sounded so suspicious that I decided not to wait till morning, but returned with him in the launch to the ship.

"I found six men ill—four with yellow fever, the ship's doctor, two lieutenants and the mess steward. When the captain appeared protesting at my unnecessary hurry, I informed him that we hadn't been quick enough; that one man would die before morning, two were too ill to be moved, and two more would die if they were not taken to the hospital at once.

"The doctor died that night, morning to the last: 'I ought to have known; I ought to have known!' Another man died, but we saved the others and the whole ship from infection. On searching the ship, I found outside the cook's quarters a dishpan of water that was almost a soup of wiggletales of Stegomyia. On New Year's night we had been invited to a sing-song on board the ship. Evidently there had been a walking case of yellow fever among the numerous guests. The